Criterion- 6.3.3

1-Refresher course/Faculty Orientation or other programmes as per UGC/AICTE stipulated periods, as participated by teachers year-wise.

2-E-copy of the certificates of the program attended by teachers.

3-Annual reports highlighting the programmes undertaken by the teachers

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (M.P.)

Refresher course/Faculty Orientation or other programmes as per UGC/AICTE stipulated periods, as participated by teachers year-wise

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (M.P.)

CIAE/AMD/WS-2024/5

ICAR-Central Institute of Agricultural Engineering

Nabibagh, Berasia Road, Bhopal - 462038 (M.P.)

https://ciae.icar.gov.in

Certificate

Certified that **Dr. Nisha Singh,** Scientist (Agronomy), RVSKVV, College of Agriculture, Gwalior has successfully completed 21 days Winter School Training on **"Artificial Intelligence, Electronic Devices and IoT for Transforming Agriculture with Cutting-Edge Technologies"** *Sponsored by ICAR,* held at ICAR - Central Institute of Agricultural Engineering, Bhopal during 03rd to 23rd January, 2024.

(K.N. Agrawal)
Course Director

Director

भाकृअनुप - भारतीय श्री अन्न अनुसंधान संस्थान

ICAR-Indian Institute of Millets Research

Rajendranagar, Hyderabad 500030, Telangana; www.millets.res.in

CERTIFICATE

This is to certify that Dr. SUDHIR SINGH, Asst. Professor, College of Agriculture, Gwalior, has successfully completed the "Online Refresher Course on Millets (Shree Anna) - Model Crops for Sustainable Farming, Value Addition, Entrepreneurship Development and Nutritional Security (RCSA2023)" jointly organized by Society for Millets Research and ICAR-Indian Institute of Millets Research, Hyderabad held during 7th – 27th September 2023.

Course Director

Chief Course Director

भाकृअनुप - भारतीय श्री अन्न अनुसंधान संस्थान

ICAR-Indian Institute of Millets Research

Rajendranagar, Hyderabad 500030, Telangana; www.millets.res.in

CERTIFICATE

This is to certify that Dr. SNEHA PANDEY has successfully completed the "Online Refresher Course on Millets (Shree Anna) - Model Crops for Sustainable Farming, Value Addition, Entrepreneurship Development and Nutritional Security (RCSA2023)" jointly organized by Society for Millets Research and ICAR-Indian Institute of Millets Research, Hyderabad held during 7th – 27th September 2023.

Course Director

Chief Course Director

भाकृअनुप - भारतीय श्री अन्न अनुसंधान संस्थान

ICAR-Indian Institute of Millets Research

Rajendranagar, Hyderabad 500030, Telangana; www.millets.res.in

CERTIFICATE

This is to certify that **Dr. MANOJ KUMAR TRIPATHI,** Professor, Rajmata Vijayraje Scindia Krishi Vishwa Vidhyalya, Gwalior, Madhya Pradesh has successfully completed the "Online Refresher Course on Millets (Shree Anna) - Model Crops for Sustainable Farming, Value Addition, Entrepreneurship Development and Nutritional Security (RCSA2023)" jointly organized by Society for Millets Research and ICAR-Indian Institute of Millets Research, Hyderabad held during 7th – 27th September 2023.

A Bellundagi

Course Director

C. Tara Satyavathi

Chief Course Director

भाकृअनुप - भारतीय श्री अन्न अनुसंधान संस्थान

ICAR-Indian Institute of Millets Research

Rajendranagar, Hyderabad 500030, Telangana; www.millets.res.in

CERTIFICATE

This is to certify that Dr. SUSHMA TIWARI, Scientist, Rajmata Vijayraje Scindia Krishi Vishwavidyalaya, Gwalior, has successfully completed the "Online Refresher Course on Millets (Shree Anna) - Model Crops for Sustainable Farming, Value Addition, Entrepreneurship Development and Nutritional Security (RCSA2023)" jointly organized by Society for Millets Research and ICAR-Indian Institute of Millets Research, Hyderabad held during 7th – 27th September 2023.

Course Director

Chief Course Director

PARTICIPATION CERTIFICATE

This is to certify that Mr./Ms./Mrs./Dr. **Nitesh Kumar Panwar**

Designation - **Contractual Teacher**

Institute Name - **College of Agriculture, Indore**

THE PERSON MENTIONED ABOVE HAS SUCCESSFULLY COMPLETED
INTERNATIONAL AGRICULTURE CERTIFICATE COURSE-CUM-TRAINING PROGRAM
ON
PRIME MINISTER &MINISTRY OF AGRICULTURE & FARMERS' WELFARE
SPONSORED AGRICULTURE SCHEME & INDIAN AGRICULTURE VISION- 2050

1-30 April 2024

JOINTLY ORGANISED BY/KNOWLEDGE PARTNER

Gujarat Natural Farming Science University, Anand, Gujarat; GBPUAT, Pantnagar; Bihar Animal Sciences University, Patna; ICAR-Indian Institute of Rice Research, Hyderabad; ICAR-Indian Institute of Millets Research, Hyderabad; ICAR- Central Institute for Research on Goats, Mathura; ICAR- Indian Institute of Maize Research, Punjab; ICAR-Indian Institute of Wheat and Barley Research, Karnal; D. Y. Patil Agriculture and Technical University, Talsande & Hindustan Agricultural Research Welfare Society

Certificate No - P/04/24/2266

Held at
Hybrid mode
Hindustan Krishi Anusandhan Bhawan,
NH- 24, Delhi Road, Moradabad (UP) 244001

Dr. Anil Chaudhary	Dr. S L Jat	Dr. Lakhan Singh	Dr. C.K. Timbadia
Secretary, HARWS	*ICAR-IIMR, Ludhiana*	*Vice-President (HARWS) & (Ex) Director, ICAR-ATARI, Pune*	*Vice-Chancellor, GNFSU, Anand*

PARTICIPATION CERTIFICATE

This is to certify that Mr./Ms./Mrs./Dr. **Arpan Upadhyay**

Designation - **Assistant Professor (Animal Husbandry & Dairy)**

Institute Name - **RVSKVV-College of Agriculture, Indore**

THE PERSON MENTIONED ABOVE HAS SUCCESSFULLY COMPLETED
INTERNATIONAL AGRICULTURE CERTIFICATE COURSE-CUM-TRAINING PROGRAM
ON
PRIME MINISTER &MINISTRY OF AGRICULTURE & FARMERS' WELFARE
SPONSORED AGRICULTURE SCHEME & INDIAN AGRICULTURE VISION- 2050

1-30 April 2024

JOINTLY ORGANISED BY/KNOWLEDGE PARTNER

Gujarat Natural Farming Science University, Anand, Gujarat; GBPUAT, Pantnagar; Bihar Animal Sciences University, Patna; ICAR-Indian Institute of Rice Research, Hyderabad; ICAR-Indian Institute of Millets Research, Hyderabad; ICAR- Central Institute for Research on Goats, Mathura; ICAR- Indian Institute of Maize Research, Punjab; ICAR-Indian Institute of Wheat and Barley Research, Karnal; D. Y. Patil Agriculture and Technical University, Talsande & Hindustan Agricultural Research Welfare Society

Certificate No - P/04/24/2459

Held at
Hybrid mode
Hindustan Krishi Anusandhan Bhawan,
NH- 24, Delhi Road, Moradabad (UP) 244001

ICAR

ICAR–National Institute of Agricultural Economics and Policy Research

New Delhi-110 012, India

Certificate

This is to certify that

Ankita Sahu

.....

from Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (MP) has successfully completed ICAR Winter School on

QUANTITATIVE TECHNIQUES FOR AGRICULTURAL POLICY ANALYSIS

conducted during March 8 - 28, 2024 by ICAR-National Institute of Agricultural Economics and Policy Research, New Delhi, India.

Date: 28.03.2024
Place: New Delhi

Prem Chand
Course Director

P.K. Bimal
Director

CERTIFICATE

OF APPRECIATION

This Certificate is presented To

Dr. Ankita Sahu

RVSKVV, Gwalior M.P.

This Certificate is awarded to the person mentioned above in recognition of the dedicated and sincere efforts as a organising Secretary/Co-organising Secretary/Course Director for the successful planning and coordination of the 21 Days International Training cum Certificate Course on *Agriculture in Future* & *Future in Agriculture* organised by Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior M.P. in collaboration with Junagadh Agricultural University Gujarat and Agri Meet Foundation U.P. from 20 Nov 2023 to 10 Dec 2023 via hybrid mode.

Congratulations for being part of the event, best wishes for your future endeavours.

Dr. Harshdeep Kaur
Vice President
Agri Meet Foundation

Dr. R. B. Madariya
Director Research
JAU, Junagadh

Dr. A.K. Shukla
Vice Chancellor
RVSKVV, Gwalior

NDSU NORTH DAKOTA STATE UNIVERSITY

Date: October 27, 2023

Dr. Rakesh Kumar Singh
Department of Plant Pathology
RVSKVV, College of Agriculture,
Indore M. P. 452001, India

Attn: Successful completion of three months training at North Dakota State University.

Dear Dr. Singh,

Congratulations!

You have successfully completed the three-month research training from August 1, 2023 to October 27, 2023 in my laboratory in the Department of Plant Pathology at North Dakota State University, Fargo, ND, USA.

It was my immense pleasure to host you in my laboratory. Your diligence, perseverance, and scientific abilities are outstanding which helped you achieve significant research progress within a short period of time. The research you conducted in wheat stem rust population studies, phenotypic characterization of wheat wild relatives for resistance against rust diseases, and molecular plant pathology has yielded findings of considerable significance. These findings hold the promise of high-quality research manuscripts in the near future.

During your visit, you effectively harnessed your time to acquire new skills in molecular plant pathology techniques including the developing bacterial competent cells, gene cloning in plasmid vectors, and virus-induced gene silencing. This expertise is an invaluable asset for your future research endeavors at your home institution.

I hope that your interactions with fellow colleagues within our department and across the university, hailing from diverse cultural and scientific backgrounds, were both enjoyable and enriching. I am sure you have also cultivated new friendships during your time at NDSU.

In conclusion, I extend our heartfelt gratitude to you for the substantial contributions you made to my program and NDSU as a whole. Your visit was very productive and mutually beneficial and it paved the way for exciting possibilities in terms of future collaborations and joint projects. I wish you success in your forthcoming research and academic pursuits.

Sincerely,

Upinder Gill, Ph.D.
Assistant Professor / Department of Plant Pathology
NORTH DAKOTA STATE UNIVERSITY
Walster Hall 306, Dept 7660 PO Box 6050, Fargo, ND 58108-6050
Cell Phone: 509-339-3649 (Preferred); Tel: 701-231-8051
Email: upinder.gill@ndsu.edu

NAHEP JUST AGRICULTURE
THE FUTURE OF AGRI INNOVATION

CERTIFICATE

IS PRESENTED TO

Dr. Divya Bhayal

from Depart. of Soil Science, College of Agriculture, Indore (M.P.)
has successfully attended the 15 Days International Training cum Workshop Program
organized by Just Agriculture Education Group & AEEFWS
during 15th August to 29th August, 2023.

Agriculture 5.0- Next Level Approach towards Smart Farming, Innovations and Agripreneurship

The Training Program consisted of topics viz., Protected Cultivation, Urban Farming, Post Harvest Technology, Artificial Intelligence, Agribots, Drone Technology, SaaS, IoT, Block Chain Technology, Agripreneurship, Natural Farming, Organic Farming, Sericulture, Apiculture, Mushroom Production, Hydroponics.

Dr. D.P.S. BADWAL
President, AEEFWS

MOHIT BHARDWAJ
Gen. Secretary, AEEFWS

Certificate No. **AEEFWS/** 047

CIAE/AMD/WS-2024/18

ICAR-Central Institute of Agricultural Engineering

Nabibagh, Berasia Road, Bhopal - 462038 (M.P.)

https://ciae.icar.gov.in

Certificate

Certified that **Dr. Balram Baraiya,** Scientist (Plant Physiology), R.A.K. College of Agriculture, Sehore, RVSKVV, Gwalior has successfully completed 21 days Winter School Training on **"Artificial Intelligence, Electronic Devices and IoT for Transforming Agriculture with Cutting-Edge Technologies"** *Sponsored by ICAR,* held at ICAR - Central Institute of Agricultural Engineering, Bhopal during 03rd to 23rd January, 2024.

(K.N. Agrawal)
Course Director

Director

Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya

Raja Pancham Singh Marg, Near Akashwani, Gwalior, (M.P.)

Government of Madhya Pradesh

CERTIFICATE

OF PARTICIPATION

THIS CERTIFICATION IS PROUDLY PRESENTED TO

DR. D.K. VANI

KVK, Khandwa RVSKVV

The person mentioned above has successfully completed 21 *Days* International Training on *Agriculture in Future* & *Future in Agriculture* organised by Rajmata Vijayaraje Scindia Krishi Vishwavidyalay, Gwalior in collaboration with Junagadh Agricultural University Gujarat, ICRISAT Hyderabad, ICAR-ATARI Jabalpur & AGRI MEET Foundation U.P. from 20 November 2023 to 10 Dec 2023 via Hybrid Mode.

Dr. Sunita Choudhary	Prof. R.B. Mandariya	Prof. Sanjay Sharma
Chairperson	Director Research	Director Research Services
AGRI MEET Foundation	JAU, Junagadh Gujarat	RVSKVV, Gwalior

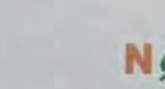
ICRISAT

"कृषिमूलम् जगत् सर्वम्"

NAHEP

Certificate ID: RVS/JAU-153




UNIVERSITY OF AGRICULTURAL SCIENCES, DHARWAD

ICAR-NAHEP

Institutional Development Plan

CERTIFICATE

This is to certify that Mr./Ms. ***Dr. Rajiv Dubey, Assistant Professor (Agronomy), CoH, Mandsaur, RVSKVV-Gwalior*** *has participated in the 14 days training programme on* ***"Organic Production in India- Current Status and preparing for Future"*** *under ICAR-NAHEP-IDP held at the University of Agricultural Sciences, Dharwad on 29th November 2023 to 12th December 2023*

Dr. C. R . Patil
Course Director
NAHEP-IDP
UAS, Dharwad

Dr. P. U. Krishnaraj
Principal Investigator
NAHEP-IDP
UAS, Dharwad

Dr. P. L. Patil
Vice-Chancellor & Team Leader
ICAR-NAHEP IDP
UAS, Dharwad

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

ENGINEERING

Date: 2nd October 2023

To:
Dr. Khursheed Alam Khan
Assistant Professor
College of Horticulture
Mandsaur of RVSKVV, Gwalior

A/Prof. Meng Wai Woo
Auckland, New Zealand
+64 2 1664 363
wai.woo@auckland.ac.nz
The University of Auckland
Private Bag 92019
Auckland 1142, New Zealand

Attn: Completion of International Training

I am writing to confirm that Dr Khursheed Alam Khan has taken international training and worked as a visiting honorary researcher in the Department 2. Attending the annual New Zealand Foodtech Packtech exhibition. This exhib technological developments in packaging and food processing in New Zealan
3. Training on the mathematical modelling of drying processes particularly in th Drying Curve theoretical framework.

In addition to the training activities undertaken, Dr. Khursheed Alam Khan and mysel developed longer-term collaborative work. Some of the longer-term collaborative w

1. Jointly prepared a proposal to cement a long-term collaborative Letter-of-Ur RVSKVV, Gwalior and the University of Auckland Faculty of Science Future Fo is now in the faculty consultation phase.
2. Jointly worked on a collaborative research project on herb drying. We are ex publication of this work in the near future.

In summary, it has been a very productive training period for Dr. Khursheed Alam Kh It was great hosting Dr. Khursheed Alam Khan and I look forward to developing a clos with the wider research community at RVSKVV, Gwalior.

Yours truly,

Meng Wai Woo PhD CEng MIChemE
Associate Professor
Deputy Head (Academic)
Department of Chemical and Materials Engineering
University of Auckland, New Zealand

MPUAT/DOR/ICAR-CAFT/2024/12

ICAR - Centre for Advanced Faculty Training on Organic Farming

Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan

भाकृअनुप
ICAR

Certificate of Participation

This is to certify that **Mr. Balkrishna Patidar, Assistant Professor (Plant Pathology), College of Horticulture (RVSKVV), Mandsaur** has participated and successfully completed the 21 days ICAR sponsored **Training Programme** on **"Natural Farming: A Way Forward for Resource Conservation & Ecological Balance"** during **6th to 26th February, 2024** organized by ICAR-CAFT on Organic Farming, Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan.

Dr. Arvind Verma
Director
CAFT on Organic Farming

Dr. Ajeet Kumar Karnatak
Vice-Chancellor
MPUAT, Udaipur

Sher-e-Kashmir
University of Agricultural Sciences
and Technology of Kashmir
Main Campus Shalimar (J&K) India-190025

No. AU/DR/HADP/ASAS/2024-224-14

DIRECTORATE OF RESEARCH

Dated: 28th Feb. 2024

CERTIFICATE OF PARTICIPATION

This is to certify that Dr. Rakesh Kumar Sharma Assistant Professor COH, Mandsaur (MP) has participated in the winter school entitled "Understanding and Optimizing Ecological Resources and Processes for Profitable Organic/Natural Farming with Sustainability" organized by Directorate of Research, SKUAST K and Sponsored by Indian Council of Agricultural Research, New Delhi from 8-28th, Feb. 2024. The Winter School Courses consisted of lectures, demonstrations, discussions and practical exercise based on latest developments on Organic Farming.

Prof. Parmeet Singh
Course Director

Prof. Haroon Rashid Naik
Director Research

Prof. Nazir Ahmad Ganai
Vice Chancellor SKUAST K

Sher-e-Kashmir
University of Agricultural Sciences
and Technology of Kashmir
Main Campus Shalimar (J&K) India-190025

भाकृअनुप
ICAR

No. AU/DR/HADP/ASAS/2024-224-13

DIRECTORATE OF RESEARCH

Dated: 28th Feb. 2024

CERTIFICATE OF PARTICIPATION

This is to certify that Dr. Roshan Gallani Scientist, CoH, Mandsaur (MP) has participated in the winter school entitled "Understanding and Optimizing Ecological Resources and Processes for Profitable Organic/Natural Farming with Sustainability" organized by Directorate of Research, SKUAST K and Sponsored by Indian Council of Agricultural Research, New Delhi from 8-28th, Feb. 2024. The Winter School Courses consisted of lectures, demonstrations, discussions and practical exercise based on latest developments on Organic Farming.

Prof. Parmeet Singh
Course Director

Prof. Haroon Rashid Naik
Director Research

Prof. Nazir Ahmad Ganai
Vice Chancellor SKUAST K

Sher-e-Kashmir
University of Agricultural Sciences
and Technology of Kashmir
Main Campus Shalimar (J&K) India-190025

भाकृअनुप
ICAR

No. AU/DR/HADP/ASAS/2024-224-3

DIRECTORATE OF RESEARCH

Dated: 28th Feb. 2024

CERTIFICATE OF PARTICIPATION

This is to certify that Dr. Priyamvada Sonkar Assistant Professor Fruit Science COH, Mandsaur (MP) has participated in the winter school entitled "Understanding and Optimizing Ecological Resources and Processes for Profitable Organic/Natural Farming with Sustainability" organized by Directorate of Research, SKUAST K and Sponsored by Indian Council of Agricultural Research, New Delhi from 8-28th, Feb. 2024. The Winter School Courses consisted of lectures, demonstrations, discussions and practical exercise based on latest developments on Organic Farming.

Prof. Parmeet Singh
Course Director

Prof. Haroon Rashid Naik
Director Research

Prof. Nazir Ahmad Ganai
Vice Chancellor SKUAST K

Scanned with OKEN Scanner

शाकीय विज्ञान संभाग

भाकृअनुप–भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली –110012

Division of Vegetable Science

ICAR - Indian Agricultural Research Institute, New Delhi- 110012

No. IARI/TGS-II/Veg. Sci./SV/2024/57

26.03.2024

Certificate

This is to certify that Dr. Anuj Kumar, Assistant Professor, College of Horticulture, Mandsaur (RVSKVV, Gwalior) has successfully completed the ICAR sponsored 21 days Winter school on "Genomics and Innovative Breeding Approaches for Economically Important and Futuristic Traits in Vegetable Crops" organized at Division of Vegetable Science, ICAR- Indian Agricultural Research Institute, New Delhi-110012 during 06 - 26 March, 2024.

B. S. Tomar
Head & Course Director

Anupama Singh
Joint Director (Education) & Dean

CENTRE FOR ADVANCED FACULTY TRAINING IN HORTICULTURE (VEGETABLES)

Department of Vegetable Science

Dr YS Parmar University of Horticulture and Forestry
Nauni -173 230 Solan, Himachal Pradesh

भाकृअनुप
ICAR

CERTIFICATE

This is to certify that *Dr Shailendra Kumar Dwivedi, Assistant Professor (PHM), RVSKVV, COH Campus Mandsaur, MP* has participated and successfully completed the 21-days advanced training on *"NUTRITIONAL SECURITY THROUGH DIVERSIFIED VEGETABLE PRODUCTION"* organized by Centre for Advanced Faculty Training in Horticulture (Vegetables), Department of Vegetable Science, Dr YS Parmar University of Horticulture and Forestry, Nauni, Solan (HP) w.e.f. February 02-22, 2024.

Dated : 22.02.2024
Place : Nauni, Solan

H Dev Sharma
Director, CAFT

Rajeshwar Singh Chandel
Vice Chancellor

Sher-e-Kashmir
University of Agricultural Sciences
and Technology of Kashmir
Main Campus Shalimar (J&K) India-190025

ICAR

No. AU/DR/HAOP/ASAS/2024-224-12

DIRECTORATE OF RESEARCH

Dated 28th Feb 2024

CERTIFICATE OF PARTICIPATION

This is to certify that Dr. Om Singh.
Assistant Professor COH, Mandsaur (MP) has participated in the winter school entitled "Understanding and Optimizing Ecological Resources and Processes for Profitable Organic/Natural Farming with Sustainability" organized by Directorate of Research, SKUAST K and Sponsored by Indian Council of Agricultural Research, New Delhi from 8-28th, Feb. 2024. The Winter School Courses consisted of lectures, demonstrations, discussions and practical exercise based on latest developments on Organic Farming.

Prof. Parmeet Singh
Course Director

Prof. Haroon Rashid Naik
Director Research

Prof. Nazir Ahmad Ganai
Vice Chancellor SKUAST K

CENTRE FOR ADVANCED FACULTY TRAINING IN HORTICULTURE (VEGETABLES)

Department of Vegetable Science

Dr YS Parmar University of Horticulture and Forestry
Nauni -173 230 Solan, Himachal Pradesh

भाकृअनुप
ICAR

CERTIFICATE

This is to certify that *Dr Manoj Kumar Tripathi, Assistant Professor (Physics & Meteorology), RVSKVV, College of Horticulture, Mandsaur, Madhya Pradesh* has participated and successfully completed the 21-days advanced training on *"NUTRITIONAL SECURITY THROUGH DIVERSIFIED VEGETABLE PRODUCTION"* organized by Centre for Advanced Faculty Training in Horticulture (Vegetables), Department of Vegetable Science, Dr YS Parmar University of Horticulture and Forestry, Nauni, Solan (HP) w.e.f. February 02-22, 2024.

Dated : 22.02.2024
Place : Nauni, Solan

H Dev Sharma
Director, CAFT

Rajeshwar Singh Chandel
Vice Chancellor

Scanned with OKEN Scanner

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA

COLLEGE OF AGRICULTURE, GWALIOR (M.P.)

Azadi ka Amrit Mahotsav

Certificate

This is to certify that DR. NISHA SINGH has successfully completed the Winter Scho on "Entrepreneurial Development in Agriculture for Sustainable Growth and Self Reliance sponsored by Indian Council of Agricultural Research, New Delhi and organized t Department of Agricultural Extension and Communication, RVSKVV- College Agriculture, Gwalior (M.P.) from 24th February to 16th March, 2022 in online mode.

The winter School consisted of lectures, exercises and virtual visits based on lat development in the field of entrepreneurial development.

Dr. O.P. Daipuria
Course Director

Dr. S.S. Tomar
Dean

भाकृअनुप - भारतीय श्री अन्न अनुसंधान संस्थान

ICAR-Indian Institute of Millets Research

Rajendranagar, Hyderabad 500030, Telangana; www.millets.res.in

CERTIFICATE

This is to certify that Dr. SNEHA PANDEY has successfully completed the "Online Refresher Course on Millets (Shree Anna) - Model Crops for Sustainable Farming, Value Addition, Entrepreneurship Development and Nutritional Security (RCSA2023)" jointly organized by Society for Millets Research and ICAR-Indian Institute of Millets Research, Hyderabad held during 7th – 27th September 2023.

Course Director

Chief Course Director

भाकृअनुप - भारतीय श्री अन्न अनुसंधान संस्थान

ICAR-Indian Institute of Millets Research

Rajendranagar, Hyderabad 500030, Telangana; www.millets.res.in

CERTIFICATE

This is to certify that Dr. SUDHIR SINGH, Asst. Professor, College of Agriculture, Gwalior, has successfully completed the "Online Refresher Course on Millets (Shree Anna) - Model Crops for Sustainable Farming, Value Addition, Entrepreneurship Development and Nutritional Security (RCSA2023)" jointly organized by Society for Millets Research and ICAR-Indian Institute of Millets Research, Hyderabad held during 7th – 27th September 2023.

Course Director

Chief Course Director

Murdoch University

Centre for Crop and Food Innovation/
State Agricultural Biotechnology
Centre Food Futures Institute

Certificate of Completion

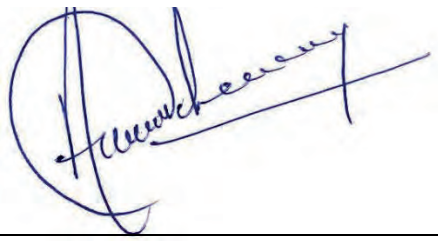
This certificate is awarded to

Dr Sushma Tiwari

Rajmata Vijayraje Scindia Krishi Vishwavidyalaya,

Gwalior, Madhya Pradesh, India

Successful completion of the training in Gene Editing and
Genomic analysis of Crop Improvement in wheat
Oct 2022



Professor Rajeev Varshney
Director, WA State Agricultural Biotechnology Centre;
Director, Centre for Crop & Food Innovation, &
International Chair in Agriculture & Food Security
Murdoch University
Perth, Western Australia

2022

Certificate

OF PARTICIPATION

THIS CERTIFICATE IS PRESENTED TO

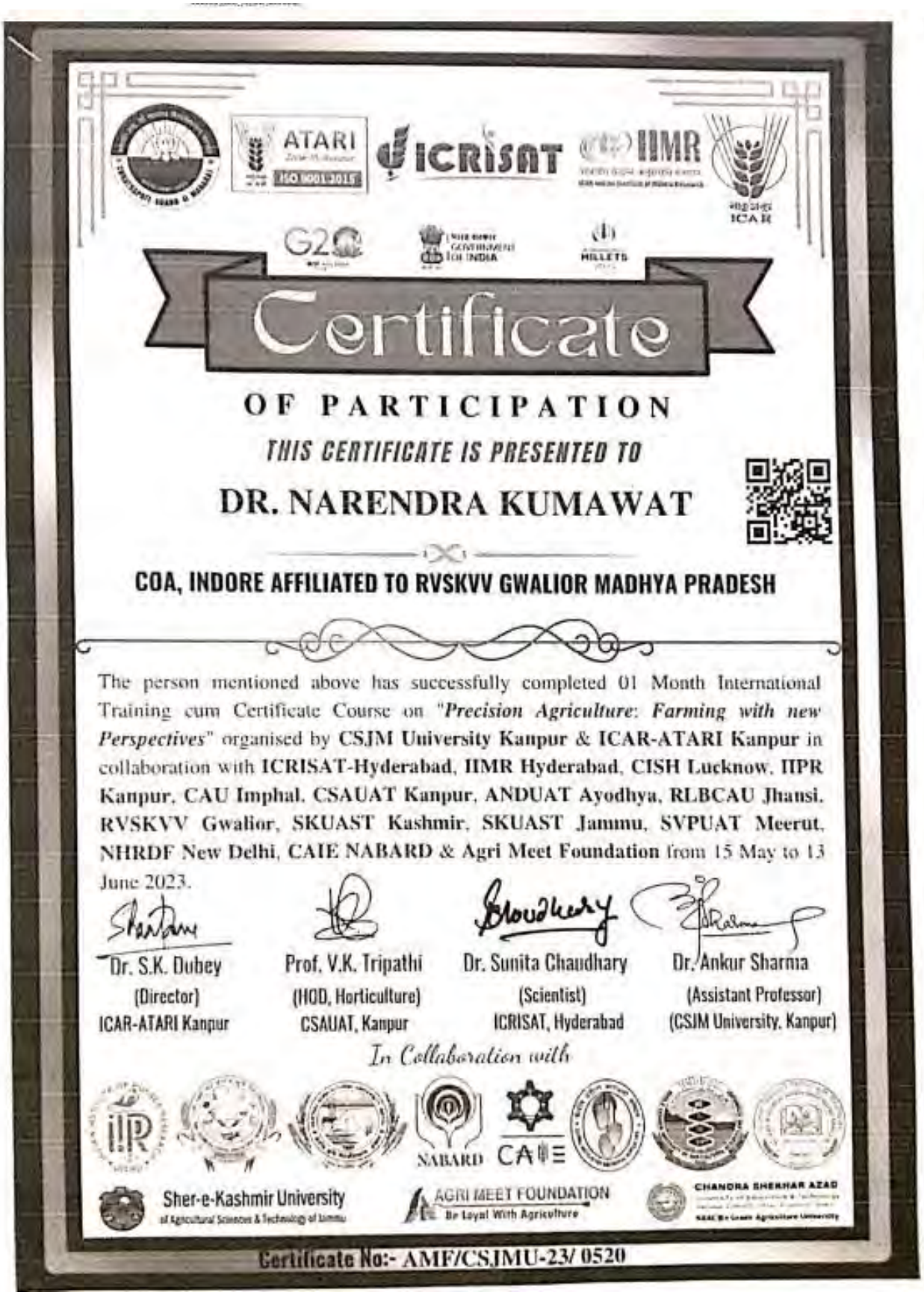
Dr. Nisha Sapre

AICRP – Sorghum, Indore M.P.

The person mentioned above has successfully completed 01 Month International Training cum Certificate Course on "***Precision Agriculture: Farming with new Perspectives***" organised by **CSJM University Kanpur & ICAR-ATARI Kanpur** in collaboration with **ICRISAT-Hyderabad, IIMR Hyderabad, CISH Lucknow, IIPR Kanpur, CAU Imphal, CSAUAT Kanpur, ANDUAT Ayodhya, RLBCAU Jhansi, RVSKVV Gwalior, SKUAST Kashmir, SKUAST Jammu, SVPUAT Meerut, NHRDF New Delhi, CAIE NABARD & Agri Meet Foundation** from 15 May to 13 June 2023.

Dr. S.K. Dubey	Prof. V.K. Tripathi	Dr. Sunita Chaudhary	Dr. Ankur Sharma
(Director)	(HOD, Horticulture)	(Scientist)	(Assistant Professor)
ICAR-ATARI Kanpur	CSAUAT, Kanpur	ICRISAT, Hyderabad	(CSJM University, Kanpur)

In Collaboration with



Certificate

OF PARTICIPATION

THIS CERTIFICATE IS PRESENTED TO

DR. NARENDRA KUMAWAT

COA, INDORE AFFILIATED TO RVSKVV GWALIOR MADHYA PRADESH

The person mentioned above has successfully completed 01 Month International Training cum Certificate Course on "***Precision Agriculture: Farming with new Perspectives***" organised by **CSJM University Kanpur & ICAR-ATARI Kanpur** in collaboration with **ICRISAT-Hyderabad, IIMR Hyderabad, CISH Lucknow, IIPR Kanpur, CAU Imphal, CSAUAT Kanpur, ANDUAT Ayodhya, RLBCAU Jhansi, RVSKVV Gwalior, SKUAST Kashmir, SKUAST Jammu, SVPUAT Meerut, NHRDF New Delhi, CAIE NABARD & Agri Meet Foundation** from 15 May to 13 June 2023.

Dr. S.K. Dubey	Prof. V.K. Tripathi	Dr. Sunita Chaudhary	Dr. Ankur Sharma
(Director)	(HOD, Horticulture)	(Scientist)	(Assistant Professor)
ICAR-ATARI Kanpur	CSAUAT, Kanpur	ICRISAT, Hyderabad	(CSJM University, Kanpur)

In Collaboration with

Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu

AGRI MEET FOUNDATION Be Loyal With Agriculture

CHANDRA SHEKHAR AZAD

Certificate No:- AMF/CSJMU-23/ 0520

23

ATARI Zone-III Kanpur

ICRISAT

IIMR

ICAR

G20

GOVERNMENT OF INDIA

MILLETS

Certificate

OF PARTICIPATION

THIS CERTIFICATE IS PRESENTED TO

Dr. Deepak Kumar Verma

COA, Indore MP.

The person mentioned above has successfully completed 01 Month International Training cum Certificate Course on "*Precision Agriculture: Farming with new Perspectives*" organised by CSJM University Kanpur & ICAR-ATARI Kanpur in collaboration with ICRISAT-Hyderabad, IIMR Hyderabad, CISH Lucknow, IIPR Kanpur, CAU Imphal, CSAUAT Kanpur, ANDUAT Ayodhya, RLBCAU Jhansi, RVSKVV Gwalior, SKUAST Kashmir, SKUAST Jammu, SVPUAT Meerut, NHRDF New Delhi, CAIE NABARD & Agri Meet Foundation from 15 May to 13 June 2023.

Dr. S.K. Dubey	Prof. V.K. Tripathi	Dr. Sunita Chaudhary	Dr. Ankur Sharma
(Director)	(HOD, Horticulture)	(Scientist)	(Assistant Professor)
ICAR-ATARI Kanpur	CSAUAT, Kanpur	ICRISAT, Hyderabad	(CSJM University, Kanpur)

In Collaboration with

NABARD CAIE

Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu

AGRI MEET FOUNDATION Be Loyal With Agriculture

CHANDRA SHEKHAR AZAD University of Agriculture & Technology

Certificate No:- AMF/CSJMU-23/ 0020

Certificate

OF PARTICIPATION

THIS CERTIFICATE IS PRESENTED TO

Dr. Rakesh Kumar Singh, Faculty

CO. A. Indore, M.P.
RVSKVV, Gwalior

The person mentioned above has successfully completed 01 Month International Training cum Certificate Course on "***Precision Agriculture: Farming with new Perspectives***" organised by **CSJM University Kanpur** & **ICAR-ATARI Kanpur** in collaboration with **ICRISAT-Hyderabad, IIMR Hyderabad, CISH Lucknow, IIPR Kanpur, CAU Imphal, CSAUAT Kanpur, ANDUAT Ayodhya, RLBCAU Jhansi, RVSKVV Gwalior, SKUAST Kashmir, SKUAST Jammu, SVPUAT Meerut, NHRDF New Delhi, CAIE NABARD & Agri Meet Foundation** from 15 May to 13 June 2023.

Dr. S.K. Dubey	Prof. V.K. Tripathi	Dr. Sunita Chaudhary	Dr. Ankur Sharma
(Director)	(HOD, Horticulture)	(Scientist)	(Assistant Professor)
ICAR-ATARI Kanpur	CSAUAT, Kanpur	ICRISAT, Hyderabad	(CSJM University, Kanpur)

In Collaboration with

Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu

AGRI MEET FOUNDATION
Be Loyal With Agriculture

CHANDRA SHEKHAR AZAD
University of Agriculture & Technology
Kanpur 208002, Uttar Pradesh, India
NAAC B+ Grade Agriculture University

Certificate No:- AMF/CSJMU-23/1123

Sri Karan Narendra Agriculture University
Jobner, Jaipur (Raj.) - 303 329

Certificate of Participation

This is to certify that **Dr. Jaiprakash Mehra**, Scientist (Agronomy), College of Agriculture, RVSKVV, Indore (M.P.) has participated in 21 Days ICAR sponsored Winter School on **"Advances in Agricultural Waste Management for Environmental Safety, Soil Health Management and Energy Production"** organized by the Department of Soil Science and Agricultural Chemistry, S.K.N. College of Agriculture, Sri Karan Narendra Agriculture University, Jobner (Rajasthan) during 18th January to 7th February, 2023.

Dr. S.K. Dadhich	*Dr. B.L. Jat*	*Dr. B.L. Kakraliya*	*Dr. Balraj Singh*
Course Director	Dean & Faculty Chairman	Director, HRD	Vice-Chancellor

ICAR

भा.च.घा.अ.सं.
IGFRI

In The Service Of Farmers
NADCL

FDP-2022

21 Days Faculty Development Programme on "Role of Science and Technology in Sustainable Agriculture, Horticulture, Animal Husbandry and Allied Sectors: A Retrospective and Prospective Approach"

(November 9-29, 2022)

Certificate Number
PC/299

Certificate of Participation

This is to certify that

Dr. Jaiprakash Mehra, Scientist (Agronomy) Department of Agronomy
College of Agriculture, Indore (RVSKVV , Gwalior) MP

participated and successfully completed 21 Days Faculty Development Programme on **"Role of Science and Technology in Sustainable Agriculture, Horticulture, Animal Husbandry and Allied Sectors: A Retrospective and Prospective Approach"** jointly organized by ICAR-Indian Grassland and Fodder Research Institute, Himachal Pasturelands, Palampur, H.P. and National Agriculture Development Cooperative Ltd (NADCL) Baramulla, UT of J & K, during November 9 to 29, 2022.

Dr. Sudesh Radotra
Course Director
Principal Scientist & Incharge
ICAR-IGFRI, Himachal Pasturelands, Palampur, H.P.

(P. Qamar-ud-Din Shah)
Chairman
NADCL, Baramulla (UT of J & K)

Reg. No. : MPUAT/DR/CAFT/2022/01

Maharana Pratap University of Agriculture and Technolgoy

Udaipur (Rajasthan) 313001

Certificate of Participation

This is to certify that **Dr. Mohan Lal Jadav, Scientist (Soil & Water Engineering), RVSKVV-CoA, Indore** has participated and successfully completed the ICAR sponsored 21 days training programme on **"Natural Farming : Perspectives and Prospects in Changing Agriculture Scenario"** during **09-29 November, 2022** organized by ICAR-Centre for Advanced Faculty Training on Organic Farming, Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan).

Dr. S.K. Sharma
Director
ICAR-CAFT on Organic Farming

Dr. Ajeet Kumar Karnatak
Vice Chancellor

ICAR

भा.च.कृ.अ.सं.
ICFRI

In The Service of Farmers
NADCL

FDP-2022

21 Days Faculty Development Programme on

"Role of Science and Technology in Sustainable Agriculture, Horticulture, Animal Husbandry and Allied Sectors: A Retrospective and Prospective Approach"

(November 9-29, 2022)

Certificate Number
PC/300

Certificate of Participation

This is to certify that

Dr. Mukesh Kumar Saxena, Scientist (Genetics and Plant Breeding)
Department of Genetics and Plant Breeding, CoA, Indore, (RVSKVV, Gwalior) MP

participated and successfully completed 21 Days Faculty Development Programme on **"Role of Science and Technology in Sustainable Agriculture, Horticulture, Animal Husbandry and Allied Sectors: A Retrospective and Prospective Approach"** jointly organized by ICAR-Indian Grassland and Fodder Research Institute, Himachal Pasturelands, Palampur, H.P. and National Agriculture Development Cooperative Ltd (NADCL) Baramulla, UT of J & K, during November 9 to 29, 2022.

Dr. Sudesh Radotra
Course Director
Principal Scientist & Incharge
ICAR-IGFRI, Himachal Pasturelands, Palampur, H.P.

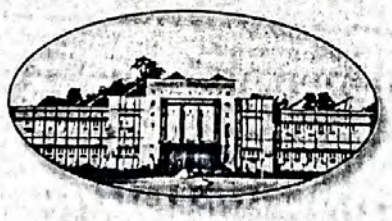
(P. Qamar-ud-Din Shah)
Chairman
NADCL, Baramulla (UT of J & K)

ICAR-INDIAN INSTITUTE OF SUGARCANE RESEARCH
POST-DILKUSHA, LUCKNOW-226002 (U.P.)

G20
वसुधैव कुटुम्बकम्
ONE EARTH · ONE FAMILY · ONE FUTURE

Certificate

This is to certify that Dr Shailendra Kumar Dwivedi, Assistant Professor, KNKCOH, RVSKVV Campus, Mandsaur (M.P.) has successfully completed the 21 days Winter School training course on "Recent Approaches for Doubling Farmers Income in Sugarcane Based Cropping System" organized by the ICAR-Indian Institute of Sugarcane Research, Lucknow during December 08 - 28 2022 under sponsorship of Indian Council of Agricultural Research (ICAR), New Delhi, India.



(Sudhir Kumar Shukla)
Course Director

(V.P. Jaiswal)
Course Coordinator

(Lalan Sharma)
Course Coordinator

(Rasappa Viswanathan)
Director

https://mail.google.com/mail/u/0/#search/IISR+winter+s/KtbxLwhGPJKBPFlsfXcCvMwXjMRjwhJckg?projector=1&messagePartId=0.1

काशी हिन्दू विश्वविद्यालय BANARAS HINDU UNIVERSITY

भाकृअनुप ICAR

ICAR Sponsored
Centre for Advanced Faculty Training (CAFT)
in Food Processing
Department of Dairy Science and Food Technology
Institute of Agricultural Sciences
Banaras Hindu University

CERTIFICATE

This is to certify that

Dr. Priyamvada Sonkar

of **R.V.S.K.V.V., Campus- College of Horticulture, Mandsaur, M.P.**

has participated in Advanced Faculty Training in Food Processing on "Recent Advances in Food and Bioprocessing Technologies" organized by ICAR sponsored Centre for Advanced Faculty Training (CAFT) at Department of Dairy Science and Food Technology, Institute of Agricultural Science, Banaras Hindu University, Varanasi from 28th of October till 17th of November, 2022. Advanced faculty training consisted of lectures, demonstrations, discussions and practical exercises based on latest development in food and bioprocessing technologies.

DIRECTOR
CAFT (ICAR)

DIRECTOR
INSTITUTE OF AGRICULTURAL SCIENCES, BHU

DSFT
DEPARTMENT OF DAIRY SCIENCE & FOOD TECHNOLOGY

Reg. No. : MPUAT/DR/CAFT/2022/01

Maharana Pratap University of Agriculture and Technolgoy

Udaipur (Rajasthan) 313001

ICAR

Certificate of Participation

This is to certify that **Dr. Jyoti Kanwar, Assistant Professor (Horticultre-Fruit Science), College of Horticulture, Mandsaur, RVSKVV, Gwalior (MP)** has participated and successfully completed the ICAR sponsored 21 days training programme on **"Natural Farming: Perspectives and Prospects in Changing Agriculture Scenario"** during **09-29 November, 2022** organized by ICAR-Centre for Advanced Faculty Training on Organic Farming, Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan).

Dr. S.K. Sharma
Director
ICAR-CAFT on Organic Farming

Dr. Ajeet Kumar Karnatak
Vice Chancellor

Teaching Learning Centre, Ramanujan College
University of Delhi

under the aegis of

MINISTRY OF EDUCATION

PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING

This is to certify that

Dr. Manoj Kumar Tripathi, Assistant Professor

of

RVSKVV, KNK College of Horticulture, Mandsaur, Madhya Pradesh

has successfully completed online Two-Week Refresher Course in

"NATURAL SCIENCES"

from *28 June – 12 July 2022* and obtained

Grade *A+*.

Blockchain Hash: 0xad1a35237247e5e50dea6cc4a8fcb93fdd46eb1af6a4582a86855c29f603ec36

Prof. S. P. Aggarwal
(Principal & Director)
TLC, Ramanujan College

Dr. Nikhil Kr. Rajput
(Convenor)
Ramanujan College

भाकृअनुप - भारतीय श्री अन्न अनुसंधान संस्थान

ICAR-Indian Institute of Millets Research

Rajendranagar, Hyderabad 500030, Telangana; www.millets.res.in

CERTIFICATE

This is to certify that Dr. SHAILENDRA KUMAR DWIVEDI, PhD, College of Horticulture, Mandsaur, Madhya Pradesh has successfully completed the "Online Refresher Course on Millets (Shree Anna) - Model Crops for Sustainable Farming, Value Addition, Entrepreneurship Development and Nutritional Security (RCSA2023)" jointly organized by Society for Millets Research and ICAR-Indian Institute of Millets Research, Hyderabad held during 7th – 27th September 2023.

A Bellundagi.

Course Director

C. Tara Satyavathi

Chief Course Director

Reg. No. : MPUAT/DR/CAFT/2022/01

Maharana Pratap University of Agriculture and Technolgoy

Udaipur (Rajasthan) 313001

ICAR

Certificate of Participation

This is to certify that **Dr. Jyoti Kanwar, Assistant Professor (Horticultre-Fruit Science), College of Horticulture, Mandsaur, RVSKVV, Gwalior (MP)** has participated and successfully completed the ICAR sponsored 21 days training programme on **"Natural Farming: Perspectives and Prospects in Changing Agriculture Scenario"** during **09-29 November, 2022** organized by ICAR-Centre for Advanced Faculty Training on Organic Farming, Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan).

Dr. S.K. Sharma
Director
ICAR-CAFT on Organic Farming

Dr. Ajeet Kumar Karnatak
Vice Chancellor

CERTIFICATE OF PARTICIPATION

Awarded to

Dr. Akhilesh Singh

RVSKVV, Gwalior MP.

The candidate mentioned above has successfully completed the 21 Days International Training cum Certificate Course on Agriculture Drones "Revolutionizing the Future of Agriculture" organised by Agri Meet Foundation and Aviana in collaboration with ICAR-IISR, UPCAR Lucknow, MPUAT, CAIE, NABARD, NAHEP & ITM University Gwalior MP from 21st May to 10th June 2022. via virtual mode.

10 June, 2022

Certificate Code : AMF-21- 2451

Dr. Ankur Sharma
Assistant Professor
ITM University Gwalior

Vishnu Priya PS
Founder & CEO
Aviana Groups

Dairy Extension Division
ICAR- National Dairy Research Institute
Karnal-132001, Haryana

Azadi Ka Amrit Mahotsav

Certificate of Participation

This is to certify that Dr. Shobhana Gupta, Senior Scientist (Agricultural Extension) of Department of Agricultural Extension & Communication, RVSKVV-College of Agriculture, Gwalior, M.P. has successfully completed ICAR sponsored Winter School entitled 'Advances in Agricultural Extension Research' under the aegis of Dairy Extension Division, ICAR-NDRI, Karnal during 28th January-17th February, 2022.

K. Ponnusamy 17.02.2022

(Dr. K. Ponnusamy)
Course Director

(Dr. M.S. Chauhan)
Director & Vice-Chancellor

Certificate

is to certify that, Dr. Nisha Singh, Assistant Professor (Agronomy) COA, Powarkheda, Hoshangabad, JNKVV, Jabalpur has successfully pleted Three Week Online National Certificate Course on **"Watershed Hydrological Modeling"** organised by the Centre for Advanced cultural Science and Technology for Climate Smart Agriculture and Water Management (CAAST-CSAWM), Mahatma Phule Krishi Vidyapeeth harashtra State) under National Agricultural Higher Education Project (NAHEP), Indian Council of Agricultural Research (ICAR), New Delhi ng **May 17 to June 06, 2021**.

Nisha Singh has submitted the following project reports required for the completion of the certificate course.

ndividual Project: A Review on status of water resources of India.
roup Project: Extraction of Mulla Watershed Characteristics using GIS and Digital Elevation Model **(Second Rank)**

(M.G. Shinde)
urse Director & Co-PI (CAAST-CSAWM), MPKV Rahuri

(S.D. Gorantiwar)
PI (CAAST-CSAWM) & Head (Agril. Engg.), MPKV Rahuri

(A.L. Pharande)
Dean (F/A) & Director of Instruction MPKV Rahuri

This digital certificate copy, No.MPKV/CAAST-CSAWM/eCert.Course/WHM/Certl./28/2021 For authenticity, visit: http://www.mpkv-caast.ac.in/page/digitalcertificates

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
COLLEGE OF AGRICULTURE, GWALIOR (M.P.)

Azadi ka Amrit Mahotsav

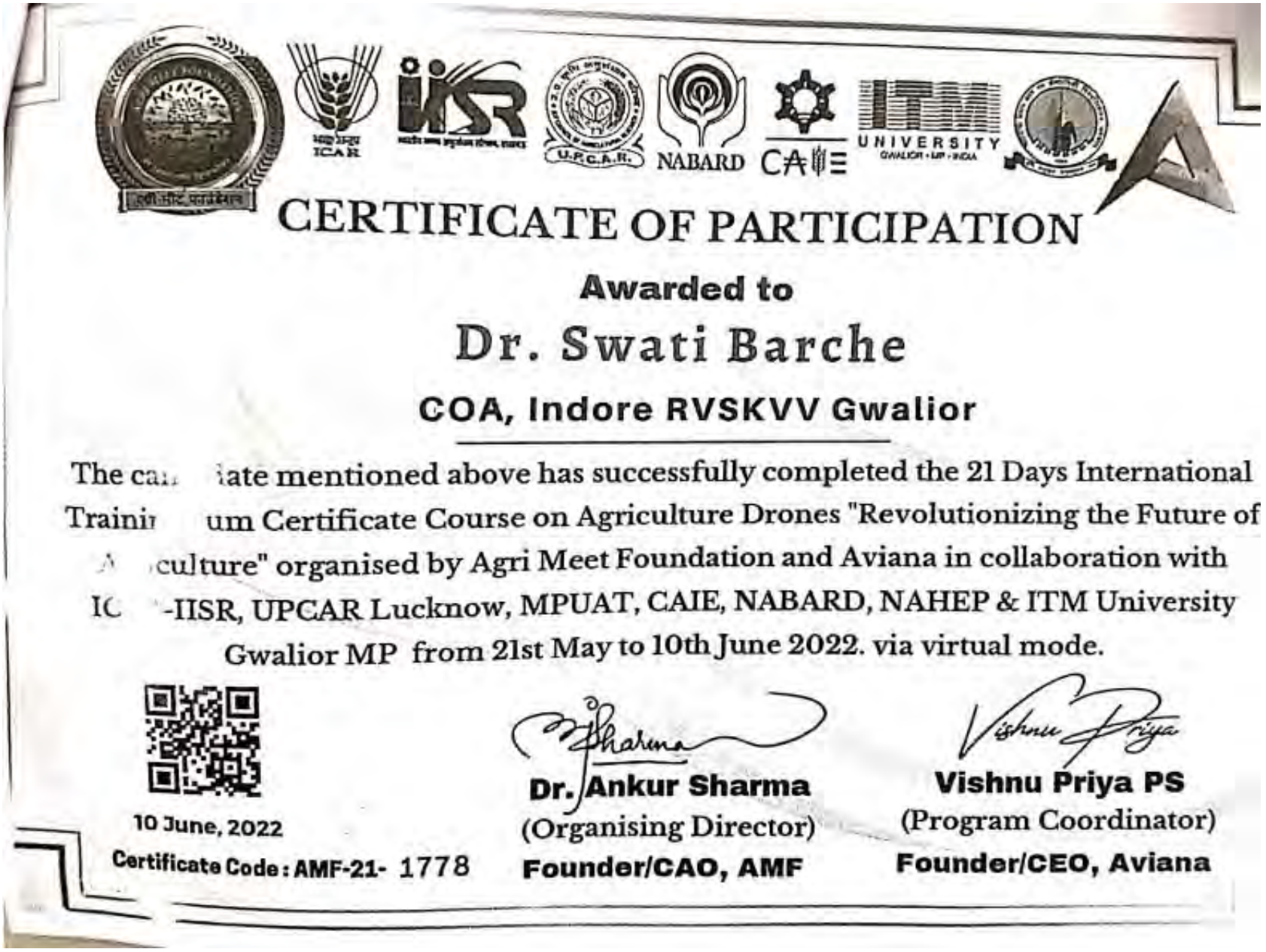
Certificate

This is to certify that DR. DEEKSHA TEMBHRE has successfully completed the Winter School on "Entrepreneurial Development in Agriculture for Sustainable Growth and Self Reliance" sponsored by Indian Council of Agricultural Research, New Delhi and organized by Department of Agricultural Extension and Communication, RVSKVV- College of Agriculture, Gwalior (M.P.) from 24th February to 16th March, 2022 in online mode.

The winter School consisted of lectures, exercises and virtual visits based on latest development in the field of entrepreneurial development.

Dr. O.P. Daipuria
Course Director

Dr. S.S. Tomar
Dean



CERTIFICATE OF PARTICIPATION

Awarded to

Dr. Swati Barche

COA, Indore RVSKVV Gwalior

The candidate mentioned above has successfully completed the 21 Days International Training Curriculum Certificate Course on Agriculture Drones "Revolutionizing the Future of Agriculture" organised by Agri Meet Foundation and Aviana in collaboration with ICAR-IISR, UPCAR Lucknow, MPUAT, CAIE, NABARD, NAHEP & ITM University Gwalior MP from 21st May to 10th June 2022. via virtual mode.

10 June, 2022

Certificate Code : AMF-21- 1778

Dr. Ankur Sharma
(Organising Director)
Founder/CAO, AMF

Vishnu Priya PS
(Program Coordinator)
Founder/CEO, Aviana

CERTIFICATE OF PARTICIPATION

Awarded to

Dr. Anvita Sharma

COA, Indore RVSKVV

The candidate mentioned above has successfully completed the 21 Days International Training cum Certificate Course on Agriculture Drones "Revolutionizing the Future of Agriculture" organised by Agri Meet Foundation and Aviana in collaboration with ICAR-IISR, UPCAR Lucknow, MPUAT, CAIE, NABARD, NAHEP & ITM University Gwalior MP from 21st May to 10th June 2022. via virtual mode.

10 June, 2022

Certificate Code : AMF-21- 1685

Dr. Ankur Sharma
(Organising Director)
Founder/CAO, AMF

Vishnu Priya PS
(Program Coordinator)
Founder/CEO, Aviana

ICAR – Indian Institute of Soil and Water Conservation, RC, Udhagamandalam

DST Sponsored Two Week National Online Training Programme on
Soil & Water Conservation Technologies for Climate Smart Agriculture in the Context of Extreme Weather Events

Certificate

This is to certify that Dr. Mohan Lal Jadav, Scientist, SWCE, AICRP for Dryland Agriculture, RVSKVV, College of Agriculture, Indore, MP has successfully completed with Merit DST Sponsored National Online Training Programme on "Soil & Water Conservation Technologies for Climate Smart Agriculture in the Context of Extreme Weather Events" from 24th January to 4th February, 2022 at ICAR-IISWC, Research Centre, Udhagamandalam, Tamil Nadu.

K. Kannan
Head

P. Raja
Course Director

NAHEP

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR

IDP-NAHEP, RVSKVV, GWALIOR

Certificate

This is to certify that

Dr. Swati Barche

has successfully completed the thirty days online training programme on "Bamboo Based Entrepreneurship Opportunities, Challenges & Option for Agriculture Graduates : An Interaction with Industrialist, Role Models and Administrators" Organized by IDP on "Reinforcement of the brand value of university for designing market ready graduates for entrepreneurship and employment generation" under National Agricultural Higher Education Project, RVSKVV, Gwalior supported by ICAR, New Delhi and World Bank from 10th August–8th September 2021.

Dr. S.K. Sharma
(PI, IDP-NAHEP)

Dr. D.H. Ranade
(Dean, Faculty of Agriculture)

Jointly Organized by

Registration No. : 1363/2021

Centre for Agribusiness Incubation and Entrepreneurship, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh) India

NABARD
National Bank for Agriculture and Rural Development (NABARD) Gwalior, M.P.

ALDS
Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, U.P. (India)

21 Days National Training Course
On

Opportunities in Agriculture, Animal Husbandry & Allied Sectors for Sustainable Entrepreneurship & Livelihood Security

July 01-21, 2021

Certificate

This is to certify that Dr. Narendra Kumawat, Scientist, Crop Production and Nutrient Management, College of Agriculture (RVSKVV) Indore has participated in the 21 days National Training Course on *"Opportunities in Agriculture, Animal Husbandry & Allied Sectors for Sustainable Entrepreneurship & Livelihood Security"*, jointly organized by Centre for Agribusiness Incubation and Entrepreneurship, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh), India, National Bank for Agriculture and Rural Development (NABARD) Gwalior, M.P. and Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, U.P. (India), held on July 01-21, 2021, *via* virtual mode.

Dr. Sudhir Singh Bhadauria
Nodal Officer,
Centre for Agribusiness Incubation and Entrepreneurship, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.) & Organizing Director, National Training Course

Dr. Chhatarpal Singh
President, Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, U.P. (India) & Course Director National Training Course

Md. Nadeem Akhtar
Scientist, Bihar Agriculture University, Sabour, Bhagalpur, Bihar & Course Coordinator National Training Course

ICAR- Central Institute of Agricultural Engineering
Nabibagh, Berasia Road , Bhopal

Certificate

This is to certify that **Dr. LEKHARAM, Scientist, Plant Breeding, R.A.K. College of Agriculture (RVSKVV), Sehore** has successfully completed **Winter School** entitled **"Crop Residues Utilization and Management for Clean Energy and Environment"** during 23rd February – 15th March, 2022 (21 Days) sponsored by Indian Council of Agricultural Research held at Agricultural Energy & Power Division, ICAR- CIAE, Bhopal.

The **Winter School** consisted of lectures, demonstrations, discussions and practical exercises based on the latest developments/technologies in biomass/crop residues utilization.

Place: Bhopal
Date : 15th March, 2022

(V K Bhargav)
Course Director

(C R Mehta)
Director, ICAR-CIAE

ICAR- Central Institute of Agricultural Engineering
Nabibagh, Berasia Road , Bhopal

Certificate

This is to certify that Dr. BALRAM BARAIYA, Scientist, Plant Physiology RAK College of Agriculture (RVSKVV), Sehore, Madhya Pradesh has successfully completed **Winter School** entitled **"Crop Residues Utilization and Management for Clean Energy and Environment"** during 23rd February – 15th March, 2022 (21 Days) sponsored by Indian Council of Agricultural Research held at Agricultural Energy & Power Division, ICAR- CIAE, Bhopal.

The Winter School consisted of lectures, demonstrations, discussions and practical exercises based on the latest developments/technologies in biomass/Crop Residues utilization.

Place: Bhopal
Date : 15th March, 2022

(V K Bhargav)
Course Director

(C R Mehta)
Director, ICAR-CIAE

ICAR-Central Institute of Agricultural Engineering

Nabibagh, Berasia Road, Bhopal - 462 038

Website : ciae.icar.gov.in

Certificate

This is to certify that

DR. POOJA SINGH

Deputy Director Horticulture

Directorate of Horticulture & Farm Forestry, Govt. of M.P., Bhopal (M.P.)

has successfully completed 21 days Winter School on "Farm Mechanization for Facilitating Conservation Agriculture & Climate Smart Technology Adoption" sponsored by Indian Councilof Agricultural Research, held at ICAR-Central Institute of Agricultural Engineering, Bhopal during 04- 24 January, 2022.

(Mukesh Kumar)	(Manish Kumar)	(U. R. Badegaonkar)	(C. R. Mehta)
Course Co-Director	Course Co-Director	Course Director	Director, ICAR-CIAE

Date : 24 Jan, 2022

Place: Bhopal

Registration No. : 1332/2021

Jointly Organized by

Centre for Agribusiness Incubation and Entrepreneurship, RajmataVijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh) India

NABARD
National Bank for Agriculture and Rural Development (NABARD) Gwalior, M.P.

AEDS
Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, U.P. (India)

21 Days National Training Course
On
Opportunities in Agriculture, Animal Husbandry & Allied Sectors for Sustainable Entrepreneurship & Livelihood Security

July 01-21, 2021

Certificate

This is to certify that **Dr. G.K. Nema, Scientist, Agronomy, Department of Agronomy, R.A.K., College of Agriculture, Sehore** has participated in the 21 days National Training Course on ***"Opportunities in Agriculture, Animal Husbandry & Allied Sectors for Sustainable Entrepreneurship & Livelihood Security"***, jointly organized by Centre for Agribusiness Incubation and Entrepreneurship, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh), India, National Bank for Agriculture and Rural Development (NABARD) Gwalior, M.P. and Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, U.P. (India), held on July 01-21, 2021, *via* virtual mode.

Dr. Sudhir Singh Bhadauria
Nodal Officer,
Centre for Agribusiness Incubation and Entrepreneurship, Rajmata Vijayraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.) & Organizing Director,
National Training Course

Dr. Chhatarpal Singh
President, Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, U.P. (India)
& Course Director
National Training Course

Md. Nadeem Akhtar
Scientist, Bihar Agriculture University, Sabour, Bhagalpur, Bihar
& Course Coordinator
National Training Course

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR

IDP-NAHEP, RVSKVV, GWALIOR

Certificate

This is to certify that

Mr. Manoj Kumar Kureel

has successfully completed the thirty days online training programme on "Bamboo Based Entrepreneurship Opportunities, Challenges & Option for Agriculture Graduates : An Interaction with Industrialist, Role Models and Administrators" Organized by IDP on "Reinforcement of the brand value of university for designing market ready graduates for entrepreneurship and employment generation" under National Agricultural Higher Education Project, RVSKVV, Gwalior supported by ICAR, New Delhi and World Bank from 10th August–8th September 2021.

Dr. S.K. Sharma
(PI, IDP-NAHEP)

Dr. D.H. Ranade
(Dean, Faculty of Agriculture)

CERTIFICATE OF PARTICIPATION

Awarded to

Dr Nitin Soni

College of Horticulture, Mandsaur, RVSKVV, Gwalior

The candidate mentioned above has successfully completed the 21 Days International Training cum Certificate Course on Agriculture Drones "Revolutionizing the Future of Agriculture" organised by Agri Meet Foundation and Aviana in collaboration with ICAR-IISR, UPCAR Lucknow, MPUAT, CAIE, NABARD, NAHEP & ITM University Gwalior MP from 21st May to 10th June 2022. via virtual mode.

10 June, 2022

Certificate Code : AMF-21- 2036

Dr. Ankur Sharma
(Organising Director)
Founder/CAO, AMF

Vishnu Priya PS
(Program Coordinator)
Founder/CEO, Aviana

F.No. NRCSS/WS-2022/05

ICAR- NATIONAL RESEARCH CENTRE ON SEED SPICES
TABIJI, AJMER-305 206 (RAJASTHAN)

Certificate

This is to certify that

Dr. Jyoti Kanwar

Assistant Professor (Horticulture-Fruit Science), College of Horticulture, Mandsaur, (RVSKVV), Gwalior Madhya Pradesh has successfully completed the ICAR sponsored 21 days Winter School on "Crop Diversification with Low Volume High Value Seed Spices and Horticultural Crops for Doubling Farmer's Income" organized by ICAR- National Research Centre on Seed Spices, Ajmer, Rajasthan during 11-31 January 2022. The winter school consisted of lectures, demonstrations, discussions and practical exercises on latest development in precision resource management, production technology, IPM, IDM, postharvest management and diversification with high value low volume horticultural crops.

Ravindra Singh 31/01/2022
(Ravindra Singh)
Course Director

31/1/22
(S.N. Saxena)
Director

JAWAHARLAL NEHRU KRISHI VISHWAVIDAYLAYA JABALPUR (M.P.)

DEPARTMENT OF SOIL SCIENCE

CENTRE OF ADVANCED FACULTY TRAINING

भाकृअनुप
ICAR

CERTIFICATE

This is to certify that Dr. Kailash Chandra Meena, Assistant Professor, (Horticulture), College of Horticulture, Mandsaur (M.P.) attended the National Training on "Natural Farming: Challenges and Opportunities" sponsored by ICAR, New Delhi and organized by the Centre of Advanced Faculty Training, Department of Soil Science, College of Agriculture, Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur (M.P.) from 1st - 21st November, 2022. He has successfully completed the course requirements.

November 21st, 2022

(N.G. Mitra)
Director CAFT

(Prof. P. K. Bisen)
Vice Chancellor

UGC - HUMAN RESOURCE DEVELOPMENT CENTRE
DEVI AHILYA VISHWAVIDYALAYA, INDORE

ज्ञान - विज्ञानं विमुक्तये

Refresher Course in ICT (MDC) (27/10/2022 to 09/11/2022)

(27/10/2022 to 09/11/2022)
UGC-SPONSORED 2022-2023

CERTIFICATE OF PARTICIPATION

This is to certify that **Dr. Harish Chandra Bharvey, Assistant Librarian, KNK College Of Horticulture, Mandsaur, (Madhya Pradesh)** has successfully completed **Refresher Course in ICT (MDC) (27/10/2022 to 09/11/2022)** and obtained Grade **A+**

Director | **Coordinator** | **Vice Chancellor**

Certificate issue date : 23rd November, 2022
S.No. : HRDC/2022-23/RC/ ICT (MDC)/03

F.No. NRCSS/WS-2022/05

ICAR- NATIONAL RESEARCH CENTRE ON SEED SPICES
TABIJI, AJMER-305 206 (RAJASTHAN)

Certificate

This is to certify that

Dr. Jyoti Kanwar

Assistant Professor (Horticulture-Fruit Science), College of Horticulture, Mandsaur, (RVSKVV), Gwalior Madhya Pradesh has successfully completed the ICAR sponsored 21 days Winter School on "Crop Diversification with Low Volume High Value Seed Spices and Horticultural Crops for Doubling Farmer's Income" organized by ICAR- National Research Centre on Seed Spices, Ajmer, Rajasthan during 11-31 January 2022. The winter school consisted of lectures, demonstrations, discussions and practical exercises on latest development in precision resource management, production technology, IPM, IDM, postharvest management and diversification with high value low volume horticultural crops.

Ravindra Singh 31/01/2022
(Ravindra Singh)
Course Director

31/1/22
(S.N. Saxena)
Director

NAHEP

CENTRE FOR ADVANCED AGRICULTURAL SCIENCE AND TECHNOLOGY

SKILL DEVELOPMENT TO USE SPATIAL DATA FOR

NATURAL RESOURCES MANAGEMENT IN AGRICULTURE

COLLEGE OF AGRICULTURAL ENGINEERING

JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA, JABALPUR 482004(M.P.)

CERTIFICATE OF PARTICIPATION

This is to certify that **Dr. Akhilesh Singh,** Scientist (Agril. Engg.), Office of Dean Faculty of Agriculture, RVSKVV, Gwalior has participated and successfully completed 21 days online training program entitled as

"Hands on Training on Remote Sensing and GIS Using QGIS"

Organized from 21-09-2021 to 11-10-2021 by

NAHEP-CAAST-CSDA, College of Agricultural Engineering , JNKVV, Jabalpur

Dr. S. K.Sharma
Training Coordinator & CO-PI Research
NAHEP

Dr. M. K.Awasthi
Co-PI Skill Development
NAHEP

Dr. R. K.Nema
Principal Investigator
NAHEP

ICAR-Central Potato Research Institute

Shimla, H.P.

Certificate

This is to certify that **Mr. Neeraj Hada, Scientist, Directorate of Extension Services, RVSKVV, Gwalior (MP)** has successfully completed 21 days Winter School on **"Innovations in Potato Improvement, Production and Utilization of Technologies for Doubling Farmer's Income"** sponsored by Education Division, ICAR-New Delhi and organized by ICAR-Central Potato Research Institute, Shimla (H.P.) during 18th Jan.-7th Feb., 2022.

(Jagesh K. Tiwari)
Course Director

(NK Pandey)
Director (A)
ICAR-CPRI, Shimla

NAHEP

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR

IDP-NAHEP, RVSKVV, GWALIOR

Certificate

This is to certify that

Dr. Sudhir Singh

has successfully completed the thirty days online training programme on "Bamboo Based Entrepreneurship Opportunities, Challenges & Option for Agriculture Graduates : An Interaction with Industrialist, Role Models and Administrators" Organized by IDP on "Reinforcement of the brand value of university for designing market ready graduates for entrepreneurship and employment generation" under National Agricultural Higher Education Project, RVSKVV, Gwalior supported by ICAR, New Delhi and World Bank from 10th August–8th September 2021.

Dr. S.K. Sharma
(PI, IDP-NAHEP)

Dr. D.H. Ranade
(Dean, Faculty of Agriculture)

CERTIFICATE

भाकृअनुप - राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
ICAR-National Academy of Agricultural Research Management

This is to certify that

Sushma Tiwari

has fulfilled the requirements of
Massive Open Online Course (MOOC) on

Psychology of Learning

held during 1-15, May, 2020 and hereby awarded this

Certificate of Completion

P Ramesh **G R K Murthy** **S Senthil Vinayagam**
Programme Directors

Ch Srinivasa Rao
Director

ICAR NAARM

NAHEP

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR

IDP-NAHEP, RVSKVV, GWALIOR

Certificate

This is to certify that

Dr. Sudhir Singh

has successfully completed the thirty days online training programme on "Bamboo Based Entrepreneurship Opportunities, Challenges & Option for Agriculture Graduates : An Interaction with Industrialist, Role Models and Administrators" Organized by IDP on "Reinforcement of the brand value of university for designing market ready graduates for entrepreneurship and employment generation" under National Agricultural Higher Education Project, RVSKVV, Gwalior supported by ICAR, New Delhi and World Bank from 10th August–8th September 2021.

Dr. S.K. Sharma
(PI, IDP-NAHEP)

Dr. D.H. Ranade
(Dean, Faculty of Agriculture)

CERTIFICATE OF COMPLETION

This is to certify that

Dr. Nisha Sapre

has completed Phase-II of Massive Open Online Course on "INFORMATION HANDLING SKILLS FOR TEACHING, LEARNING & RESEARCH" from 01-03-2021 to 21-03-2021, organized by Professor Jayashankar Telangana State Agricultural University under ICAR-NAHEP (IG) Sub-Project on National Knowledge Management Centre for Agricultural Education and Research. The MOOC contains video lectures, reading resources, live lectures, quizzes and final assessment.

PRINCIPAL INVESTIGATOR	NATIONAL COORDINATOR	VICE-CHANCELLOR
ICAR-NAHEP (IG) on NKMC4AER PJTSAU, HYDERABAD	ICAR-NAHEP (IG), NEW DELHI	PJTSAU, HYDERABAD

भाकृअनुप-भारतीय कदन्न अनुसंधान संस्थान
ICAR-Indian Institute of Millets Research (IIMR)
Rajendranagar, Hyderabad 500030, Telangana; www.millets.res.in

CERTIFICATE

This is to certify that Dr. Mukesh Kumar Saxena, CoA, Indore, RVSKVV-Gwalior has successfully completed the Online Refresher Course on *"Recent Advances in Millets Research"* sponsored by "Society for Millets Research" and organized by ICAR-Indian Institute of Millets Research, Hyderabad during 10 – 31st December 2020.

Course Director

Director

NITP-2020

21 Days National Innovative Training Programme on Recent Technologies of Agribusiness Management and Agri Entrepreneurship

(October 8-28, 2020)

Certificate of Participation

This is to certify that

Dr. Jaiprakash Mehra, Scientist (Agronomy)

AICRP on Cotton, B. M. College of Agriculture, Khandwa, Madhya Pradesh

had participated and successfully completed 21 Days National Innovative Training Programme (NITP-2020) on "Recent Technologies of Agribusiness Management and Agri Entrepreneurship" jointly organized by Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior, Madhya Pradesh & National Agriculture Development Cooperative Ltd. (NADCL) Baramulla, Jammu and Kashmir during 8th to 28th October-2020

Dr. Sudhir Singh Bhadauria
Course Director
Nodal Officer, Agribusiness Incubation Centre,
(RVSKVV, Gwalior) Madhya Pradesh

Dr. Ratna Nashine
Organizing Director
Professor and Dean, CARS Nayayanpur
(IGKV, Raipur) Chhattisgarh

Academy of Agricultural Research and Education Management
Directorate of Human Resource Management
CHAUDHARY CHARAN SINGH HARYANA AGRICULTURAL UNIVERSITY
HISAR-125004

Sr. No. 20/3397

CERTIFICATE OF PARTICIPATION

Certified that Dr. Neelesh Raypuriya, Assistant Professor (Contractual), Department of Entomology, College of Agriculture, Indore has successfully completed Online Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data conducted by the Academy of Agricultural Research and Education Management, Directorate of Human Resource Management in Collaboration with Department of Mathematics & Statistics, CCS HAU, Hisar from 08-28 July, 2020.

Director, HRM

Vice-Chancellor

Merck High-End Skill Development Centre,
a CSIR-IMTech Initiative
(Ministry of Science & Technology, Govt. of India)

Merck Innovation Lab
Bangalore Chandigarh

MERCK

CERTIFICATE
of Attendance

Presented to

D.R. Saxena

For attending the Digital modules

- Vectors for Gene Cloning
- Preparation of vector & DNA insert
- DNA manipulating enzymes
- Ligation, transformation & selection
- Expression & production of recombinant proteins

of Recombinant DNA Technology webinar series
Conducted in May-June, 2020

Wishing all the best for your future endeavor.

EXPLORE
LEARN
COLLABORATE

Dr. Deepak Sharma
Principal Scientist - IMTech, Chandigarh

Dr. Veena Panicker
Head - Marketing & Commercial Services

ICAR- NATIONAL RESEARCH CENTRE ON SEED SPICES

TABIJI, AJMER-305 206 (RAJASTHAN)

(An ISO 9001:2015 Certified Institute)

Certificate

This is to certify that Dr. Jyoti Kanwar, Assistant Professor (Fruit Science), College of Horticulture, Mandsaur, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, Madhya Pradesh has participated in Indian Council of Agricultural Research sponsored 21 days Winter School on "Good Agricultural Practices and Value Chain Management in High Value Low Volume Horticultural Crops" organized by ICAR- National Research Centre on Seed Spices, Ajmer, Rajasthan during 1-21 February, 2020. The winter school consisted of lectures, demonstrations, discussions and practical exercises on latest development in the field of good agricultural practices and value chain management in high value low volume horticultural crops.

(A.K. Verma)
Course Coordinator

(Gopal Lal)
Director, NRCSS & Course Director

UNIVERSITY GRANTS COMMISSION

HUMAN RESOURCE DEVELOPMENT CENTRE (HRDC)

Doctor Harisingh Gour Vishwavidyalaya, (A Central University)

Sagar - 470 003 (MP) India

ज्ञान–विज्ञान विमुक्तये

Certificate

UGC-SPONSORED REFRESHER COURSE ON

THE NEW NORMAL: REINVENTING LIBRARIES AND LIBRARIANSHIP

This is to certify that Dr. Harish Chandra Bharvey (Assistant Librarian, KNK College of Horticulture, Mandsaur affiliated to RVS Krishi Vishwa Vidyalaya, Gwalior, Madhya Pradesh) successfully participated in the Refresher Course on 'The New Normal: Reinventing Libraries and Librarianship' held during 31st July - 13th August, 2021 in online mode and obtained Grade A+ .

Director | Course Coordinator | Vice Chancellor

ICAR- NATIONAL RESEARCH CENTRE ON SEED SPICES

TABIJI, AJMER-305 206 (RAJASTHAN)

(An ISO 9001:2015 Certified Institute)

Certificate

This is to certify that Dr. Jyoti Kanwar, Assistant Professor (Fruit Science), College of Horticulture, Mandsaur, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, Madhya Pradesh has participated in Indian Council of Agricultural Research sponsored 21 days Winter School on "Good Agricultural Practices and Value Chain Management in High Value Low Volume Horticultural Crops" organized by ICAR- National Research Centre on Seed Spices, Ajmer, Rajasthan during 1-21 February, 2020. The winter school consisted of lectures, demonstrations, discussions and practical exercises on latest development in the field of good agricultural practices and value chain management in high value low volume horticultural crops.

(A.K. Verma)
Course Coordinator

(Gopal Lal)
Director, NRCSS & Course Director

Agricultural Science and Technology for
lture and Water Management (CAAST-CSAWM)

ule Krishi Vidyapeeth Rahuri

r, Maharashtra www.mpkv-caast.ac.in

Certificate

Dr. Akhilesh Singh, Scientist (Agricultural Engineering), RVSKVV, Gwali

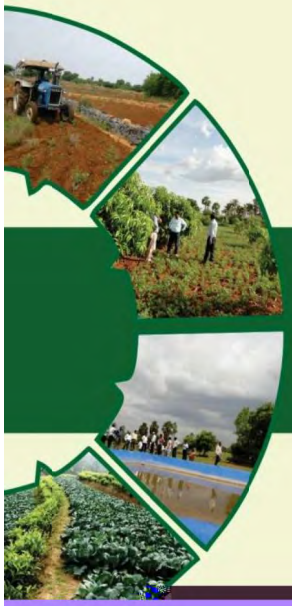
wo Weeks Online Training Course on **"Advances in Smart Food Proc**

d by the Centre for Advanced Agricultural Science and Technology for Climate Management (CAAST-CSAWM), Mahatma Phule Krishi Vidyapeeth, er National Agricultural Higher Education Project (NAHEP), Indian Cou AR), New Delhi held during 04-15 June, 2020.

(S.D. Gorantiwar)
PI (CAAST-CSAWM) &
Head (Agril. Engg.),
MPKV Rahuri

(A.L. Pharande)
Dean (F/A) &
Director of Instruction
MPKV Rahuri

This is digital certificate copy, for authenticity visit: https://qrgo.page.link/Xx4ih



भाकृअनुप
ICAR

सत्यमेव जयते
DST

भारतीय मृदा एवं जल संरक्षण संस्थान
IISWC

DST Sponsored National Online Training Programme on
Advances in Integrated Watershed Management for Rural Livelihood

Certificate

This is to certify that **Dr. Akhilesh Singh, Scientist, RVSKVV, Gwalior** has successfully completed DST Sponsored National Online Training Programme on **"Advances in Integrated Watershed Management for Rural Livelihood"** during 28th December 2020 to 08th January 2021 at ICAR-IISWC, RC, Udhagamandalam, Tamil Nadu.

P. Raja
Course Director

K. Kannan
Head

ICAR – Indian Institute of Soil and Water Conservation, RC, Udhagamandalam

DST Sponsored National Online Training Programme on

Soil & Water Conservation Technologies for Climate Smart Agriculture in the Context of Extreme Weather Events

Certificate

This is to certify that Dr. Shashi S. Yadav, Scientist, RVSKVV, Gwalior, MP has successfully completed DST Sponsored National Online Training Programme on "Soil & Water Conservation Technologies for Climate Smart Agriculture in the Context of Extreme Weather Events" from 22 February to 05 March, 2021 at ICAR-IISWC, Research Centre, Udhagamandalam, Tamil Nadu.

K. Kannan
Head

P. Raja
Course Director

NITP-2020

21 Days National Innovative Training Programme on

Recent Technologies of Agribusiness Management and Agri Entrepreneurship

(October 8-28, 2020)

Certificate of Participation

This is to certify that

Dr. (Mrs.) Shashi S. Yadav

SMS (Soil Science) RVSKVV - College of Agriculture, Gwalior, Madhya Pradesh

had participated and successfully completed 21 Days National Innovative Training Programme (NITP-2020) on "Recent Technologies of Agribusiness Management and Agri Entrepreneurship" jointly organized by Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior, Madhya Pradesh & National Agriculture Development Cooperative Ltd. (NADCL) Baramulla, Jammu and Kashmir during 8th to 28th October-2020

Dr. Sudhir Singh Bhadauria
Course Director
Nodal Officer, Agribusiness Incubation Centre,
(RVSKVV, Gwalior) Madhya Pradesh

Dr. Ratna Nashine
Organizing Director
Professor and Dean, CARS Narayanpur
(IGKV, Raipur) Chhattisgarh

भाकृअनुप-केंद्रीय आलू अनुसंधान संस्थान-क्षेत्रीय केंद्र, मोदीपुरम, मेरठ (उ.प्र.)
ICAR-Central Potato Research Institute-Regional Station, Modipuram-250110, Meerut (UP)

CPRI
ISO 9001 -2015

प्रमाण पत्र
Certificate

प्रमाणित किया जाता है कि डॉ॰ रावेन्द्र सिंह सिकरवार ने इस केंद्र पर भारतीय कृषि अनुसंधान परिषद, नई दिल्ली द्वारा प्रायोजित 21 दिवसीय शीतकालीन स्कूल "आलू उत्पादन की उन्नत तकनीक एवं भविष्य की संभावनाएं" में दिनांक 19 नवम्बर से 09 दिसम्बर, 2019 की अवधि में सफलतापूर्वक भाग लिया।

It is to certify that Dr. Ravendra Singh Sikarwar successfully participated and completed twenty one days winter school on "Advancement in potato production technology & its future prospects" sponsored by Indian Council for Agricultural Research, New Delhi during November 19 to December 09, 2019 at this Station.

(मनोज कुमार)
संयुक्त निदेशक एवं प्रशिक्षण निदेशक

(एस के चक्रबर्ती)
निदेशक
भाकृअनुप-केंद्रीय आलू अनुसंधान संस्थान,
शिमला (हि.प्र.)

दिनांक / Date : 09-12-2019

Department of Soil Science

Punjab Agricultural University, Ludhiana

Centre of Advanced Faculty Training

This is to certify that **Dr. Nisha Singh, Assistant Professor, Department of Agronomy, JNKVV- College of Agriculture, Powarkheda, Madhya Pradesh** has successfully completed the three weeks training course on **"Assessing Soil Plant Atmosphere Continuum (SPAC) For Enhanced Input Use Efficiency"** held from 01 to 21 October, 2019 under the auspices of the Centre of Advanced Faculty Training.

Chief- Coordinator
21/10/19

Head & Director CAFT
Department of Soil Science
21/10/19

भा.कृ.अनु.प. – राष्ट्रीय पादप जैव प्रौद्योगिकी संस्थान
I. C. A. R. – NATIONAL INSTITUTE FOR PLANT BIOTECHNOLOGY

भाकृअनुप ICAR

रापाजैसं NIPB

लाल बहादूर शास्त्री केन्द्र, पूसा परिसर, नई दिल्ली–110012 (भारत)
LAL BAHADUR SHASTRI CENTER, PUSA CAMPUS, NEW DELHI - 110012 (INDIA)

प्रमाण–पत्र / CERTIFICATE

Certified that

Dr. Sushma Tiwari, Scientist
College of Agriculture, RVSKVV, Gwalior

has successfully completed 21 days training program on

" Next Generation Sequencing and its Application in Plant Sciences"

from 3rd to 23rd September, 2019 held under the aegis of ICAR sponsored Centre for Advanced Faculty Training in Plant Biotechnology at ICAR-NIPB, New Delhi

दीपक सिंह बिष्ट D. S. Bisht पाठ्यक्रम सह–समन्वयक Course Co-Coordinator	किशोर गायकवाड Kishor Gaikwad पाठ्यक्रम सह–समन्वयक Course Co-Coordinator	तपन कुमार मोंडल T. K. Mondal पाठ्यक्रम समन्वयक Course Coordinator	नागेन्द्र कुमार सिंह N. K. Singh पाठ्यक्रम निर्देशक Course Director

Scanned with CamScanner

National Agricultural Higher Education Project

CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVS

VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH
PARBHANI 431 402 (M.S.) INDIA

ARK

Certificate

This is to certify that, **Mr. Mohan Lal Jadav, Scientist (SWE), RVSKVV- College of Agriculture, Indore** has successfully completed two weeks training programme on **"BASIC PRACTICES OF ANSYS 2020 R1 FOR AGRICULTURAL RESEARCHERS"** organized by Center for Advanced Agricultural Science and Technology-Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGV's (CAAST-DFSRDA), **Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani (MS)** under National Agricultural Higher Education Project (NAHEP), Sponsored by Indian Council of Agricultural Research (ICAR), New Delhi and World Bank held during **12-29 May, 2020.** He/She has learned and practiced ANSYS modules viz. SCDM, MESHING, CFD, EM, HFSS during this training period.

NAHEP/CAAST/DFSRDA/SPM/011

(Er. D. V. PATIL)	(Mr. PRAVIN MANORKAR)	(Er. S.N PAWAR)	(Dr. G. U. SHINDE)	(Dr. D.N GOKHALE)
Organizing Secretary & Asst. Prof. (FMP)	Regional Manager (HE) Ark Info Solutions Pvt Ltd, Mumbai (MS)	Co-Convenor, & Co-PI (SPM)	PI, NAHEP & Convenor	DI & Dean (F/A) VNMKV, Parbhani

WS/AMD/2019-20/24

ICAR - Central Institute of Agricultural Engineering
Nabi Bagh, Berasia Road, Bhopal – 462038

Certificate

This is to certify that **Dr. (Mrs.) Deeksha Tembhre,** Scientist, College of Agriculture, Indore has successfully completed Winter School on "Application of Sensors, Instrumentation, Artificial Intelligence and Machine Learning in Precision Agriculture" sponsored by Indian Council of Agricultural Research (Department of Agricultural Research and Education) held at ICAR - Central Institute of Agricultural Engineering during 14th February – 05th March, 2020.

Dated: 05th March, 2020
Place : Bhopal

(P. S. Tiwari)
Course Director

(C. R. Mehta)
Director

WS/AMD/2019-20/12

ICAR - Central Institute of Agricultural Engineering
Nabi Bagh, Berasia Road, Bhopal – 462038

Certificate

This is to certify that **Dr. Narendra Kumawat,** Scientist Agronomy College of Agriculture, SAS Project, College of Agriculture, Indore (M.P.) has successfully completed Winter School on "Application of Sensors, Instrumentation, Artificial Intelligence and Machine Learning in Precision Agriculture" sponsored by Indian Council of Agricultural Research (Department of Agricultural Research and Education) held at ICAR - Central Institute of Agricultural Engineering during 14th February – 05th March, 2020.

Dated: 05th March, 2020
Place : Bhopal

(P. S. Tiwari)
Course Director

(C. R. Mehta)
Director

CENTRE OF ADVANCED FACULTY TRAINING IN AGRONOMY

ICAR

G.B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY
PANTNAGAR - 263 145 (Uttarakhand)

CERTIFICATE

This is to certify that Mr. Jaiprakash Mehra, Scientist (Agronomy), AICRP on Cotton, Regional Cotton Research Station, B.M. College of Agriculture, Khandwa, (M.P.) has successfully completed training on "Agronomic Interventions for Augmenting Food, Nutrition and Farmers' Income" from 20.11.2019 to 10.12.2019 (21 days), sponsored by the Indian Council of Agricultural Research, New Delhi.

(K.S. Shekhar)
Director CAFT, Agronomy

(J. Kumar)
Dean Agriculture

(Tej Partap)
Vice-Chancellor

CENTRE OF ADVANCED FACULTY TRAINING IN PLANT PATHOLOGY

G.B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY

PANTNAGAR - 263 145 (Uttarakhand)

Certificate of Achievement

presented to

भाकृअनुप
ICAR

Dr. Rakesh Kumar Singh, Assistant Professor, Department of Plant Pathology, RVSKVV, College of Agriculture, Indore (MP) for successfully completing the ICAR sponsored 39th Training Course on "Crop Diseases and their Management through Manipulation of Soil Health" from December 03-23, 2019.

(Pradeep Kumar)
Director, CAFT

(J. Kumar)
Dean Agriculture

(Tej Partap)
Vice-Chancellor

Scanned with OKEN Scanner

ICAR - Central Institute of Agricultural Engineering

Nabi Bagh, Berasia Road, Bhopal – 462 038 (Madhya Pradesh)

Certificate

This is to certify that ***Dr. Narendra Kumawat, Scientist (Agronomy),*** *College of Agriculture, RVSKVV, Indore, MP has participated and successfully completed the 21 days Winter School on* ***"Recent Advances in Micro-Irrigation and Fertigation Systems for Improved Input Use Efficiency of Open and Covered Cultivation through Engineering Interventions"****, which was organized at the ICAR- Central Institute of Agricultural Engineering, Bhopal during 3rd to 23rd January, 2019 sponsored by the Indian Council of Agricultural Research, New Delhi.*

(C K Saxena)
Course Director

(K K Singh)
Director

ICAR Sponsored Winter School

on

Current Applications, Challenges and Perspective of Genomics-Assisted Breeding for Crop Improvement

Organized by

Department of Plant Breeding & Genetics, Bihar Agricultural University, Sabour, Bhagalpur, Bihar - 813 210

Certificate

This is to certify that **Balram Baraiya**, Scientist (Plant Physiology), RAK College of Agriculture, Sehore, RVSKVV, Gwalior (M.P) has successfully completed ICAR Sponsored Winter School on "Current Applications, Challenges and Perspective of Genomics-Assisted Breeding for Crop Improvement" organised by Department of Plant Breeding & Genetics, Bihar Agricultural University, Sabour, Bhagalpur from January 16 to February 05, 2020.

(I. S. Solanki)
Course Director & Director Research, BAU, Sabour

(Ajoy K. Singh)
Vice Chancellor, BAU, Sabour

University of Agricultural Sciences
Raichur

भाकृअनुप
ICAR

CERTIFICATE

This is to certify that **Dr. Lekharam, Assistant Professor (Plant Breeding), Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh)** has successfully completed the winter school on **"Technological Advances Made, Priorities and Future Strategies in Organic Agriculture for Sustainable Farm Production and Doubling Farmers' Income"** sponsored by the Indian Council of Agricultural Research, New Delhi at the Organic Farming Research Institute, UAS, Raichur from 3rd to 23rd December, 2019. The winter school consisted of lectures, discussions and practical exercises based on latest developments in Organic Farming.

Dr. Satyanarayana Rao
Course Director &
Associate Director of Research
MARS, UAS, Raichur

Dr. B.K. Desai
Director of Research
UAS, Raichur

Dr. K.N. Kattimani
Vice-Chancellor
UAS, Raichur

agMOOCs

This is to certify that

D.R. Saxena

sincerely participated in

Detection, Diagnosis and Management of Plant Diseases

a six-week online course

03 December 2019

HONOR CODE

Participation Certificate

Professor B.K. Sarma
Department of Mycology & Plant Pathology
Banaras Hindu University, Varanasi

Professor Rajesh M. Hegde
Head, Centre for Continuing Education
Indian Institute of Technology Kanpur

Professor Asha Kanwar
President & CEO
Commonwealth of Learning, Canada

Verify the authenticity of this certificate at
agmoocs.in/v/5deb09e4aa9a6

ICAR-Centre for Advanced Faculty Training on Organic Farming

Maharana Pratap University of Agriculture and Technology
Udaipur (Rajasthan)

CERTIFICATE OF PARTICIPATION

This is to certify that *Mr. Sanjay Kumar*, Scientist, Directorate of Extension Services, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.) has participated in the ICAR sponsored 21 days training programme on *"Productivity, Economics and Environmental Performance in Organic Agriculture"* during 05-25 September, 2019 organized by ICAR-Centre for Advanced Faculty Training on Organic Farming, Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan).

Dr. S. K. Sharma
Director, CAFT on Organic Farming
MPUAT, Udaipur

Dr. N. S. Rathore
Vice-Chancellor
MPUAT, Udaipur

Certificate No.032-PB(MOOC-2)/19-20

सत्यमेव जयते

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT

Rajendranagar, Hyderabad – 500 030 (India)
Department of Agriculture, Cooperation & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

राष्ट्रीय स्वास्थ्य प्रबंधन संस्थान
NIPHM

This is to certify that

Manoj Kumar Kureel

has successfully fulfilled the necessary requirements of Massive Open Online Course (MOOC) on

Plant Biosecurity

held during 1st September to 30th November 2019 and is hereby awarded this Certificate of Completion

Dr. J. Alice R.P. Sujeetha
Director (Plant Biosecurity)

G. Jayalakshmi I.A.S.
Director General

PBD MOOC 0104 3006 2019 0102

UNIVERSITY GRANTS COMMISSION

HUMAN RESOURCE DEVELOPMENT CENTRE (HRDC)

Doctor Harisingh Gour Vishwavidyalaya, Sagar - 470 003 (MP) India

CONTACT | 07582-264629 hrdcsagar@gmail.com

Certificate

UGC-SPONSORED INTERDISCIPLINARY REFRESHER COURSE ON

CONTEMPORARY INDIAN LITERATURE: TRENDS AND PRACTICES

This is to certify that Dr. Roopesh Chaturvedi (Assistant Professor, Department of English, College of Horticulture, Mandsaur affiliated to Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya, Gwalior, MP) participated in the Interdisciplinary Refresher Course on 'Contemporary Indian Literature: Trends and Practices' held during 01st November - 14th November, 2019 and obtained Grade A.

Director

Coordinator

Registrar/Vice-chancellor

SKN COLLEGE OF AGRICULTURE

(SRI KARAN NARENDRA AGRICULTURE UNIVERSITY)
JOBNER-303 329, JAIPUR (RAJASTHAN)

CERTIFICATE

This is to certify that **Dr. (Mrs.) Jyoti Kanwar**, Assistant Professor from College of Horticulture, Mandasaur (M.P.) - 458001 has participated in the Winter School on "Role of precision farming in urban and peri-urban horticulture in the era of urbanization" organized at Department of Horticulture, SKN College of Agriculture (Sri Karan Narendra Agriculture University) Jobner- 303 329 Jaipur, Rajasthan and sponsored by Indian Council of Agricultural Research, New Delhi from 4th - 24th January, 2019. The Winter School consisted of lectures, demonstrations, discussions and practical exercises based on latest developments in the field of precision farming in urban and peri-urban horticulture.

(M. K. Sharma)
Professor of Horticulture & Course Director

(R. C.Kumawat)
Dean & Faculty Chairman

(P. S. Rathore)
Vice Chancellor

Dated: January 24, 2019

SKN COLLEGE OF AGRICULTURE

(SRI KARAN NARENDRA AGRICULTURE UNIVERSITY)
JOBNER-303 329, JAIPUR (RAJASTHAN)

CERTIFICATE

This is to certify that **Dr. Nitin Soni**, Scientist (Horticulture) from College of Horticulture, Mandasaur (M.P.) - 458001 has participated in the Winter School on "Role of precision farming in urban and peri-urban horticulture in the era of urbanization" organized at Department of Horticulture, SKN College of Agriculture (Sri Karan Narendra Agriculture University) Jobner- 303 329 Jaipur, Rajasthan and sponsored by Indian Council of Agricultural Research, New Delhi from 4th - 24th January, 2019. The Winter School consisted of lectures, demonstrations, discussions and practical exercises based on latest developments in the field of precision farming in urban and peri-urban horticulture.

(M. K. Sharma)
Professor of Horticulture & Course Director

(R. C. Kumawat)
Dean & Faculty Chairman

(P. S. Rathore)
Vice Chancellor

Dated: January 24, 2019

भाकृअनुप-केंद्रीय आलू अनुसंधान संस्थान-क्षेत्रीय केंद्र, मोदीपुरम, मेरठ (उ.प्र.)

ICAR-Central Potato Research Institute-Regional Station, Modipuram-250110, Meerut (UP)

ISO 9001 -2015

प्रमाण पत्र
Certificate

प्रमाणित किया जाता है कि डॉ॰ सतेन्द्र सिंह कुशवाह ने इस केंद्र पर भारतीय कृषि अनुसंधान परिषद, नई दिल्ली द्वारा प्रायोजित 21 दिवसीय शीतकालीन स्कूल "आलू उत्पादन की उन्नत तकनीक एवं भविष्य की संभावनाएं" में दिनांक 19 नवम्बर से 09 दिसम्बर, 2019 की अवधि में सफलतापूर्वक भाग लिया।

It is to certify that Dr. Satendra Singh Kushwah successfully participated and completed twenty one days winter school on "Advancement in potato production technology & its future prospects" sponsored by Indian Council for Agricultural Research, New Delhi during November 19 to December 09, 2019 at this Station.

(मनोज कुमार)
संयुक्त निदेशक एवं प्रशिक्षण निदेशक

(एस के चक्रबर्ती)
निदेशक
भाकृअनुप-केंद्रीय आलू अनुसंधान संस्थान,
शिमला (हि.प्र.)

दिनांक / Date : 09-12-2019

CENTRE OF ADVANCED FACULTY TRAINING
DEPARTMENT OF ENTOMOLOGY
CCS HARYANA AGRICULTURAL UNIVERSITY, HISAR

CERTIFICATE

This is to certify that **Dr. Shyam Bahadur Singh, Asstt. Prof., RVSKVV, College of Horticulture, Mandsaur (Madhya Pradesh)** has successfully completed advanced training course on "**Advances in Biology, Conservation, Rearing and Management of *Apis* & Non-*Apis* Bees**" organized by the Department of Entomology, CCS Haryana Agricultural University, Hisar from **4th to 24th October, 2019.**

Director **Centre of Advanced Faculty Training**	**Dean** **College of Agriculture**	**Director of Research** **CCSHAU, Hisar**

SWAMI KESHWANAND
RAJASTHAN AGRICULTURAL UNIVERSITY
BIKANER (RAJASTHAN)

CERTIFICATE OF PARTICIPATION

This is to certify that ***Dr. Basant Kumar Kachouli,*** *Scientist(Plant Breeding & Genetics), RVSKVV, Collage of Horticulture, Mandsaur has participated in the Winter School on* **"Hi-tech Approaches for Production and Value Addition of Horticultural Crops in Arid and Semi arid Regions"** *sponsored by Indian Council of Agricultural Research, New Delhi and held at DHRD, Swami Keshwanand Rajasthan Agricultural University, Bikaner (Raj.) from* ***November 07-27, 2019***

Dr. Rajendra Singh Rathore
Course Director

R.P.Singh
Prof. R.P. Singh
Vice-Chancellor

UGC- HUMAN RESOURCE DEVELOPMENT CENTER
DEVI AHILYA VISHWAVIDYALAYA

ज्ञान-विज्ञान विमुक्तये

UGC- SPONSORED 122nd ORIENTATION PROGRAMME 2019- 2020

This is to certify that **Mr. Harish Chandra Bharvey, Assistant Librarian, K.N.K.College of Horticulture, Mandsour (M.P.)** participated in 122nd Orientation Programme from 31st October, 2019 to 20th November, 2019 and obtained grade (A).

Director

Vice – Chancellor

Certificate issue date 20th November, 2019

S.No. 27 /HRDC/122nd OP 2019-20

SKN COLLEGE OF AGRICULTURE

(SRI KARAN NARENDRA AGRICULTURE UNIVERSITY)
JOBNER-303 329, JAIPUR (RAJASTHAN)

CERTIFICATE

This is to certify that **Dr. Kailash Chandra Meena**, Assistant Professor, Department of Plantation, Spices, Medicinal and Aromatic Crops, College of Horticulture, Mandasaur (M.P.) - 458 001 has participated in the Winter School on "Role of precision farming in urban and peri-urban horticulture in the era of urbanization" organized at Department of Horticulture, SKN College of Agriculture (Sri Karan Narendra Agriculture University) Jobner- 303 329 Jaipur, Rajasthan and sponsored by Indian Council of Agricultural Research, New Delhi from 4th - 24th January, 2019. The Winter School consisted of lectures, demonstrations, discussions and practical exercises based on latest developments in the field of precision farming in urban and peri-urban horticulture.

(M. K. Sharma)
Professor of Horticulture & Course Director

(R. C.Kumawat)
Dean & Faculty Chairman

(P. S. Rathore)
Vice Chancellor

Dated: January 24, 2019

CENTRE OF ADVANCED FACULTY TRAINING IN HORTICULTURE (VEGETABLES)

Department of Vegetable Science

Dr YS Parmar University of Horticulture and Forestry

Nauni -173 230 Solan, Himachal Pradesh

भाकृअनुप
ICAR

CERTIFICATE

This is to certify that ***Dr Rakesh Kumar Sharma,*** *Assistant Professor (Vegetable Science), RVSKVV, College of Horticulture, Mandsaur, MP* has participated and successfully completed the 21-days advanced training on "*INNOVATIVE INTERVENTIONS FOR SUSTAINABLE VEGETABLE PRODUCTION UNDER CHANGING CLIMATE SCENARIO*" organized by Centre of Advanced Faculty Training in Horticulture (Vegetables), Department of Vegetable Science, Dr YS Parmar University of Horticulture and Forestry, Nauni, Solan, HP w.e.f. 3rd September to 23rd September 2019.

Dated : 23.09.2019
Place : Nauni, Solan

A K Sharma
Director, CAFT

Parvinder Kaushal
Vice Chancellor

MAHARANA PRATAP UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

Udaipur (Rajasthan)-313001

Certificate

This certificate is awarded to

Dr. Om Singh, Assistant Professor

College of Horticulture, RVS Krishi Vishwavidyalaya, Mandsaur (M.P.)

in recognition of his participation in

Winter School on

"Significance of Bioactive Ingredients and Supplements in Health Foods"

1st to 21st January 2019

Sponsored by

Indian Council of Agricultural Research, New Delhi

Organized by

College of Dairy and Food Science Technology

Maharana Pratap University of Agriculture and Technology (MPUAT)

Udaipur (Rajasthan)

Dr. Arun Kumar	*Dr. L. K. Murdia*	*Dr. U. S. Sharma*
Course Director	*Dean, CDFST*	*Vice Chancellor*

Assam Agricultural University

Centre of Advanced Faculty Training in Organic Farming
Department of Soil Science, Faculty of Agriculture
Jorhat- 785013, Assam

Certificate

Presented to

Dr. Roshan Gallani

Assistant Professor (Soil Science)
RSKVV, Madhya Pradesh

In recognition of his successful completion of the ICAR sponsored 21 days training programme on **'Exploitation of Beneficial Microbes in Organic Agriculture'** organized at the Centre of Advanced Faculty Training in Organic Farming, Department of Soil Science, Faculty of Agriculture, Assam Agricultural University, Jorhat during 4th- 24th September, 2019.

(J. Deka)	(R. M. Karmakar)	(D. J. Nath)	(R. Baruah)
Dean, Faculty of Agriculture	Course Director and Professor & Head	Course Coordinator	Course Coordinator

PG-II/IARI/FHT/WS/2020/13

फल एवं औद्यानिकी प्रौद्योगिकी संभाग

DIVISION OF FRUITS AND HORTICULTURAL TECHNOLOGY

भा.कृ.अनु.प.–भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली

ICAR-Indian Agricultural Research Institute, New Delhi

Certificate

This is to certify that **DR ANUJ KUMAR** has successfully completed the ICAR sponsored Winter School on "Non-conventional Approaches for Genetic Improvement of Perennial Horticultural Crops" held during January 17 to February 6, 2020 organised by Division of Fruits and Horticultural Technology, ICAR-Indian Agricultural Research Institute, New Delhi.

(S.K. Singh)
Head & Course Director

(J.P. Sharma)
Joint Director (Extension)

Date: 6th February, 2020
Place: New Delhi

ज्ञान-विज्ञान विमुक्तये

UGC- HUMAN RESOURCE DEVELOPMENT CENTER
DEVI AHILYA VISHWAVIDYALAYA, INDORE

UGC- SPONSORED 27th REFRESHER COURSE IN HOLISTIC APPROACH TO ENVIRONMENT AND DISASTER MANAGEMENT (IDC) 2018- 2019

This is to certify that **Dr.Om Prakash Singh, Associate Professor, College of Horticulture. Mandsaur (M.P.)** participated in 27th Refresher Course in Holistic Approach To Environment And Disaster Management (IDC) from 3rd January, 2019 to 23rd January, 2019 and obtained grade **(A).**

Director **Coordinator** **Vice - Chancellor**

Certificate issue date 23rd January 2019

S.No. 3/HRDC/27th R C in Holistic Approach To Env. And Disaster Mgmt. 2018-19

भाकृअनुप
ICAR

MAHARANA PRATAP UNIVERSITY OF AGRICULTURE AND TECHNOLOGY UDAIPUR (RAJASTHAN)

Certificate of Participation

This is to certify that Dr. RAJESH PRASAD PATEL, Associate Professor (Plant Pathology), KNK College of Horticulture, Mandsaur, RVSKVV, Gwalior, Madhya Pradesh has participated in the 21 days ICAR sponsored Winter School on **"Advance Technologies for Biofertilizers and Biopesticides Production for Profitable and Sustainable Agriculture"** from **8th to 28th November, 2019** organized by **Maharana Pratap University of Agriculture and Technology** held at **Rajasthan College of Agriculture, Udaipur**. The Winter School consisted of **Lectures, Demonstrations, Discussions and Practical Exercises** based on the latest research developments in the field of biofertilizers and biopesticides.

Dr. Ram Hari Meena
Course Director

Dr. Arunabh Joshi
Dean, RCA

Dr. Narendra Singh Rathore
Vice-Chancellor

PG-II/IARI/FHT/WS/2020/07

फल एवं औद्यानिकी प्रौद्योगिकी संभाग

DIVISION OF FRUITS AND HORTICULTURAL TECHNOLOGY

भा.कृ.अनु.प.–भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली

ICAR-Indian Agricultural Research Institute, New Delhi

Certificate

This is to certify that **DR KAILASH CHANDRA MEENA** has successfully completed the ICAR sponsored Winter School on "Non-conventional Approaches for Genetic Improvement of Perennial Horticultural Crops" held during January 17 to February 6, 2020 organised by Division of Fruits and Horticultural Technology, ICAR-Indian Agricultural Research Institute, New Delhi.

भा.कृ.अ.प. पुस्तकालय
I.A.R.I. LIBRARY

(S.K. Singh)
Head & Course Director

(J.P. Sharma)
Joint Director (Extension)

Date: 6th February, 2020
Place: New Delhi

फल एवं औद्यानिकी प्रौद्योगिकी संभाग

DIVISION OF FRUITS AND HORTICULTURAL TECHNOLOGY

भा.कृ.अनु.प.–भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली

ICAR-Indian Agricultural Research Institute, New Delhi

PG-II/IARI/FHT/WS/2020/08

Certificate

his is to certify that **DR NITIN SONI** has successfully completed the ICAR sponsored inter School on "Non-conventional Approaches for Genetic Improvement of erennial Horticultural Crops" held during January 17 to February 6, 2020 organised Division of Fruits and Horticultural Technology, ICAR-Indian Agricultural Research stitute, New Delhi.

(S.K. Singh)
Head & Course Director

(J.P. Sharma)
Joint Director (Extension)

t: 6th February, 2020
e: New Delhi

Jointly Organized by

Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur (U.P.)

Central Sericultural Research & Training Institute (CSRTI), Mysuru, Karnataka

Bioved Research Institute of Agriculture, Technology & Sciences, Prayagraj, (Allahabad)

Pondicherry Institute of Agricultural Sciences, Thavalakuppam, Puducherry

21 Days National Training Course
On
Technology Interventions Towards Transformation of Agriculture, Sericulture, Animal Husbandry and Allied Sectors into Sustainable Enterprises for Atmanirbhar Bharat

11-31 October, 2020

Certificate

This is to certify that **Dr. Shyam Bahadur Singh, Assistant Professor, Entomology, KNK, College of Horticulture Mandsaur of RVSKVV, Gwalior** has participated in the 21 days National Training Course on ***"Technology Interventions Towards Transformation of Agriculture, Sericulture, Animal Husbandry and Allied Sectors into Sustainable Enterprises for Atmanirbhar Bharat"***, jointly organized by Agro Environmental Development Society (AEDS), India, Central Sericultural Research & Training Institute (CSRTI), Central Silk Board-Ministry of Textiles-Government of India, Mysuru, Karnataka, Bioved Research Institute of Agriculture, Technology & Sciences, Prayagraj, (Allahabad) and Pondicherry Institute of Agricultural Sciences, Thavalakuppam, Puducherry held on October 11-31, 2020 *via* virtual mode.

Dr. N. Sakthivel
Scientist-D, Regional Sericultural Research Station, Central Silk Board, Government of India, Salem, Tamil Nadu & Organizing Chairman, National Training Course

Dr. Chhatarpal Singh
President, Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur (U.P.) & Organizing Director National Training Course

Md. Nadeem Akhtar
Scientist, Bihar Agriculture University, Sabour, Bihar & Course Director National Training Course

SKN COLLEGE OF AGRICULTURE

(SRI KARAN NARENDRA AGRICULTURE UNIVERSITY)
JOBNER-303 329, JAIPUR (RAJASTHAN)

CERTIFICATE

This is to certify that **Dr. (Mrs.) Jyoti Kanwar**, Assistant Professor from College of Horticulture, Mandasaur (M.P.) - 458001 has participated in the Winter School on "Role of precision farming in urban and peri-urban horticulture in the era of urbanization" organized at Department of Horticulture, SKN College of Agriculture (Sri Karan Narendra Agriculture University) Jobner- 303 329 Jaipur, Rajasthan and sponsored by Indian Council of Agricultural Research, New Delhi from 4th - 24th January, 2019. The Winter School consisted of lectures, demonstrations, discussions and practical exercises based on latest developments in the field of precision farming in urban and peri-urban horticulture.

(M. K. Sharma)
Professor of Horticulture & Course Director

(R. C.Kumawat)
Dean & Faculty Chairman

(P. S. Rathore)
Vice Chancellor

Dated: January 24, 2019

भाकृअनुप - राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत

ICAR-National Academy of Agricultural Research Management

(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

This is to certify that

Akhilesh Singh

has successfully fulfilled the necessary requirements of
Massive Open Online Course (MOOC) on
Teaching Excellence
held during 1-30, November, 2019 and is hereby awarded this
Certificate of Completion

G R K Murthy
Programme Director

S Senthil Vinayagam
Programme Director

Ch Srinivasa Rao
Director

ICAR-Centre for Advance Faculty Training on Organic Farming

Maharana Pratap University of Agriculture and Technology
Udaipur (Rajasthan)

ICAR

Certificate

This is to certify that *Dr. Varsha Gupta,* Scientist (Agronomy), College of Agriculture, RVSKVV, Gwalior (MP) has participated in 21 days training programme on "Research and Development in Organic Farming : Current Status and Way Forward" during 1-21 June, 2019 sponsored by ICAR and organized by Centre for Advance Faculty Training on Organic Farming, Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan).

Dr. S. K. Sharma
Director, CAFT on Organic Farming
MPUAT, Udaipur

Dr. J.P. Sharma
Vice-Chancellor
MPUAT, Udaipur

21 Days National Training Course (NTC-2020)

Organized by

National Agriculture Development Cooperative Ltd. (NADCL)
Baramulla (J & K) 193103

(Established Under Self Reliant Co-operative Act, 1999: Under Ministry of Cooperatives)
Sub-office: HMT, Zainakote, Srinagar- 190012
www.nadclag.in; naagdevcoopltd2018@gmail.com

Co-Organized by

Agro-Environmental Developmental Society (AEDS)
Rampur, Uttar Pradesh - 244901

Certificate

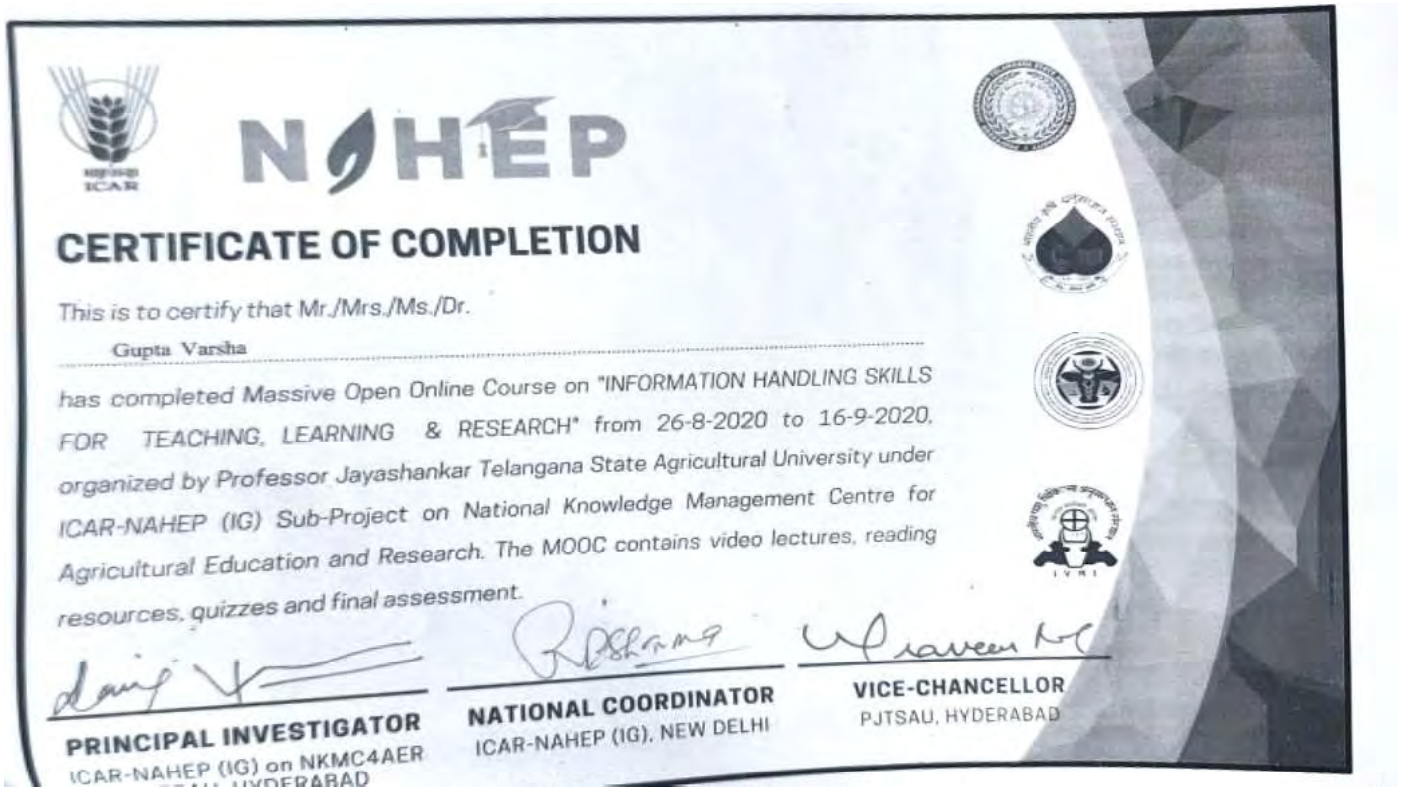
This is to certify that

Dr. Varsha Gupta, Scientist (Agronomy) AICRP- Weed Management, College of Agriculture, Rajmata Vijayaraje Scindia Krishi Vishwa Vidhyalaya, Gwalior, Madhya Pradesh

successfully completed 21 Days National Training Course (NTC-2020) on "Preparing and Management of Result Oriented Research Projects in Agriculture, Horticulture, Animal Husbandry and Allied Sectors" organized by National Agriculture Development Cooperative Ltd. (NADCL) Baramulla (Jammu and Kashmir) co-organized by Agro-Environmental Developmental Society (AEDS) Rampur (Uttar Pradesh) during 26th May to 15th June 2020.

Dr. Ratna Nashine
Organizing Director
Professor and Dean, COA & RS
(IGKV, Raipur) Chhattisgarh

(P. Qamar-ud-Din Shah)
Chairman
NADCL, Baramulla (J & K)



NAHEP

CERTIFICATE OF COMPLETION

This is to certify that Mr./Mrs./Ms./Dr.

Gupta Varsha

has completed Massive Open Online Course on "INFORMATION HANDLING SKILLS FOR TEACHING, LEARNING & RESEARCH" from 26-8-2020 to 16-9-2020, organized by Professor Jayashankar Telangana State Agricultural University under ICAR-NAHEP (IG) Sub-Project on National Knowledge Management Centre for Agricultural Education and Research. The MOOC contains video lectures, reading resources, quizzes and final assessment.

PRINCIPAL INVESTIGATOR
ICAR-NAHEP (IG) on NKMC4AER

NATIONAL COORDINATOR
ICAR-NAHEP (IG), NEW DELHI

VICE-CHANCELLOR
PJTSAU, HYDERABAD

भाकृअनुप - राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Janmejay Sharma

has successfully completed the
ICAR Summer School on
ICT Applications in Agricultural Education & Extension
Organized at ICAR-NAARM, Hyderabad
during 19 February-10 March, 2020.

(Surya Rathore)
Course Director

(Ch. Srinivasa Rao)
Director

CERTIFICATE

भाकृअनुप - राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
ICAR-National Academy of Agricultural Research Management

This is to certify that

ekta joshi

has fulfilled the requirements of
Massive Open Online Course (MOOC) on
Psychology of Learning
held during 1-15, May, 2020 and hereby awarded this
Certificate of Completion

P Ramesh **G R K Murthy** **S Senthil Vinayagam**
Programme Directors

Ch Srinivasa Rao
Director

CERTIFICATE

भाकृअनुप - राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
ICAR-National Academy of Agricultural Research Management

This is to certify that

Varsha Gupta

has fulfilled the requirements of
Massive Open Online Course (MOOC) on
Psychology of Learning
held during 1-15, May, 2020 and hereby awarded this
Certificate of Participation

P Ramesh **G R K Murthy** **S Senthil Vinayagam**
Programme Directors

Ch Srinivasa Rao
Director

CENTRE OF ADVANCED FACULTY TRAINING IN PLANT PATHOLOGY

G.B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY

PANTNAGAR - 263 145 (Uttarakhand)

Certificate of Achievement

presented to

भाकृअप
ICAR

Dr. Rakesh Kumar Singh, Assistant Professor, Department of Plant Pathology, RVSKVV, College of Agriculture, Indore (MP) for successfully completing the ICAR sponsored 39th Training Course on "Crop Diseases and their Management through Manipulation of Soil Health" from December 03-23, 2019.

(Pradeep Kumar)
Director, CAFT

(J. Kumar)
Dean Agriculture

(Te Partap)
Vice-Chancellor

E-copy of the certificates of the program attended by teachers

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (M.P.)

NAHEP

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA,
GWALIOR, M.P. (INDIA)

Online Training Programme on

Analysis of Agricultural Data Using Statistical and Data Mining Techniques

JULY 31-20, 2025

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr./Mr./Ms. Nisha Singh, RVSKVV- College of Agriculture, Gwalior

has participated in online training programme on

"Analysis of Agricultural Data Using Statistical and Data Mining Techniques"

organized by Department of Statistics, RVSKVV, Gwalior under NAHEP-IDP in collaboration with NAHEP Component-2, ICAR-IASRI, New Delhi.

Dr. Y.P. Singh
Principal Investigator,
NAHEP, RVSKVV, Gwalior

Dr. V.B. Singh
Course Director,
RVSKVV, Gwalior

NAHEP

ICAR

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Gwalior (M.P.)

Certificate

It is to certify that Dr. Sudhir singh has associated in the organization of Ten days Training cum certificate course on **"Personality Development & Communication Skills"** organized by Department of Agricultural Extension Education, College of Agriculture, Gwalior from June 5-14, 2023 through online mode under the aegis of IDP-NAHEP as Course co-coordinator

We appreciate his/ her commendable efforts in making the programme successful.

Principal Investigator
NAHEP, RVSKVV, Gwalior

Coordinator-NAHEP
CoA, Gwalior

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR, M.P. (INDIA)

Online Training Programme on

Analysis of Agricultural Data Using Statistical and Data Mining Techniques

JULY 11-20, 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr./Mr./Ms. Sudhir Singh, RVSKVV- College of Agriculture, Gwalior

has participated in online training programme on

"Analysis of Agricultural Data Using Statistical and Data Mining Techniques"

organized by Department of Statistics, RVSKVV, Gwalior under NAHEP-IDP in collaboration with NAHEP Component-2, ICAR-IASRI, New Delhi.

Dr. Y.P. Singh
Principal Investigator,
NAHEP, RVSKVV, Gwalior

Dr. V.B. Singh
Course Director,
RVSKVV, Gwalior

COLLEGE OF AGRICULTURE, GWALIOR

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior

CERTIFICATE OF RECOGNITION

THIS IS TO CERTIFY THAT

Dr. Sudhir Singh Chauhan, Contra. Teacher, CoA, Gwal

has contributed significantly in successful organization of "Anti-ragging week 2023" organized by College of Agriculture, Gwalior from 12 to 18 August, 2023.

Dr. Rajesh Lekhi
Chairman Anti-ragging committee

Dr. S. S. Tomar
Dean, CoA, Gwalior

NAHEP

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR, M.P. (INDIA)

Online Training Programme on

Analysis of Agricultural Data Using Statistical and Data Mining Techniques

JULY 11-20, 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr./Mr./Ms. Sneha Pandey, RVSKVV- College of Agriculture, Gwalior

has participated in online training programme on

"Analysis of Agricultural Data Using Statistical and Data Mining Techniques"

organized by Department of Statistics, RVSKVV, Gwalior under NAHEP-IDP in collaboration with NAHEP Component-2, ICAR-IASRI, New Delhi.

Dr. Y.P. Singh
Principal Investigator,
NAHEP, RVSKVV, Gwalior

Dr. V.B. Singh
Course Director,
RVSKVV, Gwalior

सत्यमेव जयते
Government of India

MALAVIYA MISSION
TEACHER
TRAINING PROGRAMME

University Grants Commission

CERTIFICATE OF PARTICIPATION

NEP 2020 ORIENTATION & SENSITIZATION PROGRAMME

This is to certify that *Sher Singh Solanki* from College of agriculture indore has completed the NEP 2020 Orientation & Sensitization Programme under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) Organized by **UGC - Malaviya Mission Teacher Training Centre, Lakshmibai National Institute of Physical Education, Gwalior (M.P)** from 15/01/2024 to 24/01/2024

Certificate No: 5442

Prof. Anurodh Singh Sisodia
Director (UGC-MMTTC, LNIPE)

CERTIFICATE
OF PARTICIPATION

Advance Management Development Program (MDP) on "Agriculture 4.0 Challenges and Implication of ICT" 2024

Organized by :-

Dept. of Engineering Sciences & Dept. of Management Studies
ABV-IIITM, Gwalior

This certificate is proudly presented to:

✓ Dr./Ms./Mr. Ankita Sahu

from Rajmata Vijayaraje Scindia krishi Vishwa Vidyalaya, Gwalior.

For Participation in Advance Management Development Program on "Agriculture 4.0 Challenges and Implications of ICT" held at Atal Bihari Vajpayee-Indian Institute of Information Technology and Management, Gwalior, from 23 - 27 February, 2024

PROF. ANURAG SRIVASTAVA
Nodal Officer, ESDP Program

DR. MANOJ KUMAR DASH
Project Coordinator

PROF. SRI NIWAS SINGH
DIRECTOR, ABV-IIITM GWALIOR

NAHEP

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR, M.P. (INDIA)

Online Training Programme on

Analysis of Agricultural Data Using Statistical and Data Mining Techniques

JULY 11-20, 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr./Mr./Ms. Jai Prakash Mehra, RVSKVV- College of Agriculture, Indore

has participated in online training programme on

"Analysis of Agricultural Data Using Statistical and Data Mining Techniques"

organized by Department of Statistics, RVSKVV, Gwalior under NAHEP-IDP in collaboration with NAHEP Component-2, ICAR-IASRI, New Delhi.

Dr. Y.P. Singh
Principal Investigator,
NAHEP, RVSKVV, Gwalior

Dr. V.B. Singh
Course Director,
RVSKVV, Gwalior

Government of Madhya Pradesh

CERTIFICATE

This is to certify that

Dr./Mr./Ms. **D. R. Saxena**

has participated in the

International Conference

on

One Health One World

held at

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.)

on

28 - 29 December, 2023

Dr. S. K. Behera
Organising Secretary
PS, ICAR-IISS, Bhopal M.P.

Dr. Y. P. Singh
Organising Chairperson
PI, IDP-NAHEP, RVSKVV Gwalior M.P.

Government of Madhya Pradesh

CERTIFICATE

This is to certify that

Dr./Mr./Ms. **Moly Saxena**

has participated in the

International Conference

on

One Health One World

held at

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.)

on

28 - 29 December, 2023

Dr. S. K. Behera
Organising Secretary
PS, ICAR-IISS, Bhopal M.P.

Dr. Y. P. Singh
Organising Chairperson
PI, IDP-NAHEP, RVSKVV Gwalior M.P.

One-Week International
Faculty Development Programme
on

Modelling and Simulation of Renewable Energy Systems (MASRES - 2023)

(Hybrid Mode)

Certificate of Participation

This is to certify that ***Dr. Dharmendra Kumar Vani*** of ***B. M. College of Agriculture, Khandwa, Madhya Pradesh*** has attended a One-Week International Faculty Development Programme on "**Modelling and Simulation of Renewable Energy Systems**" held from 25/04/2023 to 29/04/2023 organised by **Department of Mechanical Engineering, Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur, India.**

Prof. Dheeraj Joshi
HOD, ME

Dr. Chandan Kumar
Coordinator

Prof. Ramesh Kumar Pachar
Principal

One-Week Faculty Development Programme

on

Energizing Sustainability through Renewable Energy Systems (ESRES - 2024)

March 18 to 22, 2024 (Online)

Certificate of Participation

This is to certify that ***Dr. Dharmendra Kumar Vani*** of ***RVSKVV Krishi Vigyan Kendra, Khandwa, Madhya Pradesh*** has attended the One-Week Faculty Development Programme on "**Energizing Sustainability through Renewable Energy Systems**" held from 18/03/2024 to 22/03/2024 organised by **Department of Mechanical Engineering, Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur, India.**

Prof. Dheeraj Joshi HOD, ME	Mr. Dinesh Kumar Sharma Coordinator	Prof. Ramesh Kumar Pachar Principal

National Workshop on
"Natural Farming in Traditional Agricultural Production Systems of Eastern Himalayan Region of India: Prospects and Challenges"

Organized By: ICAR-Agricultural Technology Application Research Institute (ATARI), Zone- VI, Guwahati, Assam in collaboration with Assam Agricultural University, Jorhat; Keshav Smarak Nyas, Haflong and North Eastern Development Finance Corporation Ltd. (NEDFi), Guwahati

Certificate of Participation

This is to certify that

Ms./Mrs./Mr./Dr S. K. Trivedi, Prof and Head, CoA Gwalior

participated at the National Workshop on

"Natural Farming in Traditional Agricultural Production Systems of Eastern Himalayan Region of India: Prospects and Challenges"

as Chairman/Co-Chairman/Panel Expert Member/Lead Presenter/Technical Co-ordinator/ Rapporteur/ Participant held at **NEDFi, Guwahati, Assam** during January **29th** and **30th 2024.**

(Dr. Kadirvel Govindasamy)
Chairman, Organizing Committee

(Dr. Rajesh Kumar)
Local Organizing Secretary

भाकृअनुप
ICAR

NAHEP

Government of
Madhya Pradesh

CERTIFICATE

This is to certify that

Dr./Mr./Ms. Shashi . S. Yadav

has participated in the

International Conference

on

One Health One World

held at

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.)

on

28 - 29 December, 2023

Dr. S. K. Behera
Organising Secretary
PS, ICAR-IISS, Bhopal M.P.

Dr. Y. P. Singh
Organising Chairperson
PI, IDP-NAHEP, RVSKVV Gwalior M.P.

5TH INTERNATIONAL CONFERENCE ON

Sustainable Natural Resources Management under Global Climate Change

November 07-10, 2023

Certificate of Oral Presentation

This is to certify that

Dr.SHASHI S.YADAV

has participated and presented a paper entitled

Assessment Of Land Suitability And Capability For Agriculture In Gwalior District Of Madhya Pradesh, India

by

Shashi S Yadav, P.A. Khambalkar , Akhilesh Singh, T.C. Yadav, S. K. Trivedi

in the **5th International Conference on Sustainable Natural Resources Management under Global Climate Change** organized by Soil Conservation Society of India at New Delhi, INDIA

S. Manivannan
Organizing Secretary

TBS Rajput
President, SCSI

Certificate Code
SCSI2023_OP59123

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI

IWADL 2023

4th INDIAN WORKSHOP ON APPLIED DEEP LEARNING

June 12-16, 2023

S.No.:BITS-Goa/IWADL2023/Certificate/ONLINE/BLP-029

June 16, 2023

Certificate of Participation

This is to certify that **Dr. Akhilesh Singh** from Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior has participated and successfully completed the 4^{th} Indian Workshop on Applied Deep Learning in ONLINE mode. The workshop was jointly organized by the Department of Computer Science and Information Systems of Pilani and Goa campuses at BITS Pilani, K.K. Birla Goa Campus.

Kamlesh Tiwari
(Dr. Kamlesh Tiwari)
Convener, IWADL 2023
BITS Pilani, Pilani Campus

Indian Workshop on Applied Deep Learning
IWADL 2023

(Dr. Ashutosh Bhatia)
Coordinator, IWADL 2023
BITS Pilani, Pilani Campus

United Nations
Convention to Combat Desertification

G20 GLOBAL LAND INITIATIVE

From Wonder, Wisdom

Heartfulness Education Trust

CERTIFICATE OF PARTICIPATION

Awarded to

Dr. Vikas Kumar

for successfully completing the Trainer of Instructors workshop **'Trigger Change! Innovative Sustainable Agriculture Solutions for Land Restoration'** organized by UNCCD's G20 Global Land Initiative and the Heartfulness Institute from 1 - 4 July 2024 at Kanha Shanti Vanam.

Ramesh Krishnan
Director, Heartful Education Trust

Muralee Thummarukudy
Director, G20 Global Land Initiative, UNCCD

ALL INDIA COORDINATED RESEARCH PROJECT ON KHARIF PULSES

in association with

COLLEGE OF AGRICULTURE, VELLAYANI, KERALA AGRICULTURAL UNIVERSITY

ONLINE TRAINING ON

Statistical Methods and Tools for
Plant Disease Forecasting and Management

18 & 19 December, 2023

Certificate

This is to certify that Dr./Mr./Mrs./Miss/Prof R. K. Singh, Plant Pathology from RVSKVV College of Agriculture, Indore (MP) has successfully completed the two days virtual training programme on "Statistical Methods and Tools for Plant Disease Forecasting and Management" organized by AICRP on Kharif Pulses in association with Department of Agricultural Statistics, Kerala Agricultural University, Vellayani from 18th to 19th December, 2023.

Dr. Mallikarjun Kenganal
PI, Plant Pathology
ZARS, Kalaburagi

Dr. Aditya Pratap
PC, AICRP on Kharif Pulses
ICAR-IIPR, Kanpur

Dr. Sanjeev Gupta
ADG, Oilseeds and Pulses
ICAR, New Delhi

Scanned with OKEN Scanner

COLLEGE OF AGRICULTURE, GWALIOR

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior

CERTIFICATE OF RECOGNITION

THIS IS TO CERTIFY THAT

Dr. Sudhir Singh Chauhan, Contra. Teacher, CoA, Gwl

has contributed significantly in successful organization of "Anti-ragging week 2023" organized by College of Agriculture, Gwalior from 12 to 18 August, 2023.

Dr. Rajesh Lekhi
Chairman Anti-ragging committee

Dr. S. S. Tomar
Dean, CoA, Gwalior

NAHEP

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR, M.P. (INDIA)

Online Training Programme on

Analysis of Agricultural Data Using Statistical and Data Mining Techniques

JULY 11-20, 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr./Mr./Ms. Sneha Pandey, RVSKVV- College of Agriculture, Gwalior

has participated in online training programme on

"Analysis of Agricultural Data Using Statistical and Data Mining Techniques"

organized by Department of Statistics, RVSKVV, Gwalior under NAHEP-IDP in collaboration with NAHEP Component-2, ICAR-IASRI, New Delhi.

Dr. Y.P. Singh
Principal Investigator,
NAHEP, RVSKVV, Gwalior

Dr. V.B. Singh
Course Director,
RVSKVV, Gwalior

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR, M.P. (INDIA)

Online Training Programme on

Analysis of Agricultural Data Using Statistical and Data Mining Techniques

JULY 11-20, 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr./Mr./Ms. Sudhir Singh, RVSKVV- College of Agriculture, Gwalior

has participated in online training programme on

"Analysis of Agricultural Data Using Statistical and Data Mining Techniques"

organized by Department of Statistics, RVSKVV, Gwalior under NAHEP-IDP in collaboration with NAHEP Component-2, ICAR-IASRI, New Delhi.

Dr. Y.P. Singh
Principal Investigator,
NAHEP, RVSKVV, Gwalior

Dr. V.B. Singh
Course Director,
RVSKVV, Gwalior

NAHEP

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR, M.P. (INDIA)

Online Training Programme on

Analysis of Agricultural Data Using Statistical and Data Mining Techniques

JULY 11-20, 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr./Mr./Ms. Nisha Singh, RVSKVV- College of Agriculture, Gwalior

has participated in online training programme on

"Analysis of Agricultural Data Using Statistical and Data Mining Techniques"

organized by Department of Statistics, RVSKVV, Gwalior under NAHEP-IDP in collaboration with NAHEP Component-2, ICAR-IASRI, New Delhi.

Dr. Y.P. Singh
Principal Investigator,
NAHEP, RVSKVV, Gwalior

Dr. V.B. Singh
Course Director,
RVSKVV, Gwalior

Scanned with OKEN Scanner

NAHEP

भाकृअनुप
ICAR

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Gwalior (M.P.)

Certificate

It is to certify that Dr.....Sudhir....singh..... has associated in the organization of Ten days Training cum certificate course on **"Personality Development & Communication Skills"** organized by Department of Agricultural Extension Education, College of Agriculture, Gwalior from June 5-14, 2023 through online mode under the aegis of IDP-NAHEP as...Course co-coordinator.....

We appreciate his/ her commendable efforts in making the programme successful.

Principal Investigator
NAHEP, RVSKVV, Gwalior

Coordinator-NAHEP
CoA, Gwalior

Certificate No.028 - PHM(FDMPPN-1)/23-24

सत्यमेव जयते

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT
Rajendranagar, Hyderabad - 500 030 (India)
Department of Agriculture & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

राव स्वाप्र सं
NIPHM

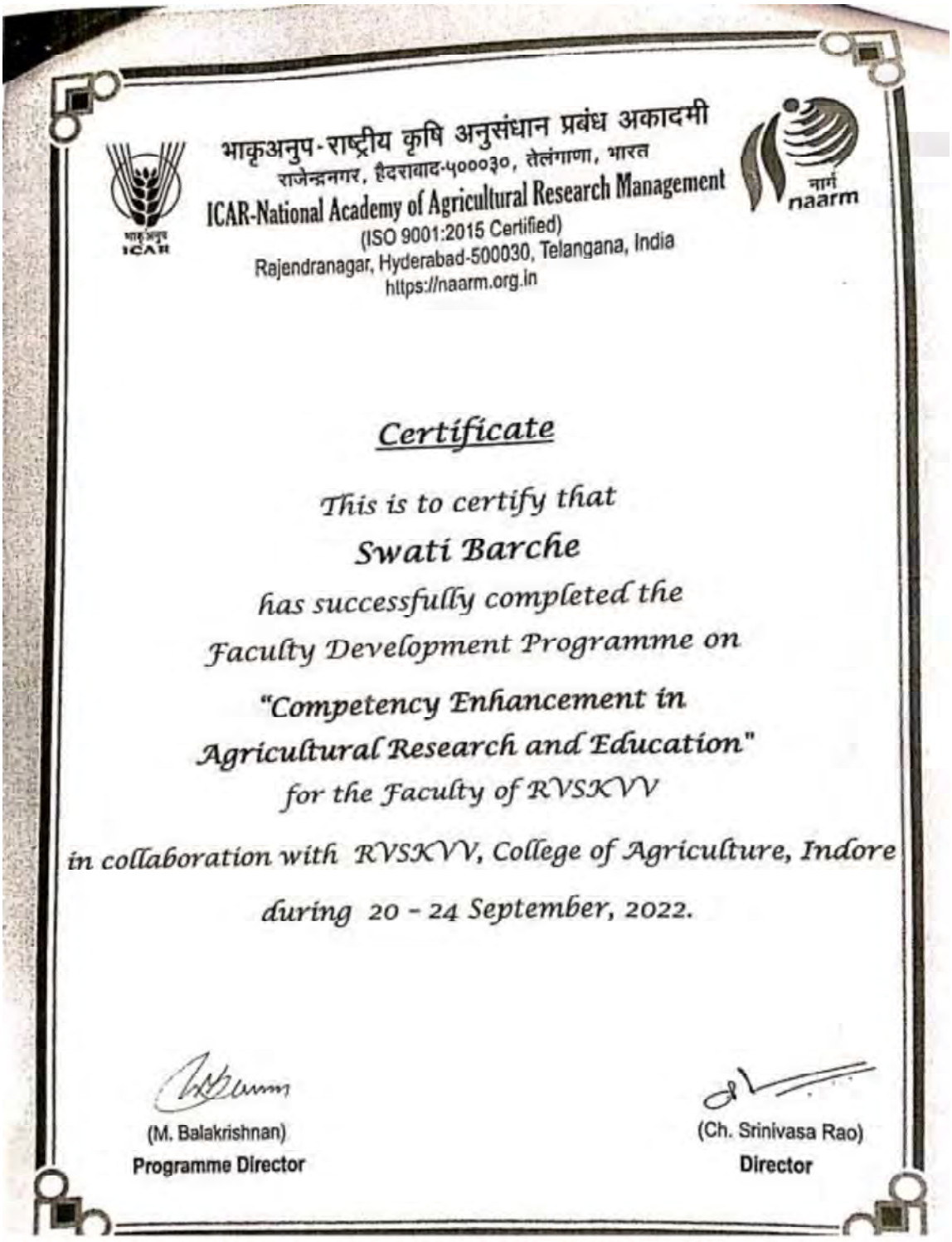
CERTIFICATE

This is to certify that **Dr. Rakesh Kumar Singh, Scientist (SG), RVSKVV, College of Agriculture, Indore, Madhya Pradesh** has successfully completed 5-days training on **'Field Diagnosis and Management of Plant Parasitic Nematodes'** conducted at National Institute of Plant Health Management, Hyderabad from **08th to 12th May, 2023.**

Dr. O.P. Sharma
Director(PHM) I/c

Dr. Sagar Hanuman Singh
Director General

PHM FDMPPN 0805 1205 2023 0009



भाकृअनुप - राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Swati Barche

has successfully completed the
Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

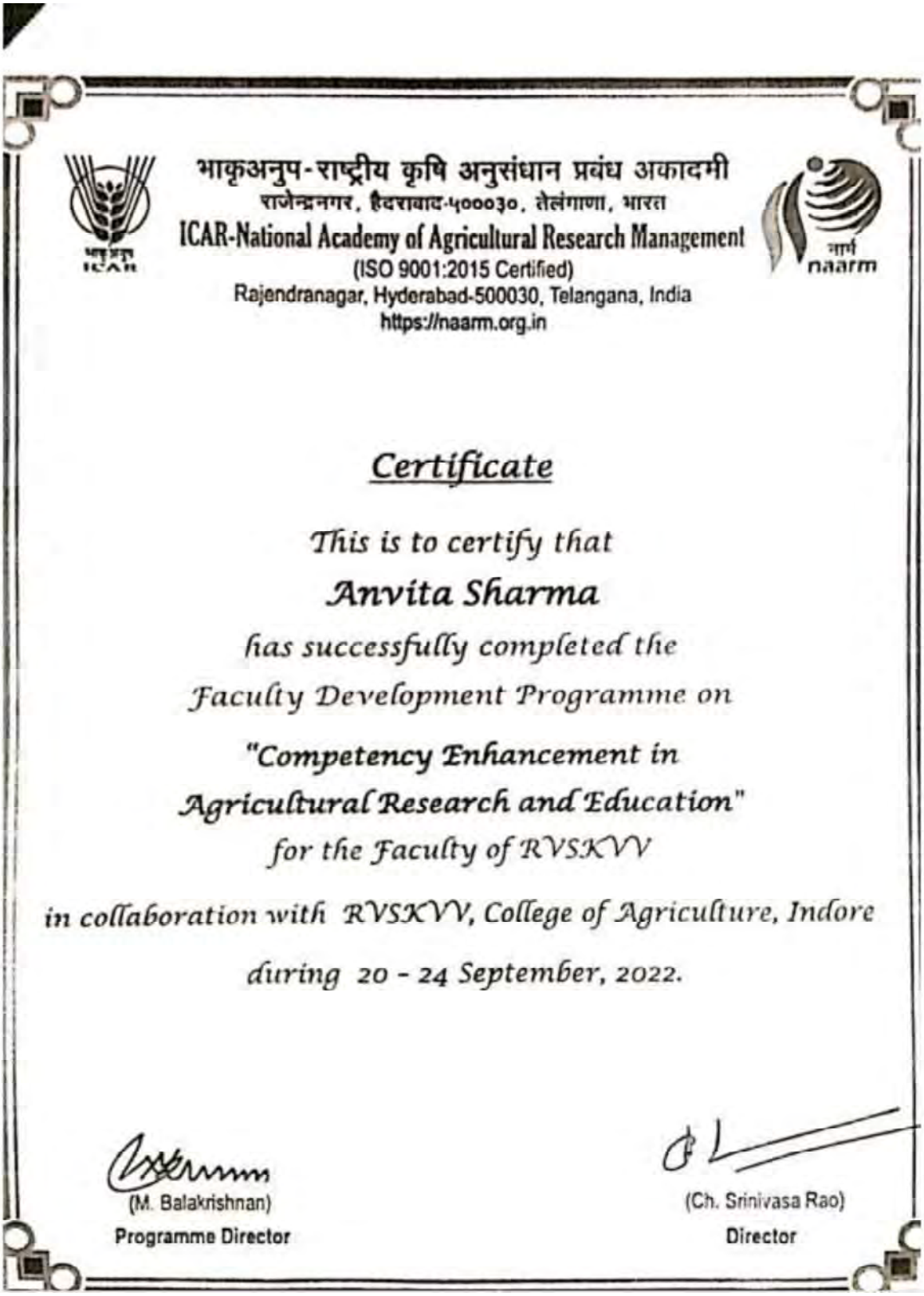
for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director



भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Anvita Sharma

has successfully completed the
Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Priyanka Singh

has successfully completed the
Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M Balakrishnan)
Programme Director

(Ch Srinivasa Rao)
Director

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद 500030 (तेलंगाना), भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001: 2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

H.K. Balai

has successfully completed the
Faculty Development Programme on

**"Competency Enhancement in
Agricultural Research and Education"**

for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-500030, तेलंगाना, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Nitesh Kumar Panwar

has successfully completed the

Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

J.P. Mehra

has successfully completed the
Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

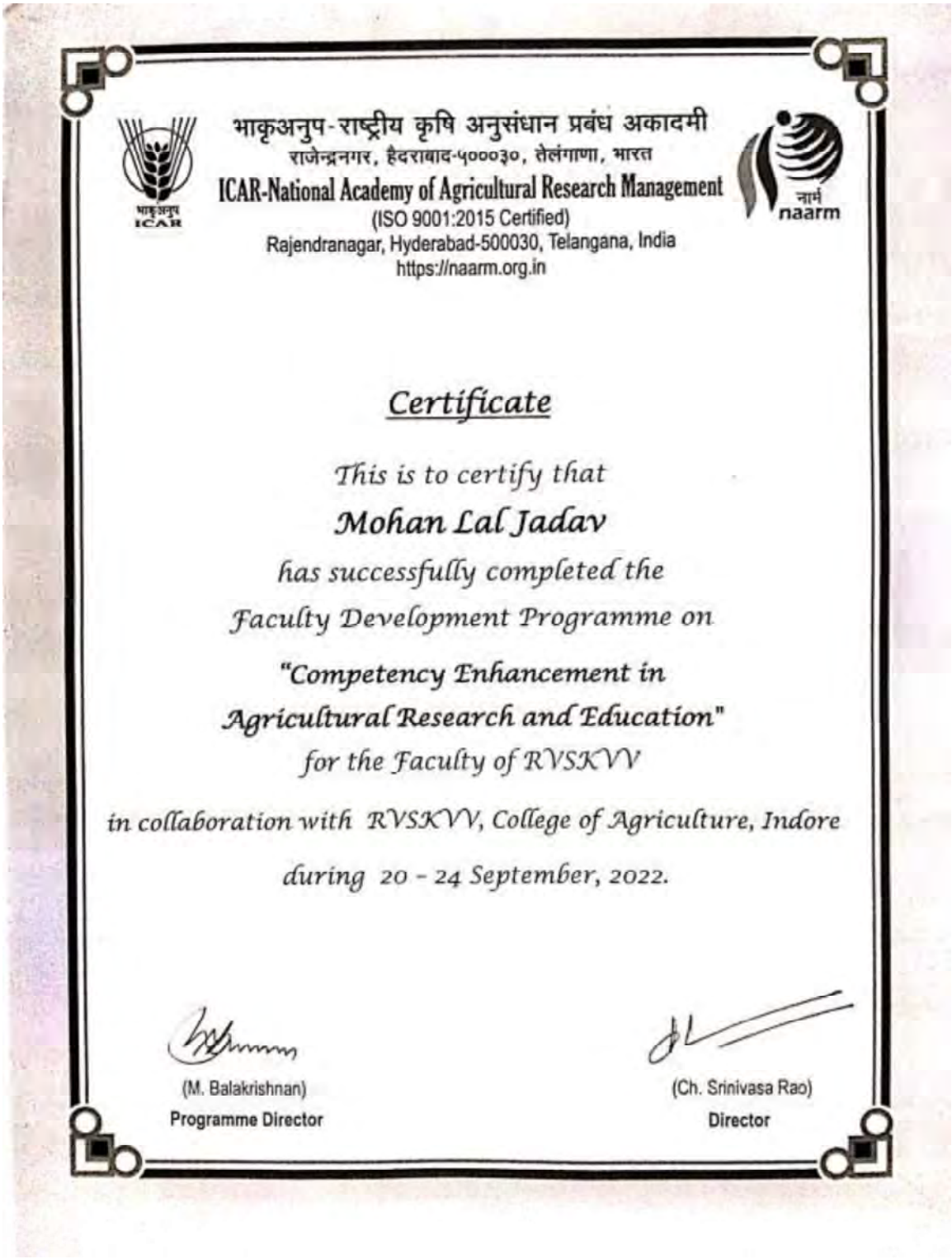
for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director



भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Mohan Lal Jadav

has successfully completed the
Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director

Govt. of India
(Ministry of Agriculture)

19321

Extension Education Institute

(Western Region)

Anand Agricultural University Campus
Anand - 388 110 (Gujarat)

This is to certify that

Dr. Pradyumn Singh

Participated in the training / workshop on

Behavioural Skills for Extensionist & Scientist

13 -15 December, 2022 Jointly organized by DES, RVSKVV, Gwalior (MP) & EEI, AAU, Anand (Gujarat) at DES, RVSKVV, Gwalior (MP)

(A. P. Ninama)
Course Director

(J. K. Patel)
Director

Date 15-12-2022

Sr. No. UHF/PP/2022-54

Department of Plant Pathology
Dr Y S Parmar University of Horticulture & Forestry
Nauni - 173 230, Solan Himachal Pradesh, India

Certificate

This is to certify that **Dr. Pradyumn Singh, Scientist (Agricultural Entomology), Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.)** attended and successfully completed the Short Course on **"RECENT DEVELOPMENTS IN ORGANIC PRODUCTION SYSTEMS AND NATURAL FARMING"** w.e.f. November 14-23, 2022 which was sponsored by Indian Council of Agricultural Research and organized by Department of Plant Pathology, Dr Y S Parmar University of Horticulture and Forestry, Nauni, Solan.

H R Gautam
Course Director

NK Bharat
Course Coordinator

Bhupesh K Gupta
Course Coordinator

Dated: 23.11.2022
Place: Nauni, Solan

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Manoj Kumar Kureel

has successfully completed the

Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

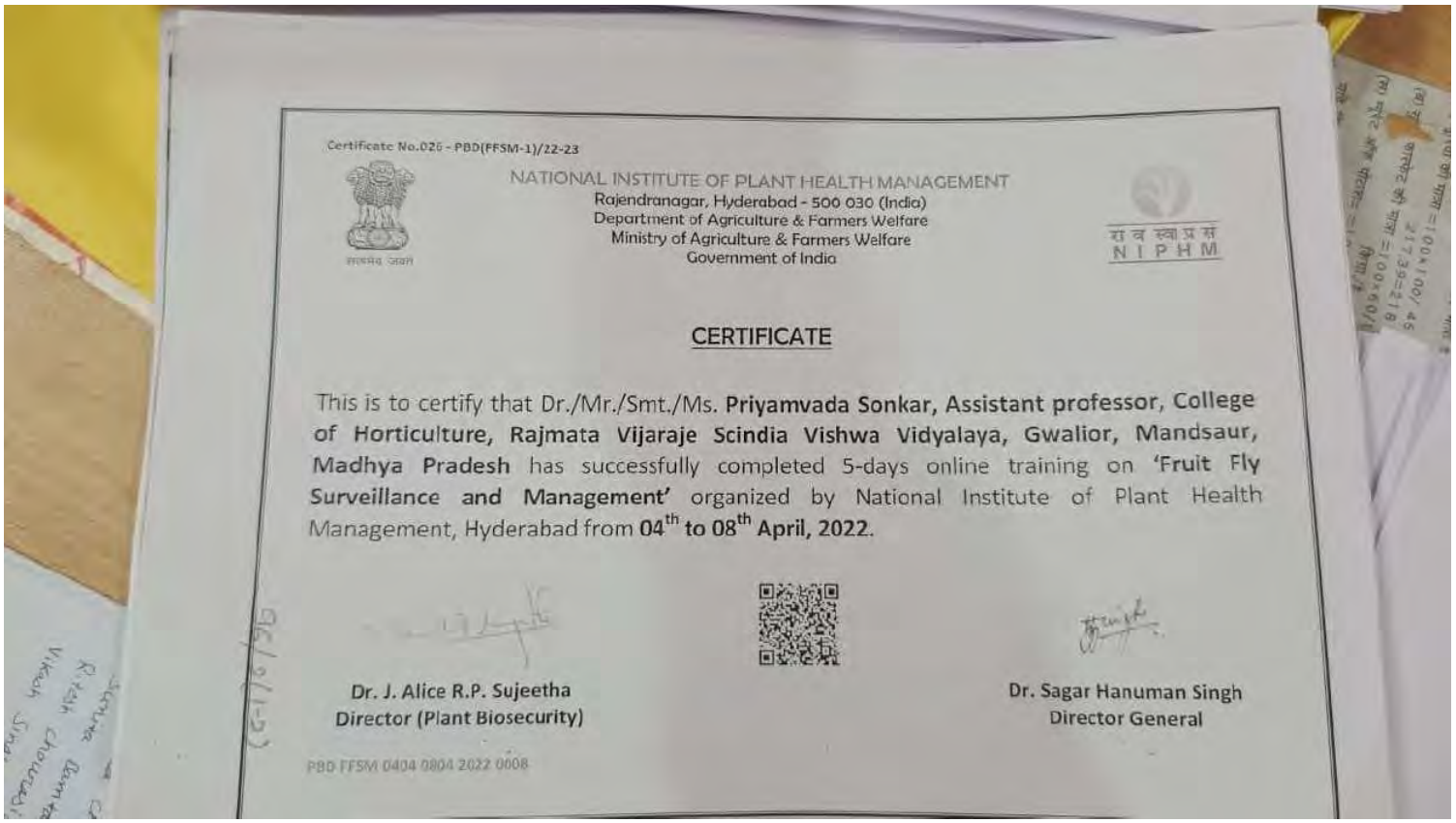
for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director



Certificate No.026 - PBD(FFSM-1)/22-23

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT
Rajendranagar, Hyderabad - 500 030 (India)
Department of Agriculture & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

राष्ट्रीय पादप स्वास्थ्य प्रबंधन संस्थान
N I P H M

CERTIFICATE

This is to certify that Dr./Mr./Smt./Ms. **Priyamvada Sonkar, Assistant professor, College of Horticulture, Rajmata Vijaraje Scindia Vishwa Vidyalaya, Gwalior, Mandsaur, Madhya Pradesh** has successfully completed 5-days online training on **'Fruit Fly Surveillance and Management'** organized by National Institute of Plant Health Management, Hyderabad from **04th to 08th April, 2022**.

Dr. J. Alice R.P. Sujeetha
Director (Plant Biosecurity)

Dr. Sagar Hanuman Singh
Director General

PBD FFSM 0404 0804 2022 0008

Certificate No.001 - PHM(FLPBI-1)/22-23

सत्यमेव जयते

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT

Rajendranagar, Hyderabad - 500 030 (India)

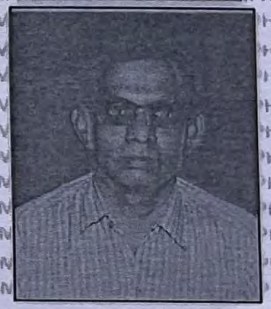
Department of Agriculture & Farmers Welfare

Ministry of Agriculture & Farmers Welfare

Government of India

रा व स्वा प्र सं

N I P H M



CERTIFICATE

This is to certify that **Mr. Balkrishna Patidar, Asst. Professor (Plant Pathology), College of Horticulture (RVSKVV), Mandsaur, Madhya Pradesh** has successfully completed 10-days training on **'Farm Level Production of Bio-Inputs'** conducted at National Institute of Plant Health Management, Hyderabad from **04th to 13th April, 2022.**

Dr. J. Alice R.P. Sujeetha
Director PHM

Dr. Sagar Hanuman Singh
Director General

PHM FLPBI 0404 1304 2022 0001

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५००० ३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Priyamvada Sonkar

has successfully completed the

Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director

ICAR-CENTRE FOR ADVANCED FACULTY TRAINING (CAFT)

Division of Plant Pathology
ICAR-Indian Agricultural Research Institute
New Delhi 110 012

Certificate

This is to certify that

Dr. Anuj Kumar
Assistant Professor (Floriculture & Landscaping)
RVSKVV-KNK College of Horticulture, Mandsaur (MP)

has successfully completed the ten days CAFT training on "Diversity, Genomics and Development of robust Diagnostics for Fusarium spp. associated with major economically important diseases in India" from 11th to 20th October 2022 in the Division of Plant Pathology, ICAR-IARI, New Delhi.

Robin Gogoi
Head & Course Director

S.S. Sindhu
Dean & Joint Director (Edu.)

October 20, 2022

JAWAHARLAL NEHRU KRISHI VISHWAVIDAYLAYA JABALPUR (M.P.)

DEPARTMENT OF SOIL SCIENCE

CENTRE OF ADVANCED FACULTY TRAINING

भाकृअनुप
ICAR

CERTIFICATE

This is to certify that Dr. Nitin Soni, Scientist (Fruit Science), College of Horticulture, Mandsaur (MP) attended the National Training on "Natural Farming: Challenges and Opportunities" sponsored by ICAR, New Delhi and organized by the Centre of Advanced Faculty Training, Department of Soil Science, College of Agriculture, Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur (M.P.) from 1st - 21st November, 2022. He has successfully completed the course requirements.

November 21st, 2022

(N.G. Mitra)
Director CAFT

(Prof. P. K. Bisen)
Vice Chancellor

Encl. No.....

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Pramod Kumar Fatehpuria

has successfully completed the

Faculty Development Programme on

"Competency Enhancement in Agricultural Research and Education"

for the Faculty of RVSKVV

in collaboration with RVSKVV, College of Agriculture, Indore

during 20 - 24 September, 2022.

(M. Balakrishnan)
Programme Director

(Ch. Srinivasa Rao)
Director

Scanned with CamScanner

Teaching Learning Centre, Ramanujan College
University of Delhi

under the aegis of

MINISTRY OF EDUCATION

PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING

This is to certify that

Dr. MANOJ KUMAR TRIPATHI, ASSISTANT PROFESSOR

of

RVSKVV, KNK COLLEGE OF HORTICULTURE, MANDSAUR, MADHYA PRADESH

successfully completed a 4-Week Induction/Orientation Programme for

"Faculty in Universities/Colleges/Institutes of Higher Education"

from *20 May– 18 June, 2022* and obtained

Grade *A+*.

Blockchain Hash: 0x15c5472fb427bbbad4911c0503882389af6c3bc319cf802e5571d7e856fc1027

Prof. S. P. Aggarwal
(Principal & Director)
TLC, Ramanujan College

Dr. Nikhil Kumar Rajput
(Convener)
Ramanujan College

NAHEP

WORLD BANK GROUP

virtuality

COLLEGE OF AGRICULTURE

Sr. No. DWC22-02

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA

GWALIOR, MADHYA PRADESH

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr. **Khamhalkar Priyadarshani Arun**

Department of **Soil Science**

has coordinated in Five Days Workshop on

"Application of Drones in Agriculture: A Way For Entrepreneurship Generation" held at **College of Agriculture, Rajmata Vijayaraje Scindia Krishi Vishwa Vidhyalaya, Gwalior, MP**

from **12th** to **16th September 2022** under the aegis of **IDP-NAHEP**

Principal Investigator
NAHEP, RVSKVV, Gwalior

Director
Virtuality India

RESEARCH INSIGHTS & PUBLICATION STRATEGIES
22 - 24 JULY 2022

Created & Powered By

Centre for Research & Training (CRT)
National Foundation for Entrepreneurship Development (NFED)
Coimbatore, Tamil Nadu
www.nfedindia.org | www.nfedconferences.org | www.nfed.in

CERTIFICATE OF PARTICIPATION

This is to certify that **Dr. Akhilesh Singh**, Scientist (Agri. Engg.), Office of Dean, Faculty of Agriculture, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, Madhya Pradesh has actively participated in the Three-Day National Faculty Development Programme on Research Insights & Publication Strategies created & powered by Centre for Research & Training (CRT), National Foundation for Entrepreneurship Development (NFED), Coimbatore, Tamil Nadu on 22 - 24 July 2022. We wish all success to the participant's future research endeavours.

Ms. Ramya Kandavel
Director, NFED

KVJ. Prof. Dr. R. Ganesan
Chairman, NFED

WP-NFDP9/NFED/COP/14

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

नार्म
naarm

Certificate

This is to certify that

Akhilesh Singh

has successfully completed the

Online Training Programme on

"Nurturing the Entrepreneurial Ecosystem in Agricultural Universities"

(sponsored by NAHEP)

organized by ICAR-NAARM, Hyderabad

during 23-27 August, 2022

(Surya Rathore)
Programme Director

(Ch. Srinivasa Rao)
Director

Agricutural Technology Application Research Institute
Kanpur (ISO 9001 : 2015 Certified Institute)

Drone Conference 2023

Certificate of Participation

This is to certify that Mr./Ms./Dr. **Dr. Akhilesh Singh, RVSKVV Gwalior MP.**

has participated in National Conference cum Workshop on **"Drone : A Boom for Agriculture"** jointly organized by School of Advanced Agriculture Sciences & Technology, CSJM University Kanpur & Agri Meet Foundation held on 27th to 29th January, 2023.

Dr. Soni Gupta	**Dr. Sudhir Singh Bhadauria**	**Dr. Sadhna Pandey**	**Dr. Ankur Sharma**
Incharge	Nodal Officer	Director	Chief Organizing Secretary
SAAST-CSJMU Kanpur	NABARD-CAIE, Gwalior	ICAR-ATARI, Kanpur	Drone Confrence 2023

In Collaboration with

Certificate Code: CSJM/AMF-23/ 542

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

Certificate

This is to certify that

Akhilesh Singh

has successfully completed the

Training Programme on
Impactful ICT Applications and
Technologies in Agriculture

(Online mode)

Organized by ICAR-NAARM, Hyderabad

during 6-10 February, 2023

V. V. Sumanth Kumar

(V.V. Sumanth Kumar)
Programme Director

(Ch. Srinivasa Rao)
Director

भाकृअनुप-राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)
Rajendranagar, Hyderabad-500030, Telangana, India
https://naarm.org.in

नार्म
naarm

Certificate

This is to certify that

Akhilesh Singh

has successfully completed the

Online Training Programme on

"Nurturing the Entrepreneurial Ecosystem in Agricultural Universities"

(sponsored by NAHEP)

organized by ICAR-NAARM, Hyderabad

during 23-27 August, 2022

(Surya Rathore)
rogramme Director

(Ch. Srinivasa Rao)
Director

THE WORLD BANK NHEP

G20 MILLETS आज़ादी का अमृत महोत्सव

ICBLE 2023

INTERNATIONAL CONFERENCE ON BLENDED LEARNING ECOSYSTEM FOR HIGHER EDUCATION IN AGRICULTURE

21 – 23 March 2023
New Delhi, India

Certificate of Participation

This is to certify that

Dr. Singh Akhilesh

participated as a 'Delegate' in the International Conference on Blended Learning Ecosystem for Higher Education in Agriculture held during 21 -23 March 2023 at New Delhi, India.

Rajender Parsad	*Sudeep Marwaha*	*Anuradha Agrawal*	*R. C. Agrawal*
Conference Co-Chair	*Organising Secretary*	*Organising Secretary*	*Conference Chair*

ANAND RESEARCH PROJECT

CERTIFICATE OF APPRECIATION

This certificate is presented to Dr. Swati Barchha from College of Agril., RVSKVV, Indore for selecting, motivating & guiding students of their Institute for a 7 days (August 21-27, 2023) State level Workshop on "Happiness through Self-reliance" organised under Anand Research Project, Rajya Anand Sansthan, Bhopal, Govt. of Madhya Pradesh at the Co-existential Science and Research Centre, Manav Chetna Vikas Kendra, Pivday, Indore M.P. India.

WE APPRECIATE YOUR CONTRIBUTION TO THIS IMPORTANT SUBJECT MATTER. WE LOOK FORWARD TO WORKING WITH YOU ON MORE SUCH PROJECTS IN FUTURE.

031
CERTIFICATE NO.

27/8/2023
DATE

SIGNATURE OF
PROJECT DIRECTOR

Certificate of Appreciation

7 DAYS TRAINING PROGRAMME

A-MDP

COMMERCIAL VEGETABLE PRODUCTION & MARKETING

21st -27th November 2023

This certificate is proudly presented to

Dr. Swati Barche

for successfully delivering the lecture as a resource person in 7 days Advanced Management Development Programme on **"Commercial Vegetable Production & Marketing"** conducted by Division of Horticulture, FoA, Wadura, SKUAST-K Sponsored by Micro, Small & Medium Enterprise, GoI, New Delhi held from 21st to 27th November 2023 at Faculty of Agriculture, Wadura, SKUAST-K.

Dr. Rakshanda Anayat	**Dr. Khalid Rasool**	**Dr. Raihana H. Kanth**
(Programme Coordinator)	(HOD, Horticulture)	(Dean-FoA, Wadura)

INTERNATIONAL CONFERENCE ON BLENDED LEARNING ECOSYSTEM FOR HIGHER EDUCATION IN AGRICULTURE

21 – 23 March 2023
New Delhi, India

Certificate of Participation

This is to certify that

Dr. Harendra Pal Singh

participated as a 'Delegate' in the International Conference on Blended Learning Ecosystem for Higher Education in Agriculture
held during 21 -23 March 2023 at New Delhi, India.

Rajender Parsad	*Sudeep Marwaha*	*Anuradha Agrawal*	*R. C. Agrawal*
Conference Co-Chair	*Organising Secretary*	*Organising Secretary*	*Conference Chair*

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA

COLLEGE OF AGRICULTURE, GWALIOR (M.P.)

Azadi ka Amrit Mahotsav

Certificate

This is to certify that **DR. NISHA SINGH** has successfully completed the Winter Scho on "Entrepreneurial Development in Agriculture for Sustainable Growth and Self Relianc sponsored by Indian Council of Agricultural Research, New Delhi and organized Department of Agricultural Extension and Communication, RVSKVV- College Agriculture, Gwalior (M.P.) from 24th February to 16th March, 2022 in online mode.

The winter School consisted of lectures, exercises and virtual visits based on lat development in the field of entrepreneurial development.

Dr. O.P. Daipuria
Course Director

Dr. S.S. Tomar
Dean

Scanned with OKEN Scanner

भाकृअनुप-राष्ट्रीय पादप आनुवंशिक संसाधन ब्यूरो
पूसा कैंपस नई दिल्ली-११००१२
ICAR-National Bureau of Plant Genetic Resources
Pusa Campus, New Delhi-110012
http://www.nbpgr.ernet.in/

Certificate

This is to certify that
Sushma Tiwari
has successfully completed the
Virtual Training Programme
On
Plant Genetic Resources Management and Utilization
Organized by
ICAR-National Bureau of Plant Genetic Resources
Pusa Campus, New Delhi
During
19 July - 01 August, 2021

Veena Gupta 31/7/21 K.S. Hooda

31.07.2021

(Veena Gupta) **(KS Hooda)**
Training Co-ordinators

(Kuldeep Singh)
Training Director

NAHEP

भा.कृ.अनु.प.-भारतीय कृषि सांख्यिकी अनुसंधान संस्थान, नई दिल्ली-110012

ICAR-Indian Agricultural Statistics Research Institute, New Delhi – 110012

प्रमाणपत्र

CERTIFICATE

प्रमाणित किया जाता है कि **अन्विता शर्मा, राजमाता विजयराजे सिंधिया कृषि विश्वविद्यालय** ने **प्रयोगात्मक आँकड़ों प्रबंधन एवं विश्लेषण में सांख्यिकी एवं सूचना विज्ञान** पर भा.कृ.अनु.प.-भारतीय कृषि सांख्यिकी अनुसंधान संस्थान, नई दिल्ली में 14-21 मार्च, 2022 के दौरान सी.ए.ए.एस.टी.-एन.ए.एच.ई.पी. के अंतर्गत राष्ट्रीय कृषि अनुसंधान एवं शिक्षा प्रणाली के शोध छात्रों हेतु ऑनलाइन प्रशिक्षण कार्यक्रम को सफलतापूर्वक पूर्ण किया।

This is to certify that **Anvita Sharma, Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya** has successfully completed the virtual training programme on **Statistics and Informatics in Experimental Data Management and Analysis** for Research Scholars of NARES during 14-21 March, 2022 under CAAST-NAHEP at ICAR-Indian Agricultural Statistics Research Institute, New Delhi.

सुदीप
पाठ्यक्रम निदेशक
Sudeep
Course Director

सी विश्वनाथन
परियोजना अन्वेषक
C Viswanathan
PI, CAAST NAHEP

राजेन्द्र प्रसाद
निदेशक
Rajender Parsad
Director

दिनांक : 21 मार्च, 2022
Date : 21 March, 2022

TRAINING AND EDUCATION CENTRE
ICAR-Indian Veterinary Research Institute
Shivajinagar, Pune- 411 005 (MH)

CERTIFICATE

This certificate is awarded on 27th May 2022 to

Dr. Anvita Sharma

for successfully participating in an Online Training Program on **"Academic Writing for Publishing Research Articles in the High Impact Factor Journals"** organized by the Training and Education Centre, ICAR-Indian Veterinary Research Institute, Pune. The training program was organized into two phases i.e. (i) *Academic Writing - Structure for Clarity* from 26th to 30th April 2022 and (ii) *Structuring Manuscript for Publishing Research Articles* from 23rd to 27th May 2022.

Course Coordinator
(Dr. Amol K. Bhalerao)

Station In-charge
(Dr. K. N. Bhilegaonkar)

Certificate No.470- PHE(DAA-SB)/21-22

सत्यमेव जयते

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT
Rajendranagar, Hyderabad – 500 030 (India)
Department of Agriculture & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

राष्ट्रीय पादप स्वास्थ्य प्रबंधन संस्थान
NIPHM

CERTIFICATE OF PARTICIPATION

This is to certify that Dr./Mr./Mrs./Smt. **D. R. Saxena,** Principal Scientist (Plant Pathology), Department of Plant Pathology, R A.K. College of Agriculture, RVSKVV, Sehore -466001 M.P., has participated in National Webinar on **'Drone Applications in Agriculture – Spraying and Beyond"** organized by National Institute of Plant Health Management, Hyderabad on **26th March 2022.**

Dr. Vidhu Kampurath P
Joint Director (Plant Health Engineering)

Dr. Sagar Hanuman Singh, IPoS
Director General

PHE DAA-SB 2603 2022 0019

CHRISTIAN EMINENT COLLEGE,INDORE

(Academy of Management, Professional Education & Research)
Affiliated to Devi Ahilya Vishwavidyalaya, Indore
An Autonomous Institution Accredited with "A" Grade by NAAC, UGC

Department of Commerce

in association with

Indian Agricultural Research Institute, Indore, India

organized

EIGHT DAYS ONLINE NATIONAL LEVEL FDP

on

"How to make Teaching Learning Process Effective & Outcomes based"

Certificate of Participation

This is to certify that

Dr. Dr. O. P. Sharma

B. M. College of Agriculture, Khandwa

has participated in **Eight Days Online National Level FDP on** *"How to make Teaching Learning Process Effective& Outcomes based' "* held during 14th June to 21st June 2021.

Dr. Seema modi **Programme Convenor** **CEC ,Indore**	**Dr. J. S. Bhatia** **Head & Programme Coordinator** **CEC, Indore**	**Dr. D. K. Verma** **Principal Scientist** **IARI-RS, Indore**

Prof. Rajesh Shah **Vice Principal** **CEC ,Indore**	**Dr. Rajesh Vyas** **Principal** **CEC ,Indore**	**Prof. Y. S. Chouhan** **Director (Admn.)** **CEC ,Indore**	**Prof. H. N. Gupta** **Director** **CEC ,Indore**

संस्थागत विकास योजना
राष्ट्रीय कृषि उच्च शिक्षा परियोजना(राकृउशिप)
INSTITUTIONAL DEVELOPMENT PLAN
NATIONAL AGRICULTURAL HIGHER EDUCATION PROJECT(NAHEP)
राजमाता विजयाराजे सिंधिया कृषि विश्वविद्यालय
राजा पंचम सिंह मार्ग, ग्वालियर-४७४००२ (म.प्र.)

डॉ. संजय शर्मा
Dr. Sanjay Sharma
Principal Investigator

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Raja Pancham Singh Marg, Gwalior-474002 (M. P.)
Phone: [illegible] Mob.: [illegible] Fax: [illegible]
E-Mail: nahep@rvskvv.net, sanjayjbp2007@rediffmail.com
Web: www.rvskvv.net

No. /PI/NAHEP/2021-22/ Dated:

CERTIFICATE

This is to certify that Dr./Mr Pradyumn Singh Dsignation Scientist From Morena has successfully participated in two days' workshop on "Agri-preneur development" held during 09-10 September, 2021 at Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.).

PI, IDP-NAHEP, RVSKVV
PRINCIPAL INVESTIGATOR
NAHEP-IDP
RVSKVV, GWALIOR (M.P.)

One-Week
Faculty Development Programme
on

Smart Use of Renewable Energy Resources for Sustainable Future

Organised by

Department of Mechanical Engineering

Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur

Certificate of Participation

This is to certify that ***Dr. D. K. Vani*** of ***Krishi Vigyan Kendra*** has participated in the One-Week Faculty Development Programme on "**Smart Use of Renewable Energy Resources for Sustainable Future**" held from 21/02/2022 to 25/02/2022 at **Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur**.

Prof. Dheeraj Joshi	Dr. Chandan Kumar	Dr. Ramesh Kumar Pachar
HOD, ME	Coordinator	Principal

german cooperation
DEUTSCHE ZUSAMMENARBEIT

giz

BISA Borlaug Institute for South Asia

CERTIFICATE

OF PARTICIPATION

Awarded to

Dr. D.K Vani

In recognition of the successful participation in

CAPACITY DEVELOPMENT OF AGRICULTURE EXTENSION WORKERS (AEWs) ON SOLAR POWERED IRRIGATION SYSTEMS (SPIS)

November 17-19, 2021

Organized by

BISA in collaboration with GIZ

Nilanjan Ghose.

Nilanjan Ghose
Project Head
Indo-German Energy Programme
Promotion of Solar Water Pumps

Arun Kumar Joshi
Managing Director, BISA

DIVISION OF BASIC SCIENCES AND HUMANITIES

Faculty of Horticulture

Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Shalimar

Certificate

This certificate is presented to ***Dr. Roshan Gallani, College of Horticulture, Mandsaur (M.P.)*** *For attending the* ***ICAR-Sponsored*** *Short course on* ***"Hydroponics: The Future of Food Without Soil"*** *organized by Division of Basic Sciences and Humanities, Faculty of Horticulture, SKUAST-Kashmir from March 17-26, 2022.*

Farooq A. Khan
Course Director

S. A. Wani
Dean, Faculty of Horticulture

DIVISION OF BASIC SCIENCES AND HUMANITIES

Faculty of Horticulture

Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Shalimar

Certificate

This certificate is presented to ***Dr. Shyam Bahadur Singh, RVSKVV, College of Horticulture, Mandsaur (M.P.)*** *For attending the* ***ICAR-Sponsored*** *Short course on* ***"Hydroponics: The Future of Food Without Soil"*** *organized by Division of Basic Sciences and Humanities, Faculty of Horticulture, SKUAST-Kashmir from March 17-26, 2022.*

Farooq A. Khan
Course Director

S. A. Wani
Dean, Faculty of Horticulture

NAHEP

WORLD BANK GROUP

virtuality

Sr. No. DWC22-02

COLLEGE OF AGRICULTURE

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA

GWALIOR, MADHYA PRADESH

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr. **Khamhalkar Priyadarshani Arun**

Department of **Soil Science**

has coordinated in Five Days Workshop on

"Application of Drones in Agriculture: A Way For Entrepreneurship Generation" held at **College of Agriculture, Rajmata Vijayaraje Scindia Krishi Vishwa Vidhyalaya, Gwalior, MP**

from **12th** to **16th September 2022** under the aegis of **IDP-NAHEP**

Principal Investigator
NAHEP, RVSKVV, Gwalior

Director
Virtuality India

CAAST-NAHEP/BAU/ER-2021 /003

BIRSA AGRICULTURAL UNIVERSITY
RANCHI, 834006 (JHARKHAND)

National Agricultural Higher Education Project
Centre of Advanced Agricultural Science & Technology

Certificate of Participation

This is to certify that **Dr. Akhilesh Singh, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior** has participated in One day Webinar on **"Ecosystem Restoration" held on 5th June, 2021** organized by National Agricultural Higher Education Project- Centre for Advanced Agricultural Science & Technology, Birsa Agricultural University, Ranchi-834006 (Jharkhand).

MSmalik

(Dr. M.S. Malik)
Dean, Faculty of Forestry &
Principal Investigator
NAHEP-CAAST on IFS Project
BAU, Ranchi

NAHEP

CERTIFICATE OF PARTICIPATION

National Webinar on

"IMPACT ASSESSMENT OF CLIMATIC EXTREMITIES ON AGRICULTURE: A GEOSPATIAL APPROACH"

This is to certify that Dr. Akhilesh Singh, Scientist (Agricultural Engineering), affiliated to Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior has participated in the webinar on "Geospatial techniques to assess climatic changes/ extremes and its effect on crop"

organized by

College of Agricultural Engineering and Technology, Odisha University of Agriculture and Technology, Bhubaneswar on 13th August. 2021.

S. K. Raul	R. C. Dash	S. K. Dash
Organizing Secretary	PI, IDP-NAHEP	Dean, CAET

Two-Day International Webinar

Entrepreneurship Development Orientation & Digital Transformation

6-7 AUGUST 2021

Organized by

NFED Business Facilitators Forum, Coimbatore, Tamil Nadu, India

Talouns Pte Ltd., Singapore

LTT Global Communications Sdn Bhd, Selangor DE, Malaysia

MIT Square, London, United Kingdom

CERTIFICATE OF PARTICIPATION

This is to certify that **Dr. Akhilesh Singh**, Scientist, Department of Agricultural Engineering, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior has actively participated in the Two-Day International Webinar on Entrepreneurship Development Orientation & Digital Transformation organized by NFED Business Facilitators Forum, Coimbatore, Tamil Nadu, India; Talouns Pte Ltd., Singapore; LTT Global Communications Sdn Bhd, Selangor DE, Malaysia and MIT Square, London, United Kingdom on 6-7 August 2021. We wish all success to the participant's future endeavours.

Dr. Mithileysh Sathiyanarayanan
Founder & CEO
MIT Square

Mr. Owaiz Khan
Co-Founder & CPO
Talouns Pte Ltd.

WP-IN1/C0P-123

Ms. Theviga Rani Wemel
Co-Founder & COO
LTT Global Communications

KVJ. Prof. Dr. R. Ganesan
Founder & Chair
NBFF

TAMIL NADU VETERINARY AND ANIMAL SCIENCES UNIVERSITY

College of Food and Dairy Technology

Koduveli, Chennai 600 052

Certificate of Participation

This is to certify that **Dr./Mr./Ms./Mrs. AKHILESH SINGH, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya** has participated in Two days online National conference on "Implementing strategies to achieve Food Security and Food Sustainable Partnership : Progress and Challenges" conducted on 29.07.2021 and 30.07.2021 organized by College of Food and Dairy Technology, Koduveli, Chennai-52.

Dr. Rita Narayanan, Ph. D.,
Co-coordinator and Professor & Head,
Department of Food Processing Technology,
College of Food and Dairy Technology,
Koduveli, Chennai- 52.

Dr. V. Appa Rao, Ph. D.,
Co-ordinator & Dean,
Faculty of Food Sciences,
College of Food and Dairy Technology,
Koduveli, Chennai- 52.

Virtual Workshop on Science Communication

December 29, 2021

CERTIFICATE OF ATTENDANCE

This certifies that

Dr. Akhilesh Singh

RVSKVV, GWALIOR

has attended the science communication workshop and has met the certification requirements

Dr. Venkattakumar R
HoD, SS&T, ICAR-IIHR

Dr. B. N. S. Murthy
Director, ICAR-IIHR

Dr. Dhananajaya M.V.
PS & Sec., SPH, ICAR-IIHR

CERTIFICATE OF ACHIEVEMENT

2022

ALBEDO FOUNDATION

See Spatial Feel Spatial

This certificate is awarded to

Dr. Akhilesh Sinah

In recognition of the successful completion of 5 hours (one day) of the online workshop on **Hydrological Modeling with HEC HMS** **on 20th February 2022.**

Vikrant Nikam

Vikrant Nikam
Workshop Instructor

ALBEDOFOUNDATION

No:ATAL/2021/1620486704

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

Nelson Mandela Marg, Vasant Kunj, New Delhi – 110 070

AICTE Training And Learning (ATAL) Academy

Certificate

This is certified that **Akhilesh Singh**, **Assistant Professor** of **Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya** participated & completed successfully AICTE Training And Learning (ATAL) Academy **Online Elementary** FDP on " **GEOINFORMATICS AND WEB TECHNOLOGIES**" from **2021-05-18** to **2021-05-22** at **BANASTHALI VIDYAPITH**.

Director ATAL Academies

Coordinator

No:ATAL/2021/1620486821

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

Nelson Mandela Marg, Vasant Kunj, New Delhi – 110 070

AICTE Training And Learning (ATAL) Academy

Certificate

This is certified that **Akhilesh Singh**, **Scientist** of **Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya** participated & completed successfully AICTE Training And Learning (ATAL) Academy **Online Elementary** FDP on "**AI and IoT-Based Technology for Precision Farming and Smart Agriculture**" from **2021-6-7** to **2021-6-11** at **KGiSL Institute of Technology**.

Director ATAL Academies

Coordinator

No:ATAL/2021/1622464601

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

Nelson Mandela Marg, Vasant Kunj, New Delhi – 110 070

AICTE Training And Learning (ATAL) Academy

Certificate

This is certified that **Akhilesh Singh**, **Scientist** of **Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya** participated & completed successfully AICTE Training And Learning (ATAL) Academy **Online Elementary** FDP on "**Application of IOT in Agriculture**" from **2021-07-06** to **2021-07-10** at **Gandhi Institute For Technology (GIFT) Bhubaneswar**.

Adviser-I, ATAL Academy

Coordinator

G.K. Gujar Memorial Charitable Trust, Karad

Dr. Ashok Gujar Technical Institute's

Dr. Daulatrao Aher College of Engineering, Karad

ACCREDITED BY NAAC WITH "B+" GRADE & ISO 9001-2008 CERTIFIED INSTITUTE

Certificate of Participation

This is to certify that,

Dr. Akhilesh Singh

from Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior

Has participated in one week STTP on

" Disaster Management and Risk Reduction - A Geospatial Approach", Under Lead College Scheme

Shivaji University Kolhapur

organized by **Department of Civil Engineering from 16th June to 21st June 2021**

Prof. S. D. Kamble	**Dr. A. M. Zende**	**Prof. H. M. Kumbhar**	**Dr. A. M. Mulla**
Co-ordinator	Organizing Secretary, HOD	Vice-Principal	Principal

Made for free with Certify'em

Certificate id : HS89CQ-CE000019

14902

Govt. of India

(Ministry of Agriculture)

Extension Education Institute

(Western Region)

Anand Agricultural University Campus

Anand - 388 110 (Gujarat)

This is to certify that

Dr. Neeraj Hada

Participated in the training / workshop on

Communication Skills for Effective Extension Services (Online One Week Training)

from 12.07.2021 to 17.07.2021 from EEI, Anand (Gujarat)

Date : 17-07-2021

(K. V. Gardhariya)
Course Director

(J. K. Patel)
Director

AGRI TOURISM®
Pure Holidayism

Certificate of Participation

16 MAY INDIA

AGRI TOURISM ONLINE TRAINING PROGRAMME
THEME-DEVELOPMENT AND DOUBLING THE FARMERS INCOME THROUGH AGRI TOURISM

This is to certify that

Dr. Akhilesh Singh

Has Successfully Completed Three Day Agri Tourism Online Training Programme

This Certificate is issued in Appreciation of Active Participation

PLACE :- Pune

PANDURANG B. TAWARE
DIRECTOR, ATDC

DATE:- 28.05.2021

ATDC Baramati Agri & Rural Tourism Training Research & Development Center
Palshiwadi, Taluka:- Baramati, District:- Pune, Www.agritourism.in
Tel no:- 020-25660342/343/345, Mobile no :- 9226432980

AGRI TOURISM DEVELOPMENT CORPORATION PUNE

Encl. 3(b)

5th International Conference

C. No : AEDS/AAEBSD/362/2021

On

"Advances in Agriculture, Environmental and Biosciences for Sustainable Development (AAEBSD-2021)

(August 05-07, 2021)

Organized by

AEDS
Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, U.P. (India)

NABARD
National Bank for Agriculture and Rural Development (NABARD) Gwalior, M.P.

College of Horticulture and Forestry, Central Agricultural University, Pasighat, Arunachal Pradesh

Centre for Agribusiness Incubation and Entrepreneurship, RajmataVijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh) India

Certificate of Participation

This is to certify that Prof./Dr./~~Er./Mr./Mrs./Ms.~~ Akhilesh Singh

From RVSKVV, Gwalior has been participated.

in the 5th International Conference on "Advances in Agriculture, Environmental and Biosciences for Sustainable Development (AAEBSD-2021)" held on August 05-07, 2021, *Via* Zoom Video Conferencing App.

Organizing Chairman

Organizing Secretary

Convener

CERTIFICATE OF APPRECIATION 2021

Certificate No. AF-WGIS-1236

ALBEDO FOUNDATION

See Spatial Feel Spatial

this is to certify that

Dr. Akhilesh Singh

Scientist
Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya

Has successfully attended and participated in a webinar on **"SNAP for Flood Modeling using Sentinel -1 Image"**, organized by Albedo Foundation on 09th October 2021

Vikrant Nikam
Founder & CEO
Albedo Foundation

CERTIFICATE OF ACHIEVEMENT

2021

ALBEDO FOUNDATION

See Spatial Feel Spatial

This certificate is awarded to

Akhilesh Singh

In recognition of the successful completion of 5 hours (two days) of the online workshop on **Learn GIS based Hydrological Modeling Technique using the SCS-CN Method** from September 04, 2021 to September 05, 2021.

Sukant Jain

Sukant Jain
Workshop Instructor
Albedo Foundation

ALBEDOFOUNDATION

See spatial feel spatial

Certificate No. : AF-ONLW-050

Certificate

is to certify that, Dr. Nisha Singh, Assistant Professor (Agronomy) COA, Powarkheda, Hoshangabad, JNKVV, Jabalpur has successfully pleted Three Week Online National Certificate Course on **"Watershed Hydrological Modeling"** organised by the Centre for Advanced cultural Science and Technology for Climate Smart Agriculture and Water Management (CAAST-CSAWM), Mahatma Phule Krishi Vidyapeeth harashtra State) under National Agricultural Higher Education Project (NAHEP), Indian Council of Agricultural Research (ICAR), New Delhi ng **May 17 to June 06, 2021**.

Nisha Singh has submitted the following project reports required for the completion of the certificate course.

ndividual Project: A Review on status of water resources of India.
roup Project: Extraction of Mulla Watershed Characteristics using GIS and Digital Elevation Model. **(Second Rank)**

(M.G. Shinde)
urse Director & Co-PI (CAAST-CSAWM), MPKV Rahuri

(S.D. Gorantiwar)
PI (CAAST-CSAWM) & Head (Agril. Engg.), MPKV Rahuri

(A.L. Pharande)
Dean (F/A) & Director of Instruction MPKV Rahuri

is digital certificate copy, No.MPKV/CAAST-CSAWM/eCert.Course/WHM/CertI./28/2021 For authenticity, visit: http://www.mpkv-caast.ac.in/page/digitalcertificates

DIRECTORATE OF EXTENSION SERVICES

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya,

Raja Pancham Singh Marg, Gwalior (M. P.) – 474002.

Dr. S. N. Upadhyay
Director Extension Services

Phone: 0751 2970512 (O)
Mob : 9826564640
E. mail: desrvskvv2008@gmail.com
snupadhyay56@rediffmail.com

No./DES/Training/2020/2250

Date: 29/01/2020

//REVISED ORDER//

Directorate of Extension Services, RVSKVV, Gwalior (M.P.) is conducting two days training on "Farm Production of Bio-agents" at Department of Plant Pathology, College of Agriculture, Gwalior on 4-5 February, 2020. The following Scientists are directed to attend the aforesaid training.

1.	Dr. Reeti Singh	Principal Scientist & Head (Plant Pathology)	COA, Gwalior
2.	Dr. R.K. Pandya	Principal scientist (Plant Pathology)	COA, Gwalior
3.	Dr. Rajni Singh Sasode	Scientist (Plant Pathology)	COA, Gwalior
4.	Hemant Kumar Trivedi	Scientist (Plant Pathology)	COA, Gwalior
5.	Dr. Jagdish Kumar Patidar	Contractual Teacher (Plant Pathology)	COA, Gwalior
6.	Dr. Pramod Kumar Fatehpuria	Contractual Teacher (Plant Pathology)	COA, Gwalior
7.	Dr. R. K. Singh	Scientist (Plant Pathology)	COA, Indore
8.	Dr. R. P. Patel	Assistant Professor (Plant Pathology)	COH, Mandsaur
9.	Shri B. K. Patidar	Scientist (Plant Pathology)	COH, Mandsaur
10.	Dr. Y.K. Jain	Scientist (Plant Pathology)	ZARS, Khargone
11.	Shri J.C. Gupta	Scientist (Plant Pathology)	ZARS, Morena
12.	Dr. Ashish Bobade	Scientist (Plant Pathology)	KVK Khandwa
13.	Dr. Anil Kumar Singh	Scientist (Plant Pathology)	KVK, Datia
14.	Dr. Arvinder Kaur	Scientist (Plant Pathology)	KVK, Gwalior
15.	Dr. Rakesh Yadav	Scientist (Plant Pathology)	KVK, Alirajpur
16.	Dilip Kumar Suryawanshi	Scientist (Entomology)	COA, Gwalior
17.	Dr. S.K. Parsai	Scientist (Entomology)	COA, Khandwa
18.	Dr. A. K. Badaya	Principal Scientist (Entomology)	COA, Indore
19.	Dr. P. D. Singh	Scientist (Entomology)	ZARS, Morena
20.	Dr. Swati Tomar	Technical officer (Entomology)	ZARS, Morena
21.	Dr. G. S. Chundavat	Scientist (Entomology)	KVK , Mandsaur
22.	Dr. Amit Kumar	Scientist (Entomology)	KVK, Sheopur
23.	Dr. A. K. Yadav	Scientist (Entomology)	KVK, Morena
24.	Dr. S. S. Sarangdeot	Scientist (Entomology)	KVK, Neemach
25.	Dr. Rashmi Bajpai	Scientist	CoA, Gwalior
26.	Dr. S. P. S. Tomar	Scientist (Entomology)	CoA, Gwalior
27.	Dr. Shashi S. Yadav	Scientist (Soil Science)	CoA, Gwalior
28.	Dr. Amita Sharma	Scientist (EVS)	CoA, Gwalior
29.	Dr. S. K. Singh	Scientist (Soil Science)	KVK Gwalior
30.	Dr. S. K. Daneliya	Scientist (Soil Science)	KVK Guna
31.	Dr. Ravi Yadav	S. R. F. (Plant Pathology)	ZARS, Morena

Ph.D. students of Plant Pathology/Entomology may also be permitted to attend the training program and working lunch will not be provided to them. However certificate will be provided to them.

Training co-ordinator- Dr. R. K. Pandya

Co- coordinator- Dr. S. S. Kushwah, Dr. Rajani Sasode

Director Extension Services

contd...

JUNAGADH AGRICULTURAL UNIVERSITY, JUNAGADH

Five-Days Online Vocational Training on

Automation in Micro Irrigation System

Certificate of Participation

This is to certify that Mr./Ms Er. MOHAN LAL JADAV has participated in the Five-Days Online Vocational training Programme on **"Automation in Micro Irrigation System"** organized by Department of Soil & Water Conservation Engineering, College of Agricultural Engineering & Technology, JAU, Junagadh during 09-13 February, 2021 under the aegis of the Institutional Development Plan (IDP) of NAHEP, ICAR sponsored by the World Bank.

N. K. Gontia
Co-PI (IDP – NAHEP) & Principal and Dean
College of Agricultural Engineering and
Technology, JAU, Junagadh

V. P. Chovatia
PI (IDP-NAHEP) &
Director of Research and Dean, P.G. Studies,
JAU, Junagadh

Scanned with CamScanner

NAHEP

CENTRE FOR ADVANCED AGRICULTURAL SCIENCE AND TECHNOLOGY

SKILL DEVELOPMENT TO USE SPATIAL DATA FOR NATURAL RESOURCES MANAGEMENT IN AGRICULTURE

COLLEGE OF AGRIL. ENGG., JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA, JABALPUR, MP,INDIA,482004

CERTIFICATE OF PARTICIPATION

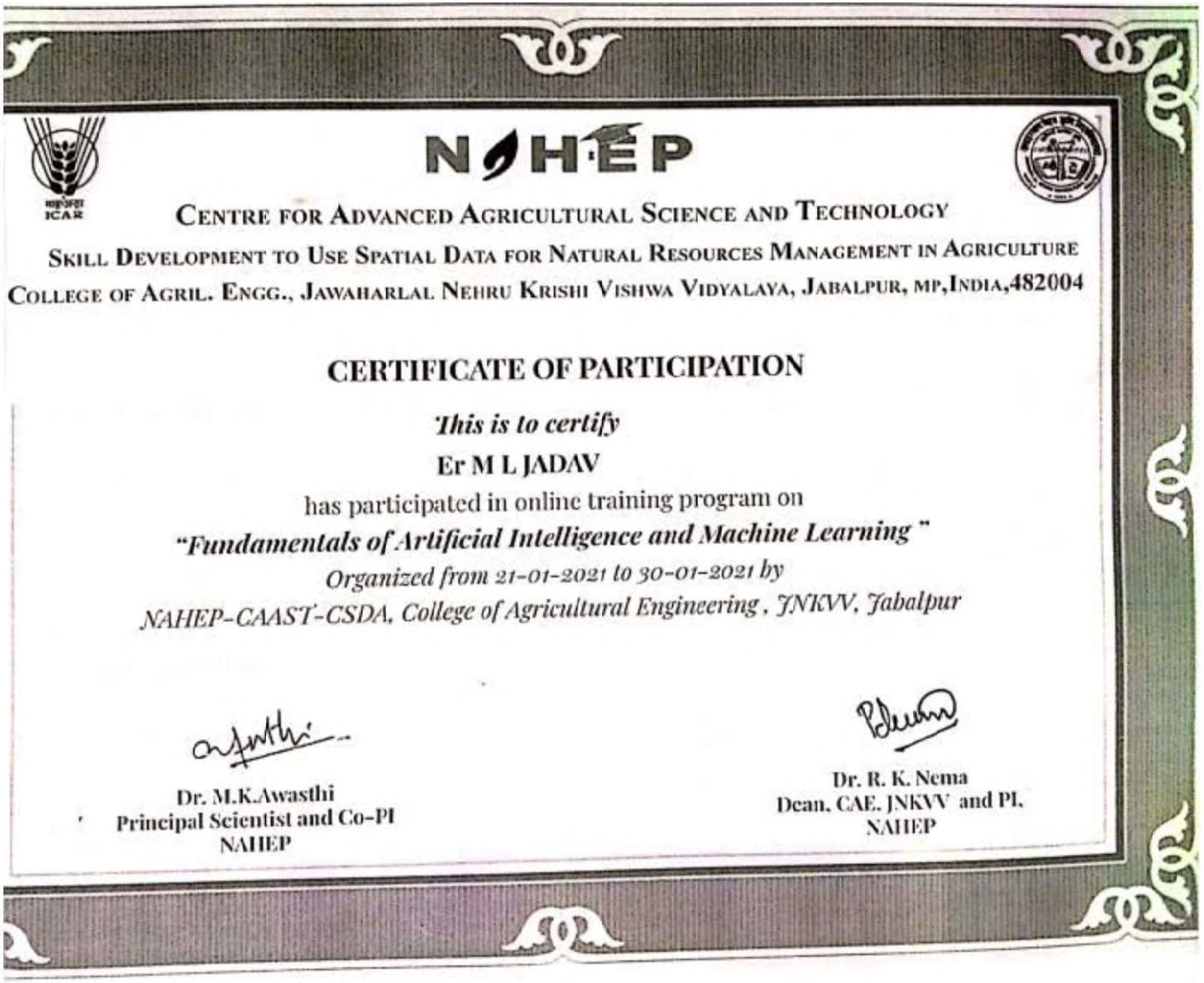
This is to certify

ER. MOHAN LAL JADAV

has participated in online lectures on ***Spatial Data use in Agriculture"*** *Organized from 08-02-2021 to 12-02-2021 by NAHEP -CAAST - CSDA, College of Agricultural Engineering , JNKVV, Jabalpur*

Dr. M.K.Awasthi
Principal Scientist and
Co-PI NAHEP

Dr. R. K. Nema
Dean, CAE, JNKVV and PI,
NAHEP



NAHEP

CENTRE FOR ADVANCED AGRICULTURAL SCIENCE AND TECHNOLOGY

SKILL DEVELOPMENT TO USE SPATIAL DATA FOR NATURAL RESOURCES MANAGEMENT IN AGRICULTURE

COLLEGE OF AGRIL. ENGG., JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA, JABALPUR, MP, INDIA, 482004

CERTIFICATE OF PARTICIPATION

This is to certify

Er M L JADAV

has participated in online training program on

"Fundamentals of Artificial Intelligence and Machine Learning "

Organized from 21-01-2021 to 30-01-2021 by

NAHEP-CAAST-CSDA, College of Agricultural Engineering , JNKVV, Jabalpur

Dr. M.K.Awasthi
Principal Scientist and Co-PI
NAHEP

Dr. R. K. Nema
Dean, CAE, JNKVV and PI,
NAHEP

Sr. No. FDP2020/RVSKVV/013

CERTIFICATE OF COMPLETION

This is to certify that

Dr. Narendra Singh Thakur

of *College Of Agriculture, Indore*

has successfully completed

One Week Online Faculty Development Programme

on "**Online Teaching & Learning Practices**" held from

24th November to 02nd December, 2020.

Mr. Tanmay Tarun Das
Outreach Incharge
Virtual Labs IIT Delhi

Dr. Manjushri Gupta
Chief Project Coordinator
Virtuality India

राष्ट्रीय कृषि विस्तार प्रबंध संस्थान

(कृषि एवं किसान कल्याण मंत्रालय, भारत सरकार का संगठन)

राजेन्द्रनगर, हैदराबाद - 500 030 तेलंगाना

National Institute of Agricultural Extension Management

(An Organization of Ministry of Agriculture and Farmers Welfare, Government of India)

Rajendranagar, Hyderabad - 500 030 Telangana

CERTIFICATE

This is to certify that

Dr.Swati Barche

has successfully completed the online MOOCs Programme on

Market-led Extension

from 14th August, 2020 to 23rd August, 2020 Organized by MANAGE, Hyderabad,India

24th August, 2020

Course Coordinator

* Digital Certificate doesn't require signature

Certificate of Participation

This is to certify that

Dr. Moly Saxena

has successfully completed the Online Expert Workshop on ***"Chickpea diseases- Detection, Phenotyping and Management"*** *jointly organized by ICRISAT, Patancheru and R.A.K Collage of Agriculture, Sehore under the 'ICAR-AICRP: Chickpea*

from 16 - 18th December 2020

Mamta

Dr. Mamta Sharma
Theme Leader
Training Organizer & PI
ICM, ICRISAT, Patancheru

Dr. Deepratna Saxena
Principle Scientist
R.A.K. Collage of Agriculture,
Sehore, M P

Sr. No. FDP2020/RVSKVV/018

CERTIFICATE OF COMPLETION

This is to certify that

Prof. Moly Saxena

of *RAK College Of Agriculture, Sehore*

has successfully completed

One Week Online Faculty Development Programme

on "**Online Teaching & Learning Practices**" held from

24th November to 02nd December, 2020.

Mr. Tanmay Tarun Das
Outreach Incharge
Virtual Labs IIT Delhi

Dr. Manjushri Gupta
Chief Project Coordinator
Virtuality India

Sr. No. FDP2020/RVSKVV/019

CERTIFICATE OF COMPLETION

This is to certify that

Prof. Deep Ratna Saxena

of *RAK College Of Agriculture, Sehore*

has successfully completed

One Week Online Faculty Development Programme

on "**Online Teaching & Learning Practices**" held from

24th November to 02nd December, 2020.

Mr. Tanmay Tarun Das
Outreach Incharge

Dr. Manjushri Gupta
Chief Project Coordinator

भाकृअनुप
ICAR

NAHEP

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior

Under National Agricultural Higher Education Project-Institutional Development Plan

Organizes one day National Webinar on

"Career Opportunities in Agriculture: An Interactive Session for Agri-Graduates"

e-CERTIFICATE

This is to certify that ***Mr. D.R. SAXENA*** *from* ***R.A.K. College of Agriculture, Sehore*** *has attended and actively participated in one day National Webinar on "Career Opportunities in Agriculture: An Interactive Session for Agri-Graduates" under* ***NAHEP*** *on* ***28th May, 2020.***

Mridulla Billore
Organizing Secretary

Dr. Ekta Joshi
Cordinator

Dr. Akhilesh Singh
Cordinator

Certificate No.565-PB(SGPM-3)/2019-20

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT
Rajendranagar, Hyderabad – 500 030 (India)
Department of Agriculture, Cooperation & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

NIPHM

CERTIFICATE

This is to certify that **Dr. Pradyumn Singh, Scientist (Entomology), All India Co-ordinated Research Project Rapeseed Mustard, ZARS, Morena, Madhya Pradesh** has successfully completed 5-days Training on **'Stored Grain Pest Detection, Identification and Management'** conducted at National Institute of Plant Health Management, Hyderabad from 27th to 31st January, 2020.

Dr. J. Alice R.P. Sujeetha
Director (Plant Biosecurity)

G. Jayalakshmi, I.A.S.
Director General

PBD SGPM 2701 3101 2020 0002

DIRECTORATE OF EXTENSION SERVICES

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya

Gwalior (M.P.)

Certificate

This is to certify that Dr. P. D. Singh, Scientist (Ento.), ZARS, Morena has participated in the Capacity Building Programme entitled " On Farm Production of Bio-agents" organized by Directorate of Extension Services in collaboration with Department of Plant Pathology, College of Agriculture, Gwalior from Feb 04-05, 2020.

Training Co-ordinator
Department of Plant Pathology

Dean
College of Agriculture, Gwalior

Director Extension Services
RVSKVV, Gwalior

Sr. No. FDP2020/RVSKVV/018

CERTIFICATE OF COMPLETION

This is to certify that

Mr. Manoj Kumar Kureel

of *College of Agriculture, Khandwa - RVSKVV, Gwalior*

has successfully completed

One Week Online Faculty Development Programme

on "**Online Teaching & Learning Practices**" held from

23rd to 31st October 2020.

Mr. Tanmay Tarun Das
Outreach Incharge
Virtual Labs IIT Delhi

Dr. Manjushri Gupta
Chief Project Coordinator
Virtuality India

Sr. No. FDP2020/RVSKVV/001

CERTIFICATE OF COMPLETION

This is to certify that

Dr. Roop Narayan Kanpure

of *KNK College Of Horticulture, Mandsaur*

has successfully completed

One Week Online Faculty Development Programme

on "**Online Teaching & Learning Practices**" held from

24th November to 02nd December, 2020.

Mr. Tanmay Tarun Das
Outreach Incharge
Virtual Labs IIT Delhi

Dr. Manjushri Gupta
Chief Project Coordinator
Virtuality India

Certificate No.493 - PB(IPB&PQ-1)/20-21

सत्यमेव जयते

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT

Rajendranagar, Hyderabad – 500 030 (India)

Department of Agriculture, Cooperation & Farmers Welfare

Ministry of Agriculture & Farmers Welfare

Government of India

राष्ट्रीय पादप स्वास्थ्य प्रबंधन संस्थान
N I P H M

CERTIFICATE

This is to certify that Mr. B. K. Patidar, Assistant Professor, Department of Plant Pathology, College of Horticulture, Mandsaur, Madhya Pradesh has successfully completed 5-days online training on 'Introduction to Plant Biosecurity and Plant Quarantine' organized by National Institute of Plant Health Management, Hyderabad from 14th to 18th December, 2020.

Dr. J. Alice R.P. Sujeetha
Director (Plant Biosecurity)

G. Jayalakshmi I.A.S.
Director General

PBD IPB&PQ 1412 1812 2020 0003

Scanned with OKEN Scanner

Sr. No. FDP2020/RVSKVV/022

CERTIFICATE OF COMPLETION

This is to certify that

Dr. Roshan Gallani

of *College of Horticulture, Mandsaur - RVSKVV, Gwalior*

has successfully completed

One Week Online Faculty Development Programme

on "**Online Teaching & Learning Practices**" held from

23rd to 31st October 2020.

Mr. Tanmay Tarun Das
Outreach Incharge
Virtual Labs IIT Delhi

Dr. Manjushri Gupta
Chief Project Coordinator
Virtuality India

PGS-INDIA GREEN PGS-INDIA ORGANIC

सत्यमेव जयते

भारत सरकार Government of India
कृषि एवं किसान कल्याण मंत्रालय Ministry of Agriculture and Farmers Welfare
कृषि, सहकारिता एवं किसान कल्याण विभाग Department of Agriculture, Co-operation and Farmers Welfare
क्षेत्रीय जैविक खेती केंद्र] जबलपुर Regional Centre of Organic Farming, Jabalpur

E-Certificate
ई-प्रमाण पत्र

प्रमाणित किया जाता है कि डा. नितिन सोनी ने इस कार्यालय द्वारा दिनांक 09-07-2020 से 16-07-2020 तक आयोजित **'जैविक खेती पर सात दिवसीय ऑनलाइन प्रशिक्षण'** में प्रतिभाग किया.

This is to certify that Dr. NITIN SONI attended the **'7 Days online training programme on organic farming'** w.e.f 09-07-2020 to 16-07-2020 organized by this office.

E-Certificate no. 6-27/2020/RCOFJBP - 2020/08
ई प्रमाण पत्र संख्या 6-27/2020/RCOFJBP - 2020/08

University of Horticultural Sciences, Bagalkot
Department of Biotechnology and Crop Improvement
College of Horticulture, Bidar

CERTIFICATE OF
PARTICIPATION

This is to certify that **Dr. B.K.Kachouli,** Scientist, College of Horticulture Mandsaur has actively participated in the 10 Days National Level Online Training Programme on ***"Emerging Trends in Seed Production Technology and Quality Control Framework for Effective Seed Supply Chain of Horticulture Crops"*** organised by the Department of Biotechnology and Crop Improvement, College of Horticulture, Bidar (University of Horticultural Sciences, Bagalkot), Karnataka from 28.12.2020 to 06.01.2021.

Organizing Secretaries
College of Horticulture, Bidar

Dean
College of Horticulture, Bidar

Vice Chancellor
University of Horticultural Sciences, Bagalkot

Digitally coded certificate/BCI-COHB-000142/2020-21

Sr. No. FDP2020/RVSKVV/004

CERTIFICATE OF COMPLETION

This is to certify that

Dr. Manoj Kumar Tripathi

of *KNK College Of Horticulture, Mandsaur*

has successfully completed

One Week Online Faculty Development Programme

on "**Online Teaching & Learning Practices**" held from

24th November to 02nd December, 2020.

Mr. Tanmay Tarun Das
Outreach Incharge
Virtual Labs IIT Delhi

Scanned with OKEN Scanner

DIRECTORATE OF EXTENSION SERVICES

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Gwalior (M.P.)

Certificate

This is to certify that Dr. Rachna Bajpai, Scientist - Horti., COA, Gwalior has participated in the Capacity Building Programme entitled " On Farm Production of Bio-agents" organized by Directorate of Extension Services in collaboration with Department of Plant Pathology, College of Agriculture, Gwalior from Feb 04-05, 2020.

Training Co-ordinator
Department of Plant Pathology

Dean
College of Agriculture, Gwalior

Director Extension Services
RVSKVV, Gwalior

भाकृअनुप
ICAR

नार्म
naarm

NAHEP

National Workshop on
Career Development Centre
(National Agricultural Higher Education Project Component 2)

CERTIFICATE

This is to certify that Dr. S.K. Trivedi, RVSKVV, Gwalio *has participated in the* **National Workshop on Career Development Centre (National Agricultural Higher Education Project Component 2)** *conducted at Indira Gandhi Krishi Vishwavidyalaya, Raipur on 14th February, 2020.*

Dr. S.K. Soam
Joint Director
CPI, NAHEP, NAARM
Hyderabad, Telangana

Dr. (Major) G.K. Shrivastava
Dean Students' Welfare &
Programme Director
IGKV, Raipur

CERTIFICATE

S.K. Trivedi

RVSKVV, Gwalior, India participated in the

International Webinar on

Soil Spectroscopy: An Emerging Technique for Rapid Soil Health Assessment

Jointly organized by

ICAR-Indian Institute of Soil Science, Bhopal & World Agroforestry (ICRAF), Nairobi

on 01 October 2020

Javed Rizvi
Director
South Asia Regional Program
World Agroforestry (ICRAF), New Delhi

Ashok K Patra
Director
ICAR-Indian Institute of Soil Science
Nabibagh, Bhopal

Centre for Advanced Agricultural Science and Technology (CAAST)
for Climate Smart Agriculture and Water Management (CSAWM)
Mahatma Phule Krishi Vidyapeeth, Rahuri
Tal. Rahuri 413 722, Dist. Ahmednagar, Maharashtra
(http://www.mpkv-caast.ac.in/; info.rahuri@mpkv-caast.ac.in)

CERTIFICATE

This is to certify that **Miss. Priyadarshani Arun Khambalkar, Faculty, Department of Soil Science and Agricultural Chemistry, RVSKVV, Gwalior** successfully participated in Three Days Online Training Course on **"Carbon Sequestration in Climate Smart Agriculture"** organized by the Centre for Advanced Agricultural Science and Technology (CAAST) for Climate Smart Agriculture and Water Management (CSAWM), Mahatma Phule Krishi Vidyapeeth, Rahuri (Maharashtra State) under the National Agricultural Higher Education Project (NAHEP) of Indian Council of Agricultural Research (ICAR), New Delhi during **11 -13 May, 2020.**

(B. D. Bhakare)
Organizing Secretary &
Member
CAAST-CSAWM, MPKV, Rahuri

(S. D. Gorantiwar)
Convener &
Principal Investigator
CAAST-CSAWM, MPKV, Rahuri

(A. L. Pharande)
Dean &
Director of Instruction
MPKV, Rahuri

This is digital certificate copy, No.MPKV/CAAST-CSAWM/eTraining/CS/0610/2020
https://qrgo.page.link/fxBve

Institute of Environment & Sustainable Development, BHU

काशी हिन्दू विश्वविद्यालय

BANARAS HINDU UNIVERSITY

AN INSTITUTION OF NATIONAL IMPORTANCE ESTABLISHED BY AN ACT OF PARLIAMENT

Department of Physics IIT (BHU)

2nd National Workshop

on

Techniques in Hyperspectral Data Analysis and Processing

27th – 31st January, 2020

CERTIFICATE OF PARTICIPATION

This certificate is presented to Prof./Dr./Ms./Mr. JAYA PRAJAPATI for participating in the 2nd National Workshop on **Techniques in Hyperspectral Data Analysis and Processing** held between 27th – 31st January, 2020 at Environment and Sustainable Development, jointly organized by Institute of Environment and Sustainable Development and Indian Institute of Technology, Banaras Hindu University, Varanasi.

Organizing Secretary
Dr. Prashant K. Srivastava,
IESD, BHU, Varanasi

Convener
Prof. R.K. Mall,
IESD, BHU, Varanasi

Organizing Secretary
Prof. Rajendra Prasad,
Department of Physics,
IIT-BHU, Varanasi

Institute of Environment & Sustainable Development, BHU

काशी हिन्दू विश्वविद्यालय

BANARAS HINDU UNIVERSITY

AN INSTITUTION OF NATIONAL IMPORTANCE ESTABLISHED BY AN ACT OF PARLIAMENT

Department of Physics IIT (BHU)

2nd National Workshop

on

Techniques in Hyperspectral Data Analysis and Processing

27th – 31st January, 2020

CERTIFICATE OF PARTICIPATION

This certificate is presented to Prof./Dr./Ms./Mr. JAYA PRAJAPATI for participating in the 2nd National Workshop on **Techniques in Hyperspectral Data Analysis and Processing** held between 27th – 31st January, 2020 at Environment and Sustainable Development, jointly organized by Institute of Environment and Sustainable Development and Indian Institute of Technology, Banaras Hindu University, Varanasi.

Organizing Secretary
Dr. Prashant K. Srivastava,
IESD, BHU, Varanasi

Convener
Prof. R.K. Mall,
IESD, BHU, Varanasi

Organizing Secretary
Prof. Rajendra Prasad,
Department of Physics,
IIT-BHU, Varanasi

Certificate No.496 - PB(IPB&PQ-1)/20-21

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT
Rajendranagar, Hyderabad – 500 030 (India)
Department of Agriculture, Cooperation & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

N I P H M

CERTIFICATE

This is to certify that **Dr. R. K. Pandya, Principal Scientist, Department of Plant Pathology, College of Agriculture, RVSKVV, Gwalior, Madhya Pradesh** has successfully completed 5-days online training on **'Introduction to Plant Biosecurity and Plant Quarantine'** organized by National Institute of Plant Health Management, Hyderabad from **14th to 18th December, 2020.**

Dr. J. Alice R.P. Sujeetha
Director (Plant Biosecurity)

G. Jayalakshmi I.A.S.
Director General

PBD (PB&PQ) 1412 1812 2020 0005

WPTANQ-CE000388

DIRECTORATE OF RESEARCH

S.K. RAJASTHAN AGRICULTURAL UNIVERSITY, BIKANER -334005(RAJASTHAN)

e - Certificate

This is to certify that Dr. S. S. KUSHWAH Designation Assistant Professor Of College of Horticulture, Mandsaur Institution / College has successfully participated in National Webinar on Technological advances in Crop Production during COVID-19 organized by Directorate of Research, SKRAU, Bikaner, Rajasthan on dated 16.06.2020.

Dr. R.S. Rathore
Assoc. Professor
&
Organizing Secretary

Dr. P.S. Shekhawat
Director Research
&
Convener

Prof. R.P. Singh
Vice Chancellor
SKRAU, Bikaner
& Patron

Sl. No 442

CERTIFICATE OF PARTICIPATION

This is to certify that **Dr. S S Kushwah, Assistant Professor, RVSKVV, Gwalior,** Participated in webinar on *"Changing Scenario of Vegetable Production & Marketing in Pandemic Period"* held on July 28, 2020 (Tuesday) Organized by *College of Horticulture, Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut 250110, (UP)*

Dr. Bijendra Singh
(Organizing Chairman)

Dr. Vipin Kumar
(Organizing Secretary)

NO.IARI/PGS-II/GENETICS/2020-2021 (Gen.)/128

भाकृअनुप
ICAR

ICAR-Indian Agricultural Research Institute, New Delhi

NAHEP-CAAST funded Genomics Assisted Crop Improvement and Management

NAHEP-CAAST

Certificate of Participation

This is to certify that Dr. S. S. Kushwah, Faculty in the Division/Department of Vegetable Science, RVSKVV, Gwalior, Madhya Pradesh participated in the webinar organized by NAHEP (ICAR)-CAAST, IARI on "Future Perspectives in Agricultural Education" delivered by Dr. Trilochan Mohapatra, Secretary, DARE & Director General, ICAR, New Delhi on 5 September 2020

Dr. C. Viswanathan
Principal Investigator

Dr. Rashmi Aggarwal
Dean and Joint Director (Edn.)

ICAR – Indian Institute of Seed Science, Mau (U.P.), India

Certificate

This is to certify that

Dr. Satendra Singh Kushwah

Successfully participated in the national webinar on 'Contemplative Perspectives on Seed: Conservation, Quality Assurance and Supply Systems' organized by ICAR-Indian Institute of Seed Science, Mau on 10th September, 2020

Dr. Arvind Nath Singh
Organizing Secretary &
Director, ICAR-IISS, Mau

ICAR-National Institute of Abiotic Stress Management (NIASM)

Baramati, Pune, Maharashtra 413115, India

Webinar on

Translating Physiology into Techniques for Abiotic Stress Tolerance

Certificate

This certificate is presented to

Satendra Singh Kushwah

for participating in the Webinar organized by **ICAR-National Institute of Abiotic Stress Management, Baramati; Society for Agricultural Research on Abiotic Stress (SARAS) & Indian Society for Plant Physiology (ISPP), New Delhi (India)** on October 09, 2020.

Gen. Secretary, SARAS	Hon. Secretary, ISPP	Director, ICAR-NIASM





ICAR-Central Tuber Crops Research Institute

Sreekariyam P.O., Thiruvananthapuram 695 017, Kerala, India

Website : www.ctcri.org

International Webinar : HPTTC 2020

Harnessing the Potential of Tropical Tuber Crops under Changing Climate

Certificate

This is to certify that Ms./Mrs./Mr./Dr. S. S. KUSHWAH ..... has participated in the one day International Webinar: Harnessing the Potential of Tropical Tuber Crops under Changing Climate (HPTTC 2020) on 27 October 2020 through online platform.

Dr. Sanket J. More	**Dr. D. Jaganathan**	**Dr. G. Byju**	**Dr. V. Ravi**
Organizing Secretary	Convener	Convener	Chairman
ICAR-CTCRI	ICAR-CTCRI	ICAR-CTCRI	ICAR-CTCRI

KERALA AGRICULTURAL UNIVERSITY

DIRECTORATE OF EXTENSION

CENTRAL TRAINING INSTITUTE

Mannuthy, Thrissur 680 651
Kerala, India

418

e-Certificate

This is to certify that

Dr. S. S. Kushwah

has attended the

National level webinar on "Challenges and opportunities of vegetable production in warm humid tropics"

Organised by

Department of Vegetable Science, College of Horticulture, Kerala Agricultural University & Indian Society of Vegetable Science

held from

11.11.2020 to 13.11.2020

Organising Secretary
(Dr. Pradeepkumar T.)

President ISVS
(Dr. K. V. Peter)

Director of Extension
(Dr. Jiju P. Alex)

ICAR-National Institute of Abiotic Stress Management

Baramati, Pune, Maharashtra 413115, India

Webinar on

Genomics Strategies for Improvement of Abiotic Stress Tolerance in Crop Plants

Certificate

This certificate is presented to

Satendra Singh Kushwah

for participating in the webinar on **Genomics Strategies for Improvement of Abiotic Stress Tolerance in Crop Plants** organized by **ICAR-National Institute of Abiotic Stress Management, Baramati** on November 27, 2020.

Convener

Director, ICAR-NIASM

Entrepreneurship Cell
IIT Kharagpur

LTI
presents

GLOBAL ENTREPRENEURSHIP SUMMIT 2021
Festival of Fortitude

Co-sponsored by
WESTBRIDGE

brought to you by
Insight Out

CERTIFICATE

OF PARTICIPATION

This is to certify that Mr./Ms. **AKHILESH SINGH**

of _____ *participated in Global Entrepreneurship Summit 2021 organised by Entrepreneurship Cell, IIT Kharagpur conducted from 25th to 28th of February 2021.*

Prof. P. K Dan
Chairman, E-Cell
IIT Kharagpur

The GASS National Research Video Webinar on

What, Why and How of Research

Saturday, May 16, 2020

Organized and Conducted by

The Global Association of Social Sciences[1]

The International Research Journal of Social Sciences and Humanities[2]

In Technical Collaboration with

Department of Post Graduate Studies and Research in Sociology and Social Work,

Government College, Anjad, District Barwani, Madhya Pradesh

(Devi Ahilya University, Indore, Madhya Pradesh)

Re Accredited by NAAC as Grade "B"

Selected under MHRD, GoI, RUSA 2.0, Component 6 for Up gradation to a New Model Degree College

This is to certify that

DR. AKHILESH SINGH

has attended and presented

his/her paper entitled

MONITORING OF RURAL INFRASTRUCTURE DEVELOPMENT USING GEOSPATIAL TECHNOLOGY

Dr Sunil Goyal
Director – National Research Webinar
Editor - in - Chief (Hon.)
Professor and Head

Dr Sunil More
Principal and Patron

1. Government Registration No. 03 / 27 / 03 / 15269 /12, Registered India Office - Sector FH - 369, Vijay Nagar, Scheme No. 54, Behind Shekhar Residency, Indore , Madhya Pradesh, PIN 452 010, India.
Visit us at www.thegass.org.in E mail webinargass@gmail.com Mob. + 91 93405 38466 (Calling), 94253 82228 (WhatsApp).

2. An Official International Double Blind Peer Reviewed Referred Recognized Indexed Impact Factor Open Access Monthly Scientific Research Journal of The Global Association of Social Sciences, ISSN 2320 – 4702, Included in UGC Approved List of Journals, Journal No. 64811, Indexed in SJIF and Directory of Research Journals Indexing, DRJI, Journal ID : 586, Scientific Journal Impact Factor Value for 2020 is 7.18, visit at http://sjifactor.com/

3. This is a system generated E Certificate bearing Identification Number : 5/9/2020 7:18:20

Centre for Advanced Agricultural Science and Technology (CAAST) for Climate Smart Agriculture and Water Management (CSAWM)
Mahatma Phule Krishi Vidyapeeth, Rahuri
Tal. Rahuri 413 722, Dist. Ahmednagar, Maharashtra (INDIA) http://www.mpkv-caast.ac.in/
Email: info.rahuri@mpkv-caast.ac.in

Certificate no.: GCD8CW-CE000040

CERTIFICATE

This is to certify that Dr. Akhilesh Singh, Scientist (Agril. Engg.) Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior successfully participated in International Webinar on "**Climate Smart Agriculture"** (Climate Resilient Crops for Food and Nutritional Security) as a part of International Webinar Series organized by the Centre for Advanced Agricultural Science and Technology (CAAST) for Climate Smart Agriculture and Water Management (CSAWM), Mahatma Phule Krishi Vidyapeeth, Rahuri (Maharashtra State) under the National Agricultural Higher Education Project (NAHEP) of the Indian Council of Agricultural Research (ICAR), New Delhi on **July 22, 2020.**

(P.L Kulwal)
Professor, Department of Agril. Botany, SLBTC, MPKV, Rahuri

(S. D. Gorantiwar)
Convener & Principal Investigator, CAAST-CSAWM, MPKV, Rahuri

(A. L. Pharande)
Dean (F/A) & Director of Instruction, MPKV, Rahuri

Centre for Advanced Agricultural Science and Technology for
Climate Smart Agriculture and Water Management (CAAST-CSAWM)

Mahatma Phule Krishi Vidyapeeth Rahuri

413 722, Ahmadnagar, Maharashtra www.mpkv-caast.ac.in

Certificate

This is to certify that, **Dr. Akhilesh Singh, Scientist, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya,Gwalior** has successfully completed four days online webinar series on **"Soil Dynamics for Smart Machineries"** jointly organized by Society of Automotive Engineers India (SAEI) and the Centre for Advanced Agricultural Science and Technology for Climate Smart Agriculture and Water Management (CAAST-CSAWM), Mahatma Phule Krishi Vidyapeeth, Rahuri (Maharashtra State) under National Agricultural Higher Education Project (NAHEP), Indian Council of Agricultural Research (ICAR), New Delhi held during 18-21 May, 2020.

(Nilesh D Pathak)
Chairman,
SAE Off Highway Forum
SAE India

(M. G. Shinde)
Organizing Secretary &
Co-PI (CAAST-CSAWM),
MPKV Rahuri

(S. D. Gorantiwar)
PI (CAAST-CSAWM) &
Head (Agril. Engg.),
MPKV Rahuri

(A. L. Pharande)
Dean (F/A) &
Director of Instruction
MPKV Rahuri

This is digital certificate copy, for authenticity visit: ttps://qrgo.page.link/wY92j

National Agricultural Higher Education Project

CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVS

VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH
PARBHANI 431 402 (M.S.) INDIA

Certificate

This is to certify that, **Dr. Akhilesh Singh, Faculty, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior** has successfully completed one day National training programme on **"Power of Digital Manufacturing (3D Printing) for New Product Development"** organized by Center for Advanced Agricultural Science and Technology-Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGV's (CAAST-DFSRDA), **Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani (MS)** under National Agricultural Higher Education Project (NAHEP), Sponsored by Indian Council of Agricultural Research (ICAR), New Delhi and World Bank held on **25th June, 2020.**

NAHEP/CAAST/DFSRDA/SPM/056

Dr. VISHAL K. INGLE
Organizing Secretary
NAHEP, VNMKV, Parbhani

Er. S. N. PAWAR
Co-Convenor & Co-PI (SPM)
NAHEP, VNMKV, Parbhani

Dr. G. U. SHINDE
PI & Convenor
NAHEP, VNMKV, Parbhani

Dr. D. N. GOKHALE
DI & Dean (F/A)
VNMKV, Parbhani

Centre for Advanced Agricultural Science and Technology for
Climate Smart Agriculture and Water Management (CAAST-CSAWM)

Mahatma Phule Krishi Vidyapeeth Rahuri

413 722, Ahmadnagar, Maharashtra www.mpkv-caast.ac.in

Certificate

This is to certify that, Dr. Akhilesh Singh, Scientist (Agril. Engg.), Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya Gwalior (M.P) has successfully completed One Week Online Training Course on **"Smart Handling and Processing Systems of Horticultural Produce"** organized by the Centre for Advanced Agricultural Science and Technology for Climate Smart Agriculture and Water Management (CAAST-CSAWM), Mahatma Phule Krishi Vidyapeeth, Rahuri (Maharashtra State) under National Agricultural Higher Education Project (NAHEP), Indian Council of Agricultural Research (ICAR), New Delhi held during 09-14 May, 2020.

(V.P. Kad)
Organizing Secretary &
Member (CAAST-CSAWM),
MPKV Rahuri

(S.D. Gorantiwar)
PI (CAAST-CSAWM) &
Head (Agril. Engg.),
MPKV Rahuri

(A.L. Pharande)
Dean (F/A) &
Director of Instruction
MPKV Rahuri

This is digital certificate copy, for authenticity visit: https://qrgo.page.link/Xx4ih

Centre for Advanced Agricultural Science and Technology for
Climate Smart Agriculture and Water Management (CAAST-CSAWM)

Mahatma Phule Krishi Vidyapeeth Rahuri

413 722, Ahmadnagar, Maharashtra www.mpkv-caast.ac.in

Certificate

This is to certify that, **Mr. Akhilesh . Singh, Scientist (Agril. Engg.), RVSKVV, Gwalior** has successfully completed one week online training on **"Fundamentals of Robotics for Precision Agriculture"** organized by the Centre for Advanced Agricultural Science and Technology for Climate Smart Agriculture and Water Management (CAAST-CSAWM), Mahatma Phule Krishi Vidyapeeth, Rahuri (Maharashtra State) under National Agricultural Higher Education Project (NAHEP), Indian Council of Agricultural Research (ICAR), New Delhi held during 26-31 May, 2020.

(S. M. Nalawade)
Organizing Secretary &
Member, CAAST-CSAWM,
MPKV, Rahuri

(S. D. Gorantiwar)
Convener &
Principal Investigator
CAAST-CSAWM, MPKV, Rahuri

(A. L. Pharande)
Dean &
Director of Instruction
MPKV, Rahuri

This is digital certificate copy, for authenticity visit: https://qrgo.page.link/nSFtp

Centre for Advanced Agricultural Science and Technology for
Climate Smart Agriculture and Water Management (CAAST-CSAWM)

Mahatma Phule Krishi Vidyapeeth Rahuri

413 722, Ahmadnagar, Maharashtra www.mpkv-caast.ac.in

Certificate

This is to certify that, Dr. AKHILESH SINGH, Scientist, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior has successfully completed One Week Online Training Programme on **"Advanced Agrometeorological Techniques for Climate Smart Agriculture"** organized by the Centre for Advanced Agricultural Science and Technology for Climate Smart Agriculture and Water Management (CAAST-CSAWM), Mahatma Phule Krishi Vidyapeeth, Rahuri (Maharashtra State) under National Agricultural Higher Education Project (NAHEP), Indian Council of Agricultural Research (ICAR), New Delhi held during 29 June - 03 July, 2020.

(J.D. Jadhav)
Joint Organizing Secretary &
Member (CAAST-CSAWM),
MPKV Rahuri

(R.P. Andhale)
Organizing Secretary &
Member (CAAST-CSAWM),
MPKV Rahuri

(S.D. Gorantiwar)
PI (CAAST-CSAWM) &
Head (Agril. Engg.),
MPKV Rahuri

(A.L. Pharande)
Dean (F/A) &
Director of Instruction
MPKV Rahuri

This is digital certificate copy, for authenticity visit: https://qrgo.page.link/xVFqn

BAU Webinar Series: 32/2020/MBAC- 0824

TWO DAYS INTERNATIONAL WEB CONFERENCE ON

"Soil Health Management for Sustainable Crop Productivity"

DEPARTMENT OF SOIL SCIENCE & AGRICULTURAL CHEMISTRY

Mandan Bharti Agriculture College, Agwanpur (Saharsa)

(Bihar Agricultural University, Sabour, Bhagalpur, Bihar, India)

Certificate of Participation

This is to certify that

Dr. Akhilesh Singh

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior

(Madhya Pradesh)

has participated in International Web Conference on *"Soil Health Management for Sustainable Crop Productivity"* organized by **Mandan Bharti Agriculture College, Agwanpur, Saharsa, Bihar, India** from *07th to 08th September 2020.*

(Ashutosh Singh)	(Amit K. Pandey)	(Umesh Singh)	(Ajoy K. Singh)
Chief Organizing Secretary	Organizing Secretary	Convener	Vice-Chancellor

Indian Society of Agrophysics

Division of Agricultural Physics
ICAR-Indian Agricultural Research Institute
New Delhi

Certificate of Participation

This is to certify that Dr. Akhilesh Singh *of* RVSKVV, Gwalior *participated in one day webinar on "Drone Remote Sensing in Agriculture" on September 09, 2020 organized by Indian Society of Agrophysics in association with Division of Agricultural Physics, ICAR - Indian Agricultural Research Institute, New Delhi.*

Rabi N. Sahoo	**P. Krishnan**	**S. K. Chaudhari**
Course Director	**Head of the Division**	**President, ISAP**

www.aisectcollegeindore.com

COMP-FEEDERS AISECT COLLEGE OF PROFESSIONAL STUDIES
(AFFILIATED TO DAVV INDORE)

DEPARTMENT OF SCIENCE

IN ASSOCIATION WITH
PG TECH RESEARCH INSTITUTION (PGTRI), Indore.

ONLINE SEMINAR ON **FOOD ADULTERATION**
Friday, 15th May 2020

e-CERTIFICATE

This is to certify that

Dr. Akhilesh Singh

has actively participated in the Online Seminar on
"FOOD ADULTERATION"
conducted by Department of Science, Comp-Feeders Aisect College
of Professional Studies, CAT-Rau Road, Indore
in collaboration with PG Tech Research Institution, Indore.

Dr. Priya Trivedi
Convenor

Prof. Pushpraj Mishra
CEO

A small [illegible] an important step to **FIGHT AGAINST COVID -19.**

College of Agriculture, Balaghat

Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur

JNKVV/CoAB/FDP/2020/129

FACULTY DEVELOPMENT PROGRAMME (ONLINE SHORT TERM)

"Teaching Tools to Knockdown the Lockdown"

Certificate

This is to certify that Ms/Mr/Dr. Dr. Neelesh Raypuriya of College of Agriculture, Jabalpur, has participated in Five Days Faculty Development Programme (Online Short Term) on **"Teaching Tools to Knockdown the Lockdown"** organized by College of Agriculture, Balaghat, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur during May 16th-20th, 2020.

A.S. Lodhi	Vivek Badhe	G. K. Koutu	Dhirendra Khare
Co-Coordinator	Coordinator	Dean	Dean, Faculty of Agriculture

Certificate No.028 - PHM(FDMPPN-1)/23-24

सत्यमेव जयते

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT

Rajendranagar, Hyderabad - 500 030 (India)
Department of Agriculture & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

राव स्वाप्रसं
NIPHM

CERTIFICATE

This is to certify that **Dr. Rakesh Kumar Singh, Scientist (SG), RVSKVV, College of Agriculture, Indore, Madhya Pradesh** has successfully completed 5-days training on **'Field Diagnosis and Management of Plant Parasitic Nematodes'** conducted at National Institute of Plant Health Management, Hyderabad from **08th to 12th May, 2023.**

Dr. O.P. Sharma
Director(PHM) I/c

Dr. Sagar Hanuman Singh
Director General

PHM FDMPPN 0805 1205 2023 0009

Scanned with OKEN S

Certificate No.MNG/CBAI/2019-20/78/4

CERTIFICATE

This is to certify that **Mr. Narendra Kumawat** has successfully completed 05-days off-campus Collaborative Training Programme on **"Advances in Utilization of Renewable Energy & Waste Management for Mitigating Climate Change"** sponsored by MANAGE, Hyderabad and organized by Directorate of Extension Education, Maharana Pratap University of Agriculture and Technology, Udaipur during 02 to 06 December, 2019.

(Dr. Latika Vyas)	**(Dr. S. L. Mundra)**	**(G. Jayalakshmi, IAS)**
Professor (Extn. Edu)	**Director (Extn. Edu)**	**Director General**

5

Certificate No.MNG/CBAI/2019-20/78/5

CERTIFICATE

This is to certify that **Mr. M.L. Jadav** has successfully completed 05-days off-campus Collaborative Training Programme on **"Advances in Utilization of Renewable Energy & Waste Management for Mitigating Climate Change"** sponsored by MANAGE, Hyderabad and organized by Directorate of Extension Education, Maharana Pratap University of Agriculture and Technology, Udaipur during 02 to 06 December, 2019.

(Dr. Latika Vyas)	**(Dr. S. L. Mundra)**	**(G. Jayalakshmi, IAS)**
Professor (Extn. Edu)	**Director (Extn. Edu)**	**Director General**

Govt. of India

(Ministry of Agriculture)

10270

Extension Education Institute

(Western Region)

Anand Agricultural University Campus

Anand - 388 110 (Gujarat)

This is to certify that

Dr. Dharmendra Kumar Vani

Participated in the training / workshop on

Application of Remote Sensing and Geographic Information Systems(GIS) in Agricultural Development (5 Days)

from *05.08.2019 to 09.08.2019 at EEI, AAU, Anand (Gujarat)*

Date : 09-08-2019

Extension Education Institute * Govt. of India * Anand

(B.D. Patel)
Course Director

(Arun Patel)
Director

सत्यमेव जयते
Department of Science and Technology
Ministry of Science and Technology
Government of India

LBSNAA
Lal Bahadur Shastri National Academy of Administration

Centre for Disaster Management

Lal Bahadur Shastri National Academy of Administration, Mussoorie

Certificate

This to certify that

Dr. D.K. Vani

has successfully completed the Training Programme on
"**Role of Technology in Community Level Disaster Mitigation for Scientists & Technologists**"
conducted at Centre for Disaster Management, LBSNAA, Mussoorie from 4-8 November, 2019
organized in collaboration with Department of Science & Technology, Ministry of Science & Technology, Government of India.

C. Sridhar, IAS
Director, CDM

Govt. of India

(Ministry of Agriculture)

10251

Extension Education Institute

(Western Region)

Anand Agricultural University Campus

Anand - 388 110 (Gujarat)

This is to certify that

Roshan Gallani

Participated in the training / workshop on

Application of Remote Sensing and Geographic Information Systems(GIS) in Agricultural Development (5 Days)

05.08.2019 to 09.08.2019 at EEI, AAU, Anand (Gujarat)

09-08-2019

(B.D. Patel)
Director

(Arun Patel)
Director

सत्यमेव जयते

AMITY UNIVERSITY

UTTAR PRADESH

Amity Institute of Training & Development

National Program For Training of Scientists and Technologists
working in Government Sector

Sponsored by

Government of India

Ministry of Science and Technology

Department of Science and Technology

This certificate of participation is awarded to

Dr Roopesh Chaturvedi

on successful completion of training program

"Capacity Building Program for Technical Personnel"

from 20th to 31st January, 2020

Dr. Nitin Batra
Head of Institute

Dr. Rammanohar Lohia Avadh University
Ayodhya - 224001

National Workshop
on
"Molecular Analysis and Its Application"
03 – 09 September, 2019

Certificate of Participation

This is to certify that Dr./Ms./Mr. Jaya Prajapati
from B.H.U., Varanasi *has participated in the National Workshop on* ***"Molecular Analysis and Its Application"*** *from 03-09* ***September, 2019*** *at* ***Department of Microbiology, Dr. Rammanohar Lohia Avadh University,*** *Ayodhya jointly organized by* ***CytoGene Research & Development, Lucknow.***

Chief Patron	*Convenor*	***Organizing Secretary***	***Er. Sujeet Kumar Singh***
Prof. Manoj Dixit	***Prof. Rajeeva Gaur***	***Dr. Tuhina Verma***	*Director*
Hon'ble Vice Chancellor	*Department of Microbiology*	*Department of Microbiology,*	*CytoGene Research*
Dr RML Avadh University, Ayodhya	*Dr RML Avadh University, Ayodhya*	*Dr RML Avadh University, Ayodhya*	*& Development, Lucknow*

National Conference on

Resilience And Resource Management Including ICT For Sustainable Agriculture & Biotechnology

February 23-24, 2019

Certificate

This is to certify that Prof./Dr./Mr./Ms.. Smt. Shashi S. Yadav.
of RVSKVV, College of Agriculture, Gwalior, M.P. has acted as "Lead Speaker" on topic entitled Black cotton Soils - Constraints & Management. in this National Conference held at J. P. Sabhagar, Khandari Campus, Dr. B. R. Ambedkar University, Agra.

Dr. Atul Tiwari
Organizing Secretary
NCRRMISAB

Dr. Manish Kumar
Secretary
AELS

Organised By

Dr. M.P.S. GROUP OF INSTITUTIONS, AGRA

"College with Excellence Accredited B by NAAC"

www.mpsgroup.org.in

In Association With

Academy For Environment & Life Sciences

भाकृअनुप - राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत

ICAR-National Academy of Agricultural Research Management

(ISO 9001:2015 Certified)

Rajendranagar, Hyderabad-500030, Telangana, India

https://naarm.org.in

NAHEP

21020001701B2

Certificate

This is to certify that

Akhilesh Singh

has successfully completed the
Training of Trainers (ToT) Workshop on
Development of Soft Skills for
Entrepreneurship among Agri Graduates
(Sponsored Under NAHEP Component 2A)
Organized at ICAR-NAARM, Hyderabad
during 17-18 September, 2019.

(S. K. Soam)
CPI, NAHEP Component 2A

(Ch. Srinivasu Rao)
Director

OFFICE OF THE REGISTRAR
RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
GWALIOR - 474002 (M.P.)

D.L. Kori
Registrar

Ph- : 0751-2970519 (O) 0751-2970522 (Fax)
E-mail- registrar.rvskvv09@gmail.com

No./Reg./Estt./2019/ 2170 Dated: 03.08.19

//ORDER//

On the approval of competent authority Dr. Akhilesh Singh, Technical Officer to Dean Faculty of Agriculture,RVSKVV,Gwalior is hereby permitted to attend the free session on **"Exploring Opportunities to Study in the U.S. and Applying for a Student Visa"** being organized by U.S. Consulate General, Mumbai on 09-08-2019 at U.S. Consulate General,Bandra,Mumbai. He is also permitted to perform his to and fro journry from New Delhi to Mumbai by air due to non availability of seat in trains.

By order of the Hon'ble Vice Chancellor

REGISTRAR

Ednt. No./Reg./Estt./2019/ 2171 Dated: 03.08.19

Copy forwarded for information and necessary action to:-

1. Dean Faculty of Agriculture,RVSKVV,Gwalior.
2. Person concerned Dr. Akhilesh Singh, T.O. to Dean Faculty of Agriculture,RVSKVV,Gwalior .
3. Deputy Registrar (Estt.), RVSKVV, Gwalior.
4. PS to Hon'ble Vice Chancellor, RVSKVV, Gwalior.

REGISTRAR

कार्यालय अधिष्ठाता कृषि ग्वालियर
आवक क्र. 608
दिनांक 6/8/19
म.वि.वि.कृ.वि.वि.

Certificate No:176- PHE(RS&GISPHM-2)/2019-20

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT

Rajendranagar, Hyderabad – 500 030 (India)
Department of Agriculture, Cooperation & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

एन आई पी एच एम
NIPHM

CERTIFICATE

This is to certify that **Dr. Akhilesh Singh, Scientist (Agril. Engg.), RVSKVV, Gwalior, Madhya Pradesh** has successfully completed 5-days Training on **'Remote Sensing & Geographical Information System in Plant Health Management'** organized at National Institute of Plant Health Management, Hyderabad from 03rd to 07th December, 2019.

Dr. Vidhu Kampurath P
Joint Director (Plant Health Engineering)

G. Jayalakshmi, I.A.S.
Director General

PHE RS&GISPHM 0312 0712 2019 0001

Encl - 24

Indian Institute Of Management Calcutta

This is to certify that

Dr. Akhilesh Singh

participated in the

Management Development Programme

on

Project Management

held during

January 13 - 17, 2020

at

Management Development Centre, IIM Calcutta

(Prof. Subrata Mitra)
Programme Director

(Prof. Leena Chatterjee)
Chairperson-CMDP

INTERNATIONAL CONFERENCE ON BLENDED LEARNING ECOSYSTEM FOR HIGHER EDUCATION IN AGRICULTURE

21 – 23 March 2023
New Delhi, India

Certificate of Participation

This is to certify that

Dr. Shashi Yadav

participated as a 'Delegate' in the International Conference on Blended Learning Ecosystem for Higher Education in Agriculture
held during 21 -23 March 2023 at New Delhi, India.

Rajender Parsad	*Sudeep Marwaha*	*Anuradha Agrawal*	*R. C. Agrawal*
Conference Co-Chair	*Organising Secretary*	*Organising Secretary*	*Conference Chair*

mp cdma

Certificate

This certificate is presented to

DR. P. D. SINGH

On successful completion of two days

"Faculty Development Programme on Climate Change"

from 26/2/19 to 27/2/19

jointly organized by Madhya Pradesh Clean Development Mechanism Agency &
State Knowledge Management Centre on Climate Change,
Environmental Planning and Coordination Organization (EPCO),
Department of Environment, Government of Madhya Pradesh.

Lokendra Thakkar
General Manager, MP CDM Agency &
Coordinator, SKMCCC

Jitendra Singh Raje
Chief Executive Officer, MP CDM Agency &
Executive Director, EPCO

mp cdma

Certificate

This certificate is presented to

DR. JANMEJAY SHARMA

On successful completion of two days

"Faculty Development Programme on Climate Change"

from ~~26~~/2/19...to ~~27~~/2/19

jointly organized by Madhya Pradesh Clean Development Mechanism Agency &
State Knowledge Management Centre on Climate Change.
Environmental Planning and Coordination Organization (EPCO).
Department of Environment, Government of Madhya Pradesh.

Lokendra Thakkar
General Manager, MP CDM Agency &
Coordinator, SKMCCC

Jitendra Singh Raje
Chief Executive Officer, MP CDM Agency &
Executive Director, EPCO

Jawaharlal Nehru Krishi Vishwa Vidyalaya
College of Agriculture, Powarkheda
Hoshangabad (M.P.)

COA/PKD/OT/2020/364

CERTIFICATE

This is to certify that Ms/Mr/Dr. **Nisa Singh, Assistant Professor, Agronomy, JNKVV - College of Agriculture, Powarkheda** has participated in three days Online Training on ***"Research Support Tools: Effective e-Learning with Smart Tools & Techniques"*** organized by College of Agriculture, Powarkheda, Hoshangabad, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur during **May 28th-30th, 2020.**

(A. Chatterjee)
Co-coordinator

(Arun K Choudhary)
Coordinator

(P.C. Mishra)
Dean

(Dhirendra Khare)
Dean Faculty of Agriculture

भारत सरकार
अंतरिक्ष विभाग
भारतीय अंतरिक्ष अनुसंधान संगठन
भारतीय सुदूर संवेदन संस्थान, देहरादून

GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
INDIAN SPACE RESEARCH ORGANISATION
INDIAN INSTITUTE OF REMOTE SENSING, DEHRADUN

नामांकन सं. / Enrolments No.202090110111198

CERTIFICATE OF PARTICIPATION IN ONLINE COURSE

यह प्रमाणित किया जाता है कि डॉ॰ एकता जोशी को यह प्रमाण पत्र " सुदूर संवेदन प्रौद्योगिकी के मूल सिद्धांत " में ऑनलाइन पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है। इस पाठ्यक्रम का आयोजन भारतीय सुदूर संवेदन संस्थान (आईआईआरएस) इसरो देहरादून द्वारा **13 अप्रैल, 2020 से 25 अप्रैल, 2020** के दौरान किया गया ।

This is to certify that DR. EKTA JOSHI has been awarded this certificate on having participated in the online course on "Basic Principles of Remote Sensing Technology" which was conducted by Indian Institute of Remote Sensing (IIRS),ISRO Dehradun, during **13-04-2020 to 25-04-2020** .

Date: 18-06-2020
Place: Dehradun

निदेशक/ Director
आई०आई०आर०एस, देहरादून/ IIRS, Dehrad

UID- b349cc1177579f6061836697O5b1eb5b .This Certificate can be validated using URL- https://certificate.iirs.gov.in

भाकृअनुप - खरपतवार अनुसंधान निदेशालय
ICAR - Directorate of Weed Research
जबलपुर – 482004 (मध्यप्रदेश)
Jabalpur – 482004 (Madhya Pradesh)
ISO 9001 : 2015 Certified

e-Certificate of Participation

This certificate is presented to **Nisha Singh**
From **RVSKVV, Gwalior**
for participation in an online training programme on **"Mechanized weed management in different field crops"** organized by ICAR-Directorate of Weed Research, Jabalpur, Madhya Pradesh during 01-03 November, 2021.

(Chethan C.R.)
Programme Director

(J.S. Mishra)
Director, ICAR-DWR

Date: 01-03 November, 2021

Certificate No.458–PHM(PPMB-2)/2019-20

NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT
Rajendranagar, Hyderabad – 500 030 (India)
Department of Agriculture, Cooperation & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India

राष्ट्रीय पादप स्वास्थ्य प्रबंधन संस्थान
N I P H M

CERTIFICATE

This is to certify that **Dr. Rakesh Kumar Singh, Assistant Professor (Plant Pathology), RVSKVV, College of Agriculture, Indore, Madhya Pradesh** has successfully completed 5-days training programme on **'Production Protocol for Microbial Biopesticides'** conducted at National Institute of Plant Health Management, Hyderabad from 27th to 31st January, 2020.

Dr. J. Alice R.P. Sujeetha
Director PHM

G. Jayalakshmi, I.A.S.
Director General

PHM PPMB 2701 3101 2020 0001

C. No : AEDS/OCAEBGD/208/2022

7th International Conference
On
Opportunities and Challenges in Agriculture, Environmental & Biosciences for Global Development
(OCAEBGD-2022)
(October 29-31, 2022)

Organized by

Don Bosco College of Agriculture, Sulcorna, Quepem
Goa Affiliated to Goa University, Goa

AEDS
Agro Environmental Development Society (AEDS)
Majhra Ghat, Rampur, U.P, India

College of Horticulture and Forestry
Central Agricultural University Pasighat
Arunachal Pradesh

School of Environment and Sustainable
Development, Central University of Gujarat
Gandhinagar, India

Certificate for Participation

This is to certify that Prof./Dr./~~Er.~~/~~Mr.~~/~~Mrs.~~/~~Ms.~~ NEERAJ HADA, Scientist (Agronomy)

From Directorate of Extension Services, RVSKVV, Gwalior ..... has Participated in the 7th International Conference on **"Opportunities and Challenges in Agriculture, Environmental & Biosciences for Global Development (OCAEBGD-2022)"** Held on October 29-31, 2022 at Conference Hall, St. Joseph Vaz Spiritual Renewal Centre Cruz Dos Milagres, Old Goa, Goa.

Dr. Suresh Kunklikar	Dr. Chhatarpal Singh	Dr. Gourish Karanjalker	Md. Nadeem Akhtar
Organizing Chairman	Organizing Secretary	Convener	Executive Coordinator
(OCAEBGD-2022)	(OCAEBGD-2022)	(OCAEBGD-2022)	(OCAEBGD-2022)

Annual reports highlighting the programmes undertaken by the teachers

1. Annual Report 2023-2024 (Page No.-193-195)
2. Annual Report 2022-2023 (Page No.-116-119)
3. Annual Report 2021-2022 (Page No.-103-106)
4. Annual Report 2020-2021 (Page No.-150-152)
5. Annual Report 2019-2020 (Page No. 172-175)

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (M.P.)

ANNUAL PROGRESS REPORT

2023-24

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA

RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA

RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Mission

To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

Vision

To transform the Agricultural landscape of Madhya Pradesh by producing excellent dynamic and result oriented skilled human resource in modern Agriculture, thereby creating higher income, employment, gender equity, accessibility, sustainable production system and achieving social welfare for all.

Mandate

- *To serve as a centre of higher education in the field of agriculture and allied sciences.*
- *To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.*
- *To disseminatetechnologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.*
- *To produce and supply of genuine and quality seed/planting material to the farmers.*

वार्षिक प्रगति प्रतिवेदन

ANNUAL PROGRES REPORT

2023-24

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Patron : Dr. Arvind Kumar Shukla
Vice-Chancellor
R.V.S.K.V.V., Gwalior (M.P.)

Editorial Board:

1. Dr. Mridula Billore, Dean, Faculty of Agriculture - **Chairman**
2. Dr. Sanjay Sharma,Director, Research Services - Member
3. Dr. Y.P. Singh, Director, Extension Services - Member
4. Dr. N.S. Bhadauria,Director Instructions & Student Welfare - Member
5. Dr. Shashi S. Yadav, T.O.to DFA Office, RVSKVV - Member (**Secretary**)

Compiled by : Office of the Dean, Faculty of Agriculture,
RVSKVV, Gwalior

Published by : Dean, Faculty of Agriculture
R.V.S.K.V.V., Gwalior (M.P.)

Correct Citation : RVSKVV Annual Report: 2023-24
Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya,
Gwalior-474002 (M.P.)

Dr. Arvind Kumar Shukla
Vice-Chancellor

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Raja Pancham Singh Marg, Gwalior-474002 (M.P.)
Ph.: 0751-2970502(O)
Fax: 0751-2970502
Email: vcrvsaugwa@mp.gov.in

//FOREWORD//

It gives me an immense pleasure to present the Annual Report of the Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya (RVSKVV) for the year 2023-24 to the end users. This report highlights the activities related to education, research and extension carried out by the University staff in the field of agricultural and allied sciences with a focus on enhancing livelihood status of the farming community. The University has developed credible technology in the field of agriculture and Horticulture. Farmers of the State are being benefited through its network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), nineteen Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs).

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya has grown into a diverse innovative institution of higher education, pursuing excellence in the fields of teaching, research and extension in agricultural sciences. Over the years, the University has sought to make a major contribution in improving the quality of human life in the region through its research-led initiatives in agriculture, environmental related issues and a host of other modern-day challenges including the production of quality seed and genuine planting material. The structure of its activities is rationalized, with emphasis on its distinguished strengths, management of education and development of quality man power and in this direction notable success has been achieved. In addition to the diverse activities related to agricultural sciences, RVSKVV has strong emphases on farmer's skills improvement and empowerment through the nineteen KVKs in the various districts. Teaching and learning quality has been steadily improving in recent years and a large number of capable man powers has been trained here.

I would like to thank all the contributors, members of the Editorial Board and Compilation Committee for compiling and editing this report in a comprehensive and presentable form.

(Arvind Kumar Shukla)

CONTENTS


कै. श्रीमंत राजमाता विजयाराजे सिंधिया जी

EXECUTIVE SUMMARY

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, (RVSKVV) Gwalior (MP) was established on August 19, 2008. The University has been since then, catering to the multi farming needs of farming community Agriculture Development, ICAR and other stockholders. It is a new, but fast emerging promising University in the field of agriculture and allied sciences.

The mandate of the University is teaching, research and extension with a view to evolve appropriate solutions and technologies in the field of agriculture. It has a network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), twenty one Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs) spread across six agro-climatic zones in twenty-six districts of Madhya Pradesh. In addition to this, other ongoing projects/schemes *i.e*. non-plan, plan, tribal sub-plan and adhoc projects are also in operation.

During the year 2021-22, the University has undertaken a number of initiatives for the promotion of quality in its mandated areas. The major activities and achievements of the University are as follows:

1. INTRODUCTION

1. Mission: To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

2. Mandate:

- To serve as a centre of higher education in the field of agriculture and allied sciences.
- To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.
- To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.
- To produce and supply of genuine seed and planting material to the farmers.

3. Area of Jurisdiction:

RVSKVV, Gwalior is responsible for Agricultural Education, Research and Extension in following 27 revenue districts of the state:- Sheopur, Morena, Bhind, Gwalior, Shivpuri, Guna, Ashoknagar, Datia, Dewas, Shajapur, Agar Malwa, Ujjain, Indore, Dhar, Jhabua,

Alirajpur, Ratlam, Mandsaur, Neemuch, Khargone, Badwani, Khandwa, Burhanpur, Bhopal, Sehore, Aron and Rajgarh.

The area under University jurisdiction is a part of the Deccan Plateau and comprises plateaus with mean elevation of 1600 feet above mean sea level; inter spread with the mountains of the Vindhya and Satpura ranges. The maximum height of 1350 m is recorded in Satpura range on the other hand 150 m height is found in Chambal Valley. The main river systems are the Betwa, Chambal, Narmada, Sindh and Tapti. Nearly one third of the state area is covered with tropical forest. The area contains three types of soils, varying from alluvial to medium and heavy black Vertisols with six agro climatic zones.

The geographical area of the state under the University jurisdiction is 137.16 lakh hectares out of this, 74.72 lakh hectares is under cultivation, 24.51 lakh hectares under Kharif and 36.45 lakh hectare under rabi fallow. Out of the total cultivated area,

49.42% is irrigated. However, the area under irrigation varies from as low as 18.85% in Jhabua district to as high as 75.63% in Datia district.

The economy of the area is primarily agriculture based. Nearly 75% population is engaged in agriculture. The Malwa region abounds in rich black cotton soil. The low lying areas of Gwalior and Bundelkhand have light soils, whereas the Narmada Valley is formed by deep rich alluvial deposits.

4. Climatic Conditions:

The overall climate varies from semiarid to sub humid with hot summer; cool and dry winter with an average annual rainfall ranging from 600 to1000 mm. Mean annual rainfall is 1029.21mm.

In general, aberrant monsoon behavior is a common feature in the region that usually creates abnormal weather conditions including long dry spells of 8-20 days duration in the middle of the season.

5. Agro Climatic Zones

Out of 11 agro climatic zones of the state, following six are under the jurisdiction of RVSKVV, Gwalior:

- Gird Zone
- Malwa Plateau
- Nimar Valley
- Jhabua Hills
- Vindhya Plateau (Partial)
- Bundelkhand Zone (Partial)

6. Major Crops and Cropping Pattern

- The main food crops of the area are wheat, rice, mustard, lentil and millets. Important among commercial crops grown in the area are pulses, oil seeds and medicinal crops. The state is poised for a breakthrough in soybean cultivation.
- The area coverage of soybean, groundnut and cotton under the jurisdiction of the University is 69, 66 and 55 per cent, which contributes to about 68, 67 and 56 per cent in total production of these crops in the state respectively. Chickpea, pea, black gram and wheat contributes about 35, 24, 54 and 48 per cent of the total state production from an area of only 20, 05, 46 and 40 per cent, respectively. The productivity of these crops in the region is higher than the state average.
- Area under horticultural crops is showing an increasing trend under the University jurisdiction. Mandarin, sweet oranges and limes under assured irrigation and guava, ber, aonla and custard apple without irrigation in Gird region, orange, grape, chiku, mosambi and acid lime in Malwa plateau; banana, papaya, lime and chiku in Nimar valley and lime, ber, guava, aonla and custard apple in Jhabua hills bloom well. Vegetables like Tomato, Potato, Sweet potato, Brinjal, Okra, Cole crops (Cabbage, Cauliflower), Drumstick, Radish, Carrot, Cucurbits, Arbi, Beans and Leafy vegetables etc. are grown in large acrage. Among the spice crops, turmeric, corriander, ajwain, chillies, garlic, fenugreek and fennel have their own specialties in different agro-climatic zones. The area coverage under seasonal flowers is also showing an increasing trend.

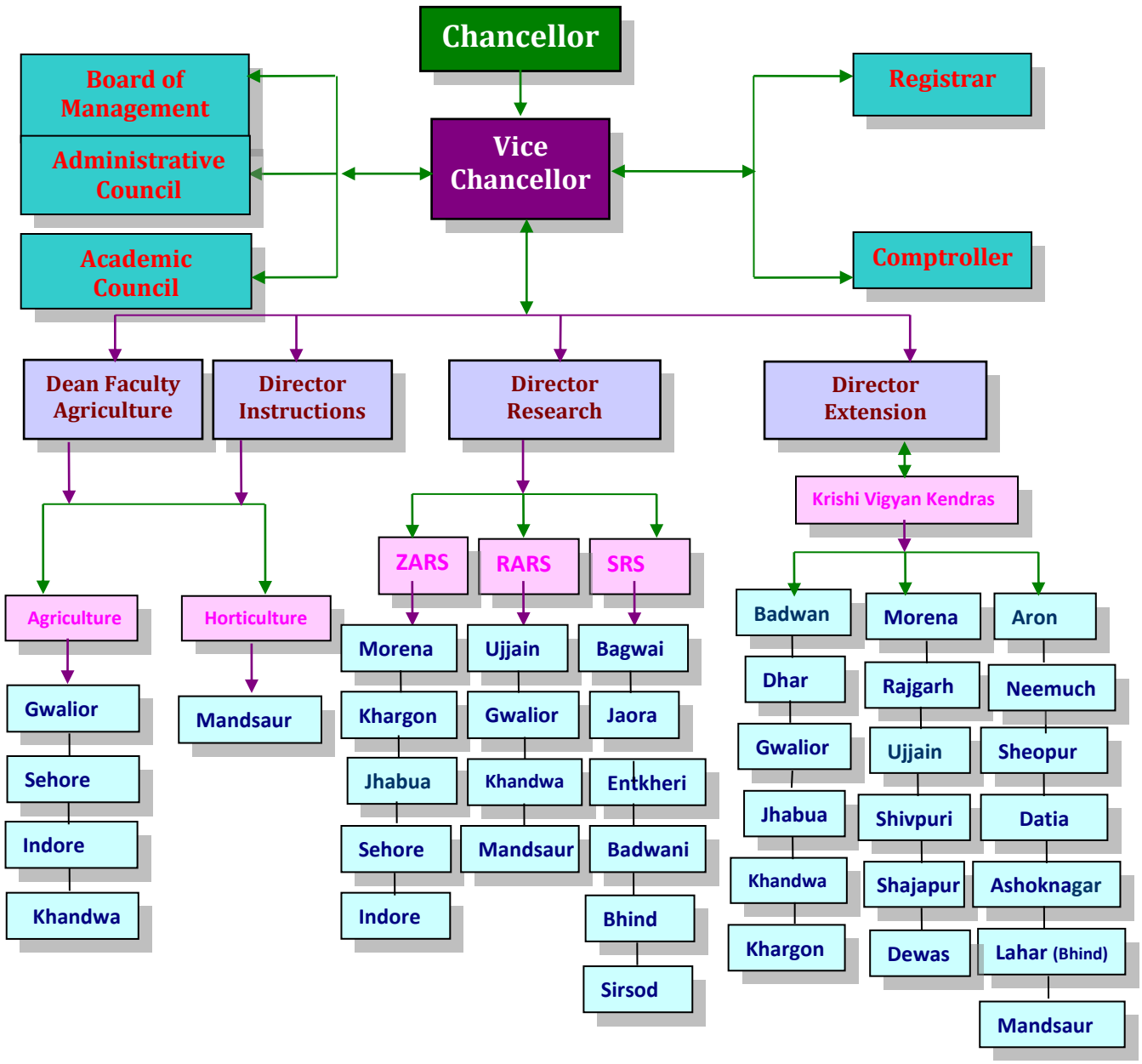
7. Organizational Setup:

Hon'ble Governor of Madhya Pradesh is the Chancellor of the University, and Vice-Chancellor is the Academic Head and Chief Executive of the University, who is supported by the following authorities:

- *Board of Management*
- *Academic Council*
- *Administrative Council*

The University comprises of Faculty of Agriculture headed by Faculty Dean. The constituent colleges are headed by respective Deans. Heads of the Departments are the key persons for teaching, research and extension of the respective discipline/department. Committee of Faculty of Agriculture and Extension Council are also constituted by Vishwa Vidyalaya.

Director Instructions, Director Research Services and Director Extension Services are responsible University authorities for human resource development, research activities and extension activities, respectively. Registrar and Comptroller support the Vice-Chancellor in administration and financial matters. The organizational setup of the University is presented in the following flow chart.


Chancellor
Board of Management
Administrative Council
Academic Council
Vice Chancellor
Registrar
Comptroller
Dean Faculty Agriculture
Director Instructions
Director Research
Director Extension
Agriculture
Horticulture
Gwalior
Sehore
Indore
Khandwa
Mandsaur
ZARS
RARS
SRS
Morena
Khargon
Jhabua
Sehore
Indore
Ujjain
Gwalior
Khandwa
Mandsaur
Bagwai
Jaora
Entkheri
Badwani
Bhind
Sirsod
Krishi Vigyan Kendras
Badwan
Dhar
Gwalior
Jhabua
Khandwa
Khargon
Morena
Rajgarh
Ujjain
Shivpuri
Shajapur
Dewas
Aron
Neemuch
Sheopur
Datia
Ashoknagar
Lahar (Bhind)
Mandsaur

2. ACADEMIC HIGHLIGHTS:

Academic excellence is the backbone of every institute of higher learning. The responsibility increases many folds when the institute aspires for generating world class graduates with the competence to stand tall as a nation builder.

It is through the dissemination of latest technologies and changing knowledge from the global prospective to grass root level that the desirable development in the broad area of agriculture can be attained. The demanding trends in Agriculture/Horticulture need an increase in faculties in such fields and disciplines which have a tremendous market value so that the products of the University are not inclined to government jobs only but would be able to involve themselves in a variety of fields that can boost economy at the State and National level. Therefore resident instruction programme is carried out in the areas of Agriculture and Horticulture in four Agriculture colleges and one Horticulture College in the University.

2.1 Profile of the Colleges:

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya offers undergraduate, post graduate and Ph.D. programmes in the faculty of Agriculture. At present, the University has four Colleges of Agriculture and one college of Horticulture under the faculty of Agriculture. Four constituent Colleges of Agriculture are located at Gwalior, Indore, Sehore and Khandwa and one College of Horticulture is located at Mandsaur.

All these colleges offer Under Graduate and Masters Degree Programmes in different disciplines. Ph.D. programme is offered only at College of Agriculture, Gwalior.

The list of colleges with their location, year of establishment and degree programmes offered is given below.

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (2008)

CoA, Gwalior (1950)

CoA, Sehore (1952)

CoA, Indore (1959)

CoA, Khandwa (1987)

CoH, Mandsaur (2002)

2.1.1 Details of the Colleges:

S. No.	Name of College with location	Year of Establishment	Degree Programme Offered
I	**Faculty of Agriculture**		
1.	**College of Agriculture, Gwalior**	1950	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Fruit Science (9) Vegetable Science **(iii) Ph.D.** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Fruit Science (9) Vegetable Science
2.	**RAK, College of Agriculture, Sehore**	1952	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science
3.	**College of Agriculture,**	1959	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)**

	Indore		(1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science
4.	**BM, College of Agriculture, Khandwa**	1987	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** Plant Pathology
5.	**KNK, College of Horticulture, Mandsaur**	2002	**(i) B.Sc. (Hort.)** **(ii) M.Sc. (Hort.)** (1) Fruit Science (2) Vegetable Science (3) Plantation, Spices, Medicinal & Aromatic Crops (4) Floriculture & Landscape Architecture

Resident instruction programme is one of the mandates of the University *i.e.* impart education in Agriculture and Horticulture to produce graduates and post graduates ready to face the existing and new challenges in agriculture sector.

The University follows the semester system of education. Completion of a degree programme requires successful study of prescribed courses as approved by the Academic Council of the University. Course contents of all subjects are periodically updated and new courses are occasionally added to the degree requirement to cope up with the challenges of upcoming technologies. The University follows 10 point scale evaluation system approved by ICAR. Individual attention of each and every student is ensured through the advisory system. At Under graduate level, for a group of 5-10 students, one faculty advisor is appointed for each class and at Post-Graduate level, for each student, an advisory committee consisting of 3-4 faculty members is appointed. The teacher/ advisory guide, supervises and monitors the academic performance of his/her advises besides helping them in their personal problems. The advisor also maintains a close contact with parents/guardians of the students and informs them about the progress of their works/performance.

2.2 Admission Procedure

2.2.1 Undergraduate Programmes

Admission in first year of B.Sc. (Hons.) Agriculture/Horticulture is done on the basis of the merit list provided by the Employee Selection Board (ESB) of the State Government, located at Bhopal. The board conducts a Pre-Agriculture Test (PAT) for B.Sc. (Hons.) Agriculture/Horticulture. The roster for reservation of seats for UG and PG as per provisions made by the State Government for different categories is strictly followed.

All possible efforts are made to fill up all seats of different categories by repeated counseling of the students.

2.2.2 Postgraduate Programmes

Admissions in post graduate programmes are made by the University through joint entrance examination basis. As per merit list, admissions are given to the students in the subject of their choice; subject to the availability of seats. The roster of reservation is also followed for these admissions.

2.2.3 Ph.D. Programmes

Similarly, in Ph.D. programme admission is made through joint entrance examination basis.

2.3 Allocation of Seats and Roster:

During the academic year 2023-24, the total intake capacity was 775 out of which 369 were in undergraduate (UG), 352 in postgraduate (PG) and 54 in Ph.D. degree programme. In the undergraduate level, out of 36 total seats, 311 seats were in B.Sc. (Ag.) and 58 in B.Sc. (Hort.) degree programme. In the post graduate level, out of 364 seats, 256 seats were in M.Sc. (Ag.) and 96 in M.Sc. (Hort.).

Similarly, in Ph.D. programme, out of 54 total seats, 42 seats were in agriculture and 12 were in Horticulture discipline.

2.3.1 Intake Capacity (Degree wise):

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
Degree Programmes						
1.	B.Sc. (Hons.) Agriculture	220	44	11	36	311
2.	B.Sc. (Hort.) Horticulture	40	08	02	08	58
	Total	**260**	**52**	**13**	**44**	**369**
1.	M.Sc. (Ag.)	256	-	-	-	256
2.	M.Sc. (Hort.)	96	-	-	-	96
	Total	**352**	-	-	-	**352**
1.	Ph.D. Agriculture	42	-	-	-	42
2.	Ph.D. Horticulture	12	-	-	-	12
	Total	**54**	-	-	-	**54**
	Grand Total	**666**	**52**	**13**	**39**	**770**

2.3.2 Under Graduate: B.Sc. (Ag. /Hort.)

(A) B.Sc. (Ag.)

Allocation of Seats		Boys	Girls	Total
Roster				
Free Seats	General	50	31	**81**
	ST	35	13	**48**
	SC	24	11	**35**
	OBC	44	13	**57**
Payment Seats		48	02	**50**
NRI Seats		07	04	**11**
Nominee/Fellow	ICAR	25	04	**29**
Total		**233**	**78**	**311**

(B.) B.Sc. (Hort.)

Allocation of Seats		Boys	Girls	Total
Roster				
Free Seats	Gen.	14	06	20
	ST	05	03	08
	SC	05	02	07
	OBC	03	02	05
Payment Seats		06	02	08
NRI Seats		-	-	02
Nominee/Fellow	ICAR	05	03	08
Total		**39**	**19**	**58**

2.3.3 Post Graduate: M.Sc. (Ag. /Hort.):

(A) M.Sc. Agriculture/Horticulture

S.No.	Subject	Gwalior	Indore	Sehore	Mandsaur	khandwa	Total
		PG	PG	PG	PG	PG	PG
1	Agronomy	12	12	12	-	-	36
2	Soil Sc. & Agri. Chemistry	12	12	12	-	-	36
3	Entomology	12	12	12	-	-	36
4	Genetics & Plant Breeding	12	12	12	-	-	36
5	Agri. Economics	8	8	8	-	-	24
6	Plant Pathology	12	12	12	-	8	44
7	Plant Bio Technology	08	-	-	-	-	8
8	Extension Education	12	12	12	-	-	36
Total		**88**	**80**	**80**		**8**	**256**
(B) M.Sc. Horticulture							
1	Veg. Science	12	12	12	12	-	48
2	Fruit Science	12	-	-	12	-	24
3	Floriculture & Landscape Architecture	-	-	-	12	-	12
4	Plantation, Spice, Medicinal and Aromatic Crops	-	-	-	12	-	12
	Total	**24**	**12**	**12**	**48**	**-**	**96**

2.3.4 Ph.D. (Ag. /Hort.):

(A) Agriculture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Agriculture	28	14	**-**	-	42

(B) Horticulture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Horticulture	8	4	**-**	-	12

2.4 Students Strength:

2.4.1 Students Admitted:

S. No.	Degree Programme	No. of Students
1.	B.Sc. (Ag.)	220
2.	B.Sc. (Hort.)	44
Total		**264**
1.	M.Sc. (Ag.)	165
2.	M.Sc. (Hort.)	79
Total		**244**
1.	Ph.D. (Ag. /Hort.)	35
Total		**35**
Grand Total		**543**

2.4.2 Students Strength at a Glance: During the year 2023-24, total 1676 students were on the roll of the University, out of which 1013 in UG, 525 in PG and 138 in Ph.D. degree programmes.

S. No.	Degree Programme	No. of Students
1.	B.Sc. (Ag.)	846
2.	B.Sc. (Hort.)	167
	Total	**1013**
1.	M.Sc. (Ag.)	398
2.	M.Sc. (Hort.)	127
	Total	**525**
1.	Ph.D. (Agri. /Hort.)	**138**
	G. Total	**1676**

2.5 Experiential Learning Programme: As per the recommendations of Fifth Dean's Committee that the B.Sc. (Ag.)/B.Sc. (Hort.) graduates must have adequate hands on experience on different aspects of agriculture/horticulture. For this purpose, the experiential learning programme has been introduced in the final year that includes different aspects of horticulture and agriculture.

(1) College of Agriculture, Gwalior-

Experiential learning programme Units	Nos. of students	Output
ELP unit-1		
Post Harvest Management and Value Addition of Fruit and Vegetables	15	• Aonla Candy, Aonla Murabba • Pickle (Chilli, Lemon, Mango) • Chips/ French Fries (Potato) • Turmeric processing • Tomato ketchup
ELP unit-2		
Protected cultivation of horticulture crops and seed production of vegetable and flower	19	• Cultural Practices in Flower Crops • Weeding and maintenance of Guava air layers • Intercultural operation in flower crops • Harvesting of potato • Grading of potato • Preparation of nursery bed for vegetable seedling
ELP unit-3		
Massive *in vitro* propagation of important horticultural & medicinal plants	17	Micropropogated plants of Banana Black turmeric, Pomo generate, Bamboo etc
ELP unit-4		
Soil Testing (Department of Soil Science)	23	• Use of Soil Sampling Tools • Soil sampling and preparation • Soil Profile study, Methodology for Soil survey • Skill development for soil testing & analytical procedure. • Employment generation through establishing soil sampling laboratories

(2) College of Agriculture, Indore-

Year	Name of college along with location	Name of the EL Modules	Name, Designation Email and Mobile No. of the Unit Incharge/ Manager	Grant received	No. of students trained under EL	Product being developed under ELP	Revenue earned	Revolving fund generated	% share of income distributed to students
2023-24	COA, Indore	Processing of fruit, vegetables, and food crops	Dr. Swati Barche Professor (Horticulture)sbkdap07@rediffmail.com 7354400431	-	22	Chai Masala, Multi grain Cookies, Millet Papad, Banana chips and Bajrapapad	8551/-	NA	NA
2023-24	COA, Indore	Nursery Management	DrDeekshaTembhre 7987324940 deekshatembhre083@gmail.com	-	27	Planting material, pot mixture, organic pesticide	9000/-	-	-
2023-24	COA, Indore	Bio-Fertiliser& Bio-Pesticide	Dr.Narendra Kumawat		23	Prepare vermi-compost, fortified manure, packing & marketing	-	-	-
2023-24	COA, Indore	Mushroom cultivation and Value addition	Dr. R.K. Singh Ph. No. +91-9407 119090 Email-rakesh0429@gmail.com,	NIL	24	Spawn production of Oyster and button mushrooms, Mushroom Cookies (Sweet and Salted). Mushro	1,42,964	201089	NIL

						om Papad, Mushroom Bhujia			

(3) BM, College of Agriculture, Khandwa- Experiental learning programmeaims in promoting professional skills and knowledge through hands on learning, ability to work in project mode and aquire enterprise management capabilities.

Aim: To train students to become "Job givers rather than Job seeker"

Module – I Organic Farming - Biofertilizer production unit

The Experiential Learning Programme aims for promoting professional skills and knowledge through hands on experience, building confidence and ability to work in project mode and acquire enterprise management capabilities.ELP offer students the opportunity to engage in learning with greater depth, complexity, and rigor through differentiated curriculum and instruction.It helps the students in preparing a viable agri-project, its implementation and marketing, among others. As a result, students become more confident to start their own enterprise.

(4) KNK, College of Horticulture, Mandsaur-

Name of ELP Unit: Floriculture and Landscape Gardening

S. No.	No. of Students	Work Assignment	Output
1.	09	1. Seed production of Annual Flower Crops 2. Prepared Herbal Gulal 3. Gladiolus spike harvesting and marketing 4. Prepared Dried flower Aesthatic Art 5. Resin embeddedDried flower Art 6. Nursery management	Under Progress

2	09	1. Fruit collection from orchard 2. Seed extraction and seed treatment. 3. Preparation of nursery beds and seed sowing 4. Media preparation and filling of polybags 5. Transplanting of seedlings in polybags 6. Learnt the different techniques of vegetative propagation like propagation from cuttings, layering and wedge grafting. 7. Nursery management and cultural activities.	Learnt the techniques of nursery production and management.
3	10	Commercial Horticulture- Open Vegetable Cultivation- Cultivation of cucumber var. Kyoto-136 (Parthinocarpic) under net house condition (Protected cultivation)	1. To get higher yield 2.Better quality of cucumber fruits 3. To utilization of per unit area 4. To control environmental factor 5. Less incidence of pest and diseases on plants as well as fruits.
	09	**Preparation and preservation of various products:** I. Aonla Supari, II. Aonla Candy, III. Aonla RTS, IV. Aonla Pickel , V. Beal Candy, VI. Beal RTS, VII. Determination of Total Soluble Solids. VIII. Estimation of Total, Reducing and Non-reducing Sugars. Estimation of total acidity.	1. The main purpose of ELP is to ensure that all students have the technical and professional skills in processing and value addition of fruits and vegetables. 2. Developed self-reliance and confidence in students to establish a processing unit. 3. Method of teaching includes learning by manufacturing of various products listed in work assignment.

GLIMPSES OF EXPERIENTIAL LEARNING PROGRAMME


Shot on OnePlus

Dried Flower Embedded with Resin Art

Preparation of Gulal

Herbal Gulal Ready for Marketing

Collection of Fruits from Orchard

Seed Extraction from Citrus Fruits

Fruit Collected and Seed Extraction from Guava

Nursery Bed Preparation

Seed Sowing after Nursery Bed Preparation

Transplanting of Seedlings

Propagation through Air Layering in Guava

Propagation through Wedge Grafting

Preparation of Aonla Supari

Aonla Based Value Added Product Supari

Sorting and Grading of Fresh Aonla

Value Added Product Aonla Candy

Preparation of Glazed Fruit

Glazed Aonla Fruit

Preparation of RTS

Value Added Product RTS

Drying of Bael Candy

Beal Candy

Preparation of Aonla Pickle

Aonla Pickle

Preparation of Whole Tomato Concentrate

Whole Tomato Concentrate

Packing of Aonla Preserve

Aonla Preserve Ready for Marketing

2.6 Rural Agricultural/Horticultural Work Experience (RAWE/RHWE): As a part of regular curriculum, the final year students of B.Sc. (Ag.) and B.Sc. (Hort.) are placed in rural areas for one semester in selected villages through Krishi Vigyan Kendras (KVKs) working in the region, where each student is attached to one host farmer for practical training with regards to crop production, crop protection, economics and also dynamics of the rural society. Further, some social activities were also performed by the students like sanitation in the village, plantation in the premises of primary and middle schools.

1. **College of Agriculture, Gwalior-**

S.No.	Particular	RAWE
1.	No. of student	Boys - 47 Girls- 27 Total - 74
2.	Adopted villages/ KVKs	KVK Sheopur : Indrapura,Lalitpura,Mudla KVK Shivpuri: Ratour,Kiroli,Atta, KVK Datia:Chitwa, Derogandhiari KVK Morena: Bisangpura, Bhajpura, Gadikheda Bisangpura
3.	Technologies learned by the students	i. ImprovedVarities of vegetable crops ii. Water conservation Technology iii. Seed treatment in Kharif and rabi crops iv. Known about vermicompost and azolla unit construction v. Plant protection in Agronomical Crops, vegitable crops , and Horticultural crops vi. PRA
4.	Monitoring	Regular monitoring through campus and university team

2. College of Agriculture, Indore-

In the RAWE program (2023-2024) there were 91 students placed in different KVKs i.e. Ujjain (23 Boys), Dhar (26 Boys), Alirajpur (06 Boys) &Jhabua (36 Girls) under the RAWE program, for 6 months under the supervision of Program Coordinators of KVK's. Every student was allotted 1 host farmer in the adopted villages for his/ her learning experience in the field of crop production, crop protection and extension programs & other activities observed in village from time to time & sharing the experience through rapport building with their host farmers. The RAWE students observed the socio economic problems and agricultural problems, and also conducted farmers' group meeting, PRA activities, KrishakSangoshthi to solve their problems and learnt from them. The following activities were performed by the RAWE students under the supervision of KVKs.

3. **College of Agriculture, Khandwa-**

RAWE students placed in Agro industries at Badwani, and Khargone

ii) Agro Industrial attachment-

Students were placed at the following Agro and cottage industries for a period of one month, w.e.f. 16/12/2023 to 15/01/2024.

S.No	Industries	Type of Industries	Number of Student
1	Shri Gopal Das Mittal, M.D. Gangadas Fibers and Oil Mills, Private Limited, Khargone Mob. No. 97522193324	Cotton Ginning and Pressing(Cotton Spinning Mill)	08 (Boys)
2	Shri Mohan Singh Sisodia , Manager, M/s Aadarsh Enterprises and Veda Shri Seed Production Cooperative Society, BaijapurGogaon, Khargone M.P. . Mob- 9425090575	Seed Production	10 (Boys)
3	Mr.Vivek Rawal, Bio-re India PVT Ltd, Kasrawad, Khargone M.No. 9575800919	Organic plant material	08 (Boys)
4	Shri Mahendra Kulkarni, M.D., Reva Flora Culture, Anjad District - Badwani	Plant Material Production (Saplings)	16 (Girls)
Total Students			42

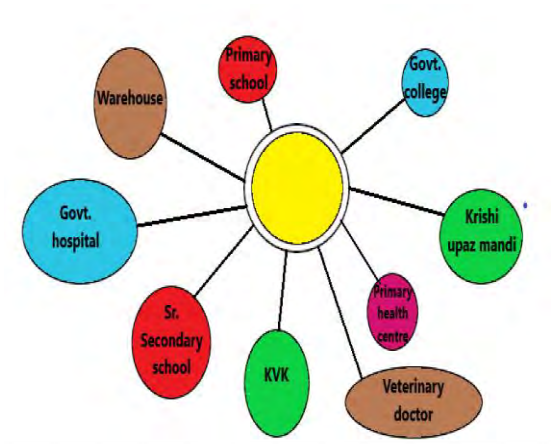
Agro- Industries Experience key features-

- Students were acquainted with industrial environment, staff and working culture during placement for a period of one month.
- Organic quality produce and maintain sustainable business
- Study of various processing units, and supervision
- Learning business network, business proposal and corporate culture.
- Skill development in all crucial tasks.
- Marketing strategy forward and backward linkages Challenges
- Project Preparation and presentation.
- Performance evaluation, appraisal and ranking of students

Particular	KVKs	No. of students	Name of Villages
Boys	Neemuch	29	Hanumantia Pawar
Girls	Kalukheda	17	Riyavan, Sakkarkhedi, chipiya and Talidana
S. No.	No. of students	Name of Adopted villages/KVKs/NGO	Technologies disseminated
1.	46	Girls 17 - KVK, KalukhedaJaora (Village-, Riyavan, Sakkarkhedi, chipiya and Talidana) Boys 29– KVK, Neemuch (Village- Hanumantia pawar)	➢ During the Rural Horticultural Work Experience Programme students understood about rural conditions in relation to agriculture and allied sector like post harvest management, agriculture engineering, animal husbandry, Dairy etc. ➢ Students learnt about cultivation practices of onion, garlic, soybean, cauliflower, cabbage, chilli, tomato, marigold, chrysanthemum, rose, brinjal, okra, beans, chandrasoor, fenugreek, cucumber, mango, guava, citrus and pomegranate etc. ➢ Students learned about integrated nutrient management different horticultural crops. ➢ They learned about raising nursery of different vegetables like tomatoes, chilies etc. ➢ They learnt about different method of seed treatment in Garlic onion, wheat, coriander, methi, chandrasoor, soybean, and other crops. ➢ Students learnt about drip irrigation and sprinkler system in Garlic, pomegranate, onion, citrus, etc. ➢ They were trained to manage insect pest and disease in different crops like Marigold, rose, tube rose, okra, guava, mango, garlic, onion cucumber, brinjal, tomato, cabbage, cauliflower, chilli, fenugreek and other crops. ➢ Students got experience about harvesting and grading in different horticultural crops like cauliflower, cabbage, tomatoes, chillies, onion, garlic and fenugreek etc. ➢ Students developed skill for curing in onion and garlic crops. ➢ They developed skill in budding, grafting and layering in different horticultural crops. ➢ Students used sticky traps for management and control of insects in different crops.

			➢ They understand about use and importance of pheromone traps in fruits and vegetable crops. ➢ They have developed communication skill to transfer available agricultural technologies among farmers community. ➢ They have acquainted with on-going extension and rural development activities of state and central government. ➢ They participated in different KVK activities to understand more about agriculture and its management. ➢ Ultimately, they have developed confidence and competence to solve complex agricultural problems

GLIMPSES OF READY (RAWE/RHWE) PROGRAMME




GPS Map Camera
Jhabua, Madhya Pradesh, India
QH7X+GXP, Kotwali, Jhabua, Badkuwa, Madhya Pradesh 457661, India
Lat 22.763309°
Long 74.599136°
22/11/23 04:22 PM GMT +05:30
Google


GPS Map Camera
Agral, Madhya Pradesh, India
WHGC+WQH, Agral, Ghosaliya Bada, Madhya Pradesh 457779, India
Lat 22.927257°
Long 74.573106°
28/11/23 12:52 PM GMT +05:30
Google


GPS
Aakasoda, Madhya Pradesh, India
4M96+X2Q, Ram Mandir Gali, Aakasoda, Madhya Prad
Lat 23.119963°
Long 75.660415°
30/09/23 09:06 AM GMT +05:30
Google


Shot on OnePlus


ग्रामीण उद्यमिता एवं जागरूकता विकास योजना
(READY) वर्ष : 2022-23
कृषि महाविद्यालय इन्दौर (सुप-2)


Shot on OnePlus


BIOFERTILIZERS
PRODUCTION UNIT
CULTURE LAB

NATIONAL AGRICULTURAL HIGHER EDUCATION PROJECT

List of Deliverables for Holistic Development of Students and FacultiesYear-2023

SN	Topic	Date	Mode
1	**5 days** lecture series on Principles of Genetics & Plant Breeding	1-5 February 2023	Offline
2	Yes, I Can	7 February 2023	Offline
3	Entrepreneurship ideas for Agriculture Graduate	10- 13 February 2023	Online
4	Start Up Funds and recommendation Entrepreneurship ideas for Agriculture Graduates	10-13 February 2023	offline
5	Positive Psychology for work life balance	1 March 2023	Offline
6	Writing project proposals and Mobilizing Resources	2 March2023	Offline
7	Precision Water Management andFertigation	4 April 2023	Offline
8	बदलते पर्यावरणीय परिदृश्य में श्री अन्न की उपयोगिता एवं भविष्य की संभावनाएं	29 May 2023	Offline
9	श्री अन्न फसलों का प्रसंस्करण एवं मूल्य संवर्धन	29 May 2023	Offline
10	सब का आहारी महत्व एवं उत्पादन हेतु उन्नत तकनीक	29 May 2023	Offline
11	Training cum certificate Course on Development and Communication Skill	05-14 June 2023	online
12	Role of sustainable Agriculture in Millets for Food, Nutrition and Climate Security	19 June 2023	Online
13	Analysis of Agricultural Data using Statistical and Data Mining Techniques	11 -20 July 2023	online

14	NEP -2020 in Agriculture	12 August 2023	Offline
15	Industrial Conclave on Agri- Connect 2023	23-24 August 2023	online
16	Commercial Floriculture	29 Sep -10 Oct 2023	Offline
17	Mechanization for Rural industries	11 October 2023	Online
18	Long term Fertilizer Nitrogen Management in Crop Production Soil Health	22-23 November 2023	Offline
19	Livestock and poultry business development	20-24 December 2023	Offline

2.7 Thesis Submitted:

2.7.1 M.Sc. (Agriculture/Horticulture): 98 Students submitted Thesis for Post Graduate degree programme in Agriculture discipline and 56 students for Horticulture degree programme.

2.7.2 Ph.D. thesis submitted to Director Instruction for evaluation: 30 student's submiteed Thesis for Ph.D. Agriculture / Horticulture degree programme.

2.8 Academic Excellence:

2.8.1 Student Performance in ICAR-JRF/SRF examination and other Scholarship/Stipends:

S. No.	Name of Fellowship/Scholarship	No. of Students 2022-23
1.	Junior Research fellowship received	**-**
2.	JRF qualified and admitted in different Universities of India without fellowship	**7**
3.	SRF Qualified without fellowship	**2**
4.	NET	**2**
5.	National Talent Scholarship	**36**
6.	Scholarship of Vikramaditya Yojna	**-**
7.	Scholarship of Gaon Ki Beti Yojna	**-**
8.	Dr. Shyamaprasad Mukharji Scholarship	**-**
9.	Medhavi Sambal Yojna	**-**
10.	Mukhyamantri Medhavi Vidyarthi Yojana	**151**

11.	Post Metric Scholarship	-
	State Government Scholarship	***260***
	(i) OBC	127
	(ii) SC	61
	(iii) ST	72

3. STUDENTS WELFARE ACTIVITIES:

3.1 National Service Scheme (NSS):

S. No.	Activity(s)	No. of Volunteers Participated
1	No. of students enrolled	328
2	No. of students passed/cleared ***'B' certificate examination***	50
3	No. of students passed/cleared ***'C' certificate examination***	2
4	NSS day celebration/Camp	78
5	Blood donation camp	10
6	Pulse polio camp	12
7	AIDs awareness day	65
8	Beti Bachao Abhiyan	104
9	Malnutrition day	45
10	Parthenium eradication day	13
11	Special camp	-
12	Voter ID awareness camp	-
13	State level camp	5
14	Unit camp	45
15	Rastriya Yuva Day	99
16	Sensitization day	144
17	Environment day	52
18	Plantation day	73
19	Samvidhan Diwas	84
20	Agriculture Education Day	53
21	Basant Panchami	50

3.2 National Cadet Corps (NCC):

S. No.	Activity(s)		Total Students
1.	No. of students enrolled		107
2.	Exam. passed	***'B' certificate***	58
		'C' certificate	10
3.	No. of cadets attended the CATC camp		63
4.	Army Attachment at Gwalior		48

GLIMPSES OF NSS/NCC ACTIVITIES


GPS Map Camera
Gwalior, Madhya Pradesh, India
659X+M7Q, LNUPE Campus, Thatipur, Gwalior, Madhya Pradesh
474011, India
Lat 26.219729°
Long 78.197754°
15/08/23 06:43 AM GMT +05:30
Google


Anti-ragging week


राष्ट्रीय सेवा योजना


NATIONAL CADET CORPS
NCC
GPS Map Camera
Indore, Madhya Pradesh, India
PV5R+XGW, opp. MY Hospital Road, Lalaram Nagar, Indore, Madhya Pradesh
452001, India
Lat 22.710362°
Long 75.891078°
22/04/24 08:15 AM GMT +05:30
Google


Shot on OnePlus


GPS Map Camera
Khandwa, Madhya Pradesh, India
R989+7RR B.M. College of Agriculture, Narayan Nagar, Khandwa, Madhya Pradesh 450001, India
Lat 21.815691°
Long 76.369566°
09/09/23 11:22 AM GMT +05:30
Google


कृषि महाविद्यालय
खण्डवा


महाविद्यालयीन वार्षिक युवा महोत्सव : 2023-24


GPS Map Camera
Indore, Madhya Pradesh, India
Old C.O Road, Lalaram Nagar, PV6R+5C2, near St. Paul School, Lalaram Nagar, Indore, Madhya Pradesh 452001, India
Lat N 22° 42' 36.918" Long E 75° 53' 28.2516"
14/08/22 11:05 AM
26.01° C
143° SE
39.0 µT
Google

3.4 CULTURAL AND SPORTS ACTIVITIES:

(1) College of Agriculture, Gwalior-

Type/ name of activity	Level of participation	Remarks (Medals/Awards)
Literary Quiz	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	**Winner** Aniket Chaturvedi CoA, Gwalior **Runner** Deepak Baghel CoA, Gwalior
Debate	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	**Winner** Samriddha Dhole CoA, Gwalior
Extempore	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	**Runner** Samriddha Dhole CoA, Gwalior
Fine Art Rangoli	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	**Winner** Parul Daheriya CoA, Gwalior
Collage	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	**Runner** Khushi Gupta CoA, Gwalior
Cartooning	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	**Runner** Yatharth Birla CoA, Gwalior
One Act Play	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	**Winner** Nikhil Khare Alok Chaturvedi Yogesh Kumar Hiteshi Vyas Rani Rawat Hardik Gupta Aniket Chaturvedi Deepak Baghel Mousmi Malviya CoA, Gwalior
Skit	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	**Runner** Yatharth Birla Nikhil Khare Deepak Baghel Aniket Chaturvedi Yogesh Kumar Khushi Gupta CoA Gwalior
Shiromani	Inter Collegiate youth festival 6-8 Dec. 2023 At CoH, Mandsaur	Best discipline award to College of Agriculture Gwlaior team

National Award	National Debate Competition 2024 at Pant Nagar Uttarakhand 14 to 15 January, 2024	Winner in Hindi debate (against) Samriddha Dhole CoA, Gwalior

(2) College of Agriculture, Sehore-

Activity	Result
Fine arts (Poster making)	Runner
Literary (Debate, for the motion)	Runner
Music (Light Vocal)	Winner
Music (Group song, Folk)	Winner
Music (Patriotic Song)	Runner
Theatre (One act play)	Runner
Theatre (Mono acting)	Runner

(3) College of Horticulture, Mandsaur-

Cultural activities

S.No.	Activities	Winner	Runner
1.	Elocution	-	Runner
2.	Rangoli	-	Runner
3.	On spot painting	-	Runner
4.	Collage	Winner	-
5.	Cartooning	Winner	-
6.	Patriotic song	Winner	-
7.	Group Song (folk)	-	Runner
8.	Mime	Winner	-
9.	Group dance (Folk)	Winner	-

//SPORTS ACTIVITY//

(1) College of Agriculture, Gwalior-

S.N.	Activity	Male		Female	
		Winner	Runner	Winner	Runner
1.	Badminton	Gwalior	Mandsur	Gwalior	Indore
2.	T.T.	Sehore	Indore	Indore	Gwalior
3.	Carrom	Gwalior	Indore	Khandwa	Indore
4.	Volley ball	Mandsur	Indore	N/A	N/A
5.	Kabaddi	Gwalior	Indore	N/A	N/A
6.	Kho-Kho	Gwalior	Indore	N/A	N/A
7.	Athletics	Gwalior	Sehore	Gwalior	Sehore

(2) College of Agriculture, Indore-

INDOOR GAMES – Held at College of Agriculture, Gwalior during 18-20 December 2023. The details of the performance of the teams as follows:

Activity	Male		Female	
Badminton	Mr.RatneshDhurve	**Winner**	Ku. DeepuBakoriya	**Runner**
	Mr.Rajesh Ankle		Ku. BhuriDangi	
	Mr.PriyanshRawat		Ku. ShrutiDawar	
	Mr.RahulDangi		Ku. Sandhya Verma	
T. T.	Mr. Sudhanshu Sharma	**Winner**	Ku. Khushi Sen	**Winner**
	Mr. Rajendra Rajput		Ku. Seetal Solanki	
	Mr. Ajay Meena		Ku. Riteshna	
	Mr. Raj Patidar		Ku. DeepuBakoriya	
Carrom	Mr.RatneshDhurve	**Participated**	Ku. Seetal Solanki	**Participated**
	Mr.PriyanshRawat		Ku. Sandhya Verma	
	LokendraVerma		Ku. Vedika	

OUTDOOR GAMES –

Volly Ball, Kho- Kho And Kabaddi tournaments wereheld at College of Agriculture, Gwalior during 18-20 December 2023. The details of the performance of the teams as follows:

Volley Ball		Kabaddi	
Mr. RatneshDhurve	**Runner**	Mr. Kundan Solanki	**Participated**
Mr. NeerajPatidar		Sonu Rajput	
LokendraVerma		Mr. Mohit	
Raj Patidar		Mr.Arpan Yadav	
Anmol Rathore		AyushGuliya	
Pradeep Patel		Mr.MohitVerma	
MithunSanwle		Mr. Rajesh Ankle	
Priyanshu Yadav		Mr. Rahul Dangi	
Mr.Sudhanshu Sharma		KoshalBhalse	
Arpan Yadav		Mr. RatneshDhurve	

KaushalBhalse		MohitSahu	
		Pavan	
Kho-Kho			
Mr. Virendra Singh Dawar	**Runner**		
Mr. DilipTapariya			
Mr. Rajkumar Solanki			
Mr. RajKumarDhurve			
Mr.Pavan			
Mr.MohitVerma			
MonuRathore			
Mr. Shriram Yadav			
GokulDhanora			
Jitendra Patel			
Arjun Mandloi			
MohitSahu			

ATHLETICS - The Athletics events were held at College of Agriculture, Gwalior during 1-3 November 2018. The details of the performance of the teams as follows:

Activity	**Male**		**Female**	
100 m	-	**-**	Ku.BhuriDangi	**Bronze**
200 m	KaushalBhalse	**Bronze**	Ku. VaishaliZhillye	**Gold**
400 m	-	**-**	Ku. ShrutiDawar	**Silver**
800 m	-	**-**	Ku. ShrutiDawar	**Bronze**
1500 m	MohitVerma	**Bronze**	Ku.MuskanParihar	**Gold**
4 x 100 m	RajkumarDhurve	**Bronze**	Ku.SandhyaVerma	**Gold**
	MohitVerma		Ku. VaishaliZhillye	
	Rajesh Aankle		Ku.NitikaWaskel	
	KaushalBhalse		Ku. MuskanParihar	
Long Jump	-		Ku.NitikaWaskel	**Silver**
High Jump	-		Ku.NitikaWaskel	**Silver**
Javelin	-		Ku. ShrutiDawar	**Bronze**
Discuss	-		- Ku. VaishaliZhillye	**Bronze -**
Shot-put	-		Ku. MuskanParihar	**Silver**

Total Medals

Gold	**06**
Silver	**07**
Bronze	**07**
Total Medals	**20**

(3) College of Agriculture, Khandwa-

Inter-Collegiate cultural (18-20 Dec 2023) competition was held by CoA, Gwalior in which 46 students participated (37 boys & 9 girls)

High Jump- Nitin Raghuvansi – gold

Carom – Priyanka Shivhare& Achal Patel – Silver

Long Jump- Sapna Rathore- Bronze

(4) College of Horticulture, Mandsaur-

S.No.	Activities	Gold medal	Silver medal	Bronze medal
1	Volleyball-Men	Goldmedal	-	-
2	Athletics -Men (100 m)	Gold medal	-	-
3	Athletics-Women (400 m)	Gold medal	-	-
4	Athletics-Javlin Throw (Women)	Gold medal	-	-
5	Athletics- Long Jump (Men)	Gold medal	-	-
6	Kabaddi- Men	-	Silver medal	-
7	Athletics- Women (100 m)	-	Silver medal	-
8	Athletics -Men (200 m)	-	Silver medal	-
9	Athletics -Men (400 m)	-	Silver medal	-
10	Athletics -Men (800 m)	-	Silver medal	-
11	Athletics- Women (800 m)	-	Silver medal	-
12	Athletics- Women (1500 m)	-	Silver medal	-
13	Athletics- Women (4X100M) Relay	-	-	Bronze medal
14	Athletics- Javlin Throw (Men)	-	-	Bronze medal
15	Athletics- Shot put (Men)	-	-	Bronze medal
16	Athletics- Shotput (Women)	-	-	Bronze medal
17	Athletics- DiscThrow (Men)	-	-	Bronze medal
18	Athletics- High Jump (Men)	-	-	Bronze medal
TOTAL		**5 Gold**	**7 Silver**	**6 Bronze**

Participation of students in Sports and Cultural activities:

(A) Universities Level

Sports Activities

- The University organized three days Inter Collegiate sports & games meet-2023-24 Table Tennis/Badminton/Carrom/Volleyball/Kho-Kho/Kabbadi and Athletics competition during December 18-20, 2023 at College of Agriculture, Gwalior.


Cultural Activities

- A Youth festival and cultural competition programmes was organized at College of Horticulture, Mandsaur during the December 06-08, 2023. The students of College of Agriculture, Sehore received "Sahitya Shiromani Award" and "Natya Shiromani Award". The students of College of Agriculture, Indore received "Sangeet Shiromani Award". The students of College of Horticulture, Mandsaur received "Nitya Shiromani Award". The students of College of Agriculture, Sehore & College of Horticulture, Mandsaur received jointly "Lalit Kala Shiromani Award".

(B) National Level

Agriunisports

- Forty Students (26 boys and 14 girls) of RVSKVV, Gwalior participated in XXI All India Inter Agricultural University Sports and Games meet "AGRIUNISPORTS 2023" organized at CCS Haryana Agricultural University, Hisar (Haryana) during 20th to 24th February, 2023 and their performance was appreciated by one and all.


Inaugural function of XXI All India Inter Agricultural University Sports and Games Meet at CCS Haryana Agricultural University, Hisar (Haryana)

Cultural Activities

- Twenty Two Students (09 boys and 13 girls) of RVSKVV, Gwalior participated in 21st All India Inter Agricultural University Youth Festival organized at University of Agricultural Science, GKVK Campus, Bengaluru (Karnataka) during 13th to 17th March, 2023 and their performance was appreciated by one and all.

Glimpses of the opening and closing ceremony of 21st All India Inter Agricultural University Youth Festival at University of Agricultural Science, GKVK Campus, Bengaluru

National Debating Competition

- At the national level, our debating teams have won prestigious awards. Mr. Samradha Dhole student of the university won the '**First Prize' award** in the Inter-University National Debating Competition on **"Indian youth is capable of fulfilling the dream of making India a 35 trillion-dollar economy during the challenging Amrit Kaal"** held at G.B. Pant University of Agriculture & Technology, Pantnagar (Uttarakhand) from 12 to 15 January, 2024.


//Order//

Like previous years, the "Abhinandan: A Student Induction Programme" is all set to take place across all constituent colleges of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior. This programme aims to familiarize newly admitted UG/PG/Ph.D. students with the University's operations and equip them for their academic journey. The primary goal of the program is to motivate new students to get on confidently on their educational path and to prepare them for college life and beyond.

"Abhinandan" will commence seven days before the start of the academic session. Partaking of all newly admitted students, their parents and staff is mandatory. The detail of programme is appended below:

ABHINANDAN-2023

"Orientation: Empowering New Beginnings"

A STUDENT INDUCTION PROGRAMME

1. Title	**"Harmonizing Campus Voices: Synthesizing Ideas and Bridging Knowledge"**
2. Organization	Constituent Colleges of RVSKVV, Gwalior
3. Nature of Project	Mentor-Mentee System under Various Clubs of OMAS project of the University
4. Theme	Guiding Freshers in UG and PG Programs: Building Confidence, Bonding, and Universal Values for Holistic Development

5. Duration Seven days prior to the commencement of First Semester of newly admitted UG, PG and Ph.D. students of RVSKVV, Gwalior.

Goals

- Foster the holistic development of newly admitted students by playing a positive and catalytic role.
- Cultivate moral and ethical behavior, nurturing human values to empower students to contribute positively to society.
- Support learners in discovering and harnessing their creative potential and talents, while enhancing their physical and psychological strengths through active participation in co-curricular and extra-curricular activities.
- Instill a sense of social and environmental responsibility among students, promoting sustainable development perspectives and actions as integral to their lifestyles.
- Develop well-rounded citizens equipped with knowledge of constitutional rights and duties, fostering respect for linguistic, cultural, and gender diversity.

Motto

1. Orient students on institutional profile, academic rules, regulations, and scholarship provisions.
2. Educate students about career prospects in agriculture and related fields.
3. Familiarize students with government plans, policies, and flagship programs.
4. Infuse universal human values to broaden students' life perspectives.
5. Promote regular lifestyle habits and professional discipline among students.
6. Develop students' skills and proficiency in extracurricular and co-curricular activities.
7. Provide platforms for formal and informal interactions among students, faculty, and seniors to enhance interpersonal relations.

8. Sensitize students through clubs like 'Club Sarthee', 'Equal Edge', and 'Club Harmony' on constitutional rights, duties, and respect for linguistic, cultural, and gender diversity.
9. Foster creativity, personality development, and soft skills through activities organized by clubs such as 'Learners' First', 'Shine and Divine', and 'Campus Collage' under Project OMAS.

Activity Schedule

- Morning Yoga & Exercise: 6:00 AM - 7:30 AM
- Know Your University Session: 10:30 AM - 11:30 AM
- Personal Development Workshop: 11:30 AM - 1:00 PM
- Human Values Session: 2:30 PM - 4:00 PM
- Creative Arts Workshop: 4:00 PM - 5:30 PM
- Evening Sports Activities: 6:00 PM - 7:00 PM

Topics of Lectures to be conducted

The constituent Colleges of the University are dedicated to imparting students with comprehensive training in diverse life skills to support holistic growth and development. This initiative strives to enhance their educational journey, making it vibrant, interconnected, and versatile, thereby ensuring that RVSKVV graduates are esteemed across all sectors of society. Deans of all Colleges are encouraged to invite experts from prestigious institutes or renowned freelance speakers to deliver lectures on the following topics:

1. Sowing Knowledge: Core Principles in Agricultural Education
2. Striving for Balance: Advances, Obstacles, and Remedies in Gender Equity in Education
3. Legal Literacy Unveiled: Fundamental Concepts and Significance
4. Celebrating Diversity: Embracing the Richness of Humanity
5. Bridging Differences: Advancing Interfaith Understanding and Religious Pluralism

6. Guiding Principles of Citizenship: Rights, Duties, and Civic Responsibilities
7. Ensuring Safety: Anti-Ragging Regulations in Educational Institutions
8. Growing Your Career: Essential Skills and Qualifications for Agriculture Success
9. Venturing into Agricultural Entrepreneurship: Opportunities and Challenges Ahead
10. Unveiling the Psychological Effects of Eve-Teasing: Impact on Victims and Society
11. Yoga and Pranayam: For Inspiring Mind, Body, and Soul
12. Developing Self-Discovery: Cultivating Self-Awareness and Confidence
13. Networking Excellence: Cultivating Connections for Career Growth
14. Encouraging Collaboration: Leadership in Team Dynamics
15. Uncovering Human Virtues: Truth, Honor, Freedom, and Courtesy
16. Empowering Youth Voices: Promoting Participation in Electoral Processes
17. Unlocking Your Potential: Self-Awareness, Confidence, and Personal Growth

The list of lecture topics provided above is not exhaustive. The deans of the Colleges have the flexibility to select related topics or pertinent subtopics that they deem appropriate and advantageous for the students in their respective Colleges.

Day wise Activities of *"ABHINANDAN"*

Day –: I Inaugural session from 9:30-10:30					
6-7:30 AM	**10:30-11:30 AM**	**11:30 AM-1PM**	**2:30-4 PM**	**4-5:30 PM**	**6-7 PM**
Yoga related activities	**Know your University**	**Shape Yourself**	**Human Values**	**Creative /Performing Art**	**Sports Activity**
Yoga And Meditation	University + Campus Profile	Lecture on "Sowing Knowledge: Core Principles in Agricultural Education"	Lecture on "Bridging Differences: Advancing Interfaith Understanding and Religious Pluralism"	Creative Art: Rangoli and Clay Modelling	Warm Up, Introduction to Badminton Grip, lift and Service
Day – II					
Yoga And Meditation	Academic rules and regulations	Lecture on "Yoga and Pranayam: for Inspiring Mind, Body, and Soul"	Lecture on "Striving for Balance: Advances, Obstacles, and Remedies in Gender Equity in Education"	Creative Art: Paper Craft	Warm Up, Introduction to Basketball Passes, dribbling,
Day – III					
Yoga And Meditation	Ragging : Curbing the menace Introduction and interaction with the anti ragging committee	Lecture on "Ensuring Safety: Anti-Ragging Regulations in educational Institutions"	Lecture on "Unveiling the Psychological Effects of Eve-Teasing: Impact on Victims and Society"	Creative Art: Collage Making	Warm Up, Introduction to Football Basic rules and regulations Passes and field positions

Day – IV					
Yoga And Meditation	Student amenities/facilities ➢ Placement Section ➢ Advisory system ➢ ARIS Cell ➢ Portal Information ➢ Smart Card ➢ Medical + Insurance Scholarship	Lecture on "Networking Excellence: Cultivating Connections for Career Growth"	Lecture on "Discovering Your Potential: Self-Awareness, Confidence, and Development"	Creative Art: Poster Making And Cartooning	Warm Up, Introduction to Kho-Kho Endurance work, footwork attack
Day – V					
Yoga And Meditation	OAMS (Over All Mentoring of Students) and information of clubs	Lecture on "Guiding Principles of Citizenship: Rights, Duties, and Civic Responsibilities"	Lecture on "Uncovering Human Virtues: Truth, Honor, Freedom, and Courtesy"	Creative Art : On The Spot Painting	Warm Up, Introduction to Volley ball, Hand Control, Passes, Service
Day – VI					
Yoga And Meditation	NCC/NSS activities of the College Hostel and Hostel rules Introduction of warden	Lecture on " Empowering Youth Voices: Promoting Participation in Electoral Processes"	Lecture on "Legal Literacy Unveiled: Fundamental Concepts and Significance"	Performing Art : Theatre Mono Acting, One Act Play ,Skit	Warm Up, Introduction to Cricket and its rules

Day – VII Concluding session					
Yoga And Meditation	Concluding session: a. Welcome by the dean b. Feedback from the new students c. Prize Distribution d. Introduction and interaction with the senior students e. Prize distribution, Distribution of UG study material, rules and regulations of academics, hostels ragging etc. Course curriculum f. Address by the chief guest g. Vote of thanks	Film Show Lunch Party for All students, faculty and staff			

GLIMPSES OF CULTURAL/SPORTS ACTIVITIES


वी. एम. कृषि महाविद्यालय खण्डवा


FIT
INDIA

Empowering Organization with Zero Tolerance A Comprehensive Report on Policy Awareness and Action

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya (RVSKVV) has reinforced its zero tolerance policies through mandatory training, regular communication, and active leadership engagement. Initiatives include workshops, intranet updates, newsletters, and visible leader support. Despite progress, challenges remain in awareness and compliance. To address these, enhanced training, improved communication methods, and strengthened support services for reporters are recommended. Continuous monitoring and feedback will ensure the policies remain effective and widely understood, fostering a respectful and ethical environment at RVSKVV.

2. Objectives

The primary objectives of this initiative are:

- To nurture a culture of integrity and respect within RVSKVV.
- To ensure that all employees, students, and stakeholders are aware of and adhere to policies with zero tolerance for misconduct.
- To evaluate the effectiveness of current policies and awareness programs.

3. Policies with Zero Tolerance

RVSKVV's zero tolerance policies include, but are not limited to:

- Anti-Harassment Policy: Prohibits any form of harassment or discrimination based on race, gender, religion, disability, or any other protected characteristic.
- Anti-Discrimination Policy: Ensures equal opportunities for all individuals, free from bias or prejudice.

- Ethics and Conduct Policy: Mandates ethical behavior in all university activities and interactions.

4. Role of Project Shake Hands in Implementation of Zero Tolerance Anti-Ragging Policy

Project Shake Hands is central to the effective implementation of the Zero Tolerance Anti-Ragging Policy at Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya (RVSKVV), Gwalior. Its role is multifaceted, focusing on promoting awareness, facilitating reporting, ensuring compliance, and fostering a culture of respect and inclusivity.

Project Shake Hands is tasked with raising awareness about the anti-ragging policy across the university. This involves organizing workshops, seminars, and orientation programs designed to educate students, faculty, and staff about the policy's provisions, the detrimental effects of ragging, and the importance of maintaining a ragging-free campus. Additionally, the project is responsible for creating and disseminating educational materials, including brochures, posters, and digital content, to reinforce the message and ensure widespread understanding of the policy.

In addition to awareness, Project Shake Hands plays a crucial role in facilitating the reporting of ragging incidents. The project establishes and maintains confidential reporting mechanisms, such as help lines and online platforms, to enable students and staff to report incidents anonymously and safely. Ensuring that victims and witnesses feel secure and supported in coming forward is a key priority, and the project provides necessary counseling and support services to those affected by ragging.

To ensure that the anti-ragging policy is effectively enforced, Project Shake Hands monitors compliance across the university. This includes regular reviews of policy adherence and support for the Anti-Ragging Committee in handling investigations of reported incidents. The project assists in ensuring

that all cases are addressed in a timely and fair manner, in accordance with university regulations.

Preventive measures are also a significant focus of Project Shake Hands. The project promotes positive student interactions through initiatives such as peer mentoring programs, social integration activities, and team-building events. It runs periodic awareness campaigns to continuously remind the university community of the anti-ragging policy and its consequences, reinforcing the importance of a respectful and inclusive environment.

Furthermore, Project Shake Hands collaborates with various stakeholders to maximize its effectiveness. It works closely with the Anti-Ragging Committee to align efforts and support policy enforcement. The project engages with student bodies to address concerns and promote the policy, while also involving faculty and staff in monitoring and addressing potential issues related to ragging.

Finally, Project Shake Hands is committed to evaluating its impact and effectiveness regularly. It conducts assessments to identify areas for improvement and make necessary adjustments to its strategies. A feedback mechanism is established to gather input from the university community, ensuring that the project remains responsive to emerging concerns and continuously enhances its efforts to maintain a ragging-free environment.

5. Role of Abhinandan in Curbing the Menace of Ragging

Abhinandan plays a pivotal role in addressing and mitigating the issue of ragging at Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior. As a part of the "Abhinandan: A Student Induction Programme," Abhinandan is responsible for:

Educating New Students: Providing comprehensive information about the zero-tolerance policy towards ragging, including its definitions, consequences, and preventive measures.

Promoting a Safe Environment: Emphasizing the importance of mutual respect and creating a supportive community where all students feel secure and valued.

Fostering Open Communication: Encouraging new students to voice any concerns or incidents related to ragging and ensuring they understand the reporting mechanisms available to them.

Engaging with Staff and Parents: Collaborating with faculty and parents to reinforce the commitment to a ragging-free campus and ensuring they are well-informed about the university's policies and procedures.

Facilitating Interactive Sessions: Conducting workshops and discussions that address the impact of ragging and promote positive interactions among students.

Building Awareness: Utilizing real-life examples and testimonials to illustrate the serious consequences of ragging and the importance of maintaining a respectful and inclusive academic environment.

Through these efforts, Abhinandan aims to create a welcoming and secure atmosphere for all new students, laying the foundation for a positive and enriching college experience.

6. Awareness Campaigns

To reinforce these zero tolerance policies, RVSKVV has undertaken the following awareness campaigns:

6.1. Training Programs

- Mandatory Workshops: All employees and students are required to participate in annual workshops focusing on the university’s zero tolerance policies. These workshops cover practical scenarios, reporting procedures, and support systems available.
- Special Seminars: Conducted periodically with external experts to provide fresh perspectives and updates on legal and ethical standards.

6.2. Communication Channels

- Intranet Portal: Updated with detailed information on policies, procedures, and contact points for reporting grievances.
- Monthly Newsletters: Feature articles and case studies related to policy enforcement and real-life applications.
- Posters and Brochures: Displayed in common areas to remind individuals of their rights and responsibilities.

6.3. Leadership Engagement

- Regular Meetings: University leadership holds quarterly meetings to discuss policy enforcement, review incident reports, and strategize on improvements.
- Visible Support: Leaders publicly affirm their commitment to zero tolerance policies through speeches and statements.

7. Monitoring and Evaluation

7.1. Feedback Mechanisms

- Surveys and Feedback Forms: Regularly distributed to gather insights from employees and students about the effectiveness of awareness programs and any potential areas for improvement.
- Anonymous Reporting: Established channels for confidential reporting of policy violations and concerns.

6.2. Incident Tracking

- Database of Incidents: Maintained to track reported cases, resolutions, and trends over time.
- Annual Reports: Generated to review the incidence of policy violations and the effectiveness of responses.

8. Challenges and Areas for Improvement

Despite our efforts, several challenges have been identified:

- Awareness Gaps: Some members of the university community remain unaware of specific policies or reporting procedures.
- Policy Compliance: Instances of non-compliance indicate a need for more targeted interventions.

9. Recommendations

To address these challenges and further enhance our zero tolerance policies, the following recommendations are proposed:

- Enhanced Training: Implement interactive training modules and simulations to increase engagement and retention of policy knowledge.
- Improved Communication: Utilize more diverse communication methods, including social media and mobile apps, to reach a wider audience.
- Increased Support Services: Strengthen support services for individuals who report violations, ensuring they receive timely assistance and protection.

RVSKVV is committed to maintaining a respectful and equitable environment through stringent adherence to zero tolerance policies. Our ongoing efforts in awareness, training, and monitoring are crucial to upholding these standards. By addressing identified challenges and implementing recommended improvements, we aim to foster a culture of integrity and respect within the university community

GLIMPSES OF Zero Tolerance


GPS Map Camera


Ministry of Education
University Grants Commission
#YaARIYouthAgainstRagging
ANTI RAGGING
WORKSHOPS | COMPETITIONS | CONTEST | CAMPAIGNS | FESTIVALS
National Anti-Ragging Day: 12 August | National Anti-Ragging Week: 12 – 18 August

RESEARCH

4. RESEARCH HIGHLIGHTS:

The research network of the University spreads over six agro-climatic zones of Madhya Pradesh and covers 26 revenue districts. These agro-climatic zones are Gird, Malwa Plateau, Nimar Valley, Jhabua Hills, Vindhyan Plateau and Bundelkhand zones. Accordingly, five Zonal Agricultural Research stations, four Regional Agricultural Research Stations and five Special Research Stations have been operating to enhance the productivity and livelihood security of farming community. Presently, 24 All India Coordinated Research Projects on crop improvement, natural resource management and horticulture are running at different centers. Besides these, 7 plan, 12 non plan, 23 tribal sub plan, 5 Agromet Advisory services, 04 externally funded projects are the research strength of the University. The maintenance breeding of crop varieties and production of nucleus seed, breeder seed, hybrid seed and planting materials are managed with the help of twenty seven seed farms.

Research Stations of the University

S.No.	Particulars	No.	Location and Year of Establishment
1.	Zonal Agricultural Research Station	05	Indore (1924), Sehore (1952), Khargone (1964), Morena (1981) and Jhabua (1989)
2.	Regional Agricultural Research Station	04	Gwalior (1916), Khandwa (1964) Ujjain (1989) and Mandsaur (1964)
3.	Special Research Station	06	Enthkedi (1962), Jaora (1964), Bagwai (1964), Badwah (1969), Bhind (2010) and Sirsod (2011)

4.1 List of All India Coordinated Research Projects

S.No.	Name of Projects	Centre
1	AICRP on Water Management	Morena
2	AICRP on Groundnut	Gwalior
3	AICRP on Rapeseed & Mustard	Morena
4	AICRP on Safflower	Indore
5	AICRP on Soybean	Sehore
6	AICRP on Cotton Improvement Project	Khandwa
7	AICRP on Sorghum improvement	Indore
8	AICRP on Chickpea	Sehore
9	AICRP on Pigeonpea	Khargone
10	AICRP on Pearl Millets	Gwalior
11	AICRP on Wheat Improvement Project	Gwalior
12	AICRP on Dryland Agriculture	Indore
13	AICRP on Medicinal and Aromatic Plants	Mandsaur
14	AICRP on Salt Affected Soils(Volunteer Centre)	Indore
15	AICRP on Weed Control	Gwalior
16	AICRP on Arid Legumes (Guar)	Gwalior
17	AICRP on Pigeonpea (Sub Centre)	Sehore
18	AICRP on MULLaRP	Sehore
19	AICRP on Integrated Cropping System	Indore
20	AICRP on Fruits (Grape)	Mandsaur
21	AICRP on Chickpea	Indore
22	AICRP on Soybean	Morena
23	AICRP on Onion & Garlic	Mandsaur
24	ICAR Seed Project on Seed Production in Agricultural	Gwalior

4.2 Research Schemes (Non Plan)

S. No.	Name of Scheme/Project	Centre
1	Agriculture Research Lab & Institute	Indore
2	Regional Research Station	Indore
3	Soil Testing Scheme	Indore
4	Regional Research Station	Sehore
5	Regional Research Station	Gwalior
6	Regional Research Station	Bagwai
7	Intensification of Research on Mango Guava & Citrus	Gwalior
8	Soil Testing Scheme	Gwalior
9	Intensification of Research on Mango, Guava & Citrus	Enthkedi
10	Horticulture Research Scheme (Seed production)	Jaora
11	Sugarcane Research Scheme	Indore
12	Potato Aphid Research	Sehore

Seed Farms (Non Plan)

S. No.	Name of Scheme/Project	Centre
1	Agriculture Research Farm	Mandsaur
2	Agriculture Research Farm	Khargone
3	Agriculture Research Farm	Khandwa
4	Agriculture Research Farm	Bagwai
5	Agriculture Research Farm	Gwalior
6	Agriculture Research Farm	Ujjain
7	Agriculture Research Farm	Jaora
8	Agriculture Research Farm	Indore
9	Agriculture Research Farm	Sehore
10	Live Stock Farm	Gwalior
11	Live Stock Farm	Sehore
12	Live Stock Farm	Indore

4.3 Research Schemes (Plan)

S. No.	Name of Scheme/Project	Centre
1	Fodder Research Scheme	Gwalior
2	Strengthening of MP Agriculture Research Institute	Khargone
3	Productivity Improvement of crops under rainfed area	Indore
4	National Agricultural Research Project	Sehore
5	Director of Extension Education	Sehore
6	National Agricultural Research Project	Ujjain
7	College of Horticulture	Mandsaur

4.4 India Meteorological Department (GOI)

S. No.	Name of Scheme/Project	Centre
1	Agromet Advisory Services	Morena
2	Agromet Advisory Services	Khargone
3	Agromet Advisory Services	Jhabua
4	Agromet Advisory Services	Sehore
5	Agromet Advisory Services	Indore

Externally Funded Projects:

Sr. No.	Title of the Project	Funding agency	Budget (Rs. in lakhs)
1.	Technology dissemination through Frontline demonstration plots under Mission for Integrated Development of Horticulture (MIDH).	Directorate of Areca nut and Spices Development (DASD), Ministry of Agri. & Farmers Welfare, Govt. of India, Calicut, Kerala	21.95
2.	Assessment of the effect of Poly 4 on growth and productivity of Soybean and Cotton in Nimar Region of Central India.	Anglo American Wood smith Limited, London	13.42
3.	Strengthening of IBDC for production processing, quality testing, packaging and marketing of honey for benefitting of bee keepers in M.P.	National Bee Board, Department of Agriculture and Farmers Welfare, Ministry of Agriculture & Farmers Welfare Govt. of India	270.47
4.	A Project on "Assessment of Sedimentation rate in reservoirs of Gird Agro-Climatic Zone of M.P. Using Geo-Spatial Technology"	MP CST, Bhopal	6.00
5.	Establishment of Pesticide Residue Analysis Laboratory at Zonal Agricultural Research Station, Khargone (New Center-College of Agriculture, Khandwa.)	RKVY	271.450
Total			**583.29**

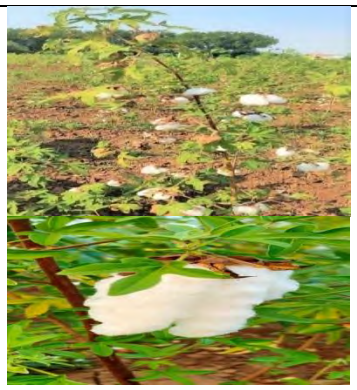
Consultancy Processing Cell

- Under CPC since April 2022 to March 2023 an amount Rs. 636.31 Lakhs has been generated by product testing on various crops. The total 52 companies are involved in product testing during this period.

VARIETIES NOTIFIED AND RELEASED –

Safflower (RVSAF 14-1): Non spiny Safflower variety, Early in Maturity: 126 days, High seed yield: 1792 kg/ha, Bold seed: 5.86 g /100, seedOil percentage: 29-30%. It is suitable for Madhya Pradesh State	
Safflower (RVSAF 18-3): Spiny, Safflower Variety, Grain Yield 17-18 q/ha, Tolerant to Alternaria leaf spot and wilt diseases, Oil content: 33-35% , maturity: 127-132 days, It is suitable for of Madhya Pradesh State	
Wheat (TRVW-155): TRVW155 is a high yielding wheat variety with average yield 55-59q per ha. Maturity 120 days; Plant height 94 cm.; 1000 grain weight 44g; Protein content 11.0%, showed resistance to wheat blast, stripe rust, leaf rust and stem rust, this variety has been recommended for timely sown irrigated conditions of low and medium fertility soils of MP (SVRC)	
Lentil (Raj Vijay Lentil– 15-4): RVL 15-4 is a early maturing variety (102 days) with high yield potential 25.90 q/ha (16.7 q/ha average) and large Seed Size, Plant type is semi erect, medium height and branches with broad leaf which is very much suitable for intercropping. Multiple disease resistant-resistant- Wilt, Ascochyta Blight, Root Rot, Rust. Recommended for cultivation in Madhya Pradesh State (SVRC)	
Soybean (Raj Vijay Soybean- 124/ (RVS-124): RVS 124 is an early maturing variety, (average maturity 90-95 days), High yielding with average yield of 19-20q/ha, Medium seed size of 10.64 g 100 seed weight. Multiple disease resistance for YMV, Charcoal rot, TLS, RAB etc. Recommended for cultivation in Madhya Pradesh State (SVRC)	
Pigeon pea (RVSA-14-2) : Medium plant height with semi-spreading growth habit, Green Pods with light black strips,Green Stem Moderately resistant to wilt, Recommended for cultivation in Madhya Pradesh State (SVRC)	

Pigeon pea (RVSA-16-1): Semi-spreading, medium bold seeded with a mean of 100 seed weight of 9.87 g., Protein content:17.6%, Pods green with black streaks, Moderately resistant to wilt, Helicoverpa, Sterility Mosaic Disease, Recommended for cultivation in Madhya Pradesh State (SVRC)	
Black Gram (Raj Vijay Sehore Urd-1 /(RVSU-1) : RVSU 1 is black seeded, medium size (4.1 g / 100 seed), medium maturing (73 days) and high yielding variety(10q/ha).Suitable for Kharif season; Also fit to sow between II to IV week of July. Moderate resistance to Mungbean Yellow Mosaic Virus, Powdery Mildew, Anthracnose & Root rot. Recommended for cultivation in Madhya Pradesh State (SVRC)	
Green Gram (Raj Vijay SehoreMung-1/(RVSM-1): Early Maturing (63 to 70 days) variety. Suitable for both season Kharif and Zaid / summer. High yielding (Av. 765 kg/ha); Medium seed size Multiple disease resistant/ tolerance- MYMV (MR), ULCV (HR),LCV (MR) & Anthracnose (MR). Moderately resistant to Maruca; Tolerant to lodging, Pod shattering. Recommended for cultivation in Madhya Pradesh State (SVRC)	
Green Gram (RVIM 750-1): Wider adaptability with average yield of 1009-1217 kg per hectare. Bold seeded (3.87 g per 100 seed-weight). Semi erect plant habit and matures in 68.3 days.Showed High resistance to Urdbean Leaf Crinkle Virus, Leaf curl virus, Web blight, Cercospora leaf spot, Anthracnose, Bacterial leaf spot and Macrophomina blight. Recommended for cultivation in Madhya Pradesh State (SVRC)	
Sorghum CSV-54HB/ (RVJ- 2714)/ (SPV-2714): Grain yield : 35-43 q/ha. Dry fodder yield: 130-140q/ha. Medium maturing :106-110days, Medium to tall plant height of 240-250 cm; Good fodder quality-IVDMD 48.1% , less lignin %, ADF % & NDF % ; Moderately tolerant to shoot fly, stem borer & grain mold. Suitable for Telangana, Gujrat, Punjab, Uttrakhad and Madhya Pradesh	

Raj Vijay Jaivik Kapas-SGF-1(RVJK-SGF-1) Adopted for organic cultivation, High responsive to organic inputs, High Seed Cotton Yield (8.87q/ha)in Organic Cultivation , All most synchronous maturity (80% boll bursting in first picking), Average ginning out turn (32-34%), Medium long fibre (28-30mm, 2.5% span length) , High fibre strength (27-30 g/tex) , Medium Fineness (4-4.5Micronaire value) , Fibre Uniformity (75-82%), Suitable for 16s to 34s count spinning to make a good quality fabric, mSuitable for all cotton growing area of Madhya Pradesh	
Raj Vijay Jaivik Kapas-SGF-2(RVJK-SGF-2) Adopted for organic cultivation, High responsive to organic inputs, High Seed Cotton Yield (8.3 q/ha)in Organic Cultivation, All most synchronous maturity (80% boll bursting in first picking), Average ginning out turn (32-34%), Medium long fibre (29-30mm, 2.5% span length) , High fibre strength (29-30 g/tex) , Medium Fineness (4-4.5Micronaire value) , Fibre Uniformity (81-83%), Suitable for 20s-50s count spinning to make a good quality fabric , Suitable for all cotton growing area of Madhya Pradesh	
Basil (Raj Vijay Basil-13) RVMOB-13: Spike- Long and light green color, medium spikelet and upper side 4-5 spike let light violet, Seed yield kg/ha- 1055.6 kg, Oil content - 0.77%, No. of spike /plant – 224, Days to 50% Flowering- 56 Days. It is suitable for of Madhya Pradesh, Gujarat, Rajasthan and Uttar Pradesh.	
Basil (Raj Vijay Basil-16) RVMOB-16: Spike- Long and light green color, high spikelet and upper side 4-5 spike let light violet at spikelet initiation, Seed yield kg/ha- 1059 kg, Oil content -0.71%, No. of spike /plant - 210, Days to 50% Flowering- 67Days, Plant height - 87.5cm, Plant height - 98.5 cm. It is suitable for of Madhya Pradesh, Gujarat, Rajasthan and Uttar Pradesh.	

REFLECTIONS OF ONGOING PROJECTS (RESEARCH ACHIEVEMENTS):

Maize-chickpea cropping system under high rainfall in *Vertisols*. Three crop sequences Soybean-Chickpea/Safflower/Chickpea (Kabuli), Maize-Chickpea/Safflower/ Chickpea (Kabuli) and Black gram- Chickpea/ Safflower/ Chickpea (Kabuli) were tested under rainfed condition of *Malwa* Plateau. Out of these, maize-chickpea found more productive and remunerative under high rainfall condition. The highest net return Rs. 93860/- with B: C ratio of 2.59 was noted under maize-chickpea. Maize-chickpea system more sustainable as resulted in lower runoff and soil losses compare to other cropping systems.	  **Maize-Chickpea sequence**
Furrow Irrigated Raised Bed System (FIRBS) is more efficient for dry spell mitigation in *Vertisols*. Excessive loss of rainwater through runoff, loss of fertile topsoil through sediment loss and problem of water congestion during the heavy rainfall period are the major constraints for low productivity of *Vertisols* of Malwa Plateau. Among sowing techniques the maximum seed yield was recorded under Furrow Irrigated Raised Bed System compared to other sowing techniques (BBF and Sweep Blade). This system recorded 12.93 % higher seed yield of soybean as compared to Sweep Blade type Seed Drill. The Raised Bed Furrow System is particularly suitable for *Vertisols* of *Malwa* Plateau. This technique works best on black soils of the area with intense rainfall averaging 900 mm or more per annum. This system reduces the runoff and consequently soil losses.	  FIRBS
Maize-chickpea with FIRBS is high productive and profitableunder rainfed condition. Three crop sequences *i.e.***Soybean**- Chickpea, **Maize**- Chickpea and **Green gram**- Chickpea were grown with three land configuration treatment *viz.* Farmers practice (Flat sowing), Broad Bed Furrow system (BBF) and Furrow Irrigated Raised Bed system (FIRBS) under rainfed condition. The maximum soybean equivalent yield was recorded under FIRB with maize-chickpea system followed by BBF-maize-chickpea system. Similarly, maximum net return and B: C ratio were also found under FIRB with maize-chickpea followed by BBF - maize-chickpea. This system conserve the soil moisture and safely carryout the runoff. This system makes heavily soil more workable by improving drainage and extending the opportunity time for infiltration.	  **Maize-Chickpea sequence**

Integrated use of organic (FYM) and inorganic fertilizers (N:P) in soybean grown in *Vertisols*

Based on the average of last 30 years, treatments T_6 (FYM 6 t ha^{-1} + N20 P13) gave highest seed yield was found significantly superior with regards to seed productivity however, treatment T_6 was found superior to rest of the treatments with regards to improvement in physical and chemical properties of the soil. The treatment T_1 *i.e.,* control was found statistically inferior in respect of yield and fertility status. Organic matter decomposition has indicated the advantage of recycling organic matter and nutrients from farmyard manure. The organic matter contained in them influences the physical, chemical and biological properties of the soil. These study clearly indicate that a part of the inorganics can be substituted, thus substantially cutting the cost of cultivation. These sources need to be tapped in future as alternatives for deriving nutrients and improving soil health.

N20P13 + FYM 6 t/ha

Conservation tillagein soybeanunder *Vertisols.*

From long-term tillage management experiment, suitable conservation tillage management optionsfor soybean-based system have developed for *Vertisols*, which reduce loss of carbon from the system and improve the energy utilization efficiency of the system. Out of 8 technology tested under field condition only one technology (Low till + 4 t/ha straw + Hand Weeding) was found best in respect of seed yield of soybean (24.09 q/ha), net return (Rs 11195/-), B:C ratio (0.87) and rain water use efficiency (1.28 kg/ha/mm). The conservation tillage saved energy and time during field operation and improve soil physical health and organic carbon compared to conventional tillage operation.

Low Tillage+ 4 t ha^{-1} Straw+ Hand Weeding

Management of Pigeonpea Cercospora Leaf Spot Disease

Management of Cercospora Leaf spot disease by Seed treatment of Trichoderma sp. 1% WP @ 12 g + Imidacloprid 70 % WS @ 5 g + 25 g Rhizhobium + 25 g PSB per kg of seed followed by foliar spray of DAP @ 2 % + multi-micronutrient @ 2 ml / lit. of wateror Spraying of Pseudomonas fluorescens 1.75% WP @ 5 g/lit. ofwater immediately after occurrence of fungal leaf spot disease in pigeonpea crop

Management of sowing window of sorghum genotypes under climate change situation

Sowing of sorghum by 15th June is found ideal time for sowing and recorded 108.3% higher grain yield than yield of 30th June sowing.30th June of sowing also gave significantly superior yields as compared to July sowings. Thus, farmers obtaining more than 50% higher yield of grain and fodder of sorghum with low incidence of shoot fly in Madhya Pradesh

Integrated Nutrient Management in grain Sorghum Application of 5t FYM + 80:40:40 kg N: P_2O_5 : K_2O gave 20 % yield advantage over RDF alone and 50 % over application of 5t/ha FYM alone	
Resource Conservation Technology in sorghum Sowing of Sorghum on ridges under ridge and furrow system produced 28.6% higher grain and 17.8% higher fodder yield and spreading of green weed biomass @6 tonnes/ha as mulch noted 17.7 % higher moisture content over no mulch. By adoption of this technology farmers recorded significantly higher yields due to the situation of dry spell/ drought and save one irrigation as well as they can save the crop from continuous heavy rains which is occurred in Madhya Pradesh in present scenario due to sowing on ridges	
Productivity of Crops with Tillage and Relaying of B*erseem*in Mustard- Pearlmillet System Sowing of sorghum by 15th June is found ideal time for sowing and recorded 108.3% higher grain yield than yield of 30th June sowing.30th June of sowing also gave significantly superior yields as compared to July sowings. Thus, farmers obtaining more than 50% higher yield of grain and fodder of sorghum with low incidence of shoot fly in Madhya Pradesh.	
Response of irrigation method and its scheduling on soybean-chickpea cropping sequence in alluvial soils The irrigation methods and its scheduling showed significantly effect on seed yield of soybean and chickpea. The yield of soybean and chickpea were maximum increased by 39 and 15% with 0.6 IW/CPE as compared with 0.4 IW/CPE ratio. Like-wise, compared with check basin method the seed yield of soybean and chickpea increased by 6 and 12% with sprinkler irrigation, respectively. The additional returns and B:C ratio also recorded higher as mentioned in above treatments. The integration of sprinkler irrigation at 0.6 IW/CPE ratio in soybean – chickpea cropping system will help to obtained maximum production, net returns and maintain soil health in place of fellow-mustard practice in Chambal division.	
Variatal improvement in Wheat Wheat variety, MP-4010 developed at RVSKVV Gwalior centre is best released for Central Zone is best suitable for late planting and terminal heat tolerance.	
Wheat variety RVW4106 developed at RVSKVV Gwalior Centre suitable for late planting and terminal heat tolerance, yields up to 50-55q/ha. under irrigated condition. Best suitable for gird zone where terminal heat tolerance is major problem.	

Breeder seed production *Rabi 2022*-23: A quantity of 6113.62 quintals of breeder seed produced of various crops namely wheat, Gram, Lentil, Pea, Rapeseed & Mustardproduced during Rabi 2022-23.

Sr. No.	Rabi 2022-23 (in qtls)	
1.	Gram	2724.00
2.	Wheat	3271.00
3.	Lentil	86.00
4.	Pea	1.50
5.	Rapeseed & mustard	31.12
Total		**6113.62**

Breeder seed production *Kharif 2022*: A quantity of **3556.24**quintals of breeder seed produced of various crops namely Soybean, Green Gram, Black Gram, Sorghum,Paddy and Til produced during Kharif 2022.

Sr. No.	Kharif 2022	
1.	Soybean	2716.0
2.	Green gram	17.67
3.	Black gram	4.75
5.	Sorghum	6.80
8.	Paddy	808.45
10.	Til	2.57
11.	**Total**	**3556.24**

REPORTS OF DIFFERENT CENTRES

ALL INDIA COORDINATED RESEARCH PROJECT ON COTTON

Crop Improvement:

National Trials

IET - *G. hirsutum* (IRRIGATED)

17 entries were tested in this trial out of which five were differed significantly for seed cotton yield against local JK-5(5.51q/ha) and zonal check, AKA-7(5.34q/ha). The highest seed cotton yield was recorded by the variety CNA 1085(8.78q/ha) followed by AKA 2016-3(8.36q/ha), GAM 296(8.30q/ha), JLA 1707 (7.53q/ha) and CNA 1086(7.01q/ha).The highest number of boll/plant was recorded in entry CAN 1085(34.6) followed by GAM 296(33.6). The plant height(cm) ranged between 104.13 cm(CNA 1084) to 139.0cm (GAM 296). The boll weight (g) ranged between 2.1g (GVav 1332) to 2.8 g(GBav 181).

Zonal Trials

PVT Coloured cotton - Irrigated

9 entries were tested in Br03CC trial. The significant differences were observed for most of the traits. Plant height ranged between 71. 9 cm(DHCC 2151) to 106. cm (Phule Yamuna).The hiegst number of boll//plant was recorded in CNH 20449(33.8) followed by CNH 19480(33.3).The ginning percentage was ranged between 30.0 to 37.8. The highest GOT(%) was observed in CNH 20449. The seed cotton yield was ranged between 9.6 q/ha to 14.5 q/ha. The highest seed cotton yield was recorded by the entry CCH 20452(14.05 q/ha) followed by 16301 DB(13.70 q/ha), CNH 19325(13.48 q/ha) and CNH 20449 (12.80 q/ha) against the zonal check Phule Yamuna(10.04 q/ha) and local check JK-4(9.60 q/ha).

CVT – *G. arboreum* under irrigated condition

10 entries of G. arboreum varieties were tested in this(24bCVT) trial. The significant differences were observed for seed cotton yield(q/ha). All the entries were differed significantly from zonal check AKA7(5.36 q/ha) but at par with local check JK-5(8.0 q/ha). The highest seed cotton yield was recorded in AKA 2016-11(9.48 q/ha) followed by JLA 1204(9.29 q/ha), GAM 266(8.81 q/ha) and CNA 1072(8.32 q/ha).The range of plant height was 123.6 to 144.07 cm, the tallest entry was JLA-1430(144.07 cm).The boll/plant ranged

between 17.67(AKA7)-37.20(AKA 2016-11). The range of boll weight (g) was 2.40 g (PA 255)- 2.73 g (JLA 1204).The highest GOT(%) was recorded in AKA7(36.3) followed by JK-5(34.9) and GAM 266(34.3).

CVT-*G.arboreum*Coloured Cotton

Six entries were tested in G.arboreum coloured cotton trial (24 B CC). All the entries differed significantly from local check JK-5(6.03q/ha) and zonal check AKA7(7.0 q/ha) for seed cotton yield. The highest yielding entry was DDCC 2001(10.61q/ha) followed by CNA 19475(9.64 q/ha), CNA 20402(8.94 q/ha) and CNA 1092(8.34 q/ha). All the entries are at par with checks for plant height (cm),boll/plant and boll weight(g).

Coordinated Programme : ICAR Bt Trials

IET : H X H Hybrid

Twenty eightBt hybrids were tested under this trial. The highest Seed Cotton Yield of 20.1q/ha was recorded by the Entry no **21007** followed by the entry no 21026(17.9q/ha), 21027(17.3q/ha), 1623.2 kg/ha) and 21005(15.6 q/ha).The range of boll/plant and boll wt (g) were ranged between 21.1-38.3 and 4.1 - 6.2g respectively. The highest number of boll/plant was recorded by the Entry no 20007 (38.3) the boll wt (g) of this entry was also highest (5.2 g).

AET1 : H X H

Ten Bt hybrids were tested under this trial. The range of Seed Cotton Yield was 12.7q/ha (Entry no 21043) – 20.2 q/ha Entry no 21044). The highest yielding hybrid was 21044(20.2q/ha). The other promising hybrids were 21042 (18.7 q/ha), 21048 (18.3 q/ha), 21050(18.3 q/ha), 21047(16.8q/ha. The range of boll/ plant was 21.5 – 36.1. The highest number of bolls was observed in the hybrid 21044(36.1). Other promising hybrids for boll/plant were 32.3(21042), 28.7(21048), 26.5 (21047).The bollwt(g) was ranged between 4.2 g –5.6 g. The promising hybrids for Boll wt(g) were 21048 (5.6 g), 21042(5.0 g), 21046(5.0g).

AET 2 : H X H – IRR

Thirteen Bthybrids were tested in this trial. The highest Seed cotton yielding hybrid was entry no 21063(17.6 q/ha) followed by the entry no 21070 (17.1q/ha), 21062 (16.6q/ha), 21066(16.0q/ha) and 21068 (15.8q/ha). The range of boll/plant was 17.3 – 34.6. The highest number of boll/plant was recorded by the variety 21063(34.6), other promising varieties were 21070 (33.3), 21066 (30.7), 21062(29.1), 21068 (28.3), 21067(27.1). The boll wt(g) was ranged between 3.9 g – 4.7 g. The highest boll wt (g) was recorded by the 21065 and 21068(4.7g) followed by 21066(4.6g), 21061(4.5g), 21070(4.4g).

IET (C) – H X H – IRR

EightBthybrids were tested in this trial. The highest Seed cotton yielding hybrid was entry no 21087(16.1q/ha) followed by the entry no 21083(14.0q/ha), 21086 (13.2q/ha), 21081 (13.1q/ha), 21082(12.4q/ha).The range of boll/plant was 7.5 – 12.2. The highest number of boll/plant was recorded by the hybrid 21087(12.2), other promising hybrids for boll/plant were 21083 (11.1), 21081 (10.4), 21086 (9.7), 21082 (9.4). The boll wt(g) was ranged between 3.9 g – 4.6g. The highest boll wt (g) was recorded by the hybrid 21083(4.3g) followed by 21082 (4.2g), 21087(4.2g).

IET:HIR Variety

ElevenBt varieties were tested in this trial. The highest Seed cotton yielding variety was entry no 21111(13.1q/ha) followed by the entry no 21118(12.6q/ha), 21113 (12.2q/ha), 21112 (11.6q/ha), 21117(11.3q/ha). The range of boll/plant was 19.2 – 26.1. The highest number of boll/plant was recorded by the varieties21111 and 21118(26.1), other promising varieties for boll/plant were 21115 (24.5), 21113 (24.1), 21117 (23.5), 21112 (22.1). The boll wt(g) was ranged between 3.1 g – 3.6 g. The highest boll wt (g) was recorded by the variety 21120(3.6 g) followed by 21111 (3.5 g), 21112 (3.3 g), 21114(3.3 g), 21115 (3.3 g) and 21117(3.3 g).

AET: HIR Variety

Seven Bt varieties were tested in this trial. The highest Seed cotton yielding variety was entry no 21133(13.5 q/ha) followed by the entry no 21131(13.3 q/ha), 21135 (12.1 q/ha), 21134 (9.4 q/ha), 21132(9.1 q/ha). The range of boll/plant was 23.6 – 33.4. The highest number of boll/plant was recorded by the varieties 21133, other promising varieties for boll/plant were 21131 (31.5), 21135 (30.9), 21137 (28.4), 21134 (26.3). The boll wt(g) was ranged between 3.27 g – 3.97 g. The highest boll wt (g) was recorded by the variety 21135(3.97 g) followed by 21137 (3.77 g), 21136 (3.7 g), 21132(3.43 g).

AET (C): HIR Variety

Seven Bt varieties were tested in this trial. The highest Seed cotton yielding variety was entry no 21096(16.1 q/ha) followed by the entry no 21091(15.1 q/ha), 21093 (14.5 q/ha), 21095 (14.5 q/ha), 21094(12.0 q/ha). The range of boll/plant was 7.4 – 12.2. The highest number of boll/plant was recorded by the varieties 21097(12.2), other promising varieties for boll/plant were 21091 (9.9), 21096 (9.4), 21093 (9.1), 21095 (8.4). The boll wt(g) was ranged between 3.9 g – 4.7 g. The highest boll wt (g) was recorded by the variety 21097(4.7 g) followed by 21093 and 21096 (4.2 g), 21094 (4.1 g), 21091 and 21095(4.0g).

CROP PRODUCTION:

Agronomic requirement of promising pre-release Bt variety CICR Bt 20-31 (Hirsutum) of CICR

The experiment was conducted with the CICR Bt 20-31 (Hirsutum) with three levels of nitrogen and spacing, which included 25 percent higher as well as 25 lower values of both the recommended dose of N and spacing. The experiment showed that the values of plant height, No of sympodia, No. of Bolls/ m2 Seed cotton yield (kg/ha) was found higher with the recommended dose of nitrogen and recommended spacing of 90 cm X 60 cm. However, the no. of monopodia and the length of sympodia and the boll weight were recorded higher under the increased level of spacing.

Agronomic requirement of promising pre-release Bt hybrid Super 2141 BG II (HXH Hybrid) of Superseed.

One field experiment was also conducted with the HXH hybrid Super 2141 BG II with three levels of nitrogen and spacing. This included recommended dose of nitrogen alongwith 25 percent higher dose and 25 lower dose. Similarly the spacing also has three levels – recommended, 25 percent higher and 25 percent lower. The plant height, No of sympodia, No. of Bolls/ m2, boll weight and Seed cotton yield (kg/ha) was found higher with the recommended dose of nitrogen and recommended spacing of 90 cm X 60 cm. while, the no. of monopodia and the length of sympodia were recorded higher under the increased level of spacing. 50% boll bursting days were also found higher with the recommended dose of spacing and nitrogen.

Agronomic requirement of promising pre-release Bt variety/ hybrid BIO 6101 BGII (HXH Hybrid) of Bioseeds

The same experiment to AGR IB(2) was carried out with the HXH hybrid BIO 6101 BG II with three levels of nitrogen and spacing. The results of the experiment showed that the no. of monopodia and the length of sympodia are higher with higher spacing however, the other paramaters like - plant height, no. of sympodia, no. of bolls/ m2, boll weight and seed cotton yield (kg/ha) were higher with the recommended dose of nitrogen and recommended spacing of 90 cm X 60 cm. Duration of crop was found non-significantly higher with the recommended spacing.

Technology for Organic Nutrient Management of Cotton

The results of the experiments reveals that the application of RDF and RD of Nutrient through organic based on P equivalent basis (12.5 t/ha FYM) were best treatments, which produced the higher values of growth and yield attributing characteristics as well as the seed cotton yield. Application of RDF was followed by nutrient supply though organic manure and combination of Seed treatment and soil application of rec. Biofertilizers (Azotobactor & PSB) and foliar application of PPFM @1% at flowering and BDS+ Neem cake 250 kg ha-1 and Intercropping with green gram and crop residue application after pod plucking. Application of PPFM was also found better in terms of productivity as compared to the control. Green manuring treatments and organic manure improved the soil organc carbon status.

Multitier Cropping Systems to enhance resource utilization, profitability and sustainability of Bt cotton (Gossypium hirsutum) production system

The results of experiment on Multitier Cropping Systems showed that the growth of cotton was not affected by incorporating of other inter crops. Highest seed cotton yield was observed under sole cotton followed by intercropping of cotton with green gram and black gram. The cotton pigeonpea intercropping in the ratio of 4:2 was on the next position. The intercropping system also suppressed the weeds. The LER was found more than 1 under all the treatments except the pigeon pea intercropping.

Effect of Bio-stimulant on growth and development of Bt cotton hybrids/ varieties

The results of the experiment indicated that application of Bio stimulant@ 4mg/litre at 45, 60 & 75 DAS (20 mg+5 litres of water +0.5 ml of DMSO) increased the growth as well as yield of cotton in Bt hybrid as well as in the Hirsutum variety. This was followed by Bio stimulant@4mg/litre at 30, 45 and 60 DAS (20 mg+5 litres of water +0.5 ml of DMSO). The lowest seed cotton yield was observed under water spray in both the genotypes.

Drought and water logging studies in cotton

The results of the experiments showed that the land configuration ridge and furrow is suitable for planting of cotton. This gave higher growth parameters as well as yield attributing characteristics and also significantly higher seed cotton yield. This was followed land configuration broad bed and furrow. Both proved better in comparison the flat bed sowing in terms of productivity of the cotton. Under drought management treatments, after depletion of 75 per cent soil moisture single spray of Salicylic acid @ 100 ppm was found better in terms of the growth and productivity followed by the application of Glycine

Betaine @ 100 ppm as compared to the control. Nutrient uptake was also recorded higher under ridge furrow sowing of cotton with application of Salicylic acid @ 100 ppm after depletion of 75 per cent soil moisture.

CROP PROTECTION:

Screening of breeding material for resistance to insect-pests

(National and Zonal Trials)

- Minimum number of aphids were found in entry PA 255 which was at par with entry GAM 296, GBav 181, CAN 1084, JK 5, GAM 288 and GLA 1641. Minimum number of jassids were found in PA 255 which was at par with GAM 296, GBav 181, CAN 1084, JK 5, GAM 288 and JLA 1641. Minimum number of whiteflies were found in entry JK 5 which was at par with entry GAM 296, GBav 181, CAN 1084, GAM 288, PA 255 and JLA 1641. There was no significant difference in PBW larvae per 20 green bolls.
- Minimum number of aphids were found in entry PA 255 which was at par with entry GLA 1204. Minimum number of jassids were found in JLA 1430 which was at par with PA 255 and AKA 2016-11. Minimum number of whiteflies were found in JLA 1204 which was at par with JLA 1430, GAM 283, PA 255, AKA 2016-11 and GAM 266. There was no significant difference in PBW larvae / 20 green bolls.
- Significantly minimum number of aphids / 3 leaves were found in JK 4. Minimum number of jassids were found in CNH 19480 which was at par with CCH 20452, Phule Yamuna and JK - 4. Minimum number of whiteflies were found in Phule Yamuna which was at par with CCH 20452, CNH 19480 and JK - 4. There was no significant difference in PBW larvae / 20 green bolls.
- Minimum number of aphids were found in entry CAN 1092 which was at par with CAN 20402 and DDCC 2001. Minimum number of jassids were found in CAN 1092 which was at par with CAN 20402, AKA 7 and DDCC 2001.There was no significant difference in number of whiteflies / 3 leaves and PBW larvae / 20 green bolls.

Seasonal dynamics to develop suitable forecasting model.

Aphid infestation was found in between 31-50 SMW with its peak during 42 SMW. Jassid infestation was found in between 32-50 SMW with its peak during 44 SMW. Whitefly infestation was found in between 34-50 SMW with its peak during 44 SMW. There was not much infestation of any boll worm in the fields.

Evaluation of Prominent and Label Claimed Insecticides against Bollworm Complex of Cotton.

Chlorantraniliprole 18.5 EC @ 150 ml/ha was found most effective insecticide for the control of Bollworm Complex in Cotton. It was found at par with Flubendiamide 39.35 SC @ 125 ml/ha, Spinetoram 11.7 SC @ 470 ml/ha and Emamectin Benzoate 5 SG @220 g/ha.

Screening of breeding lines for disease reaction.

Screening of AICCIP entries for disease reaction. Screening of breeding lines for disease reaction		
Results		
Alternaria blight	Resistant	CNA 1092, CNA 20402, AKA 7 and DDCC 2001
	Moderately Resistant	CNA 19475
	Moderately Susceptible	JK-5
	Susceptible	Nil
	Immune	Nil
Grey mildew	Resistant	DDCC 2001, AKA 7 , CNA 19475, CNA 20402and CNA 1092
	Moderately Resistant	Nil
	Immune	JK-5

Screening of AICCIP entries for disease reaction. Screening of breeding lines for disease reaction		
Results		
Alternaria blight	Resistant	2102
	Moderately Resistant	CCH 20452, DHCC 2151, CNH-19480 and CNH17395
	Moderately Susceptible	CNH19325,16301DB and CNH-20449
	Susceptible	JK 4
	Immune	Nil
Grey mildew	Resistant	CCH 20452, DHCC 2151, CNH19325, CNH1739 andJK 4
	Moderately Resistant	Nil
	Immune	Phule Yamuna , CNH 19480, 16301 DB, and CNH 20449

Screening of AICCIP entries for disease reaction. **Screening of breeding lines for disease reaction**		
Results		
Alternaria blight	Resistant	GAM 296, GAM 288, JLA 1641, GBav 137
	Moderately Resistant	CNA 1085, ZC(AKA-7) , PA 929, CNA 1084,LC, , CNA20178,
	Moderately Susceptible	JLA 1707, GVav 1332, CNA 1086, QC (PA 255),
	Susceptible	NIL
	Immune	PA 919, GBav 181
Grey mildew	Resistant	CNA 1085, GAM 296, PA 919, GBav 181, JLA 1707, PA 929, CNA 1084, GVav 1332, LC, CNA20178, AKA 2016-3, CNA 1086
	Moderately Resistant	NIL
	Immune	ZC (AKA 7), GAM 288, QC (PA 255), JLA 1641, GBav 137

Screening of AICCIP entries for disease reaction. **Screening of breeding lines for disease reaction**		
Results		
Alternaria blight	Resistant	JLA-1430, ZC (AKA 7), AKA 2016-11, JLA 1204
	Moderately Resistant	GAM 283, CNA 1072, QC (PA 255), GAM 266, LC
	Moderately Susceptible	GAM 269
	Susceptible	NIL
	Immune	NIL
Grey mildew	Resistant	JLA-1430, GAM 269, CNA 1072, QC (PA 255), AKA 2016-11, LC, JLA 1204
	Moderately Resistant	NIL
	Immune	ZC (AKA 7), GAM 283, GAM 266

ALL INDIA COORDINATED RESEARCH PROJECT ON CHICKPEA

CROP IMPROVEMENT

A. Coordinated varietal trials:

Initial Varietal Trial (Desi)

Seed yield was ranged from 674 to 3396 Kg/ha among tested genotypes Genotype, C-22612 showed highest seed yield followed by C-22594 and C-22577 The lowest seed yield was observed in entry C-22570.

Initial Varietal Trial (Rainfed)

The variation in seed yield was ranged from 662 to 2243 Kg/ha among tested genotypes . Entry RVG 202was recorded the highest seed yield followed by C-22739 and C-22731. The lowest seed yield was noted in C-22755

Initial Varietal Trial (K+ELSK)

Seed yield was ranged from 210 to 1530 Kg/ha among tested genotypes Genotype, C 22803 recorded the highest seed yield (kg/ha) followed by C 22804 &C 22809. The lowest seed yield was noted in C-22806

Initial Varietal Trial (MHT)

The variation in seed yield was ranged from 652 to 2347 Kg/ha among tested genotypes . Genotype C-22940 was recorded the highest seed yield followed by RVG 204 and C-22925, whereas, genotype C-22933 reported lowest seed yield.

Advance Varietal Trial (Rainfed)

Seed yield was ranged from 1142 to 1627 Kg/ha among tested genotypes Genotype, C 22716 recorded the highest seed yield (kg/ha) followed by C 22717 &C 22715. The lowest seed yield was noted in C-22722

Advance Varietal Trial (DTIL)

Seed yield was ranged from 898 to 1434 Kg/ha among tested genotypes. Entry C 22991 recorded the highest seed yield (kg/ha) followed by C 22985 and C 22990 .The lowest seed yield was noted in C- 22991

B. State Varietal trials

Desi: Seed yield was ranged from 963 to 2331p Kg/ha among tested genotypes. Genotype, RVSVT D 12 recorded the highest seed yield followed by RVSVT D 08 and RVSVT D 05. The lowest seed yield was noted in SAGL 162276.

Kabuli: Seed yield was ranged from 562 to 2048 Kg/ha among tested genotypes. RVKG 111 and reported highest seed yield followed by RVKG 151 and RVKG 101 X RVKG 151. The lowest seed yield was noted in JGK 05.

Peashaped: Seed yield was ranged from 1468 to 2356 Kg/ha among tested genotypes. Genotype RVSVT PS 203 recorded the highest seed yield followed by RVSVT PS 201 and RVSVT PS 207. The lowest seed yield was noted in RVG 210.

C.Hybridization programme:

Eighteen new crosses were made successfully including seven national crosses in order to introduce early maturity, resistance to biotic and abiotic stress along with high yield in *desi* and *kabuli* chickpea.

CROP PRODUCTION

Agronomic evaluation of AVT 2 chickpea genotypes

Agronomic evaluation of AVT 2 chickpea genotypes (Drought tolerant introgression lines), chickpeavariety NC 9 recorded maximum seed yield of 1875 kg/ha followed by JAKI 9218 (1694 kg/ha).

Mitigating soil deficit stress in rainfed chickpea through hydrogel and plant growth regulators

Application of hydrogel significantly influenced seed yield of chickpea. Hydrogel application @ 5 kg/ha recorded significantly higher seed yield of 1886 kg/ha than 2.5 kg/ha application of hydrogel (1733 kg/ha) and no hydrogel .Foliar spray of plant growth significantly influenced seed yield of chickpea. Application of NPK (19:19:19 0.5%) recorded higher seed yield (2115 kg/ha) followed by application of urea 2% (2032 kg/ha) as compared to control (water spray) 1439 kg/ha.

Efficient Weed management in chickpea through new generation herbicides.

Among the herbicides the application of Oxyfluorfen 150 g ai/ha- Propaquizafop 100 g ai/ha at 15-20 DAS (PE+ POE) recorded higher seed yield 2269 kg /ha found significantly superior then rest of the treatments for the management of weeds in chickpea. Application of Oxyfluorfen 150 g ai/ha - Topramezone 20.6 g ai/ha at 14-21 DAS(PE+ POE) (2127) kg/ha) and Oxyfluorfen 150 g ai/ha- Quizalofop- p- ethyl 100 g ai/ha at 15-20 DAS (PE+ POE) (2108 kg/ha) at par with each other. Application of Propaquizafop 100 g ai/ha at 15-20 DAS (POE) also found significantly superior than control.

Microbiology:

Multilocation testing of Mesor*hizobium*strains for N_2fixation and grain yield

All the tested *Rhizobium* strains could significantly increase the grain yield of chickpea by by 17.8 to 23.4 % and also N uptake over the un-inoculated control (1061.3kg/ha). Among the tested strains, the highest grain yield was recorded with with strain CR 53 (1310.0 kg/ha) followed by BIONPK—NBAIM (1307.9 kg/ha). However these strains were found statistically identical with each other and also with the reference strain and with 20 Kg inorganic fertilizer N /ha .

Evaluation of Bacterial and Fungal consortia for PGP and Biological Control of Soil Borne diseases of Chickpea

Effect of Bacterial and Fungal consortia for PGP and biological Control of soil-borne diseases of chickpea revealed that all the treatments (except *Trichoderma* alone,(T_2) significantly increased chickpea yield by 14.9 to 23.9% over absolute control (1240 kg/ha). Highest yield was obtained in *Trichoderma asperellum* strain NBAIR-TATP @ 10g/kg seed (1537 Kg/ha) followed by *Trichoderma* bioformulation NBAIM (1532 kg/ha). However these treatments were statistically identical with the treatment *Mesorhizobium+Trichoderma*(T_3) and also with other treatments in respect of yield increase of chickpea.As Regards N Uptake, the highest N uptake was recorded in*Trichoderma asperellum* (66.1 Kg N /ha).

Microbial mediated bio fortification of Zn and Fe in Chickpea

In a experiment on Microbial mediated bio-fortification of Zn and Fe in Chickpea – highest grain yield (1391.7 Kg/ha) was recorded with T_5-T1+ 25 kg $ZnSO_4$/ha+Zn& and Fe Solubilizer which was 19.6% higher over control (RDF+*Mesorhizobium,* 1163.8 k*g/ha*) followed by was the treatment T_2- T1+25 kg $ZnSO_4$/ha (Soil application) with (1363.4Kg /ha) 17.2% higher yield over control . As regards Zn and Fe content in Chickpea seeds and leghaemoglobin content in nodules, these parameters also influenced significantly by different treatments with highest values (39.6 & 69.3 ppm Zn and Fe respectively and 3.20 mg Lbh mg/g nodule) under T5-T1+ 25 kg ZnSO4/ha+Zn& and Fe Solubilizer and lowest values (38.3 & 66.5 ppm Zn and Fe respectively & 3.06 mg Lbh/g nodule) under control (RDF+*Mesorhizobium*).

Microbial Consortia for alleviating moisture stress in chickpea grown under draught area

Microbial consortium for alleviating moisture stress in chickpea grown under rain fed conditions, the grain yield was significantly influenced over control (1167 kg/ha) by the treatments *viz*. T4- Microbial Consortium (MC)-II (IIPR-Kanpur),T6- RFC 117+ Archeal Bioformulation- NBAIM and T7- RFC 117+MCII (IIPR-Kanpur) which were 15.8,19.1 and 18.1 % higher over the un inoculated control .However these were statistically identical with each other

Screening of AVT entries for symbiotic efficiency with native homologous soil rhizobia

Thirty three entries were evaluated for nodulation and DHA activity in rhizosphere and Leghemoglobin content in fresh nodules. Genotypes showed good nodulation (>20 nodules/plant) under mechanical harvest category were RKGM 20-2 and RKGM 20-1, under Extra Large Seeded Kabuli group genotypes KAK 2 and IGK 2020-02, under DTIL category were: NC9, JAKI 9218 and, under desi irrigated timely sown category were GNG 2207, GCP105, PBG 9, Indira Chana 1 ,JAKI 9218, RG 2015-08,PG 265 performed well. DHA activity in the soil rhizosphere of different genotypes recorded in the range of 26.5 to 35.2 ugTPF/g soil and the promising entries were NBEG 119, CSJK 174, Indira Channa 1,NBeG 1267, PBG9 ,JG 16, PG 265 etc. In respect of Leghemoglobin content in nodules promising entries with comparatively better values(>2.81 mg/g of fresh nodules) were IPCB 2015-132, RKGM 20-2, JG 11, NBeG 1267; RLBKG 1, CSJK 174, NBeG 119,; Indira Channa 1, GNG 2207 and GCP 105 etc .

Effect of foliar spray of nutrients and Jeevamrit, Beejamrit application In chickpea

Assessment of the effect of micronutrient spray (Mo,Zn and Fe),NPK spray,Beejamrit and Jeevamrit treatments together with microbial inoculants,the chickpea grain yield was significantly influenced over control -RDF + *Rh + PSB* (1333.5 Kg/ha) by the treatments viz., T2- RDF + *Rh + PSB* + Beejamrit treatment, T3- RDF + *Rh + PSB* + 1 gm AM/Kg seed, T4- RDF + *Rh + PSB* + Jeevamrit spray at 35 & 55 DAS and by T9- 0.05% AM + 0.25% ZnSO4 + 0.25% FeSO4 + 0.25 % lime spray which were 13.9,19.3,14.6 and 14.3 % higher over RDF+*Rhizobium+PSB*alone (1333.5 kg/ha) respectively. All these were statistically identical with each other ,however highest yield increase (19.3%) was registered with T_3- T1+ RDF + Rh+PSB+1 g ammonium molybdate /kg seed.

PLANT PROTECTION

Evaluation of IVT, AVT-1,AVT-2, DTIL and WRIL entries of chickpea against major diseases

Thirty fourentries *viz.* NBeG 1328, GNG 2562, GJG 1907, BG 4039, PBC 597, BCD 22- 5, RLBG 11, Phule G 1403-18-14, PBC 581, Phule G 1424-4-2, RLBG 12, H 19-15, GJG 2103, IPC 16-231, JG 2022-75, BG 4041, Mahabeej 2003, CSG 21-8, IG 2021-104, IPCK 2014-125, NBeG 844, VICK 21-11, IGK 2020-02, BG 4046, AKG 1804, JAKI 9218 (N ch), Vijay (N ch), CSG 8962, RSG 963, RKGK 13-414, RSG 888, KPG 59, RVG 203 and GCP 101 expressed wilt resistance out of 282 entries.

Under the ICAR-ICRISAT collaboration (CWRRN)programme, 30 entries (28 resistant cultivars and 2 susceptible checks) were evaluated at Sehore for the local strain of Foc. Entries ICWRRN 2204, ICWRRN 2213, ICWRRN 2214 and ICWRRN 2225, exhibited wilt resistance at Sehore, while others were tolerant and susceptible to wilt

Evaluation of Elite Plant Pathology Nursery (EPPN)

In Chickpea elite plant pathology nursery, twenty two entries exhibited wilt resistance at local strain of *Fusarium oxysporum f. sp. ciceris*Out of 106 Chickpea elite entries, twenty two entries exhibited wilt resistance at local strain of *Fusariumoxysporum f. sp. ciceris*were GJG 1803,IG 22-122, ICCV 07111, RSGD 1182, XIIth 82-52, FLIP 10-243C, GJG 2106, ICCV 16505, NBeG 798, GJG 2115, Phule G 1314-3-27, X013TR-47-S2, GJG 2112, GJG 1815,GJG 2006, IG 2021-258, IG 2021-108, IG 2021-218, IGK 22-01, GJG 1912, FLIP 11-164C, IG 2021-106, IG 2021-284, GJG 2103, IG 2021-08, IG 2021-283 , GL 17020,NBeG 1328, H 13-03, ICCV 16120, X013TR-46-S3, GNG 2461, Phule G 1517-22-2, GNG 2510, PBC 582, ICCV 13616, ICCV 16242, FLIP 10-89C, FLIP 09-191C, GJG 2101 and GJG 1809

Identification of races of *Fusarium oxysporum*f.sp. *ciceris* in wilt sick plot using new set of differentials

Chickpea differential C 104, CPS 1, KWR 108, GPF 2, DCP 92-3 and have sown varied responses towards FOC Sehore isolate. CPS 1, JG 315, KWR 108 were resistant, whereas, BG 212 and DCP 92-3 were tolerant and JG 62 was highly susceptible.

Wilt/DRR incidence (%) in different strains of *Trichoderma* and fungicides used as seed treatment

Five *Trichoderma* strains obtained from various sources*viz.*NBAIM, NCIPM, NBAIR and ICAR-IIPR and one bacterial strain*Pseudomonas fluorescens*were used as seed treatment and compared with chemical seed treatment Propineb for the management of wilt and dry root rot of chickpea. Seed treatment with DALHANDERMA (IIPRTh-31) strain @ 10g/kg seedwas most effective followed by *T. harzianum/viride*@ 10g/kgseed) in minimizing wilt/DRR incidence

ALL INDIA COORDINATED RESEARCH PROJECT ON PIGEONPEA

CROP IMPROVEMENT

Initial Varietal Trial (Early)

- Initial varietal trial of early group (IVT-Early) was conducted comprising of 16 genotypes. The maturity of the entries ranged from 153 to 175 days. The earliest maturing genotypes were UPAS 120,IPAE 19-04, PA 662and AL 2250 However, the maximum yield potential of CORG 9701 with 2395 kg/h fallowed by NAM 88 with 2302 kg/ha,

Initial Varietal Trial (Mid-Early)

- In Initial Varietal Trial of mid-early duration (IVT-Mid-early) sixteen entries were tested in randomized block design with three replications. Daftari Manik is highest yielding genotypes (2865kg/ha) The maturity of the entries ranged from 169 to 177 days. The early maturing variety were TJT 501, PT 0012, PA 76, BDN 2019-9 and IPA 20-11.

Advance Varietal Trial 1+2 (Early)

- Advance Varietal Trial of Mid early group entries of 7 genotypes including 3checks was sown on 23.07.2022 in randomized block design of 4 replications.. CRG 16-12 ranked first with the seed the yield of 1512 kg^{-ha} followed by CORG 9701(1443 kg/ha) at Sehore centre . Maturity of the entries ranged from 153 to 172 days. The earliest maturing genotypes was UPAS 120 and IPAE 05 (153 days)

Initial Varietal Trial (Medium)

- The maturity of the entries ranged from 177 to 207 days. The highest yield of 1886 kg ha^{-1} was recorded by the entry PT 12-5-5-1 at Sehore. with the maturity of 180 days at Sehore. The 100 seed weight ranged from 10.43 to 15.00g.

Initial Hybrid Trial (Early)

- Ten hybrids were tested with three checks in Advance hybrid trailI of early duration. The trial was sown on 23.7.2022. It consisted 4 rows plot of 4 meter row length in 3 replications. Maturity of the hybrids ranged from 161 to 175 days at Sehore centre. The seed yield level of the hybrids ranged from 442 to 2111 kg/ha. However the highest ranking hybrid in seed yield matured very late (173 Days) at Sehore centre

Initial Hybrid Trial (Medium)

- Six hybrids were tested with three checks in Advance hybrid trailI of early duration..The trial was sown on 23.7.2022. It consisted 4 rows plot of 4 meter row length in 3 replications. Maturity of the hybrids ranged from 183 to 193 days at Sehore centre. BDNPH 13-01 and BDNPH 18.03 matured earliest (183 days) ICPL 87119 as it matured very late (193 days). The seed yield level of the hybrids ranged from 756 to 1728 kg/ha. However the highest ranking hybrid in seed yield was BDNPH 18-03 (1728 kg/ha) at Sehore centre followed by BDNPH 13-01(1488 kh/ha) and ICPH 2671 (1315 kg/ha).

Station Varietal Trial

- Nine entries were tested with three checks in Station Varietal Trial . The trial also included three entries ICPH 2671, ICPH 2740 and ICPL87119.The trial was sown on 2.7.2021. It consisted4 rows plot of 4 meter row length in 3 replications. Maturity of the entries ranged from 134 to 156 days at Sehore centre. RVSA 28-1 and ICPH 2431 matured earliest (134 days) PT 0012 matured very late (156days). . The seed yield level of the entries ranged from 814 to 2145 kg/ha. However the highest ranking entry in seed yield matured earliest (134 Days) at Sehore center.

GERMPLASM:

Two hundred sixty two Germplasm were maintained and evaluated for traits plant height, number of branches per plant , number of pods per plant and seed yield.

CROP PROTECTION

Evaluation of pigeonpea entries against different diseases

Evaluation of pigeonpea entries for wilt disease resistance

Out of one hundred seventeen screened Pigeonpea entries (along with repeatedly used resistant and susceptible checks), total six entries were resistant, eighty-eight entries were moderately resistant and twenty five entries were susceptible against wilt disease.

Evaluation of pigeonpea entries for *Phytophthora* blight disease resistance

Out of one hundred seventeen screened pigeonpea entries (along with repeatedly used resistant and susceptible checks), all entries were susceptible against the Phytophthora Stem blight disease

Evaluation of pigeonpea entries for *Cercospora* disease resistance

Cercospora leaf spot: Moderately Resistant: 05, Moderately Susceptible: 52,Susceptible: 58 & Highly Susceptible: 03

Epidemiological studies

Epidemiology of *Phytophthora* blight

Epidemiology of Phytophthora stem blight was studied on susceptible cultivar ICP 7119 sown on 29th July 2022. The disease was first observed on 15.8.22 and its incidence was 5.19per cent. The disease progressed maximum up to 92.31% gradually at the end of September. Minimum and maximum temperature during this period ranged from 21.53 to 24.03 and 27.64 to 33.10° C respectively with 32 rainy days.

Epidemiology of *Cercospora*leaf spot

Epidemiology of cercospora leaf spot was studied on susceptible cultivar UPAS 120 sown on 29th July 2022. The disease was first observed on 2th August and its incidence was 4.59 per cent. The disease progressed maximum up to 65.98% gradually at the end of December. Minimum and maximum temperature during this period ranged from 8.57 to 24.03 and 25.3 to 33.09° C respectively.

Monitoring of coordinated trials by ACRIP Pigeonpea Team 2022-23

Monitoring of AICRIP trials of sehore center was done by the committee of following team members on 28th Dec. 2022

SN	NAME	DESIGNATION	DISCIPLINE	PLACE
1	Dr. S. Geetha	Professor And Team Leader.	Plant Breeding	Tamil Nadu Agricultural University Coimbatore, 641003.
2	Dr. P.S. Shanmugam	Associate Professor	Entomology	

Monitoring of Plant Breeding Trial (28/12/2022)

Dr. A.K. Choudhary, S. Geetha, Dr. P.S. Shanmugam and Mr. Kamal Singh

Dr. P.S. Shanmugam, S. Geetha, Dr. A.K. Choudhary and Mr. Kamal Singh

Monitoring of Pathological trials (28/12/2022)

Dr. P.S. Shanmugam, S. Geetha and Dr. A.K. Choudhary

ALL INDIA COORDINATED RESEARCH PROJECT ON SOYBEAN

CROP IMPROVEMENT:

A. Coordinated Trial

Initial varietal trial: This trial comprised 54 entries including checks sown on 07.07.2022 in complete randomized block design with three replications. The result showed that RSC 1172 gave highgave high yield of (3037kg/ha) followed by NRC 259 (3037 kg/ha) and MAUS 814 (3012 kg/ha).These entries recorded maturity of more than 100 days and with desirable 100 seed weight nearly 13.5 g.

Initial varietal trial early: Twenty four entries were tested in this trial with checks. The trial was sown on 07.07.22 in complete randomized block design with three replications. Detailed yield flowering, plant height, maturity and 100 seed weight observation were recorded. The results of this trial indicated that entry namely **AUKS 234** gave high yield of (3259 kg/ha) followed by AUKS 238 (3037 kg/ha) and RSC 11-75 (3012 kg/ha) while However the maturity duration range from 87-104 days were recorded. Earliest maturing variety was JS 20-34 (C).

Advance variety trial- I: Eight entries were tried in this trial in randomized complete block design with four replication. The trial was sown on 08.07.22. Detailed yield flowering and other maturity observations were recorded. The result showed that the entry **NRC190** gave high yield of (2160 kg/ha) followed by **RSC11-42** (1123 kg/ha) **RVSM2011-35(C)**recorded(667 kg/ha) yield.

Advance variety trial I+II Early – I: Fourteen entries were tested in this trial. The trial was sown on 09.07.22 in Randomized Block Design with three replications Result revealed that entry namely **JS22-18*II** recorded the yield of (1759 kg/ha) followed by **RVSM 2012-4** (1667 kg/ha) and **JS23-03*I** (1469 kg/ha). The maturity duration range from 84-92 days were recorded.Earliest maturing variety was PS 1569.

B. Hybridization program

Nearly 20cross combinations were attempted this year involving specific donor for good agronomic traits and insect and diseases resistance.

C. Maintenance breeding work.

Single plant progenies nucleus and breeder seed were produced of JS 95-60, JS 93-05, JS 335, RVS 2001-4, RVS 18, RVS 24,RVS 76, JS 20-29, JS 20-34, JS 20-69, JS 20-116, JS 20-98 as per state and govt. of India indent.

Germplasm maintenance 350 Germplasm were characterized and used for economic traits

CROP PRODUCTION:

Evaluation of AVT II entries under different row spacing

Row spacing significantly influenced all ancillary observations, yield attributes, straw yield, HI, Grain production efficiency and Rainfall use efficiency except CGR and RGR at 45-60 days interval. The significantly higher values of these parameters and seed yield (1978 kg/ha) were recorded in 45 cm row spacing then 30 cm row spacing. Entry RVSM 2012-4 recorded significantly higher yield (2294 kg/ha) and it was significantly better then all tested entries. The branches/plant, pods/plant, seed index straw yield, and GPE were also higher in entry RVSM 2012-4

Evaluation of novel bio formulations for yield enhancement in soybean

The growth and yield attributing parameters were significantly affected by the treatments. The higher values in all the parameters were observed in treatment recommended dose of fertilizer (RDF) followed by 75 % RDF+ BIO Zn+Bio NPK. The lowest values were recorded in control. The higher grain yield 2299 kg/ha was recorded in RDF treatment and it was significantly better then control, 75 % RDF and 75 % RDF+Bio Zn treatments. Remaining treatments were at par with RDF treatment

Drought alleviation in soybean through foliar application of Thiourea

The all growth and yield attributes were significantly higher in Variety JS 20-69 then JS 20-29 except seed index, CGR and RGR. The highest grain yield 2267 kg/ha was recorded with JS 20-69.

Application of thiourea @ 750 ppm at 25 & 55 DAS recorded significantly higher values of plant dry weight at 30and 75 DAS then control (no spray), whereas, it was significantly at par to application of thiourea @ 500 ppm and 250 ppm applied at 25 & 55 DAS. At 45 DAS application of 750 ppm significantly higher than water spray and control treatments. At 60 DAS this treatment remained at par with application of Thiourea @ 500 ppm and was significantly better than other treatments. The CGR and RGR at all intervals were not affected significantly in different treatments. The plant height branches/plant and pods /plant were recorded significantly higher values in treatment application of thiourea @ 750ppm then control, water spray.

The significantly higher grain yield was obtained in application of thiourea @ 750 ppm than 250 ppm, water application and control (no spray), But it was at par with application of thiourea @ 500 ppm

Effect of phytotron's Biostumilant (VININ,TULIP and WINSTOP) on soybean

The treatments of Phytotron's Biostumilant (VININ, TULIP and WINSTOP) could not significantly influence the growth, yield attributes and yield of soybean

CROP PROTECTION:

Seasonal incidence of insect pests and their nature enemies.

The extent of infestation/damaged by major insect-pests of soybean during – 2022

1) **Defoliators (Green and Gray semilooper)**
   - *Gesoonia gemma* : 4.8 larvae/mrl during 36stSMW of September
   - *Chrysodeisi acuta* : 6.6 larvae/mrl
   - Defoliation :9.5% at vegetative stage, 16.00 % at flowering and 29.00% at peak population of defoliation
2) **Stem borer stem fly** : 38 % plant infestation with maximum tunneling 32.27 per cent during second week of September
3) **Girdle beetle** : Maximum plant infestation 25.50 % during second week of September

Promising entries identified under IVT (Early) Trail against major pests

- **Stem fly:** NRC-152, AS -47 and AUKS 238
- **Semilooper:** JS 24-25, NRC -125, JS 20-34(C), DS 1547, DLSB -4, RVS 15-1 and NRC -261
- **Girdle beetle:** NRC -261, NRC -165, DS 1547, AUKS 234, AUKS 238, NRC 141 and NRC 138

Promising entries identified under IVT (Normal) Trail against major pests

- **Stem fly:** VSL 104, MAUS 824, NRC 254, DS 1529, NRC 255 and NRC 196
- **Semilooper:** NRC 255, DS 1529, NRC 157, MAUS 324, MACS 1756 and PS 1693
- **Girdle beetle:** MAUS 824, NRC 255, NRC 196, NRC 257 and PS 1696

Plant Pathology

- Only myrothecium leaf spot incidence was observed in trap nursery.
- Entries *viz.* NRC SL 8, KSS 213, MACS 1745, AS 55 and RSC 1172 of normal IVT showed absolute resistant reaction to myrothecium leaf spot and brown leaf spot.
- In early maturing group of IVT five entries viz. NRC 164, NRC 141, JS 24-33, MAUS 749, DLS 40 showed highly resistant reaction to myrothecium leaf spot and brown leaf spot.

- In AVT I (early) JS 22-18 and KDS 1169 were resistant to target and brown leaf spot. Entries JS22-18, NRC 165, PS 1569, RVSM2012-4 and NRC 130 absolutely resistant to both myrothecium and brown leaf spot diseases.
- Weather data indicated that myrothecium leaf spot, negatively correlated with rainfall.

Microbiology

Response of N fixing rhizobia and P solubiling bacteria with RDF/Farmers practice and with reduction of fertilization on latest release variety of soybean (RVS-24)

Data revealed that application of 75 % RDF and P along with 100% RDF K and *Basillusdagingense* + *Basillus aryabhataii* recorded the highest nodule no, nodule dry weight , leghaemoglobin, chlorophyll content, grain yield and NPK uptake by Soybean over RDF/Farmers practice (T8) and the Highest B:C Ratio (3.38:1) was recorded under (T9) followed by (T9)

Assessing the impact of pre and posty emergence herbicides with PGPR on soybean nodulation in unsterlized microcosm

The effect of herbicides application (pre and post-emergence) and microbial inoculation on soybean nodulation and other parameter such as nodulation, leghaemoglobin, chlorophyll, shoot dry weight and plant height were assessed on soybean variety RVS 24

At data revealed that the treatment combination of strain B.daqingense and Diclosulam pre emergence herbicide responded significantly on increasing the nodule no, nodule dry weight, leghaemoglobin content, shoot height and chlorophyll content when compared to other combinations

Nodulation ability of avt- 2 entries at sehore centre

Data revealed that the Genotype RVSM 2012-4 exerted the significant effect in increasing the nodule no , nodule dry weight and Legheamoglobin followed by JS 22 -12 .

Morena Centre:

Initial Varietal trial of Soybean (Kharif 2022)

Highest seed yield was found in NRC258 * (1833 kg/ha) followed by NRC-196 with yield of 1667 kg/ha. The highest seed index (12.8g) was recorded in NRCSL5 followed by SKAUS3(12.6 g). Early flowering (40 days) was found in TS-156. Highest plant height was noticed in NRC258* (59.5 cm).

Initial Varietal trial of Soybean (Kharif 2022)- Early

Highest seed yield was recorded in DS1550(1472 kg/ha) followed by AUKS238(1222 kg/ha). Early maturity was noticed in MAUS 820 (78 days).

ALL INDIA COORDINATED RESEARCH PROJECT ON MEDICINAL & AROMATIC PLANTS

CROP IMPROVEMENT

Ashawgandha (Withania somnifera)

Out of 37 germplasms lines tested for higher dry root yield, seed yield and quality root characters. The following entries viz; MWS-10-001, MWS-10-002, MWS-10 -210, wererecorded higher root yield more than 500 kg/ha. These lines must be tested in multilocation testing.

Isabgol (*Plantago ovata*)

Out of eighty G.P. lines tested and evaluated, the entry MIB-201 SPS-9, SPS-52 are found superior entries and must be utilized in crop improvement work.

Safed musli (Chlorophytum borivilianum)

Twenty-four lines of Safed musli were maintained during the year 2022-23. Wide range of variability was noticed among the germplasm lines Length of leaves varied from 14 cm to 34.6 cm. width of leaves ranged between 15 mm to 25 mm The length of corolla was ranged between 4mm to 22 mm Similar maximum deference between in Length of Stamen 28 mm to 47mm .Length of anther ranged from 17 mm to 42 mm and observed colour of anther which is a prominent genetic character ranged from yellow to light yellow & sometime light green in few entries. Length of fleshy root ranged from 6cm to 16 cm Root diameter ranged between 4.63 mm to 14.42 mm. no of freshly root /plant ranged between 6-16/plant

Asalio (*Lepidium sativum*)

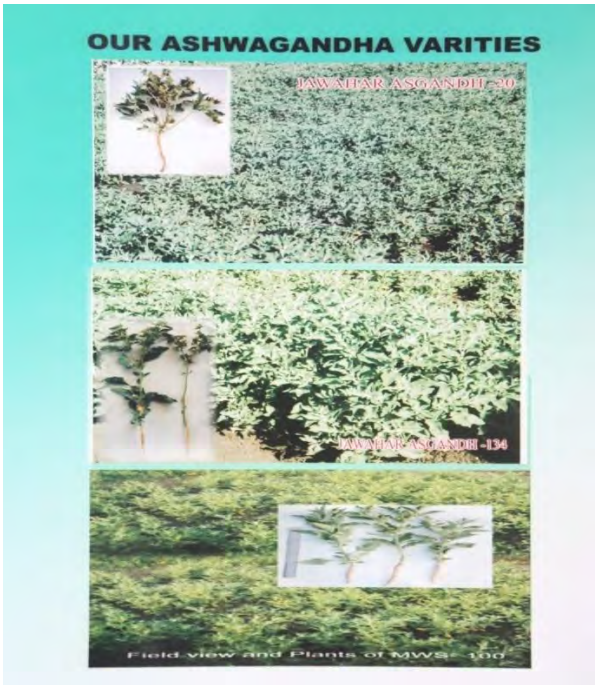
Among the forty Germplasm lines tested and evaluated during the year 2022-23 . The Maximum seed yield varies from 1911.11 kg/ha (MLS-1006) to 1722.22 kg/ha (MLS-1004).While higher seed yielding genotypes identified are MLS-1004, followed by MLS-1006 found superior in seed yield to existing variety during th 2022-23

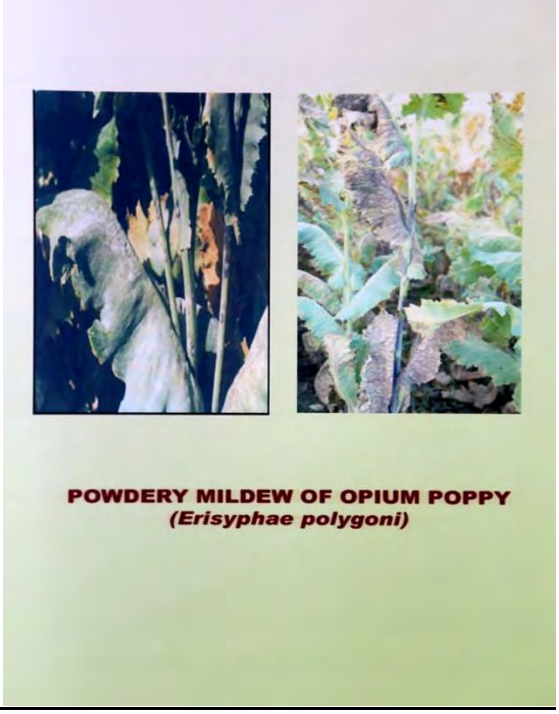
BASIL (Ocimum basilicum)

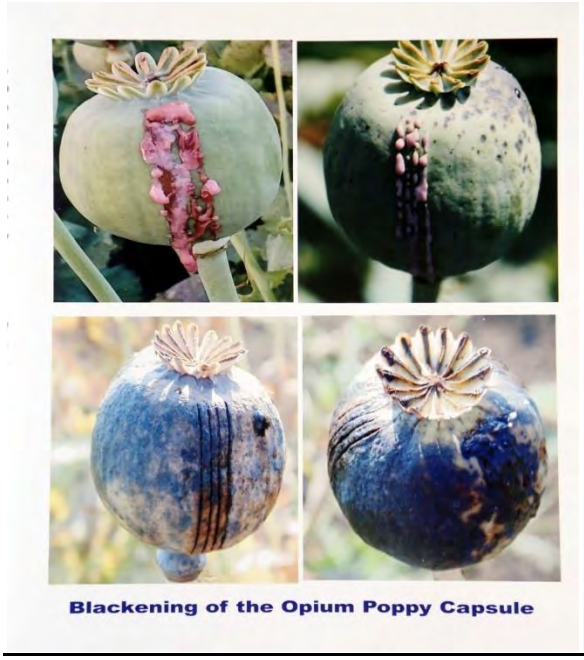
Maintenance of 21 germplasm line were done through selfing and single plant selection method and purity maintained by rouging of off type plants.


Identified Superior Lines in Kalmegh
MAP-1
MAP-2

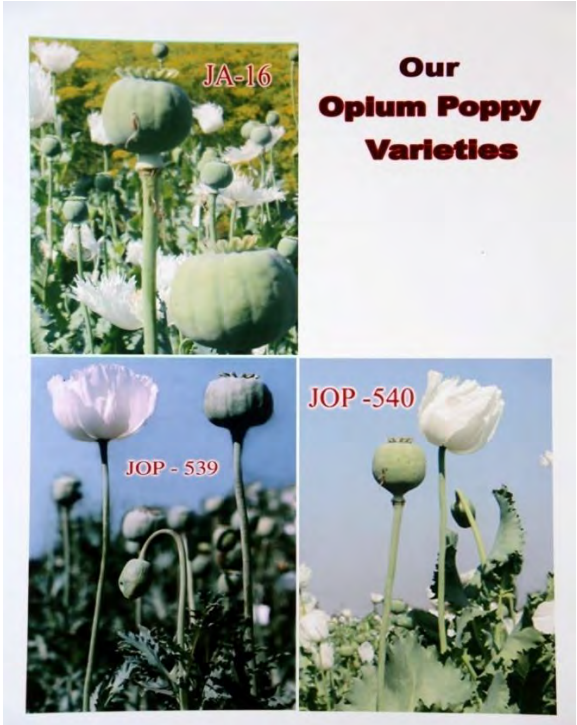

Variability in Tulsi (Ocimum Sanctum)


OUR ASHWAGANDHA VARITIES
JAWAHAR ASGANDH -20
JAWAHAR ASGANDH -134
Field view and Plants of MWS- 100


POWDERY MILDEW OF OPIUM POPPY
(Erisyphae polygoni)



Blackening of the Opium Poppy Capsule



MAINTAINANCE BREEDING

Maintenance breeding of all released varieties of ashwagandha

Jawhar Ashwagandha- 20, Jawahar Ashwagandha- 134, Raj Vijay Ashwagandha- 100
Maintenance breeding of all three varieties were done through selfing and single plant selection method and purity maintained by rouging of off type plants

Screening of advance breeding line for higher latex yield &morphine content & seed yield.

The breeding material was generated during Rabi- 2018-19. Inthe year 2020-21, out of 25 crosses, 8 crosses were selected on the basis of their seed and opium yield performance and each one to 6 single plant seeds have been collected separately from the selected hybrids, which will be evaluated in the year 2021-22. These single plant progeny will be evaluated in large area in the year 2022-23.After evaluating the seed and latex yield and morphine content of 8 advanced breeder lines, it was found that MOAD-3 and MOAD-5 are superior to other lines in seed and latex yield and MOAD-3 MOAD-4 MOAD-5 and MOAD-7 The amount of morphine found in was 13.1 -15%.Therefore, MOAD-3,MOAD-4,MOAD-5and MOAD-7 can be included in the crop improvement program in future.

MLT evaluation of promising line of opium poppy for higher yield

The data of this experiment has been sent to ICAR-Directorate of Medicinal and Aromatic Plants Research Anand from where it will be re-coded and evaluated.

Development of minimum seed standards for opium.

For standardization of isolation distance in opium poppy a field trial was conducted under AICRP MA&P during 2021-22 & repeated 2022-23 . Two pot plants of opium poppy were kept in three directions i.e. East, West and North at 25 m and one pot plant of each 50 m and 75 m before anthesis and removal of anther in open field condition. Result revealed that at the time of harvesting we have observed that there were none of seeds sets in capsules of opium poppy in the 50m & 75m plants kept in all three directions at different distancewhereas seeds were 25% formed in the pots of plant kept at a distance of 25 meters. The poppy is a self-pollinating plant. Pollination occurs even in the unopened buds; but a small quantity of un pollinated flowers are pollinated by insects during the blossoming period

It is concluded that there is confirmed that 25 m below distance is isolation distance for opium poppy.

Development of minimum seed standards for opium.

Field Standard parameters

I. Land Requirements: Opium poppy prefers a well drained, highly fertile light black or loam soil with an optimum pH around 7.0

II. Field Inspection- Three inspection, first inspection before flowering and second at flowering and one at the time maturity

III. Isolation distance and off type plant

Isolation Distance (m)		Foundation seed	Certified seed
1.	Minimum isolation distance (m) from fields of other varieties	25 m Below	25 m Below
2	Minimum isolation distance (m) from the fields of the same variety not conforming to varietal purity requirements for certification	25m	25m
3	Minimum isolation distance (m) from Fields of pest and disease infected in Foundation and Certified seed, respectively	25 Below	25 Below
Off type			
4	Maximum permitted (%) of off-types inseparable other crop plants.	0.3%	0.3%
5	Maximum permitted (%) of off-types plants affected by seed borne diseases	0.2%	0.2%

IV. Seed standards for foundation and certified seed production.

s.no	Seed parameter	Foundation seed	Certified seed
1	Per cent Pure seed (minimum)	97%	97%
2	Per cent Inert matter (maximum)	3%	3%
3	Per cent Other crop seeds (maximum)	0.01%	0.02%
4	Per cent Other distinguishable varieties (maximum	0.01%	0.02%
5	Per cent Weed seeds (maximum)	0.01%	0.02%
6	Per cent Germination (minimum)	95%	95%
7	Per cent Moisture (maximum	10%	10%
8	Per cent moisture for vapour-proof containers (maximum)	8%	8%

Study of combining ability in Ashwagandha

15 hybrid combinations made in 2021-22 were studied, in 2022-23 which it was found that the highest plant height was seen in the hybrid combination P-1XP-8 followed by P-1X P-7, P-4XP-7.Similarly, the maximum root length was observed to be the same in P- **1**XP-**7** and P- **2**XP-**.6**On studying the thickness of the root, it was found that it was maximum in P-**1**XP-**6**followed by P-**1**XP-**.7**

CROP PRODUCTION

Integrated nutrient management in Tulsi Crop.

The above data of Tulsi revealed that the experiment is found to be significant due to different organic and inorganic combination of nitrogen levels. The data of seed yield in found to be significant, the highest seed yield recorded in T9 RDF (19 q/ha) where as under combination the highest seed yield recorded in T1 18 q/ha (25% N through vermi+25 kg S+ Rest RDF) fallowed by T2 14 q/ha (50% N through vermin + 25 kg S+ Rest RDF). The other charcter like plant height, no. of branch also recorded well in these above two treatment. The result show that comparatively less yield recorded due to combination of FYM. Under this T4 (25% N through FYM + 25 kg S + rest by RDF) recorded the seed yield of 16 q/ha fallowed by T5 (50% N through FYM + 25 kg S + rest by RDF) which performed as 13 q/ha of seed yield. Treatment T10 control recorded lowest seed yield of 7 q/ha. Though the diference between RDF and T1 combination in very meager hence we can also expect good result through the combination approach.

Effect of mode of application of nitrogen and plant spacing on the biomass of Kalmegh Crop.

The Kalmegh crop is specially grown for its panchang value through herbage production. The above show that the result due to mode of N Application and plant spacing is found to be significant under kalmegh. Due to N Levels the highest herbage yield of 66 q/ha recorded under M4 (100%N through RDF) fallowed by M2 61 q/ha (75% N through RDF + 25% organic source) the lowest herbage yield of 47 q/ha recorded in M3 (100% N through organic source). The other growth character like plant girth, plant height and No. of branch also responed well in M4 fallowed by M2. The result due to spacing recorded highest herbage yield of 65 q/ha in S2 (30 X 10 cm) fallowed by S3 ie.61 q/ha (30 X15 cm). The other character like number of branch, plant girth and plant height recorded well due to S2 fallowed by S3.

Effect of integrated approach of mode of fertility levelson the growth & seed yield of Asalio crop.

The above showed that during 2022-23 highest seed yield/ ha recorded in T1 (16.5 q/ha) where as lowest seed yield recorded in T6 (9 q/ha). Among the treatment of vermi compost combination the highest seed yield recorded in T1 (16.5 q/ha) (2t Vermicompost +PSB+75%RDF) and lowest in T3 (10 q/ha) (6t Vermicompost +PSB+25% RDF). Among the treatment of FYM combination the highest seed yield recorded in T4 14 q/ha (3t FYM +PSB+75% RDF) and lowest in T6 9 q/ha (9t FYM +PSB+25%RDF). The yield due to RDF, chemical fertilizer recorded as 16 q /ha.

The highest plant height recorded in T7 (110 cm) and lowest in T6 (94 cm). Under the plant girth the highest plant girth recorded in T1 (7.8 mm) and lowest in T6 (4.8 mm). Under the No. of branches, recorded highest in T1 (12) lowest in T6 (7).

Assessment of maximum utilizations of phosphorus by the useof PSB culture, on the growth & grain yield of Isabgol Crop

The results are found to the significant. The above revealed that the highest seed yield recored in P3 (12.3 q/ha) due to phosphorus levels. Followed by P2 (10.2 q/ha). The highest seed yield of 11.0 q/ha recorded under B3 (3.0 kg of PSB/ha) due to the factor of PSB culture.

The other character like spike length, No. of branch and plant height exhibited well in treatment P3 (30 kg P2O5/kg) the heighest No. of branch (3.7) recorded in P3 as well maximum spike length of 3.5 cm also recorded in P3. The number of branch and spike length considered as best yield contributory characters.

CROP PROTECTION

Evaluation of integrated disease management modules againstdiseases(downy mildew and leaf spot) of opium poppy

In downy mildew among the nine treatments in the treatment T-5 (Furrow application of vermicompost (250g/m2) enriched with *T.viride* @ 2.0% + Seed treatment with Metalaxyl 35% SD @ 8 g/kg and spray of Metalaxyl-M 3.75% + Chlorothalonil 33.1% SC@ 0.02% at 30, 45, 60 and 75 DAS)recorded minimum disease incidence (20.33 PDI %) which was at par with treatment T-3 (Furrow application of vermicompost (250g/m^2) enriched with *Trichoderma viride*@ 2.0% + Seed treatment Metalaxyl 35 % SD @ 8 g/kg followed by foliar spray of neem oil @ 2.0 % at 30, 45, 60 and 75 DAS) (21.00 % PDI) where as maximum downy mildew disease incidence was observed in treatment T-9 Control (44.00 % PDI).

Development of Integrated disease management module in Isabgol.

Downy mildew: It is evident from the that before 1st application the incidence of Downy mildew on isabgol was noticed in all treatments in 2022-23. Before the first application all the treatments were affected by downy mildew which was non-significant. Among the eight treatments Tr-7Seed treatment Metalaxyl 35 % SD 8g / kg followed by on appearance of any disease symptoms three spray of Tebuconazole 50%+ Trifloxystrobin 25% WG (0.05%) at 15 days interval resulted minimum downy mildew disease incidence (PDI 7.00 %) which was at par with treatment T-3Three foliar sprays with Tebuconazole 50 % + Trifloxystrobin 25 % WG @ 0.05 % at 15 days interval from appearance of any disease symptoms(8.00 % PDI). Whereas T-8untreated control recorded highest PDI among all the treatments (22.33 % PDI).

Root rot: It is evident from the that before 1st application the incidence of root rot in isabgol was noticed in all treatments in 2021-22. Before the first application all the treatments were affected by root rot which were non-significant. Among the eight treatments treatment Tr-7(Seed treatment Metalaxyl 35 % SD 8g / kg followed by on appearance of any disease symptoms three spray of Tebuconazole 50%+ Trifloxystrobin 25% WG (0.05%) at 15 days interval) resulted minimum root rot incidence (15.67.00 %) followed by treatmentT-3(Three foliar sprays with Tebuconazole 50 % + Trifloxystrobin 25 % WG @ 0.05 % at 15 days interval from appearance of any disease symptoms) (18.33 % PDI) which was statically at par with Tr-4 (Seed treatment “Bija Amrit” and on appearance of any disease symptoms three spray of neem leaf extract @ 10.0% at 15days interval) (20.67 % PDI). Whereas untreated control recorded highest root rot incidence among all the treatments (43.33 % PDI).

Seed Yield: Tr-7(Seed treatment Metalaxyl 35 % SD 8g/kg followed by on appearance of any disease symptoms three spray of Tebuconazole 50%+ Trifloxystrobin 25% WG (0.05%) at 15 days interval)recorded the maximum seed yield (807.92 kg/ha) which was statistically at par with Tr-3(Three foliar sprays with Tebuconazole 50 % + Trifloxystrobin 25 % WG @ 0.05 % at 15 days interval from appearance of any disease symptoms) (771.33 kg/h) and Tr-4 (Seed treatment “Bija Amrit” and on appearance of any disease symptoms three spray of neem leaf extract @ 10.0% at 15days interval) (764.83 kg/ha). This treatments schedule is significantly superior over rest of the fungicidal treatments. WhereasT-8 (untreated control) yielded lowest among the treatments (575.25.00 kg/ha) during 2022-23.

Integrated Disease management of root and foliardisease of Safed Musli through organic modules

Integrated Disease management of Safed Musli through organic modules against root and foliar disease were evaluated during Kharif 2022-23 at research field of RVSKVV, College of Horticulture, Mandsaur. Among Seven treatment, treatment T-6 (Seed treatment with Tebuconazole+ Trifloxystrobin @ 0.05% plus drenching and three foliar sprays with Bordeaux mixture @ 0.5 %, first at initiation ofdisease followed by 15 days interval) recorded minimum root rot incidence (10.33 %) andLeafSpotincidence (15.67 %) and maximum fasciculated root yield (1651.02 kg/ha) which were at par with treatment T-4 (Furrow application of Neem cake mixture (100g/m^2) enriched with *Trichoderma+ Pseudomonas* talk base formulation each @ 2.0 at sowing plus three foliar sprays of *Pseudomonas fluorescens* (Pfi) @ 2.0 %, first at initiation of disease followed by 15 days interval.) (root rot incidence 12.00 %, leaf spot 16.67 % and root yield 1596.68 kg/ha). Whereas treatment T-7 (Control) recorded maximum root rot (31.00 %)and Leaf spot incidence(36.33 %) and minimum Fasiculated root yield (1118.68 kg/ha).

Chemical characterization of basil oil (Linalool, Eugenol, Methyl chavicol) at different stages of plant growth in *Ocimum basilicum.*

It is evident from the data that there is reasonably variation in oil content at different stages in all three entries. The highest essential oil content was obtained from flowering stages, followed by post- flowering stages and the lowest essential oil content was obtained at vegetative stages. In case of entries, MOB-19 exhibited the highest oil content at all the stages followed by MOB-16 and MOB-13.

The GC analysis of the essential oil of O. basilicum showed that the essential oil constituents affected by different stages of the plant.

GC analyses showed that the main constituents of the essential oil from the flowering and post flowering stage was linalool, while eugenol was found as the main compound of vegetative developmental stages.

Storage study for total Andrographolide content in *Andrographispaniculata* throughout the storage period (HPLC based technique)

Kalmegh is an important medicinal plant and medicinal properties of the plant are due to presence of bitters, named andrographolide which is mixture of diterpene compounds.This study was conducted to determining the storage stability of bioactive ingredient andrographolide in dried samples of Andrographis paniculataat different time intervals during the storage period, which were determined by using the spectrophotometer.Fresh *Andrographis paniculata* was dried by a thin layer drying technique. The dried sample was then ground and kept in air-tight glass bottles at room temperature storage conditions.

Andrographolide content as influenced by storge duration.

Storage period (month)	Andrographolide Content (%)
December	1.80
January	1.71
February	1.66
March	1.60
April	1.48
May	1.39
June	1.24

It is evident that andrographolide content was gradually decreasing with increasing storage duration.

ALL INDIA COORDINATED RESEARCH PROJECT FOR DRYLAND AGRICULTURE

RAIN WATER MANAGEMENT

Catchment - storage – commandrelationship for increasing water productivity in micro watershed

In-situ rainwater management

Four cropping systems *i.e*. soybean–chickpea, soybean-sweet corn, maize (grain)-onion andmaize (grain)-chickpea, were grown by the using of harvested rain water and evaluated in term of cropyield, gross return, net return, B:C ratio and water use efficiency. Growth, yields attributes and yield ofdifferent cropping system in *kharif* and *Rabi* was observed.

Among the different cropping systems, soybean - sweet corn system were foundthe more remunerative as it recorded maximum total net returns Rs. 277250 ha-1 with B: C ratio 4.65followed by sequentially grown maize (grain) – onion (Rs.197450ha-1 with B: C ratio 3.60) .Whereas,the lowest net return (Rs. 54430ha-1) and B: C ratio (1.02) was recorded under soybean- chickpea cropsystem. The low productivity of *kharif* crops were recorded due to continue rains were received atharvesting of crop. Highest water use efficiency (WUE) was observed for onion (36.96 kg/ha-mm),whereas lowest for chickpea (20.04 kg/ha-mm) during *Rabi* season.Irrigation water was applied through rainpipe from farm pond. Rain water use efficiency (RWUE) forsoybean and maize was observed 1.01 kg/ha-mm and 4.35 kg/ha-mm, respectively.

Ex-situ rainwater management

Effect of Different land configuration system with method of sowing of major cropping sequence under Dryland Condition of *Malwa* Region of MP

The growth, yield attributes and yields of *kharif* (soybean, maize and green gram) and *rabi*crop(chickpea) were recorded at harvest. The statisticalanalysis of growth and yield and yields attributes were not done due to different parameters of crops,however, statistical analysis of SEY, net returns and B: C ratio was analyzed. The yield of *kharif* and*rabi*crops, SEY, net returns and B: C ratio as influenced by different land configuration system. During *kharif*, among the different crops the maximum seed yield of maize (4152 kgha-1) was recorded under FIRBS system followed by soybean (1378 kg ha-1). The lowest seed of maizeand soybean were obtained under FP (3644 kg ha-1and 1259 kg ha-1, respectively).The maximum SEY (3601 kg ha-1) was recorded under FIRBS (maize-chickpea system)followed by BBF (maize-chickpea system) 3485 kg ha-1. The lowest SEY (1881kg ha-1) was recordedunder greengram-chickpea system with farmers practice. Among the different land configuration withcropping sequences, the maximum net return

(Rs. 113040 ha-1) and B:C ratio (3.31) were found underFIRBS (maize-chickpea) followed by BBF- maize-chickpea (Rs. 107830 ha-1with 3.20 B:C ratio).Similar trend was recorded for RWUE.

CROPPING SYSTEM:

Development of suitable croppingsystem for rainfed farming

The five cropping system i.e. soybean-chickpea (T1), maize + sesbania (4:2)-chickpea (T2), soybean+ pigeonpea (4:2) – wheat (T3), soybean + maize (4:2)-berseem (T4) and soybean + cowpea (4:2)-onion(T5) were tested in randomized block design under rainfed condition of Malwa region of MadhyaPradesh. The growth and yield attributes data of *kharif* crops and *rabi*crops were. The statistical analysis of growth and yield and yields attributes were notdone due to different parameters of various crops, however, statistical analysis of SEY, net returns andB:C ratio was done. The yield of *kharif* and *rabi*crops, SEY, net returns and B: C ratio as influencedby different cropping sequences.The highest grain yield of soybean (1108 kg/ha) was recorded under soybean-chickpea croppingsequence. Among the different intercropping sequences, the highest grain yield (1039 kg/ha) wasrecorded under soybean + pigeonpea (4:2) – wheat (T3) followed soybean + maize (4:2)–berseem (T4)and lowest in Soybean + Cowpea (4:2) – Onion (T5).

Further result showed that significantly highest SEY (7199 kg ha-1) was obtained under soybean +cowpea (4:2)-onion (T5) cropping system which was significantly superior to rest of the treatment. Thenext best treatment is soybean + maize (4:2) – berseem (4304 kg ha-1) (T4) followed by soybean +pigeon pea (4:2) – wheat (T3). While the lowest SEY was recorded with soybean-chickpea system(3094 kg ha-1) followed by maize + sesbania (4:2)-chickpea (3635 kg ha-1).

The highest cost of cultivation of system was noticed in soybean + cowpea (4:2)-onion (T5)while the lowest in soybean-chickpea (T1), maize + sesbania (4:2)-chickpea (T2). The maximum grossreturns (Rs. 323970 ha-1), net returns (Rs. 247470 ha-1) and B: C ratio (4.23) were observed undersoybean + cowpea (4:2)-onion (T5) followed by is soybean + maize (4:2) – berseem (4304 kg ha-1) (T4)(Rs. 193675 ha-1, Rs. 143175 ha-1and 3.84, respectively). Among the different sequences, soybeanchickpea(T1) produced the lowest gross returns (Rs. 139210 ha-1) and net returns (Rs. 92710 ha-1andB: C ratio (2.99).

The significantly highest RWUE (2.30 kg ha-1 mm-1) was also noted under soybean + cowpea(4:2)-onion (T5) which was at par with soybean + maize (4:2) – berseem system (2.15).

NUTRIENT MANAGEMENT:

Permanent manurial trial in soybeanchickpeasystem on Vertisols

Data on seed yield of soybean in different treatments have been recorded andrevealed that the significantly highest seed yield of soybean (2497 kg ha-1) was noted with treatmentT6 (FYM 6t ha-1+T2) followed by T7 (Residues 5t ha-1 +T2- 2313 kg ha-1),

T5 (N60P35 - 2262 kg ha-1)and T4 (N40P26 - 2112 kg ha-1). The lowest soybean seed yield was noted in control (1342 kg ha-1).

The trends in soybean straw yield were recorded maximum with T6 compared to rest of thetreatments due to different treatment combinations. Mean seed yield of last 31 years depicted in also revealed that INM *i.e.,* (T6 - FYM 6 t/ha+ N20 P13) gave the highest yield (1850 kg ha-1)and the lowest in was in control (1089 kg ha-1). To assess the impact of fertility treatments on theeconomics of soybean production the gross return, net returns and B:C ratio were also calculated and. It is evident that treatment T6 - FYM 6 t ha-1+T2gave the highest net return (Rs.84865 ha-1) which was found superior to rest of the treatments.

Satellite experiment on effect of integrated nutrient management (INM) in soybean-chickpea system.

After harvest of soybean rainfed chickpea crop (RVG 203) was grown on residual moisturein same field and data on yield, rain water use efficiency, economics. Treatment T1 (FYM 6 t ha-1 + N20P13) gave highest chickpea yield i.e. 1520 kg ha-1 and
net return (Rs.53000/-) and B: C ratio (3.30). This treatment gave higher productivity as compared to other treatments viz. N60 P35 and Farmers practice respectively.

Evaluation of *in-situ* moistureconservation practices to mitigate dry spells for assessment of differentsowing techniques in soybean

Two soybean varieties JS 20-34 and JS 95-60 were tested with different sowing techniques*i.e.* Sweep Blade type Seed Drill, Broad Bed and Furrow Irrigated Raised Bed System.Result revealed that soybean variety JS 20-34 recorded highest seed yield of 1380 kg ha-1, netreturn Rs.36633 /ha with 2.44 B: C ratio which was significantly superior to JS-95-60 (1060 kg ha-1,Rs.22233/ ha and 1.87 respectively).

This variety gave 30.18 % higher seed yield over JS-95-60. Similarly, among sowingtechniques the maximum seed yield (1695 kg ha-1) was recorded under Raised Bed and FurrowSystem, which was at par with Broad Bed Furrow and significantly superior to Sweep Blade typeSeed Drill. Raised Bed Furrow System recorded 33.67 % and Broad Bed Furrow (BBF) 15.70 %higher seed yield of soybean as compared to Sweep Blade type Seed Drill.

To study the Horti–pastoral system in Vertisols of MalwaPlateau

The data revealed that the mean highest fodder yieldwas obtained in Sorghum (M.P.Chari) (8023 kg ha-1) followed by *Stylo hamata* (6923 kg ha-1),hybrid bajra (6511 kg ha-1) and lowest was in maize fodder (6156 kg ha-1). This is the thirdyear ofexperimentation therefore, fruit yields was not obtained. The drumstick plants were died due toexcess soil moisture which caused the root rotting. Therefore, new plants were transplanted.

ALL INDIA COORDINATED SORGHUM IMPROVEMENT PROJECT

CROP IMPROVEMENT

1. Release and notification of SV 54 HB, Sorghum Variety for high biomass suitable for ethanol production through 2 G system
2. RVJ 2357 a dual-purpose sorghum variety with good fodder quality has been released for Madhya Pradesh. Notification proposal has been submitted
3. Three genotypes were contributed in Coordinated Trials and tested i.e. IV 22-1 & IV 22-2 in IVT (GS) , One IH 22-1 (30A x I 51)in IHT (GS).
4. Twenty-eight crosses were attempted for GY, FY, high biomass, SF, SB and grain quality
5. 46 Indore bred restorers were evaluated for agronomical traits
6. 15 advanced genotypes bred at Indore were tested in station Varietal trials along with national and state checks
7. 33 F2 segregating populations and 120 selections of F4, F5, F6 were grown and 440 selections were made.
8. 40 new experimental hybrids were made

CROP PRODUCTION

- Two trials were conducted on Evaluation of pre-released *kharif* grain sorghum genotypes for their productivity under rain fed environment and Performance of pre-released sweet sorghum genotypes under rain fed environments
- Grain sorghum SPV 2781 were found promising with higher fertility level 150% RDF (120:60: 60 kg N: P_2O_5 :K_2O ha^{-1})than genotypes with lower fertility levels.
- Sweet sorghum CSV 24SS was found superior for higher total fresh and dry biomass, stem girth and brix percentage, whereas, SPV 2789 was found superior for higher numbers of grains per earhead and grain yield with 150% RDF (120:60: 60 kg N: P_2O_5 :K_2O ha^{-1}).
- Front Line Sorghum Demonstrations (FLDs):In *Kharif,* 2022 a total of 50 sorghum demonstrations covering an area of 20 hectare were conducted on improved technology over farmer's practices to the farmers in Dewas and Shajapurdistrict of Madhya Pradesh. On the basis of overall mean basis improved practices recorded 15.82% and 15.58% higher grain and fodder yield over farmer's practices.

CROP PROTECTION

- Five coordinated trials *viz*: AVHT (GS), IVT (GS), IHT (GS), IAVHT (SS), IAVHT (HBM +BMR) were conducted in *kharif*-2022.

AII INDIA COORDINATED RESEARCH PROJECT ON MULLARP

CORP IMPROVEMENT

1. Mungbean

Initial Varietal Trial (IVT)

The genotype ML 2748 recorded highest seed yield of 1015 kg per ha followed by AKM 12-12 (966 kg/ha), RMG 1188 (950 kg/ha) and JLPM 707-27 (918 kg/ha). 100-seed weight ranged from 2.80 g (RVSM 22-7, IPM 1704-14, PM 1918) to 4.4 g (IPM 1205-2). Maturity duration ranged from 62 days to 75 days (PM 1903).

Advance Varietal Trial 1 (AVT 1)

The genotype BM 4 recorded highest seed yield of 949 kg per ha followed by PKVAKM4(701 kg/ha) and JLPM 702-1(674 kg/ha). 100-seed weight ranged from 3.1g (PKVAKM4) to 5.1 g (BM 4). Maturity duration ranged from 65 days to 72 days.

Station Varietal Trial (SVT)

The genotype RVSM 22-13 recorded highest seed yield of 855 kg per ha followed by RVSM 22-3(804 kg/ha), RVSM 1 (766 kg/ha) and RVSM 22-12 (739 kg/ha). 100-seed weight ranged from 2.8 g (RVSM 22-12) to 3.9 g (RVSM 22-3). Maturity duration ranged from 60 days (RVSM 22-13) to 72 days (TGM 130).

Mungbean Genetic Gain Trial

The genotype MH 318 recorded highest seed yield of 1006 kg per ha followed by SGC-16(981 kg/ha), Shalimar Moong 2(976 kg/ha) and MH 421 (964 kg/ha). 100-seed weight ranged from 1.7 g [(Vamban 2 (VBN (Gg 2)] to 4.4 g (HUM 16). Maturity duration ranged from 60 days to 75 days.

2. Urdbean

Initial Varietal Trial (IVT)

The genotype IU 02-1-3 recorded highest seed yield of 1583 kg per ha followed by RVSU22-10 (1266 kg/ha), VBG 20-011 (1230 kg/ha) and RVSU 22-6 (1225 kg/ha).100-seed weight ranged from 3.2 g (SBC 51) to 4.90 g (IU 02-1-3). Maturity duration ranged from 67 days (IPU 18-2) to 77 days (PBU 21-31).

Advance Varietal Trial 1 (AVT 1)

The genotype Daftri 471 recorded highest seed yield of 1555 kg per ha followed by SVU 6 (1506 kg/ha), JAUG 2 (GAU 4) (1399 kg/ha) and SKNU 1809 (1364 kg/ha). 100-seed weight ranged from 3.2 g (PU1804) to 4.3 g (Daftri 471). Maturity duration ranged from 70 days (PU1804) to 76 days (Daftri 471).

Station Varietal Trial (SVT)

The genotype RVSU 19-4recorded highest seed yield of 1254 kg per ha followed by RVSU 22-13 (1227 kg/ha), RVSU 22-12 (1203 kg/ha) and RVSU 22-7 (1144 kg/ha). 100-seed weight ranged from 3.1 g (RVSU 22-7) to 5.0 g (RVSU 22-13). Maturity duration ranged from 72 days (RVSU 22-6) to 80 days (RVSU 22-7, RVSU 22-8).

3.

4. Lentil:

Initial Varietal Trial IVT (LS)

The genotypes RKL 22-30 recorded the highest seed yield of 2705 kg/ha followed by JL 3-200-1 (2652 kg/ha). RVL 21-4, PLL 22-1 and RKL 22-69 were observed early maturing (95-100 days). Seed sizes of all tested genotypes were ranged from 1.48-3.45 g/100 seeds.

Advance Varietal Trial 2 (LS)

The genotypes L 4727 recorded the highest seed yield of 2360 kg/ha followed by RKL 607-1(C) (2348 kg/ha). RKL 1437 was observed early maturing (104 days). Seed sizes of all tested genotypes were ranged from 2.66-3.28 g/100 seeds.

4. Fieldpea

Initial Varietal Trial (IVT) Tall

The genotypes Pant PANT P 550 recorded the highest seed yield of 2847 kg/ha followed by PANT P 545 (2701 kg/ha). PANT P 545 and RFP 2020-2 were observed early maturing (109 days). Seed weights of all tested genotypes were ranged from 13.00 -22.99 g/100 seeds.

Initial + Advance Varietal Trial IVT+AVT 1 (Fieldpea Dwarf)

The genotypes **PANT P 536** recorded the highest seed yield (3210 kg/ha) followed by **IPFD 11-5** (C) (3069 kg/ha). **IPFD 22-9** was observed early maturing (107 days). Seed weight of all tested genotypes was ranged from 15.13-21.03 g/100 seed.

Advance Varietal Trial 1 (Tall)

The genotypes Pant P 501 recorded the highest seed yield (2655kg/ha) followed by RFPG 181 (2421 kg/ha). Pant P 497 was observed early maturing (105 days). Seed weight of all tested genotypes was ranged from 11.02-18.78 g/100 seed.

CROP PRODUCTION

Effect of foliar spray nutrients for yield maximization of urdbean.

All the foliar spray nutrients gave significant response on seed yield over water spray (control). Application of 2 % DAP + 0.5 % ZnSO4found significantly superior than rest of the treatments, it gave maximum seed yield of 557 kg per ha found at par with application of 2 % spray of 18:18:18 (536 kg/ha).

Effect of seed inoculation, weed management and foliar nutrition for higher productivity (2022-23).

All the treatments gave significant response on seed yield. Seed treated with Rhizobium+ PSB gave significantly higher seed yield (601 kg/ha) than seed treated with LSMR 1* RB 3 (microbial consortia) 376 kg/ha.In weed management application ofFomesafen @ 220 g/ha+ Fluzifop-p-butyle@220 g/ha at 15-20 DAS recorded maximum yield 524.71 kg /ha which is found significantly superior over weedy check and application ofPropaquizofop 20 50% + Emazethapyre 3.75 % ME @ 125 g/ha at 15-20 DASyielded 438.1 and 503.23 respectively. As regards foliar nutrition two spray of Nano urea spray @ 0.25 % (flower initiation and Pod initiation) gave maximum yield 544.26

Agronomic evaluation of AVT 2 large seeded lentil genotypes for higher production.

The results indicated that the genotype LA 22-12 recorded maximum yield 1444 kg/ha which found statistically at par with LA 22013 (1401 kg/ha) and found significantly superior than the LA 22-14(972 kg/ha) and LA 22-11 LA 1267 kg/ha. As regards dates of sowing, early sowing of crop on 15.10.2022 gave maximum yield (1469 kg/ha) at par with sowing on 25.10.2022.Delyed in sowing reduced the yield. Lowest yield was recorded when crop was on 05.01.2023.

ALL INDIA COORDINATED WHEAT & BARLEY IMPROVEMENT PROJECT

CROP IMPROVEMENT:

NIVT -2-IR-TS-TAS: Out of 36 genotypes tested, six genotypes showed significantly high grain yield including 3 check varieties. Among the genotypes N327 (6041 kg/ha) showed the highest grain yield followed by N321 (5805 kg/ha). Entry N309 (50.38g) showed the highest 1000 grain weight.

NIVT-3B-IR- LS- TAS: Out of 36 genotypes tested, six genotypes showed significantly high grain yield including 3 check varieties. Among the genotypes N521 (**5654** kg/ha) showed the highest grain yield followed by N505 (**5493** kg/ha). Entry N508 (**52.50**g) showed the highest 1000 grain weight.

NIVT-4- IR-TS-TDM: Out of 25 genotypes tested, six genotypes showed significantly high grain yield. Among the genotypes showed the highest grain yield N608 (**5139** kg/ha) followed by N601 and N625 (**4759** kg/ha)).

AVT-IR-LS-TAS: Out of 6 varieties tested, the highest grain yield was showed by CZLS204 (**6481**kg/ha) followed by CZLS205 (**6433**kg/ha)).

AVT-IR-TS-TAS: Out of 6 varieties tested, six varieties showed significantly high grain yield. Among the genotypes the highest grain yield was showed by showedCZTS105 (**6655** kg/ha) followed by CZTS101 (**6331**kg/ha).

Station Trial:

NGSN: Promising entries for multiple rust resistance and multiple or individual component trait(s) based on this year's performance have been identified and some of them were used in station crossing programme.

International Nursary (CIMMYT Nursery Trial): Promising entries for multiple or individual component trait(s) based on this year's performance have been identified for grain yield and other components

National Varietal Trial under Irrigated timely sown condition in Central Zone (*T. aestivum& T. durum*)

Quantitative data of the trial NIVT-2-IR-TS-TAS revealed that Out of 36genotypes tested, six genotypes showed significantly high grain yield including 3 check varieties. Among the genotypes N327(6041 kg/ha) showed the highest grain yield followed by N321(5805 kg/ha). Entry N309 (50.38g) showed the highest 1000 grain weight.

National Varietal Trial under Irrigated late sown condition in Central Zone (*T. aestivum*)

Quantitative data of the trial **NIVT-3B-IR- LS- TAS,** revealed that Out of 36 genotypes tested, six genotypes showed significantly high grain yield including 3 check varieties. Among the genotypes N521 (**5654** kg/ha)showed the highest grain yield followed byN505 (**5493** kg/ha). Entry N508 (**52.50**g) showed the highest 1000 grain weight.

National Varietal Trial under Irrigated timely sown condition in Central Zone (*T. aestivum& T. durum*)

Quantitative data of the trial **NIVT-4- IR-TS-TDM** revealed that Out of 25genotypes tested, six genotypes showed significantly high grain yield. Among the genotypes showed the highest grain yieldN608(**5139** kg/ha) followed by N601and N625(**4759** kg/ha)).

Advance Varietal Trial under Irrigated late sown condition in Central Zone (*T. aestivum*)

Quantitative data of the trial AVT-IR-LS-TAS revealed that Out of 6 varieties tested, the highest grain yield was showed by CZLS204(**6481**kg/ha) followed by CZLS205(**6433**kg/ha)).

Advance Varietal Trial under Irrigated timely sown condition in Central Zone (*T. aestivum*)

Quantitative data of the trial **AVT-IR-TS-TAS-** revealed that Out of 6 varieties tested, six varieties showed significantly high grain yield. Among the genotypes the highest grain yield was showed by showedCZTS105 (**6655** kg/ha) followed by CZTS101(**6331**kg/ha).

<u>CROP PRODUCTION:</u>

Performance of new wheat genotypes at different date of sowing under irrigated condition

The experiment was conducted in split plot design with comprising two factors;factor date of sowing in main plot and factor varieties in sub plot with replicated three times. The sowing was done using the normalized (adjusted considering 1000 grains weight as 38g) seed rate of 100kg/ha at a row to row spacing of 20 cm. Recommended rate of nitrogen, phosphorus and potash were applied (120:60:40 kg/ha N;P_2 O_5;K_2O). Full dose phosphorus and potash and1/3rd N were applied as basal dose and remaining 2/3rd N was applied in two equal split doses with first and second irrigation.

In this trial two test entries (GW-547and NWS-2194) were evaluated against five check varieties(MACS-6768 (C), HI-1650 (C), GW-513 (C), HI-1636(C) & GW-322 (C)) at

timely and late sown under irrigated condition. Result revealed that Timely sown crop gave significantly higher grain yield compared to late sown crop . All the varieties recorded significantly higher grain yield under timely sown condition than late sown crop. The check MACS-6768 variety was recorded significantly highest grain yield in all the varieties under timely sown and late sown condition.

In mean, delayed sowing revealed significantly decreased grain yield(30.26 q/ha) to timely sowing(47.13 q/ha) by 35.7%.

Performance of new genotypes under restricted irrigation condition

The moisture stress conditions led to yield reduction, which differs from variety to variety and place to place. Irrigation is one of the important parameters for achieving full yield potential of a genotype. Keeping this in view, the performance of four most promising checks viz, MP-3288(C),DBW-110(C),HI-1655(I)(C) & CG-1036(I)(C) were evaluated against two test entry DBW-359 and CG -1040 at three irrigation schedules (no irrigation,one irrigation at CRI, two irrigation at CRI & Boot leaf stage) in a split plot design where irrigation levels in main and genotypes in sub plots with three replications at Gwalior centre under restricted irrigations.

The data revealed that two irrigations at CRI and Boot Leaf (BL) stages gave significantly higher yield in comparison to one (I_1) and no irrigation (I_0). The yield of all genotypes increased significantly with the increase in irrigation frequency. The test entries DBW-359 and CG -1040 were the highest yielder irrespective of water supply conditions. DBW-359 and CG -1040 produced 28.47, 26.67 q/ha grain yield with no irrigation and it increased to 42.22 & 41.07 q/ha with two irrigation, respectively. The check variety CG-1036(I)(C) gave significantly higher yield in comparison to all genotypes under l_0 to l_2 and on an average followed by MP-3288(C) yielded 30.40, 43.42 ,50.52 and 41.44 q/ha, respectively. The mean data of all genotypes, the yield at one and two irrigations were **33.9% and 54.2%** higher, respectively as compared to no irrigations. It is evident from the data that the irrigation at CRI and late tillering stage gave tremendous effect on productivity of wheat as compared to no irrigations. The better yield in CG-1036(I)(C) was due to its higher ear-length and grains per earhead.

Effect of nano urea on increasing N use efficiency and productivity of wheat under irrigated condition

Nitrogen is main plant nutrient required in large quantity and respond to their application in majority of Indian soils. Low and excess quantity of Nitrogen inhibit the yield even reduces the utilization of phosphorus potash and other minor and micro nutrients. For exploring the optimization of N dose . The experiment was conducted to maximize wheat productivity by optimizing the N dose at Gwalior centre. The trial was laid out in

randomized plot design with thirteen treatments (given to above Agro-III) replicated thrice. All agronomic package and practices were followed as per recommended for the respective zones except nitrogen application.The sowing was done using the normalized (adjusted considering 1000 grains weight as 38g) seed rate of 100kg/ha at a row to row spacing of 20 cm.

The data revealed that there was significant difference in grain yield and growth and yield attribute parameter due to graded dose of nitrogen with nano urea. The significantly highest yield (55.65 q/ha) was obtained where recommended N was applied with two spray of nano urea at tillering (40-45) and jointing (60-65 DAS) stages. It was at par with Recommended N +One Spray of Nano Urea at tillering (40-45), 75% Rec N + One Spray of Nano Urea at tillering (40-45), 75% Rec N + two spray of nano urea at tillering (40-45) and jointing (60-65 DAS) stages and 75% Rec N + Two Spray of Urea (5%) at tillering (40-45) and Jointing (60-65 DAS).

Effect of nano urea on increasing N use efficiency and productivity of wheat under restricted irrigated condition

This experiment was conducted to maximize wheat productivity by optimizing the nitrogen dose and nano urea under restricted irrigation condition. The trial was laid out in Randomized Plot Design with Nine treatments (given to above Agro-III) having three replication. The sowing was done using the normalized (adjusted considering 1000 grains weight as 38g) seed rate of 100kg/ha at a row to row spacing of 20 cm. All agronomic package and practices were followed as per recommended for the respective zones except nitrogen application. Recommended rate of nitrogen, phosphorus and potash were applied (90:60:40 kg/ha N;P_2O_5;K_2O). Full dose phosphorus and potash and1/3rd N were applied as basal dose and remaining 2/3rd N was applied in CRI stage.

The data revealed that there was significant difference in grain yield and growth and yield attribute parameter due to graded dose of nitrogen and nano urea alone as well as with combination. The significantly highest yield (41.60 q/ha) was obtained in treatment RDF N along with two spray of nano urea at tillering (40-45) and jointing (60-65 DAS) stages followed by Rec N + One Spray of Urea (5%) + Nano Urea at tillering (40-45 DAS)and Rec N + Two Spray of Urea (5%) at tillering (40-45) and Jointing (60-65 DAS). The yield was 56.8%, 48.4% and 45% higher at T_5 ,T_8, and T_7 respectively as compared to control.

ALL INDIA CO-ORDINATED RESEARCH PROJECT ON OIL SEED SAFFLOWER

CROP IMPROVEMENT:

Raj Vijay Safflower 18-1[RVSAF 18-1 (Notification vide S.O.no 8 (E)dated December,24, 2022] and notified Karnataka,Maharashtra,Telangana,AndhraPradesh,Chhattisgarh and Jharkhand by 90th meeting of Central sub –committee on Cropstandard, Notification andRelease of Varieties for Agricultural crops held on 2nd ,May,2023.Registered in NBPGR its no is IC 641841

Raj Vijay Safflower 18-3 [RVSAF 18-3 (Notification vide S.O.no 1056 (E)dated March ,2023] Registered in NBPGR its no is IC 646063.

The variety with oil content of 33.9 was developed at AICRP Safflower RVSKVV, College of Agriculture, Indore. The variety of AICRP Indore has been released at the State level.It is moderate resistance to wilt**.**

In Coordinated varietal breeding programmed three entries had tested .Entries RVS 118 and RVS 120 &RVS 122 respectively inAVT & IVT trials. .RVS 122 entry in ASVTtrial.havenearly 36.11 % oil content at Indore..Five entries were contributed for short statutretrails; they have good performance for seed yields.

In advanced station varietal trial, 28 promising genotypes of safflower

Comprising of fourteen spiny tall, Seven spineless tall, Four spiny dwarf and three spineless dwarf were evaluated against the spiny check JSF-1(station check), and spineless check JSI-97 (1578). In this experiment spiny tall genotypes RVSAF18-3 ,JSI-118,RVSAF 14-1 & JSI 122 were at par recorded yield of 1952, 1927,1981,&1926 kg/ha respectively followed by JSI 120 (2058 kg/ha), against the standard check JSF-1(1731kg/ha) and local check JSI-97(1578 kg/ha)

CROP PRODUCTION:

Assessing safflower Based Cropping Systems productivity under different land configurations, crop geometry and IPNM in different rainfall patterns

The seed yield of short duration soybean (Var. JS 95-60) was 865 Kg/ha while normal duration soybean (Var. RVS 2001-4) was 897 Kg/ha. Short and normal duration soybean did not influence the seed yield of safflower (JSI -97) significantly.

Planting geometry x IPNM treatment combinations effect on seed yield of safflower was significant. Maximum seed yield was recorded with 4 rows/BBF x 100% RDF + Azotobacter + PSB (1209 Kg/ha) which was at par with 5 rows/BBF x 100% RDF + Azotobacter + PSB (1176 Kg/ha).

Normal duration soybean (RVS 2001-4) was grown on ridges and furrows with recommended management practices recorded 897 Kg/ha seed yield. Safflower seed yield was 1133 Kg/ha. Cropping system productivity in terms of safflower equivalent yield was 2119 Kg/ha.

Comparative performance of safflower cultivation under selective mechanization *vis –a-vis* Farmers practice in terms of seed yield, economics and energy budgeting

The crop was sown from 10th November to 10th December at 15 days interval. Crop sown on three different dates with 15 days interval significantly influence the seed yield, oil yield, gross returns, as well as B:C ratio. All these characters were found significantly maximum in 10th November than 10th December. Seed yield was reduced with 15 days delay in sowing, 10th November (2177 Kg/ha) > 25th November (2067 Kg/ha) > 10th December (1833 Kg/ha). Check variety A-1 was recorded significantly maximum seed yield (2441 Kg/ha) than the AVT – II entries 18-02, 18-72, ISF-300 and RVS 19-118.The similar trend was observed with gross returns, net returns and B:C ratio. The interaction effect was not found significant.

Evaluation of AVT- II entries under different fertilizer levels under irrigated conditions

The application of 150% RDF was recorded maximum seed yield (2487 Kg/ha), oil yield (836 Kg/ha), gross returns (104475 Rs/ha) net returns (80365 Rs/ha) and B : C ratio (4.32) than the application of 50% RDF and 100% RDF. Check variety A-1 was recorded significantly maximum seed yield (2550 Kg/ha), GMR (107114 Rs/ha), NMR (84824 Rs/ha) and B:C ratio (4.80) as compare to the AVT – II entries 18-02, 18-72 and ISF-300 . The interaction effect were not found significant

Weed management in safflower under irrigated conditions

The application of Metribuzin @ 175g/ha. Pre emergence + hand weeding at 20 DAS was recorded significantly maximum seed yield (1753 Kg/ha), biological yield (6360 Kg/ha) and oil yield (487 Kg/ha), GMR (73626 Rs/ha) and NMR (43716 Rs/ha). While the seed yield of T1, T2, T3, T5 and T6 which was at par with each other. Although the maximum seed yield (1950 Kg/ha) was recorded significantly with weed free check. The application of Metribuzin@ 175 g/ha pre emergence + hand weeding at 20 DAS was noticed significantly minimum weed population of *Melilotusindicus, Chenopodium album* and *Cyperusrotundus* at 30 and 90 DAS, 30 DAS, 30 and 90 DAS, respectively. Minimum dry weight of weed was also noticed in application of Metribuzin@175 g/ha pre emergence + hand weeding at 20 DAS.

Nitrogen management in safflower through nano urea to improve productivity and nitrogen use efficiency

Application of 100% N was recorded maximum seed yield (1933 Kg/ha), biological yield (6892 Kg/ha), oil yield (579 kg/ha), gross returns (81178 Rs/ha), net returns (57028 Rs/ha) as well as B:C ratio (3.35) as compare to the application of 75 % N and 50% N. Foliar application of nano urea at flowering and seed filling stage (3 ml/litre of water) was recorded significantly maximum seed yield (1962 Kg/ha), biological yield (7169 kg/ha), oil yield (593 kg/ha) and gross returns (82409 kg/ha). While nano urea spray and 2% urea spray at flowering stage significantly

Integrated weed management in cropping systems involving safflower

The tillage practices was not found significantly in all the characters of yield attributes, weed populations per metre square and dry weight of weeds at different intervals. Weed control method of Integrated weed management was found significantly influence the seed yield, oil yield and gross return. Weed control method of IWM was recorded significantly maximum seed yield (1448 kg/ha), oil yield (422 kg/ha) and gross returns (60816 Rs/ha). Minimum number of weed count per metre square and dry weight of weed was found significantly in IWM method of weed control. The weed population of *Melilotusindicus,Chenopodiumalbum*and*Cyperusrotundus* was found significantly minimum in IWM method at 60 DAS, 60 and 90 DAS and 30 DAS, respectively. Although dry weight of weed of *Melilotusindicus, Chenopodium album* and *Cyperusrotundus* was found significantly minimum in IWM method at 30, 60, 90 and 60, 90 and 30 DAS, respectively. The maximum B: C ratio (2.30) was found in zero tillage practice and chemical weed control method (2.14). The interaction effect was not found significant.

ALL INDIA COORDINATED RESEARCH PROJECT ON GROUNDNUT

CROP IMPROVEMENT

Initial varietal trial stage – I

Fifteenentries were tested in the ivt (sb) stage – i, significant differences were observed in respect of pod yield kg / ha. And kernel yield kg / ha. The highest pod yieldwasrecorded in **isk-i-2022-7**and kernel yield was recorded in **isk-i-2022-6.**

Initial varietal Trial Stage –II

Thirteenentries were tested in the IVT (SB) stage – II, significant differences were observed in respect of pod yield kg / ha. and kernel yield kg/ ha. The highest pod yields as well as kernel yield were observed in **ISK-I-2021-7**followed by **ISK-I-2021-15**.

CROP PRODUCTION:

Trial I

- The pod (1607.9 kg/ha) and haulm (5452.2 kg/ha) yield of groundnut under minimum tillage were 3.22% and 7.87% higher over that obtained under conventional tillage (1557.8 and 5059 kg/ha), respectively.
- In terms of monetary returns, significantly highest the gross (10138 Rs/ha) and net returns (61370 Rs/ha) fetched with minimum tillage which was 4.28 and 8.82% higher as compared to that obtained under conventional tillage, respectively.
- The highest pod (2032.1 kg/ha) and haulm (6760 kg/ha) yield of groundnut was recorded undergroundnut-wheat system which was were 6.33, 44.15 and 107.63% % higher over groundnut-mustard, groundnut-pigeon pea-wheat and groundnut + bajra-wheat cropping system, respectively. While the highest harvest index (0.24) was observed in groundnut-pigeonpea-wheat cropping system. The lowest yield of groundnut in a pooled data was recorded under groundnut + bajra-wheat cropping system.
- The pooled analysis of data revealed that net (81594 Rs/ha) and gross returns (127899 Rs/ha) with highest BC ratio (1.86) in ground-wheat system were found significantly highest which were 9.41 and 5.81%, respectively higher over that obtained under groundnut-mustard system which was the second highest significant treatment as compared to other cropping system.

- The interaction effect of tillage treatments and cropping systems on growth and yield attributesof groundnut crop was non-significant except for initial plant population of groundnut, intercrop plant stand, system yield, gross & net returns.

Trial II

- On basis of three years pooled data of the groundnut crop sown at 30*10 cm spacing skipping one row after every two and three rows of groundnut recorded better yield compared to treatment where groundnut sown at recommended spacing without skipping rows.
- Among different Groundnut-coriander intercroppingtreatments, the treatment where coriander was planted in skipped rows after two rows of groundnut sown at 30 X 10 cm spacing with RPP, harvested at 30 DAS and with an open dead furrow left for in-situ moisture conservation (T_4) and treatment T_6 where coriander was planted for vegetable purpose in skipped rows after 03 rows of groundnut sown at 30 X 10 cm spacing with RPP, harvested at 30 DAS and with an open dead furrow left for in-situ moisture conservation recorded significantly the highest pod, haulm yield & HI and fetched the highest gross, net returns and recorded highest B C ratio compared to the sole cropping of groundnut.

Trial III

- The significantly lowest total weed biomass (42 kg ha^{-1}) at harvest and higher WCE (%) was recorded with application of Diclosulam 84 WDG @ 20 g a.i. ha^{-1} (PE) fb Inter-cultivation/HW at 30 and 60 DAS and it was found at par with three manual weedings at 25, 50 and 80 DAS (42 kg ha^{-1}) followed by application of Diclosulam 84 WDG @ 25 g *a.i.* ha^{-1} (PE) with Inter-cultivation at 30 and 60 DAS. *a.i.* ha^{-1} (PE) fbQuizalofop Ethyl 5% EC 50 g *a.i.* ha^{-1} as post emergence (57 kg ha^{-1}).
- The significantly highest kernel (1353 kg ha^{-1}) and haulm yield (5289 kg ha^{-1}) of groundnut were obtained with application of Diclosulam 84 WDG @ 25 g *a.i.* ha^{-1} (PE) fb Inter-cultivation/HW at 30 and 60 DAS followed by Diclosulam 84 WDG @ 20 g a.i. ha^{-1} (PE) fb Inter-cultivation/HW at 30 and 60 DAS (1386 and 5862 kg ha^{-1}, respectively). The lowest kernel yield was recorded with application of Pendimethalin 30 % E.C.@ 1.0 kg a.i. ha^{-1} (PE).

  Application of Diclosulam 84 WDG @ 25 g a.i. ha^{-1} (PE) fb Inter-cultivation/HW at 30 and 60 DAS also helped in fetching significantly highest values of gross (129863 Rs ha^{-1}), net returns (78987 Rs ha^{-1}), BC ratio (1.55) and was followed by application Diclosulam 84 WDG @ 20 g *a.i.* ha^{-1} (PE)fbInter-cultivation at 30 and 60 DAS.

ALL INDIA COORDINATED RESEARCH PROJECT INTEGRATED FARMING SYSTEMS

Identification of cropping systems for different farming systems.

In the experiment 10 - crop sequences were tested on five different objectives, viz., two crop sequences each for family and livestock nutrition, income enhancement, soil health along with checks of the predominant cropping systems of the area (soybean – wheat /or gram).

The best identified sequence;baby corn + brinjal at 1:1 row ratio – onion – okraunder the income enhancement recorded higher grossreturnas well as net return and B:C ratio after five years of experimentation. The other treatment under this income enhancement group viz.,soybean + baby corn (4:2) – potato – green chaulaiwas next best in terms of gross and netincomes. Soybean + maize (4:2) – wheat + mustard (2:2) – green gram also had the higher returns from the group of family nutrition.

This year (2022-23), the rainfall during *kharif* season (July to September, 2022) was about 1147 mm (nearly 94 % average of the annual rainfall) in 47 rainy days. In the fifth year of experimentation (2022-23), the higher gross as well as net returns and consequently, B:C ratio (Rs1,56,446 and 79,119and 2.06, respectively)realized in the treatment under the income enhancement, viz.baby corn +brinjal (1:1) – onion – okra than any other sequence in the comparison. This was followed byothercrop sequence from thesame group soybean + baby corn (4:2) – potato – green chaulai (Rs 1,01,450 and 45,830) in terms of returns. Furthermore, soybean + maize (4:2) – wheat + mustard (2:2) – green gram also had the higher returns (Rs 69,169, 34,010 and 2.03 as gross and net returns and B:C ratio, respectively) from the group of family nutrition.Soybean + maize fodder (4:2) – berseem + makkhan grass (2:2) – hybrid bajra fodder from livestock nutrition and soybean + sesbania (1:1) – wheat (PI) + chickpea (2:4) – green gram from soil health observed higher returns and B:C ratio than the other treatment of the same group. The predominant cropping system of the plateau viz., soybean – wheathad the lower gross returnsand B:C ratio in a calendar year than the above treatments.

On an average of five years, the sequences of income enhancement found better than other treatments under comparison as the gross and net return and B:C ratio of the sequences baby corn +brinjal (1:1) – onion – okra (Rs 3,23,169, Rs 1,56,584 and 1.99, respectively) and soybean + baby corn (4:2)– potato – green chaulai (Rs 2,21,132, Rs 94,024and 1.86, respectively). Soybean + maize (4:2) – wheat + mustard (2:2) – green gramfrom the group family nutrition and soybean + sesbania (1:1) – wheat (PI) + chickpea (2:4) – green gram from soil health were next best in terms of gross and net returns. The predominant system of the plateau, i.e., soybean – wheat had the higher net return(ranked fourth) in a period of 8 months. The B:C ratio (1.85) washigher in the groups of treatments of livestock nutrition having low inputs crops.

ALL INDIA NETWORK RESEARCH PROJECT ON ARID LEGUMES

CROP IMPROVEMENT

- Twelve genotypes were tested in IVT out of these, variety CAZG-20-8 gave maximum seed yield (1318 kg/ha), net income (Rs. 35964/ha) and BC ratio (2.74) of clusterbean, over all the varieties. the lowest seed yield (843 kg/ha) was recorded by CAZG-19-10 variety.
- Nine genotypes were tested in AVT-II + AVT-I out of these, variety RGr 20-7 gave maximum seed yield (1204 kg/ha), net income (Rs. 31312/ha) and BC ratio (2.52) of clusterbean, over all the varieties. The lowest seed yield (855 kg/ha) was recorded by RGC-1066 variety.
- Eighteen genotypes were tested in IVT out of these, variety GC-3 gave maximum seed yield (1156 kg/ha), net income (Rs. 49876/ha) and BC ratio (3.42) of cowpea, over all the varieties. the lowest seed yield (368 kg/ha) was recorded by SKAUC-412 variety.
- Eight genotypes were tested in AVT-II + AVT-1 out of these, variety GC-3 gave maximum seed yield (1246 kg/ha), net income (Rs. 58540/ha) and BC ratio (3.84) of cowpea, over all the varieties. the lowest seed yield (523 kg/ha) was recorded by GC 1906 (AVT-I) variety.

CROP PRODUCTION

- Result revealed that variety V3 (RGr-20-15) produce significantly more seed yield (1085 kg/ha), net return (25911 rs/ha) and BC ratio (2.31) compare to other genotypes, clusterbean crop sown with spacing 45 x 10 cm found more seed yield (1084 kg/ha) and value of yield attributes over spacing 30 x 10 cm. In case of fertility level higher seed yield (1071 kg/ha) was recorded under application of 125% RDF.
- The result revealed that highest seed yield of clusterbean by obtained under application of 100% RDF + seed treatment with microbial consortium and soil application of microbial consortium (T_4) gave highest seed yield of (1262 kg/ha), net return (Rs 32783/ha) and BC ratio (2.61) followed by (T_7) 75% RDF + seed treatment with microbial consortium and soil application of microbial consortium.
- The result showed that weed free produce significantly highest seed yield (1625 kg/ha), net return (Rs 43996/ha) and WCE. Amongst herbicidal treatment maximum seed yield was obtained under application of Acifluorfen sodium 16.5% EC 140 g/ha + clodinafop - propargyl 8% (Ready mix) 1000 ml/ha at 15 - 20 DAS. (T7). Significantly lowest yield was recorded unweeded check.
- The results revealed that among the different treatments T9 (100% RDF (K) + nano DAP spray at vegetative, flowering and pod filling stage) gave higher seed yield (1259 kg/ha) followed by T8 (75% RDF + 2 sprays of nano DAP at flowering and pod formation stage)

- The results of the experiment revealed that among the differential genotypes, spacing and fertility levels, the highest cowpea seed yield (986 kg/ha), net return (Rs. 41277/ha) and B:C ratio (3.00) was recorded with variety PGCP-71. Amongst spacing, the maximum cowpea yield (957 kg/ha) was recorded with spacing 45 x 10 cm. in case of fertility levels the maximum cowpea yield (960 kg/ha) was recorded in 125% RDF.
- Results showed that hand weeding once 25-30 DAS gave highest seed yield (1118 kg/ha). Amongst herbicidal treatment application of Quizalofop ethyl 5 EC @ 50 g/ha + imazethapyr 10% SL @ 75 g/ha (Tank mix) at 15-20 DAS produce maximum seed yield (1110 kg/ha) and net monetary return (Rs. 50765/ha) followed by treatment T4 and T3 significantly lowest yield was recorded in weedy check (621 kg/ha).

CROP PROTECTION:

- At Gwalior,centre the survey of arid legume crops *i.e.* cluster bean and cowpea was conducted in four major growing districts *viz.,* Gwalior, Morena, Shivpuri and Bhind during *Kharif* 2022 and it was observed that Alternaria blight, dry root rot and bacterial blight on cluster bean and dry root rot and CYMD on cowpea were important diseases in this area. This survey was conducted in 25 villages of four respective districts of M.P. The maximum disease intensity (24.50 %) of Alternariablight of cluster bean was observed in Masoriya followed by Kadaiya(23.00%), andminimum in Mehgaon (1.50%). The bacterial leafblight was maximum in Navagaon(16.00%) followed by Patai (12.00%) and minimum in Phoop (1.00%).The maximumdisease incidence of dry root rot was recorded in khadi (10.00%) followed by Phoop(9.00%), while minimum disease incidence was recorded in Shakhani, Jouraand Gormi (2.00%).
- The dry root rot of clusterbean was found almost in every field of all 25surveyed villages but incidence was less as compared to Alternaria blight. Among thesurveyed areas of cowpea, the incidence of dry root rot was ranges from 2.00-14.60 %.The intensity of CYMD was found almost in every field surveyed which ranges from2.00-12.00%.
- In the field experiment for evaluation of fungicides against Alternaria blight of clusterbean at Gwalior centre during *Kharif*-2022. Treatment T3 i.e. foliar spray with Tebuconazole 250 EC @ 0.1 % was found most effective at initiation of flowering and at pod stage among all the treatments tested with minimum disease severity (12.53 and 16.00 %). Maximum seed yield and straw yield (2007 and 3465 kg/ha, respectively) was also recorded in the treatment T3.
- At Gwaliorcenter, all the seventieth entries of cowpea were evaluated against dry rootrot under artificial inoculated condition. It was observed that dry root rot incidence was rangesfrom19.50to39.50%.Noneoftheentrywasfoundfreefromdryrootrot.However,twoentry*i.e*. CPP 22-11 and CPP 22-12 were found Moderate resistant and rest of the entries i.e. fifteenentrieswerefallinsusceptiblereactioncategory.Themaximumdiseaseincidenceofrootrotwas observed in entry CPP 22-29 (39.50 %).
- At Gwalior center, eighteen entries of Cluster bean were evaluated against Alternariablight,bacterialblightandrootrotdiseaseinnaturalcondition.Noneoftheentrywasfoundfreefrom alternaria blight. However, two entries *viz*; GRP 22-1 and GRP 22-18 were

found highlyresistant (3.60 & 4.00 %) and three entries viz; GRP 22-9 (13.60%), GRP 22-13 (12.40%) and GRP22-17(10.80%) against blight disease. As far as BLB is concerned, none of the entry was found freeagainst BLB. However, three entries i.e. GRP 22-3 (17.20%), GRP 22-14 (18.00%) and GRP 22-17(18.80%) were found moderately resistant and two entries viz; GRP 22-1 (8.00%) and GRP 22-18(9.60%) were found resistance against BLB. Root rot incidence was found less. Eight entries viz;GRP22-1,GRP22-3,GRP22-4,GRP22-7,GRP22-15,GRP22-16,GRP22-17andGRP22-18werecategorizedasresistantandrestofthetenentriesweremoderatelyresistantagainstdryrootrot.

- At Gwalior, eighteen entries of cowpea were evaluated against important diseases *viz*; cowpea yellow mosaic virus (CYMV) and root rot under natural condition. Rating scale 0- 9 was used for recording the disease intensity of CYMV. None of the entry was found free from CYMV. In CMV maximum disease intensity was recorded in genotypes CSP-23-5 (35.77 %), while minimum disease intensity was recorded in genotype CSP-23-10 (19.11%). In screening of root rot the maximum disease incidence was recorded in genotypes CSP-23-18 (15.20%), while minimum disease incidence was recorded in genotype CSP-23-10 (9.20%).
- At Gwalior center, ten entries of cluster bean were evaluated against important diseases under natural condition. The maximum CMV disease intensity was recorded in genotypes GSP-23-5 (34.89%), while minimum percent disease intensity was recorded in genotype GSP-23-4 (18.44%). The maximum percent disease incidence of root rot disease was recorded in genotype GSP-23-7 (14.80%), while minimum percent disease incidence was recorded in genotype GSP-23-2 and GSP-23-10 (6.80 %) respectively. Alternaria leaf spot of cluster bean was recorded maximum in GSP-23-3 (28.40%), while minimum percent disease intensity GSP-23-8 (16.80 %).In bacterial leaf spot of cluster bean maximum percent disease intensity was recorded in GSP-23-6 (29.11%), while minimum percent disease intensity GSP-23-4 (17.77%).
- At Gwalior center, ten entries of cluster bean were evaluated against major insect pest *viz.,* Jassid, Thrips, Aphid and whitefly cluster bean under natural condition. The maximum jassidpopulation per plant was recorded in genotype GSE–11 (4.32 population/ trifoliate), whileminimum population per plant was recorded in genotypes GSE – 18 (3.45 population/ trifoliate).Screening of cluster bean against sucking pest of Thrips was recorded in maximum GSE- 11(2.60 population/ trifoliate), while minimum population was recorded in genotype GSE–19 (1.27population/ trifoliate). In aphid maximum population per plant was recorded GSE–16 (3.04population/ trifoliate), while minimum population was recorded in genotype GSE–14 (1.75population/ trifoliate).Maximum whitefly population was recorded in genotype GSE–19 (4.15 population/trifoliate), while minimum whitefly population was recorded in genotype GSE–14 (3.16 population/ trifoliate).

SOIL TESTING SERVICE SCHEME

Survey and characterization of ground water for irrigation, salinity associated problems in Gulana Tehsil of Shajapur district of Madhya Pradesh.

The quality of groundwater samples indicated that pH, EC SAR and RSC ranged from 7.1 to 8.5, 0.65 to 2.1 dSm^{-1}, 0.10 to 1.75 and Nilme L^{-1}, respectively. Among anions, carbonate was totally absent in the ground water samples of the tehsil. Bicarbonate, chloride and sulphate ions ranged from 1.1 to 6.35, 1.1 to 14.6 and 0.25 to 4.25 me L^{-1},respectively**.** Similarly the cations like Ca^{2+},Mg^{2+},Na^{+} and K^{+} varied from3.2 to 15.4, 0.82 to 9.3, 0.31 to 3.23 and 0.01 to 0.0.95, respectively.·Out of 120 ground water sample collected from the tehsil,116 samples were reported in good quality water category designated A. while 4 samples belonged to the category of B, indicating true representation of marginally saline water. Alkali water (C) category was totally absent in Gulana Tehsil of shajapur district of Madhya Pradesh.

Characterization and delineation of typical profiles of salt affected soilsusing remotely sensed data and ground truth of Moman Badodiya Tehsil of Shajapur district, Madhya Pradesh.

Detailed reconnaissance soil survey was carried in Moman Badodiya of Shajapur district of Madhya Pradesh to find out locations, extent and nature of salt affected soil. One hundred twenty surface soil samples were collected from different villages of Moman Badodiya tehsil of Shajapur district. The reaction of soil (pHs) in the surface layer is alkaline. pHs of the saturation paste ranged from 7.1 to 8.2. The ECe of saturation extract is an important property to judge the behaviour of soil in respect of salinity/ alkalinity. ECe velues ranged from 0.21 to 2.22 dSm^{-1}. Among different cations, Na ranged from 0.6 to 3.2 me L^{-1}. The SAR values ranged between 0.20 and 2.8 me L^{-1}. The data pertaining to exchangeable cations, CEC and ESP revealed that exchangeable Ca, Mg and Na ranged from 16.9 to 26.6, 9.0 to 14.9 and 1.4 to 7.3 cmol (p^{+}) kg^{-1} respectively. Cation exchange capacity (CEC) ranged from 29.9 to 43.1 cmol (p^{+}) kg^{-1}, whereas, exchangeable sodium percentage (ESP) varied from 3.7 to 18.6 respectively. The data clearly shows that all the 120 (100%) soil samples were found in very slight salinity category. On the other hand, 107(89.1%) soil samples come under the category of very slight sodicity in respect of ESP. Slight sodicity samples were 10.9%. Jaswada village (S. No.69) of Moman Badodiya tehsil was depicted highest ESP (18.6%).

Management of Sodic Vertisols through resources conservation technologies

An experiment was conducted in sodic vertisols on wheat (HI 1544) during 2021-22 with and without mulch and three tillage practices i.e. conventional, reduced and zero tillage. The sowing of wheat was done on dated 24.11.2021 and harvested on 08.3.2022. Wheat and straw yield were significantly influenced by various tillage systems. Among the tillage systemshighest wheat (3969 kg/ha) and straw yield (5698 kg/ha) was recorded in conventional tillage which was significantly superior to reduced tillage and zero tillage.Application of rice crop residue as mulch @ 5 t/ha produced significantly higher straw yield(5488 kg/ha) in comparison to no mulch (5064 kg/ha).TheESP has influenced significantly by various tillage and mulch practices. The lowest mean value of ESP (20.8) was recorded under conventional tillage followed by reduced tillage (22.7). The lowest ESP (24.1) was noticed with mulch as compared to no mulch (25.2). The maximum ESP (29.8) was recorded in fallow treatment.

An experiment was conducted out by taking paddy as test crop (CSR-10) during 2022 with and without mulch and three tillage practices i.e. conventional, reduced and zero tillage. The paddy was transplanted on dated 09.7.2022 and harvested on 20.10.2022. Paddy and straw yield were significantly influenced by various tillage systems and mulch during the experimentation.Among different tillage practices, highest paddy yield (3969 kg/ha) was recorded in conventional tillage which was significantly superior to reduced tillage and zero tillage. Similarly, straw yield followed the same trend as found in paddy yield. Maximum ESP (30.7) was recorded in fallow treatment and was significantly higher over other treatments under study. All the tillage treatments are significantly differ in each other in respect of ESP. The lowest mean value of ESP (19.6) was recorded under conventional tillage. Similarly, the lowest ESP (22.9) was also noticed with mulch treatment as compared to no mulch (24.3) treatment. The result shows that the mulch has the capacity to reduce ESP to some extent in sodic vertisols of Nimar Valley.

ALL INDIA COORINATED RESEARCH PROJECT ON RAPESEED & MUSTARD

CROP IMPORVMENT

IVT Toria2022-23

In IVT Toria (Irrigated)Toria the highest seed yield of 2702 kg/h was recorded in TKM 21-2 followed by PT-2019-4(2685 kg/h) BAUT -08-09 (2564 kg/h) & Checks seed yield in PT -303 (NC) (2550 kg/h) & Bhawani (ZC) (2496 kg /h) . Entry JT-14-9matured earlier in 108 days than others. The Test weight (4.09 g) was obtained in PT-2019-4 and Bhawani (ZC) (3.75 g)

IVT Yellow Sarson

In IVT Yellow Sarson (Irrigated)Sarson the highest seed yield of 3137 kg/h was recorded in YSKM 21-1 followed by DRMRYS -18-15(3054 kg/h) PYS -2018-4(2873 kg/h) & Checks seed yield in YSH 401 (NC)(2552 kg/h) &NRCYS-05-02 (ZC) (2677 kg /h). Entry RMYS 5matured earlier in 119 days than others.The Test weight (5.01 g) was obtained in DRMRYS 205 andRMYS 4(4.64 g)

AVT-I+II Mustard (Timely Sown / Quality/WRR) (Irrigated)

In AVT-I+II (Timely Sown / Quality/WRR) (Irrigated)Mustard the highest seed yield of 3723 kg/h was recorded in DRMR 2018-25 followed by Kranti (NC)(3708 kg/h) Maya (ZC) (3673 kg /h) & Checks seed yield in Kranti (NC)(3708 kg/h) &Maya (ZC) (3673 kg /h). Entry PDZ 15**#@matured earlier in 127days than others. The Test weight (8.02 g) was obtained in NPJ 253,PM 30 (Quality LR)(5.77 g)

IVT- Mustard Late Sown

In IVT (Late Sown) (Irrigated)Mustard the highest seed yield of 2847 kg/h was recorded in PRL -2020-8 followed by DRMRSJ 294(2804 kg/h) NPJ 260(2758 kg/h)& Checks seed yield in Kranti (NC)(2228 kg/h) &NRCHB -101 (ZC)(2182 kg /h).Entry RH 1999-22matured earlier in 119days than others. The Test weight (5.72 g) was obtained in DRMRIJ 21-51,NPJ 265(5.71g)

AVT- I+ II Mustard, Late Sown (Irrigated)

In AVT-I+II (Late Sown) (Irrigated)Mustard the highest seed yield of 2402 kg/h was recorded in NPJ 251 followed by Kranti (NC)(2396 kg/h) DRMR 2018-19S (2271 kg/h)& Checks seed yield inKranti (NC)(2396 kg/h)&NRCHB -101 (ZC)(2207 kg /h).Entry NRCHB-101 (Filler) matured earlier in 121 days than others. The Test weight (5.28 g) was obtained in DRMRIJ 2018-19S,CS 56 (LR)(4.78gm)

IHT, Hybrid Mustard

In IHT, HybridMustard the highest seed yield of 3689 kg/h was recorded in NAMJH 21-04followed by DMH -1 (Check) (3675 kg/h)KGMH -9783(3596 kg/h)& Checks seed yield inKranti (NC)(2576 kg/h)&RGN-73 (ZC)(3163 kg /h). Entry 4205 A 252-01matured earlier in 126 days than others. The Test weight (5.77g) was obtained in PMH 90 V 02,NMH 90M 01(5.62g)

IVT, Quality Mustard

In IVT, QualityMustard the highest seed yield of 3599 kg/h was recorded in RGN 73 (ZC) followed by LES 67#(3447 kg/h) LES 66# (3436 kg/h)& Checks seed yield in &RGN-73 (ZC)(3599 kg /h)PM 30 (NC Quality) (3049 kg/h).Entry LES 66# matured earlier in 126 days than others. The Test weight (5.69 g) was obtained in PM 30 (NC Quality),Pusa QMH 1(5.36g)

SVT- Toria

In SVT, Toria the highest seed yield of 2867 kg/h was recorded in RMT-19-10 followed by RMT-19-07(2779 kg/h)RMT-15-2(2420 kg/h)& Checks seed yield in &Bhawani (NC)(2151 kg /h) RVT-3 (ZC) (2305 kg/h).Entry RMT-19-15matured earlier in 106 days than others. The Test weight (3.83 g) was obtained in RVT-3,RMT-19-02 (3.78g)

SVT - I Mustard

In SVT-I Mustard the highest seed yield of 3431 kg/h was recorded inRMM-19-17followed by RMM-19-06(3427 kg/h)RMM-19-07(3377kg/h)&Kranti (NC)(2523 kg /h) RVM-3 (ZC) (2530 kg/h).Entry RMM-19-16 matured earlier in 120 days than others. The test weight (5.48 g) was obtained in RMM-19-03 ,RMM-19-12(5.28g)

SVT - II WRR Mustard2022-23

In SVT-II WRR Mustard the highest seed yield of 3185 kg/h was recorded in RMWR-19-05 followed by RMWR-19-01(3074 kg/h)RMWR-19-04(2969 kg/h)&Varuna (NC)(2136 kg /h) RVM-2 (ZC) (2852 kg/h).Entry JYM-11matured earlier in 120 days than others. The Test weight (4.02 g) was obtained in RMWR-19-05,RVM-2(ZC) (3.99g)

CROP PRODUCTION:

Agronomic evaluation of promising rapeseed- mustard entries.

The experiment was layout in Split Plot. Design with three replications. In this experiment the treatment consisted of the fertility levels. The Mustard crop was sown on 31stOctober, 2022 and harvested on 22ndMarch, 2023 respectively.

In case of mustard crop, the seed yield increased significantly with increasing fertility levels. The significantly higher seed yield was recorded with AG-6 x 150% RDFL (3353 kgha^{-1}) over all other fertility levels. It was followed by AG-10 x 125% RDFL (3089 kgha^{-1}), which was at par with each other and the lowest seed yield was recorded by Ag-13 x RDFL (2414 kgha^{-1})

Enhancing drought and heat tolerance in rapeseed- mustard through microbes.

The experiment was laidout in Split Plot. Design with three replications. In this experiment the treatment consisted of the fertility levels. The Mustard crop was sown on 31stOctober, 2022 and harvested on 22ndMarch, 2023 respectively.

In case of mustard crop, the seed yield increased significantly with increasing fertility levels. The significantly higher seed yield was recorded with Normal level of Irrigation x CRID MI-II (2611 kgha^{-1}) over all other fertility levels. It was followed by Normal level of Irrigation x CRID MI-I (2350 kgha^{-1}), which was at par with each other and the lowest seed yield was recorded by No Irrigation x**Control (No Culture)**(933 kgha^{-1})

Response of macro and micro nutrient bio-fertilizers in enhancing rapeseed mustard productivity and soil health.

The experiment was layout in Split Plot. Design with three replications. In this experiment the treatment consisted of the fertility levels. The Mustard crop was sown on 30thOctober, 2022 and harvested on 21stMarch, 2023 respectively.

In case of mustard crop, the seed yield increased significantly with increasing fertility levels. The significantly higher seed yield was recorded with 100 % RDFL x Azotobacter (3025 kgha^{-1}) over all other fertility levels. It was followed by 75 % RDFL x Azotobacter (2920 kgha^{-1}), which was at par with each other and the lowest seed yield was recorded by Control x Control (No Biofertilizer) (1251 kgha^{-1})

Optimization of mineral nutrient management for higher productivity.

The experiment was layout in Split Plot. Design with three replications. In this experiment the treatment consisted of the fertility levels. The Mustard crop was sown on 30thOctober, 2022 and harvested on 21st March, 2023 respectively.

In case of mustard crop, the seed yield increased significantly with increasing fertility levels. The significantly higher seed yield was recorded with 150 % NPK x 20kg S + 2.5 kg Zn +1 kg B /ha enrichened with FYM 500 kg /ha (2979kgha^{-1}) over all other fertility levels. It was followed by 150 % NPK x 20kg S + 2.5 kg Zn +0.5 kg B /haenrichened with FYM 500 kg /ha (2733 kgha^{-1}), which was at par with each other and the lowest seed yield was recorded by Control x 20kg S + 2.5 kg Zn +0.5 kg B /ha (1180 kgha^{-1})

CROP PROTECTION:

REACTION OF OILSEED BRASSICA GERMPLASM TO MUSTARD DISEASES (NATURAL CONDITION)

ABL	WR	SH(STAGHEAD)	PM	SR	PBL	DM
None was found free from disease, Minimum disease severity were recorded the fallowing entries-NRCHB-101,CS-60, DRMRIJ-30 – 157, GSH-155, ACN -37 and PT-303 (Maxi)	Some entries were found Free from the disease *VIZ;* DRMRIJ 30-157,IJ1R5004, DRMR2018-37, DRMR2018-25,BioYSR,GSH-2155,DLSC 1,GSL-1,Basanti,AKSM 8141 (LR),GSC 6 (QC),PDZ-1 and RTM-314 while minimum disease severity were recorded the fallowing entries PT-303,Nenoy, PDZ-1, Maya and TS-38. Maximum disease severity (46.00%) was recorded in ACN -37.	Some entries were found Free from the disease *VIZ;* PHR-2while minimum disease severity were recorded the fallowing entries CS 60, NPJ 251,CS 56,18 J 40 8C, and KGMH 9198. Maximum disease severity (46.00%) was recorded in NPJ 252 .	Maximum disease incidence were recorded in entries-18 J 40 8C- 98 %RH 1999-42-95.3%, NPJ 252 -94.7%	Maximum disease incidence were recorded in entries-NPJ 250, RTM 314, NPJ 251I, &CS 2020-10	Maximum disease incidence were recorded in entries-NRCHB 101, CS 56,NRCYS 02-2,	Maximum disease incidence were recorded in entries-ACN-37, Rohini, CS 2020-10 and NRCHB 101.

REACTION OF OILSEED BRASSICA GERMPLASM TO MUSTARD DISEASE (NATURAL CONDITION)

ABL	WR	SH(STAGHEAD)	PM	SR	PBL	DM
None was found free from disease Minimum disease severity were recorded the fallowing entries- DRMRIJ 30-157, CS 60, GSH - 2155, NPJ 250,RH 1974 and (Maxi) PT -303.	Some entries were found Free from the disease *VIZ;* DRMRIJ 30-157,IJ1R5004, DRMR2018-37, DRMR2018-25,BioYSR,GSH-2155,DLSC 1,GSL-1,Basanti,AKSM 8141 (LR),GSC 6 (QC),PDZ-1 and RTM-314 while minimum disease severity were recorded the fallowing entries PT-303,Nenoy, PDZ-1, and GSL-1. Maximum disease severity (48.00%) was recorded in ACN -37.	Some entries were found Free from the disease *VIZ;* PHR-2while minimum disease severity were recorded the fallowing entries CS 60, NPJ 251,CS 56,RHH 2101, and 18 J 40 8C Maximum disease severity (11.00%) was recorded in Rohini.	Maximum disease incidence were recorded in entries- 18 J 40 8C- 98.9 %RH 1999-42-97.1%, NRCHB 101-96.0%	Maximum disease incidence were recorded in entries- RTM 314, NPJ 251, NPJ 250,DRMRHJ 2018-19, &CS 2020-10	Maximum disease incidence were recorded in entries- NRCYS 05-2, Maya, PDZ -1,	Maximum disease incidence were recorded in entries- ACN -37, RH 175, CS 2020-10 and Rihini.

REACTION OF OILSEED *BRASSICA* GERMPLASM AGAINST MUSTARD DISEASE IN UNIFORM DISEASE NURSERY (NATURAL CONDITION)

AB	WR	SH(STAGHEAD)	PM	SR	PBL	DM
None was found free from disease, Minimum disease severity were recorded the fallowing entries-PHR-2,GSL-1, PRD-2014-7, NRCHB-101, RH-100-22 and DRMRDR2140 (Maxi)	Some good entries were found Free from the diseasese-DRMRDR-2155, DRMRDR 2202, DRMRSJ 14, DRMRDR 2152, DRMR2018-26, NRCHB 101, DRMR 2020-15, GSL-1, PT-303, DRMRCI(Q)-57, DRMRCI(Q)-153, NRCYS 05-2, DRMRCI 170, DLC 1 ,DRMRSJ 12,PHR -2, DRMRCI 171, DRMR 2019-15 Minimum disease severity were recorded the fallowing entries-DRMR 2201, DRMRSJ 22, DRMR 2140, DRMR 2116, DRMRSJ 9, Maximum disease severity (43.1%) was recorded in DRMRDR 2203.	Accept few entries some were found free from diseases Maximum disease severity of Staghed were recorded in entries DRMRDR 2227, DRMRDR 2203, DRMRDR 2196, DRMRDR 2156,,ROHINI	Most of the entries were found susceptible to highly susceptible accept few entries-PB-2017-25, PRD -2014-26,DRMRDR 2155, DRMRDR 2202,DRMRDR 2156, DRMRDR 2140, BioYSR, DRMRDR 2202,DRMR 2020-15,, DRMRDR 2235.	Maximum disease incidence were recorded in entries-NRCYS-05-2(C), PT-303, DRMRDR 201-20,DRMRCI 171,	Maximum disease incidence were recorded in entries-DRMRCI 170, DRMRCI 171, DRMRDR 2242, DRMRDR 2227, DRMRMJA 35, DRMRDR 2140.	Maximum disease incidence were recorded in entries-PRD -2014-26,RH-1700-22, DRMRMJA 35, VARUNA, ROHINI

REACTION OF OILSEED *BRASSICA* GERMPLASM AGAINST MUSTARD DISEASE IN NATIONAL DISEASE NURSERY FOR WHITE-RUST

AB	WR	SH	PM	SR	PBL	DM
None was found free from disease, Minimum disease severity were recorded the fallowing entries- DRMRM 18-36-12,PHR-2, DRMRR 2156, DRMRIJWR 20-14, NRCYS 05-2 and DRMRDR 2135 (Maxi)	Some good entries were found Free from the diseasese- DRMR 2018-19, DRMRDR 2155, RH1700,DRMRM 18-35-11, DRMRSJ 349, DRMR2018-1, DRMRCI 132, DRMR IJWR -20-21, DRMR IJWR -20-26,DRMR IJWR -20-12, DRMR IJWR -20-19, DRMR IJ-12-44, PT-303, GSL-1, RH -1700-1, DRMRM 18-36-12, DRMR IJ -12-37,DRMRCI 139, DRMR IJWR -20-24,DRMRDR 2235, DRMR IJWR -20-23, DRMR IJWR -20-24 DRMR IJWR -20-17,DRMRSJ 206, DRMRDR 2143,DRMR IJWR -20-14,RH 1700-4, DLSC 1, DRMR IJWR -20-13, NRCYS 05-2, DRMRM 18-36-13,PAB 14-8, DRMRSJ 22, DRMRDR 2141, JC 36, DRMRIJ -20-11, PDZ 16, NPJ 250 Minimum disease severity were recorded the fallowing entries- DRMRDR 2135, DRMRIJWR-2020, DRMRM- 163, DRMRIJWR-2013, PAB 14-7, Maximum disease severity (44.7%) was recorded in NRCHB 101.	Maximum disease severity was found in entry RH -1400-1, NRCHB 101. VARUNA,ROHINI	Maximum disease severity were found in entry PAB 14-8,DRMRSJ 22,ROHINI DRMRIJ-20-21,DRMRIJ-20-20,DRMRCI-13,	Maximum disease incidence were recorded in entries- NRCYS 05-2, PT - 303, VARUNA, ROHINI ,	Maximum disease incidence were recorded in entries- NRCYS 05-2,RH 1700-4, DRMRM 18-35-11 , DRMRIJ -20-19, BioYSR,DRMRDR 2151.	Entries were found free from DM disease - DRMR 2018-19, RH1700, DRMRM 18-35-11, DRMRSJ 349, DRMR2018-1, DRMR 2018-41, DRMR IJWR -20-21, DRMR IJWR -20-26, DRMR IJWR -20-18, DRMR IJWR -20-12, DRMR IJWR -20-19, DRMR IJ -12-44, PT-303, DRMR DR -2195, , GSL-1, RH -1700-1, DRMRM 18-36-12, DRMR IJ -12-37,DRMRCI 139, DRMR IJWR -20-24, DRMRDR 2235, DRMR IJWR -20-23, DRMRDR 2135, DRMR IJWR -20-17, DRMRSJ 206, DRMRDR 2143, DRMR IJWR -20-14, RH 1700-4, DLSC 1, DRMR IJWR -20-13, NRCYS 05-2, DRMRDR 2116, DRMR IJWR -20-15, PAB 14-8, DRMRSJ 22, PAB 14-7, JC 36, DRMRIJ -20-11, PDZ 16, NPJ 250 Minimum disease severity were recorded the fallowing entries- PMAS A 2010, DRMRDR-2242, DRMRSJ- 271, DRMRIJWR-20-13, DRMRMJA 35, Maximum disease severity (32.9%) was recorded in Rohini

Screening of IVT entries of Brassica for resistance against Mustard aphid.

IVT Early Mustard-(AII range 0.5 to 3.6)
Resistant-Pus MH 126 (Hybrid)(0.5), ANDM 14-09 (0.6), PRO 5111 (Hybrid Check) (0.8) GDM 4 (0.8).

IVT Timely sown, Irrigated – (All range 0.4 to 3.5)
Resistant-KMR 22-4 (0.4)DRMR 2020-8 (0.6), PR-2020-14(0.6), DTM -341(0.8), HUJM -21-4(0.8).

IVT Timely sown, Rainfed – (All range 0.8 to 3.4)
Resistant-NPJ -263 (0.8), DRMRRIL 21-1(0.8)

IVT LS, Irrigated – (All range 0.6 to 3.1)
Resistant-NPJ-259(0.6), KMR(L) 22-5(0.8),DRMRCI -160(0.8), DRMRHT -13-213**(0.9)**

IHT Mustard Hybrids-(AII range 0.2 to 2.8)
Resistant- 45S46(Check) (0.2),DRMRHJ 223(0.6) DRMRHJ 1419(0.8), DRMRHJ 310 (0.8), NAMJH 21-04 (0.8) And JH 21002(0.8.

Quality Mustard IVT - Range (0.8 to 2.8)
Resistant- RH 0749 (ZC)(0.8), PM-32(LR) (1.0, LES-66#(1.0) and Pusa QMH 1(1.0)

Toria IVT - Range (3.0 to 3.9)
Resistant- PT -2016-9 (3.0), Bhawani(ZC) (3.0).

Yellow Mustard IVT - Range (1.0 to 3.5)
Resistant- NRCYS 05-2 (1.0), DRMRYS 204 (1.1), YSH 401 (NC) (1.2).

Screening of germplasm and advanced genotypes for resistance against mustard aphid

One hundred seventy advanced rapeseed mustard genotypes including susceptible/tolerant checks were sown in three (3) meter long paired rows and replicated thrice. One row of susceptible check (BSH-1) was sown after every 10 rows of the germplasm entries. The sowing was done late on dated November 15th, 2022 so as to synchronize large infestation of aphid, the target insect, in mustard genotypes. Data on the number of aphid recorded as per scale of aphid infestation index (AII).Although, aphid appeared in the last of January month in very limited numbers that too in scattered form, however aphid appeared late in last week of January, 2023, but colonies started mounting up in third week of February and reached its peak by first week of March. The aphid infestation index (AII) varied from 0.2 to 3.1 and minimum aphid infestation *i.e.,* 0.2 (AII) was found in three entries namely SBG-22-131, SBG-22-110(NPJ-259) and SBG-22-95(NPJ-263) followed by 0.8 AII, that found in 23 mustard entries, while maximum class of attack was recorded (3.1 AII) in two entries namely SBG-22-57(ACNMM-3) and SBG-22-02(PT303NC).

		
Sowing of mustard crop	Crop in the field	Aphid infested plant

170 entries categorized on the basis of Aphis Infestation Index (AII) in different classes that includes 87 entries in class 0.2 to 1.0, 63 entries in 1.1 to 2.0, 17 entries in 2.1 to 3.0 and two entries in range of 3.1 to 4.0.

Screening of AVT I and AVT II entries of *Brassica* for resistance against mustard aphid

63 advanced rapeseed mustard genotypes were sown in 3 meters paired row length and replicated thrice. One row of susceptible check (BSH 1) was sown after every 10 rows of the germplasm entries. Sowing of crop was done on November 15, 2022. Data pertaining to aphid infestation was recorded in terms of aphid infestation index (AII). Aphid infestation index (AII) varied from 0.2 to 2.5 and was observed minimum (0.8 AII) on three entries namely SAG-22-21, SAG-22-18,19 and SAG-22-34,35 followed by 0.8 aphid infestation index (AII) in six entries SAG-22-19, SAG-22-05, SAG-22-06, SAG-22-29-32, (1.0)& SAG-22-41,42&-44 2.1&2.2) while maximum infestation (2.5 AII) was found on mustard genotype SAG-22-10.

Assessment of yield losses due to aphid in *Brassica* crops

Three Indian mustard varieties*viz*.,Briraj,Radhika and RVM-3 were sown on November 15, 2022 in Randomized Block Design (RBD) in a plot size of 4.2 x 3.0 m and replicated four times. Application of Dimethoate 30 EC (0.025%) was done twice during vegetative phase of crop growth period as and when mustard aphid population reached at economic threshold to protect mustard crop under protected set of condition in experimental plots. Mustard aphid crossed the ET by third week of Feb. The population of mustard aphid was recorded on randomly selected 10 tagged plants per plot as per standard methodology. The crop yield was also recorded at harvest to estimate the avoidable yield losses due to insect-pests in rapeseed mustard genotypes.

After insecticidal spray, there was reduction in aphid population in all three genotypes in protected plots. In un-protected set of condition, the aphid population was maximum (96.9 aphids/10 cm of mother axis) in genotype Brijraj, while minimum 128.6 aphids/10 cm of mother axis recorded in variety Radhika&aphid population was maximum (110.2 aphids/10 cm of mother axis) in genotype RVM-3, In protected set of condition, the aphid population was reduced considerably below ET level and ranged from 10.6 to 14.8 aphids/10 cm of mother axis) in three cultivars. Data was observed uniform and non-significant in the experimental genotypes with mean aphid infestation of 13.02 aphid/10 cm of mother axis in all mustard genotypes.

ALL INDIA COORINATED RESEARCH ON FRUITS

CROP IMPROVEMENT

To evaluate four raisin varieties for phenological and fruit characters.

The experiment was initially set up in a field in March 2018. Unfortunately, it suffered significant damage from frost and the presence of blue bull trails. We have already reported this issue to the PC cell. As a result, we must proceed with relocating in non-frosting zone like Khandwa, Ujjain or Indore the experiment for expansion of crop area.

To evaluate six juice varieties for phenological and fruit characters.

The Experiment had been planted in March 2018. Due to continuous three-year frost situation this year 6-7 days in January 2022 temperature is below than 2^0C flowing is badly damaged. Due to frost in January and February 2022 and submerged condition in August and September due to continues rain September2022 this experiment need to replant.

i) To identify the key pests of grapes and their natural enemies

ii) To detect the new potential pest introduced in the region

Survey of vineyards was carried out during 2022- 23 in Ratlam district of Madhya Pradesh. Total 11 vineyards were surveyed for observing the prevalence of different insect pests *viz.*, Mealybug (*Maconellicoccus hirsutus*) , thrips (*Rhipiphorothrips cruentatus*), flea beetle (*Scelodonta trigicollis*), mites (*Tetranichus urticae*), *Spodoptera* Sp., *Helicoverpa*Sp., and stem borer (*Coelosterna scabrator*).

It was observed that out of 11 vineyards surveyed, 6 vineyards (54.00%) were found infested with mealy bug, and but all vineyards having low and moderate level of infestation. Infestation of Thrips was recorded in all 11 vineyards and but the infestation level was low in 8 vineyards (72.72%) while moderate in 2 vineyards (18.18%) and one vineyard infestation found very high (9.09%). The infestation of flea beetle was low to moderate and recorded in 2 vineyards (18.00 %) only. The infestation of stem borer and Helicoverpa were recorded in 1 vineyard (09.00 %). In case of mite during the period found in 4 vineyards (36.36%) under reporting period. Survey indicates that the thrips, mealy bugs were the major pests in Ratlam and Mandsaur district which leads to weathering the vineyards.

Bio-intensive disease management in grapevine

Downy Mildew

The treatments were applied as per the protocol after fruit pruning ie is from 30 -01-2023. A total of 18 spray and soil applications were performed of treatment fruit pruning in the treatments T1, T2 and T6 while 5 spray performed in T3 and T4 in case of T5 only two spray were given and in T7 i.e. control treatment no spray were given in field.

The due to very change of time of fruit pruning in month of January, downy mildew does not have favorable condition and time to time spray save the plants form disease up to 45 days of spray. The PDI recorded initially at the mid of February to March showed that the all treatments recorded less disease severity when compared to T6 and T7.

Anthracnose

When compared to control the anthracnose incidence was less severe in all treated plots during study period of observation. The Anthracnose disease seen in field just after 75 days after pruning. The PDI recorded initially at mid of April showed that the treatments T1, T2, T4 and T5 were recorded significantly less disease severity when compared to water spray(T6) and control (T7). At the end of May treatment T5, T4 and T5 recorded significantly lower PDI, when compared to T1and T2. The treatments T6 and T7 always recorded significantly higher PDI when compared to all other treatments.

Powdery Mildew

The treatments were applied as per the protocol after fruit pruning ie is from 30 -01-2023. A total of 18 spray and soil applications were performed of treatment fruit pruning in the treatments T1, T2 and T6 while 5 spray performed in T3 and T4 in case of T5 only two spray were given and in T7 i.e. control treatment no spray were given in field.

The due to very low temperature and uncertain rains in the month of January and February. The weather was highly favorable for diseases. When compared to control the downy incidence was less severe in all treated plots during all the three months of observation. The PDI recorded initially at the mid of February showed that the treatments T4 and T5 recorded less disease severity when compared to T6 and T7.

After 75 days after spry disease incidence seen in T6 and T7 and due to proper spray and moderate to high temperature other treatment were free for disease incidence.

At 90 to 135 days after spray no disease incidence seen in field due to high temperature (T6 and T7 face maximum defoliation due to disease severity)

ALL INDIA COORINATED RESEARCH PROJECT ON WEED MANAGEMENT

Developmentoflocation-specificsustainableweedmanagementpractices

Weed management in major crops and cropping systems

Weedmanagementinsorghum

Based on one year experimentation it was concluded that the population of narrow and broad- leaved weedscontinuestobelessupto40DAS withintegratedweedmanagementpracticewhere atrazine (500g/ha) PE with mechanical weeding at 30 DAS was applied. But the post emergence application of atrazine + mesotrione (RM) provided the maximum grain and stover yield, gross and net returns. Therefore, among different weed management practices, the atrazine (500g/ha) PE with mechanical weeding at 30 DAS and the atrazine + mesotrione (RM) can contribute to decreasenarrowandbroad-leavedweedsandhigherproductivityandprofitabilityof sorghumcrop.

Weedmanagementinmaize-chickpeacroppingsystem

Weedmanagementinmaizeundermaize -chickpeacroppingsystem.

Based on one year experimentation, it was concluded that the application of two hand weeding at 20 and 40 DAS the population of narrow and broad-leaved weeds continues to be less up to 60 DAS and provided higher productivity and profitability of maize crop. The application of early post emergence atrazine + topramezone (tank mix) (750 + 25.2) g/ha resulted in the maximum controlof grasses and provided the maximum grain and stover yield, gross and net returns *fb* the post emergence application of atrazine + mesotrione (RM) 875 g/ha. Therefore, the application of early post emergence atrazine + topramezone (tank mix) (750 + 25.2) g/ha, can contribute to decrease narrow and broad-leaved weeds and higher productivity and profitability of maize under maize- chickpea cropping system.

WeedManagementunderconservationtillage-basedcroppingsystems

Weed management under conservation tillage system on maize-based cropping system

Weedmanagementinmaizeundermaizebasedcroppingsyste*m*

On the basis of one year data the maximum yield (3.01 t/ha), net returns (Rs.54276/ha) with BC ratio (2.84) was obtained in the treatment where zero tillage with crop residue was applied *fb* the treatment where conventional tillage without residue was applied. However, the lowest production and profitability was recorded where zero tillage without crop residue was applied in the experimental site.

Weedmanagementinmustardundermaizebasedcroppingsyste*m*

On the basis of one year experimentation, it was concluded that the integrated weed management practices, pendimethalin 339 g/ha (2 DAS) with one HW at 30 DAS *fb* WSH gave maximum seed yield (1.87 t/ha) with BC ratio (3.62) as well as reduced the weed density and dry weight of weeds which was at par with pendimethalin339 g/ha (2 DAS) fb pinoxaden 50 g/ha (after first irrigation). In case of tillage practices, the zero tillage with crop residue gave maximum seed yield (1.76 t/ha) and it was at par with (CT+R-CT+R-CT+R). Similarly, the BC ratio (3.64) was also recorded maximum in zero tillage with crop residue which was at par with conventional tillage practice with crop residue (3.57). Therefore, conservation agriculture, especially zero tillage with crop residue practices during entire the year *fb* the application of conventional tillage practices with crop residue during *kharif*,*rabi* and *summer*, can contribute to decrease the narrow and broad-leaved weeds and give higher productivity and profitability of mustard in maize-mustard-green manur cropping system. Due to application of preceding crop residues with zero tillage, it prevents the germination, growth and development of weeds at the initial and subsequent stages of weed growth. Similarly, application of plant residues can be more environmentally friendly.

Weedmanagementstrategiesinorganicagriculture

Weedmanagementinorganicallygrownmaize-potato-green-*manure*cropping system

Weedmanagementinmaize(sweetcorn)underorganicallygrownmaize-potato-greenmanuring cropping system

Based on three-year experimentation, it was concluded that the maximum cob yield (7.83 t/ha) with net income Rs.283109/haandBCratio (4.48) was recorded where one handweeding at 20 DAS *fb* straw mulch (5t/ha) at 25 DAS was done. It also gave better response to suppress the narrow and broad-leaved weeds with 75% WCE. However, the straw mulch of previous crop at 5 DAS was at par with soil solarization *fb* hand weeding at 40 DAS in terms of productivity and profitability.Therefore,amongallthenon-chemicalweedmanagementpractices,onehand weeding at 20DAS *fb*strawmulch(5t/ha) at 25DAS, got profitableeconomicallyand increase the productivity and profitability of sweet corn in maize-based cropping system.

Weed management in potato under organically grown maize based cropping system

On the basis of one years data, it was concluded that the soil solarization *fb* plastic mulch (25µ) and plastic mulch (25µ) alone can be contribute to decreased the narrow and broad-leaved weeds but higher productivity and profitability of potato crop was obtained in one hand weeding at 20 DAP*fb* straw mulch (5 t/ha) at 25 DAP which was at par with the treatment earthing up at 20 and 40 DAP under organically grown maize based cropping system.

Management of parasitic weeds

Cuscuta

Management of problematic weed *Cuscuta campestris* in berseem (*Trifolium alexandrinum* L.) fodder crop (*Rabi* 2022-23)

On the basis of one year experimentation, it is concluded that the early post- emergence application of pendimethalin 500 g/ha at 10 DAS significantly suppressed the *Cuscuta* emergence up to 90 DAS. Whereas, the imazethapyr 40g/ha after first cut *fb* imazethapyr 50 g/ha after last cut provided the maximum fodder yield (70.15 t/ha) and seed yield (486 kg/ha) with BC ratio (4.60) which was closely *fb* imazethapyr 40 g/ha after 1st cut and imazethapyr 40 g/ha after last cut.

Managementofweedsinnon-croppedandaquaticareas

Biologicalcontrolofwaterhyacinthby*Neochetina*spp

The population of bio-agents were increased and get average 5.7 adult/plant in the month of September, 2022after 2years. Thefeeding scars were also increasedandget 25.6/leaf andfound 0-10 on an average. The population of bio-agents increasing as compare to last six months. Dieback symptoms on leaves had also been increased.

Demonstrationandimpactassessmentofweedmanagementtechnologies&SCSP

On-farmresearchtrials Sorghum

It is concluded that, the application of atrazine 750 g/ha (PE) + 2,4-D dimethylamine salt 750 g/ha at 20 DAS gave 48% more yield *fb* the application of post emergence ready mix atrazine + mesotrione (438 g/ha) at 20 DAS which produced 35% more yield over farmer's practices. Therefore, underirrigated conditions to control the weed density and increase the yield of sorghum the application of herbicides resulted best in terms of production and profitability both.

ALL INDIA NETWORK RESEARCH PROJECT ON ONION AND GARLIC

CROP IMPROVEMENT&CROP PROTECTION:

Evaluation of garlic Germplasm:

The findings of the experiment revealed that highest marketable and total yield was recorded with GN22-13. Highest average weight of bulb was also noted with GN22-13. Highest number of cloves per bulb was counted with GN22-13. All the entries were infected with *Stemphyllium* blight and purple blotch. Lowest *Stemphyllium* blight infection was observed in GN 22-23 and GN 22-28. Lowest purple blotch incidence was noted in GN 22-25. Lowest thrips incidence was recorded in GN 21-36.

Evaluation of onion lines during kharif

The results showed that highest marketable and total yield was recorded with RAV-22-05. Highest average weight of bulb was also noted with RAV-22-05. Lowest double bulbs were recorded under RAV-22-05. Minimum bolters (0.04%) were observed with RAV-23-03 and no rotted bulbs were found under any entry. Minimum neck thickness was found in case of RAV-22-03.

All the entries were infected with *Stemphyllium* blight and purple blotch. Lowest *Stemphyllium* blight infection was observed in RAV- 22-01. Lowest purple blotch infection was recorded with RAV-22-01 and RAV–22-09. Lowest thrips incidence was recorded in RAV-22-09.Maximum pyruvic acid content was recorded in RAV-22-01. The highest TSS recorded in RAV-22-07 while highestreducing sugar, non reducing sugar and total sugar was recorded in entry RAV-22-03.

After the two months storage lowest total weight loss was recorded in two entries RAV-22-07 and RAV-22-11. Minimum sprout loss and rot loss was recorded in entry RAV-22-07. Minimum rot loss was recorded in treatments RAV-22-03 andRAV-22-09.

Evaluation of onion lines during Late*kharif*

The findings of trial revealed that highest marketable (288.79/ha) and total yield (327.45q/ha) was recorded with RVA-22-14. Minimum double bulbs (1.34%) were recorded in case of RVA-22-16. Minimum bolter bulbs (8.41%) were observed with RVA-22-14. No rotted bulbs were observed in any entry. Minimum neck thickness was found in case of RVA-22-23. Highest average weight of bulb was found with RVA-22-14.

All the entries were infected with *Stemphyllium* blight and purple blotch. Lowest *Stemphyllium* blight infection was observed in RVA-22-18 and RVA-22-23. Lowest purple blotch incidence was noted in RVA-22-23. Lowest thrips incidence was recorded in RVA-22-21.Maximum pyruvic acid content was recorded in RVA-

22-16. Highest TSS, reducing sugar, non reducing sugar and total sugar was reported in entry RAV-22-21.

After the two months storage lowest total weight loss was recorded in entry RVA-22-16. Minimum sprout loss was recorded in entry RVA-22-21. No rot loss was recorded in entries RVA-22-16, RVA-22-18, RVA-22-21, RVA-22-23, RVA-22-25 and RVA-22-27.

Evaluation of onion lines during *Rabi*

The data indicated that highest marketable (294.83q/ha) and total yield (327.50q/ha) was recorded with RVA-22-14. Minimum double bulbs (0.22%) were noted with RVA-22-12. No bolter and rotted bulbs were found in any entry. Minimum neck thickness (0.98cm) was measured in case of RVA-22-14. Highest average weight of bulb (73.26g) was found with RVA-22-14.

All the entries were infected with *Stemphyllium* blight and purple blotch. Lowest *Stemphyllium* blight infection was observed in RVA-22-05 and RVA-22-09. Lowest purple blotch incidence was noted in RVA-22-30. Lowest thrips incidence was recorded in RVA-22-16.Maximum pyruvic acid content was recorded in RVA-22-03. Highest TSS, reducing sugar, non reducing sugars and total sugars were recorded in the same entry RVA-22-05 .

After the four months storage lowest total weight loss was recorded in entry RVA-22-12 while minimum sprout and rot loss were recorded in entries RVA-22-03

Garlic IET *Rabi*

The data showed that highest marketable and total bulb yield was recorded with GN- 22-21. Maximum weight of bulb was recorded with GN- 22-21. Highest number of cloves (39.56) was recorded in GN- 22-11. Highest average weight of 10 cloves (20.90g) was found in GN- 22-07.

All the entries were infected with *Stemphyllium* blight and purple blotch. Lowest *Stemphyllium* blight infection was observed in GN-22-16. Lowest purple blotch incidence was noted in GN 22-07. Lowest thrips incidence was recorded in both GN-22-13 and GN-22-16.Data revealed that Maximum pyruvic acid content was recorded in GN 22-11.

After 180 days of storage lowest total weight loss was recorded in entry GN 22-13. No rot loss was recorded in any of the entries tested under the experiment.

Garlic AVT-I *Rabi*

The findings revealed that highest marketable (114.51/ha) and total bulb yield (126.43q/ha) was recorded with GN22-35. Maximum weight of bulb (29.30g) was recorded with GN22-35. Maximum number of cloves per bulb was recorded in case of GN22-37. Highest average weight of 10 cloves was found in GN22-29.

All the entries were infected with *Stemphyllium* blight and purple blotch. Lowest *Stemphyllium* blight infection was observed in GN 22-31. Lowest purple blotch infection was noted in GN 22-31. Lowest thrips incidence was recorded in GN 22-31.There was significant difference among garlic lines for pyruvic acid content.Maximum pyruvic acid content was recorded in GN 22-33

After the 180 days of storage lowest total weight loss was recorded in entry GN 22-29. While no rot loss was recorded in any entries

Garlic AVT-II *Rabi*

The datarevealed that highest marketable (141.98/ha) and total bulb yield (148.05q/ha) was recorded with GN22-41. Maximum weight of bulb (32.47g) was noted with GN22-41. Maximum number of cloves per bulb was counted in case of GN22-41. Highest average weight of 10 cloves was found in GN22-53.

All the entries were infected with *Stemphyllium* blight and purple blotch. Lowest *Stemphyllium* blight infection was observed in GN22-45. Lowest purple blotch incidence was noted in GN 22-45. Lowest thrips incidence was recorded in GN 22-53.There was significant difference among garlic lines for pyruvic acid content. Maximum pyruvic acid content was recorded in GN 22-53.

After the 180 days of storage lowest total weight loss was recorded in entry GN 22-45. No rot loss was recorded in any entries used in the treatments.

Survey and Monitoring of major diseases of onion and garlic in Mandsaur during *Rabi*

A survey was conducted during the *rabi*season on the various onion and garlic fields in different villages of Mandsaur and Neemuch districts. The incidence of disease severity was observed to be high during January- February.

Name of diseases	Disease Intensity		Date of Collection	Variety	Locality/ Tehsil
	Disease incidence (%)	Per cent Disease Index (%)			
Onion					
Purple blotch	15.33-24.63	28	January February	Local, Nasik red, AFLR	Narayangarh, Jeran, Karadiya Akya,Semli Guradiya didha, Dhamnar, Sabakheda, Nandavta, Piplia Karju,Chosla, Lodh, Balaguda
Stemphyllium leaf blight	12.67-21.33	40	January-February		
Twister blight or Anthracnose	5.00-8.67	08	October-December		
Garlic					
Purple blotch	11.36-20.33	20.	January February	Local, Amleta, Ooty Local Shankar Mahadev, G-2, G-282, Elephenta Riyavan local	Mandsaur, Narayangarh Katlar,Sabakheda, Dalouda Rail, Tharodh, Rewas Devda, Banni Barkheda, Balaguda

PUBLICATIONS:

ResearchPapers /Article/Published in Journal

- Ashwani R.C., Gupta Naresh, Hada Neeraj, Devi Sarnabati, Gathiye G.S., Singh Lal, and Singh Y.P. Effect of sowing dates, fertilizer's Application and genotypes on growth and yield attributes in irrigated coriander under Malwa Plateau of Madhya Pradesh. *Frontiers in Crop Improvement. 11: 373-377.*
- Ashwani R.C., Hada Neeraj, Singh Y.P., Jain D.K., Tyagi S.K. and Gathiye G.S. (2023). Assesment, estimation and economic performance of different kharif onion (*Alliume cepa* L) Varieties under Malwa Plateau of Madhya Pradesh. *Journal of Agriculture and ecology:* 16:1726-1734.
- Asma Hamid Mir, Mohd Ashraf Bhat, HumaraFayaz, Aijaz A., Wani Sher A. Dar , Showkat Maqbool, Mohammad Yasin, Javid Iqbal Mir, Mohd Anwar Khan, Parvaze A. Sofi, Ahmed H. El‑Sappah, MahendarThudi, Rajeev Kumar Varshney, ReyazulRouf Mir (2023). SSR markers in revealing extent of genetic diversity and phylogeneticrelationships among chickpea core collection accessions for Western Himalayas. Molecular Biology Reports https: //doi.org /10.1007 /s11033-022-07858-4.
- Babli, Pandya,R.K., Kour, A. and Tiwari, S.(2022) In vitro evaluation of homeopathic drugs against Alternariabrassicae (Berk.) Sacc.of Indian mustard (Brassica juncea (L.) Czern & Coss.)The Pharma Innovation Journal 2022; 11(12): 1193-1195.
- Bangar KS, Kumawat N, Tiwari SC, Kaledhonkar MJ, Parmar, BB and Tagore, GS (2022). Groundwater Quality Assessment, Characterization and Mapping for Madhya Pradesh, India for Irrigation Purpose. *Journal of Soil Salinity and Water Quality*, 14(1):35-52.
- Bangar KS, Kumawat N, Tiwari SC, Kaledhonkar MJ and Parmar, BB (2021). Ground water quality map of Madhya Pradesh for irrigation purpose. *Salinity News* 27(1):1-4 (Published by Director, CSSRI, Karnal) January-June, 2021.
- Bangar KS, Tiwari SC, Khandkar, UR, Verma SK, Kumawat N, Kaledhonkar MJ and Tagore GS (2021). Characterization and mapping of groundwater quality of *Gird* region in Central India. *Journal of Soil Salinity and Water Quality*, 13(2):268-277.
- BR Baraiya, Lekharam, OP Bharti, BK Sharma, AK Choudhary, Versha Dhurve, PK Para (2022) Effect of drought on Cotton Genotypes under field condition. AMA (ISSN: 00845841) 53 (12).
- C. Bharadwaj, J. Jorben, Apoorva Rao, Manish Roorkiwal, B. S. Patil, Jayalakshmi, S. KhayumAhammed, D. R. Saxena, M. Yasin, J. E. Jahagirdar, P. L. Sontakke, M. S. Pithia, M. K. Chudasama, Indu Swarup, R. K. Singh, S. D. Nitesh, Annapurna Chitikineni, Sarvjeet Singh, Inderjit Singh, Aditya Pratap, G. P. Dixit, A. K.

Srivastava and Rajeev K. Varshney (2022).Development of High Yielding Fusarium Wilt Resistant Cultivar by Pyramiding of "Genes" Through Marker-Assisted Backcrossing in Chickpea (*Cicer arietinum* L.) Plant GenomicsVolume 13 - 2022 | https://doi.org/10.3389/fgene.2022.924287

- Dotaniya, M.L., Pipalde,J.S., Jain R.C., Selludurai, R. Gupta, S.C., Vyas, M.D., Vassanda, Coumar, M. Sonalika, Saha,J.S., Kumar, A.(2022).Nickel mediated lead dynamics and their interactive effect on lead portioning and phytoremediation induces in spinach. *EnviormentMonetering Assessment.*194:334.
- Ekta Rajput, Anuj Kumar, R.K. Sharma, Roshan Gallani and Saransh Saxena (2022). Performance of different cultivars for flowering parameters under Malwa Plateu of Madhya Pradesh. *The Pharma innovation.* 11 (1S): 909-912.
- Ekta Rajput, Anuj Kumar, RK Sharma, Roshan Gallani and Saransh Saxena (2022). Evaluationof Tuberose Cultivars for Growth and Post-Harvest Attributes under Malwa Plateau of Madhya Pradesh. Environment and Ecology 40 (2C): 984-987.
- Gupta V, Sasode DS, Joshi E and Singh YK and Kavita Bhadu (2022). Herbicidal impact on densityof *Cuscuta* emerged in berseemfodder crop (*Trifolium alexandrinum* L.). *Indian Journal of Weed Sciences* 54(3): 334–336, ISSN 0974-8164
- Hada Neeraj, Aswani, R.C., Bhadauria S.S., Kumar Amit, Gurjar L.S. and Singh Y.P. (2023). Fluxapyroxad 167 g/l + pyraclostrobin 333 g/l 500 SC: A new fungicide for controlling fungal disease in wheat. *International Journal of Agricultural Sciences 19: 110-115.*
- Hada Neeraj, Bhadauria, S.S., Kumar Amit, Gurjar L.S., Singh Y.P., and Aswani R.C. (2023). Pyroxasulfon 50 g/l + pendimethalin 400 g/l 2C : A new pre emergence herbicide combination for controlling weeds in wheat. International Journal of Agricultural Sciences 19: 127-133.
- Harsh Kumawat, AK Choudhary, Lekharam and Vishal Patil (2022) Epidemiology of turmeric (Curcuma longa L) leaf spot caused by Colletotrichum capsici (Butler and Bisby). The Pharma Innovation Journal 2022; 11(12): 613-616
- Krishna Kumar, R.N. Kanpure, Jyoti Kanwar, B.Kachouli and R.P. Patel, "Effect Pre-harvest Spray of Calcium and Potassium Nutrients Sources on Storage behavior of Aonla (Emblica officinalis Gaertn.) Fruits Cv. Hathijhool," vol 17 (1): 53-56 (January 2022), ISSN: 0973-6417, online ISSSN: 2454-6003 website: www.ssdatmeerut.in.
- M. K. Saxena, Usha Saxena ,Sudhanshu Jain, Yashwant Indapurkar and H.L.Khapadia: Safflower in Madhya Pradesh - an overview of 25 years of research and development (2021).IJCRT, 9,ISSN2320-2882 pp 26-33
- Mustard (*Brassacajuncea*) intercropping system as influenced by weed management practices. Legume Research, An International Journal 44 (1): 94-97 online.

- P.K. Fatehpuria, and R.S. Sasode (2022) Scenario of Early Blight and Leaf Curl of Tomato in Gwalior Districts of Madhya Pradesh. Indian Journal of Ecology. 49(2):548-551.
- Para P.K, Kushwah S.S., Sharma J., Sharma B.K. and Malgaya Ganesh (2022). Effect of tillage and chemical weed control practices on the growth and quality characteristics of late-sown wheat cultivar in Madhya Pradesh's Gird region (*Triticum aestivum* L.). The Pharma Innovation Journal 11 (3): 2053-2060.
- Para P.K., Kushwah S.S., Sasode D.S., Joshi Ekta, Sharma B.K and Malgaya G. (2022). Impact of tillage and chemical weed management practices on wheat yield and nutrient uptake (*Triticum aestivum* L.). *Biological Forum: An International Journal.* 14 (1): 1726-1734.
- Para Pawan Kumar, Sharma Janmejay, Tiwari Rishikesh, Sharma Vaishali, Sharma B.K., Tiwari R.K., Sharma Kiran and Mishra S.N. (2023). Productivity and sustainability challenges in wheat farming systems: A Review. AMA. vol. 54 (03) 12399 - 12434.
- Parihar P, Singh P, Pandya RK, Tiwari S and Tripathi MK 2022 Screening of pearl millet promising hybrids and varieties against blast (Pyriculariagrisea) by disease indexing . The Pharma Innovation Journal 11(6): 664-667
- Parihar P., Pandya R. K., Singh P., Tiwari S., Tripathi M. K., Tripathi N. and Satyavathi C.T. 2023. Elucidation of molecular variability among *Pyriculariagrisea* isolates causing blast disease in pearl millet Range Management and Agroforestry (In press) 6.23
- Parmar A, Tripathi M.K. Tiwari S, Tripathi N, Parihar P and Pandya R. K.2022. Characterization of pearl millet [*Pennisetumglaucum* (L.) R Br.] genotypes. Against downey mildew disease employing disease indexing and ISSR markers. Octa J. Biosci. 10 (2):134-14. 4.27
- Parmar Bharti, Vishwakarma A.K., Gupta Varsha, Jha Pramod, Biswas A.K., Hati K.M., Malgaya Ganesh, and Patra A.K. (2023). Effect of crop residue retention and nutrient application rates on soil health dynamics: A study on vertisols of central India. *Indian Journal of Soil Conservation.* 51 (1): 1-7.
- Parmar Bharti, Vishwakarma A.K., Gupta Varsha, Jha Pramod, Biswas A.K., Hati K.M., Malgaya Ganesh, Nagwanshi Anil, Singh Shubham and Yadav Rupesh (2023). Influence of different residue retention and nutrinet levels on crop productivity of soybean *(Glycine max* L.) under conservation agriculture. International Journal of Plant & Soil Science August 2023 (Accepted)
- Patel Nidhi, Nitin Soni, Praveen Kumar Ausari, K.C. Meena, B.K. Patidar, Dharmendra Patidar, Ajay Haldar and Riya Thakur (2023). Evaluation of Different Wine Varieties of Grapes Grafted on Dogridge Rootstocks. Biological Forum – An International Journal, 15(8a): 521-525.

- Patel V, Tripathi MK, Shrivastava R K, Tiwari S, Chauhan S, Tripathi N, Pandya RK, Parihar P, Khandelwal V and Satyavathi CT. 2023 Detection of true hybrids in pearl millet [Pennisetum Glaucum (L.) R. Br.] Cross combinations by employing SSR molecular markers. International Journal of Environment and Climate Change, 13 (10): 2366-2377
- Patel V., Tripathi M.K., Shrivastava R.K., Tiwari S., Chauhan S., Pandya R.K., Makwana K., Tripathi N. and Satyavathi C.T. 2023. Genetic analysis for fertility restoration for the A1and A4 cytoplasmic genetic male sterility system in pearl millet *Pennisetumglaucum* L.) Scientist, 2(2): 95-105. DOI: 10.5281/zenodo.7639493. 6.85
- Pushpa Choudhary, RK Sharma, SS Kushwah, R Gallani, GPS Rathore and KK Tarak. 2023. "Influence of varieties and fertilizer doses on growth, yield, quality and profitability of carrot (Daucus carota L.)". The Pharma Innovation 12(8) : 248-252
- Rajesh Ningwal1, Manoj Kumar Tripathi1, Sushma Tiwari, Ruchi Asati, Rakesh Kumar Yadav,Niraj Tripathi and Mohammad Yasin (2023). Identification of Polymorphic SSR Markers and Diversity Analysis in a Set of *Desi* Chickpea Genotypes. *Biological Forum – An International Journal* 15(3): 45-51.
- Rajpoot ,R.L and Kushwaha, B.B 2021.Yield analysis of chickpea(*Cicer arietinum*)
- Rajpoot P, Tripathi M.K., Tiwari S., Bimal S. S., Tripathi N., Parihar P. Pandya R. K. and C. Tara Satyavathi 2023. Characterization of pearl millet [*Pennisetumglaucum* (l.)R br.] genotypes against blast disease employing disease scoring and gene specific SSR markers. Scientist- 3(3) 2023; 16-30. 6.85
- Rajpoot P., Tripathi, M.K. Solanki, R.S., Tiwari S., Tripathi N., Chauhan S., Pandya, R.K. and Khandelwal V. 2023 Genetic variability and multivariate analysis in pearl millet (Pennisetum glaucum (L.) R. Br.) germplasmlines.The Pharma Innovation Journal 12(4): 216-226
- Ranade, D.H., M.L Jadav, Indu, Swarup, O.P., Girothia, D.V., Bhagat, and Ashish, Upadhyaya, 2020. Crop Productivity Enhancement Soybean Based Cropping Systein Water in Malwa Region*. Legume Research*- An Internal Journal, 10.18805/A - 5447: 01-05
- Ranade, D.H., M.L. Jadav, Indu Swarup, O.P. Girothia, D.V. Bhagat and A., Upadhyaya. 2021. Crop Productivity Enhancement under Soybean Based Cropping System through Harvested Rain Water in Malwa Region. Paper accepted for publication by *Agricultural Research Communication Centre* dated 22.03.2021
- RS Chundawat, KC Meena, DK Patidar, BK Patidar and BK Kachouli (2023) Responses of different levesl of potassium and zinc on growth and yield of isabgol (Plantago ovate Forsk.) under malwa plateau of Madhya Pradesh. The pharma Innovation journal; 12 (3): 5671-5673.

- Rutwik Barmukh, Manish Roorkiwal, Girish P. Dixit, Prasad Bajaj, Jana Kholova, Millicent R. Smith, Annapurna Chitikineni, Chellapilla Bharadwaj, Sheshshayee M. Sreeman, Abhishek Rathore, Shailesh Tripathi, Mohammad Yasin, Adiveppa G. Vijayakumar, Someswar Rao Sagurthi, Kadambot H.M. Siddique and Rajeev K. Varshney (2022). Characterization of '*QTL-hotspot*' introgression lines reveals physiological mechanisms and candidate genes associated with drought adaptation in chickpea. https://doi.org/10.1093/jxb/erac348 Advance Access Publication.
- Sangeeta Lenka, Narendra Kumar Lenka, A.Subba Rao, J.Raghuwanshi, Bharat Singh, J.K.Saha & A.K.Patra (2022). Tillage and nutrient management influence net global warming potential and greenhouse gas intensity in soybean-wheat cropping system. Indian Journal of Experimental Biology. Indian Journal of Experimental Biology, 60, 207-214.
- Sanjay Vaktariya, K.C. Meena, R. Gallani, I. S. Naruka, B.K. Patidar and Nitin Soni. 2023. Effect of NPK and bio-fertilizers on growth and yield of Chandrasur (Lapidium sativum L.). Environment and Ecology 41 (3): 1343—1347.
- Sasode R.S. and Choudhary S.(2022). Evaluation of tomato hybrids against early blight (Alternaria solani) under open field conditions. Ann. Agric. Res. New Seriesvol. 43 (2) : 67-69.
- Sasode, R.S., Fatehpuria, P. K., Kaurav, A.S., Trivedi, H. K. (2023). Management of Alternaria Leaf Blight (*Alternariacucumerina var. cyamopsidis*) in Cluster Bean through Fungicide Application. Legume Research Journal.
- Seema Pardhi, Sharma, R.K., Kushwah, S.S and Gallani, Roshan. (2023). Performance of Cowpea (Vigna unguiculata L.) Varieties for Flowering and Seed Quality under Integrated Nutrient Management Practices. *Environment and Ecology* 41 (1B) : 411-415
- Sharma, A.K., Sasode, R.S., Fatehpuria, P. K., and Pandya, R.K.(2023).Real-time surveillance decrypts prevalence of Alternaria leaf spot of brinjal in northern region of Madhya Pradesh. *The Pharma Innovation Journal* 12 (8): 2039-2043.
- Sharma, S., Pandya,R.K.,Sasode, R. S.,Kashyap, V.K. and Chandel, S. (2023) Effect of Carbon and Nitrogen Sources on Growth and Sclerotial Development of S. sclerotiorum Biological Forum – An International Journal 15(3): 543-546
- Sharma,S.,Pandya,R.K., Fatehpuria, P.K.,Prajpati,S. and Trivedi, H.K. (2023) Assessment of different culture media on growth and sclerotia formation of Sclerotiniasclerotiorum (Lib) de Bary. The Pharma Innovation Journal.
- Singh B., Bhagat D.V., Choudhary S.K., Bangar K.S., Jadav M.L., Kumawat N., Holkar S., Upadhyay A., Sharma S.K., Gopinath K.A., Chary G.R., Shukla A.K. and Singh V.K.(2022). Overview of Dryland Agriculture Research and Achievements in Malwa Plateau Zone of Madhya Pradesh**.**Indian Journal of Dryland Agricultural Research & Development, 37(2): 130-134.

- Singh Vikash, Sasode D.S., Singh S.P., Patel Rajendra, Sharma Janmejay, Bagri Pakaj Kumar, Bagri Uma Shankar, Sahu Muni Pratap, Mishra Yogendra Kumar, Malgaya Ganesh and Parmar Bharti (2023). Interactive response of organic mulch and different nutrient sources on productivity and profitability of rice-potato cropping system. AMA 54 (10): 16071 - 16079.
- Singh Y.P., Tomar S.S., Yadav Ravi and Hada Neeraj. Impact of precise land levelling on wheat (*Treticum aestivum*) based cropping system. *Journal of the Indian Society of Soil Science.* 71: 26-32.
- SS Tomar, Surendra S Tomar and VivekPundir (2022) Effect of different sowing dates and crop geometry on productivity and profitability of Indian mustard (Brassica junces L.) – The Pharma Innovation Journal 11(5):2486-2490
- Swankar Reetu, Sharma Janmejay and Bairagi Deepak (2022). Root characteristics, nodulation and yield of lentil (*Lens esculenta* Moench) integrated nutrient management. *Journal Soils and Crops* 32 (2): 296-300.
- Tiwari SC, Kumawat N, Kaledhonkar MJ, Bangar KS and Sharma RK (2021). Response of wheat to different irrigation methods under sodic Vertisols. Journal of Soil Salinity and Water Quality, 13(2):255-260.
- Vishal Patil, A. K. Choudhary, Lekharam and Harsh Kumawat (2022) In vitro and *In vivo* Evaluation of Fungicides, against Colletotrichum lindemuthianum Causing Anthracnose of Mungbean. International Journal of Plant & Soil Science. 33(24): 619-626.
- Y.P. Singh, Sandeep S Tomar, Ravi Yadav, Ravi Gurjar and Deependra Sharma (2022) Impact of precise land levelling on pearl millet-based cropping systems – Indian Farming 72(08):58-60; August 2022
- Y.P. Singh, Sandeep S Tomar, Ravi Yadav, Ravi Gurjar and Sudhir Singh (2022) Innovative ridge furrow technology impact on area, productivity and economics of pearlmillet:– A case study - Indian Farming 72(08):67-69
- Research Report of All India Coordinated Research Project on Fruits (Grapes) COH, Mandsaur (2021-22) Compiled and Edited by Nitin Soni.
- Annual Report of All India Coordinated Research Project on Fruits – (Grapes), COH, Mandsaur (2021-22) Compiled and Edited by Nitin Soni

Research Papers Published in Seminar/Symposia/Conference / Other Publications

- Bharat Singh, K.S. Bangar, S.K. Choudhary, D.V. Bhagat, M.L. Jadav, A. Upadhyay, S.C. Tiwari, O.P. Girothia and Ramkumar Meena (2022). "Integrated Nutrient Management Approach in Soybean (*Glycine max* L., Merrill) Grown in Vertisols Under Rainfed Condition of Malwa Plateau, Madhya Pradesh" Oral paper presented in International Conference on Reimagining Rainfed Agro-ecosystems: Challenges and Opportunities (ICRA-2022) during 22-24, December, 2022 held at ICAR-CRIDA, Hyderabad
- Dr Nitin Soni organized 200 hours Two Skill Development pragramme conducted on Nursery worker as Co-cordinator at College of Horticulture, Mandsaur funded by RKVY.
- Dr. Indu Swarup attended as a resource person in two days training programmes on '*Quality Seed Production and Certification*' for youth from 02 to 03 February 2016 under the AICRPDA at College of Agriculture, Indore.
- Dr. Indu Swarup organized training cum workshop on Chickpea production technologies at KVK, Alirajpur and distributed the inputs amongst farmers for conduction of demonstrations on improved chickpea variety RVG-202 with full package and practices under TSP.
- Dr. R.K. Singh, Scientist (Plant Pathology), a member of Monitoring team to monitoured the ongoing programme of AICRP on chickpea at different centres of SZ. Details report has been submitted to the Project coordinator (Chickpea), AICRP on Chickpea.
- Organized Field day in College of Horticulture, Mandsaur on 17,Februry 2020 in which more then 100 farmers were participated
- Participated in the 11th National Seed congress, on "Recent Advances in Research on quality seed for self- sufficiency in Oil seed and Pules from August 21st to 23rd held at RVSKVV, Gwalior.
- Pipalde, D. Sahu, N. Jain, R.C. and Gupta S.C.(2023). Conservation Agriculture, Need of future. Agri Articles 3 pp 157-159.ISSN 2582-9882.
- Pipalde,D., Sahu, N., Jain, R.C. and Gupta S.C. (2022).Application of artificial Intelligence(AI) in Agriculture. An India perspective, Harith Dhara ICAR IISS E. Magzine Vol. 5No. 2 pp 12-15
- Pipalde,D., Sahu, N., Jain, R.C. and Gupta S.C. (2023). Spatial charaterisation of Soil pH, E.C. and organic carbon in Jajmau industrial zone, Kanpur, through interpolation models.International conference on Nature and Natural sciences, May 5-6 Rani DurgavatiVishvavidhalaya (RDVV) Jabalpur, M.P. India
- *Attended seminar on* Agro-ecosystems: Challenges and Opportunities (ICRA-2022) organized at ICAR-CRIDA Hyderabad

Book/ Book Chapter

- Joshi Ekta, Agarwal Pragati, Sasode D.S, Khambalkar A. Priyadarshni, Bordoloi Popiha, Ginger Dinesh and Joshi Neeshu (2022). Aquaponics an innovative sustainable food production farming system. Recent Advances in Agricultural Sciences & Technology for Sustainable India. Part-II pp 72-78. ISBN. No 978-81-953029-5-6.
- Tinee Adlak, Sushma Tiwari, Madhurjit Singh Rathore, Niraj Tripathi, Prakash Narayan Tiwari, and M. K. Tripathi (2023). Biotechnological approaches for genetic improvement of crops. In book: Cutting Edge Research in Biology Vol. 7: 63-84; Publisher: B P International. Print ISBN: 978-81-19217-40-3.
- M.K. Tripathi, G. Tiwari, Sushma Tiwari, Niraj Tripathi, Mohini Sharma, Nishi Mishra and Sharad Tiwari (2023). Effect of diverse plant growth regulator concentrations and amalgamations in plantlet regeneration in Rauvolfia serpentina (L.) Benth from cell suspension culture. In book: Research Trends in Multidisciplinary Research, Edition: First, Chapter: 8, Publisher: AkiNik Publications.
- Pramod Kumar Fatehpuria, Yadav. Ravi, Rajni Singh Sasode and Hemant Trivedi (2023). Alternaria Blight of Mustard: An Incite into A chronic Disease and its Management. In Book: Strategies for Sustainable Agriculture. ISBN: 978-93-5912-785-9.
- Mohaniya Lakhan Singh, Sharma Janmejay and Sharma Amita (2023). Weed Science and Weed Management System. Advanced Research and Review in Agronomy. Bright Sky Publication, New Delhi Vol - 4 Pp. 65-89. ISBN No. 9789392804700.
- Mohaniya Lakhan Singh, Sharma Janmejay and Sharma Amita (2023). Water Management / irrigation in agronomy. Advances in Agronomy. Akinik Publication, New Delhi Vol - 26 Pp. 23-43. ISBN No. 9789355708168.
- Mohaniya Lakhan Singh, Sharma Amita and Sharma Janmejay (2023). Organic Farming. A suitable approch for sustainable agriculutre. Akinik Publication, New Delhi Vol - 26 Pp. 45-67. ISBN No. 9789355708168.
- Khambalkar, P.A., Sadawarti, M., Joshi, E., and Yadav, S.S. (2023). Climate Smart Approaches towards Sustainable Crop Production. Vital Biotech Publication: 149-178.
- Anil K. Singh, Minakshi Padhi, Anjana Sisodia, Vandana Sisodia, Vishwa Mohan Dev Chauhan, and Anuj Kumar (2022). Disease Spectrum in Carnation Crop (Dianthus carophyllus L.) and Management Strategies. Diseases of horticultural crops: Diagnosis and Management. Ornamental Plants and Spice Crops. Published by Apple Academic Press, USA & CRC Press, Boca Raton, Florida, USA. ISBN: 978-1-77463-969-6.
- Mohan Lal Jadav. Effect of Drip irrigation and Mulching on Pigeonpea Productivity. Lambert Academic Publishing, Chisinau 2068, Republic of Moldova Europe ISBN:978-620-4-19723-4

Bulletin/Manuals

- Bangar K S, Kumawat, N, Tiwari, S C , Parmar, B B, Kaledhonkar M J, Meena, B L and Tagore, J S (2022). Published technical bulletin on "SURVEY, CHARACTERIZATION AND MAPPING OF GROUND WATER QUALITY FOR IRRIGATION IN MADHYA PRADESH", By ICAR – AICRP on Management of Salt Affected Soils and Use of Saline Water in Agriculture, RVSKVV, College of Agriculture, Indore, Madhya Pradesh. Technical Bulletin: AICRP (SAS&USW)/2022/01,222P. Unveil ceremony of bulletin was celebrated at Anbil Dharmalingam Agriculture College, TNAU, Trichy, TN on 11.10.2022 by Hon'ble Director, CSSRI, Karnal (Dr. P.C. Sharma) & Project Coordinator (Dr M J Kaledhonkar), AICRP on Management of SAS & USW in Agriculture, Karnal during Biennial Workshop of SAS project, CSSRI, Karnal (Haryana).
- Bangar K S, Kumawat, N, Tiwari, S C , Kaledhonkar M J, Parmar, B B, and Jyoti Bangre (2022). "Assessment of Ground Water Quality of Dewas District, Madhya Pradesh, India" paper presented in National Conferenceon "Salinity Management for Land Degradation Neutrality and Livelihood Security under Changing Climate" organized by Indian Society of Soil Salinity & Water quality (ISSSWQ), Karnal (Haryana) in collaboration with ICAR-Central Soil Salinity Research Institute, Karnal and Tamil Nadu Agricultural University (TNAU), Coimbatore (TN) held at ADAC&RI, Tiruchirappalli (TN) during 11-13 October 2022.
- Bangre, Jyoti, Bangar, K S, Parmar, B B, Choudhary, S K and Sharma, S K (2022). "Practical Manual on Soil Biology and Bio Chemistry". Published by RVSKVV, Gwalior Vide Manual No. RVSKVV PUB No. 141/2022.
- Hada Neeraj, Singh Y.P., Sharma S.K., Bhadauriya, S.S., Singh P.D., Mishra Y.D. and Aswani R.C. (2023). Prakratik Kheti: Adhunik Krishi me navachar.
- Singh Y.P., Sharma S.K., Sharma G., Hada Neeraj, Singh Akhilesh, Singh Avinash and Bhadauria S.K. (2023). Prakratik Kheti.
- Thakur, H.S.; Swarup, Indu and Girothia, O.P. 2017. 'Study on Drought Tolerance in Chickpea (*Cicer arietinum* L.)' Genotypes. Duly accepted for by the Director Instruction, RVSKVV Gwalior.
- Singh, Jagdish; Swarup, Indu and Qureshi, Mahjabeen. (2017). 'Fundamental of Genetics' for B.Sc. (Ag.) First year (as per V Dean's Committee recommendations of ICAR, New Delhi). Duly accepted for printing with the reference number 82/2017(in English) allotted by the Director Instruction, RVSKVV Gwalior
- Annual Report of All India Coordinated Research Project on Fruits – (Grapes), COH, Mandsaur (2021-22) Compiled and Edited by Nitin Soni .
- Research Report of All India Coordinated Research Project on Fruits (Grapes) COH, Mandsaur (2021-22) Compiled and Edited by Nitin Soni .

POPULER ARTICLE

- Ranade D.H., Jadav, M.L., **Swarup Indu**, and Bhagat, D.V. 2020.Long term utility and Sustainable effect of soil and water conservation measures *Indian Farming. 70* (10): 31-33.
- Ranade D.H., Jadav, M.L., **Swarup Indu**, and Bhagat, D.V. 2020.Long term utility and Sustainable effect of soil and water conservation measures *Indian Farming. 70* (10): 31-33.
- DangiRoopSingh,SinghNeelam,JoshiEktaandSasodeDeepSingh (2022).Importantpests of potato and their management. *Biotica Research Today*. **4**(2) 093-095.
- DangiRoopSingh,SinghNeelam,JoshiEktaandSasodeDeepSingh(2022).Potatoprocessing, its status and need in India. *Biotica Research Today*. **4**(2) 118-120.
- Dangi Roop Singh, Singh Neelam, Joshi Ekta, Sasode Deep Singh and Namrata Chouhan(2022). Zero budget Natural farming. *Biotica Research Today*. **4**(2) 110-112.
- Jadav.M.L., Bhagat D.V., Kumawat.N, Choudhary S.K. (2022). Integrated farming system: Way for doubling the income of rainfed farmers Indian Farming. Indian Farming, 72 (2):21-23
- कृषकों के खेतों पर विभिन्न फसल पद्धतियों के प्रक्षेत्र परीक्षणों का अध्ययन (२०२२) रवि यादव, रवि सिंह गुर्जर, वाई. पी.सिंह, संदीप सिंह तोमर, जे.सी. गुप्ता, दीपेन्द्रश्शर्मा। उन्नत कृषि (विस्तार निदेशालय कृषि एवं किसान कल्याण मंत्रालय, भारत सरकार) जनवरी-मार्च २०२२ पें. न. - २६
- समय से पहले पक रही गेहूं की फसल, घटेगी पैदावार : डॉ. संदीप सिंह तोमर
- डी ए पी की जगह सुपर फॉस्फेट डालें खेत में : डॉ. संदीप सिंह तोमर
- दैनिकभ् ाास्कर, मुरैना, २५.०८.२०२२
- नईदुनिया, मुरैना, १५.०३.२०२२
- अनिल कुमार शर्मा और डॉ. रजनी सिंह सासोड़े (२०२३) मूंग की उन्नत खेती. कृषक आराधना पेज नं. ०३
- अनिल कुमार शर्मा और डॉ. रजनी सिंह सासोड़े (२०२३) मटर की उन्नत खेती. कृषक आराधना पेज नं. ०३
- अनिल कुमार शर्मा और डॉ. रजनी सिंह सासोड़े (२०२३) तिवड़ा की उन्नत खेती कृषक आराधना पेज नं. ०५
- अनिल कुमार शर्मा और डॉ. रजनी सिंह सासोड़े (२०२३) रबीमूंग-उड़द की सुधरी खेती. कृषक आराधना पेज नं. ०३
- अनिल कुमार शर्मा और डॉ. रजनी सिंह सासोड़े (२०२३) उड़द-कृषि क्रियाएं एवं महत्व. कृषक आराधना पेज नं.०३
- अनिल कुमार शर्मा और डॉ. रजनी सिंह सासोड़े (२०२३) उतेरा की दलहनी फसलें. कृषक आराधना पेज नं. ०१
- अनिल कुमार शर्मा और डॉ. रजनी सिंह सासोड़े (२०२३) चना की उन्नत खेती. कृषक आराधना पेज नं. ०३
- अनिल कुमार शर्मा और डॉ. रजनी सिंह सासोड़े (२०२३) अरहर की एकीकृत खेती तथा रोग. कृषक आराधना
- लाखन सिंह मोहानिया एवं जनमेजय शर्मा (२०२३). ऑर्गेनिक खेती क्या होती है, मध्य भारत कृषक भारती वर्ष १७ अंक १२ मार्च २०२३ पेज नं. ११ ैठछ . २५८२५६७६ण
- लाखन सिंह मोहानिया एवं जनमेजय शर्मा (२०२३). ग्रीष्मकालीन मक्का की खेती कैसे करें, कृषक आराधना वर्ष ६ अंक ५१ मार्च २०२३ पेज नं. २ ैठछ . २५८२.७२८६
- लाखन सिंह मोहानिया, जनमेजय शर्मा एवं अमिता शर्मा (२०२३). ग्रीष्मकालीन मूंग की खेती का सही समय, बढ़िया उत्पादन के लिए बीजोपचार के बाद ही करें बुवाई, कृषक आराधना वर्ष ६ अंक ५२ मार्च २०२३ पेज नं. २ ैठछ - 2582-7286.

CONFERENCE/ SEMINAR(S)/ WORKSHOP/ TRAINING/ MEETINGS ATTENDED AND PAPER (S) PRESENTED.

- Attended five days online training on "Plant Quarantine Procedures for Import" organized at National Institute of Plant Health Management, Hyderabad from 7th to 11th March, 2022.
- Attended five days online training on "Plant Quarantine Procedures for Import" organized at National Institute of Plant Health Management, Hyderabad from 7th to 11 th March, 2022.
- Attended five days online training on "Management of Plant Parasitic Nematodes" organized at National Institute of Plant Health Management, Hyderabad from 14th to 18th March, 2022.
- Jayant Renu, Sharma Janmejay and Tomar Sandeep Singh (2023). Effect of integrated nutrient management on growth, yield and quality of garden pea (Pisum sativum var. hortense) under gird agro-climatic zone of Madhya Pradesh. 8th International Conference on "Recent Advances in Agriculture, Animal Husbandry, Sciences & Technology for Sustainable Enterpreneurship (RAAAHSTSE-2023) organized by CAIE, RVSKVV, Gwalior during 26-28 March, 2023. pp 62.
- Sharma Janmejay and Vikash Singh (2023). Effect of nutrient management on yield and economics of clusterbean and wheat crops under cluterbean-wheat cropping system in conservation agriculture. 8th International Conference on "Recent Advances in Agriculture, Animal Husbandry, Sciences & Technology for Sustainable Enterpreneurship (RAAAHSTSE-2023) organized by CAIE, RVSKVV, Gwalior during 26-28 March, 2023. pp- 90.
- Attended and participated in Two days International conference on **"One Health – One world"** held on 28-29 Dec, 2023 organized by RVSKVV, Gwalior.
- 2 Day training programme on mustard cultivation for farmers. (02-03 March, 2022) Funded by:- AICRP R&M, DRMR- Bharatpur (Rajasthan)
- Organized Field day in College of Horticulture, Mandsaur on 17, Februry 2020 in which more then 100 farmers were participated
- Dr Nitin Soni organized 200 hours Two Skill Development pragramme conducted on Nursery worker as Co-cordinator at College of Horticulture, Mandsaur funded by RKVY.
- X Group Discussion of ICAR-AICRP on Fruits through virtual mode from 28th February to 3rd March 2023.
- Attended QRT meeting of AICRP on fruit on 16/08/2023.
- Mid-Term Review meeting of grape programmes under ICAR-AICRP on Fruits at ICAR-NRC for Grapes, Pune on 23rd October 2023
- Online Training on Data Management during 3-5th March 2022. Organized by ICAR-IIMR- Hyderabad. The training was attended by Dr. Usha Saxena, Dr. B.B. Kushwaha and Dr. M.K. Saxena.
- Attended State varietal released committee meeting held at Bhopal on 27.04.2022 at presented release proposal of RVJ 2357
- Attended combined 52rd Annual group meeting of AICRP on Sorghum and 33rd Annual group meeting of AICRP on small millets were held on the virtual mode through

videoconference on zoom platform at ICAR-IIMR. Hyderabad during 28th -29th April 2022

- Attended Discipline wise group meeting to finalize the technical program for 2022-23 through videoconference during 4-5 April 2022.
- Attended monthly meeting organized by Dean, College of Agriculture, Indore on 26-2-2022.
- Attended one day webinar on Subhash Palekar Natural Farming by Padamshri Subhash Palekar Ji Agricultural Sciences Pioneer in Natural Farming on 5-4-2022.
- Attended review meeting of AICRP projects on Dec. 15, 2022 on hybrid mode
- Attended Review of kharif 2022 seed production programme and planning for rabi 2022-23 seed production program meeting held on 06.10.2022 through video conferencing under the Chairmanship of Hon'ble Vice Chancellor RVSKVV, Gwalior
- Attended Virtual Group Meetings of AICRP on Sorghum & AICRP on Small Millets presented work of Centre-wise Scientific Work Plan Audit 31st March to 5th April , 2022
- Virtual meeting of prepare display board of developed varieties at RVSKVV, Gwalior on dated 08.08.2022
- Review meeting of the BARC Project on dated 07.10.2022
- Review of Kharif 2021 Seed production programme and planning for Rabi 2022-23 seed production programme on dated 19.10.2022
- Review meeting of AICRP projects on dated 15.12.2022
- Discussion on weed management in kharif on dated 27.12.2022
- Discussion on "On-station and On-Farm" according to Technical programme 2022-23 on dated 29.12.2022
- 11th National Seed Congress 2022 was organized during 21-23 august, 2022 at RVSKVV, Gwalior.
- 61st Wheat & Barley Research Workers Meet was held from 27, 28 & 29 august, 2022 at RVSKVV, Gwalior.

Awards/Recognition/ Approul/Appreciation

- National Award for Application of Agricultural Technologies VASANT RAO NAIK AWARD OF RESEARCH APPLICATION IN AGRICULTURE 2020 is presented to Dr. Indu Swarup (Associate) Principal Scientist, Plant Breeding, Rajmata Vijayaraje Scindia Agricultural University, Gwalior, Madhya Pradesh. 16th July, 2021, New Delhi.
- CERTIFICATE OF APPRECIATION is presented to Dr. Indu Swarup, AICRP on Chickpea, College of Agriculture, Indore for a record of outstanding accomplishments in Collaborative work in the DEVELOPMENT OF CHICKPEA VARIETIES *i.e.,* RVKG 2021 and RVG 2K21. On 19·08.2021.
- CERTIFICATE OF APPRECIATION is presented to Dr. Indu Swarup, Principal Scientist (Plant Breeding), RVSKVV – CoA, Indore has made a EXCELLENT RESEARCH IN DRY LAND FIELD which have led to conferment of ICAR Prestigious National Award "VASANT RAO NAIK AWARD FOR RESEARCH APPLICATION IN AGRICULTURE – 2020" on 19·08.2021.

EXTENSION

5. EXTENSION ACTIVITIES:

RVSKVV, Gwaliorhas27 KrishiVigyanKendras (KVKs) under its jurisdiction established with the financial support of ICAR.Out of which, 22 are under the administrative control of the University and five under NGOs/ICAR institute, which are functioning under technical guidance of Directorate of Extension Services of the University. The Directorate is committed to serve the farmers through its well organized network of KrishiVigyanKendras, which play a vital role in dissemination and transfer of recent emanated research technologies in agriculture, horticulture, livestock production and allied fields.

The KVKs are assessing the technological needs of the farmers of the districts and revalidating the technology for adoption through On Farm Testings. The KVKs are disseminating technologies and strengthening the farmers through, Front Line Demonstrations, Training Programmes for Farmers and Farm Women, Extension functionaries and Vocational Training for Rural Youth and other regular ExtensionActivities in selected villages of the concerned district. Thus, they contribute in minimizing the gap between prevailing farmers' yield and production potential in specific area.

Mission

Directorate of Extension Services is committed to serve the farmers andto achieve the goal of the University, which isto reach the un-reached through its extension system. The main objectives of the Directorate are:

1. Transfer of technology, assessment, application, refinement and providing feedback to the researchers.
2. Up gradation of knowledge and skill of extension functionaries as well as farming community.
3. Development and dissemination of technology through print and electronic media for mass reach.
4. Catering the needs of farming communities through single window system.
5. Linkage with line departments, concerned institutions and NGOs.

6. Reviewing the activities of KVKs and technological backstopping of KVK scientists and help in formulating action plan.
7. Popularization of low draft improved agricultural implements.

KrishiVigyanKendras

Twenty twoKrishiVigyanKendras of RVSKVV are located atthedistricts of Agar-Malwa, Alirajpur, Ashok Nagar, Badwani, Bhind (Lahar), Datia, Dewas, Dhar, Dhar II (Manawar), Guna (Aron), Gwalior, Jhabua, Khandwa, Khargone, Mandsaur, Morena, Neemuch, Rajgarh, Shajapur, Sheopur, Shivpuri and Ujjain. KVK Bhopal is workingunderadministrative control of ICAR-CIAE and KVKs in districts Indore, Sehore, RatlamandBurhanpur are working under the aegis of reputed NGOs, with technical backstopping of RVSKVV. KVKs facilitate the process of assessment of technologies through OFT, skill up-gradation through training programmes, and technology dissemination through method and result demonstrations, KisanMela, Seminars and mass campaigns etc.

Agro-climatic Zone wise Location of KVKs

Agro-climatic Zone	Features	District / KVK's under the Zone
Gird Zone	Semi-arid climate, situated between 152-224 MSL, annual rainfall 566-977 mm and soils are Alluvial Medium Black, Mixed Red Black and Red Yellow in Colour.	Sheopur, Morena, Bhind, Gwalior, Shivpuri (Partial), Guna (Partial) and Ashok Nagar
Bundelkhand	High temperature, situated between 266-560MSL, annual rainfall 750-1200mm with shallow clayey loam soil	Datia, Shivpuri (Partial)
Malwa Plateau	Semi-arid climate, situated between 450-675 MSL, annual rainfall 800-1200mm, soil is medium to deep black (vertisols)	Neemuch, Mandsaur, Ujjain, Shajapur, Rajgarh, Dewas and Dhar (Partial), Indore Ratlam and Agar-Malwa
Jhabua Hills	Undulated topography, situated between 450-700 MSL, erratic rainfall (600-800mm) and shallow to medium skeletal gravely soil	Alirajpur, Jhabua and Dhar (Partial)
Nimar Valley	Hot and dry weather, situated between 450-700 MSL, less annual rainfall (600-800mm), soil is deep black clayey	Badwani, Khargone, Khandwa, Burhanpur

	(vertisol)	
Vindhyan Plateau	Hot humid climate, undulated topography, situated between 350-600 MSL, annual rainfall, 1000-1200mm and medium black soil.	Guna (Partial), Bhopal, Sehore

Mandate of KVK

The major mandates of KVKs is the assessment, refinement and demonstration of technologies/ products.

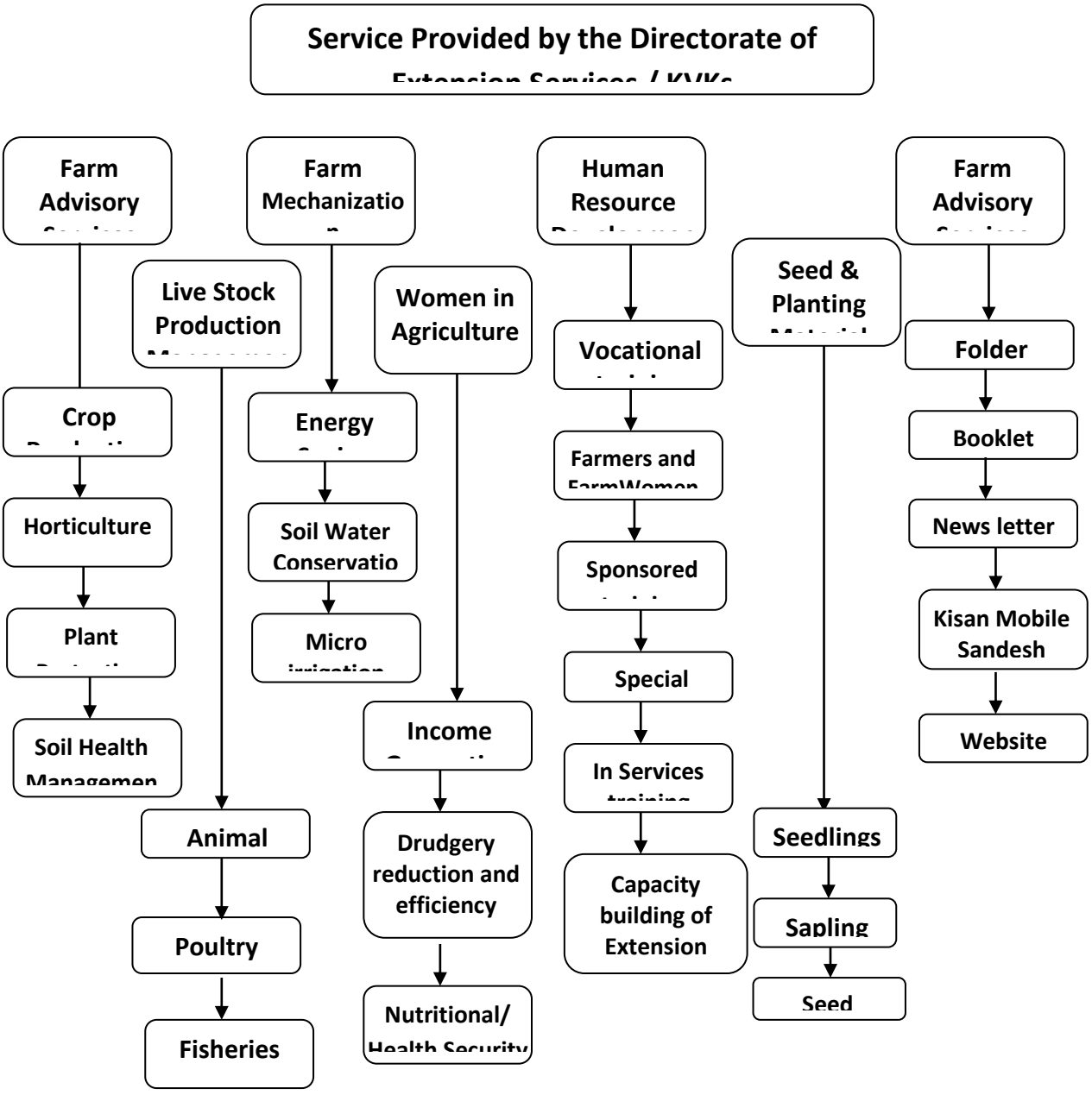
The major activities of KVKs are as follows:

- On farm testing's for assessing the suitability of technologiesin various agro-climatic situations.
- Frontline demonstrations to establish production potentials of newly released technologies on farmers' fields and provide feedback.
- Training of farmers and farmwomen to upgrade their knowledge and skills in modern agricultural technologies and training of extension personnel to orient them in the frontier areas of technology development.
- Work as resource and knowledge centre of agricultural technologies for supporting initiatives of public, private and voluntary sectors for improving the agricultural economy of the district.
- Create awareness about frontier technologies through a number of extension activities viz: Farmer fairs, Field days, Campaigns, Ex-trainees meets, etc.
- For enhancing the productivity through increased seed replacement rate and use of quality planting material, KVKs are taking up the activities of producing quality seed and planting material.

Thrust Areas

- Development of agri-entrepreneurship among farmers
- Enhance the crop productivity through, intensive vocational trainings of farmers, farm women and rural youth.
- Demonstrate and disseminate the integrated approach encompassing the feasible components of farming and related technologies targeting towards enhancing the farm family income.
- Crop diversification with suitable oilseeds, pulse, fruit and vegetable cultivation.
- Testing of early maturing high yielding varieties of major crops on farmer's field.
- Awareness regarding different methods of water harvesting and conservation including construction of small water retention structures (Rain-Water harvesting)
- Soil fertility improvement to sustain soil health.
- Integrated nutrient, insect & pest management technologies of different crops.
- Popularization of resource conservation technologies.
- Post harvest value addition and entrepreneurship development for agricultural produces/ products.
- Balanced feeding and breed improvement of Livestock.

- Clean milk production and processing of dairy products.
- Promotion of exotic and off-season cultivation of vegetables, medicinal and aromatic plants.
- Promotion of organic farming.
- Use of improved farm implements for drudgery reduction.
- Demonstrations of improved farm – machinery to farmers.
- Demonstrations on utilization of innovative traditional knowledge of the farmers.
- Promotion of Natural Farming among farmers.
- Promoting technologies of production, processing, value addition, packaging and marketing of Millet crops.



KVKs identified as Centre of Specialization

S. No.	Name of KVKs	Specialization
1.	Agar Malwa	Citrus based farming system
2.	Alirajpur	Integrated Nutrient Management
3.	Aron (Guna)	Coriander Production Technology
4.	Ashok Nagar	Durum Wheat Production Technology
5.	Badwani	Chilli Production and Value addition of spices
6.	Datia	Natural Resource Management
7.	Dewas	Integrated Farming System
8.	Dhar	High tech vegetable cultivation
9.	Dhar II (Manawar)	New KVK, hence not specialised yet
10.	Gwalior	• Hi tech Horticulture • Vermi-composting Technology
11.	Jhabua	Kadaknath rearing in Integrated Farming System
12.	Khandwa	Cotton Production Technology
13.	Khargone	Pomegranate & Watermelon Production Technology
14.	Lahar(Bhind)	Crop diversification
15.	Mandsaur	Seed spices
16.	Morena	• Apiculture • Conservation Agriculture
17.	Neemuch	Garlic Processing Technology
18.	Rajgarh	Hi tech fruit nursery
19.	Shajapur	Mandarin Production Technology
20.	Sheopur	Natural Resource Management &Integrated Farming System
21.	Shivpuri	Integrated Farming System Hi - tech tomato production
22.	Ujjain	Integrated Nutrient Management
23.	Bhopal	Farm mechanization
24.	Sehore	Soybean based Cropping Systems
25.	Ratlam	Dairy Management and Dairy Technology
26.	Indore	Organic Farming
27.	Burhanpur	Banana Production Technology

Major Achievements of KVKs - 2023

1.1 On Farm Trial (OFT)

The KVKs conducted **487** On Farm Trials for assessment and refinement of new technologies generated by RVSKVV, Gwalior, other Universities and ICAR Institutes as per local needs and micro farming situations. A total of **5561** farmers were the direct beneficiaries of OFTs as their fields/units/animals were chosen for conducting the trials. Details of OFTs conducted by KVKs under the DES are given below:

A. Institutions wise OFTs conducted on crops and enterprises during 2023

Host Institute	No. of OFTs	Beneficiaries
a. OFT on Crops		
RVSKVV	293	3255
ICAR & NGO	63	808
Sub Total	**356**	**4063**
b. OFT on Enterprises		
RVSKVV	105	1102
ICAR & NGO	26	396
Sub Total	**131**	**1498**
Grand Total	**487**	**5561**

Thematic area wise details of OFTs conducted on crops and enterprises are described below.

B.Thematic area wise details of OFTs conducted during 2023

Thematic Area	No. of OFT's		
	RVSKVV KVKs	KVKs of NGOs/ICAR	Total
Agriculture Engineering (AEG)	11	0	11
Agriculture Extension (Ag. Ext)	7	8	15
Agroforestry	6		6
Crop Production (CP+CRP)	14	3	17
Drudgery Reduction (DR)	3	0	3
Fisheries (FIS)	2	1	3
Grain storage	3	1	4
HOF	8	0	8
HOS	6	4	10

Thematic Area	No. of OFT's		
	RVSKVV KVKs	KVKs of NGOs/ICAR	Total
HOV	11	0	11
Integrated Crop Management (ICM)	14	0	14
Information and Communication Technology (ICT)	6	2	8
Integrated Disease Management (IDM)	30	5	35
Integrated Farming System (IFS)	1	0	1
Income Generation (IG)	12	0	12
Improve Implement (II)	2	1	3
Integrated Nutrient Management (INM)	29	7	36
Integrated Pest Management (IPM)	48	7	55
Indigenous Technical Knowledge (ITK)	13	3	16
Improved Variety (IV)	6	0	6
Improved Implement (II)	2	1	3
Integrated Weed Management (IWM)	14	2	16
LPM (Nutrition, Disease Management)	12	11	23
NM	8		8
Natural Resource Management (NRM)		1	1
Nutritional Security (NS)	27	7	34
Organic Farming (OF)	34	3	37
Poultry	2	0	2
Plant Protection (PP)		1	1
RCT	10	1	11
Soil Fertility Management (SFM)	9	7	16
Zero Tillage	2		2
ToT	6	0	6
Value addition (VA)	4	2	6
Varietal evaluation (VE)	39	6	45
Varietal Replacement (VR)	1		1
Weed Management (WM)	1		1
Total	**403**	**84**	**487**

1. 2: Frontline Demonstrations (FLD)

Frontline demonstrations are conducted to demonstrate the potentials of recent and location specific proven technologies of agriculture and allied fields among farming community and extension functionaries for up-scaling in the larger area as well as for generating the production data along with feedback for the research system and planners. During the reporting year, a total number of **2837** beneficiaries got direct benefitsthrough FLDs conducted on various oilseeds, pulses, cereals, vegetables crops and cash crops, agro forestry and other improved farm machineries covering the total area of **1024.65** ha. In addition to these FLDs, **4077** beneficiaries got direct benefits through demonstrations conducted in **1415.80** ha area on various oilseed and pulse crops under Cluster Frontline DemonstrationsProgramme. Moreover, demonstrations on **09** important income generating enterprises like LPM, kitchen garden, home science aspects, poultry, farm machinery, vermicompost etc. were also conducted forbenefitting**880** stakeholders directly. Details of FLDs are provided in next three tables.

A. Crop wise details of FLDs Conducted during 2023 by KVKs

S. No.	Crop	Area (ha)	No. of Beneficiaries	% increase
a. Cereals				
1.	Wheat	143.2	413	14.00
2.	Maize	56.6	168	20.02
3.	Sorgham	11	20	16.73
4.	Rice	4	10	20.11
5.	Pearl millet	27.8	83	20.64
6.	Paddy	14	35	23.32
7.	Kodo	3	28	
8.	Kutki	3	28	
b. Pulses				
1.	Chickpea	95.9	228	15.13
2.	Black Gram	10	25	17.80
3.	Gram	12	35	17.51
4.	Pigeon pea	5.5	87	11.18
5.	Green Gram	8	20	15.81
6.	Urd	2	10	
c. Oilseed				
1.	Soybean	169.8	478	14.89
2.	Mustard	89.8	251	14.5
4.	Groundnut	5	15	12.04
d. Vegetables				
1.	Tomato	18	64	33.76
2.	Potato	19	47	13.25

S. No.	Crop	Area (ha)	No. of Beneficiaries	% increase
3.	Cabbage	4	20	14.13
4.	Okra	7	25	12.21
5.	Bottle gourd	2	15	16.25
6.	Carrot	1	6	3.49
7.	Cauliflower	1	5	8.52
8.	Pea	1	5	1.23
e. Spices				
1.	Onion	59.2	189	13.45
2.	Chilli	19	77	14.84
3.	Garlic	16	57	20.03
4.	Coriander	8.2	41	14.77
5.	Fennel	4	10	12.50
6.	K. Onion	1	8	7.36
7.	Ginger	2	10	14.05
8.	Green Chili	20	20	
9.	Fenugreek	10	22	
f. Fibre Crops				
1.	Cotton	8.4	21	18.93
g. Flower Crops				
1.	Marigold	6.5	35	10.18
2.	Rose	1.6	8	
h. Medicinal Crops				
1.	Ajawain	5	10	
2.	Chandrsoor	1	10	20.58
3.	Turmeric	12	50	21.92
i. Fruit Crops				
1.	Papaya	2	3	17.14
2.	Mandarin	7	20	9.87
3.	Guava	5	25	16.97
4.	Banana	7	30	
5.	Anola	1.33	10	
6.	Sugarcane	2	10	10.71
7.	Muskmelon	1	10	
8.	Mahua	8	40	4.23
	G. Total	**920.83**	**2837**	

B. FLDs conducted on enterprises during 2023

S. No.	Enterprise	Area (ha)/No. of unit	No. of Beneficiaries	% increase
1.	L. P. M. (Dairy, Fodder, Calves, Azola)	86	177	16.95
2.	Farm Machinery	41	120	11.14
3.	Poultry	400 Nos. (birds)	40	26.33
4.	Goat	10 Nos.	10	
5.	Fish	2.6	10	14.33
6.	Home Science (Nutritional security, Value Addition, Drudgery reduction, Value Addition)	90.2	490	
7.	Vermicompost	20 Unit	33	14.71
Total		**219.8**	**880**	

C. Cluster Frontline Demonstration (CFLD)onPulses and Oilseed conducted by KVKs during 2023

S.No.	Cluster Crop	Variety	Area (ha)	No. of Beneficiaries	% increase
a. Pulses					
1.	Black Gram	Urd Pratap 1	175	887	40.45
		MH 421	20	50	23.96
		IPU 11-02	5	13	6.21
		Pratap	60	150	
		PU-I	20	100	
2.	Chickpea	RVG -204	96	330	23.12
		RVG – 202	14.6	66	21.47
		RVG – 203	10	25	
		Phule Vikram	11.2	28	
3.	Pigeonpea	RVSA 16-1	20	50	
6.	Green Gram	Shikha	32	110	
Total			**463.8**	**1809**	
b. Oilseed					

S.No.	Cluster Crop	Variety	Area (ha)	No. of Beneficiaries	% increase
1.	Mustard	RH-725	80	350	14.10
		RH-749	12	88	28.57
		RVM-2	20	50	
		RH 761 &Giriraj	70	175	
		Giriraj (IJ 31)	40	100	
		Rukmani DRMR 1165-40	200	80	
2.	Soybean	RVS 24	240	650	24.60
		RVS 2001-4	20	75	21.95
		JS 2069	60	150	
		JS 20-34	50	125	
		NRC-138	20	50	8.97
		Raj Soya 24	10	25	
	Lentil	Kota Masoor 1	10	25	-
		Kota Masur-2	10	25	-
		RVL 31	20	50	-
		IPL 316	10	50	-
3	Groundnut	RG 578	20	25	15.56
		Western KING PRAMUKH	10	25	13.71
	Linseed	Pratap Alsi-2	50	125	-
4	Sesame	GT 06	10	25	13.71
Total		**-**	**952**	**2268**	
G. Total			**1415.8**	**4077**	

1.3: Training Programmes

Training has been considered a key component for updating the knowledge and inculcating new skillsamong the participants. The great emphasis has been given on organizing trainings both for the farmers as well as for the extension workers working at grassroots level. A total of**1977**trainingprogrammes were organized during the year 2023involving**58327**beneficiaries including farmers and farm women, rural youth, extension personnel and sponsored from different agencies.

Training Programmes conducted by KVKs during - 2023

S. No.	Name of training	No. of Courses	Beneficiaries		
			Male	Female	Total
1.	Farmers & Farm Women	1639	37984	10587	48571
2.	Rural Youth	138	2558	1063	3621
3.	In-Service /Extension Activities	121	2069	876	2945
4.	Vocational	23	170	28	198
5.	Sponsored	56	2532	460	2992
Total		**1977**	**45313**	**13014**	**58327**

OTHER EXTENSION ACTIVITIES

A. Extension Activities

A large number of extension activities are being regularly organised by KVKs at their campuses and in the villages. These extension activities include method demonstrations for small group to KisanMelas for huge gatheringwith the objective of creating awareness about advancedagricultural technologies. These include use of old communication techniques of poster exhibitions to latest techniquesby using SMS and social media for transfer of technologies. Broadly, these activities are for creating awareness and providing advisory based services like farm advisory services, lectures delivered by resource persons,animal health camps and vaccination camp, exhibitions, extension literature and popular articles, media based activities like CD/DVD, film shows, news paper coverage, radio talks and TV talks, meeting based like ex-trainee Sammelan,

celebration of important days, club meets, farmers' seminar, field days, group meet, Gosthies, Mela(s) and SHG meetings etc.The KVKs are showcasing the available technologies to the district level extension functionaries and farmers through a variety of events and activities. A total of **11279** extension activities were organised by the KVKs during 2023benefitting **687062** beneficiaries as given in table below;

Extension Activities Conducted by KVKs during - 2023

S. No.	Activity	No. of Activities	Beneficiaries			Total
			Male	Female	Extension Officials	
1	Advisory Services	2701	350582	78750	868	430200
2	Agri mobile clinic	20	609	183	16	808
3	Awareness programme	67	3209	504	40	3753
4	Celebration of important days	169	7040	2090	303	9433
5	Diagnostic visits	423	2453	497	399	3349
6	Exhibition	115	21898	5348	1195	28441
7	Exposure visits	82	3495	247	77	3819
8	Extension literature	112	6931	236	824	7991
9	Ex-trainees Sammelan	26	847	164	58	1069
10	Farm Science Club	28	1294	369	59	1722
11	Farmers Seminar/Workshop	21	1059	248	76	1383
12	Farmers visit to KVK	3472	27634	6130	856	34620
13	Field Day	269	6845	1758	218	8821
14	Film Show	142	6716	1456	208	8380
15	Group Meetings/Discussion	150	2886	343	88	3317
16	Hon'ble CM of Madhya Pradesh addressing on Natural farming and Shri Anna (Millets)	17	569	147	7	723
17	Hon'ble PM of India's programme on FPO and KisanSamman Nidhi	1	69	15	9	93
18	International Women day	1	0	26	2	28
19	International Millet Conference	18	506	63	10	579
20	KisanDiwas	2	128	7	6	141
21	KisanGhosthi/Sammelan	135	4929	926	268	6123
22	Kisan Mela	21	7732	1927	396	10055
23	Lectures delivered as resource persons	618	21239	4304	733	26276

S. No.	Activity	No. of Activities	Beneficiaries			Total
			Male	Female	Extension Officials	
24	Man Ki Baat	6	184	79	20	283
25	MahilaMandalsconveners meetings	3	12	88	12	112
26	Method Demonstrations	127	1300	413	98	1811
27	Mission earth programme	130	79	49	6	134
28	Meri Mati MeraDesh	8	240	67	3	310
29	Media coverate	123	123	0	0	123
30	Millet Awareness Programme/ Millet Year 2023	22	551	273	42	866
31	National Nutrition week (07.09.2021)	92	0	0	0	0
32	Newspaper coverage	611	12359	1088	200	13647
33	Organic vegetable production	10	462	46	8	516
34	Others(pl. Specify)	135	38007	9510	116	47633
35	Parthanium Awareness Week	2	76	47	10	133
36	Plant/animal health camps	18	1697	238	68	2003
37	Pradhan mantrikisan Yojana	1	102	42	0	144
38	Pradhanmantriphasalbeema yojana	2	144	42	14	200
39	PM MatshyaSampdaYojna	2	0	0	0	0
40	Popular Article	77	4900	1249	240	6389
41	Radio Talk	160	2284	204	202	2690
42	Scientific visit to farmers field	923	8047	2020	444	10511
43	Self Help Group conveners meetings	25	550	543	52	1145
44	Soil health Camp	26	1836	194	84	2114
45	Soil test campaigns	18	395	90	21	506
46	Special day celebration	3	184	67	28	279
47	Swachchhabharat Abhiyan	64	1177	507	252	1936
48	Technology Week	3	222	66	18	306
49	TV Talk	51	0	0	0	0
50	Workshop	22	1434	293	51	1778
51	World environment day	1	79	3	2	84
52	World Soil Day	2	114	4	2	120
53	World Water Day	1	22	9	0	31
54	World Health Day	1	83	28	23	134
		11279	**555333**	**122997**	**8732**	**687062**

B. Mass Media used for Wide Publicity

Besides extension activities mentioned above, a variety ofmass media being used by KVKs for wider publicity and adoption of various agricultural technologies. The KVK wise details of mass media are given in table below;

KVK	CD/DVD	Radio Talks	TV Talks	Newspaper Coverage	Farmers' Fairs	Extension Literature	Internet (You Tube)	Text Messages	Social Media (Whats App, Facebook, Twitter etc.)	Total
Alirajpur				18	1	1			17	**37**
Ashoknagar	9	10	10	35	1	8			1823	**1896**
Barwani	0	0	0	35			2		105	**142**
Bhind (Lahar)		1		112	1	4			25	**143**
Datia				28		4			3	**35**
Dewas		12	2	46	3	20			210	**293**
Dhar	3	8	43	7	8	1	2		8	**80**
Dhar II (Manawar)									280	**280**
Gwalior		2		35	2	6			136	**181**
Jhabua		5	3	33	1	4	37		43	**126**
Khandwa		6		18					52	**76**
Khargone				20	1	3	5		149	**178**
Mandsaur				20		4			36	**60**
Morena		3	1	10	2	4	10		6000	**6030**
Neemuch			5	52	14					**71**
Rajgarh		4	2							**6**
Shajapur	3	3	5	41	1	5			85	**143**
Sheopur				7	2				112	**121**
Shivpuri		25		28		4	10		45	**112**
Ujjain		5	3	16		15	5		184	**228**
Bhopal		3	3						23	**29**
Burhanpur		22		127	1	8	10	12	305	**485**
Indore		10	1	5		6			26	**48**
Ratlam		2	14	83		27	2		413	**541**
Sehore		1		67					22	**90**
Total	**15**	**122**	**92**	**843**	**38**	**124**	**83**	**12**	**10102**	**11431**

1.5: Production and Supply of Technological Inputs by KVKs

Timely and adequate availability of the quality seed and planting material is very essential to ensure better yield, but timely and quality supply of it remains as a major constraints to the farmers. Therefore, it was taken as a challenge and appropriate steps were taken at the KVKs for helping the farmers in this regard. The KVKs produced **4171.71 qtl** seed of different crops during

2023-24. Moreover, they also produced and sold **591958 seedlings and saplings** of various vegetables, fruits, ornamental and medicinal plants. The details of various technological inputs and produced are as follows;

A. Seed Production

Crop	Total SeedProduced (qtl.)
a. Pulses, Oilseed and Cereals	
Soybean	1415.99
Chickpea	780.73
Gram	247.97
Wheat	1699.37
Lentil	15.8
Mustard	12.5
Black Gram	4.0
Paddy	6.25
b. Vegetables	
Tomato	10.0
Fenugreek	0.3
Okra	0.5
Spinach	1.05
Total	**4171.71**

B. Planting Material (Seedlings/Saplings) Production

Crop	Quantity (No.)
a. Vegetables	
Chilli	251132
Onion	165000
Tomato	60854
Brinjal	21210
Cabbage	12000
Cauliflower	17751
Pumpkin	5000
Sponge Gourd	510
Bottle Gourd	5013
Capsicum	10000
Madhukamani	100
b. Fruit Plants	
Mango	1088
Lemon	654
Guava	2493
Karonda	331
Jackfruit	844

Crop	Quantity (No.)
Custard Apple	557
Jamun	726
Aonla	21
Drum Stick	2025
Papaya	5600
Surjana	2000
Badam	11
Belpatra	200
Citrus	255
Meetha Neem	106
Pomegranate	3
c. Ornamental plants	
Marigold	6909
Ashok	454
Rose	1045
Ratrani	100
Sewanti	142
Champa	43
Sudharsan	20
Ticoma	82
Chandani	100
Vidya	18
d. Forest plants	
Labheda	4
Kadwa Neem	54
Bamboo	255
Gurhal	29
Gulmohar	89
Khamer	9
Rain Tree	6
Karanj	112
Mogra	40
Imali	31
Sesam	178
e. Medicinal & Aromatic Plants	
Lemon Grass	2000
Aloe vera	200
Gilloy	1000

Crop	Quantity (No.)
Curry Leaf	200
Arjun	36
Tulsi	18
f. Fodder	
Napier-Bajra Hybrid	13300
Total	**591958**

C. Bio Products

Bio Product	Total Quantity produced
Vermi compost	2820.90qtl
Cow dung	319.56qtl
NADEP	110.00qtl
Azolla	333.43qtl
Earth Worm	172.0kg
Nimastra	200 ltr
Brahmastra	200 ltr
Agneyastra	200 ltr
Neem extract	52ltr

D. Livestock and Products

Bio Product	Total Quantity produced
Dairy animals (No.)	71
Fish (Kg)	100
Fish Seed (Nos.)	1500000
Poultry- Birds (No.)	1031
Chicks etc. (No.)	28762
Poultry - Egg (No.)	1601
Goat(No.)	100

1.6 Soil and Water Sample Analysed

Soil and water testing is an import activity of KVK for improving the soil fertility and sustainability of agricultural production. KVK wise details of soil samples collected, analysed and number of soil health card distributedamong farmers have been given hereunder;

Status of Soil Sample and Soil Health cards

KVK	Status of establishment of Soil testing Laboratory - (Y/N) if yes, mention year	Sanctioned	Procured	Collected by KVKs	Provided by Dept./ DDA	No. of Samples Analysed			No. of Farmers Benefited			No. of Villages Covered	Amount Realized	Soil Health Card Distributed to the Farmers by KVK (No.)	
						by KVKs		By Department	by KVKs		By Department			Through Mini Soil Testing kit	Through Soil testing laboratory
						Mini Soil Testing Kit	Soil Testing Lab		Mini Soil Testing Kit	Soil Testing Lab					
Alirajpur								550							
Ashoknagar		2	2	125		125			125			9		125	
Barwani				500		200	200	NA	200	200	NA	35		200	200
Bhind															
Datia		2	2	487	612	232	867		232	867		27	92000	232	867
Dewas		3	3	367			367			367		27	55800		367
Dhar		2	2	1000		560	440	3000	560	440	10627	83		560	440
Jhabua		Yes	Yes	500	1000		1500			1500		7	200000		1500
Khargone		1	1	678		678			678			12		678	
Mandsaur		2	2	461		461			461			31		461	
Neemuch		2	2	200		200			200			5			
Shivpuri		1	1												
Ujjain		1	1	151			151			151					151
Indore		2	2	632		414	218		414	218		42	88350		632
Ratlam		3	3	280		280			280			38	161500	280	
Sehore						264			264		24			264	
Total		**21**	**21**	**5381**	**1612**	**3414**	**3743**	**3550**	**3414**	**3743**	**10651**	**316**	**597650**	**2800**	**4157**

D. Details of water samples analyzed

KVK Name	No. of Samples	No. of Farmers	No. of Villages	Amount Realized	Test Report Distributed to the Farmers (No.)
Jhabua	30	30	3	5000	30
Total	30	30	3	5000	30
Note: Other KVKs not analyzed water samples					

1.7: Footfall of farmers in KVKs -2023

The table below gives a KVK wise complete account of farmers', VIPs and officials visited the centre for various purposes around the year. It is observable that the KVKs establish its place as a scientific agricultural institution at district level providing functional solutions to the farmers on various agricultural aspects.

Name of KVK	Footfall during 2023			
	No. of Farmers	No. of officials	No. of VIPs	Total
Agar Malwa	2126	124	5	2255
Alirajpur	1870	9	5	1884
Ashoknagar	750	120	15	885
Barwani	2180	210	15	2405
Bhind (Lahar)	1595	35	1	1631
Datia	1948	44	3	1995
Dewas	1818	234	15	2067
Dhar	9856	46	11	9913
Dhar II (Manawar)	1631	11	1	1643
Gwalior	6354	135	10	6499
Jhabua	5000	200	25	5225
Khandwa	2795	21	1	2817
Mandsaur	2067	15	0	2082
Morena	4370	112	21	4503
Neemuch	2650	56	2	2708
Rajgarh	2260	180	28	2468
Shajapur	570	115	3	687
Sheopur	8	-	-	8
Shivpuri	12500	112	15	12627
Ujjain	1167	25	14	1206
Bhopal	1178	156	03	1337
Burhanpur	275	08	04	287
Indore	1751	53	9	1813
Ratlam	2374	73	4	2451
Sehore	2177	213	-	2390
Total	**71270**	**2307**	**210**	**73786**

1.8:Initiatives on application of Information Communication Technology (ICT) for ToT

Kisan Mobile Advisory (KMA) is the easiest ICT tool working successfully for dissemination of latest information to the farmers and farm women. This is a unique programme for making linkages between different stakeholders who are key players for making agriculture more productive.During the year 2023, a total of **1406** farm advisories were issued by the KVKs from which **622170**beneficiarieswere directly benefited.

In addition, KVKs are also providing audio, video and photo based advisories through Facebook, WhatsApp, Twitter and other popular social media platforms given in following tables.

A. Status of Kisan Mobile Advisory (KMA) - 2023

Name of KVK	Number of calls received	No. of Advisory Sent	No. of farmers received messages	Total no of villages in District	No of village Covered by KVK through KMA
Ashoknagar	393	104	1503	904	904
Badwani	519	434	30565	693	693
Bhind (Lahar)		27	30000	952	
Dhar	1140	52	128958	1535	1535
Dhar II (Manawar)	355	52	35565	455	455
Guna (Aron)	2142	157	51500	1260	1260
Khargone	786	119	66366	1192	1192
Morena	541	194	18450	775	775
Rajgarh	50	4		1600	908
Shajapur		45	32500	587	587
Sheopur	16	21	14	14	14
Shivpuri	268	96	34380	1382	1382
Ujjain	292	43	46822	1101	1101
Burhanpur	14	2	31427	272	200
Indore			38913	633	633
Ratlam		51	42638	1084	1084
Sehore	1987	5	32569	1049	1049
Total	**8503**	**1406**	**622170**	**15488**	**13772**

B. Status of Information through Whatsapp by KVKs

KVK	No. of Whatsapp Groups	No. of Farmer Members	Activity details on Whatsapp group
Alirajpur	12	745	15
Ashoknagar	5	500	weather information
Barwani	2	403	Information sharing between scientist & Farmers and KVK Activities, Information on fruit, vegetable, flower, medicine crops etc.
Datia	3	692	KVK Farmers group, Deppt. of agriculture, Plant

			protection
Dewas	4	2700	Agricultural Engineering, Extension, Agronomy, Horticulture
Dhat	22	3263	GeneraL Chat, Technology Videos, Important information, Notification, Online Training Links, Training date and other
Dhar II (Manawar)	3	256	Crop Price Information, Vegetable, Weather, Crop Management, Awareness, Organic Farming, Livestock, Disease & Pest Management,
Gwalior	1	1855	Informative messages
Jhabua	3	192	Crop Management, Poultry, Dairy
Khandwa	4	681	Khet Khalihan, Murgipalak2020, Gramoday farmer, Beej Utpadak
Khargone	1	2083	Need based solution and technical information provided to the farmers
Mandsaur	1	3200	IPM, IDM, organic, Natural Farming, weather forecast, live telecast of PM and CM, various schemes of department of horticulture, Agriculture, Fisheries, Animal husbandry, Different varieties of the crop etc.
Morena	2	460	07
Neemuch	6	1056	Awareness, Advisory and technical guidance as per need
Rajgarh	2	13750	Weather Advisory
Shajapur	9	873	Agriculture relegated activity
Sheopur	3	357	Information regarding improved agriculture technology
Shivpuri	1	10500	Periodic Advisories
Ujjain	4	599	Sharing of Agromet Advisory, Important Activities, Links for registration of webcasting of programme, advisory on incidence of insect, pest or abrupt weather if any..
Burhanpur	5	587	Advisories, Farmers queries & solutions
Indore	1	151	Advisory
Ratlam	11	2449	Activity related to farmers query and share agriculture news, magazines and awareness activities.
Sehore	2	477	Share weekly advisory and solve farmers queries
Total	**107**	**47829**	

C. Information throughSocial Media by KVKs

KVK	Face book			Twitter		Instragram	
	Scientists	Farmers connected	No of Post	No of Tweets	Followers	No of share	People following
Alirajpur	1			23			
Ashoknagar	4		110				
Barwani	53	168	21	11	56	-	-
Bhind	5	Mass	19	-	-	-	-
Datia	Yes	Yes	Mass	Mass	Yes	-	-
Dewas	10	908	34	27	293	-	-
Dhar	3	886	18	48	47	12	78
Jhabua	4	215	54	10	628	34	542
Khargone	3	1300	18	12	126	-	-
Mandsaur	2	4270	14	11	117	-	-
Morena	10	6000	60	-	-	-	-
Neemuch	6	206	23	14	5	0	0
Shajapur	5	245	18	12	25	3	23
Sheopur	21	60	15	89	30	-	-
Shivpuri	6	415	150	12	180	0	0
Ujjain	2830	1985	135	36	298	13	61
Bhopal	2	418	-	-	-	-	-
Burhanpur	08	4994	305	19	237	2	64
Indore	16	5000	4	22	100	-	-
Ratlam	7	5000	63	56	234	-	-
Sehore	23	245	12	15	253	-	-
Total	**3019**	**32315**	**1073**	**417**	**2629**	**64**	**768**

D. Mobile Apps developed by KVKs

S. No.	Name of KVK	Title of Mobile App	Language of App.	Number of Downloads
1.	Jhabua	JhabuaKhetibadi	Hindi/ English	287
2.	Barwani	KVKBarwani	Hindi	22
	Neemuch	Apna Krishi Vigyan	Hindi	
3.	Ujjain	फलप्रसंस्करण	Hindi	50+

E. Status of KVK Website during January to December - 2023

Name of KVK	Date of start of website	Address of Website	No. of updates During 2023	No. of visitors during 2023
Alirajpur	2020	www.kvkalirajpur.org	-	-
Barwani	2016	www.kvkbarwani.org	32	10500
Lahar (Bhind)	2013	www.kvklahar.com	-	-
Datia	2011	www.kvkdatia.com	4	14870
Dhar	2011	www.kvkdhar.com	48	8200
Manawar	2023	www.kvkmanawar.org	56	7426
Gwalior	2012	www.kvkgwalior.com	05	5452
Jhabua	2018	www.kvkjhabua.org	144	59302
Khandwa	2019	kvkkhandwa.org	6	8057
Morena	2017	www.kvkmorena.com	7	918
Neemuch	2011	www.kvkneemachzpdvii.org	5	21
Rajgarh	2013	kvkrajgarhzpdvii.org	-	-
Shajapur	2014	kvkshajapur.rvskvv.net	12	9687
Sheopur	2016	https://kvk.icar.gov.in/	352	
Shivpuri	2014	kvkshivpuri.org	-	-
Ujjain	2011	https://kvkujjain.org	50	7184
Burhanpur	2021	www.kvkburhanpur.com	-	-
Indore	2006	www.kvkindore.co.in	12	8416
Ratlam	2011	www.kvkratlam.org.in	18	Mass
Sehore	2015	kvksehore.nic.in	05	9350

1.9Status of Revolving Funds - 2023

KVK	Account No.	Opening balance on 01 .04.2023 (Rs.)	Closing balance 31.03.2024 (Rs.)
Alirajpur	299402010000458	550451	595180
Barwani	30704699890	2078219	2265439
Bhind (Lahar)	40460196942	950688	1078022
Datia	36470787786	1838554	1961960
Dewas	19110110016503	2524635	2667514
Dhar	30657822680	983924	695804
Dhar-II (Manawar)	38095420207	114442	173410
Gwalior	21160210000250	7056848	7768744
Khandwa	10470210000311	2027225	2123508
Khargone	30697884572	798968	869812
Mandsaur	3770210000052	817631	954681
Morena	430210000045	2843309	2954883
Neemuch	2460200000581	1537673	1952517
Shajapur	30699079595	1518546	1776239
Sheopur	39072325018	1505215.78	1568905.78

Shivpuri	21770210000014	2564851.49	3033920.80
Ujjain	37127235119	2547192.89	3120643.09

1.10: Publications and Media Development by KVKs

During 2023, various research and farmer friendly publications were published and distributed among the clients for issuing timely advisory on technological developments in agriculture and allied areas.

KVK	Abstract	Research Paper	Leaflets/ Folder/ Pamphlet	Popular article	Booklet	Book Chapter	Technical Bulletin	Training Manual	Technical Report	Year Planner	Book	Electronic Media Show (CD/VCD)	Others	Total
Alirajpur			2	1					9	1				**13**
Ashoknagar	10	5	3	10	2	2	2	2	4	1		4		**45**
Barwani	7	7	8		2				25	1				**50**
Lahar (Bhind)	12	4	5	15	1	1		3	12		2			**55**
Datia	12	2	4	5	2									**25**
Dewas	8	4	12	25	4	1	1		4		2			**61**
Dhar	3	6	9	7	4	2			6	1	2			**40**
Dhar II (Manawar)			7											**7**
Gwalior	6	5	4	4		6	2	2	2	1	4			**36**
Jhabua	5	2	4	5				2	7	1		4		**30**
Khandwa					1				2					**3**
Khargone	11	2	2	2	1				18	1	1			**38**
Mandsaur	1	2								1				**4**
Morena	12	5	2	8				4	6	1				**38**
Neemuch	7	2	5	3	3	3	1		10	1				**35**
Rajgarh		6	10	4			2							**22**
Shajapur	4	1	10	5	2					1	1	4		**28**
Sheopur	2	2	3	5	1	2		1	4	1				**21**
Shivpuri	6	2	4	2	1				5	1				**21**
Ujjain	11	2	8	4		4				1	2			**32**
Indore		3	5	3					1	1				**13**
Ratlam	1	1	13	2	2				1					**20**
Sehore		1	3				1		1					**6**
Total	**118**	**64**	**123**	**110**	**26**	**21**	**9**	**14**	**117**	**15**	**14**	**12**	**0**	**643**

1.11: Initiatives on Nutri-Smart Village during Jan-Dec-2023

As per the guidelines of Ministry of Agriculture, Government of India, KVKs under RVSKVV, Gwalior have selected villages for intensive implementation of income generating/enhancing agricultural activities for Nutri-Smart Village by 2023. The details are as follows;

A. Information about Nutri-Smart Village

Name of KVK	Block	Name of Nutri-Smart Village
Asoknagar	Asoknagar	1
Asoknagar	Isagarh	1
Asoknagar	Chanderi	1
Asoknagar	Mugawali	1
Barwani	Barwani	Borlai
Khandwa	Khalwa	Jhirniya, Mamadoh
Mandsaur	Mandsaur	Bhuniyakhedi and Menpuriya
Morena	Porsa	Bhahpura
Neemuch	Neemuch	Dalpatpura
Shajapur	Shajapur	Rampura Mewasa
Ujjain	Ujjain	Kalyanpura
Burhanpur	Khaknar	Hanumatkheda, Karkheda, Naagjhiri, Saikheda, Sandas
Burhanpur	Burhanpur	Khatla, Bholana, Dhulkot
Indore	Depalpur	Machal
Ratlam	Ratlam	Jamthun
Sehore	Ichhawar	Narsinghkheda

B. Activities in Nutri-Smart Villageduring January to December -2023

KVK	OFT			FLD			Training		Ext. Activities	
	No	Area (ha)	Benef.	No	Area (ha)	Benef.	No.	Benef.	No.	Benef.
Barwani							2	37	5	157
Gwalior							6	238	12	353
Khandwa	4		60	3		60	8	608	1	52
Mandsaur	1		10	5		65	10	280	3	67
Morena	4	2	52	5		50	8	206	6	163
Neemuch	3	0.5	21	17	0.5	37	14	300	31	313
Shajapur	5		25	3		20	5	89	2	49
Ujjain	4		10	2		20	5	100	0	0
Burhanpur	2	20	20	5	75	75	4	101	0	0
Indore	2		12	1		15	4	90	1	15
Ratlam	2	1.0	28	4		40	1	20	3	73
Sehore	3	3.0	20	5	3.1	35	6	157	11	168
Total	**30**	**26.5**	**258**	**50**	**78.6**	**417**	**73**	**2226**	**75**	**1410**

2.1: Scientific Advisory Committees (SAC) Meeting of KVKs

The Scientific Advisory Committee meetings were conducted to give necessary guidance and support to carry out the mandated activities of KVK in a more planned and scientific manner. The committee monitors progress and facilitate in-depth exchange of views in specific fields. The committee evolves the scientific and technical vision documents for the KVK, reviews periodically and takes further course of action as deemed fit for furthering scientific and technological activities of the KVK. Activities of KVKs are monitored through thesemeeting of Scientific Advisory Committees (SAC). Director Extension Services, Joint Director Extension, and scientists from the Directorate of Extension Services participated in these meetings to reviews previous activities and finalize the action plans for coming season.A total of 52 SAC meetings (Kharif and Rabi) were conducted for all 27 KVKs during 2023. Details of SAC meetings organised during the year are as follows:

KVK Name	Kharif 2023		Rabi 2023-24	
	Date of Meeting	Participants	Date of Meeting	Participants
Agar Malwa	04/08/2023	26	28/10/2023	25
Alirajpur	27/06/2023	33	20/10/2023	29
Ashoknagar	21/06/2023	21	-	-
Barwani	12/06/2023	25	08/11/2023	25
Lahar (Bhind)	June 2023	20	-	-
Datia	06/07/2023	32	25/10/2023	28
Dewas	-	-	-	-
Dhar	14/06/2023	-	18/10/2023	-
Dhar-II (Manawar)	15/06/2023	25	10/10/2023	20
Guna (Aron)	20/06/2023	31	10/10/2023	-
Gwalior	05/07/2023	15	03/11/2023	15
Jhabua	26/06/2023	41	21/10/2023	31
Khandwa	30/06/2023	23	06/11/2023	21
Khargone	28/06/2023	26	21/11/2023	32
Mandsaur	12/07/2023	35	27/10/2023	18
Morena	07/07/2023	38	23/10/2023	25
Neemuch	09/05/2023	-	03/10/2023	-
Rajgarh	19/06/2023	-	16/10/2023	-
Shajapur	16/06/2023	41	13/10/2023	33
Sheopur	23/06/2023	22	16/10/2023	18
Shivpuri	22/06/2023	36	17/10/2023	37
Ujjain	08/06/2023	36	14/10/2023	60
Burhanpur	18/07/2023	50	09/11/2023	30
Indore	13/06/2023	-	30/10/2023	
Ratlam	07/06/2023	16	31/10/2023	15
Sehore	July 2023	-	-	-
	24	**592**	**22**	**462**

6. GENERAL ADMINISTRATION:

6.1 General Administration: The Board of Management (BoM) of RVSKVV is the apex-body, empowered to make policy decisions with the Vice-Chancellor as its Chairperson who is also the Executive Head of the University. The composition of BoM is given below:

BOARD OF MANAGEMENT

NAME OF THE MEMBERS
Prof. Arvind Kumar Shukla *Vice-Chancellor* *RVSKVV, Gwalior (M.P.)*
Additional Chief Secretary *Farmer Welfare and Agriculture Development* *Govt. of MP, Mantralaya, Vallabh Bhawan, Bhopal*
Secretary *Department of Finance, Govt. of MP* *Gwalior (M.P.)*
Mr. Rajendra Singh Rajpoot, Ujjain (M.P.)
Dr. Praveen Shinde, Bhopal (M.P.)
Dr. Sunanda Singh Raghuwanshi, Bhopal (M.P.)
Dr. Pramod Kumar Mishra, Jabalpur (M.P.)
Mr. Chatur Singh Gurjar, Gwalior (M.P.)
Mr. Atul Sharma, Datia (M.P.)
Dr. A. Arunachalam *Director, ICAR-CARI, Jhansi (U.P.)*
Mr. Rajeev Chaudhary
Mr. Anil Saxena *(Registrar/Member Secretary)* *RVSKVV, Gwalior (M.P.)*

ACADEMIC COUNCIL

The Academic Council is vested with the responsibility of implementing and monitoring all the academic programmes. The council is headed by the Vice-Chancellor, as chairperson and consists of Dean Faculty, Director Instructions, Director Research and Director Extension, University Head of Departments and Professors as members. The composition details are given below:

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Dr. Arvind Kumar Shukla Hon'ble Vice-Chancellor RVSKVV, Gwalior (M.P.)	**Chairman**
2	Dr. Pooran Gaur Professor & Head, Hyderabad	Member
3	Dr. Dheerendra Khare Dean, Faculty of Agriculture JNKVV, Jabalpur (M.P.)	Member
4	Dr. Mridula Billore Dean, Faculty of Agriculture RVSKVV, Gwalior (M.P.)	Member
5	Dr. S.K. Sharma Director, Research Services RVSKVV, Gwalior (M.P.)	Member
6	Dr. Y.P. Singh Director, Extension Services RVSKVV, Gwalior (M.P.)	Member
7	Dr. S.K. Sharma Director Instruction & Student Welfare RVSKVV, Gwalior (M.P.)	Member
8	Dr. S.K. Trivedi Head of Department (Soil Science) College of Agriculture, Gwalior (M.P.)	Member
9	Dr. Mukesh Shrivastava Registrar, RLBCAU, Jhansi (U.P.)	Special Member
10	Mr. Anil Saxena Registrar RVSKVV, Gwalior (M.P.)	**Member Secretary**

ADMINISTRATIVE COUNCIL

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Dr. Arvind Kumar Shukla Hon'ble Vice-Chancellor RVSKVV, Gwalior (M.P.)	**Chairman**
2	Dr. Mridula Billore Dean, Faculty of Agriculture RVSKVV, Gwalior (M.P.)	Member
3	Dr. S.K. Sharma Director, Research Services RVSKVV, Gwalior (M.P.)	Member
4	Dr. Y.P. Singh Director, Extension Services RVSKVV, Gwalior (M.P.)	Member
5	Dr. S.K. Sharma Director Instruction & Student Welfare RVSKVV, Gwalior (M.P.)	Member
6	Dr. I.S. Tomar Dean, College of Horticulture, Mandsaur (M.P.)	Member
7	Dr. M. Yasin Dean, College of Agriculture, Sehore (M.P.)	Member
8	Mr. Anil Saxena Comptroller, RVSKVV, Gwalior (M.P.)	Member
9	Dr. H.S. Bhadauria Executive Engineer, RVSKVV, Gwalior (M.P.)	Member
10	Head of Department (Soil Science) College of Agriculture, Gwalior (M.P.)	Member
11	Dr. M.K. Tripathi (PMB & Bio-technology) College of Agriculture, Gwalior (M.P.)	Member
12	Registrar RVSKVV, Gwalior (M.P.)	**Member Secretary**

7. IMPORTANT EVENTS/INAUGURATIONS:

Independence/Republic Day Celebration

- RVSKVV, Gwalior celebrated Independence Day on 15 August 2023 and Republic Day on 26th January, 2024. Prof. Arvind Kumar Shukla, Vice-Chancellor unfurled the tricolor in presence of senior officers, retired personnel, invitees, staff members and students.

Prof. Arvind Kumar Shukla, Vice-Chancellor addressing on
Independence/Republic Day Celebration

- University headquarter, all colleges and KVKs under the jurisdiction of the university celebrated International Day of Yoga on June 21, 2024. Prof. Arvind Kumar Shukla, Ho'ble Vice Chancellor led yoga session and stretches, bends and breathing exercises with senior officers, staff and students of the university on this mega event.


- On World Environment Day, a cleanliness program was organized at Rajmata Vijayaraje Scindia Agricultural University, Gwalior under a cleanliness campaign in the university and all the related units, colleges, agricultural science centers, and research centers. This year the theme of Environment Day was "Land Restoration, Capability to Combat Desertification and Drought". In the program we try to keep our home and family clean, similarly, we need to keep the university campus clean. To fulfill this objective, a cleanliness campaign has been organized.


❖ **Foundation Day Celebration**

- 16th Foundation Day of RVSKVV was organized on August 19, 2023 in the presence of Hon'ble Vice Chancellor, Prof. Avinash Tiwari, Jiwaji University, Gwalior as chief guest of the function. The programme was presided by Hon'ble N.S. Rathore, Deputy Director General Education, ICAR & EX. Vice-Chancellor, Maharana Pratap University of Agriculture and Technology, Udaipur Rajasthan was also present as special guest. Hon'ble Vice Chancellor, Prof Arvind Kumar Shukla highlighted the University's achievements.

- The Ninth Convocation of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior was held on October 22, 2023. Chairman of Convocation Hon'ble Shri Mangubhai Patel, Governor of Madhya Pradesh and Chancellor, RVSKVV, Gwalior presided over the function. AS a Chief Guest Padma Shri Hon'ble Dr. Arvind Kumar, Former Vice Chancellor, RLBCAU, Jhansi and Guest of Honour were Hon'ble Dr. R.C. Agrawal, Deputy Director General (Agricultural Education), Indian Council of Agricultural Research, New Delhi & Hon'ble Vice Chancellor, Prof Arvind Kumar Shukla, while Hon'ble Members of Board of Management and Academic Council, Directors, Deans, Faculty members, Staff, Distinguished guests and recipients of Degrees graced this event. In the Convocation, a total of 643 students were conferred UG, PG and Ph.D. degrees and four students received Gold Medals.

8. HUMAN RESOURCE DEVELOPMENT:

Participation of Professors/Scientists/Teachers in National / International Seminars / Symposia/ Conferences/Short term Courses /Trainings/Workshops/summer and Winter Schools etc.

For the year 2023-24

S. No.	Programme/ Training	Name of faculty members	Duration	Organized by
1	Orientation : Artificial Intelligence, Electronic Devices and IoT for Transforming Agriculture with Cutting-Edge Technologies.	Dr. Nisha Singh	23 days	ICAR-Central Institute of Agricultural Engineering Nabi Bagh, Berasia Road Bhopal- 462038 (M.P.).
2	Professional Development Programmes: Analysis of agricultural data using statistical and data minig techniques.	Dr. Nisha Singh	9days	RVSKVV , Gwalior
3	Refresher course: Personality development and communication skills	Dr. Sudhir Singh	9days	-
4	Professional Development Programmes: Analysis of agricultural data using statistical and data mining techniques	Dr. Sudhir Singh	9days	-
5	Orientation : Antiragigng week 2023	Dr. Sudhir Singh	6days	-
6	Professional Development Programmes: Online refresher course on millets (Shree Anna) - Model Crops for susnable farming value addition entreprenurship development grant nutritional security (RCSA 2023)	Dr. Sudhir Singh	20days	-
7	Professional Development Programmes: Analysis of agricultural data using statistical and data mining techniques	Dr. Sneha Pandey	9days	-
8	Professional Development Programmes: Online refresher course on millets (Shree Anna) - Model Crops for susnable farming value addition entreprenurship development grant nutritional security (RCSA 2023)	Dr. Sneha Pandey	20days	-
9	Online	Dr. M.K. Tripath	21 days	ICAR- IIMR, Hydrabad

	refershercoursceon millets shree anna modelscropsfor sustaanablefarmingvalue addition enterprenueship development and nutrinal security			
10	Online refershercoursceon millets shree anna modelscropsfor sustaanablefarmingvalue addition enterprenueship development and nutrinal security	Dr. Sushma Tiwari	21 days	ICAR- IIMR, Hydrabad
11	Professional Development Programmes	Dr. Nitesh Kumar Panwar	30	PM & Ministry of Agriculture & Farmers Welfare
12	Professional Development Programmes	Sher Singh Solanki	10	UGC- Malviya Mission Teachers Training Centre, Lakshmibai National Institute of Physical Education, Gwalior
13	Professional Development Programmes	Dr. Arpan Upadhyay	30	PM & Ministry of Agriculture & Farmers Welfare
14	Professional Development Programmes	Dr. Ankita Sahu	21	ICAR-NIAP, New Delhi
15	Short Term Course	Dr. Ankita Sahu	5	ABV-IIITM, Gwalior
16	Professional Development Programmes	Dr. Ankita Sahu	21	RVSKVV, Gwalior, M. P.
17	Professional Development Programmes	Dr. R. K. Singh	90	North Dakota State University, Fargo, USA
18	Professional Development Programmes	Dr. Divya Bhayal	15	AEEFWS
19	Professional Development Programmes	Dr. J.P.Mehra	10	RVSKVV, Gwaliorand IASRI, New Delhi
20	Artificial intelligence, electronic Devices and IoT for tranforming agriculture with cutting edge technology	Dr. B.R. Baraiya	21 days	ICAR- Central institute of Agricultural Engineering Bhopal
21	International Conference on one health one world	Dr. D.R. Saxena	02 days	NAHEP and RVSKVV Gwalior (MP)
22	International Conference on one health one world	Dr. Moly Saxena	02 days	NAHEP and RVSKVV Gwalior (MP)
23	One week faculty development programme on "Emodelling and	Dr.D.K.Vani	5	Swami Keshvanand Inst. Of Techn., Mngmnt & Gramotthan, Jaipur

	simulation of Renewable energy systems			
24	International Training on Agriculture in Future and Future in Agriculture	Dr.D.K.Vani	21	RVSKVV, Gwalior in collaboration with JAU, Junagarh, ICRISAT, Hyderabad, ATARI, Jabalpur & AgriMeet Foundn, UP
25	One week faculty development programme on "Energy sustainability through Renewable energy systems	Dr.D.K.Vani	5	Swami Keshvanand Inst. Of Techn., Mngmnt & Gramotthan, Jaipur
26	Short Course	Dr Rajiv Dubey	14 Days	Uni. of Agri. Sciences, Dharwad (ICAR-NAHEP-IDP)
27	Referesher course	Dr K. Alam Khan	21 Days	University of Auckland, New Zeland
28	Refreshers course	B.K. Patidar	21 Days	ICAR- CAFT Directorate of Research, MPUAT, Udaipur
29	Refreshers course	Dr. R. K. Sharma	21 Days	Directorate of Research, SKAUST of Kashmir, Shalimar, Srinagar (J&K) 190025
30	Winter School	Dr. Roshan Gallani	21 Days	DoR, SKUAST, Srinagar
31	Winter School	Dr Priyamvada Sonkar	21 Days	DoR, SKUAST, Srinagar
32	Winter School	Dr Anuj Kumar	21 Days	Division of Vegetable ScienceICAR, New Delhi
33	Winter School	Dr SK Dwivedi	21 Days	Dept. of of Vegetable Science, Dr YSpUHand F, Nauni, Solan (HP)
34	Winter School	Dr Om Singh	21 Days	DoR, SKUAST, Srinagar
35	Referesher course	Dr M K Tripathi	21 Days	Dept. of of Vegetable Science, Dr YSpUHand F, Nauni, Solan (HP)

8.1 Financial Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies for the year 2023-24-

Year 2023-24				
Dates (from-to) (DD-MM-YYYY)	**Title of the conference/ workshops/ name of the professional body**	**Name of the teacher**	**Amount provided by the HEI**	**Purpose (Membershiop fee/travel and other expenses/Registration fee)**

29-30/01/2024	National Work Shop on "Natural Farming in Traditinal Agricultural Production System of Eastern Himalayan Region of India : Prospects and Challenges" at NEDFI, Guwahati, Assam from January, 29-30, 2024	Dr. S. K. Trivedi	NIl	--
dec 28th to 29th 2023	International Conference on "One health- One world"	Dr. Nisha Singh	4000	Registration fee
dec 28th to 29th 2023	International Conference on "One health- One world"	Dr. Janmejay Sharma	4000	Registration fee
dec 28th to 29th 2023	International Conference on "One health- One world"	Dr. Neeraj Hada	4000	Registration fee
dec 28th to 29th 2023	One Health One World	Dr. Shashi S. Yadav	nil	
nov 7th to 10th 2023	5th International Conference on "Sustainable Natural Resources Management under Global Climate Change" (Online)	Dr. Shashi S. Yadav	nil	
oct 3rd to 6th 2023	87th Annual Convention of Indian Society of Soil Science at IISS, Bhopal	Dr. S. K. Trivedi	5000	
aug 28th-30th 2023	All india wheat and barley research workers meet	Dr. Nisha Singh	6500	Registration fee
july 10 to 11 2023	58th annual group meeting of AICRP on pearl millet, 53rd annual group meeting of AICRP on sorghum and 34th annual group meeting of AICRP on small millets 10-11 july 2023	Dr. R K Pandya	7000	
june 24th to 25th 2023	15th International Conference on Agriculture, Horticulture and Plant Sciences	Dr. Nisha Singh	10000	Registration fee
june 7th to 9th 2023	National Conference with supporting documents which was held at CSKHPKVV-Palampur	Dr Varsha Gupta	6000	Registration fee
may 26th to 27 2023	30th Annual Review Meeting of AICRP-WM held at SKUAST-Jammu	Dr Varsha Gupta	6000	Registration fee
may 26th to 28 2023	“8th International Conference” at RVSKVV, Gwalior from 26th March - 28th March 2023	Dr Varsha Gupta	4000	Registration fee
march 26th to 28th 2023	“8th International Conference” at RVSKVV, Gwalior from 26th March - 28th March 2023	Dr. Janmejay Sharma	4000	Registration fee

March-4-2024	The Indian Society of Dryland Agri. International Conference ICAR-/CRIDA, Hyderabad(XXCIII Biennial Workshop of AICRPDA)	Dr.Bharat Singh	4000	Registration fee
March-4-2024	The Indian Society of Dryland Agri. International Conference ICAR-/CRIDA, Hyderabad(XXCIII Biennial Workshop of AICRPDA)	Dr.D.V.Bhagat	4000	Registration fee
28-12.2023	One Health One World, (OHOW)RVSKVV, Gwalior/RVSKVV, Gwalior	Dr. Nisha Sapre	4000	Registration fee
July-10-11-2023	Annual Group Meeting of AICRP on Sorghum, PJTSAU, Hyderabad/RVSKVV, Gwalior	Dr. Nisha Sapre	3000	Registration fee
July-10-11-2023	Annual Group Meeting of AICRP on Sorghum, PJTSAU, Hyderabad/RVSKVV, Gwalior	Dr. Usha Saxena	3000	Registration fee
28-29 Dec-2023	One Health One World, (OHOW)RVSKVV, Gwalior/RVSKVV, Gwalior	Dr.Anand Harshana	2000	Registration fee
28-29 Dec-2023	One Health One World, (OHOW)RVSKVV, Gwalior/RVSKVV, Gwalior	Dr.J.P.Mehra	4000	Registration fee
Sep-5-6-2023	AGM Safflower & Linseed-Agricultural Education & Res Foundation	Dr.J.P.Mehra	7000	Registration fee
Sep-5-6-2023	AGM Safflower & Linseed-Agricultural Education & Res Foundation	Dr. M.K. Saxena	7000	Registration fee
March-4-2024	The Indian Society of Dryland Agri. International Conference ICAR-/CRIDA, Hyderabad(XXCIII Biennial Workshop of AICRPDA)	Dr.K.S.Banger	4000	Registration fee
March-4-2024	The Indian Society of Dryland Agri. International Conference ICAR-/CRIDA, Hyderabad(XXCIII Biennial Workshop of AICRPDA)	Dr. M.L. Jadav	4000	Registration fee
28-29 Dec-2023	One Health One World, (OHOW)RVSKVV, Gwalior/RVSKVV, Gwalior	Dr.Sunil Narbariya	2000	Registration fee
28-29 Dec-2023	One Health One World, (OHOW)RVSKVV, Gwalior/RVSKVV, Gwalior	Neha Dwivedi	2000	Registration fee
30-31 jan 2024	Chickpea Scientist Field day at ICRISAT Hyderbad	Dr. M. Yasin	18081	Travel and Other expenses
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Ashruti kesharwani	4000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Lekhram	2000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at	Dr. S.S. Kushwah	2000	Registration fees

	RVSKVV Gwalior MP			
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Rohan Sharma	2000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Ashwani Kumar	4000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Moly Saxena	2000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Asha Kushwah	3548	Travel and Other expenses
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Vandana Yadav	2466	Travel and Other expenses
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Astha Pandey	7914	Travel and Other expenses
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Varsh Dhurvey	2000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Astha Pandey	2000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr.Sachin Balpande	4000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Asha Kushwah	4000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. R.C. Jain	2000	Registration fees
28-29 Dec 2023	International conference on "One world One Health" at RVSKVV Gwalior MP	Dr. Vandana Yadav	4000	Registration fees
01-03 Sep 2023	AICRP Rabi Pulses group meet 2023, MPKV Rahuri, MH	Dr. AK Saxena	8874	Travel and Other expenses
01-03 Sep 2023	Annual Group Meet on Rabi pulses at MPKV Rahuri, MH	Dr. AK Saxena	6000	Registration fees
01-03 Sep 2023	Annual Group Meet on Rabi pulses at MPKV Rahuri, MH	Dr. R.P. Singh	6000	Registration fees
01-03 Sep 2023	Annual Group Meet on Rabi pulses at MPKV Rahuri, MH	Dr. R.P. Singh	4254	Travel and Other expenses
01-03 Sep 2023	AICRP Rabi Pulses group meet 2023, MPKV Rahuri, MH	Dr. M. Yasin	11499	Travel and Other expenses
01-03 Sep 2023	Annual Group Meet on Rabi pulses at MPKV Rahuri, MH	Dr. D.R. Saxena	5870	Travel and Other expenses
01-03 Sep 2023	Annual Group Meet on Rabi pulses at MPKV Rahuri, MH	Dr. D.R. Saxena	6000	Registration fees

01-03 Sep 2023	Annual Group Meet on Rabi pulses at MPKV Rahuri, MH	Dr. M. Yasin	6000	Registration fees
25.08.2023	QRT meeting of AICRP Soybean, JNKVV, Jabalpur MP	Dr. Moly Saxena	4360	Travel and Other expenses
25.08.2023	QRT meeting of AICRP Soybean, JNKVV, Jabalpur MP	Dr. R.P. Singh	4000	Travel and Other expenses
16-17 may 2023	Annual Group Meet of soybean, RVSKVV Gwalior MP	Dr. Moly Saxena	6000	Registration fees
16-17 may 2023	Annual Group Meet of soybean, RVSKVV Gwalior MP	Dr. Moly Saxena	15021	Travel and Other expenses
16-17 may 2023	Annual Group Meet of soybean, RVSKVV Gwalior MP	Dr. Lekhram	5347	Travel and Other expenses
16-17 may 2023	Annual Group Meet of soybean, RVSKVV Gwalior MP	Dr. R.C. Jain	6000	Registration fees
13-14 March 2024	54th AGM of AICRP on Soybean 2024, UAS, Dharwad, Karnataka	Dr. R.P. Singh	9019	Travel and Other expenses
13-14 March 2024	54th AGM of AICRP on Soybean 2024, UAS, Dharwad, Karnataka	Dr. R.P. Singh	6500	Registration fees
13-14 March 2024	54th AGM of AICRP on Soybean 2024, UAS, Dharwad, Karnataka	Dr. Lekhram	6500	Registration fees
12-13 March 2024	Mid term review workshop of Pulses and oilseeds, ICAR-IIPR Kanpur, UP	Dr. D.R. Saxena	6272	Registration fees
21-23 Feb 2024 and 23-27 Feb 2024	Traing on "Enhancing Soft Skills and managerial Proficiency for Organization success" at RVSKVV Gwalior MP and Traing on "Advance MDP Agriculture 4.0 Challenges and ICT" at ITM Gwalior	Dr. Vandana Yadav	4467	Travel and Other expenses
10-12 Feb 2023	International conference Of pulse organized by ISPRD at New Delhi	Dr. D.R. Saxena	900	Registration fees
03-06 Feb 2024	All India Agro Industrial Exhibition & Farmer Fair at RVSKVV Gwalior MP	Dr. Vandana Yadav	3103	Travel and Other expenses
13-14 April-2023	International workshop on organic cotton	Dr RI Sisodia	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr MK Kureel	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr MK Tiwari	1500	Registration fee

13-14 April-2023	International workshop on organic cotton	Dr OP Sharma	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr Bhagwat Singh	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr Satish Sharma	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Mr RS Dangi	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr Amit Kumar	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr Ayishi Trivedi	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr Dheerendra Mahor	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr Smita Agrawal	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr Sumit Kumar	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr SK Arsia	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr SK Parsai	1500	Registration fee
13-14 April-2023	International workshop on organic cotton	Dr DK Paliwal	1500	Registration fee
April -06-07-2023	Annual Group Meeting of AICRP on Cotton , PDKV, Akola at Nagpur station	Dr. S.K. Arsia	11861	TA+Registration fee)
	Indian PhytoPathological Society	Dr. S. K. Arsia	5600	Membership fee
April -06-07-2023	Annual Group Meeting of AICRP on Cotton , PDKV, Akola at Nagpur station	Shri. S.K. Parsai	10687	TA+Registration fee)
28/12/2023 to 29/12/2023	International conference One Health One World	H.P. Singh	5375	Registration Fees and Travelling Allowance

07/02/2024 to 09/02/2024	31th AnnualGroup Meeting ICAR-AICRP on Medicinal, Aromatic Plants and Betelvine at SNDAUT ,Kumarganj, Ayodhya/ DMAPR, Anand	B.K.Patidar	9910	Registration Fees and Travelling Allowance
11/01/2024 to 13/01/2024	XIV Annual Workshop on AINRP on Onion and Garlic, JNKVV, Jabalpur/ DOGR Pune	B.K. Patidar	12080	Registration Fees and Travelling Allowance
07/02/2024 to 09/02/2024	XXXI AICRP on MAPB group meeting NDUAT kumarganj AYOHYA (U.P.)	Basant kumar kachouli	10723	Registration fee, travel and other expenses
28/12/2023 to 29/12/2023	International conference on one health one world	Dr. S. S. Kushwah	4000	Registration fee
07/02/2024 to 09/02/2024	31st Annual Group Meeting of AICRP on Medicinal & Aromatic crops and Beetlevine at ANDUAT, Ayodhya (UP)	Dr. Roshan Gallani	8710	Registration fee, travel and other expenses

9. AWARDS AND RECOGNITIONS BY COLLEGES:

(1) College of Agriculture, Gwalior-

S.No.	Name of person	Name of the Award	Awarding Organization
1	Dr. Neeraj Hada	Certificate of Recognition in Agri-Connect 2023	RVSKVV, Gwalior
2	Dr. Priyadarshani A. Khambalkar	Young Woman Scientist	-
3	Dr. Neelam Bunkar	Women Scientist Award	Society for Scientific development in Agriculture and Technology
4	Dr. Neelam Bunkar	Best Research Scholar Award	Agro- Environmental Education and Farmers Welfare Society
5	Dr. R S Sasode	Young women Scientist award	RVSKVV Gwalior M.P. &Agri Meet Foundation U.P.
6	Dr. Nisha Singh	Women Scientist Award	Astha Foundation

(2) College of Agriculture, Indore-

Name of the awardee	Name of the award	Name of the awarding body	Category of award (innovation/techology transfer etc)	Year of award
Dr. J Himanshu Rao	Young Scientist	The Society for Technology, Environment, Science and People	Outstanding Contribution in the field of Soil and Water Engineering	2023
Dr. MukeshSaxena	Fellow	Indian Society of Oilseeds Research , Rajendra Nagar Hyderabad Telangana, Indire	-	2023
Dr. Swati Barche	Best Teacher	International Conference on One Health-One World organzied by RVSKVV, Gwalior and Agri Meet Foundation UP	Best Teacher Award	2023
Dr.DeekshaTembhre	Young Scientist	4th Intetnational Conference on “Recent Advances in Agriculture for Aatmanirbhar Bharat” (RAAAB-2024) at IGKV Raipur (C.G.)	Research	2024
Dr. R.K. Singh	Certificate of Participation	CSJM University Kanpur &ICAR-ATARI Kanpur		2023

Dr. R.K. Singh	Best Poster Presentation Award	Indian Phytopathology Society, University of Mysore Karnataka India	Poster Presentation	2023

(3) College of Horticulture, Mandsaur-

SN	Title of Honours /award	Year	Conferring agency	Name of facultuy member
1.	Best Horticulture Teacher Award	2024	ISHRD- Uttarakhand	Dr SK Dwivedi
2.	Certificate of Appreciation	2023-24	RVSKVV, Gwalior	Dr Om Singh

9. VISITS ABROAD: Nil

10. PUBLICATIONS:

Research papers/Abstract (Presented & Published)/Books/Book Chapters/ Teaching Manual/ Popular Articles etc.

(1) College of Agriculture, Gwalior-

S. No.	**Research Publications in referred journals**	**NAAS Journal ID**	**NAAS Journal Rating**
1	Para Pawan Kumar, Sharma Janmejay, Tiwari Rishikesh, Sharma Vaishali, Sharma B.K., Tiwari R.K., Sharma Kiran and Mishra S.N. (2023). Productivity and sustainability challenges in wheat farming systems : A Review. AMA. vol. 54 (03) 12399 - 12434.	A128	6.30
2	Parmar Bharti, Vishwakarma A.K., Gupta Varsha, Jha Pramod, Biswas A.K., Hati K.M., Malgaya Ganesh, and Patra A.K. (2023). Effect of crop residue retention and nutrient application rates on soil health dynamics : A study on vertisols of central India. *Indian Journal of Soil Conservation.* 51 (1) : 11-17.	I101	4.63
3	Singh Dheerendra, Sharma Janmejay, Singh S.P., Sadawarti Murlidhar J., Kushwah Nishita, Chouhan Shubham, Parihar Chitrangda and Chauhan Aman Pratap (2023). Effect of planting date on growth and yield of potato (*Solanum tuberosum* L) in semi-arid tropics of Central India. *International Journal of Plant & Soil Science* 35 (19) 1059-1065.	I335	5.37
4	Parmar Bharti, Vishwakarma A.K., Gupta Varsha, Jha Pramod, Biswas A.K., Hati K.M., Malgaya Ganesh, Nagwanshi Anil, Singh Shubham and Yadav Rupesh (2023). Influence of different residue retention and nutrinet levels on crop productivity of soybean *(Glycine max* L.) under conservation agriculture. *International Journal of Plant & Soil Science* 35(19):1192-1203	I335	5.37
5	Malgaya Ganesh, Vishwakarma A.K., Kushwah S.S., Wanjari R.H., Jha Pramod, Biswas A.K., Hati K.M, Rani K., Das A., Parmar B., and Para P.K. (2023). Standardization of management strategy for chickpea (*Cicer arietinum* L.) under different levels of crop residue retention in conservation agriculture. *International Journal of Plant & Soil Science* 35 (14) : 175 - 182.	I335	5.37
6	Malgaya Ganesh, Vishwakarma Anand Kumar, Kushwah Shailendra Singh, Wanjari Ravi Harishchand, Rani Khushboo, Das Abinash, Meena Bharat Prakash and Parmar Bharti (2024). Crop residue retention and herbicide application on performance of maize (Zea mays L.) under conservation agriculture in verstisol of Central India. *Annals of Plant and Soil Research* 25(4):595-602	A210	4.61
7	Singh Dheerendra, Devendra, Bhadauriya Jaideep Singh, Sharma Avinash, Kushwah Nishita and Sharma Janmejay (2023). Effect of various weed control measures on	B069	4.96

	growth and yield and potato(*Solanum tuberosum* L.) in Gird region. *Biological Forum - An International Journal* 15 (10) : 1366- 1370.		
8	Singh Dheerendra, Sharma Janmejay, Singh S.P., Murlidhar J. Sadawarti, Kushwah Nishita, Chouhan Shubham, Parihar Chitrangda and Chauhan Aman Pratap (2023). Effect of planting date on growth and yield of potato (*Solanum tuberosum* L.) in semi-arid tropics of Central India. *International Journal of Plant & Soil Science*. 35 (19) : 1059-1065.	I335	5.37
9	Singh Dheerendra, Sharma Janmejay, Singh S.P., Murlidhar J. Sadawarti, Kushwah Nishita, Chouhan Shubham, Parihar Chitrangda and Chauhan Aman Pratap (2023). Physiological parameters and quality of potato under different planting dates. *Journal of Experimental Agriculture International* 45 (10) : 51-58.	J234	5.14
10	Singh Vikash, Sasode D.S., Singh S.P., Patel Rajendra, Sharma Janmejay, Bagri Pakaj Kumar, Bagri Uma Shankar, Sahu Muni Pratap, Mishra Yogendra Kumar, Malgaya Ganesh and Parmar Bharti (2023). Interactive response of organic mulch and different nutrient sources on productivity and profitability of rice- potato cropping system. AMA. 54 (10) : 16071 - 16079.	A128	6.30
11	Chauhan Aman Singh, Singh Dheernedra, Sharma Avinash, Chouhan Shubham, Kushwah Nishita, Singh Nisha and Sharma Janmejay (2023). Assessment of potato (Solanum tuberosum L.) performance for yield and quality production under natural farming system in gird region of Madhya Pradesh, India. *Journal of Experimental Agriculture International*. 45 (12) : 16-22.	J234	5.14
12	Hada Neeraj, Bhadauria, S.S., Kumar Amit, Gurjar L.S., Singh Y.P., and Aswani R.C. (2023). Pyroxasulfon 50 g/l + pendimethalin 400 g/l 2C : A new pre emergence herbicide combination for controlling weeds in wheat. International Journal of Agricultural Sciences Vol. 19 : 127-133.	I170	4.03
13	Hada Neeraj, Aswani, R.C., Bhadauria S.S., Kumar Amit, Gurjar L.S. and Singh Y.P. (2023). Fluxapyroxad 167 g/l + pyraclostrobin 333 g/l 500 SC : A new fungicide for controlling fungal disease in wheat. International Journal of Agricultural Sciences Vol 19 : 110-115.	I170	4.03
14	Ashwani R.C., Hada Neeraj, Singh Y.P., Jain D.K., Tyagi S.K. and Gathiye G.S. (2023). Assesment , estimation and economic performance of different kharif onion (Alliume cepa L) Varieties under Malwa Plateau of Madhya Pradesh. Journal of Agriculture and ecology : 16 1726-1734.	J032	4.69
15	Ashwani R.C., Gupta Naresh, Hada Neeraj, Devi Sarnabati, Gathiye G.S., Singh Lal, and Singh Y.P (2023). Effect of sowing dates, fertilizer's Application and genotypes on growth and yield attributes in irrigated coriander under Malwa Plateau of Madhya Pradesh. Frontiers in Crop Improvement. 11: 373-377.	F093	4.20
16	Singh Y.P., Tomar S.S., Yadav Ravi and Hada Neeraj (2023). Impact of precise land levelling on wheat (Treticum aestivum) based cropping system. Journal of the Indian Society of Soil Science. 71: 26-32	J564	5.34
17	Patidar Jitendra, Kewat Mewalal, Sondhia Shobha, Jha Amit Kumar and Gupta Varsha (2023). Bio-efficacy of fomesafen + fluazifop-p-butyl mixture against weeds and its effect on productivity and profitability of soybean (*Glycine max*) in central India. *Indian Journal of Agricultural Sciences* 93 (7) : 750-755	I034	6.40
18	Mohaniya Lakhan Singh, Sharma Janmejay and Sharma Amita (2023). Evaluation of Temperature Modification in Open Top Chambers in Mustard Cultivars and its Effect on Yield and Percentage Content of Nitrogen and Sulfur. *International Journal of Environment and Climate Change.* 13 (10) : 3754-3761.	I239	5.16
19	Mohaniya Lakhan Singh, Sharma Janmejay and Sharma Amita (2023). Effect of elevated temperatures on growth and yield of mustard cultivars at varied crop geometry. *International Journal of Environment and Climate Change.* 13 (10) : 3366-3377	I239	5.16
20	Singh Ajay, Singh Nisha, Yadav K.S., Singh Balkishan and Sharma Janmejay (2023). Growth, productivity and profitability enhancement in delayed planting of soybean through integrated nutrient management. *International Journal of Tropical Agriculture.* 41 (1-2) : 1-4.	I372	4.35
21	Singh Nisha, Singh Balkishan and Sharma Janmejay (2023). Effect of different N levels and with foliar application of nano urea on increasing production and productivity of wheat. *International Journal of Tropical Agriculture.* 41 (1-2) : 1-6.	I372	4.35
22	Growth and Variability in Selected Cereal Crops in Madhya Pradesh (2023). International Journal of Social Sciences	I363	**4.42**

23	Growth and Decomposition Analysis: Major Cereal Crops in Uttar Pradesh (2023) Economic Affairs,	E024	**5.08**
24	Shubham Singh Rathour, P. K. S. Gurjar, R. Lekhi, S. S. Bimal and Poonam (2022). Effect of Different Drying Methods on Physico-Biochemical Aspects of Aonla Fruit Pulp Powder. *A International Journal of Plant & Soil Science. 34(21): 428-434, ; Article no.IJPSS.89184*	*ISSN: 2320-7035*	5.07
25	*Hirdesh Kumar*, Murlidhar J. Sadawarti, Rashmi Bajpai, S.P. Singh, R.K. Samadhiya, Rajesh Lekhi,* *Priyanka Gurjar, Prince Mahore and Payal Patidar (2022).* Performance of Medium duration Potato Hybrids and varieties for Morphology, Growth and Yield Characters under Chambal Region of Madhya Pradesh. *Biological Forum – An International Journal* 14(4): 1267-1273(2022)	ISSN No. (Print): 0975-1130	5.11
26	Nikhil Parihar*, P.K.S. Gurjar, Prachi Tamrakar, Bhavna Yadav, Gourav Gupta, Shweta Tiwari, Akhilesh Kushwaha (2023). Next-generation Bio-stimulants and Micronutrients Interventions Ameliorating Climate-induced Stress in Guava. *Agricultural Mechanization in Asia.* P No. 16663-16675. Volume 54, Issue 12, December	ISSN: 00845841	6.29
27	Nikhil Parihar, PKS Gurjar, Prachi Tamrakar, Gaurav Gupta and Avinash Sharma (2023). Effect of new generation PGR's and micronutrients in organoleptic parameter of guava cv. G-27 . *The Pharma Innovation Journal* 2023; 12(8): 1830-1833	ISSN: 2349-8242	5.23
28	Ramesh Chand Kantwa, PKS Gurjar, Anjali Rana, Ramawatar Choudhary, Harsha, Om Prakash and SL Yadav (2023). Effect of pre-harvest treatments and bagging on sensory parameters of guava (*Psidium guajava* L.) fruit Cv. G-27 . *The Pharma Innovation Journal* 2023; 12(9): 3025-3027	ISSN: 2349-8242	5.23
29	Harsha, Prashant K Gupta, Sandeep Raipuriya, Chitraganda Prihar, Jagat Pratap Dangi, Vaqar Malik, Ramesh Chand Kantwa and Pallavi, Sonaniya (2023). Effect of foliar feeding of plant growth regulators and nutrients on morphological and yield attributing characteristics of guava (*Psidium guajava* L.) cv. Gwalior-27. *International Journal of Statistics and Applied Mathematic;* SP-8(5): 837-842	ISSN: 2546-1452	5.12
30	Harsha, Prashant K Gupta, Sandeep Raipuriya, Vaqar Malik, Chitraganda Prihar, and Pallavi, Sonaniya (2023). Effect of foliar feeding of plant growth regulators and nutrients on leaf nutrient status of guava (*Psidium guajava* L.) cv. Gwalior-27. *International Journal of Environment and Climate Change;* 13(10): 3235-3243	ISSN: 2581-8627	5.13
31	Shrikunwar, Karan Vir Singh, Khushboo Namdev and Rajesh Lekhi (2023). Effect of Foliar Application of Plant Growth Regulators and Nutrients on Fruit Set and Quality of Acid Lime (*Citrus aurantifolia* Swingle). *Biological Forum- An International Journal;* 15(12): 440-444	ISSN No. (Print): 0975-1130	5.11
32	Shrikunwar, Karan Vir Singh, Khushboo Namdev and Rajesh Lekhi (2023). Influnce of Foliar Application of Plant Growth Regulators and Nutrients on Physico Chemical and Post Harvest Traits of Acid Lime (*Citrus aurantifolia* Swingle). *Biological Forum-An International Journal;* 15(12): 000-000	ISSN No. (Print): 0975-1130	5.11
33	Palak Dongre, Prashant K. Gupta, Avinash Sharma, Jagat Pratap Singh Dangi and Narmrata Chouhan (2023). Impact of Biofertilizers and Organic Manures on Herbage Produciton of Kasuri Methi (*Trigonella corniculata* L.) CV. Pusa Kasuri. *International Journal of Environment and Climate Change;* 13(11): 3295-3300	ISSN: 2581-8627	5.13
34	Palak Dongre, Prashant K. Gupta, Avinash Sharma, Jagat Pratap Singh Dangi and Narmrata Chouhan (2023). Effect of Organic Manures and Biofertilizers on NPK Content of Kasuri Methi (*Trigonella corniculata* L.) CV. Pusa Kasuri. *International Journal of Environment and Climate Change;* 13(11): 3683-3688	ISSN: 2581-8627	5.13
35	Vaqar Malik, R.K. Jaiswal, D.K. Raidas, Praveen Kumar Singh Gurjar, I.S. Naruka and Harsha (2024). Genetic Variability and Correlation Analysis in Different Genotypes of Pea (*Pisum sativum* L.) under Vindhyanchal Plateau of (M.P.). *Biological Forum-An International Journal;* 16(2): 129-133	ISSN No. (Print): 0975-1130	5.11
36	Jain, N., Sikarwar, R. S., Tripathi, M. K. & Tiwari , S.(2024) Evaluation of genetic parameters for yield and its attributing traits in green gram [*Vigna radiata* (L.) Wilczek]. International Journal of Environment and Climate Change, 14(2): 482–487. https://doi.org/10.9734/ijecc/2024/v14i23963	ISSN: 2581-8627	5.16
37	Jain, N., Sikarwar, R. S., Tripathi, M. K., Tiwari, S., Rahangdale, S. & Barela, A.(2024). Assessment of genetic variability, heritability and genetic advance for seed yield and its contributing traits in green gram [*Vigna radiata* (L.) Wilczek]. /v14i34037. International Journal of Environment and Climate Change, 14(3): 250–256. https://doi.org/10.9734/ijecc/2024	ISSN: 2581-8627	5.16
38	Tripathi, M.K., Tripathi, N., Tiwari, S., Mishra, N., Sharma, A., Tiwari S. and Singh,	2022273--	7.80

	S.(2023). Identification of Indian soybean (*Glycine max* [L.] Merr.) genotypes for drought tolerance and genetic diversity analysis using SSR markers. Scientist SCI-3(3);2023;31-46	0890-3670	
39	Sistu, R., Tiwari, S., Tripathi, M.K., Singh, S., Gupta, N., Tripathi, N., Asati, R. and Yadav, R. K. (2023). Effect of different biochemical parameters and antioxidant enzymes activities on drought indices in chickpea (*Cicer arietinum* L.). Legume Research. DOI: 10.18805/LR-5204	ISSN: 0250-5371	6.80
40	Rana, S.S., Tiwari, S., Gupta, N., Tripathi, M.K., Tripathi, N., Singh, S. and Bhagyawant, S.S. (2023). Validating the nutraceutical significance of minor millets by employing nutritional-antinutritional profiling. Life 13, 1918. https://doi.org/ 10.3390/life13091918	ISSN: 2075-1729	9.20
41	Tiwari, P. N., Tiwari, S., Sapre, S., Babbar, A., Tripathi, N., Tiwari, S. and Tripathi, M.K.(2023). Prioritization of microsatellite markers linked with drought tolerance associated traits in chickpea (*Cicer arietinum* L.). Legume Research. DOI:10.18805/LR-5191.	ISSN: 0250-5371	6.80
42	Tiwari, P. N., Tiwari, S., Sapre, S., Tripathi, N., Payasi,D. K., Singh, M., Thakur, S., Sharma, M., Tiwari, S.and Tripathi, M. K. (2023). Prioritization of physio-biochemical selection indices and yield attributing traits towards acquisition of drought tolerance in chickpea (*Cicer arietinum* L.). Plants, 12, 3175. https://doi.org/ 10.3390/plants12183175	ISSN: 2223-7747	10.50
43	Asati, R., Tripathi, M.K., Tiwari, S., Yadav, R. K., Chauhan, S., Tripathi,N.,Solanki, R. S. and Sikarwar, R. S. (2023). Screeningofchickpea (*Cicer arietinum* L.)genotypesagainstdroughtstressemploying polyethyleneglycol as selecting agent. International Journal of Plant & Soil Science, 35 (19) : 2155-2169	SSN: 2320-7035	5.07
44	Patel, V., Tripathi, M.K.,Shrivastava, R. K., Tiwari, S., Chauhan, S., Tripathi, N., Pandya, R.K., Parihar, P., Khandelwal, V. and Satyavathi, C.T.(2023). Detection of true hybrids in pearl millet [*Pennisetum glaucum* (L.) R. Br.] cross combinations by employing SSR molecular markers. International Journal of Environment and Climate Change, 13 (10): 2366-2377	ISSN: 2581-8627	5.16
45	Yadav, R. K., Tripathi, M. K., Tiwari, S., Asati, R., Chauhan, S., Sikarwar, R. S. and Yasin, M. (2023).Evaluation of genetic diversity through D^2 statistic in chickpea (*Cicer arietinum* L.). International Journal of Environment and Climate Change, 13 (10): 1598-1611	ISSN: 2581-8627	5.16
46	Yadav, R.K., Tripathi, M.K., Tiwari, S., Asati, R., Chauhan, S., Paliwal, S., Mandloi, S., Parihar, P., Singh, P., Tripathi, N. and Yasin, M. (2023).Screening chickpea genotypes against Fusarium wilt disease under controlled conditions. International Journal of Plant & Soil Science, 35 (19) :698-710.	ISSN: 2320-7035	5.07
47	Yadav, P.K., Tripathi, M. K. , Tiwari, S., Chauhan, S., Tripathi, N., Sikarwar, R. S., Solanki, R. S., Yadav, S. K., Rathore, J. and Singh, A. K. (2023).Biochemical characterization of parental inbred lines and hybrids of maize (*Zea mays* L.). International Journal of Plant & Soil Science, 35 (18) :1743-1762	ISSN: 2320-7035	5.07
48	Parihar, P., Pandya, R. K., Singh, P., Tiwari, S., Tripathi, M. K., Tripathi, N. and Satyavathi C. T. (2023).Elucidation of molecular variability among *Pyricularia grisea* isolates causing blast disease in pearl millet. Range Management and Agroforestry 4 (2) : 278- 287	ISSN: 0971-2070	6.80
49	Asati, R., Tripathi, M. K., Yadav,R. K., Tiwari, S., Chauhan,S., Tripathi, N., Solanki, R.S. and Yasin, M. (2023). Morphological description of chickpea (*Cicer arietanum* L) genotypes using DUS characterization. International Journal of Environment and Climate Change, 13 (9): 1321-1341	ISSN: 2581-8627	5.16
50	Paliwal, S., Tripathi, M. K., Tiwari, S., Tripathi,N., Payasi, D. K., Tiwari, P. N., Singh, K., Yadav, R. K., Asati,R.and Chauhan, S. (2023).Molecular advances to combat different biotic and abiotic stresses in linseed (*Linum usitatissimum* L.): A comprehensive review. Genes.14(7):1461. https://doi.org/10.3390/genes14071461	ISSN: 2073-4425	9.50
51	Yadav, P. K., Tripathi, M.K., Tiwari, S., Chauhan, S., Tripathi, N., Sikarwar, R.S., Solanki, R. S., Yadav,S., Singh, A.K. (2023).Genetic components and variability assessment for grain yield and its accrediting traits in maize (*Zea mays* L.). International Journal of Environment and Climate Change, 13, (9): 772-784 DOI: 10.9734/ijecc/2023/v13i92298	ISSN: 2581-8627	5.16
52	Rathour, S. S., Gurjar, P. K. S., Tiwari, S. and Tripathi, M. K. (2023).Bioactive compounds and antioxidant capacity from different fruit extracts of aonla (*Emblica officinalis*Gaertn.). International Journal of Environment and Climate Change, 13, (9): 1229-1233 DOI: DOI: 10.9734/IJECC/2023/v13i92349	ISSN: 2581-8627	5.16

53	Sharde, R., Tripathi, M.K. Bhatt, D., Tiwari, S. Sharma, M., Tomar, Y.S. and Tripathi, N. (2023).Influence of plant growth regulators on *in vitro* morphogenesis in sprout culture of potato (*Solanum tuberosum* L.). Potato Research doi:https//doi.org./10.1007/s11540-023-09640-w	Print ISSN 0014-3065	8.90
54	Yadav, R. K., Tripathi, M. K., Tiwari, S., Tripathi, N., Asati, R., Chauhan, S., Tiwari, P. N. and Payasi, D. K. (2023).Genome editing and improvement of abiotic stress tolerance in crop plants. Life 13, 1456. https://doi.org/10.3390/ life13071456	ISSN: 2075-1729	9.20
55	Shrivastava, A., Tripathi, M.K., Tiwari, S., Tripathi, N., Tiwari, P. N., Singh, P., Parihar, P., Yadav, R., Chauhan, S. and Singh, J. (2023).Selection of powdery mildew resistant brassica genotypes based on disease indexing and microsatellite markers. Current Journal of Applied Science and Technology, 42(16):54-66	ISSN: 2457-1024. H-Index: 9	
56	Mihoariya, M., Tiwari, S., Yadav, R. K., Asati, R., Solanki, R. S., Tiwari, P. N., Chauhan, S., Tripathi, N. and Tripathi,M.K. (2023).Genetic variability and diversity analysis for yield and its associated traits in chickpea (*Cicer arietinum* L.). Current Journal of Applied Science and Technology, 42(16):17-33.	ISSN: 2457-1024. H-Index: 9	
57	Yadav, S., Tiwari, S., Tripathi, M.K. , Gupta, N., Singh S. and Tripathi, N. (2023).Phenotypic and molecular evaluation of *Arachis hypogaea* L. against foliar fungal diseases. Crop Design DOI: 10.1016/j.cropd.2023.100036	ISSN: 2772-8994	
58	Tiwari, P.N., Tiwari, S., Sapre, S., Babbar, A., Tripathi, N., Tiwari, S. and Tripathi, M.K. (2023).Screening and selection of drought-tolerant high-yielding chickpea genotypes based on physio-biochemical selection indices and yield trials. Life 13:1405, DOI: 10.3390/life13061405	ISSN: 2075-1729	9.20
59	Shrivastava, A. Tripathi, M.K., Tiwari, S. Tripathi, N., Tiwari, P.N., Bimal, S.S., Rajpoot P. and Chauhan S. (2023).Evaluation of genetic diversity in Indian mustard (*Brassica juncea* var. rugosa) employing SSR molecular markers. Plant Cell Biotechnology and Molecular Biology 24 (3-4) :10-21	ISSN: 0972-2025	5.20 H Index : 12
60	Rajput S., Jain S., Tiwari S., Barela, A., Chauhan, S., Tiwari, P.N., Gupta, N., Sikarwar R. S., Tripathi N., and Tripathi, M. K. (2023).Biochemical characterization of chickpea (*Cicer arietinum* L.) genotypes. Plant Cell Biotechnology and Molecular Biology, 24 (3-4) :1-9	ISSN: 0972-2025	5.20 H Index : 12
61	Shrivastava, A. Tripathi, M.K., Tiwari, S. Singh, P., Tripathi, N., Tiwari, P.N., Parihar, P., Singh, J. and Chauhan, S. (2023).Screening of Indian mustard genotypes against white rust disease based on disease indexing. Biological Forum – An International Journal, 15(4): 268-272	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239	4.96
62	Sharma, S., Tripathi, M.K., Tiwari, S., Solanki, R.S. Chauhan, S., Tripathi, N. Dwivedi, N. and Tiwari P.N. (2023).Discriminant function analysis for yield improvement in bread wheat (*Triticum aestivum* L.). The Pharma Innovation Journal 12(5): 224-232	ISSN (E): 2277-7695ISSN (P): 2349-8242	
63	Sharma S., Tripathi M. K., Tiwari S., Solanki R. S., Chauhan S., Tripathi N., Dwivedi N. and Kandalkar, V. S. (2023).The exploitation of genetic variability and trait association analysis for diverse quantitative traits in bread wheat (*Triticum aestivum* L.). Current Journal of Applied Science and Technology 42(8):19-33	ISSN: 2457-1024. H-Index: 9	
64	Shrivastava A., Tripathi, M.K, Singh, P., Tiwari S., Tripathi N., Tiwari, P.N. Parihar, P. Singh, J. and Chauhan, S. (2023).Disease indexing of Indian mustard genotypes against Alternaria blight disease. The Pharma Innovation Journal 12(4): 08-13	ISSN (E): 2277-7695ISSN (P): 2349-8242	
65	Tare S., Tiwari S., Rathore, M.S., Yasin, M., Tripathi N., Tiwari, P.N. and Tripathi M. K. (2023).An overview of allele mining for crop improvement: TILLING and Eco-TILLING. Plant Cell Biotechnology and Molecular Biology, 24 (1-2): 91-103	ISSN: 0972-2025	5.20 H Index : 12
66	Yadav, R.K., Tripathi, M.K., Tiwari, S., Tripathi, N., Asati, R., Patel, V., Sikarwar, R.S. and Payasi, D.K. (2023).Breeding and genomic approaches towards development of Fusarium wilt resistance in chickpea. Life. 13(4):988. https://doi.org/10.3390/life13040988	ISSN: 2075-1729	9.20
67	Rajpoot P., Tripathi, M.K. Solanki, R.S., Tiwari S., Tripathi N., Chauhan S., Pandya, R.K. and Khandelwal V. (2023).Genetic variability and multivariate analysis in pearl millet (*Pennisetum glaucum* (L.) R. Br.). The Pharma Innovation Journal 12(4): 216-226	ISSN (E): 2277-7695ISSN (P): 2349-8242	
68	Shrivastava A., Tripathi, M. K., Solanki R. S., Tiwari S., Tripathi N., Singh, J. and Yadav, R. (2023).Genetic correlation and path coefficient analysis of yield attributing parameters in Indian mustard. Current Journal of Applied Science and Technology, 42(7) :42-58,	ISSN: 2457-1024. H-Index: 9	

69	Ningwal, R., Tripathi, M. K., Tiwari, S., Yadav, R. K., Tripathi N., Solanki, R.S., Asati R. and Yasin, M. (2023).Assessment of genetic variability, correlation and path coefficient analysis for yield and its attributing traits in chickpea (*Cicer arietinum* L.). The Pharma Innovation Journal; 12(3): 4851-4859	ISSN (E): 2277-7695ISSN (P): 2349-8242	
70	Ningwal R., Tripathi M. K., Tiwari S., Asati, R., Yadav, R. K., Tripathi N. and Yasin M. (2023).Identification of polymorphic SSR markers and diversity analysis in a set of desi chickpea genotypes. Biological Forum – An International Journal, 15(3): 45-51	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239	4.96
71	Rajput S., Jain S., Tiwari S., Sikarwar, R.S., Tripathi, N., Barela, A. and Tripathi, M. K. (2023).Evaluation of gene-based markers against Fusarium wilt disease in chickpea (*Cicer arietinum* L.). Current Journal of Applied Science and Technology, 42(6): 26-32	ISSN: 2457-1024. H-Index: 9	
72	Rajpoot P, Tripathi M.K., Tiwari S., Bimal S. S., Tripathi N., Parihar P., Pandya R. K. and C. Tara Satyavathi(2023). Characterization of pearl millet [*Pennisetum glaucum* (l.) R br.] genotypes against blast disease employing disease scoring and gene specific SSR markers. Scientist, 3(3) 2023;16-30	QZ CNR 2022273--0890-3670	7.80
73	Makwana K., Tiwari S., Tripathi M.K. and Patel, V. (2023).Morphological diversity analysis of Foxtail Millet (*Sateria Italica*(L.) Beauv.) usingQualitative and Quantitative traits. Scientist, 2(2);2023; 319-326	QZ CNR 2022273--0890-3670	7.80
74	Patel V., Tripathi M.K., Shrivastava R.K., Tiwari S., Chauhan S., Pandya R.K., Makwana K., Tripathi N. and Satyavathi C.T. (2023).Genetic analysis for fertility restoration for the A_1 and A_4 cytoplasmic genetic male sterility system in pearl millet *Pennisetum glaucum* L.). Scientist, 2(2): 95-105. DOI: 10.5281/zenodo.7639493	QZ CNR 2022273--0890-3670	7.80
75	Sharma N., Tiwari S.., Tripathi M. K., Gupta N., Singh, S. and Sikarwar, R.S. (2023).Selection of groundnut germplasm lines based on yield, nutritional, antinutritional and antioxidant parameters. Scientist, 2(1): 96-105 DOI: 10.5281/zenodo.7536324	QZ CNR 2022273--0890-3670	7.80
76	Yadav, S., Tiwari, S., Tripathi, M. K., Tripathi, N., Gupta, N. and Tiwari, S. (2023).Evaluation of high oleic acid content in a set of 96 genotypes of *Arachis hypogaea* L. Scientist, 2(1): 132-143. DOI: https://doi.org/10.5281/zenodo.7536392	QZ CNR 2022273--0890-3670	7.80
77	Makwana K, Tiwari S, Tripathi M.K. and Patel V. (2023).Selection of blast resistant lines from diverse germplasm set of foxtail millet. Biological Forum – An International Journal, 15(1):01-06	ISSN No. (Print): 0975-1130	4.96
78	Sharma A, Mishra N, Tripathi N, Nehra1 S., Singh J. Tiwari S., and Tripathi M K. (2023).Qualitative trait based variability among soybean genotypes. Acta Scientific Agriculture 7.1 02-13	ISSN:2581-365X Impact factor:1.014	
79	Bunkar N, Nema RK and Awasthi MK (2022) Contribution of Spatial Maps in Groundwater Potential Zones using Remote Sensing and Geographic Information System. International Journal of Environment and Climate Change 12(10): 763-774.	I239	5.16
80	Bunkar N and Nema RK (2022) A Review on Groundwater Potential Zones. International Journal, ThePharma Innovation 11(6): 156-159	T050	5.23
81	Anil Kumar Sharma, Rajni Singh Sasode, Pramod Kumar Fatehpuria and RK Pandya (2023). Real-time surveillance decrypts prevalence of Alternaria leaf spot of brinjal in northern region of Madhya Pradesh. The Pharma Innovation Journal 2023; SP-12(8): 2039-2043	2277-7695	5.23
82	Rajni Singh Sasode, Pramod Kumar Fatehpuria, Ajay Singh Kaurav, Hemant Kumar Trivedi (2023). Management of Alternaria Leaf Blight (Alternariacucumerinavar.cyamopsidis) in Cluster Bean Through Fungicide Application. Legume Research	L015	6.80
83	PreranaParihar, R. K. Pandya, Purnima Singh, Sushma Tiwari , M. K. Tripathi, NirajTripathi and C Tara Satyavathi (2023). Elucidation of molecular variability among isolates Pyriculariagrisea causing blast disease in forage pearl millet. Range Management and Agroforestry 44 (2) : 278- , 2023	R006	6.80
84	Vijay Kumar Kashyap, R.K. Pandya, Rajni Singh Sasode and Sonu Sharma (2023). Evaluation of pearl millet hybrids and varieties against smut under artificial inoculation. The Pharma Innovation Journal 2023; 12(9): 2739-2741	2277-7695	5.23
85	Vijay Kumar Kashyap, RK Pandya, PreranaParihar and Sonu Sharma (2024). Screening of Pearl millet lines against smut under artificial inoculation. International Journal of Statistics and Applied Mathematics 2024; SP-9(2): 108-111	2456-1452	4.49

86	Verma, A. P., Meena, H. R., Lal, S. P., Kumar, V., Gupta, B. K., Mishra, D., ... & Mishra, B. P. (2023). Perception and Analysis of Existing Practices Associated with Risk of Brucellosis among Dairy Farmers. Indian Journal of Extension Education, 59(4), 62-66.	I063	4.48
87	SiddharthNamdeo, Dr. ShobhanaGupta , Anjali Tomar, and Hans Raj (2023). Constraints encountered by Farmer in Adapting Climate resilient Practices in Madhya Pradesh. *International Jornal for Multidisciplinary Research (IJFMR).* 5(4): 1-10.	2582-2160	-
88	SiddharthNamdeo, Dr. ShobhanaGupta , Anjali Tomar, and Hans Raj Jatav. (2023). Communication and Psychlogical determinants of Risk perception of Farmers towards Climate Change in Madhya Pradesh. *Journal of Community Mobilization and Community Development.*19(spl) : 329-335.	2230-9047	5.02
89	AjaliTomar, Dr. Shobhana Gupta, DrShrishtiBilaiya, SiddharthNamdeo, and Hans Raj Jatav(2023) constraints faced during the innovation development process by farmer innovators of Madhya Pradesh.	2277-7695	-

Abstracts/Extended Abstract/Summary-

S.No	Author (s)	Title	Conference Proceedings	Page No.	Year	National / International
	Department of Agricultural Extension Education					
1	Neeraj Hada, Deependra Singh Sarangdevot, R. C. Aswani, L. S. Gurjar, Amit Kumar and S. S. Bhadauria	Maize hybrids: A Mean for Achieving Food Security	International Conference on " One health- one world to be organised at RVSKVV Gwalior from Dec. 28-29, 2023.		2023	International
2	Gupta Varsha, Sasode Deep Singh, Joshi Ekta and Singh Y.K.	Non-chemical approaches to control the weed flora in sweetcorn in Gird zone of Madhya Pradesh	National Conference on Natural & Organic Farming for Ecological, Economical & Nutritional Security held at CSKHPKV, Palampur on 7-9 June, 2023		2023	National
3	Yadav RK, Asati R, Tripathi MK and Tiwari S	Genetic and genomic resources, and breeding for crop improvement in finger millet: Recent status and future interventions	National Conference on Production, Processing and Marketing of millets: Issues and Solutions Held at Jawaharlal Nehru Agricultural University, Jabalpur, M.P., during 1-2, March 2023		2023	National
4	Asati R, Tripathi MK Tiwari S and Yadav RK,	Genetic and genomic resources for crop improvement in small millet	National Conference on Production, Processing and Marketing of millets: Issues and Solutions Held at Jawaharlal Nehru Agricultural University, Jabalpur, M.P., during 1-2, March 2023		2023	National
5	**Neelam Bunkar**, R. K. Nema and Aribam Priya Mahanta Sharma	Mapping of Groundwater Potential Zones Using Geospatial Technique in Tons Basin, Madhya Pradesh	Souvenir and conference book- 35th National Convention of Agricultural Engineers & National Seminar on Emerging Technologies for Advances in Agriculture & Horticulture, The Institution of Engineers (India), Jabalpur Local Centre	198-199	2023	National
6	Aribam Priya Mahanta Sharma, **Neelam Bunkar,**	Decadal land use change detection of satna, Madhya	Souvenir and conference book- 35th National	172	2023	National

	Harshit Gautam, Aditya Dwivedi, Prashun Tripathi & Ranjit Verma	Pradesh	Convention of Agricultural Engineers & National Seminar on Emerging Technologies for Advances in Agriculture & Horticulture, The Institution of Engineers (India), Jabalpur Local Centre			
7	Pankaj Thakur, **Neelam Bunkar** and Kanika Dogra	New Age Agriculture	Just Agriculture	297-300	2023	National

Text/Reference Books-

S.No.	Author(s)	Book Name	Year	ISBN No. (Publisher)
1	Singh Nisha, Sharma Janmejay, Singh Ajay, Abhishek	Fundamentals of Agronomy	2023	Vital Biotech Publication, Kota Rajashthan ISBN No. 978-93-92953-90-3.
2	Sharma Amita, Sharma Janmejay, Shrivastav S.C. and Mohaniya Lakhan Singh	Introduction of Agro-forestry.	2023	Kalyani Publication ISBN No. 978-93-5540-998-0.
3	Singh Shailendra, Singh Ajay, Sharma Janmejay and Chicham Sudarshan	New horizon in climate smart agriculture.	2023	Vital Biotech Publication, Kota Rajashthan ISBN No. 978-93-92953-99-6. (Under publication)
4	Mohaniya Lakhan Singh, Sharma Janmejay, Sharma Amita, Sasode Rajni Singh and Bagri Uma Shankar	Fundamental of Agronomy (In Hindi)	2023	S.R. Scientific Publicaiton, Agra ISBN No. 978-93-95182-10-2
5	Tiwari P. N., Thakur S. and Tripathi M.K.	Agricultural Biotechnology: A Competitive Notes.	2024	AkiNik Publications. ISBN: 978-93-6135-380-2, Pp 536, DOI: https://doi.org/10.22271/ed.book.2603
6	Kaur Harshdeep, Sharma Ankur, Kumar Vikash	Abstract Book of International Conference on Recent Advances in Agricuture for Atmnirbhar Bharat	2024	978-93-5889-423-0

Book Chapters-

S. No	Author (s)	Title	Book Name	Page No.	Year	ISBN No.
1	Mohaniya Lakhan Singh, Sharma Janmejay and Sharma Amita	Weed Science and Weed Management System.	Advanced Research and Review in Agronomy. Bright Sky Publication, New Delhi Vol - 4	65-89	2023	9789392804700
2	Mohaniya Lakhan Singh, Sharma Amita and Sharma Janmejay	Farming and cropping system	Advanced Research and Review in Agronomy. Bright Sky Publication, New Delhi Vol - 4	91-109	2023	9789392804700
3	Mohaniya Lakhan Singh, Sharma Janmejay and Sharma Amita	Water Management / irrigation in agronomy.	Advances in Agronomy. Akinik Publi-cation, New Delhi Vol - 26	23-43	2023	9789355708168
4	Mohaniya Lakhan Singh, Sharma Amita and Sharma Janmejay	Organic Farming : A suitable approch for sustainable agriculutre.	Akinik Publi-cation, New Delhi Vol - 26	45-67	2023	9789355708168.
5	Balkrishan Nisha Singh Singh Janmejay Sharma; Ajay Bhadauria Jaideep Bhadauria and Sudhir Bhadauria	Advance innovation in sustainable agriculture : Constraints and Prospect in Rainfed	Vital Biotech Publication	2023	229-238	ISBN: 978-93-92953-23-1

		Region.				
6	Balkrishan Singh, Nisha Singh,Ritu Sharma and Shweta Sharma	Emerging trend in agriculture sciences : Production technology of cabbage(Brassica oleraceae var. capitata)	Vital Biotech Publication	2023	177-184	ISBN: 978-93-92953-74-3
7	Tripathi MK, Tiwari S., Tripathi N., Malviya R. K., Bhatt D., Tiwari P. N. and Tiwari S.	*In vitro* morphogenesis in gladiolus (*Gladiolus hybridus* Hort.) from corm slice.	Advances in Agricultural Biotechnology AkiNik Publication	(8): 73-103.	2023	ISBN: 978-93-5570-882-3
8	Yadav R. K., Asati, R., Soni, A., Yadav. P. K., Tripathi, N., Tiwari, S. and Tripathi, M.K.	Breeding for abiotic stress resistance.	Elements of Plant Breeding. Selfypage Developers Pvt. Ltd., Karnatak,	143-158	2023	ISBN:978-93-5747-935-6
9	Adlak T., Tiwari S., Rathore M. S., Tripathi N., Tiwari P.N. and Tripathi M. K.	Biotechnological approaches for genetic improvement of crops	Cutting Edge Research in Biology. Vol. 7: Publisher: B P International. DOI: 10.9734/bpi/cerb/v7/5376C	63-84	2023	Print ISBN: 978-81-19217-40-3,
10	Tripathi MK, Tiwari G, Patidar SL, Tiwari S, Tripathi N and Tiwari S (2023).	Optimization of an effectual and reproducible plantlet regeneration protocol from embryogenic cell suspension culture in *Plumbago zeylanica* Linn.	Advances in Agricultural. Biotechnology (8): AkiNik Publication,	105-135.	2023	ISBN:978-93-5570-882-3
11	Tripathi M.K., Tripathi N, Tiwari S, Payasi D K., Bhatt D, Tomar Y S and Tiwari S.	Effect of plant growth regulators on *in vitro* morphogenesis and regeneration of *Amaryllis belladonna* L.	Recent Advances in Molecular Biology Plant Physiology. Volume 4, Edition: First, Chapter: 5, Publisher: AkiNik Publication DOI: 10.22271/ed.book.2230	99-138.	2023	ISBN: 978-93-5570-680-5.
12	Tripathi MK, Tripathi N, Tiwari S, Malviya RK, Tiwari PN and Tiwari S	Plant regeneration from cultured cormel explants in gladiolus (*Gladiolus hybridus* Hort.)	Recent Advances in Molecular Biology Plant Physiology, Edition: First, Chapter: 6, Publisher: AkiNik Publications DOI: 10.22271/ed.book.2230	139-167.	2023	ISBN: 978-93-5570-680-5
13	Tripathi M.K., Tiwari G., Tiwari S., Tripathi N., Sharma M., Mishra N. and Tiwari S.	Effect of diverse plant growth regulator concentrations and amalgamations in plantlet regeneration in *Rauvolfia serpentina* (L.) Benth from cell suspension culture	Research Trends in Multidisciplinary Research. Edition First, Chapter: 8, Publisher: AkiNik Publications DOI: 10.22271/ed.book.2087		2023	ISBN: 978-93-5570-680-5
14	Rajut B. K., Kirar N.S, Yadav R. and **Bunkar N.**	Status of DTPA-Extractable Micronutrient Cations in Major Rapeseed-Mustard Growing Area of Madhya Pradesh.	Futuristic Trends in Agriculture and Allied Sciences	156-163	2023	978- 93-100- 0218-8

15	PreranaParihar , R. K. Pandya ,Purnima Singh , SushmaTiwari, M. K. Tripathi , NirajTripathi and C Tara Satyavathi	Elucidation of molecular variability among Pyriculariagrises isolates causing blast disease in perl millet	Range management and agroforestry	278-287	2023	22495231
16	Jadon Ranjan, Kumar Vikash and Singh Jyoti.	Antibiotic Conservation in Dairy Farming: Startegies, Challeneges, and Future Perspectives	International Conference on Modern Engineering, Science and Management.	1035-1039	2023	ISBN- 978-93-91535-51-3
17	Jadon Ranjan, Kumar Vikash and Jyoti Singh	Use of Convenience Sampling to Assess Ground Level Reality Para-Veterinary Situations in Different States of India for Policy Formulation: Exploratory Study Using Key Informants Survey	International Conference on Rights and Duties	665-668	2023	ISBN- 978-93-91535-46-9

(2) College of Agriculture

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
1.	AnandHarshana and DebjaniDey	New Distributional Records of Ants of Genus *Crematogaster* Lund (Hymenoptera: Formicidae) from India	Indian Journal of Entomology			2024		0367-8288		
2.	ML Jadav, KS Bhargav, DV Bhagat, Bharat Singh, J Himanshu Rao and DeepaMalviya	Energy and monetary analysis of soybean cultivation under climate smart sowing techniques in Malwa region of Madhya Pradesh, India	International Journal of Advanced Biochemistry Research			2024		2617-4693		
3.	D. V. Bhagat, M. L. Jadav, Bharat Singh, J Himanshu Rao and DeepaMalviya	Effect of Land Configuration on Different Crop Based Chickpea Sequences in Dryland Area of Central India	International Journal of Environment and Climate Change			2024		2581-8627		
4.	Jayesh Pathak, Sneha Biswas and J Himanshu Rao	Effect of Phosphorus Levels on Early Seedlings of Rice (Oryza sativa) under Varying Moisture Stress Conditions	International Journal of Plant & Soil Science			2024		2320-7035		
5.	Kavita Solanki, S.K. Choudhary, aakash, Veer Singh, Ankit Singh and Devilal Birla	Response of *Bascillusmegaterium* and *Bacillus mucilaginosus* Strains on Yield and ulity of Soyabean	International Journal of Environment and Climate Change			2023		2581-8627		

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
6.	Kavita Solanki, S.K. Choudhary, aakash, Veer Singh, HrishikeshNath and Kumar anshuman	Response of *Bascillusmegateriuma*nd *Bacillus mucilaginosus* Strains on Growth and Nutrient Uptake of Soyabean	International Journal of Plant & Soil Science			2023		2320-7035		
7.	Singh D., Kumawat N. and Singh M.	Enhancement of growth and productivity of cucumber (Cumumissativus L.) through calcium based fertilizers	Journal of KrishiVigyan			2023		2319-6432		
8.	BabitaBaghel, H.K.Balai, P.K. Malviya	Kharif Oilseed Crops Cultivation in Madhya Pradesh (India): Growth and Decomposition Analysis	Economic Affairs			2023		0424-2513		
9.	Shalini Mishra, H.K.Balai, P.K. Malviya	Rabi Pulse Crops Cultivation in Madhya Pradesh (India): Growth and Decomposition Analysis	Economic Affairs			2023		0424-2513		
10.	Asawari Joshi, H.K.Balai, P.K. Malviya	Growth and variability in selected cereal crops in Madhya Pradesh	International Journal of Social Sciences			2023		2249-6637		
11.	Asawari Joshi, H.K.Balai, P.K. Malviya	Growth and Decomposition Analysis: Major Cereal Crops in Uttar Pradesh	Economic Affairs			2023		0424-2513		

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
12.	Neha Dwivedi , VeenaRathore, Kiran Sharma	A review of millet crops for agriculture sustaunability in india	Asian Journal of Agriculture Extension Economics and Sociology			2023		2320-7027		
13.	ShikhaAarya, Anvita Sharma, Swati Barche, PragyaUikey and Vindesh Arya	Effect of biodynamic package with biofertilizer and vermicompost on the growth parameters of Radish (*Raphanussativus*) under Malwa region of Madhya Pradesh	The Pharma Innovation Journal			2023		2349-8242		
14.	Ranjeet, S.K. Sharma, Sushma Jain and H.L. Khapediya	Statistical Model for annual Trends and Magnitude of Climatic Variability across Locations from the Vindhya Plateau agroclimatic one of Madhya Pradesh	Biological Forum - an International Journal			2023		0975-1130		
15.	Ranjeet, S.K. Sharma, Sushma Jain and H.L. Khapediya	Statistical Model for annual Trends and Magnitude of Climatic Variability across Locations from the Malva Plateau agroclimatic one of Madhya Pradesh	International Journal of Environment and Climate Change			2023		2581-8627		
16.	LalitaNargawe, Yagya Dev Mishra, Shobhana Gupta and Intjar Singh Dawar	Constraints, Suggestions and Feedback Behaviour of the Farmers in using different Mass Media in Nimar Agro Climatic Region of Madhya Pradesh	Journal of Community Mobilization and Sustainable Development			2023		2230-9047		

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
17.	LalitaNargawe, Yagya Dev Mishra and Intjar Singh Dawar	Viewing Behaviour of the Farmers in Nimar Agro Climatic Region of Madhya Pradesh towards Mass Media of Television	Journal of Community Mobilization and Sustainable Development			2023		2230-9047		
18.	LalitaNargawe, Yagya Dev Mishra and Intjar Singh Dawar	Reading Behaviour of the Farmers in Nimar Agro Climatic Region of Madhya Pradesh Towards Mass Media of Newspapers	Journal of Community Mobilization and Sustainable Development			2023		2230-9047		
19.	Patidar R., Chundawat G.S., Singh S., Kurmi S. and Raipuriya N.	Bioefficacy of Newer Acaricides and Botanical against Red Spider Mite, *Tetranychusurticae*Koch	Biological Forum – An International Journal			2023		0975-1130		
20.	Patidar R., Raipuriya N., Singh S. and Kakade S.	Efficacy of insecticides against fruit borer, Helicoverpaarmigera on *Lycopersiconesculentum* Mill.	The Pharma Innovation Journal			2023		2349-8242		
21.	Patidar R., Chundawat G.S., Pippal S.S. and Tomar S.P.S.	Effect of Abiotic Factors on the Population Dynamics of Red Spider Mite, Tetranychusurticae Koch. of Brinjal in Malwa Region, Madhya Pradesh, India	International Journal of Environment and Climate Change			2023		2581-8627		

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
22.	Avinash Sharma, P. K. Gupta, PalakDongre, Aakash, Nikhil Parihar, JagatPratap Singh Dangi and DivyaBhayal	Influence of Pseudomonas and Biofertisol as Foliar Spray on Nodulation Attributes and Yield of Vegetable Pea under STCR Approach	International Journal of Environment and Climate Change			2023		2581-8627		
23.	Avinash Sharma, Aakash, Dheerendra Singh, Veer Singh, DivyaBhayal and Bharti Rajput	Effect of Foliar Application of Boron, Zinc and Manganese on Dry Matter Accumulation, Total Tuber Yield and Economic Feasibility of Potato (*Solanumtuberosum*) cv. KufriChipsona –1 under Gwalior Climatic	Journal of Experimental Agriculture International			2023		2457-0591		
24.	Avinash Sharma, P. K. Gupta, PalakDongre, Aakash, Nikhil Parihar, JagatPratap Singh Dangi and DivyaBhayal	Effect of Micronutrients and Biofertilizer Treatments on Yield and it`s Attributes of Coriander (*Coriandrumsativum*L.) cv. RCR-41.	International Journal of Environment and Climate Change			2023		2581-8627		

Text/Reference Books

S. No	Author (s)	Title	Book Name	Year	ISBN No
1.	GovindaBihare, Ankit Malviya, AnushkaKhare and **LalitaNargawe**	A Text Book of E-Extension	A Text Book of E-Extension	2023	978-81-19778-27-0
2.	**LalitaNargawe,**Akanksha Sharma, Ramesh Chand Bunkar, Ms. Laksheeta Chauhan and KabitaMondal	Fundamtntal of Extension Education	Fundamtntal of Extension Education	2023	978-81-19906-63-5

Book Chapters

S. No.	Author (s)	Title	Book name	Year	ISBN No.
1.	**LalitaNargawe** and Intjar Singh Dawar	Olericulture in Modern Era,	Basics of Learning and Teaching	2023	978-81-7622-532-8
2.	Intjar Singh Dawar, **LalitaNargawe**, Nilesh Sharma and DamodarJatav	Smart Horticultural Technologies,	Layering in fruit crops	2023	978-81-7622-533-5

(3) College of Horticulture, Mandsaur-

Research Papers published in referred journals: 57

1. Anil Jarman, Anuj Kumar, Om Singh, Jyoti Kanwar and Praddyum (2023). Effect of planting time on flowering of gladiolus (*Gladiolus grandiflorous* L.) cv. Punjab Dawn under Malwa Plateu conditions of Madhya Pradesh. Journal of Ornamental Horticulture, 26(1&2): 59-62.
2. Ausari, Praveen Kumar, Soni, Nitin, Kanpure, R. N. Ninama, Nilesh and Bhandari, Jitendra (2023). Effect of Different Growing Media on Hardwood Cutting of Grapes (*Vitis vinifera* L.) cv. Pusa Navrang. International Journal of Plant & Soil Science 35 (22) : 978-988, 2023; Article no.IJPSS.107702
3. Ausari, Praveen Kumar, Soni, Nitin, Kanpure, R.N.; Meena, K.C. and Haldar, Ajay (2023). Effect of Indole-3-Butyric Acid (IBA) and Different Growing Media on Hardwood Cutting of Grapes (*Vitis vinifera* L.) cv. Pusa Navrang. Biological Forum – An International Journal 15(9): 168-175(2023) ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239
4. Bharvey, H.C. and Sharma, R.N. (2023). Modern Library and QR Code. Granthalaya Vigyan Vol.54(1): 91-97.
5. Bharvey, H.C. and Sharma, R.N. (2023). Use of Google Products in Library Management. Granthalaya Vigyan Vol.54(2): 5-14.
6. Bharvey, H.C., Sharma, R.N.and Dixit, P.K. (2023). Online Reading Habit Among Research Scholars of KNK College of Horticulture Mandsaur (MP): A Case Study. Progressive Research: An International Journal. Vol.18(2).136-138.
7. Bharvey, H.C., Sharma, R.N.and Dixit,P.K.(2023). Information Management in Academic Libraries in the Information Age. Progressive Research: An International Journal. Vol.18(2).157-158
8. D Deora, K. C. Meena, A. Deora and A.S. Shekhawat (2023). Optimization of Sowing Date and Crop Geometry Management for Herbage Production of Fenugreek cv Kasuri (*Trigonella corniculata*) in a Subtropical Region. Environment and Ecology, 41(2B): 1182-1190.

9. Damini Visen, Anuj Kumar, Priyamvada Sonkar, and Roshan Gallani (2023). Performance of standard chrysanthemum cultivars (*Dendranthema grandiflora* Tzvelve.) for flowering parameters under Malwa region of Madhya Pradesh. Journal of Ornamental Horticulture 26(1&2): 55-58.
10. G.S. Mewada, K.C. Meena, I.S. Naruka, M.K. Tripathi, B.K. Kachouli, Nitin Soni, B.K. Patidar and S.K. Dwivedi (2023). Effect of Major Fertilizers and Organic Manure Levels on Growth, Yield and Economic of Nigella (*Nigella sativa* L.) International Journal of Agriculture, Environment and Biotechnology, 16(03): 159-165.
11. I. Verma, K.C. Meena, Om Singh, R. Dubey, I.S. Naruka, N. Soni, M.K. Tripathi and B.K. Kachouli (2024) Effect of NPK on qualitative traits of Kalaunji. International Journal of Research in Agronomy. Vol-7(1)pp 283-285
12. Ilal Khedkar, Sharma, R.K.; Kushwah, S.S.; Gallani, R. (2023). Influence of varieties and nutrient levels on growth, yield and profitability of palak (*Beta vulgaris* var. Bengalensis). International Journal of Environment and Climate Change 13(11): 1409-1417.
13. Ilal Khedkar, Sharma, R.K.; Kushwah, S.S.; Gallani, R. (2023). Effect of varieties and nutrient levels on growth, quality and nutrient uptake of palak (*Beta vulgaris* var. Bengalensis). The Pharma Innovation Journal 12(10): 1787-1791.
14. Indrani. Anuj Kumar, Sunil Kumar Gupta, Jyoti Kanwar and Roshan Gallani (2023). Response of bio fertilizers on growth and corm production of gladiolus (*Gladiolus grandiflorus* L.) cv. Punjab Dawn, The Pharma Innovation Journal, 12(9): 1545-1548.
15. Joshi, S., Meena, K.C., Singh Om*,Patidar, D. K., Soni, Nitin, Kachouli, B. K. (2024). Responses of INM on growth and yield of Kalmegh. Medicinal Plants,16 (1): 86-91.
16. K.C. Meena, S.K. Shakywar, Om Singh, Nitin Soni, M.K. Tripathi, Priyamvada Sonkar and B.K. Patidar (2024). Impact of different organic manures and plant geometry on growth and yield of Kalmegh. Eco.Env. & Cons. 30(1):32-38
17. Kantwa, R. C., Sonkar, Priyamvada, Gujar, P. K. S., Bhandari, J. and Choudhary, R. N. (2022). Effect of rooting media, IBA and Trichoderma on growth and success of stem cuttings of pomegranate (*Punica granatum* L.). Frontiers in Crop Improvement. 10(Special issue III): 1556-60.
18. M. Thomas, N. Tripathi, S.M. Eappen, K.C. Meena, A. Shrivastava and N. Prasad (2023). 3 Effect of storage age and containers on the physicochemical degradation of guggul oleo-resin. Nature.com/Scientific Reports, 13:12821, *https://doi.org/10.1038/s41598-023-39594-5*
19. Magadum, Basavaraj, Kanpure, R.N.; Singh, O.P.; Kachouli, B.K. and Bhandari, J. (2023). Effects of pruning intensity and plant growth regulators on growth, yield and quality of guava (*Psidium guajava* L.) cv. Sardar. Bangladesh J. Bot. 52 (3): 813-820, 2023 (September)
20. Manish Kumar, K. C. Meena, D. K. Patidar, Nitin Soni, B. K. Patidar and Ajay Kumawat (2023) Response of Varieties and Role of Bio-fertilizer on Morphology and Growth of Isabgol (*Plantago ovate* Forsk.)Journal of Agriculture Research and Technology.Journal of Agriculture Research and Technology, Vol 1-Special Issue pp98-102
21. Meena K.C., Shakywar S. K., Singh Om*,Soni N., Tripathi M.K., Sonkar P., and Patidar, B.K. (2024). Impact of different organic manures and plant geometry on growth and yield of Kalmegh.Eco. Env. & Cons., 2024; 30(1): 33-39.
22. Menkarani, Anuj Kumar, S.K. Dwivedi, M. K. Tripathi and GPS Rathore (2023). Response of Different Varieties of Gladiolus (*Gladiolus grandiflorus* L.) for Post Harvest Parameters. Progressive Horticulture, 55(1): 69-73.
23. P.N. Kaveri. Anuj Kumar, Priyamvada Sonkar, and Rishika Choudhary (2024). Effect of foliar application of biostimulants on flowering dynamics of gladiolus (*Gladiolus grandiflorus* L.) cv. Punjab Dawn. Ann. Agric. Res. New Series, 45 (1): 97-101.
24. P.S. Garwal, K.C. Meena, Nitin soni, D.K. Patidar, B.K. Kachouli, B.K. Patidar and A. Haldar (2023) Responses of organic manures and bio fertilizers on growth and yield of ashwagandha (*Withaniasomnifera L*. Dunal).Indian Journal of Tropical Biodiversity.Vol-31(1) pp24-30

25. Pardhi, Seema, Sharma, R. K., Kushwah, S. S. and Gallani, Roshan (2023). Performance of cowpea (*Vigna unguiculata* l.) varieties for flowering and seed quality under integrated nutrient management practices. Environment and Ecology 41 (1B): 411- 415.
26. Patel Nidhi, Nitin Soni, Praveen Kumar Ausari, K. C. Meena, B. K. Patidar, Dharmendra Patidar, Ajay Haldar and Riya thakur (2023). Evaluation of different wine varieties of grapes grafted on Dogrodge root stocks. Biological Forum -An International Journal. 15(8a) : 521-525.
27. Patidar, Abhishek, Kanpure, R.N.; Anjanawe, S.R. Sharma, Ashish and Kachouli, B.K. (2024).Effect of foliar application on physical and yield attributes of guava (*Psidium guajava* L.) cv. Chittidar and Allahbad Safeda.International Journal of Tropical Agriculture,42(1):35-41 ISSN0254-8755
28. Pooja Sahu, Anuj Kumar, Rajnish Kumar Sahu, H. Nagendraprasad, Sashi Kiran Minj and Daya Sahankar Painkra (2023). Effect of Different Growing Media on Growth and Flowering of Petunia (*Petunia hybrida* L.). International Journal of Plant and Soil Science, 35(18): 1200-1206.
29. Praveen Kumar, Ausari, Nitin soni, R.N. kanpure, K.C. Meena and Ajay Haldar (2023) Effect of Indole-3Butyric Acid (IBA) on Hardwood cutting of grapes (*Vitis vinifera* L.) cv PusaNavrang.Biological Forum – An International Journal Vol-15(9)pp 168-175.
30. Praveen Kumar, Ausari, Nitin soni, R.N. kanpure, Nilesh Ninama and Jitendra Bhandari (2023) Effect of Indole-3Butyric Acid (IBA) on Hardwood cutting of grapes (*Vitis vinifera* L.) cv PusaNavrang. International Journal of Environment and climate change.Vol-13(12) pp61-69.
31. Praveen Kumar, Ausari, Nitin soni, R.N. kanpure, Nilesh Ninama and Jitendra Bhandari (2023) Effect of growing media on Hardwood cutting of grapes (*Vitis vinifera* L.) cv PusaNavrang. International Journal of Plant and soil science. Vol-35(22)pp978-988
32. Pushpa Choudhary, Sharma, R.K.; Kushwah, S.S.; Gallani, R., Rathore, G. P. S. and Tarak, K.K. (2023). Influence of varieties and fertilizer doses on growth, yield, quality and profitability of carrot (*Daucus carota* L.). The Pharma Innovation Journal 12(8): 248-252.
33. R. Vaishnav, KC Meena, IS Naruka, OP Singh, R Gallani, Ankit Pandey, SK Dviwedi and MK Tripathi (2023). Consequence of organic manure and biofertilizers on growth, yield and economics of dill (*Anethum graveolens* L.). The Pharma Innovation Journal 2023; 12(9): 2723-2726.
34. Rajesh Sethiya, Anuj Kumar, S.K. Dwivedi and M. K. Tripathi (2023). Effect of planting time on performance of Bermuda grass cv. Selection-1 under Malwa Plateu conditions of Madhya Pradesh). Journal of Ornamental Horticulture, 26(1&2): 16-20.
35. Rishika Choudhary, Anuj Kumar, Jyoti Kanwar and B.K. Kachouli (2023). Interactive effect of gamma irradiation and varieties on growth and corm parameters of gladiolus under Malwa region conditions of Madhya Pradesh, India. Ann. Agric. Res. New Series, 44 (4): 510-517.
36. Rishika Choudhary, Anuj Kumar, Jyoti Kanwar, B.K. Kachouli and Bali Ram Yadav (2023). Effect of gamma irradiation on growth and corm yield of gladiolus varieties. Indian Journal of Agricultural Sciences, 93 (11): 126-129.
37. S. Joshi, K.C. Meena, Om Singh, D.K. Patidar, Nitin Soni and B.K. Kachouli (2024). Responses of INM on growth and yield of Kalmegh. Medicinal Plants,16 (1): 86-91.
38. S. Vaktariya, K.C. Meena, R. Gallani, I. S. Naruka, B.K. Patidar and Nitin Soni (2023). Effect of NPK and Bio-fertilizers on Growth and Yield of Chandrasur (*Lapidium sativum* L.). Environment and Ecology, 41(3): 1343-1347.
39. S. Yadav, K.C. Meena, M.K. Tripathi, B.K. Kachouli, B.K. Patidar, N. Soni and D.K. Patidar (2023). Response of major nutrients and organic manure on growth, yield and economics of ajwain (*Trachyspermum ammi* L.). The Pharma Innovation Journal, 12(8): 1198-1202.
40. Sanjay Vaktariya, K.C. Meena, R. Gallani, I.S. Naruka, B. K. Patidar, Nitin Soni (2023). Effect of NPK and Bio-fertilizers on growth and yield of Chandrasur (*Lapidium sativum* L.) 41(3)1343-1347.

41. Saxena, Saransh; Sonkar, Priyamvada, and Rajput, Ekta. (2023). Efficacy of pre-harvest treatments with different bagging techniques for bio-chemical improvement of guava (*Psidium guajava* L.) cv. L-49 fruits. The Pharma Innovation Journal. 10(12): 637-639.
42. Sengar, C. P; Sonkar, Priyamvada; Bhandari, JitenderaandBalbande, Vijyalaxmi.(2023).Effect of rooting subtrates PGR and biofertilizer on root characteristic success and survivability of pomegranate (*Punica granatum* L.).The Pharma Innovation Journal 12(10): 1026-1030.
43. Sharma, R.N. and Bharvey, H.C., (2023).Use of Artificial Intelligence in Education. Granthalaya Vigyan Vol.54(2): 25-35.
44. Shivani Chouhan, KC Meena, Nitin Soni, DK Patidar, BK Kachouli, BK Patidar and Ajay Haldar (2023) Response of recommended dose of fertilizers with organic manures on growth, yield and economics of kalmegh (*Andrographis paniculata* Nees.): A way to reduced use of chemical Fertilizers. The Pharma Innovation Journal.Vol12(3)pp119-124
45. Shubham Yadav, K. V. Meena, M. K. Tripathi, B. K. Kachouli, B. K. Patidar, Nitin Soni and D. K. Patidar (2023). Response of Major Nutrients and organic manure on growth, yield and economics of ajwain (*Trachyspermum ammi* L.) The Pharma Innovation 2023: 12(8) 1198-1202.
46. Somkuwar R. G., Ausari, P. K., Gurjar, P. K. S., Thutte A. S., Nale R. D. and Soni N. (2024) Bunch load management in relation to the trainingsystem in producing quality grapes: A ReviewJournalof Eco-friendly Agriculture. Vol-19(2)
47. Sujoy saha, Roshni samarth, Sharmistha naik,Sandip hingmire, Ratna u. Thosar, Ram reddy, a.Subhhaih, Nitin soni, Raghavendra achari, Siddanna,Thoke, vikas k. Bhalerao, Prakash patil, andSanjay d. Sawant(2023) Novel approach of validation of onlineinteractive weather information-based diseaserisk assessment in grapes in India. J. Mycopathol. Res. Vol-61(4)pp553-560.
48. Verma, Isha, Meena KC, Singh Om, Dubey Rajiv (2024). Naruka IS, Soni Nitin,Tripathi MK and Kachouli BK (2023). Effect of NPK on qualitative traits of Kalaunji. International Journal of Research in Agronomy 7(1): 283-285.
49. VermaIsha, Meena K.C., Singh Om*, Dubey Rajiv, Naruka I. S., SoniNitin, Tripathi M. K. and Kachoul B.K. (2024). Effect of NPK on qualitative traits of Kalaunji. International Journal of Research in Agronomy 2024; 7(1): 283-285.
50. Visen,Damini: Kumar, Anuj; Sonkar, Priyamvada and Gallani, Roshan. (2023).Performance of standard chrysanthemum cultivars (*Dendranthema grandiflora* Tzvelev) for flowering parameters under malwa region of MadhyaPradesh. Journal of Ornamental Horticulture. 26 (1&2): 55-58.
51. Vyas, Dipmala, Sonkar, Priyamvada, Kanpure, R. N. Ausari, Praveen Kumar Ninama, Nilesh and Suresh (2023). Effect of soil propagation media and bio-fertilizers on seedling germination and seedling vigour in aonla (*Emblica officinalis* Gaertn.). International Journal of Environment and Climate Change, 13(10) :3962-3973 ISSN: 2581-8627
52. Y.A.Chaya , K.C. Meena , Nitin Soni , I.S. Naruka* , B.K. Kachouli and O.P. Singh (2022) Studies on genetic variability, heritability and genetic advance in fenugreek (Trigonellafoenum-graecum L.) germplasms grown under the Malwa region of Madhya Pradesh, India Int. J. Seed Spices 12(1), January 2022: 39-47 (Published on 14 February 2024).
53. Yadav Devideen, Singh Deepak, Madhu M, Babu Subhas, Meena Bharat Prakash, Kumavat Anita, Yadav Dinesh Kumar, Kumar Munesh and Dubey Rajiv (2023). Millet cultivation to achieve the UN sustainable development goals. Indian Journal of Fertilisers 19 (10):1006-1014.
54. MK Tripathi (2023). Analysis of extreme weather events at Morena district of Madhya Pradesh. Plant Archives , 23 (2): 120-124
55. MK Tripathi, Hemant Kumar and Pk Tyagi (2023). Climate Change Mitigation Potential of Forestry Sector for Sustainability of Agro-Ecosystem: A Review. Current World Environment, 18(3) : 914-932
56. MK Tripathi, Hemant Kumar and PK Tyagi (2023). Abatement of environmental degradation through agroforestry intervention: A review s. 15(2): 97-105.

57. MK Tripathi (2023). Impact of extreme climatic events on crop production and need for adaptations -A review. Advances in Bioresearch. 14(4):389-400.

Research paper presented in Seminar / Symposia: 03

1. Shubham Khatri, Anuj Kumar and Roshan Gallani, 2024. Evaluation of African marigold (*Tagetes erecta* L.) cultivars for growth and biochemical parameters under malwa plateau conditions of Madhya Pradesh. Abst. 3rd Indian Horticulture Summit-cum-International Conference, 2024, 1-3 February, 2024 Jaipur Rajasthan pp. 38.
2. Saxena, Saransh;Sonkar, Priyamvada; Kanpure, R. N.; Singh, S. B. and Rathore, G. P. S.(2022).Effect of pre harvest treatments along with different bagging techniques to improve the quality of guava (*Psidium guajava* L). National conference on "Enhancing Competitiveness of Horticulture through Technology Innovations" at ICAR-CPCRI, Kasargod from 17-18, Nov., 2022. pp. 69
3. Saxena, Saransh;Sonkar, Priyamvada; Kanpure, R. N.; Singh, S. B. and Rathore, G. P. S. (2023). Effect of pre harvest treatments and bagging in improvement of bio-chemical and organoleptic characteristics of guava (*Psidium guajava* L).Progressive Horticulture Conclave –Transforming horticulture science into technology organized by G. B. Pant University of Agriculture and Technology, PantnagarUttrakhand.pp. 137-138.

Abstract in Seminar / Symposia: 14

1. B.K. Patel, K.C. Meena, N. S. Tomar, D. Patidar, D. Solanki and S. Shukla (2023). Responses Of Organic Manures And Bio-Fertilizers On Growth And Yield Of Ashwagandha (Withania Somnifera L. Dunal) in an International Conference On One Health - One World during 28-29 December 2023 organized by IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.). pp 49
2. B.K. Patel, K.C. Meena, N.S. Tomar, D. Patidar, D. Solanki and S. Shukla (2023). Basil (Ocimum basilicum L.): Growth, Yield, Quality and Economics Influenced with Organic Manures and Bio-fertilizers in an International Conference On One Health - One World during 28-29 December 2023 organized by IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.). pp 111
3. Dubey Rajiv, Tomar I.S., Chundawat R.S and Singh H.P. (2023). Effect of Biovita X Liquid on growth, yield and quality of chilli under Malwa region of Madhya Pradesh. International Conference "One Health- One World" held at RVSKVV, Gwalior 28-29 December, 2023.
4. Jayant Patel, Anuj Kumar, Vidhya Shankar M., Roshan Gallani and Rajesh Sethiya 2024. Response of African marigold (*Tagetes erecta* L.) to spacing and pinching. Abst. 3rd Indian Horticulture Summit-cum-International Conference, 2024, 1-3 February, 2024 Jaipur Rajasthan pp. 130.
5. Jitendra Kumawat, RN Kanpure and S.K. Dwivedi (2024). Studies on preparation of bael (Aegle marmelos L.) powder for storage evaluation. Progressive Horticulture Conclave-2024 organized at NAU, Navsari, Gujrat during 16-18/01/2024.
6. K.C. Meena, Om Singh, D. K. Patidar, NitinSoni and S. K. Dwivedi Responses of INM on Growth and Yield of *Kalmegh* Progressive Horticulture conclave (PHC) 2024: on topic"Horticultural Technologies for Self-Reliant India" 18-20 January 2024Organized by: ASPEE College of Horticulture, Navsari Agricultural University, Navsari, Gujrat, India. Page no. 125
7. N. S. Tomar, K.C. Meena, D. Patidar, B.K. Patel, D. Solanki and S. Shukla (2023). Correlation and Path Coefficient analysis for Phenological and Morphological Components Traits in Indian Chandrasur Germplasms (Lepidium sativum L.) in an International Conference On One Health - One World during 28-29 December 2023 organized by IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.). pp 50.

8. Nilesh Ninama, S.S. Kushwah*, R.K. Sharma and R. Gallani (2023). Availability of nutrients in soil affects quality of cauliflower **(***Brassica oleracea* var. *botrytis* L.). theme-II By flow of nutrients from soil-plant-animal-human system. Souvenir International conference on one health- one world (Linking soil health with plant, animal and human health) organized from28-29Dec. 2023 at RVSKVV Gwalior. Pp56
9. Patidar, K.C. Meena, N.S. Tomar, B.K. Patel, D. Solanki and S. Shukla (2023). Responses of IBA and NAA on shoot and root growth of semi hard wood cuttings of Guggul [Commiphora wightii (Arn.) Bhan.] in an International Conference On One Health - One World during 28-29 December 2023 organized by IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.). pp 156
10. Rishika choudhary, Anuj Kumar, and Pooja Teterwal 2024. *Abst*. Effect of gamma irradiation and varieties on flowering parameters. Abst. 3rd Indian Horticulture Summit-cum-International Conference, 2024, 1-3 February, 2024 Jaipur Rajasthan pp. 78.
11. S Joshi, K.C. Meena, Om Singh, D. K. Patidar, Nitin Soni and S.K. Dwivedi (2024). Responses of INM on Growth and Yield of Kalmegh in the Progressive Horticulture Conclave 2024-Horticultural Technologies for Self-Reliant India during 18-20 January, 2024 Organized by ASPEE College of Horticulture, Navsari Agricultural University with Indian Society for Horticultural Research & Development, Uttarakhand. Pp 103, ISBN No.978-93-5899-601-2.
12. S. Shukla, K.C. Meena, D. Patidar, B. K. Patel, D. Solanki and N. S. Tomar (2023). Responses of Integrated Nutrients Management on Growth and Yield of Kalmegh (*Andrographis paniculata* Nees.) in an International Conference On One Health - One World during 28-29 December 2023 organized by IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project IDP-National Agricultural Higher Education Project Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.). pp 20
13. Saxena, Saransh; Sonkar, Priyamvada; Kanpure, R. N.; Singh, S. B. and Rathore, G. P. S. (2022). Effect of pre harvest treatments along with different bagging techniques to improve the quality of guava (Psidium guajava L). National conference on "Enhancing Competitiveness of Horticulture through Technology Innovations" at ICAR-CPCRI, Kasargod from 17-18, Nov., 2022. pp. 69
14. Saxena, Saransh; Sonkar, Priyamvada; Kanpure, R. N.; Singh, S. B. and Rathore, G. P. S. (2023). Effect of pre harvest treatments and bagging in improvement of bio-chemical and organoleptic characteristics of guava (Psidium guajava L). Progressive Horticulture Conclave –Transforming horticulture science into technology organized by G. B. Pant University of Agriculture and Technology, PantnagarUttrakhand. pp. 137-138.

Reference Books: 02

1. Praveen Kumar Ausari, Nitin soni, Nilesh Ninama, Hemant Kumar Meena(2023) Physiological Disorders of Commercial fruit crops . Elite publishing house, New Delhi pp1-229 ISBN 978-93-58991-60-4
2. Shweta Mishra, Bharti Sharma, Manoj Kumar Vats, Shailendra Kumar Dwivedi and Ritu Sharma. 2024. National Education Policy-2020 for Incredible India. Genic Books Publishers Pvt. Ltd. AGRA.

Book Chapters: 04

1. Bindesh Arya, K.C. Meena, D.K. Patidar, Nitin Soni and B.K. Patidar (2023). Nutrient Management in Organic Cultivation of Coriander (*Coriandrum sativum* L.). Possibilities of Organic Farming in India. Daya Publishing House® A Division of Astral International Pvt. Ltd. New Delhi-110 002. ISBN 978-93-5461-678-5 (HB), pp 51-61.
2. Neeru Dubey, S Chitranshi, SK Dwivedi and Anshu Sharma. 2023. Post harvest Physiology, Value Chain Advancement and Nanotechnology In Fresh cut fruits and vegetables in Book: Nanotechnology Horizons In Food Process Engineering: Trends, Nanomaterials, and Food Delivery. Apple Academic Press, USA Inc.pp. 99-132.
3. Kanwar, Jyoti, Kanpure, R.N. and Ausari, Praveen Kumar (2023). Karonda Enthobotanical In Singh Ravindra, Choudhary, sharda, Verma Arvind Kumar and Ravi, Y. (eds.) *Horticulture for Nutrition and Income Security* (pp 37-51). NIPA Genx Electronic Resources & Solutions P.LTD New Delhi-110034 ISBN: 978-93-95319-60-7
4. Kanwar, Jyoti, Kanpure, R.N. and Ausari, Praveen Kumar (2023). Karonda Enthobotanical In Singh Ravindra, Choudhary, sharda, Verma Arvind Kumar and Ravi, Y. (eds.) *Horticulture for Nutrition and Income Security* (pp 37-51). NIPA Genx Electronic Resources & Solutions P.LTD New Delhi-110034 ISBN: 978-93-95319-60-7

Popular Articles: 06

1. Rishika Choudhary and Anuj Kumar (2023). Varietal improvement in gladiolus. *The Agriculture magazine*, E-ISSN: 2583-1755
2. Rishika Choudhary and Anuj Kumar (2023). Induction of mutation in flower crops. *Agrigate-An International Magazine*. 3(11).
3. Rishika Choudhary and Anuj Kumar (2023). Gladiolus ki unnat kheti. *Abhinav Krishi*, 6(03).
4. Om Singh, Pratiksha Singh, B.H. Choudhury and Richa Singh (2023). Natural Bioactive Compounds in Fruits as Health Promoters. Integral Krishi Darpan Magazine, Vol.1 (1): 25-30.
5. Singh, Om; Sonkar, Priyamvada; Kanwar, Jyoti and Singh, Richa. (2022). Amrood me gunvattayuktutpaadanhetubaharniyantran,birlikaranevamthaelabanditaqneeque.PragatisheelKheti, Naveentam Krishi Taqneeque par AdharitrdhvarshikPatrika. Pragati International Scientific Research Foundation, Merrut (UP), January 2022 (01): 25-30. ISSN: 2583-2204.
6. Priyamvada Sonkar, Rashmi Bajpai and Hirdesh Kumar. (2023). Kam barish me achhikamaikeliyekarein dragon fruit keekheti. Madhya BhartKrishak Bharti, Gwalior (MP) Sept., 2023. pp. 07.

Action Taken of Feed Back Received from various stakeholders 2023-24

- ✓ Recruitment processes are currently on hold due to the imposition of the code of conduct during State Assembly and Parliamentary elections.
- ✓ Contractual services have been provided to ensure the smooth functioning of the colleges.
- ✓ An Online Recruitment Management System (RMS) has been implemented at VV to ensure transparency in the recruitment process.
- ✓ While placement has not been an issue for RVSKVVIANS, the DI and DSW offices, along with Placement Cells, remain active, with support from alumni.
- ✓ To adhere to the academic calendar, a Charter has been prepared to ensure the completion of all academic activities within the designated timeline.
- ✓ Special lecture classes organized by faculty and guest speakers (under NAHEP) have been conducted to raise awareness among students, aligning with syllabus requirements.
- ✓ The University periodically awards scientists to recognize their achievements.
- ✓ Scientists with highly rated papers have been sent abroad to further enhance their research skills.
- ✓ Training provided for research projects is beginning to show results, with several research projects submitted by VV scientists, some of which have been sanctioned by various funding agencies.
- ✓ Efforts are underway to improve facilities for sports, the gym, yoga, and cultural activities.
- ✓ An Incubation Center has been established at the VV Headquarters, and development of a Central Instrumentation Lab is in progress.

ANNUAL PROGRESS REPORT
2022-23

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Mission

To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

Vision

To transform the Agricultural landscape of Madhya Pradesh by producing excellent dynamic and result oriented skilled human resource in modern Agriculture, thereby creating higher income, employment, gender equity, accessibility, sustainable production system and achieving social welfare for all.

Mandate

- *To serve as a centre of higher education in the field of agriculture and allied sciences.*
- *To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.*
- *To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.*
- *To produce and supply of genuine and quality seed/planting material to the farmers.*

वार्षिक प्रगति प्रतिवेदन

ANNUAL PROGRES REPORT

2022-23

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Patron : Dr. Arvind Kumar Shukla
Vice-Chancellor
R.V.S.K.V.V., Gwalior (M.P.)

Editorial Board:

1. Dr. D.H. Ranade, Dean, Faculty of Agriculture - **Chairman**
2. Dr. Sanjay Sharma, Director, Research Services - Member
3. Dr. Y.P. Singh, Director, Extension Services - Member
4. Dr. Sanjay Sharma, Director Instructions & Student Welfare - Member
5. Dr. Shashi S. Yadav, T.O. to DFA Office, RVSKVV - Member (**Secretary**)

Compiled by : Office of the Dean, Faculty of Agriculture,
RVSKVV, Gwalior

Published by : Dean, Faculty of Agriculture
R.V.S.K.V.V., Gwalior (M.P.)

Correct Citation : RVSKVV Annual Report: 2022-23
Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya,
Gwalior-474002 (M.P.)

Dr. Arvind Kumar Shukla
Vice-Chancellor

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Raja Pancham Singh Marg, Gwalior-474002 (M.P.)
Ph.: 0751-2970502(O)
Fax: 0751-2970502
Email: vcrvsaugwa@mp.gov.in

//FOREWORD//

It gives me an immense pleasure to present the Annual Report of the Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya (RVSKVV) for the year 2022-23 to the end users. This report highlights the activities related to education, research and extension carried out by the University staff in the field of agricultural and allied sciences with a focus on enhancing livelihood status of the farming community. The University has developed credible technology in the field of agriculture and Horticulture. Farmers of the State are being benefited through its network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), nineteen Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs).

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya has grown into a diverse innovative institution of higher education, pursuing excellence in the fields of teaching, research and extension in agricultural sciences. Over the years, the University has sought to make a major contribution in improving the quality of human life in the region through its research-led initiatives in agriculture, environmental related issues and a host of other modern-day challenges including the production of quality seed and genuine planting material. The structure of its activities is rationalized, with emphasis on its distinguished strengths, management of education and development of quality man power and in this direction notable success has been achieved. In addition to the diverse activities related to agricultural sciences, RVSKVV has strong emphases on farmer's skills improvement and empowerment through the nineteen KVKs in the various districts. Teaching and learning quality has been steadily improving in recent years and a large number of capable man powers has been trained here.

I would like to thank all the contributors, members of the Editorial Board and Compilation Committee for compiling and editing this report in a comprehensive and presentable form.

(Arvind Kumar Shukla)

CONTENTS

Srimant Rajmata Vijayaraje Scindia
(1919-2001)

EXECUTIVE SUMMARY

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, (RVSKVV) Gwalior (MP) was established on August 19, 2008. The University has been since then, catering to the multi farming needs of farming community Agriculture Development, ICAR and other stockholders. It is a new, but fast emerging promising University in the field of agriculture and allied sciences.

The mandate of the University is teaching, research and extension with a view to evolve appropriate solutions and technologies in the field of agriculture. It has a network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), twenty one Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs) spread across six agro-climatic zones in twenty-six districts of Madhya Pradesh. In addition to this, other ongoing projects/schemes *i.e*. non-plan, plan, tribal sub-plan and adhoc projects are also in operation.

During the year 2021-22, the University has undertaken a number of initiatives for the promotion of quality in its mandated areas. The major activities and achievements of the University are as follows:

1. INTRODUCTION

1. Mission: To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

2. Mandate:

- To serve as a centre of higher education in the field of agriculture and allied sciences.
- To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.
- To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.
- To produce and supply of genuine seed and planting material to the farmers.

3. Area of Jurisdiction:

RVSKVV, Gwalior is responsible for Agricultural Education, Research and Extension in following 27 revenue districts of the state:- Sheopur, Morena, Bhind, Gwalior, Shivpuri, Guna, Ashoknagar, Datia, Dewas, Shajapur, Agar Malwa, Ujjain, Indore, Dhar, Jhabua,

Alirajpur, Ratlam, Mandsaur, Neemuch, Khargone, Badwani, Khandwa, Burhanpur, Bhopal, Sehore, Aron and Rajgarh.

The area under University jurisdiction is a part of the Deccan Plateau and comprises plateaus with mean elevation of 1600 feet above mean sea level; inter spread with the mountains of the Vindhya and Satpura ranges. The maximum height of 1350 m is recorded in Satpura range on the other hand 150 m height is found in Chambal Valley. The main river systems are the Betwa, Chambal, Narmada, Sindh and Tapti. Nearly one third of the state area is covered with tropical forest. The area contains three types of soils, varying from alluvial to medium and heavy black Vertisols with six agro climatic zones.

The geographical area of the state under the University jurisdiction is 137.16 lakh hectares out of this, 74.72 lakh hectares is under cultivation, 24.51 lakh hectares under Kharif and 36.45 lakh hectare under rabi fallow. Out of the total cultivated area,

49.42% is irrigated. However, the area under irrigation varies from as low as 18.85% in Jhabua district to as high as 75.63% in Datia district.

The economy of the area is primarily agriculture based. Nearly 75% population is engaged in agriculture. The Malwa region abounds in rich black cotton soil. The low lying areas of Gwalior and Bundelkhand have light soils, whereas the Narmada Valley is formed by deep rich alluvial deposits.

4. Climatic Conditions:

The overall climate varies from semiarid to sub humid with hot summer; cool and dry winter with an average annual rainfall ranging from 600 to1000 mm. Mean annual rainfall is 1029.21mm.

In general, aberrant monsoon behavior is a common feature in the region that usually creates abnormal weather conditions including long dry spells of 8-20 days duration in the middle of the season.

5. Agro Climatic Zones

Out of 11 agro climatic zones of the state, following six are under the jurisdiction of RVSKVV, Gwalior:

- Gird Zone
- Malwa Plateau
- Nimar Valley
- Jhabua Hills
- Vindhya Plateau (Partial)
- Bundelkhand Zone (Partial)

6. Major Crops and Cropping Pattern

- The main food crops of the area are wheat, rice, mustard, lentil and millets. Important among commercial crops grown in the area are pulses, oil seeds and medicinal crops. The state is poised for a breakthrough in soybean cultivation.
- The area coverage of soybean, groundnut and cotton under the jurisdiction of the University is 69, 66 and 55 per cent, which contributes to about 68, 67 and 56 per cent in total production of these crops in the state respectively. Chickpea, pea, black gram and wheat contributes about 35, 24, 54 and 48 per cent of the total state production from an area of only 20, 05, 46 and 40 per cent, respectively. The productivity of these crops in the region is higher than the state average.
- Area under horticultural crops is showing an increasing trend under the University jurisdiction. Mandarin, sweet oranges and limes under assured irrigation and guava, ber, aonla and custard apple without irrigation in Gird region, orange, grape, chiku, mosambi and acid lime in Malwa plateau; banana, papaya, lime and chiku in Nimar valley and lime, ber, guava, aonla and custard apple in Jhabua hills bloom well. Vegetables like Tomato, Potato, Sweet potato, Brinjal, Okra, Cole crops (Cabbage, Cauliflower), Drumstick, Radish, Carrot, Cucurbits, Arbi, Beans and Leafy vegetables etc. are grown in large acrage. Among the spice crops, turmeric, corriander, ajwain, chillies, garlic, fenugreek and fennel have their own specialties in different agro-climatic zones. The area coverage under seasonal flowers is also showing an increasing trend.

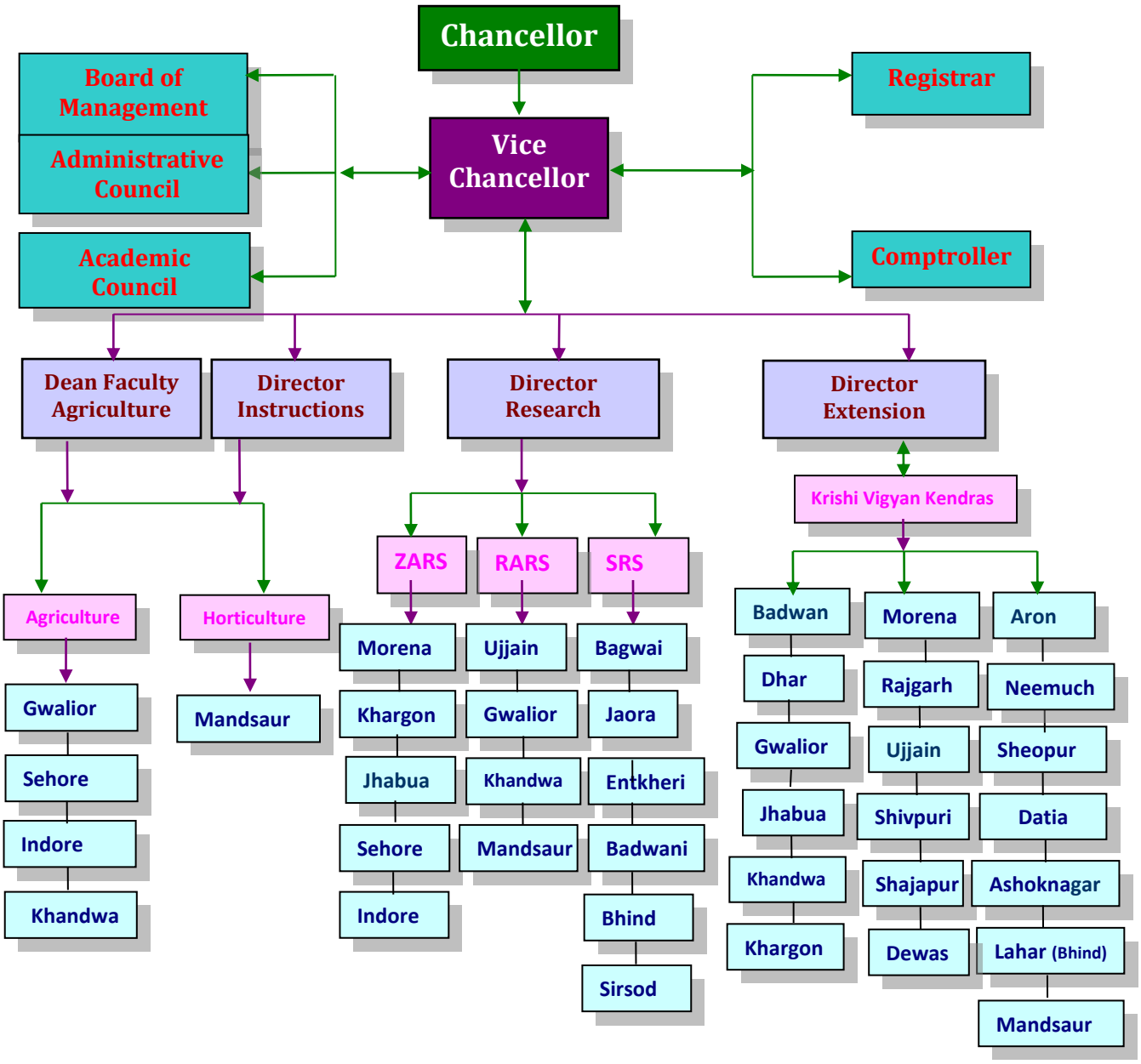
7. Organizational Setup:

Hon'ble Governor of Madhya Pradesh is the Chancellor of the University, and Vice-Chancellor is the Academic Head and Chief Executive of the University, who is supported by the following authorities:

- *Board of Management*
- *Academic Council*
- *Administrative Council*

The University comprises of Faculty of Agriculture headed by Faculty Dean. The constituent colleges are headed by respective Deans. Heads of the Departments are the key persons for teaching, research and extension of the respective discipline/department. Committee of Faculty of Agriculture and Extension Council are also constituted by Vishwa Vidyalaya.

Director Instructions, Director Research Services and Director Extension Services are responsible University authorities for human resource development, research activities and extension activities, respectively. Registrar and Comptroller support the Vice-Chancellor in administration and financial matters. The organizational setup of the University is presented in the following flow chart.


Chancellor
Board of Management
Administrative Council
Academic Council
Vice Chancellor
Registrar
Comptroller
Dean Faculty Agriculture
Director Instructions
Director Research
Director Extension
Agriculture
Horticulture
Gwalior
Sehore
Indore
Khandwa
Mandsaur
ZARS
RARS
SRS
Morena
Khargon
Jhabua
Sehore
Indore
Ujjain
Gwalior
Khandwa
Mandsaur
Bagwai
Jaora
Entkheri
Badwani
Bhind
Sirsod
Krishi Vigyan Kendras
Badwan
Dhar
Gwalior
Jhabua
Khandwa
Khargon
Morena
Rajgarh
Ujjain
Shivpuri
Shajapur
Dewas
Aron
Neemuch
Sheopur
Datia
Ashoknagar
Lahar (Bhind)
Mandsaur

2. ACADEMIC HIGHLIGHTS:

Academic excellence is the backbone of every institute of higher learning. The responsibility increases many folds when the institute aspires for generating world class graduates with the competence to stand tall as a nation builder.

It is through the dissemination of latest technologies and changing knowledge from the global prospective to grass root level that the desirable development in the broad area of agriculture can be attained. The demanding trends in Agriculture/Horticulture need an increase in faculties in such fields and disciplines which have a tremendous market value so that the products of the University are not inclined to government jobs only but would be able to involve themselves in a variety of fields that can boost economy at the State and National level. Therefore resident instruction programme is carried out in the areas of Agriculture and Horticulture in four Agriculture colleges and one Horticulture College in the University.

2.1 Profile of the Colleges:

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya offers undergraduate, post graduate and Ph.D. programmes in the faculty of Agriculture. At present, the University has four Colleges of Agriculture and one college of Horticulture under the faculty of Agriculture. Four constituent Colleges of Agriculture are located at Gwalior, Indore, Sehore and Khandwa and one College of Horticulture is located at Mandsaur.

All these colleges offer Under Graduate and Masters Degree Programmes in different disciplines. Ph.D. programme is offered only at College of Agriculture, Gwalior.

The list of colleges with their location, year of establishment and degree programmes offered is given below.

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (2008)

CoA, Gwalior (1950)

CoA, Sehore (1952)

CoA, Indore (1959)

CoA, Khandwa (1987)

CoH, Mandsaur (2002)

2.1.1 Details of the Colleges:

S. No.	Name of College with location	Year of Establishment	Degree Programme Offered
I	**Faculty of Agriculture**		
1.	**College of Agriculture, Gwalior**	1950	**(i) B.Sc. (Ag.)**
			(ii) M.Sc. (Ag.)
			(1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Plant molecular biology & Biotechnology (9) Fruit Science (10) Vegetable Science
			(iii) Ph.D.
			(1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Fruit Science (9) Vegetable Science
2.	**RAK, College of Agriculture, Sehore**	1952	**(i) B.Sc. (Ag.)**
			(ii) M.Sc. (Ag.)
			(1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science

3.	**College of Agriculture, Indore**	1959	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science
4.	**BM, College of Agriculture, Khandwa**	1987	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** Plant Pathology
5.	**KNK, College of Horticulture, Mandsaur**	2002	**(i) B.Sc. (Hort.)** **(ii) M.Sc. (Hort.)** (1) Fruit Science (2) Vegetable Science (3) Plantation, Spices, Medicinal & Aromatic Crops (4) Floriculture & Landscape Architecture

Resident instruction programme is one of the mandates of the University *i.e.* impart education in Agriculture and Horticulture to produce graduates and post graduates ready to face the existing and new challenges in agriculture sector.

The University follows the semester system of education. Completion of a degree programme requires successful study of prescribed courses as approved by the Academic Council of the University. Course contents of all subjects are periodically updated and new courses are occasionally added to the degree requirement to cope up with the challenges of upcoming technologies. The University follows 10 point scale evaluation system approved by ICAR. Individual attention of each and every student is ensured through the advisory system. At Under graduate level, for a group of 5-10 students, one faculty advisor is appointed for each class and at Post-Graduate level, for each student, an advisory committee consisting of 3-4 faculty members is appointed. The teacher/ advisory guide, supervises and monitors the academic performance of his/her advises besides helping them in their personal problems. The advisor also maintains a close contact with parents/guardians of the students and informs them about the progress of their works/performance.

2.2 Admission Procedure

2.2.1 Undergraduate Programmes

Admission in first year of B.Sc. (Hons.) Agriculture/Horticulture is done on the basis of the merit list provided by the Employee Selection Board (ESB) of the State Government, located at Bhopal. The board conducts a Pre-Agriculture Test (PAT) for B.Sc. (Hons.) Agriculture/Horticulture. The roster for reservation of seats for UG and PG as per provisions made by the State Government for different categories is strictly followed.

All possible efforts are made to fill up all seats of different categories by repeated counseling of the students.

2.2.2 Postgraduate Programmes

Admissions in post graduate programmes are made by the University through joint entrance examination basis. As per merit list, admissions are given to the students in the subject of their choice; subject to the availability of seats. The roster of reservation is also followed for these admissions.

2.2.3 Ph.D. Programmes

Similarly, in Ph.D. programme admission is made through joint entrance examination basis.

2.3 Allocation of Seats and Roster:

During the academic year 2022-23, the total intake capacity was 770 out of which 364 were in undergraduate (UG), 352 in postgraduate (PG) and 54 in Ph.D. degree programme. In the undergraduate level, out of 364 total seats, 308 seats were in B.Sc. (Ag.) and 56 in B.Sc. (Hort.) degree programme. In the post graduate level, out of 364 seats, 256 seats were in M.Sc. (Ag.) and 96 in M.Sc. (Hort.).

Similarly, in Ph.D. programme, out of 54 total seats, 42 seats were in agriculture and 12 were in Horticulture discipline.

2.3.1 Intake Capacity (Degree wise):

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
Degree Programmes						
1.	B.Sc. (Hons.) Agriculture	220	44	11	33	308
2.	B.Sc. (Hort.) Horticulture	40	08	02	06	56
	Total	**260**	**52**	**13**	**39**	**364**
1.	M.Sc. (Ag.)	256	-	-	-	256
2.	M.Sc. (Hort.)	96	-	-	-	96
	Total	**352**	-	-	-	**352**
1.	Ph.D. Agriculture	42	-	-	-	42
2.	Ph.D. Horticulture	12	-	-	-	12
	Total	**54**	-	-	-	**54**
	Grand Total	**666**	**52**	**13**	**39**	**770**

2.3.2 Under Graduate: B.Sc. (Ag. /Hort.)

(A) B.Sc. (Ag.)

Allocation of Seats		**Boys**	**Girls**	**Total**
Roster				
Free Seats	General	50	31	**81**
	ST	36	14	**50**
	SC	24	11	**35**
	OBC	44	13	**57**
Payment Seats		48	02	**50**
NRI Seats		-	-	**06**
Nominee/Fellow	ICAR	25	04	**29**
Total		**227**	**75**	**308**

(B.) B.Sc. (Hort.)

Allocation of Seats		**Boys**	**Girls**	**Total**
Roster				
Free Seats	Gen.	14	06	20
	ST	05	03	08
	SC	05	02	07
	OBC	03	02	05
Payment Seats		06	02	08
NRI Seats		-	-	02
Nominee/Fellow	ICAR	04	02	06
Total		**37**	**17**	**56**

2.3.3 Post Graduate: M.Sc. (Ag. /Hort.):

(A) M.Sc. Agriculture/Horticulture

S.No.	Subject	Gwalior	Indore	Sehore	Mandsaur	khandwa	Total
		PG	PG	PG	PG	PG	PG
1	Agronomy	12	12	12	-	-	36
2	Soil Sc. & Agri. Chemistry	12	12	12	-	-	36
3	Entomology	12	12	12	-	-	36
4	Genetics & Plant Breeding	12	12	12	-	-	36
5	Agri. Economics	8	8	8	-	-	24
6	Plant Pathology	12	12	12	-	8	44
7	Plant Bio Technology	08	-	-	-	-	8
8	Extension Education	12	12	12	-	-	36
Total		**88**	**80**	**80**		**8**	**256**
(B) M.Sc. Horticulture							
1	Veg. Science	12	12	12	12	-	48
2	Fruit Science	12	-	-	12	-	24
3	Floriculture & Landscape Architecture	-	-	-	12	-	12
4	Plantation, Spice, Medicinal and Aromatic Crops	-	-	-	12	-	12
	Total	**24**	**12**	**12**	**48**	**-**	**96**

2.3.4 Ph.D. (Ag. /Hort.):

(A) Agriculture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Agriculture	28	14	**-**	-	42

(B) Horticulture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Horticulture	8	4	**-**	-	12

2.4 Students Strength:

2.4.1 Students Admitted:

S. No.	Degree Programme	No. of Students
1.	B.Sc. (Ag.)	302
2.	B.Sc. (Hort.)	45
Total		**347**
1.	M.Sc. (Ag.)	219
2.	M.Sc. (Hort.)	67
Total		**286**
1.	Ph.D. (Ag. /Hort.)	28
Total		**28**
Grand Total		**661**

2.4.2 Students Strength at a Glance: During the year 2022-23, total 2181 students were on the roll of the University, out of which 1408 in UG, 632 in PG and 141 in Ph.D. degree programmes.

S. No.	Degree Programme	No. of Students (2022-23)
1.	B.Sc. (Ag.)	1232
2.	B.Sc. (Hort.)	176
	Total	**1408**
1.	M.Sc. (Ag.)	489
2.	M.Sc. (Hort.)	143
	Total	**632**
1.	Ph.D. (Agri. /Hort.)	**141**
	G. Total	**2181**

2.5 Experiential Learning Programme: As per the recommendations of Fifth Dean's Committee that the B.Sc. (Ag.)/B.Sc. (Hort.) graduates must have adequate hands on experience on different aspects of agriculture/horticulture. For this purpose, the experiential learning programme has been introduced in the final year that includes different aspects of horticulture and agriculture.

(1) College of Agriculture, Gwalior-

Experiential learning programme Units	Nos. of students	Output
ELP unit-1		
Post Harvest Management and Value Addition of Fruit and Vegetables	20	• Preparation of Guava, Mango and Lemon RTS • Guava and Mango Nectar • Aonla Candy, Aonla Murabba, Apple Jam • Pickle (Chilli, Lemon, Mango), • Fenugreek and Coriander seed and leaf packaging • Chips/ French Fries (Banana and Potato) • Turmeric processing
ELP unit-2		
Protected cultivation of horticulture crops and seed production of vegetable and flower	20	• Cultural Practices in Flower Crops • Weeding and maintenance of Guava air layers • Intercultural operation in flower crops • Harvesting of potato • Grading of potato • Preparation of nursery bed for vegetable seedling
ELP unit-3		
Soil testing (Deptt. of Soil Science)	23	➢ **Collect sample from agricultural field and prepare sample for soil testing following safety precautions** 1. Make sampling plan to collect soil samples 2. Identify soil sampling equipment/ apparatus. 3. Collect soil samples and prepare for testing. 4. Demonstrate various chemical reagents required for soil testing ➢ **Perform soil testing to identify the different components in the soil.** 1. Identify apparatus and equipment for soil testing 2. Observe safety and precaution during work. 3. Determine pH value of soil sample 4. Determine electrical conductivity of soils 5. Determine soil texture. 6. Determine organic Carbon. 7. Determine N, P, K, Ca and Mg. 8. Determine Cation exchange Capacity 9. Prepare Soil Test Report. 10. Prepare soil test summary and Soil Health Card.
ELP unit-4		

ELP Tissue Culture Technology 'Massive *in vitro* propagation of important horticultural and medicinal plants' (Deptt. of Plant Biotechnology)	17	Stocks prepration of different media (MS, White's, Gamborg), Explant selection and collection, Fresh inoculation of pomegranate, bamboo, banana and black turmeric,

(2) College of Agriculture, Indore-

Year	Name of college along with location	Name of the EL Modules	Nodal officer of ELP	Grant received	No. of students trained under EL	Product being developed under ELP	Revenue earned	Revolving fund generated	% share of income distributed to students
2022-23	COA, Indore	ELP Processing of fruit, vegetables, and food crops	Dr. K.S. Bangar	-	21	Chai Masala, Multi grain Cookies, Millet Papad, Banana chips and Bajra papad	16,840 /- (Till April 2023)	NA	NA
2022-23	COA, Indore	ELP Nursery	Dr. Deeksha Tembhre	0	22	Planting material, pot mixture, organic pesticide	7350 /-	-	-
2022-23	COA, Indore	Bio-Fertiliser & Bio-Pesticide	Dr.Narendra Kumawat		21	--	12200	-	-
2022-23	College of Agriculture, Indore	Mushroom cultivation and value addition	Dr. R.K. Singh Ph. No. +91-9407 119090 Email-rakesh0429@gmail.com,	NIL	25	Spawn production of Oyster and button mushrooms, Mushroom Cookies (Sweet and Salted). Mushroom Papad, Mushroom Bhujia	1,19,058	201089	NIL

(3) RAK, College of Agriculture, Sehore-

S.No.	No. of student	Work assigned	Activity and knowledge gained
Batch: (A)Commercial production of Spongegourd			
1.	08	Commercial Cultivation of Sponge gourd	Knowledge and skill gained by students about Commercial Cultivation of sponge gourd crop under open condition. Preparation of nursery in polybags
Batch: (B)Commercial production of Bottle gourd			
2.	08	Commercial cultivation of Bottle gourd	Knowledge and skill gained by students about commercial cultivation of Bottle gourd crop. Raising of onion nursery Cost of cultivation and benefits from Bottle gourd cultivation
Batch: (C)Commercial production of Bhindi			
3.	09	Commercial cultivation of Bhindi	Knowledge and skill gained by students about growing and commercial cultivation of Okra crop in open condition.
Batch: (D)Commercial production of fenugreek			
4.	08	Commercial cultivation of Menthi	Knowledge and skill gained by students about commercial cultivation of fenugreek crop in open condition

(4) BM, College of Agriculture, Khandwa- Experiental learning programme aims in promoting professional skills and knowledge through hands on learning, ability to work in project mode and aquire enterprise management capabilities.

Aim: To train students to become "Job givers rather than Job seeker"

ELP- Biofertilizer production unit- The Experiential Learning Programme aims for promoting professional skills and knowledge through hands on experience, building confidence and ability to work in project mode and acquire enterprise management capabilities. ELP offer students the opportunity to engage in learning with greater depth, complexity, and rigor through differentiated curriculum and instruction. It helps the students in preparing a viable agri-project, its implementation and marketing, among others. As a result, students become more confident to start their own enterprise.

(5) KNK, College of Horticulture, Mandsaur-

Five ELP modules are being run in the College with the capacity of approximate 10 students in each module. Two modules are received by ICAR and three modules are being run at College level.

Namesof ELP Units:

a) Floriculture and Landscape Gardening
b) Commercial Horticulture
c) Commercial Horticulture- Open Vegetable Cultivation
d) Processing of Fruits and Vegetables for Value Addition
   Mushroom Culture

a) Name of ELP Unit: Floriculture and Landscape Gardening-

S. No.	No. of Students	Work Assignment	Output
1.	09	1. Commercial flower cultivation 2. Seed production of flowering annuals 3. Nursery management 4. Landscape gardening 5. Value addition in floriculture	1. Main aim of ELP is to provide technical and practical knowledge in floriculture and landscape gardening. 2. All students are trained and skilled in floriculture and landscape gardening to build their own business. Income generated Rs. 22000/- (still semester is running)

b) Name of ELP Unit: Commercial Horticulture (Fruit Science)

S. No.	No. of students	Work assignment	Output
1.	08	**-** Maintaining /repairing the existing structures **-** Weeding/cleaning of nursery site **-** Collect and extract the seeds of citrus and guava fruits available in the orchard for raising the rootstock. - Prepare nursery beds for seed sowing of citrus. - To sow the seeds of cape gooseberry, citrus and guava. - planting of air layered plant in polybags. **-** To fill the poly bags as per target in a stipulated time -Sowing of custard apple seeds	Developed confidence, understanding, enhanced the observation of the conditions, get experienced and skilled by day to day work assigned. Students skilled in managing and handling the problem arise during their course. Income generated: seedlings are too small to sale and to do any grafting on that seedling.

c) NAME OF ELP Unit: Commercial Horticulture- Open Vegetable Cultivation

S. No.	No. of students	Work assignment	Output
1.	9	Cultivation of okra, cowpea, bottle gourd, sponge gourd, bitter gourd and long melon (land preparation, bed preparation, manure and fertilizer application, seed treatment, sowing, plant protection and intercultural operations)	Knowledge and skill gained by students about cultivation of okra, cluster bean and sponge gourd. Crops are in field and flowering in okra and cluster bean has started

d) Name of the ELP Unit: Processing of fruits and vegetables for value addition

S. No.	No. of students	Work Assignment	Output
1.	10	Preparation and preservation of various products: Aonla Supari, Aonla Candy, Aonla Squash , Aonla RTS, Aonla Pickel , Beal Candy, Beal RTS, Beal Squash, Tamarind Squash, Tamarind RTS, Determination of Total Soluble Solids. Estimation of Total, Reducing and Non-reducing Sugars. Estimation of total acidity	1. The main purpose of ELP is to ensure that all students have the technical and professional skills in processing and value addition of fruits and vegetables. 2. Developed self-reliance and confidence in students to establish a processing unit. 3. Method of teaching includes learning by manufacturing of various products listed in work assignment. 4. Income generated in ELP Unit is **Rs**. 6000/- (still semester is running).

GLIMPSES OF EXPERIENTIAL LEARNING PROGRAMME


09/09/2022 12:41

2.6 Rural Agricultural/Horticultural Work Experience (RAWE/RHWE): As a part of regular curriculum, the final year students of B.Sc. (Ag.) and B.Sc. (Hort.) are placed in rural areas for one semester in selected villages through Krishi Vigyan Kendras (KVKs) working in the region, where each student is attached to one host farmer for practical training with regards to crop production, crop protection, economics and also dynamics of the rural society. Further, some social activities were also performed by the students like sanitation in the village, plantation in the premises of primary and middle schools.

RAWE/RHWE AT A GLANCE

S.No.	Particular	Gwalior	Sehore
1.	**No. of student**	Total Student- (Boys- 46 +Girls-34)=80	Total Student- (Boys-52+Girls-28)=80
2.	**Adopted villages/KVKs**	Morena, Datia, Shivpuri and Sheopur	Dewas, Rajgarh and Shajapur
3.	**Technologies Dessimenated**	**Technologies learned by the students** i.Improved varieties of vegetable crops ii.Water conservation Technology iii.Seed treatment in Kharif and Rabi crops iv.Known about vermicompost and azolla unit construction v. Plant protection in soybean, ground nut, pigeon pea. and mustard vi.Soil sampling, application of micro-nutrients	• Collection of information of host farmers • Survey of villages/PRA. • Mushroom Production. • Preparation of Brahmastra and Neemashtra for natural farming • Collection of sample for soil testing of host farmer's field. • Land preparation for Rabi crops. • Demonstration on use of improved varieties of Gram, Wheat, Pea etc. • Demonstration on seed treatment techniques, method of irrigation and water Management. • Advised farmers to use of organic manures and use of recommended dose of fertilizers. • Awareness campaign to the farmers with respect to schemes which is launched by the state/central govt. for the welfare of the farmers/agriculture.

S.No.	Particular	Indore	Khandwa	Mandsaur
1.	**No. of student**	Total Student- (Boys- 53+Girls-33)=89	Total Student- (Boys-34+Girls-17)=51	Total Student- (Boys- +Girls-)
2.	**Adopted villages/KVKs**	KVK Ujjain-Jalalkhedi, Datana, Ninora, Matana KVK Dhar-Bhilberkheda, Awaliya, Digthal, Dilwara, Bachadawada	KVK Badwani (17 Girls only) Villages - Borlay -01, Lonsara-08 Piplaj-08 KVK Khargone (15 Boys only) Villages Borgaon- 08 Baijapur- 07 KVK, Burhanpur (16 Boys	Boys 32- KVK, Kalukheda Jaora FPO daloda and Fed Trust (Village-, Chipiya, Daloda , and Riyawan) Girls 15– KVK, Neemuch (Village-Hanumantia pawar)

		KVK Jhabua- Sajeli Malji Saath	only) Villages Sandash kalan- 08 Mahal gulara- 08 Villages Fed-Trust (03 BoysOnly) Total Villages - 08 Total student- 51	
3.	**Technologies Dessimenated**	--	• Drip irrigation system • Strategy for cost of cultivation • Application of PRA technique for the identification of agricultural livestock & poultry problem and planning • Nursery management • Fruit and vegetable preservation • Value addition of crops • INM • IPM • Sampling of soil for testing • Marketing strategies • Diversified farming practices • Demonstration of improved varieties of Soybean, chilly, Banana, cotton etc.	• During the Rural Horticultural Work Experience Programme students understood about rural conditions in relation to agriculture and allied sector like post harvest management, agriculture engineering, animal husbandry, poultry, Dairy etc. • Students learnt about cultivation practices of onion, garlic, soybean, moong, urd, cauliflower, cabbage, chilli, tomato, marigold, chrysanthemum, rose, brinjal, okra, beans, chandrasoor, fenugreek, cucumber, mango, guava, citrus and pomegranate etc. • Students learned about integrated nutrient management different horticultural crops. • They learned about raising nursery of different vegetables like tomatoes, chilies etc. • They learnt about different method of seed treatment in garlic, onion, wheat, coriander, methi, chandrasoor, soybean, moong, urd and other crops. • Students learnt about drip irrigation and sprinkler system in garlic, pomegranate, onion, citrus, ber etc. • They were trained to manage insect pest and disease in different crops like marigold, rose, tube rose, okra, guava, grape, mango, garlic, onion cucumber, brinjal, tomato,

				cabbage, cauliflower, chilli, fenugreek and other crops. • Students got experience about harvesting and grading in different horticultural crops like cauliflower, cabbage, tomatoes, chillies, onion, garlic, bottle gourd and fenugreek etc. • Students developed skill for curing in onion and garlic crops. • They developed skill in budding, grafting and layering in different horticultural crops. • Students used sticky traps for management and control of insects in different crops. • They understand about use and importance of pheromone traps in fruits and vegetable crops. • They have developed communication skill to transfer available agricultural technologies among farmers community. • They have acquainted with on-going extension and rural development activities of state and central government. • They participated in different KVK activities to understand more about agriculture and its management. • Ultimately, they have developed confidence and competence to solve complex agricultural problems

GLIMPSES OF READY (RAWE/RHWE) PROGRAMME


ग्रामीण उद्यमिता एवं आजीविका विकास योजना
(READY) वर्ष : 2022-23
कृषि महाविद्यालय इन्दौर (मप्र-2)


Shot on OnePlus


BIOFERTILIZERS
PRODUCTION UNIT
CULTURE LAB


SHOT ON REDMI 7
AI DUAL CAMERA

NATIONAL AGRICULTURAL HIGHER EDUCATION PROJECT

List of Deliverables for Holistic Development of Students and FacultiesYear-2022

SN	Topic	Date	Mode
1	One day workshop on Education	10 January 2022	Online
2	Hydroponics & organic farming A new Concept for entrepreneurs	17 January 2022	Online
3	Sensor based Technology for Agripreneur	19 January 2022	Online
4	Improving the visibility indicators and productivity of sate Agricultural universities	27 January 2022	Online
5	Nursery management for entrepreneurship development	28 January 2022	Online
6	Entrepreneurship Development Through Roof Top /Terrace Gardening	19 February 2022	Online
7	Self-Motivation and self-discipline: a must be successful	25 February 2022	Online
8	Entrepreneurship and skill Development-Enhancing the capacity to develop, Manage and Organise a Business	25 February 2022	Online
9	Principal of genetics	27 February 2023	Online
10	Principles of plant breeding	28 February 2023	Online
11	Breeding of Field crops	2 March 2023	Online
12	International Women Day and Azadi Ka Amrut Mahotsav	08 March 2022	Offline
13	Brain storming: An Interactive session	09 March 2022	Online
14	Waste Water treatment technology to control the water pollution	10 March 2022	online
15	Recent Trends on Mushroom Technology	29 March 2022	Online
16	Light Emitting Diodes in Plant Growth and Development	01 April 2022	Online
17	Technology Intervention for Sustainable Development	11 April 2022	online
18	ca^{+2}/CALMODULIN –MEDIATED Abiotic stress signalling in plants and portable stress mitigation Strategies	12 April 2022	Online
19	Education to Employment	25April -18 May 2022	Offline
20	Entrepreneur opportunities in remote sensing technique in crop area and production assessment.	26 April 2022	Online

21	Farming system for higher income and employment.	29 April 2022	Online
22	**5 days** online training program on "Innovations in plant propagation and hi-tech nursery management"	25 - 29 April 2022	Online
23	Career opportunity in film making (Bollywood, OTT, Television Industry)	12 -13 May 2022	Offline
24	e-Extension in Agriculture and Allied Sector	9-13 May 2022	Online
25	Training Program on Agri Journalism	15-19 May 2022	Online
26	Entrepreneurship Development Through Roof Top /Terrace Gardening	18 May 2022	Offline
27	Entrepreneurship development through Floriculture and landscaping	19 May 2022	Online
28	1. Plant Breeding in Modern Era, 2. The Journey of Biotechnology from Transgenics to Gene Editing, 3. Strategies and Technological Innovations for Sustaining Pulses Production in India	25 - 27 May 2022	Offline
29	Entrepreneurship Skill Development in Agriculture	26 May 2022	online
30	Environment day celebration	03 June 2022	Online
31	Environment day celebration	05 June 2022	Offline
32	Training on JAVA and HTML Language	06 - 18 June 2022	Offline
33	Seed production and quality control: An Entrepreneurial venture	16 June 2022	Online
34	Yoga day	21 June 2022	Offline
35	3 D Food Printing - the technologies, opportunities and challenges for customised food development	21 June 2022	Online
36	Designing Integrated Farming Systems for Livelihood Security and Environmental Sustainability: A Step towards Entrepreneurship Development.	24 June 2022	Online
37	Orientation Program for I year students	07 July 2022	Online
38	Tree plantation program by students and faculties	08 July2022	Online
39	Interactive session between students and faculties	29 July2022	Online
40	Orientation Program about GRM for II-year students	29 July2022	Online
41	English learning class in Language Lab	18 August 2022	Online
42	Interactive session between students and faculties	26 August 2022	Online
43	Orientation Program about GRM for I year students	26 August 2022	Online

44	"5 days training on improving transfer of IT knowledge "(MS-office, Outlook, Goggle drive)	12-16 September 2022	Online
45	Application of drone in agriculture: a way for entrepreneurship generation	12-16September2022	Online
46	Field Trip and a lecture on the development of mega nursery for entrepreneurship development	15 September 2022	Offline
47	Interactive session between students and faculties	30 September 2022	Online
48	A motivational lecture on Opportunities of self-employment in the field of horticulture	13 October2022	online
49	Start-up opportunities in Agriculture and Allied Sectors	17 -21 October 2022	Online
50	Students Entrepreneurship Development training program	1 - 30 November 2022	Offline
51	Skill based entrepreneurship development programme on Argo based entrepreneurship	01 - 30 November 2022	Offline
52	Soils: Where food begins	5 December 2022	Online
53	World Soil Day	5 December 2022	Offline
54	Entrepreneurship Development through Hand on Oyster Mushroom cultivation	06-07 December 2022	offline

2.7 Thesis Submitted:

2.7.1 M.Sc. (Agriculture/Horticulture): 196 Students submitted Thesis for Post Graduate degree programme in Agriculture discipline and 67 students for Horticulture degree programme.

2.7.2 Ph.D. thesis submitted to Director Instruction for evaluation: 26 student's submiteed Thesis for Ph.D. Agriculture / Horticulture degree programme.

2.8 Academic Excellence:

2.8.1 Student Performance in ICAR-JRF/SRF examination and other Scholarship/Stipends:

S. No.	Name of Fellowship/Scholarship	No. of Students 2022-23
1.	Junior Research fellowship received	**-**
2.	JRF qualified and admitted in different Universities of India without fellowship	**7**
3.	SRF Qualified without fellowship	**2**
4.	NET	**2**
5.	National Talent Scholarship	**36**
6.	Scholarship of Vikramaditya Yojna	**-**
7.	Scholarship of Gaon Ki Beti Yojna	**-**
8.	Dr. Shyamaprasad Mukharji Scholarship	**-**
9.	Medhavi Sambal Yojna	**-**
10.	Mukhyamantri Medhavi Vidyarthi Yojana	**151**
11.	Post Metric Scholarship	**-**
	State Government Scholarship	***260***
	(i) OBC	127
	(ii) SC	61
	(iii) ST	72

3. STUDENTS WELFARE ACTIVITIES:

3.1 National Service Scheme (NSS):

S. No.	Activity(s)	No. of Volunteers Participated
1	No. of students enrolled	328
2	No. of students passed/cleared ***'B' certificate examination***	50
3	No. of students passed/cleared ***'C' certificate examination***	2
4	NSS day celebration/Camp	78
5	Blood donation camp	10
6	Pulse polio camp	12
7	AIDs awareness day	65
8	Beti Bachao Abhiyan	104
9	Malnutrition day	45
10	Parthenium eradication day	13
11	Special camp	-
12	Voter ID awareness camp	-
13	State level camp	5
14	Unit camp	45
15	Rastriya Yuva Day	99
16	Sensitization day	144
17	Environment day	52
18	Plantation day	73
19	Samvidhan Diwas	84
20	Agriculture Education Day	53
21	Basant Panchami	50

3.2 National Cadet Corps (NCC):

S. No.	Activity(s)		Total Students
1.	No. of students enrolled		107
2.	Exam. passed	***'B' certificate***	58
		'C' certificate	10
3.	No. of cadets attended the CATC camp		63
4.	Army Attachment at Gwalior		48

GLIMPSES OF NSS/NCC ACTIVITIES


एस.जी.एस.आई.टी.एस.
इन्दौर
राष्ट्रीय सेवा योजना
राष्ट्र सेवा में समर्पित
में नहीं अपितु आप


आर.एन.के.कृषि महाविद्यालय, सीहोर (म.प्र.)
राष्ट्रीय सेवा योजना
7 दिवसीय विशेष शिविर
आर.एन.के.कृषि महाविद्यालय, सीहोर (म.प्र.)
राष्ट्रीय सेवा योजना
पोषण अाहार
जागरूकता कार्यक्रम
विशेष शिविर


OFFICERS TRAINING ACADEMY NATIONAL CADET CORPS, KAMPTEE
NAGPUR MAHARASHTRA
COURSE PRCN SD-171, DC-43, NAVY-06 & AF-19 GP-I PERIOD 13 AUG 22 TO 22 OCT 2022 (RANA PRATAP COY)

3.4 CULTURAL AND SPORTS ACTIVITIES:

(1) College of Agriculture, Gwalior-

S.No.	Name of Event	Winner	Name of Student	Name of College
1.	**Quiz**	Winner	Pawan Katare Ranjeet Yadav	CoA, Gwalior
2.	**Elocution**	Winner	Alok Chaturvedi	CoA, Gwalior
3.	**Debate (For the motion)**	Winner	Samriddha Dhole	CoA, Gwalior
4.	**One Act Play**	Winner	Pawan Katare Ragini Rajat Samariddha Dhole Abishek Sharma Balram Lodha Hiteshi Vyas Sneha Sharma Rakesh Makvana	CoA, Gwalior
5.	**Mono Acting**	Winner	Abhishek Jaiswal	CoA, Gwalior
6.	**Group Song (Patriotic)**	Winner	Prakhar Dhoke Alok Chaturvedi Lokendra Chouhan Komal Sengar Ayushi Samaiya	CoA, Gwalior
7.	**Folk Dance**	Winner	Prakhar Dhoke Samariddha Dhole Surendra Kharol Abhishek Jaiswal Lokendra Chouhan Avinash Sharma Hiteshi Vyas Sneha Sharma Stuti Shrivastav Rakesh Makwana	CoA, Gwalior
8.	**Clay Modeling**	Winner	Shivani Kushwah	CoA, Gwalior
9.	**On the spot painting**	Winner	Jyoti Rawat	CoA, Gwalior

(2) College of Agriculture, Sehore-

S.No.	Events	Position	Name
1	Debate (Against)	Winner	Shruti Tomar
2	Poster making	Winner	Tanu Sisodiya
3	Solo singing	Winner	Muskan Yadav
4	Folk group singing	Winner	Yogesh Kumar,Raju Senani, Jaya Choudhary Meenal kelva,Muskan yadav. Purnima Tripathi,

(3) College of Agriculture, Khandwa-

Inter-Collegiate cultural competition was held by CoA, Gwalior.

- **Gold medal in collage -** Rajnandini Patida,
- **Rangoli -** Rajnandani Patidar.
- **Silver medal in clay modeling -** Shivani malakar
- **Quiz silver medallist** - Prahlad Sisodia, Naveen patel
- **Mime - Gold -** Tarun yadav Antulesh patidar Sawan yadav Shubham Rohit parte Narendra raj

(4) College of Horticulture, Mandsaur-

S.No.	Activities	Winner	Runner
1.	Skit	Winner	-
2.	Cartooning	Winner	-
3.	Extempore	Winner	-

//SPORTS ACTIVITY//

(1) College of Agriculture, Gwalior-

S. N.	Activity	Male	Female	
		Winner	Winner	Runner
1.	Badminton	Gwalior	Gwalior	Indore
2.	T.T.	-	-	Gwalior
3.	Carrom	Gwalior	-	-
4.	Volley ball	Gwalior	-	-
5.	Kabaddi	Gwalior	-	-
6.	Kho-Kho	Gwalior	-	-
7.	Athletics	Gwalior	Gwalior	-

(2) College of Agriculture, Indore-

Sport	Result
Table tennis – Female	Winner
Kabaddi (Indore V/s Khandwa)	Winner
Kho-Kho	Runner

(3) College of Agriculture, Sehore-

Events		Men		Women	
Events		Name of Students	Medals	Name of Students	Medals
1.	**100 Meter**	Rahul Solanki	**Gold**	Ambika	**Bronze**
2.	**200 Meter**	Mahendra Singh	**Silver**	-	
3.	**400 Meter**	Atul Yadav	**Silver**	StutiTomar	**Silver**
4.	**Disc throw**	Pawan Dharpure	**Gold**	Ankita Khakhal	**Gold**
5.	**High- Jump**	Shivam Sharma	**Silver**		

6.	**Long Jump**	-	**-**	BarjuSuryawanshi	**Gold**
7.	**Shot-put**	Yogesh Kumar	**Bronze**	-	
8.	**100x4 meter**	Rahul Solanki Mahendra Chaudhary Manu Solanki Brijesh Dangi	**Bronze**	Shruti Tomar BarjuSuryawanshi Laxmi Nagar Ambika	**Bronze**
9.	**Table Tennis**	Sanju Savendra Sisodia Prabeen Jaswant Chaudhary	**Gold**	-	
Total Medals (Boys) **Gold – 03** **Silver – 03** **Bronze - 02**				**Total Medals (Girls)** **Gold – 02** **Silver – 01** **Bronze – 02**	
Total Medals in both Men and Women Category **Gold – 05** **Silver – 04** **Bronze - 04**					

(4) College of Horticulture, Mandsaur-

S.No.	Activities	Gold medal	Silver medal	Bronze medal
1	Volleyball- Men	Gold	-	-
2	800 M race- Men	Gold	-	-
3	High jump- Men	Gold	-	-
4	Badminton- Men	-	Silver	-
5	400 m race- Men	-	Silver	-
6	1500 m race- Men	-	Silver	-
7	Long jump- Men	-	Silver	-
8	Discus throw- Men	-	Silver	-
9	Shot put- Men	-	Silver	-
10	Relay race 4× 100 m- Men	-	Silver	-
11	High jump- Women	-	Silver	-
12	Shot put- Women	-	Silver	-
13	100 m race- Men	-	-	Bronze
14	1500 m race- Women	-	-	Bronze
15	800 m race- Women	-	-	Bronze
16	200 m race- Men	-	-	Bronze
17	Javelin throw- Men	-	-	Bronze
TOTAL		**03**	**09**	**05**

//Order//

"Abhinandan: A Student Induction Programme" is scheduled to be held in all constituent Colleges of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, for newly admitted UG/PG/Ph.D. students with a purpose to acquaint them with the functioning of the University and to prepare them for the life ahead. The objective of the program is to inspire new entrants to begin their educational expedition assertively and comfortably, and to prepare them for their College life and beyond.

“Abhinandan” will commence seven days before the start of the academic session. Partaking of all newly admitted students, their parents and staff is mandatory. The detail of programme is appended below:

ABHINANDAN

"Orientation: Empowering New Beginnings"

A STUDENT INDUCTION PROGRAMME

1. Title	**"Creating a Unified Campus Community: Fusing Ideas and Integrating Knowledge"**
2. Organization:	**Constituent Colleges of RVSKVV, Gwalior**
3. Nature of Project	Mentor-Mentee System under Various Clubs of OMAS project of the University
4. Theme	Guiding Freshers in UG and PG Programs: Building Confidence, Bonding, and Universal Values for Holistic Development
5. Duration	Seven days prior to the commencement of First Semester of newly admitted UG, PG and Ph.D. students of RVSKVV, Gwalior.

Goals

- Foster the holistic development of newly admitted students by playing a positive and catalytic role.

- Cultivate moral and ethical behavior, nurturing human values to empower students to contribute positively to society.
- Support learners in discovering and harnessing their creative potential and talents, while enhancing their physical and psychological strengths through active participation in co-curricular and extra-curricular activities.
- Instill a sense of social and environmental responsibility among students, promoting sustainable development perspectives and actions as integral to their lifestyles.
- Develop well-rounded citizens equipped with knowledge of constitutional rights and duties, fostering respect for linguistic, cultural, and gender diversity.

Motto:

1. Orient students on institutional profile, academic rules, regulations, and scholarship provisions.
2. Educate students about career prospects in agriculture and related fields.
3. Familiarize students with government plans, policies, and flagship programs.
4. Infuse universal human values to broaden students' life perspectives.
5. Promote regular lifestyle habits and professional discipline among students.
6. Develop students' skills and proficiency in extracurricular and co-curricular activities.
7. Provide platforms for formal and informal interactions among students, faculty, and seniors to enhance interpersonal relations.
8. Sensitize students through clubs like 'Club Sarthee', 'Equal Edge', and 'Club Harmony' on constitutional rights, duties, and respect for linguistic, cultural, and gender diversity.
9. Foster creativity, personality development, and soft skills through activities organized by clubs such as 'Learners' First', 'Shine and Divine', and 'Campus Collage' under Project OMAS.

Activity Schedule:

- Morning Yoga & Exercise: 6:00 AM - 7:30 AM
- Know Your University Session: 9:30 AM - 11:30 AM
- Personal Development Workshop: 11:30 AM - 1:00 PM
- Human Values Session: 2:30 PM - 4:00 PM
- Creative Arts Workshop: 4:00 PM - 5:30 PM
- Evening Sports Activities: 6:00 PM - 7:00 PM

Topics of Lectures to be conducted:

The constituent Colleges of the University are committed to providing students with comprehensive training in various life skills to promote holistic growth and development. This initiative aims to enrich their educational journey, making it dynamic, integrated, and multifaceted, thereby ensuring that graduates from RVSKVV are well-received across all sectors of society.

Deans of all Colleges are encouraged to invite experts from prestigious institutes or renowned freelance speakers to deliver lectures on the following topics:

- "Planting Seeds: Fundamental Concepts in Agricultural Education"
- “Growth Through Learning: Core Principles of Agricultural Education"

"Towards Equity: Progress, Challenges, and Solutions in Gender Equity in Education"

“Essentials of Legal Literacy: Concepts and Their Impact"

- Legal Literacy Unveiled: Fundamental Concepts and Significance"
- "Espousal of Diversity: Honoring the Rich Tapestry of Humanity"
- "Roadmap to Good Citizenship: Rights, Responsibilities, and Civic Obligations"

- Guiding Principles of Citizenship: Rights, Duties, and Civic Engagement"

"Journey to Active Citizenship: Rights, Responsibilities, and Civic Commitments"

- "Ensuring Safety: Anti-Ragging Regulations in Educational Institutions"
- "Growing Your Career: Essential Skills and Qualifications for Agriculture Success"
- "Venturing into Agricultural Entrepreneurship: Opportunities and Challenges Ahead"
- "The Psychological Impact of Eve-Teasing: Consequences for Victims and Society"
- "Yoga and Pranayama: Holistic Benefits for Mind, Body, and Soul"
- "Personal Growth: Building Self-Awareness and Confidence"
- "Cultivating Connections: Mastering Networking Skills for Professional Success"
- " Encouraging Collaboration: Leadership in Team Dynamics"

- "Exploring Human Values: Truth, Honor, Freedom, and Courtesy"
- "Empowering Tomorrow's Voters: Youth Engagement in Electoral Participation"
- "Unlocking Your Potential: Self-Awareness, Confidence, and Personal Growth"

The list of lecture topics provided above is not exhaustive. Deans of the Colleges have the flexibility to choose related topics or relevant subtopics that they find suitable and beneficial for the students of their respective Colleges.

Day wise Activities of *"ABHINANDAN"*

Day –: I Inaugural session from 9:30-10:30					
6-7 AM	**10:30-11:30 AM**	**11:30 AM-1PM**	**2:30-4 PM**	**4-5:30 PM**	**6-7 PM**
	Know your University	**Shape Yourself**	**Human Values**	**Creative Art**	**Sports Activity**
Yoga And Meditation	University + Campus Profile	Lecture on "Planting Seeds: Fundamental concepts in agricultural Education"	Lecture on "Unity in Diversity: Promoting Interfaith Understanding and Religious Pluralism"	Creative Art: Rangoli and Clay Modelling	Warm Up, Introduction to Badminton Grip, lift and Service
Day – II					
Yoga And Meditation	Academic rule and regulations	"Yoga and Pranayama: for Sublimity of Mind, Body, and Soul"	Lecture on "Breaking Barriers: Progress and Challenges in Achieving Gender Equity in Education"	Creative Art :Paper Craft	Warm Up, Introduction to Basketball Passes, dribbling,
Day – III					
Yoga And Meditation	Ragging : Curbing the menace Introduction and interaction with the anti ragging committee	Lecture on "Essentials of Legal Literacy: Concepts and Their Impact"	Lecture on "Understanding Eve-Teasing: Psychological Effects on Victims and Society"	Creative Art: Collage Making	Warm Up, Introduction to Football Basic rules and regulations Passes and field positions
Day – IV					
Yoga And Meditation	Student amenities/facilities ➢ Placement Section ➢ Advisory system	Lecture on " Siding with Diversity: Honoring the Rich Tapestry	Lecture on "Discovering Your Potential: Self-	Creative Art: Poster Making And Cartooni	Warm Up, Introduction to Kho-Kho Endurance work,

	➢ ARIS Cell ➢ Portal Information ➢ Smart Card ➢ Medical + Insurance Scholarship	of Humanity"	Awareness, Confidence, and Development"	ng	footwork attack
Day – V					
Yoga And Meditation	OAMS* (Over All Mentoring of Students) and information of clubs	Lecture on "Journey to Active Citizenship: Rights, Responsibilities , and Civic Commitments"	Lecture on “Legal Framework: Anti-ragging Laws and Policies in Educational Institutions”	Creative Art : On The Spot Painting	Warm Up, Introducti on to Volley ball, Hand Control, Passes, Service
Day – VI					
Yoga And Meditation	NCC/NSS activities of the College	Lecture on "Empowering Tomorrow's Voters: Youth Engagement in Electoral Participation"	Lecture on “Gender Equity in Education: Achievement s, Challenges and Strategies”	Performin g Art : Theatre Mono Acting, One Act Play ,Skit	Warm Up, Introducti on to Cricket and its rules
Yoga And Meditation	Hostel and Hostel rules ➢ Introductio n of warden	Lecture on "Ensuring Safety: Anti-Ragging Regulations in educational Institutions"	Lecture on “Human Values and Professional Ethics”	Performin g Art: Solo Song, Group Song	Inter Class Cricket Match –I
Day – VII Closing Day					

Yoga And Meditation	Concluding session	Introduction Party			
	Concluding session: a. Welcome by the dean b. Feedback from the new students c. Prize Distribution d. Introduction and interaction with the senior students e. Prize distribution, Distribution of UG study material, rule and regulation of academics, hostels ragging etc. Course curriculum f.Address by the chief guest g.Vote of thanks	Film Show Lunch Party for All students, faculty and staff			

GLIMPSES OF CULTURAL/SPORTS ACTIVITIES


डॉ. शोभना गुप्ता

RESEARCH

4. RESEARCH HIGHLIGHTS:

The research network of the University spreads over six agro-climatic zones of Madhya Pradesh and covers 26 revenue districts. These agro-climatic zones are Gird, Malwa Plateau, Nimar Valley, Jhabua Hills, Vindhyan Plateau and Bundelkhand zones. Accordingly, five Zonal Agricultural Research stations, four Regional Agricultural Research Stations and five Special Research Stations have been operating to enhance the productivity and livelihood security of farming community. Presently, 24 All India Coordinated Research Projects on crop improvement, natural resource management and horticulture are running at different centers. Besides these, 7 plan, 12 non plan, 23 tribal sub plan, 5 Agromet Advisory services, 04 externally funded projects are the research strength of the University. The maintenance breeding of crop varieties and production of nucleus seed, breeder seed, hybrid seed and planting materials are managed with the help of twenty seven seed farms.

Research Stations of the University

S.No.	Particulars	No.	Location and Year of Establishment
1.	Zonal Agricultural Research Station	05	Indore (1924), Sehore (1952), Khargone (1964), Morena (1981) and Jhabua (1989)
2.	Regional Agricultural Research Station	04	Gwalior (1916), Khandwa (1964) Ujjain (1989) and Mandsaur (1964)
3.	Special Research Station	06	Enthkedi (1962), Jaora (1964), Bagwai (1964), Badwah (1969), Bhind (2010) and Sirsod (2011)

4.1 List of All India Coordinated Research Projects

S.No.	Name of Projects	Centre
1	AICRP on Water Management	Morena
2	AICRP on Groundnut	Gwalior
3	AICRP on Rapeseed & Mustard	Morena
4	AICRP on Safflower	Indore
5	AICRP on Soybean	Sehore
6	AICRP on Cotton Improvement Project	Khandwa
7	AICRP on Sorghum improvement	Indore
8	AICRP on Chickpea	Sehore
9	AICRP on Pigeonpea	Khargone
10	AICRP on Pearl Millets	Gwalior
11	AICRP on Wheat Improvement Project	Gwalior
12	AICRP on Dryland Agriculture	Indore
13	AICRP on Medicinal and Aromatic Plants	Mandsaur

14	AICRP on Salt Affected Soils	Indore
15	AICRP on Weed Control	Gwalior
16	AICRP on Arid Legumes (Guar)	Gwalior
17	AICRP on Pigeonpea (Sub Centre)	Sehore
18	AICRP on MULLaRP	Sehore
19	AICRP on Integrated Cropping System	Indore
20	AICRP on Fruits (Grape)	Mandsaur
21	AICRP on Chickpea	Indore
22	AICRP on Soybean	Morena
23	AICRP on Onion & Garlic	Mandsaur
24	ICAR Seed Project on Seed Production in Agricultural	Gwalior

4.2 Research Schemes (Non Plan)

S. No.	Name of Scheme/Project	Centre
1	Agriculture Research Lab & Institute	Indore
2	Regional Research Station	Indore
3	Soil Testing Scheme	Indore
4	Regional Research Station	Sehore
5	Regional Research Station	Gwalior
6	Regional Research Station	Bagwai
7	Intensification of Research on Mango Guava & Citrus	Gwalior
8	Soil Testing Scheme	Gwalior
9	Intensification of Research on Mango, Guava & Citrus	Enthkedi
10	Horticulture Research Scheme (Seed production)	Jaora
11	Sugarcane Research Scheme	Indore
12	Potato Aphid Research	Sehore

Seed Farms (Non Plan)

S. No.	Name of Scheme/Project	Centre
1	Agriculture Research Farm	Mandsaur
2	Agriculture Research Farm	Khargone
3	Agriculture Research Farm	Khandwa
4	Agriculture Research Farm	Bagwai
5	Agriculture Research Farm	Gwalior
6	Agriculture Research Farm	Ujjain
7	Agriculture Research Farm	Jaora
8	Agriculture Research Farm	Indore
9	Agriculture Research Farm	Sehore
10	Live Stock Farm	Gwalior
11	Live Stock Farm	Sehore
12	Live Stock Farm	Indore

4.3 Research Schemes (Plan)

S. No.	Name of Scheme/Project	Centre
1	Fodder Research Scheme	Gwalior
2	Strengthening of MP Agriculture Research Institute	Khargone
3	Productivity Improvement of crops under rainfed area	Indore
4	National Agricultural Research Project	Sehore
5	Director of Extension Education	Sehore
6	National Agricultural Research Project	Ujjain
7	College of Horticulture	Mandsaur

4.4 India Meteorological Department (GOI)

S. No.	Name of Scheme/Project	Centre
1	Agromet Advisory Services	Morena
2	Agromet Advisory Services	Khargone
3	Agromet Advisory Services	Jhabua
4	Agromet Advisory Services	Sehore
5	Agromet Advisory Services	Indore

Externally Funded Projects:

S. No.	Title of the Project	Funding agency	Budget (Rs in lakhs)
1.	Establishment of Common incubation facility for processing of Potato and bakery products at CoA, Gwalior.	Ministry of Food Processing Industries, GoI, New Delhi	354.00
2.	Establishment of Common incubation facility for processing of Guava and other fruits and vegetables at CoA, Sehore.	Ministry of Food Processing Industries, GoI, New Delhi	298.45
3.	Establishment of Common incubation facility for processing of Mustard and other oilseed, millet and bakery products at Krishi Vigyan Kendra, Morena.	Ministry of Food Processing Industries, GoI, New Delhi	335.40
4.	Insecticide Resistance Management: Dissemination of pink bollworm management strategies.	Central Institute for Cotton Research, Nagpur.	10.0

Consultancy Processing Cell

- Under CPC since April 2021 to March 2022 an amount Rs. 416.36 Lakhs has been generated by product testing on various crops. The total 49 companies are involved in product testing during this period.

Varieties Notified and released –

- **Raj Vijay Gram 2K21:** This variety has been released by Madhya Pradesh State Seed Sub Committee for cultivation in Madhya Pradesh. It is a medium duration (111 days), extra-large seed size brown seed colour, smooth surface, owlsheads hape, pink flower, large cotyledon high water absorptioncapacity, wilt resistant, large brown seeded,high yielding variety of chickpea and found fit for flattened(ChanaJor),chhoula,valueadded snacks products with high yield potential.
- **RajVijayKabuliGram121:[RVKG121]**has been Notified vide Notification No 500(E) Dated 29.01.2021 for cultivation in Madhya Pradesh. It is a variety which matures in 114 days, having bold seeds (26.30g/ 100seeds),with 1970 kg/ha Average yield potential. It has resistance to fusarium wiltand to leranttopodborer

- **Raj Vijay Kabuli Gram 2021(RVKG2021):**
  This variety has been released by Madhya Pradesh State Seed Sub Committee for cultivation in Madhya, Pradesh. It is a medium duration (105 days), large seed size, smooth surface, owl shead shape, pink flower, yellow cotyledon high water absorption capacity, wiltresistant, high yielding varietyof chickpea.

- **RajVijayGram204(RVG204)(RVSSG8102):**

  This desitype Chickpea variety has been developed from the cross ofICCV10XICCL87322 which is suitable for mechanical harvesting in CZ. It has tall and semierect growth habitand attractive seeds size of 23.4 gm/100 seeds. It has an average yield potential of 2232 kg/ha and maturesin111days. It exhibitsresistance against *Fusarium* wilt and tolerantto Helicoverpa. The variety has been released for cultivation in Central Zone comprising of Madhya Pradesh, Chhattisgarh, Gujarat, Maharashtra and Southern Rajasthan.

- **Raj Vijay Kabuli Gram 2020 (RVKG 2020)(RVSIG 63):**

  The Kabuli type chickpea varietyhas been developed from the cross JSC52 XRVKG100 which is suitable for timely sownconditions in NWPZ. It has medium tall andsemi spread ingplant,white flower with noanthocyanin content in plants, smooth seedsurface, cream owls head shape seeds and large seed size of 39.5gm/100 seeds. It has an average yield of 1637 kg/ha and maturesin 147 days.The varietyis moderately Resistant to *fusarium*wilt. It has been released for cultivation in North West Plain Zone comprising of Punjab, Haryana, Western Uttar Pradesh, Delhi, North Rajasthan, Jammu & Kashmir, plains of Himachal Pradeshand Uttarakhand.

- **Safflower variety RVSAF 14-1**notified vide Gazette Notification No 8 (E) Dated 24.12.2021. This is first spiny variety with early maturing (126 days to maturity) and high yielding (1792 kg/ha), bold seeded (100 seed weight 5.86 g) and oil% is (29-30%). The variety signifies landmark achievement in safflower as it overcomes the unresolved problems of late maturity of safflower varieties.

- **Variety RVSAF 18-1**notified vide Gazette Notification No 8 (E) Dated 24.12.2021. It matures in 127- 131 days and yield potential is 1746 kg/ha with oil content (39.1 per cent). It has better performance for major diseases viz; Alternaria leaf spot and Wilt.

- **Safflower (RVSAF 14-1):** Non spiny Safflower variety, Early in Maturity: 126 days, High seed yield: 1792 kg/ha, Bold seed: 5.86 g /100, seed Oil percentage: 29-30%. It is suitable for Madhya Pradesh State.

- **Safflower (RVSAF 18-3):** Spiny, Safflower Variety, Grain Yield 17-18 q/ha, Tolerant to Alternaria leaf spot and wilt diseases, Oil content: 33-35%, maturity: 127-132 days, It is suitable for of Madhya Pradesh State.

- **Basil (Raj Vijay Basil-13) RVMOB-13:** Spike - Long and light green color, medium spikelet and upper side 4-5 spike let light violet, Seed yield kg/ha- 1055.6 kg, Oil content - 0.77%, No. of spike /plant – 224, Days to 50% Flowering- 56 Days. It is suitable for of Madhya Pradesh, Gujarat, Rajasthan and Uttar Pradesh.

- **Basil (Raj Vijay Basil-16) RVMOB-16:** Spike- Long and light green color, high spikelet and upper side 4-5 spike let light violet at spikelet initiation, Seed yield kg/ha- 1059 kg, Oil content -0.71%, No. of spike /plant - 210, Days to 50%

Flowering- 67Days, Plant height - 87.5cm, Plant height - 98.5 cm. It is suitable for of Madhya Pradesh, Gujarat, Rajasthan and Uttar Pradesh.

Reflections of ongoing projects (Research Achievements):

- **Management of problematic weed (*Cuscutacampestris*) in berseem (*Trifoliumalexandrinum*L.) fodder crop:**

Among different herbicides, the application of imazethapyr 40g/ha after 1st cut + imazethapyre 40g/ha after last cut provided the maximum fodder yield (67.22 t/ha) and seed yield (471 kg/ha) *fb*imazethapyr 40g/ha after 1st cut (66.39t/ha) and (422kg/ha) fodder and seed yield respectively.

- **Performanceofinsecticidestocontrolgram pod borer (*Helicoverpa*) on the yieldofGram**:

Among different treatments to control attack of grampod borer (Helicoverpa) ingram, mean data of yield shows thatthe treatment T8 (Chlorantraniliprole@100ml/ha) had highest grain yield 1538kg/ha followed by the use of treatment T1 (emamectinbenzoate@250gm/ha)1510kg/ha,T6 (Indoxacarb@500ml/ha)1487kg/ha T5 (Prophenophos @ 1.5 l/ha) 1470kg/ha as compared to other treatments and control. Hence, it has been concluded that maximum yield could be obtained by the use of Chlorantraniliprole @ 100 ml/ha, emamectin benzoate @ 250 gm/ha and Indoxacarb @ 500 ml/ha.

- **Integrated Drought Management in Rainfed Groundnut:**

Application of hydrogel @ 2.5 kg ha-1 along with mulch application @ 5 tha-1 resulted in the best drought management practice and increased the pod, haulm and kernel yield, gross & net returns, BC ratio and water productivity of Mallika (ICHG-00440) by 26.9, 21.5, 25.6, 19.0, 23.2, 8.3 and 25 percent, respectively compared to **farmers' practice**. However, it was closely followed by the sole application of mulch @ 5 ha-1, hydrogel application @ 2.5 kg ha-1 and endophytic bacteria application.Compare to one life saving irrigation, the application of hydrogel @ 2.5 kg ha-1 along with mulch application @ 5 t ha-1 has increased the pod & haulm yield, HI, gross returns, water productivity and the magnitude of increase was 7.2, 7.6, 9.1, 7.0, 19.0 percent, respectively.

- **Performance of different varieties of black gram under Jhabua Conditions:** Experiment shows that the treatment T6 (PU - 31) had significantly highest grain yield 907 kg/ha followed by the use of treatment T4 (Uttara) the yield obtain 867 kg/ ha and T3 (JU - 86) the yield obtained 813 kg/ha. Hence it has been concluded that maximum yield could be obtained by the Black gram variety PU 31, Uttara and JU - 86.

- **Identification of groundnut + millet inter cropping system for Grid region of Madhya Pradesh:** The significantly highest yield of the groundnut+millet system was recorded with groundnut + barnyard millet (6:1) and it was at par with the groundnut +foxtail millet (6:1). It was followed by the groundnut +finger millet (6:1) intercropping system. Similarly, groundnut +barnyard millet (6:1) intercropping system recorded significantly the highest harvest index which was statistically at par with groundnut +foxtail millet (6:1) and groundnut t+ foxtail millet (5:2). The intercropping of groundnut with foxtail millet at 6:1 ratio recorded significantly highest **LER** followed by groundnut+ barnyard millet at 6:1 ratio and groundnut + foxtail millet at 5:2 ratio (0.93). Significantly highest **IER** was recorded under groundnut +barnyard millet (6:1) system which was closely followed by groundnut + foxtail millet (6:1). While significantly highest **economic efficiency** and **production efficiency** was recorded with sole groundnut.

- **Weed management in pear millet under pearl millet-based cropping system in conservation agriculture systems Cowpea:** Based on three years experimentation (2019 to 2021) the population of narrow and broad-leaved weeds continues to be less under zero tillage with crop residue application during the entire year. The application of pendimethalin + imazethapyr 900 g/ha alone resulted in the maximum control of grasses and provided the maximum grain and Stover yield (844 and 5441 kg/ha), gross and net returns (Rs. 65741 and Rs. 47124/ha) respectively under zero tillage with crop residue application. Therefore, conservation agriculture, especially zero tillage practices with crop residue application, can contribute to decrease narrow and broad-leaved weeds and higher productivity

- **Effect of integrated weed management on growth and yield of soybean -** Among different treatment combinations, mean data of yield soybean shows that the treatment T1 (Weed free) had significantly highest grain yield 1653 kg/ha followed

by the useof treatmentT8 (Chlorimuron Ethyl (POE) @ 10 gm /ha + Quizalofop-p-ethyl @ 50 g /ha.) the yield obtained 1610 kg/ha, T5 (Chlorimuron Ethyl (POE) @ 10 gm /ha + Quizalofop-p-ethyl @ 50 g /ha) the yield obtained 1590 kg/ha and T9 (Imazethapyr @ 35 g /ha + Imazamox @ 35 g/ha) the yield obtained 1570 kg/ha. Hence it has been concluded that maximum yield could be obtained by the use of Chlorimuron Ethyl (POE) @ 10 gm /ha + Quizalofop-p-ethyl @ 50 g /ha.

- **Farmer FIRST Programme ZARS, Morena:** The project entitled"Participatory location specific research and technology application through optimizing resources for livelihood security of small holders of Madhya Pradesh"for implementation under Farmer FIRST ProgrammeScheme was initiated on 2016 at the seven selected villages *viz.*Hadwasi, Lalbans, Satha, Barouli, Mragpura, Palpura and Harchandbasai of Joura&Morena blocks, District of Morena (M.P.) Interventions under this project were carried following modules like crop based module, horticulture based module, livestock based module IFS, fish based module, enterprise based module andNRM based module.

- **Intensive cropping system Technology:** This technology was conducted at 260 farmers' fields on different intervention with extra short duration varieties of pigeon pea (ICPL-88039), soya bean (RVS-2001-4), blackgram (PU-31), green gram (TJM 3) and pearl millet (Hybrid).The adoption of improved technology increased in grain yield of pigeon pea, soya bean, black gram, green gramandpearl millet **by 16.0%, 17.60%, 17.5%, 22.40% and 12.20%** as compared to farmer practice respectively.

- **Integrated nutrient management:** These technologieswere brought in use in 125 farmers' fields on different crops *viz;* soybean, green gram, paddy and pearl millet and organic manure/ vermicompost – @ 5 t/ha, liquid bio-fertilizers – @ 3-5 ml/kg of seed and NPK 12:32:16 @ 150-200 kg/ha on soil test basis.The adoption of improved technology increased the grain yield of soybean, green gram, paddy and pearl millet **by 22.70%, 20.20%, 16.5% and 13.00%**as compared to farmer practice respectively.

- **Crop production under precise land levelling:** These technologieswere brought in use at 258 farmers' fields on different crops *viz;* pigeon pea, green gram, sesame, pearl millet and paddy. The adoption of improved technology increased in grain yield of pigeon pea, green gram, sesame, pearl millet and paddy **by 9.5%, 12.0%,**

10.5%, 7.5 and 7.90% respectively as compared to farmers' practice respectively. The water productivity, gross income, net income and B:C ratio werealso higher under improved practice as compared to farmers' practice.

- **Crop production under broad bed and furrow planting:** Trials were conducted at 93 farmers' fields on different crops *viz;* pigeon pea, green gram, soybean, and black gram. The adoption of improved technology increased in grain yield of pigeon pea, green gram, soybean, and black gram **by 12.40 %, 23.50 %, 21.00% and 17.40%** respectively as compared to farmer practice respectively. The water uses efficiency, gross income, net income and B: C ratio were also higher under improved practice as compared to farmers' practice.

Breeder seed production *Rabi 2021*-22: A quantity of **5759.00** quintals of breeder seed produced of various crops namely wheat, Gram, Lentil, Pea, Rapeseed & Mustard and Toria produced during Rabi 2021-22.

Sr. No.	Rabi 2021-22 (in qtls)	
1.	Wheat	2155.0
2.	Gram	3387.0
3.	Lentil	122.0
4.	Pea	9.0
5.	Rapeseed & mustard	79.2
6.	Toria	6.8
Total		**5759.00**

Breeder seed production *Kharif 2021*: A quantity of **3299.79** quintals of breeder seed produced of various crops namely soybean, Green Gram, Black Gram, Sorghum, Pigeon pea, Paddy and Til produced during Kharif 2021.

Sr. No.	Kharif 2021	
1.	Soybean	2808.5
2.	Green gram	44.67
3.	Black gram	4.84
5.	Sorghum	7.43
7.	Pigeon pea	45.94
8.	Paddy	383.1
10.	Til	5.31
11.	**Total**	**3299.79**

Research Publications:

Research Articles

M. K. Saxena, Usha Saxena ,Sudhanshu Jain, Yashwant indapurkar and H.L.Khapadia: Safflower in Madhya Pradesh - an overview of 25 years of research and development (2021).IJCRT, volume 9,ISSN2320-2882 ,pp 26-33

Rajpoot ,R.L and Kushwaha, B.B 2021.Yield analysis of chickpea(Cicer arietinum)- Mustard (Brassacajuncea) intercropping system as influenced by weed management practices .legume Research, An International Journal volume 44 Issue 1: 94-97 online.

S C Tiwari, Narendra Kumawat, K S Bangar, R K Sharma, M J Kaledhonkar and B L Meena (2020). Yield and water productivity of cabbage on sodic vertisols as influenced by drip irrigation rate and irrigation schedule. *Journal of Soil Salinity and Water Quality* 12 (2): 271-276.

Bangar KS, Tiwari SC, Khandkar, UR, Verma SK, Kumawat N, Kaledhonkar MJ and Tagore GS (2021). Characterization and mapping of groundwater quality of *Gird* region in Central India. *Journal of Soil Salinity and Water Quality*, 13(2):268-277.

Tiwari SC, Kumawat N, Kaledhonkar MJ, Bangar KS and Sharma RK (2021). Response of wheat to different irrigation methods under sodic Vertisols. *Journal of Soil Salinity and Water Quality*, 13(2):255-260.

Singh Neelam, **Joshi Ekta**, Sasode D.S, Rawat, G.S. and Sushma Tiwari. (**2021**). Response of rainy-season groundnut to application of fertility levels and bioformulations. *Indian Journal of Agronomy* 66(2): 70-74. **(NAAS rating 5.55).**

Chitralekha Shyam, M.K.Tripathi, Niraj Tripathi, Sushma Tiwari, and **R.S.Sikarwar (2021)** Genetic variations in fatty acids and oil compositions among 188 Indian mustard.(*Brassica juncea* (Linn.)) Czern & Coss genotypes. Current Journal of Applied Science and Technology 40(46);9-28,2021;Article no.CJAST.82990. **(NAAS rating-5.32) (Encl. 304-323)**

Tinee Adlak, Sushma Tiwari, Neha Gupta, M.K.Tripathi, **R.S. Sikarwar**, Ritu Sastya and Versha Gupta "Assessment for Yield and Nutritional Profiling of Groundnut with the help of Allele specific Markers for Desirabl fatty acids". International journal of Current Microbiology and applied sciences 2021; ISSN: 2319-7706. Vol 10 No 02(**2021**).

Asha Kushwah, Ravendra Singh Sikarwar, Manish Vishwakarma, Sushma Tiwari and Sanjay Singh, 2021, Relationship among the yield and its yield contributing traits in spring wheat (Triticumaestivum L.), The Pharma Innovation Journal **2021**; 10(9): 1974-1977

Asha Kushwah*, Sanjay Singh, Sushma Tiwari and R. S. Sikarwar, 2021, Evaluation of Genetic Variability, Heritability and Genetic Advance in Advanced Breeding Lines of

Wheat (Triticumaestivum L), International Journal of Current Microbiology and Applied Sciences ISSN: 2319-7706 Volume 10 Number 09 (**2021**).

Preeti Pachauri and R.S.Sikarwar (**2022**) Correlation and path analysis of different environments for yield and components traits in groundnut (*Arachis hypogaea* L.) The Pharma Innovation journal 2022; 11(2):1181-1186. **NAAS rating-5.23 (Encl. 336-341)**

Preeti Pachauri and R.S.Sikarwar (**2022**) scientific cultivation of chickpea in India. The Pharma Innovation journal 2022; 11(2):1187-1191. **NAAS rating-5.23(Encl. 342-346)**

Kulheri Anil, Sikarwar R.S. and Raput shyam Sikarwar **(2022**). Genetic variability studies for yield and yield related traits in groundnut (Arachis hypogaea L.) The pharma innovation journal 2022; 11(6):315-317. **Naas rating-5.23. (Encl. 347-349)**

Kaurav. A.S, P.K. Fatehpuria, Pandya R.K. and **Sasode R.S.** (2021). Screening of effective media for the growth of *Pyriculariagrisea* under *In-vitro* condition. *Ind. J.Pure App. Biosci*. **9** (3), 131-135.

P.K. Fatehpuria, **Sasode R.S.,** R.K. Pandya , P.K. Gupta and Singh R. (2021). Survey of *Sclerotinia* blight of Mustard in Northern Madhya Pradesh. *.Ann. Pl. Protec. Sci.* 29 (2): 147-150.

Jaiswal S., **Sasode R.S.,** R.K. Pandya and P.K. Gupta (2021). Bioagent and chemicals seed dressing for management of Pearl millet downy mildew incited by *Sclerospora graminicola.*Ann. Pl. Protec. Sci. 29 (2): 110-113.

P.K. Fatehpuria, **Sasode R.S.,** R.K. Pandya and P.K. Gupta (2021). Correlation of oxalic acid and virulence pattern among the isolate of *Sclerotinia sclerotiorum*. *Ann. Pl. Protec. Sci.* 29 (2): 120-123.

Choudhary. S., **Sasode R.S.,** Yadav. D., and Chopra. S. (2021). Reaction of Tomato varieties against Early Blight (*Alternaria Solani*) of Tomato under field conditions. *Frontiers Crop Improve*. Vol (9).3968-3970 (Special issue-IX).

Sasode R.S. and Choudhary S.(2022). Evaluation of tomato hybrids against early blight (*Alternaria solani*) under open field conditions. *Ann. Agric. R*es. New Series vol. 43 (2) : 67-69.

P.K. Fatehpuria, and **R.S. Sasode** (2022) Scenario of Early Blight and Leaf Curl of Tomato in Gwalior Districts of Madhya Pradesh. *Indian Journal of Ecology*. 49(2):548-551.

Bhadu Kavita, Gupta Varsha, Rawat G.S., and Sharma Janmejay (2021). Competition indices of different pigeonpea based intercropping systems. *Agricultural Research Journal 58* (3) : 407-411.

M. K. Saxena, Usha Saxena ,Sudhanshu Jain, Yashwant Indapurkar and H.L .Khapadia: Safflower in Madhya Pradesh - an overview of 25 years of research and development (2021).IJCRT, volume 9,ISSN2320-2882 ,pp 26-33 Impact factor 6.97

Ram L, Baraiya BR, Choudhary AK and Kachouli B. (2021) Assessment of Variability and Genetic Parameters in Agro-Physiological Traits of Chickpea (*Cicer arietinum* L.) under Rainfed Condition. International Journal of Plant & Soil Science. 33(24): 619-626.

Ram L and Baraiya BR (2021) Genetic Analysis for Agro-Physiological Characters of Pigeonpea [*Cajanus cajan* (L.) Millsp.] under Rainfed Condition. *Frontiers in Crop Improvement.* 9(S8): 3286-3292.

Ram L and Saxena AK (2022) Estimation of genetic divergence for agro morphological characters in mungbean [*Vigna radiata* (L.) Wilczek]. *The Pharma Innovation Journal*. 11(2): 561-565

Baraiya BR, Shrivastava DK, **Ram L**. and Satya V. (2022) Study of physiological growth and drought tolerance in genotypes of Cotton (*Gossypium hirsutum* L.). *The Pharma Innovation Journal*. 11(2): 1436-1440.

Naresh Meena, R.N. Kanpure, R.P. Patel, B.K. Kachouli and B.K. Patidar "Effect of foliar Spray of Nutrients and plant growth regulator on vegetative, reproductive growth, physical character and leaf chlorophyll content of Acid lime (Citrus aurantifolia Swingle)", Vol. 9 995-999 (Special Issue-III August **2021**) ISSN : 2393-824 online ISSN: 2454-6001 Web. www.asthafoundation.in

B.Verma, R.N. Kanpure, P. Sonkar, B.K. Patidar, B.Kachouli and S.R. Anjanave, "Efficacy ofgowing media and indole-3 butyric acid on survival and success of air layering of guava (Psidium guajava L.) Cv. L-49", Vol. 9 :2046-2048 (Special Issue-V) December **2021**, ISSN 2393-8234, Web. www.asthafoundation.in

Lekha Ram, Balram Baraiya, Ashok Kumar Choudhary and Basant Kachouli, Assessment of variability and genetic parameters in agro physiological traints of chickpea (Cicer arietionukm L.) under rainfed condition, 33 (24) : 619-626, **2021**, Article No. IJPSS.82698 ISSN: 2320-7035.

Naresh Meena, "Effect of foliar spray of nutrients and plant goth regulator on vegetative, reporucive growth, physical character and leaf chlorophyll content of acid lime (Cirus aurantifolia swingle)". Vol-9 :995-999 (Special Issue – III August **2021**) ISSN : 2393-8234.

B. Bhagora, K.C. Meena, D.K. Patidar, Nitin Soni, B.K. Patidar and S.K. Dwivedi "Gwoth and yield of Chandrasur (Lepidium sativum L.) in Response of different sowing Methods

and seed rates" Vol. 53, NO. 2, December **2021** Copyright ISHRD, Printed in India. DOI.

Seema Pardhi, Kushwah, S.S., Sharma, R.K. and Gallani, Roshan. (**2021**). Influence of Varieties and Integrated Nutrient Management Practices on Growth and Yield of Seed in Cowpea (*Vigna unguiculata* L.). *Legume Research*. 45(2): 227-231.

Damini Visen, Anuj Kumar, Priyamvada Sonkar and Roshan Gallani (**2021**). Performance of standard chrysanthemum (*Dendranthema grandiflora Tzvelev*.) cultivars for growth and post-harvest life under Malwa region of M.P. *The Pharma innovation.* 10 (12) :280-282.

Ekta Rajput, Anuj Kumar, R.K. Sharma, Roshan Gallani and Saransh Saxena (**2022**). Performance of different cultivars for flowering parameters under Malwa Plateu of Madhya Pradesh. *The Pharma innovation.* 11 (1S): 909-912.

Krishna Kumar, R.N. Kanpure, Jyoti Kanwar, B.Kachouli and R.P. Patel, "Effect Pre-harvest Spray of Calcium and Potassium Nutrients Sources on Storage behavior of Aonla (Emblica officinalis Gaertn.) Fruits Cv. Hathijhool," vol 17 (1) : 53-56 (January **2022**), ISSN: 0973-6417, online ISSSN: 2454-6003 website : www.ssdatmeerut.in.

Asma Hamid Mir, Mohd Ashraf Bhat, Humara Fayaz, Aijaz A. Wani, Sher A. Dar, Showkat Maqbool, Mohammad Yasin, Javid Iqbal Mir, Mohd Anwar Khan, Parvaze A. Sof, ,Ahmed H. El-Sappah, Mahendar Thudi, Rajeev Kumar Varshney, Reyazul Rouf Mir (2022). SSR markers in revealing extent of genetic diversity and phylogenetic relationships among chickpea core collection accessions for Western Himalayas. Molecular Biology Reports. https://doi.org/10.1007/s11033-022-07858-4.

Nagpal, S., Sharma,P.,Sirari,Kumawat,K.C.,Leelawati,**Gupta,S.C**.,Mandanal Kumalpreet, S. (2021). Chickpea (*Cicer arietinum*) as model legume for decoding the coexistence of pseudomonas fluorescence and mesorizobium sp. as biofertilizer under diverse agro-climatic zones.**Elsevier Microbiological Research** 247 (2021) 126720

VassandaCoumar,M. Sharma,M. Jain,R.C.saha,J.K.**Gupta,S.C**.,Rapendirah,S.and Patra,A.K. (2021).Effect of modified steel slag application as soil amendment on soil quality and spinach yield in copper contaminated Vertisol.**Biological Forum**-in International journal 13(2) 336-34

Srivastava, A.K., Dixit, G.P., Singh, N.P., **Saxena, D.R.,** Saable, P.R., Raghuvanshi, K.S.,andAnandani, V.P. (2021). Evaluation of chickpea (*Cicer arietinum* L.) accessions for *Fusarium* wilt resistance. *J. Environ. Biol.* 42: 82-89.

Srivastava, A.K., **Saxena, D.R.,** Saabale, P.R., Raghuvanshi, K.S., Anandani, V.P., Singh,R.K. Sharma, O.P. Wasinikar, A.R.,Sahni, Sangita, Varshney, R.K., Singh, N.P. and Dixit, G.P.

(2021). Delineation of genotype-by-environment interactions for identification and validation of resistant genotypes in chickpea to *fusarium* wilt using GGE biplot. ***Crop Protection*** 144: 105571 https://doi.org/10.1016/j.cropro.2021.105571

Sharma, P.; Choudhary, S.; Choudhary, S. K. and Verma, D. K. A Study on Identification of Indigenous Technology Knowledge (ITK) and its Utilization in Contemporary Modern Agriculture at Shajapur District of Madhya Pradesh International Journal of Advances in Agricultural Science and Technology (2021), 8 (2):33-38

Aakash, Thakur N.S., Singh M.K., Bhayal L., Meena K., Choudhary S.K., Kumawat N., Singh R.K., Singh U.P., Singh S.K., Sanodiya P., Kumar A. and Singh A.K. (2022). Sustainability in rainfed Maize (Zea mays L.) production using choice of corn variety and nitrogen scheduling. *Sustainability*, 2022 (14): 3116. https://doi.org/10.3390/su14053116 (NAAS Rating: 9.27)

Pan R.S., Kumar R., Bhatt B.P., Mishra J.S., Singh A.K., Naik S.K., Shinde R., Mali S.S., Sarkar P.K., Kumawat N., Singh A.K. and Kumar U. (2022). Production potential, competitive indices, economics and soil health of diversified production system hill and plateau region of eastern India. *Indian Journal of Agricultural Sciences*, 92 (1): 101-104.

Rahangdale N., Kumawat N., Jadav M.L., Bhagat D.V., Singh M. and Yadav R.K. (2022). Symbiotic efficiency, productivity and profitability of soybean as influenced by liquid bio-inoculants and straw mulch. *International Journal of Bio-resource and Stress Management*, 13 (1): 9-16.

Meena R.S., Chauhan G.S., Singh D., Anchra S., Meena R.K., Naik B.B.S., Meena B.L., Kumawat N. and Meena R.L. (2022). The Effect of different fertility levels and zinc fertilization on Growth and Yield of baby corn (*Zea mays* L.) hybrid under Southern Rajasthan. *Agricultural Mechanization in Asia,* 53 (2): 5859-5564.

Kumar R., Kumawat N., Mishra J.S., Ghosh D, Ghosh S, Choudhary A.K. and Kumar U. 2022. Weed dynamics and crops productivity as influenced by diverse cropping systems in eastern India.*Indian Journal of Weed Science,* 54(1): 18–24.

Kumar R., Kumawat N. and Deka B.C. (2022). Production potential, quality and soil health of newly introduced baby corn as influenced by best management practices in eastern Himalayas. *Journal of Plant Nutrition*, https://doi.org/10.1080/01904167.2022.2027967.

KumarR., SaurabhK., Kumawat N., Sundaram, P.K., Mishra J.S, Singh D.K., Hans H., Krishna, B. and Bhatt B.P. (2021).Sustaining Productivity Through Integrated Use of Microbes in Agriculture. In: Seneviratne G., Zavahir J.S. (eds) Role of Microbial Communities for Sustainability. Microorganisms for Sustainability, vol 29.Springer, Singapore, pp. 109-145. https://doi.org/10.1007/978-981-15-9912-5_5.

Jadav, M. L. (2021). Effect of Drip irrigation and Mulching on Pigeonpea Productivity. Lambert Academic Publishing, Chisinau 2068, Republic of Moldova Europe ISBN:978-620-4-19723-4.

Jadav M.L, Bhagat, DV, Girothia O.P., Choudhary S.K. and Kumawat N. (2021). Rainwater harvesting to mitigate climate change effects on the cropping sequence in Malwa region of Madhya Pradesh. *The Pharma Innovation Journal*, 10 (7): 461-465.

Rahangdale N., Kumawat N., Jadav M.L., Singh M. and Bhagat D.V. (2021). Effect of liquid bioinoculants and straw mulch on health of vertisols and productivity of soybean (*Glycine max*). *Crop Research*, 56 (3&4): 111-117, DOI : 10.31830/2454-1761.2021.018

Kumar R., Thirugnanavel A., Kumawat N. and Deka B.C. (2021). Paper mill-based integrated nutrition of garden pea in the Eastern Himalayas. *Indian Journal of Agricultural Sciences*, 91 (5): 673-667.

Yadav R.K., Kumawat N., Sarangdevot S.S. and Singh R.K. (2021). Bio-efficacy of seed priming with fungicides against major soil borne diseases of maize. *Journal of AgriSearch*, 8(3): 249-254.

Jadav M.L., Ranade D.H., Choudhary S.K. Bhagat D.V., Kumawat N., Upadhyay A.and Girothia O.P. (2021). Evaluation of percolation tank as soil and water conservation measure in Malwa-Nimar region. *The Pharma Innovation Journal*, 10 (9): 172-175.

Jadav M.L., Raidas D.K., Kumawat N., Girothia O.P., Bhagat D.V. and Choudhary S.K. (2021). Pigeonpea (Cajanus cajan L.) growth, yield and monetary influenced by drip irrigation and mulch in Vertisols of Madhya Pradesh. *Legume Research*, DOI: 10.18805/LR-4701

Singh M., Kumawat N., Tomar I.S., Kumar C. and Singh D. (2021). Innovation technological interventions coupled with proper management is the need of the day for producing summer green gram in the tribal district of Madhya Pradesh. *Journal of Krishi Vigyan*, 10 (1): 133-37.

Meena R.S., Chouhan R.P.S., Sumeriya H.K., Kumar R. Meena B.L. and Kumawat N. (2021). Weed management effect on weed dynamic, nutrient depletion and productivity of barley under north-western plain zone. *Indian Journal of Weed Science*, 53 (3): 257-262.

Sharma, P.; Choudhary, S.; Choudhary, S. K. and Verma, D. K. (2021). A Study on Identification of Indigenous Technology Knowledge (ITK) and its Utilization in Contemporary Modern Agriculture at Shajapur District of Madhya Pradesh, *International Journal of Advances in Agricultural Science and Technology,* 8 (2) :33-38.

Singh, A.; Choudhary, S.; Choudhary, S. K. and Verma, D. K. (2021). A Study on Impact of NICRA (National Innovation of Climate Resilient Agriculture) Project on Adoption of Recommended Production Technology of chickpea in Indore block, Indore district, *Journal of Agriculture and Veterinary Science*, 14 (2, I) :33-36.

Dudawe, N., Choudhary, S.; Choudhary, S. K. and Verma, D. K. (2021). A study of technological gap in cultivation of Bt-cotton under FLD through KVK Khargone (M.P.) *International Journal of Agriculture Extension and Social Development*, 4 (1):106-108.

Meena, Ashok.; Choudhary, Sandhya.;Singh, Dhavendra.; Choudhary, S. K.; (2021) Constraints faced Panchayat Members in Relation to Agricultural Development Programs in Ujjain District (M.P.), International Journal of Advances in Agricultural Science and Technology,8(9) :175-182.

Birle, Sunil.; Choudhary, Sandhya.; Singh, Dhavendra.; Choudhary, S. K.; (2021). A Study on Decision Making Ability and Participation in Various Agriculture Activities Performed by Farm Women in Khargone District of M.P, , International Journal of Advances in Agricultural Science and Technology,8(8) :115-120.

Shukla Mitalee Choudhary, Sandhya.; Choudhary, S. K.;(2021). Study of Scientific Knowledge and Adoption Behavior of Fish Farmers in terms of Economic Benefit at Balaghat (M. P.) International Journal of Advances in Agricultural Science &Technology, 9(3) : 1-8.

Sharma Pankaj,; Choudhary, Sandhya.; Choudhary, S. K.; Verma. Deepak Kumar (2021). A Study on Identification of Indigenous Technology Knowledge (ITK) and its Utilization in Contemporary Modern Agriculture at Shajapur District of Madhya Pradesh. International Journal of Advances in Agricultural Science and Technology 8(2):33-38.

Mandloi, Rajani.; Choudhary, Sandhya.; Choudhary, S. K.;(2021). Study on entrepreneurial behavior of women vegetable growers in Barwaha block of Khargone district Madhya Pradesh, India, IOSR Journal of Agriculture and Veterinary Science15(1) 45-48.

Meena, Ashok.; Choudhary, Sandhya.; Singh, Dhavendra.; Choudhary, S. K.; (2021). Study on Role performance of Panchayat Members in relation to Agricultural Development Programs in Ujjain District (M.P.) *Journal of Agriculture and Veterinary Science* ,14 (10,Ser.I) 53-56.

Jadav, M.L., Bhagat, D.V., Girothia O.P., Choudhary, S.K. and Kumawat, N. Rainwater harvesting to mitigate climate change effects on the cropping sequences in Malwa region of Madhya Pradesh. The Pharma Innovation Journal, 10(7) (2021): 461-465.

Jadav, M. L., Raidas, D.K., Kumawat, N., O.P., Girothia, Bhagat, D.V. and Choudhary, S.K.Pigeonpea (Cajanus cajan L.) Growth, Yield and Monetary Influence by Drip Irrigation and Mulch in Vertisols of Madhya Pradesh. Legume Research, 10.18805/LR-4701. 2021).

Jadav, M.L., Ranade, D.H Choudhary, S.K, Bhagat, D.V., Kumawat, N., Upadhyay, A N. and Girothia O.P.Evaluation of percolation tank as soil and water conservation measure in Malwa-Nimar region.The Pharma Innovation Journal, 10(9) (2021): 172-175

Bangar KS, Tiwari SC, Khandkar, UR, Verma SK, Kumawat N, Kaledhonkar MJ and Tagore GS (2021). Characterization and mapping of groundwater quality of *Gird* region in Central India.*Journal of Soil Salinity and Water Quality*, 13(2):268-277.

Tiwari SC, Kumawat N, Kaledhonkar MJ, Bangar KS and Sharma RK (2021). Response of wheat to different irrigation methods under sodic Vertisols.*Journal of Soil Salinity and Water Quality*, 13(2):255-260.

Shaktawat, R.P.S and Chundawat, G.S. (2021). Technological and Extension Yield Gaps in Oilseed crops in Mandsaur District of Madhya Pradesh. *J. of Krishi Vigyan.* 9(2):234-237

Chundawat, G.S.: Singh, S.B. and Patel, R.P. (2021). Field bio efficacy of Flonicami dagainst sucking insect pests of Soybean *(Glycinmax(L.)* Murril). Journal of Plant Development Science. 13(6):363-368

Reeta Mishra and Satyendra Pal Singh. Reduction in food loss through storage of pulses in hermaticbags. Journal of Community Mobilization and Sustainable Development Vol. 16(1), January-April, 2021.Pg.no.29-32. J158ISSN2230-9047

Suraj Mali, Sanjay Tiwari and Ranjan Laik. "Influence of organic and inorganic amendments and their combination on macro nutrient (Zn,Cu,Fe,Mn and Boron) up take ingrain and straw of various rice genotypes under Sodic soils of Bihar" (2020). Journal of Pharmaco gnosy and Phytochemistry, 9(5),pp.444-454.

Visen, Damini; Kumar, A.; Sonkar, Priyamvada and Gallani, Roshan. (2021). Performance of standard chrysanthemum (*Dendranthema grandiflora* Tzvelev) cultivars for growth and post-harvest life under Malwa region of MP. *The Pharma Innovation.* 10(12): 280-282

Choudhury, B. H.; Islam, S. and Singh Om (2021). Traditional knowledge of indigenous leafy vegetables: A study of herbal medicines and vegetables used by the people of Jorhat district, Assam (India). The Pharma Innovation Journal; SP-10(10): 551-554.

Shakthi P.N., K.C. Meena, I.S. Naruka, D.K. Patidar, Nitin Soni and K. Alam Khan (2021). Genetic Variability, Heritability, Genetic Advance and Correlation Coefficient Study

in Fenugreek Cultivars (*Trigonella foenum-graecum* L.). Biological Forum – An International Journal,13(3b): 71-75.

Yamanur, M.M., Kanpure, R.N., Annigeri, S.V. and Dwivedi, S.K. (2021). Effect of different edible coating materials on quality and shelf-life of guava (*Psidium guajava* L.) cv. L-49. *The Pharma Innovation Journal* 10(12): 2408-2411.

U.Saxena, S. Raddy, M.K.Saxena&P. Kumari. Identification ofSorghum parental lines with highphenotypic stability using GGE, biplot analysis in Central India. Journal of Crop and Weed: 15 (3); p19-24; 2019

M.K.Saxena, UshaSaxena. Safflower in Madhya Pradesh- an Overviewof 25 years of research and development. IJCRT; 9(3), p31-38, 2021

Shaktawat, R.P.S. and Chundawat, G.S. (2021). Technological and Extension Yield gaps in Oilseed crops in Mandsaur District of Madhya Pradesh. *J. of Krishi Vigyan.*9(2): 234-237.

Chundawat, G.S.: Singh, S.B. and Patel, R.P. (2021). Field bio efficacy of Flonicamid against sucking insect pests of Soybean *(Glycin max (L.)*Murril). Journal of Plant Development Science. 13(6):363-368.

Singh, Y. P. (2022). Impact of climatic abnormities and mitigating technologies on pigeonpea (Cajanus cajan) in central India. Indian Journal of Agricultural Sciences 92(6):779–84.

Singh, Y. P., Sinha, R. B., Singh, S., and Singh, A. K. (2022). Performance of tree species and natural vegetation after rainwater conservation in ravine land based on biomass, carbon stock and soil properties. Range Management & Agroforestry 42(1): 7-14.

Pardhi, S.; Sharma, R.K.; Kushwah, S.S.; Gallani, R. (2022). Influence of varieties and integrated nutrient management practices on growth and yield of seed in cowpea (Vigna unguiculata L.). Legume Research- An International Journal 45(2):227-231.

Workshops/Conference/Seminars/Meetings

Narendra Kumar Sinha; Ashok Kumar Sharma; Vijay Kumar and Jitendra Patidar (2021) Diversification and intensification of soybean – based cropping system for higher productivity in Malwa Plateau zone of Madhya Pradesh. Published in the Extended Summaries of Vth International Agronomy Congress for Agri Innovations to Combat Food and Nutrition Challenges at Indian Society o f Agronomy and PJTSAU, Hyderabad (AP) and from 23 to 27 November, 2021. pp 1738-1739.

Ashok Kumar Sharma**;** Jitendra Patidar; Vijay Jamodkar; Narendra Kumar Sinha; Vijay Kumar and Maya Waskale (2021) Effect of herbicides on weed management and productivity of maize (Zea mays L.) under rainfed conditions. Published in the

Extended Summaries of Vth International Agronomy Congress for Agri Innovations to Combat Food and Nutrition Challenges at Indian Society of Agronomy and PJTSAU, Hyderabad (AP) and from 23 to 27 November, 2021. pp 1178-1179.

M. K. Saxena, Usha Saxena , and Sudhanshu Jain,(2022). New hopes of Safflower crop in Madhya Pradseh. 11 th National seed congress on Recent advances in research on quality seeds for self sufficiency in oilseeds and pulses . 21-23,August,2022

Popular Articles:

Bangar KS, Kumawat N, Tiwari SC, Khandkar, Kaledhonkar MJ and Parmar, BB (2021). Ground water quality map of Madhya Pradesh for irrigation purpose. *Salinity News* 27(1):1-4 (Published by Director, CSSRI, Karnal) January-June, 2021.

Books/ Book Chapter:

Gupta, Rajesh., Hardaha, M. K. and Mishra, K. P. A Book on Standardization of drip fertigation system for garlic crop. Lambert Academic Publishing, **Germany ISBN:** 978-620-3-30424-4.

Rashmi Shukla, Y. K. Shukla, D. K. Vani.Nutrition Sensitive Sustainable Agriculture Food System - ISBN: 978 – 81 – 943375 – 3 - 9, Publish by Mahima Research Foundation and Social Welfare Varanasi

Y. K. Shukla,-Rashmi Shukla. Natural Resource Conservation and Economic Development for Sustainable Agriculture-ISBN:978-81-943375-3-9, Publish by Mahima Research Foundation and Social Welfare Varanasi

Rashmi Shukla, Y.K. Shukla, D.K. Vani Principle Problems and Prospects in Indian Conditions- Publish by Gene Tech Book New Delhi ISBN:978-81-89729-55-4

Rashmi Shukla, Y.K. Shukla, D.K. Vani Eliminating Gender Biasand Ensuring Women Empowerment- Published by - Brillion publishing New Delhi ISBN N-978-93-859350-50-0

Anil K. Singh, Minakshi Padhi, Anjana Sisodia, Vandana Sisodia, Vishwa Mohan Dev Chauhan, and Anuj Kumar (2022). Disease Spectrum in Carnation Crop (Dianthus carophyllus L.) and Management Strategies. Diseases of horticultural crops: Diagnosis and Management. Ornamental Plants and Spice Crops. Published by Apple Academic Press, USA & CRC Press, Boca Raton, Florida, USA. ISBN: 978-1-77463-969-6.

S.K. Verma and S.C. Tiwari Hydro physical properties of alkali VertisolsManaging salt affected soil for sustainable agriculture by P.s Minhas, R.K. Yadav, P.C. Sharma published by ICAR (2021):114-127

S.C. Tiwari, U.R. Khandkar and S. K. Verma (2021). Reclamation and management of alkali soil Managing salt affected soil for sustainable agriculture by P.S. Minhas, R.K. Yadav, P.C. Sharma published by ICAR:294-315

Awards and recognitions:

- Y.K. Shukla received Best KVK Scientist Award by Agricultural & Environmental Technology Development Society U.S. Nagar, U.K. Indiaon 04-06-2020 and Outstanding Extension Scientist Award 2020 by Agriculture Technology Development Society Ghaziabad U.P. on 26-28 December2020.
- Dr. Deepak Hari Ranade, AR, NSIC and his team received Dr. Vasant Rao Naik a prestigious Award conferred by the ICAR on August, 2021 for their excellentresearch work.
- Dr. Deepak Hari Ranade also received "Water Heroes" Award for his outstanding work on Risan Talab, which not only recharge the ground water but also saves low-lying areas from getting badly affected due to soil erosion damage.
- Shri Abhay Singh, NICRA, Ningnotireceived Best Dryland farmer Award (ICAR-CRIDA): 2020-21 conferred by the ICAR – CRIDA on the occasion of 37th ICAR Foundation Day Celebration on 12/04/2021.

Organized Meetings/ Workshops /Seminar etc

Meetings:

- **Board of Management –** The 39th meeting of Board of Managementof RVSKVV, Gwalior was held on February 02,2021 under the Chairmanship of Hon'ble Vice Chancellor Prof.S.K.Rao.
- **Administrative Council Meet-** The 38t h and 39th meetings of Administrative Council of RVSKVV, Gwalior was held on March 24, 2021 and June 15, 2021 respectively under the Chairmanship of Hon'bleVice-Chancellor.
- **Academic Council Meet-** The 52nd and 53rd meetings of AcademicCouncil of RVSKVV, Gwalior was held on June.07, 2021 and June 28, 2021 respectively undertheChairmanshipofHon'bleVice Chancellor.

Webinar/International Guest Lecture Series –

- International Guest Lecture on **"Land scape restoration in India in the contex to Evergreening the Earth"** by Dennis Garrity,Chair, Global Evergreening Alliance, SeniorFellow, World Agro-forestry Centre, Nairobi,Kenya was arranged on May 10,2021 underNAHEP-IDP
- International Guest Lectureon **"Can I mitation of Agricultural Technology from**

Different Countries Solve Problems of Indian Agriculture?" by Prof. Arun K. Joshi,CIMMYT Asia Regional Representative andMD – Borlaug Institute for South Asia (BISA) on 04.06.2021 under NAHEP-IDP.

- **Webinar on National Nutrition Week:** For the eradication of malnutrition**, "**National Nutrition Week" was organized by Krishi Vigyan Kendra, Ujjain from 01 to 07 September 2021 under the Amrit Mahotsav being celebrated in the 75th year of India's independence. In the virtual event, all the supervisors of the Department of Women and Child Development were given detailed information on the importance of nutrition. In the program, Dr. Rekha Tiwari, Senior Scientist, explained importance of fruits and vegetables in the prevention of malnutrition through nutrients & micronutrients found in them. She also discussed about symptoms and causes of disease which are caused by deficiency of vitamins and minerals Dr. Mouni Singh, Senior Technical Officer of the Center, discussed about various conditions of malnutrition like obesity, short stature, excess thinness, explained about the "Food Pyramid" for determining malnutrition, keeping that in mind, malnutrition can be removed. A total of 37 supervisors of Ujjain district participated in the programme.

- **Field Day-** A Soybean Field Day & Nutritional security programme was conducted by KVK Dewas on September 10, 2021. In this programme, improved production technologies of kharif crops and nutritional security through value addition of soybean have been discussed by KVK Scientists Dr. A.K Dixit, Dr. Nishith Gupta, Dr. Manish Kumar and Dr. Savita Kumari.

- **Poshan Vatica Maha Abhiyan- Podh se posan:** The ICAR launched "National Campaign on Poshan Abhiyan and Tree Plantation" on 17 September 2021 through KVKs. Shri Narendra Singh Tomar, Hon'ble Union Minister for Agriculture &FW; Dr. Udai Shanker Awasthi MD & CEO IFFCO; Secretary (Agriculture) DAC&FW, Secretary, DARE and all other dignitaries addressed the participants. The KVKs under RVSKVV arranged various activities on Nutri-sensitive agriculture.Plants, saplings; vegetable seed kitswere distributed by the center during the event.

MoU:

- MoU has been signed between RVSKVV and Tropical Forest Research Institute, Jabalpur to improve the research activities.
- MoU has been signed between RVSKVV and Atal Bihari Bajpayee Institute of Good Governance and Policy Analysis, Bhopal on 09/11/2021.
- MoU has been signed between RVSKVV and Entrepreneurship Development Institute of India, Gandhinagar.
- MoU with ICRISAT, Hyderabad on dated January 10, 2022 for Multilocation testing of pigeonpea and sorghum.
- MoU with Indian Institute of Soybean Research, Indore.
- MoU with National Institute of Biotic Stress Management Baroda, Raipur
- MoU with Bioversity International, Rome, Italy on dated January 05, 2022 for Multilocation testing of pigeonpea and sorghum Mainstreaming agricultural biodiversity conservation and utilization in agricultural sector to ensure ecosystem services and reduce vulnerability.

4.9 Activities of Seed Production Farms:

RVSKVV is also making sincere efforts to generate cutting edge technology for enhancing crop productivity. Thrust is also farm seed replacement in the state by producing quality seeds of important crops. It is worthwhile to mention that RVSKVV has produce 9669.78q. **seeds with different crops during 2022-23** which helped the farmers in a big way for seed replacement and thereby enhancing the productivity of crops.

The seed activities in the University are managed with the help of twenty seven seed farms, which are located in twenty four districts and six agro-climatic zones of Madhya Pradesh. Out of the total farm area of 1210.85 ha. only 64.45 % (780.3 ha.) is under cultivation. Among the cultivated area 13.39 % and 34.59 % is irrigated and partially irrigated, respectively. Rest of the cultivated area is under rainfed farming.

The area under plantation crop is about 82.02 ha. Rests of the farm area is fallow or pasture land or occupied by road and buildings.

Breeder seed produced in Kharif and Rabi crops:

S. No.	Crops	Qty. (q.)
(A) Kharif crops		
1.	Soybean	2716.00
2.	Green gram	17.67
3.	Black Gram	4.75
4.	Pearl Millet	Nil
5.	Sorghum	6.8
6.	Ground Nut	Nil
7.	Pigeon Pea	Nil
8.	Paddy	808.45
9.	Til	2.57
Total (A)		**3556.16**
(B) Rabi crops		
1.	Wheat	3271.00
2.	Gram	2724.00
3.	Lentil	86.00
	Pea	1.50
4.	Rapeseed and Mustard	31.12
	Safflower	Nil
Total (B)		**6113.62**
Grand Total (A+B)		**9669.78**

EXTENSION

5. EXTENSION ACTIVITIES:

RVSKVV, Gwalior has 27 Krishi Vigyan Kendras (KVKs) under its jurisdiction established with the financial support of ICAR. Out of which, 22 are under the administrative control of the University and five under NGOs/ICAR institute, which are functioning under technical guidance of Directorate of Extension Services of the University. The Directorate is committed to serve the farmers through its well organized network of Krishi Vigyan Kendras, which play a vital role in dissemination and transfer of recent emanated research technologies in agriculture, horticulture, livestock production and allied fields.

The KVKs are assessing the technological needs of the farmers of the districts and revalidating the technology for adoption through On Farm Testings. The KVKs are disseminating technologies and strengthening the farmers through, Front Line Demonstrations, Training Programmes for Farmers and Farm Women, Extension functionaries and Vocational Training for Rural Youth and other regular Extension Activities in selected villages of the concerned district. Thus, they contribute in minimizing the gap between prevailing farmers' yield and production potential in specific area.

Mission

Directorate of Extension Services is committed to serve the farmers and to achieve the goal of the University, which is to reach the un-reached through its extension system. The main objectives of the Directorate are:

1. Transfer of technology, assessment, application, refinement and providing feedback to the researchers.
2. Up gradation of knowledge and skill of extension functionaries as well as farming community.
3. Development and dissemination of technology through print and electronic media for mass reach.
4. Catering the needs of farming communities through single window system.
5. Linkage with line departments, concerned institutions and NGOs.
6. Reviewing the activities of KVKs and technological backstopping of KVK scientists and help in formulating action plan.
7. Popularization of low draft improved agricultural implements.

Krishi Vigyan Kendras

Twenty two Krishi Vigyan Kendras of RVSKVV are located at the districts of Agar-Malwa, Alirajpur, Ashok Nagar, Badwani, Bhind (Lahar), Datia, Dewas, Dhar, Dhar II (Manawar), Guna (Aron), Gwalior, Jhabua, Khandwa, Khargone, Mandsaur, Morena, Neemuch, Rajgarh, Shajapur, Sheopur, Shivpuri and Ujjain. KVK Bhopal is working under administrative control of ICAR-CIAE and KVKs in districts Indore, Sehore, Ratlam and Burhanpur are working under the aegis of reputed NGOs, with technical backstopping of RVSKVV. KVKs facilitate the process of assessment of technologies through OFT, skill up-gradation through training programmes, and technology dissemination through method and result demonstrations, Kisan Mela, Seminars and mass campaigns etc.

Agro-climatic Zone wise Location of KVKs

Agro-climatic Zone	Features	District / KVK's under the Zone
Gird Zone	Semi-arid climate, situated between 152-224 MSL, annual rainfall 566-977 mm and soils are Alluvial Medium Black, Mixed Red Black and Red Yellow in Colour.	Sheopur, Morena, Bhind, Gwalior, Shivpuri (Partial), Guna (Partial) and Ashok Nagar
Bundelkhand	High temperature, situated between 266-560 MSL, annual rainfall 750-1200mm with shallow clayey loam soil	Datia, Shivpuri (Partial)
Malwa Plateau	Semi-arid climate, situated between 450-675 MSL, annual rainfall 800-1200mm, soil is medium to deep black (vertisols)	Neemuch, Mandsaur, Ujjain, Shajapur, Rajgarh, Dewas and Dhar (Partial), Indore Ratlam and Agar-Malwa
Jhabua Hills	Undulated topography, situated between 450-700 MSL, erratic rainfall (600-800mm) and shallow to medium skeletal gravely soil	Alirajpur, Jhabua and Dhar (Partial)
Nimar Valley	Hot and dry weather, situated between 450-700 MSL, less annual rainfall (600-800mm), soil is deep black clayey (vertisol)	Badwani, Khargone, Khandwa, Burhanpur
Vindhyan Plateau	Hot humid climate, undulated topography, situated between 350-600 MSL, annual rainfall, 1000-1200mm and medium black soil.	Guna (Partial), Bhopal, Sehore

Mandate of KVK

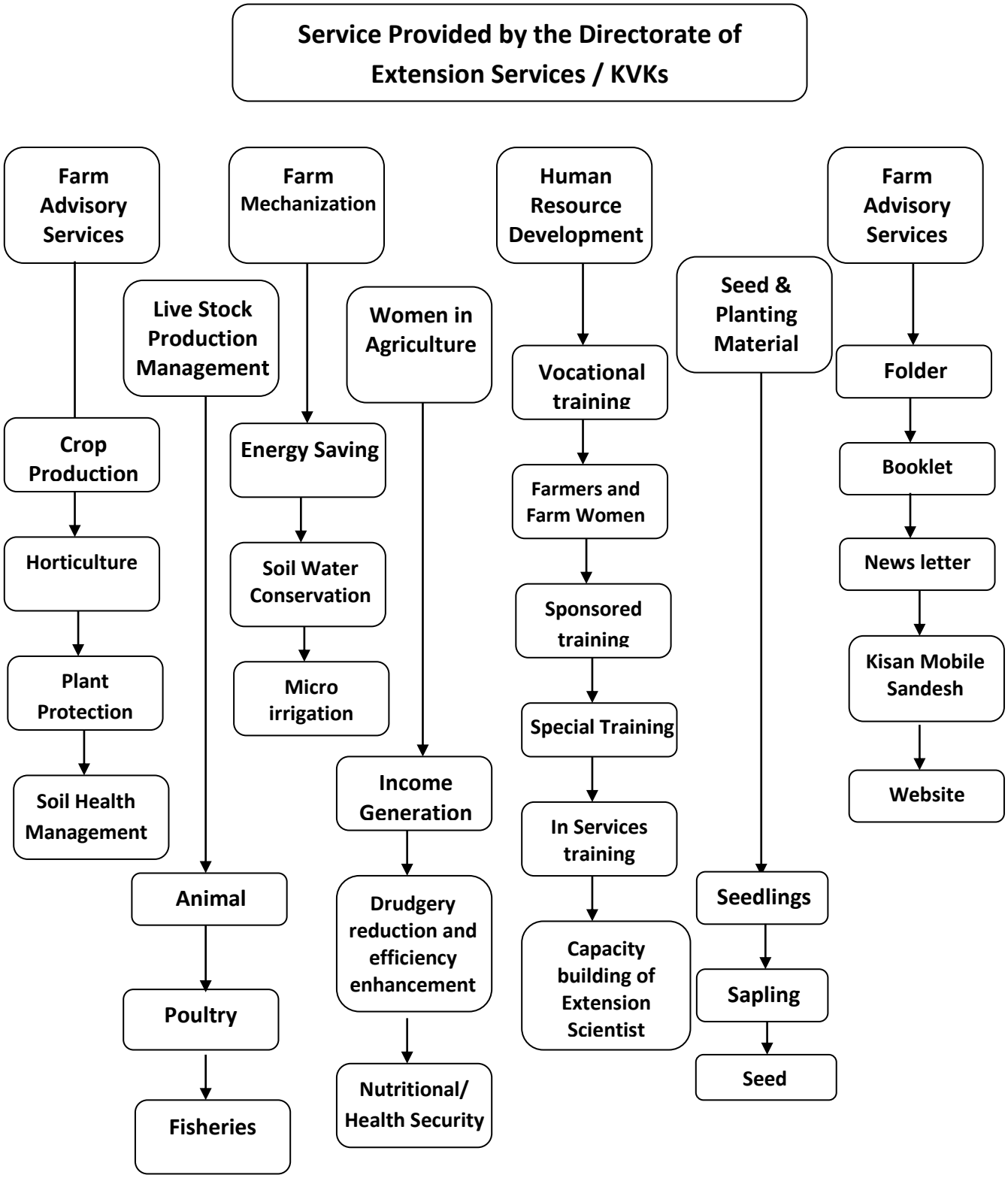
The major mandate of KVKs is the assessment, refinement and demonstration of technologies/ products.

The major activities of KVKs are as follows:

- On farm testing's for assessing the suitability of technologies in various agro-climatic situations.
- Frontline demonstrations to establish production potentials of newly released technologies on farmers' fields and provide feedback.
- Training of farmers and farmwomen to upgrade their knowledge and skills in modern agricultural technologies and training of extension personnel to orient them in the frontier areas of technology development.
- Work as resource and knowledge centre of agricultural technologies for supporting initiatives of public, private and voluntary sectors for improving the agricultural economy of the district.
- Create awareness about frontier technologies through a number of extension activities viz: Farmer fairs, Field days, Campaigns, Ex-trainees meets, etc.
- For enhancing the productivity through increased seed replacement rate and use of quality planting material, KVKs are taking up the activities of producing quality seed and planting material.

Thrust Areas

- Development of agri-entrepreneurship among farmers
- Enhance the crop productivity through, intensive vocational trainings of farmers, farm women and rural youth.
- Demonstrate and disseminate the integrated approach encompassing the feasible components of farming and related technologies targeting towards enhancing the farm family income.
- Crop diversification with suitable oilseeds, pulse, fruit and vegetable cultivation.
- Testing of early maturing high yielding varieties of major crops on farmer's field.
- Awareness regarding different methods of water harvesting and conservation including construction of small water retention structures (Rain-Water harvesting)
- Soil fertility improvement to sustain soil health.
- Integrated nutrient, insect & pest management technologies of different crops.
- Popularization of resource conservation technologies.
- Post harvest value addition and entrepreneurship development for agricultural produces/ products.
- Balanced feeding and breed improvement of Livestock.
- Clean milk production and processing of dairy products.
- Promotion of exotic and off-season cultivation of vegetables, medicinal and aromatic plants.
- Promotion of organic farming.
- Use of improved farm implements for drudgery reduction.
- Demonstrations of improved farm – machinery to farmers.
- Promotion of Natural Farming among farmers.


Service Provided by the Directorate of Extension Services / KVKs
Farm Advisory Services
Crop Production
Horticulture
Plant Protection
Soil Health Management
Farm Mechanization
Energy Saving
Soil Water Conservation
Micro irrigation
Live Stock Production Management
Animal
Poultry
Fisheries
Women in Agriculture
Income Generation
Drudgery reduction and efficiency enhancement
Nutritional/ Health Security
Human Resource Development
Vocational training
Farmers and Farm Women
Sponsored training
Special Training
In Services training
Capacity building of Extension Scientist
Seed & Planting Material
Seedlings
Sapling
Seed
Farm Advisory Services
Folder
Booklet
News letter
Kisan Mobile Sandesh
Website

KVKs identified as Centre of Specialization

S. No.	Name of KVKs	Specialization
1.	Agar Malwa	Citrus based farming system
2.	Alirajpur	Integrated Nutrient Management
3.	Aron (Guna)	Coriander Production Technology
4.	Ashok Nagar	Durum Wheat Production Technology
5.	Badwani	Chilli Production and Value addition of spices
6.	Datia	Natural Resource Management
7.	Dewas	Integrated Farming System
8.	Dhar	High tech vegetable cultivation
9.	Dhar II (Manawar)	New KVK, hence not specialised yet
10.	Gwalior	• Hi tech Horticulture • Vermi-composting Technology
11.	Jhabua	Kadaknath rearing in Integrated Farming System
12.	Khandwa	Cotton Production Technology
13.	Khargone	Pomegranate & Watermelon Production Technology
14.	Lahar(Bhind)	Crop diversification
15.	Mandsaur	Seed spices
16.	Morena	• Apiculture • Conservation Agriculture
17.	Neemuch	Garlic Processing Technology
18.	Rajgarh	Hi tech fruit nursery
19.	Shajapur	Mandarin Production Technology
20.	Sheopur	Natural Resource Management & Integrated Farming System
21.	Shivpuri	Integrated Farming System Hi - tech tomato production
22.	Ujjain	Integrated Nutrient Management
23.	Bhopal	Farm mechanization
24.	Sehore	Soybean based Cropping Systems
25.	Ratlam	Dairy Management and Dairy Technology
26.	Indore	Organic Farming
27.	Burhanpur	Banana Production Technology

Major Achievements of KVKs - 2022

5.1 On Farm Trial (OFT)

The KVKs conducted **476** On Farm Trials for assessment and refinement of new technologies generated by RVSKVV, Gwalior, other Universities and ICAR Institutes as per local needs and micro farming situations. A total of **4877** farmers were the direct beneficiaries of OFTs as their fields/units/animals were chosen for conducting the trials. Details of OFTs conducted by KVKs under the DES are given below:

A. Institutions wise OFTs conducted on crops and enterprises during 2022

Host Institute	No. of OFTs	Beneficiaries
a. OFT on Crops		
RVSKVV	286	3157
ICAR & NGO	46	509
Sub Total	**332**	**3666**
b. OFT on Enterprises		
RVSKVV	118	955
ICAR & NGO	26	256
Sub Total	**144**	**1211**
Grand Total	**476**	**4877**

Thematic area wise details of OFTs conducted on crops and enterprises are described below.

B. Thematic area wise details of OFTs conducted during 2022

Thematic Area	No. of OFT's		
	RVSKVV KVKs	KVKs of NGOs/ICAR	Total
Agriculture Engineering (AEG)	60	10	70
Agriculture Extension (Ag. Ext)	80	110	190
Agroforestry	40	0	40
CBD	228	0	228
CMP	0	30	30
Crop Production (CP+CRP)	34	48	82
Cropping Systems (CS)	0	20	20
Drudgery Reduction (DR)	37	0	37

Thematic Area	No. of OFT's		
	RVSKVV KVKs	KVKs of NGOs/ICAR	Total
Fisheries (FIS)	4	0	4
Goatry	17	0	17
Grain storage	40	0	40
HOF	60	21	81
HOS	57	0	57
HOV	120	0	120
Integrated Crop Management (ICM)	134	7	141
Information and Communication Technology (ICT)	540	60	600
Integrated Disease Management (IDM)	165	30	195
Income Generation (IG)	59	0	59
Improve Implement (II)	0	90	90
Integrated Nutrient Management (INM)	195	74	269
Integrated Pest Management (IPM)	415	24	439
Indigenous Technical Knowledge (ITK)	171	0	171
Improved Variety (IV)	25	0	25
Integrated Weed Management (IWM)	84	0	84
LPM (Nutrition, Disease Management)	175	76	251
NM	49	10	59
Natural Resource Management (NRM)	58	10	68
Nutritional Security (NS)	184	29	213
Organic Farming (OF)	235	0	235
Plant Breeding & Genetic (PBG)	0	14	14
Poultry	20	0	20
Plant Protection (PP)	0	18	18
RC	10	0	10
RCT	38	0	38
Soil Fertility Management (SFM)	51	40	91
Soil Health Card (SHC)	0	7	7
ToT	282	0	282
Value addition (VA)	27	37	64
Varietal evaluation (VE)	313	0	313
Varietal Replacement (VR)	41	0	41
Weed Management (WM)	64	0	64
Total	**4112**	**765**	**4877**

5. 2: Frontline Demonstrations (FLD)

Frontline demonstrations are conducted to demonstrate the potentials of recent and location specific proven technologies of agriculture and allied fields among farming community and extension functionaries for up-scaling in the larger area as well as for generating the production data along with feedback for the research system and planners. During the reporting year, a total number of **2819** beneficiaries got direct benefits through FLDs conducted on various oilseeds, pulses, cereals, vegetables crops and cash crops, agro forestry and other improved farm machineries covering the total area of **1024.65** ha. In addition to these FLDs, **3969** beneficiaries got direct benefits through demonstrations conducted in **1530** ha area on various oilseed and pulse crops under Cluster Frontline Demonstrations Programme. Moreover, demonstrations on **09** important income generating enterprises like LPM, kitchen garden, home science aspects, poultry, farm machinery, vermicompost etc. were also conducted for benefitting **732** stakeholders directly. Details of FLDs are provided in next three tables.

A. Crop wise details of FLDs Conducted during 2022 by KVKs

S. No.	Crop	Area (ha)	No. of Beneficiaries	% increase
a. Cereals				
1.	Wheat	173.2	448	14.93
2.	Maize	69	174	22.33
3.	Sorgham	16	40	10.52
4.	Rice	8	25	19.03
5.	Pearl millet	8	30	19.5
6.	Paddy	2	5	-
b. Pulses				
1.	Chickpea	89.7	232	14.64
2.	Black Gram	17.2	43	28.39
3.	Gram	46.8	123	20.94
4.	Pigeon pea	9	73	18.47
5.	Green Gram	18.8	60	23.89
6.	Urd	2	5	-
c. Oilseed				
1.	Soybean	153.8	387	17.91
2.	Mustard	82	132	18.59
3.	Sesame	2	5	-
4.	Groundnut	7	13	-
d. Vegetables				
1.	Tomato	21.1	83	22.63
2.	Potato	20	55	19.52

S. No.	Crop	Area (ha)	No. of Beneficiaries	% increase
3.	Cabbage	4	10	-
4.	Okra	8.6	42	15.02
5.	Brinjal	1.5	10	18.61
6.	Drumstic	6	25	-
7.	Ash gourd	3	15	-
8.	Field pea	2	10	-
9.	Carrot	2	15	-
10.	Cauliflower	0.8	5	-
11.	Other Vegetables	29	126	-
e. Spices				
1.	Onion	76.75	245	14.63
2.	Chilli	35.3	79	24.63
3.	Garlic	28	74	17.52
4.	Coriander	11.2	49	17.59
5.	K. Onion	4.6	22	-
6.	Fenugreek	5	12	21.75
7.	Nigella	5	10	16.57
f. Fibre Crops				
1.	Cotton	20.8	59	-
g. Flower Crops				
1.	Marigold	2.5	10	8.96
h. Medicinal Crops				
1.	Ajawain	5	10	17.74
2.	Chandrsoor	1	5	-
i. Fruit Crops				
	Papaya	8	8	-
	Mandarin	7	15	-
	Guava	4	10	-
	Banana	5	10	-
	Anola	1	5	-
	Sugarcane	2	5	-
Total		**1024.65**	**2819**	

B. FLDs conducted on enterprises during 2022

S. No.	Enterprise	Area (ha)/No. of unit	No. of Beneficiaries	% increase
1.	L. P. M. (Dairy, Fodder, Calves, Azola)	49	218	18.42
2.	Farm Machinery	21	48	13.86
3.	Poultry	6	38	-
4.	Goat	500 Nos	5	-
5.	Fish	2.25	8	-
6.	Home Science (Nutritional security,	43.3	227	-
7.	Vermicompost	0.5	10	-
8.	Extension (ICT)	-	178	-
Total		**122.05**	**732**	

C. Cluster Frontline Demonstration (CFLD) on Pulses and Oilseed conducted by KVKs during 2022

S.No.	Cluster Crop	Variety	Area (ha)	No. of Beneficiaries	% increase
a. Pulses					
1.	Black Gram	PU 1	30	75	18.51
		IPU13-1	20	50	15.62
		PU 31	65	112	9.86
		Pratap Urd 1	50	125	20.58
		Indra– 1	20	50	-
		MU-2	20	50	-
2.	Chickpea	RVG204	175	532	16.7
		RVG 202	96	240	22.36
		RVG 203	30	75	-
		Phule Vikram	34	85	-
		IJ-31	50	20	-
3.	Pigeonpea	Pant- 251	40	100	-
		PUSA 992 & Navapur	10	25	-
4.	Field pea	IPFD 4-9 and IPFD 12-2	10	25	-

S.No.	Cluster Crop	Variety	Area (ha)	No. of Beneficiaries	% increase
5.	Gram	RVG 203	20	75	-
		RVG 202	10	25	-
6.	Green Gram	Virat	50	125	-
		MH 421	40	75	-
		IPM-410-3	20	50	-
		Vishal	10	25	-
7.	Horse gram	Indira kulthi-1	20	50	-
Total			**840**	**2019**	
b. Oilseed					
1.	Mustard	Girraj	175	488	16.54
		RVM-2	60	150	7.32
		NRCDR-2	10	25	14.19
		NRCHB-101	10	25	-
		RH 749	20	50	-
		PM 30 & RVM 2	10	25	27.6
		HI 8759	10	25	14.81
2.	Soybean	JS-2034	80	275	23.44
		RVS 2001-4	40	100	20.99
		JS-2098	20	50	-
		JS-2069	130	375	17.13
		RVS-24	20	50	-
3	Lentil	Kota Masoor 1	10	25	-
		Kota Masur-2	10	25	-
		RVL 31	20	50	-
		IPL 316	10	50	-
4	Linseed	Pratap Alsi-2	35	87	-
5	Ground nut	GG-20	30	75	15.1
Total		**-**	**690**	**1950**	

5.3: Training Programmes

Training has been considered a key component for updating the knowledge and inculcating new skills among the participants. The great emphasis has been given on organizing trainings both for the farmers as well as for the extension workers working at grassroots level. A total of **2065** training programmes were organized during the year 2022 involving **59782** beneficiaries including farmers and farm women, rural youth, extension personnel and sponsored from different agencies.

Training Programmes conducted by KVKs during - 2022

S. No.	Name of training	No. of Courses	Beneficiaries		
			Male	Female	Total
1.	Farmers & Farm Women	1736	39074	10341	49415
2.	Rural Youth	95	2050	670	2720
3.	In-Service /Extension Activities	149	3221	714	3935
4.	Vocational	43	987	387	1374
5.	Sponsored	42	1927	411	2338
Total		**2065**	**47259**	**12523**	**59782**

OTHER EXTENSION ACTIVITIES

A. Extension Activities

A large number of extension activities are being regularly organised by KVKs at their campuses and in the villages. These extension activities include method demonstrations for small group to Kisan Melas for huge gathering with the objective of creating awareness about advanced agricultural technologies. These include use of old communication techniques of poster exhibitions to latest techniques by using SMS and social media for transfer of technologies. Broadly, these activities are for creating awareness and providing advisory based services like farm advisory services, lectures delivered by resource persons, animal health camps and vaccination camp, exhibitions, extension literature and popular articles, media based activities like CD/DVD, film shows, news paper coverage, radio talks and TV talks, meeting based like ex-trainee Sammelan, celebration of important days, club meets, farmers' seminar, field days, group meet, Gosthies, Mela(s) and SHG meetings etc. The KVKs are showcasing the available technologies to the district level extension functionaries and farmers through a variety of events and activities. A total of **11687** extension activities were organised by the KVKs during 2022 benefitting **384421** beneficiaries as given in table below;

Extension Activities Conducted by KVKs during - 2022

S. No.	Activity	No. of Activities	Beneficiaries			Total
			Male	Female	Extension Officials	
1.	Advisory Services	1715	99932	5295	979	106206
2.	Agri mobile clinic	79	3740	418	75	4233
3.	ATMA Nirbhar MP webinar	1	19	0	34	53
4.	Awareness programme	185	7051	1572	96	8719
5.	Celebration of important days	136	6866	2386	554	9806
6.	Diagnostic visits	314	4140	640	198	4978
7.	Exhibition	61	16902	4032	850	21784
8.	Exposure visits	45	2696	339	26	3061
9.	Extension literature	64	15113	160	797	16070
10.	Ex-trainees Sammelan	27	1012	219	22	1253
11.	Farm Science Club	7	853	195	2	1050

S. No.	Activity	No. of Activities	Beneficiaries			Total
			Male	Female	Extension Officials	
12.	Farmers Seminar/Workshop	72	4107	758	125	4990
13.	Farmers visit to KVK	5342	28127	4218	834	33179
14.	Field Day	224	7460	1150	204	8814
15.	Film Show	154	7430	1492	282	9204
16.	Group Meetings/Discussion	116	2819	509	88	3416
17.	Hon'ble CM of Madhya Pradesh addressing on Natural farming and GovardhanPooja	1	59	21	0	80
18.	Hon'ble PM of India's programme on FPO and Kisan Samman Nidhi	7	374	122	168	664
19.	International Women day	0	316	172	14	502
20.	Jalshakti Abhiyan	10	369	47	0	416
21.	Kisan Diwas	2	145	78	12	235
22.	Kisan Ghosthi/Sammelan	138	7479	1157	232	8868
23.	Kisan Mela	38	14117	4634	528	19279
24.	Kisan Mobile Advisory Services	24	50000	0	50	50050
25.	Kisan Sammannidhi	3	121	68	4	193
26.	Kisan Bhagidari Prathmikta Hamari	1	227	88	9	324
27.	Lectures delivered as resource persons	491	11780	2855	477	15112
28.	Mahila Kisan Diwas	1	20	52	3	75
29.	Mahila Mandals conveners meetings	8	12	285	17	314
30.	Method Demonstrations	130	2753	424	40	3217
31.	Mission Earth Programme	0	0	0	104	104
32.	National Fish Day	0	0	0	26	26
33.	Natural farming	11	487	71	6	564
34.	Natural Training	5	167	0	4	171
35.	National Nutrition Week (07.09.2021)	1	0	69	22	91
36.	Newspaper coverage	697	10987	938	75	12000
37.	Others	166	5238	1581	120	6939
38.	One district one Product (ODOP)	3	107	9	15	131
39.	Parthanium Awareness Week	2	133	9	12	154
40.	Plant/ Animal Health Camps	19	850	178	60	1088
41.	Poshan Abhiyan and plantation programme	3	229	117	14	360

S. No.	Activity	No. of Activities	Beneficiaries			Total
			Male	Female	Extension Officials	
42.	Plantation Programme Krishi avam Paristhitiki-nagarikm chehra	1	0	45	17	62
43.	Pradhanmantri Kisan Yojana	6	94	80	5	179
44.	Pradhanmantri Phasal Bema Yojana	5	323	70	0	393
45.	PM Matshya Sampda Yojna	1	35	0	4	39
46.	Popular Article	56	3745	1070	75	4890
47.	Radio Talk	119	0	0	0	0
48.	Scientific visit to farmers field	953	8888	2311	602	11801
49.	Self Help Group conveners meetings	51	567	506	16	1089
50.	Soil Health Camp	24	1081	351	31	1463
51.	Soil Test Campaigns	22	855	338	138	1331
52.	Special day celebration	40	1758	1083	62	2903
53.	Swachchha Bharata Bhiyan	22	1052	474	81	1607
54.	Technology Week	5	119	9	4	132
55.	TV Talks	54	0	0	0	0
56.	World Water Day	1	22	9	0	31
57.	ICAR Foundation Day	1	72	0	0	72
58.	International millets 2023	6	187	0	23	210
59.	Jalshakti Abhiyan	17	394	52	0	446
Total		**11687**	**333429**	**42756**	**8236**	**384421**

B. Mass Media used for Wide Publicity

Besides extension activities mentioned above, a variety of mass media being used by KVKs for wider publicity and adoption of various agricultural technologies. The KVK wise details of mass media are given in table below;

KVK	CD/ DVD	Radio Talks	TV Talks	Newspaper Coverage	Farmers' Fairs	Extension Literature	Internet (You Tube)	Social Media (Whats App, Facebook, Twitter etc.)	Total
Agar Malwa	0	0	2	9	0	2	0	2	**15**
Alirajpur	0	0	1	26	0	5	0	12	**44**
Ashoknagar	8	9	1	33	1	0	0	0	**52**
Barwani	0	0	0	38	0	0	2	86	**126**
Bhind (Lahar)	0	0	0	42	1	8	0	103	**154**
Datia	0	2	42	2	4	4	8	0	**62**

Dewas	0	10	8	26	0	5	0	0	**49**
Dhar	3	8	43	7	8	1	2	8	**80**
Dhar II (Manawar)	0	0	0	25	0	0	0	55	**80**
Guna (Aron)	2	2	1	25	2	5	0	83	**120**
Gwalior	0	4	0	71	2	6	4	105	**192**
Jhabua	0	6	5	35	3	8	43	10	**110**
Khandwa	0	8	0	16	0	0	0	50	**74**
Khargone	0	0	0	0	0	0	0	0	**0**
Mandsaur	0	0	0	13	1	4	0	37	**55**
Morena	0	25	04	48	06	4350	10	6000	**10443**
Neemuch	0	0	5	52	0	7	0	0	**64**
Rajgarh	0	0	0	0	0	0	0	0	**0**
Shajapur	0	3	5	57	1	5	0	79	**150**
Sheopur	0	0	0	7	2	0	0	112	**121**
Shivpuri	0	15	0	20	0	2	0	50	**87**
Ujjain	18	8	3	35	0	5	5	76	**150**
Bhopal	0	4	0	12	4	0	0	23	**43**
Burhanpur	0	28	0	127	1	10000	17	350	**10523**
Indore	0	14	1	4	2	6	0	3	**30**
Ratlam	0	3	16	116	0	12	0	413	**560**
Sehore	0	1	14	100	0	0	0	132	**247**
Total	**31**	**150**	**151**	**946**	**38**	**14435**	**91**	**7789**	**23631**

5.5: Production and Supply of Technological Inputs by KVKs

Timely and adequate availability of the quality seed and planting material is very essential to ensure better yield, but timely and quality supply of it remains as a major constraints to the farmers. Therefore, it was taken as a challenge and appropriate steps were taken at the KVKs for helping the farmers in this regard. The KVKs produced **6138.18 qtl** seed of different crops during 2022-23. Moreover, they also produced and sold **763564 seedlings and saplings** of various vegetables, fruits, ornamental and medicinal plants. The details of various technological inputs and produced are as follows;

A. Seed Production

Crop	Total Seed Produced (qtl.)
a. Pulses, Oilseed and Cereals	
Soybean	2331.74
Chickpea	1547.46
Gram	345

Wheat	1743.34
Lentil	10.4
Pigeon pea	36.05
Mustard	72.19
Black Gram	4.72
Green Gram	4.5
Sesame	0.14
Coriander	1.91
b. Vegetables	
Fenugreek	0.6
Okra	0.2
Potato	6.19
Spinach	0.295
Lobia	0.8
Tomato	16.09
Onion	1.5
Amaranths (Chaulai)	1.5575
Pea	0.5
Tarameera	13
Total	**6138.18**

B. Planting Material (Seedlings/Saplings) Production

Crop	Quantity (No.)
a. Vegetables	
Tomato	411279
Brinjal	13965
Chilli	87893
Cabbage	17089
Cauliflower	15129
Onion	72000
Sponge Gourd	927
Bottle Gourd	1086
Capsicum	10000
Madhukamani	650
Others	958
b. Fruit Plants	
Mango	848
Lemon	2736
Pomegranate	587
Guava	6487
Karonda	67

Crop	Quantity (No.)
Jackfruit	995
Custard Apple	1217
Jamun	772
Aonla	129
Drum Stick	3137
Papaya	9558
Surjana	2000
Badam	11
Beal	39
Citrus	268
Meetha Neem	235
Others	555
c. Ornamental plants	
Marigold	6506
Ashok	566
Rose	405
Gudhal	93
Jasmine	1
Champa	90
Shami	41
Kaner	40
Ticoma	82
Durenta	1600
Other Plants	1472
d. Forest plants	
Labheda	8
Kadwa Neem	44
Bamboo	300
Gulmohar	70
Khamer	55
Rain Tree	20
Karanj	104
Mogra	100
Imali	41
Sesam	168
e. Medicinal & Aromatic Plants	
Lemon Grass	5500
Aloe vera	2000

Crop	Quantity (No.)
Gilloy	500
Moringa	400
Arjun	141
f. Fodder	
Napier Grass	82600
Total	**763564**

C. Bio Products

Bio Product	Total Quantity produced
Vermi compost	9198.43 qtl
Cow dung	20.81 qtl
NADEP	160.65 qtl
Azolla	114.66 qtl
Earth Worm	222.69 qtl
Bio pesticide (Eiseniafetida)	380kg
Honey	30 kg
Cow Urine	175 ltr
Neem extract	50 ltr
Jiwamrit	500 ltr

D. Livestock and Products

Bio Product	Total Quantity produced
Dairy animals (No.)	153
Milk Yield - Cow, Buffalo etc. (Litre)	36995
Fish (Kg)	500
Poultry- Birds (No.)	2324
Chicks etc. (No.)	61801
Poultry - Egg (No.)	1120
Goat(No.)	74

5.6 Soil and Water Sample Analysed

Soil and water testing is an import activity of KVK for improving the soil fertility and sustainability of agricultural production. KVK wise details of soil samples collected, analysed and number of soil health card distributed among farmers have been given hereunder;

Status of Soil Sample and Soil Health cards

KVK	Status of establishment of Soil testing Laboratory - (Y/N) if yes, mention year	Sanctioned	Procured	Collected by KVKs	Provided by Dept./ DDA	No. of Samples Analysed			No. of Farmers Benefited			No. of Villages Covered	Amount Realized	Soil Health Card Distributed to the Farmers by KVK (No.)	
						by KVKs		By Department	by KVKs		By Department			Through Mini Soil Testing kit	Through Soil testing laboratory
						Mini Soil Testing Kit	Soil Testing Lab		Mini Soil Testing Kit	Soil Testing Lab					
Ashoknagar		2	2	125	-	125	-	-	125	-	-	9	-	125	-
Barwani		-	-	500	-	250	323	NA	250	323	NA	46	-	250	323
Bhind		-	-	255	-	-	126	-	-	126	-	14	-	-	-
Datia		1	1			-	656	-	-	656	-	43	-	-	656
Dewas	2012	--	03	25	--	25	---	---	25	--	--	08	--	---	---
Dhar		2	2	1000	0	560	440	3000	560	440	10627	83	-	560	440
Guna	Yes-2005	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Jhabua		Yes	Yes	800	1000	-	1800	-	-	1800	-	7	280000	-	1800
Khandwa	Y-2005	2	2	210	0	38	112	3595	38	112	3595	53	22500	38	112
Khargone		1	1	368	-	368	-	-	368	-	-	6	-	368	-
Mandsaur		2	2	193	0	193	0	0	193	0	0	6	0	193	0
Morena		-	-	250	-	-	250	-	-	250	-	12	-	-	250
Neemuch		02	02	410	-	410	-	-	410	0	410	799		410	0
Rajgarh		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shivpuri		1	1	100	0	100	0	0	100	0	0	10	0	0	0
Ujjain		1	1	500	0	0	500	0	0	500	0		189950	0	500
Bhoapl		-	-	40	-	-	40	-	-	-	-	08	-	-	-
Indore		2	2	409	-	298	111	-	298	111	-	26	60400	298	111
Ratlam		02	03	297	-	297	-	-	297	-	-	55	-	297	-
Sehore		-	-	150	-		146	2040	-	148	2040	87	-	-	148
Total		**19**	**23**	**5632**	**1000**	**2664**	**4504**	**8635**	**2664**	**4466**	**16672**	**1272**	**552850**	**2539**	**4340**

D. Details of water samples analyzed

KVK Name	No. of Samples	No. of Farmers	No. of Villages	Amount Realized	Test Report Distributed to the Farmers (No.)
Jhabua	25	25	2	5000	25
Total	25	25	2	5000	25
Note: Other KVKs not analyzed water samples					

5.7: Footfall of farmers in KVKs -2022

The table below gives a KVK wise complete account of farmers', VIPs and officials visited the centre for various purposes around the year. It is observable that the KVKs establish its place as a scientific agricultural institution at district level providing functional solutions to the farmers on various agricultural aspects.

Name of KVK	**Footfall during 2022**			
	No. of Farmers	**No. of officials**	**No. of VIPs**	**Total**
Alirajpur	1510	15	6	**1531**
Ashoknagar	1506	150	25	**1681**
Barwani	2180	210	9	**2399**
Bhind (Lahar)	2250	142	12	**2404**
Datia	1263	241	17	**1521**
Dewas	1154	38	10	**1202**
Dhar	9856	46	11	**9913**
Dhar II (Manawar)	2867	20	6	**2893**
Guna (Aron)	432	28	01	**461**
Gwalior	6528	142	10	**6680**
Jhabua	1085	28	6	**1119**
Khandwa	3200	30	1	**3231**
Khargone	1226	25	3	**1254**
Mandsaur	3073	1	4	**3078**
Morena	4370	112	21	**4503**
Neemuch	59	0	2089	**2148**
Rajgarh	2836	94	18	**2948**
Shajapur	602	125	3	**728**
Sheopur	230	24	0	**254**
Shivpuri	15899	13	8	**15920**
Ujjain	692	08	03	**703**
Bhopal	350	142	04	**496**
Burhanpur	1185	23	11	**1219**
Indore	1850	348	2	**2200**
Ratlam	2529	187	13	**2729**
Total	**68732**	**2192**	**2293**	**73215**

5.8: Initiatives on application of Information Communication Technology (ICT) for ToT

Kisan Mobile Advisory (KMA) is the easiest ICT tool working successfully for dissemination of latest information to the farmers and farm women. This is a unique programme for making linkages between different stakeholders who are key players for making agriculture more productive. During the year 2022, a total of **2032** farm advisories were issued by the KVKs from which **826194** beneficiaries were directly benefited.

In addition, KVKs are also providing audio, video and photo based advisories through Face book, WhatsApp, Twitter and other popular social media platforms given in following tables.

A. Status of Kisan Mobile Advisory (KMA) - 2022

Name of KVK	Number of calls received	No. of Advisory Sent	No. of farmers received messages	Total no of villages in District	No of village Covered by KVK through KMA
Ashoknagar	413	368	1506	904	904
Badwani	516	452	30565	693	693
Bhind (Lahar)	26	17	53234	-	-
Dewas	382	379	35000	1067	850
Dhar	1140	52	128958	1535	1535
Dhar II (Manawar)	-	28	82837	-	-
Guna (Aron)	2145	161	65570	1260	1260
Gwalior	-	2	32500	717	717
Jhabua	352	75	75	13240	813
Khargone	814	163	66366	1192	1192
Morena	541	194	18450	775	775
Rajgarh	50	4	-	1600	908
Shajapur	45	-	25800	587	587
Sheopur	1129	22	50000	610	589
Shivpuri	247	-	45762	1382	1085
Ujjain	-	7	43530	1095	1095
Burhanpur	147	29	31427	272	200
Indore	-	15	37717	633	633
Ratlam	-	48	42638	1084	1084
Sehore	4936	16	34259	1070	1070
Total	**12883**	**2032**	**826194**	**29716**	**15990**

B. Status of Information through Whatsapp by KVKs

KVK	No. of Whatsapp Groups	No. of Farmer Members	Activity details on Whatsapp group
Alirajpur	12	710	15
Barwani	19	1120	Weather advisory sent (Two times in a week), Information on different parameters like Rainfall, temp., humidity, wind speed, wind direction, cloud cover etc.
Bhind (Lahar)	2	430	Information on fruit, vegetable, flower, medicine crops etc.
Datia	3	622	KVK Farmers group, Deptt. of agriculture, Plant protection
Dewas	4	576	Agricultural Engineering, Extension, Agronomy, Horticulture
Dhar II (Manawar)	1	256	Crop Price Information, Vegetable, Weather, Crop Management, Awareness, Organic Farming, Livestock, Disease & Pest Management,
Guna (Aron)	8	350	Awareness Agri-Information, Swachhata Awareness Multimedia Video, Images & Tax advice Nutrition, Value Addition, Questionnaire
Gwalior	1	1792	Improved production messages
Jhabua	3	241	Crop Management, Poultry, Dairy
Khandwa	4	681	Khet Khalihan, Murgipalak 2020, Gramoday farmer Beej Utpadak
Khargone	6	1450	Need based solution and technical information provided to the farmers
Mandsaur	12	3000	IPM, IDM, organic, Natural Farming, weather forecast, live telecast of PM and CM, various schemes of department of horticulture, Agriculture, Fisheries, Animal husbandry, Different varieties of the crop etc.
Morena	7	460	KVK & NICRA Morena, KMA Group Morena
Neemuch	8	1056	Awareness, Advisory and technical guidance as per need
Shajapur	9	873	Farmer e training KVK Agriculture Engineering, Shajapur Pond technology KVK Agriculture Engineering, REAl NRM Group, Mushroom training with KVK, Haldhar Krishak vidhyalaya, Processing and women, Krishi Shodh Group etc.
Sheopur	5	500	Organic Grower, Quality seed grower, Udhyaniki Sheopur, KVK Sheopur, Unnatsheel kisan sheopur
Shivpuri	10	1240	Weather based advisory sent twice a week to member farmers and other contingent advisories
Ujjain	6	448	Sharing of Agromet Advisory, Important Activities, Links for registration of webcasting of programme, advisory on incidence of insect, pest or abrupt weather if any.
Burhanpur	5	504	KVK Burpur farmers grp-1, KVK Group Horticulture KVK Burhanpur Migrant grp, Agronomy KVK Burhanpur, Dairy Farmer/ Entrepreneur, Prakritik Kheti

Ratlam	8	995	Activity related to farmers query and share agriculture news, magazines and awareness activities.
Sehore	2	545	Share weekly advisory and solve farmers queries

C. Information through Social Media by KVKs

KVK	Face book			Twitter		Instragram	
	Scientists	Farmers connected	No of Post	No of Tweets	Followers	No of share	People following
Agar malwa	1	-	-	-	-	-	-
Alirajpur	1	-	-	23	-	-	-
Barwani	53	168	21	11	56	-	-
Datia	Yes	Yes	Mass	Mass	Yes	-	-
Dewas	-	-	-	55	234	-	-
Dhar	3	886	18	48	47	12	78
Guna (Aron)	04	5000	06	06	50	01	100
Gwalior	-	-	-	50	320		
Jhabua	4	295	66	9	667	34	702
Khargone	3	1300	18	12	126	-	-
Mandsaur	3	308	18	13	98	-	-
Morena	10	6000	56	-	-	-	-
Neemuch	5	560	10	-	-	-	-
Shajapur	5	234	15	12	25	2	18
Sheopur	20	50	21	03	09	-	-
Shivpuri	14	354	49	18	163	0	0
Ujjain	2830	591	11	65	226	0	26
Bhopal	2	418	-	-	-	-	-
Burhanpur	08	4970	350	17	207	00	62
Indore	6	5000	12	35	72	-	-
Ratlam	5	4995	47	17	98	-	-
Sehore	17	189	11	14	117	-	-
Total	**2994**	**31318**	**729**	**408**	**2515**	**49**	**986**

D. Mobile Apps developed by KVKs

S. No.	Name of	Title of Mobile	Language of App.	Number of

	KVK	App		Downloads
1.	Jhabua	Khetiwari	Hindi	257
2.	Barwani	KVK Barwani	Hindi	22
3.	Ujjain	फल प्रसंस्करण, मसाला फसलें	Hindi	45

E. Status of KVK Website during January to December - 2022

Name of KVK	Date of start of website	Address of Website	No. of updates During 2022	No. of visitors during 2022
Alirajpur	2020	www.kvkalirajpur.org	-	-
Barwani	2016	www.kvkbarwani.org	32	8900
Lahar (Bhind)	2013	www.kvklahar.com	-	-
Datia	2011	www.kvkdatia.com	4	13377
Dhar	2011	www.kvkdhar.com	48	More than 8200
Gwalior	2012	www.kvkgwalior.com	05	6526
Jhabua	2018	www.kvkjhabua.org	74	37308
Khandwa	2019	kvkkhandwa.org	6	8057
Mandsaur	2015	https://kvk.icar.gov.in/	-	-
Morena	2017	www.kvkmorena.com	07	918
Neemuch	2011	www.kvkneemachzpdvii.org	47	203
Rajgarh	2013	kvkrajgarhzpdvii.org	-	-
Shajapur	2014	kvkshajapur.rvskvv.net	-	-
Sheopur	2016	https://kvk.icar.gov.in/	101	-
Shivpuri	2014	kvkshivpuri.org	02	79463
Ujjain	2011	https://kvkujjain.org	50	1376
Burhanpur	2021	www.kvkburhanpur.com	-	-
Indore	2006	www.kvkindore.co.in	17	5316
Ratlam	2011	www.kvkratlam.org.in	14	Mass
Sehore	2015	kvksehore.nic.in	06	8750

5.9 Awards & Recognitions

Major awards, recognitions and appreciations received by the KVK scientists, associated farmers and KVK as an institution are given in the table below;

Awards and Recognition -2022

KVK Name	Name of award/ awardees	Type of award (Ind./Group/ Inst./Farmer)	Award category (local/ Regional/ National)	Awarding Organizations	Amount received (Rs.)
Guna	Appreciation Certificate on Republic day	Individual	local	DM, Guna	-

5.10 Status of Revolving Funds - 2022

KVK	Account No.	Opening balance on 01 .04.2022 (Rs.)	Closing balance 31.03.2023 (Rs.)
Alirajpur	299402010000458	502277.00	550451.00
Ashoknagar	30685855476	1473718.00	1738246.00
Barwani	30704699890	1661215.00	2078219.00
Bhind (Lahar)	40460196942	690875.00	950686.50
Datia	36470787786	1662135.00	1838554.00
Dewas	19110110016503	1948465.00	2524635.00
Dhar	30657822680	1575310.00	983924.00
Dhar-II (Manawar)	38095420207	113355.00	214442.00
Guna	30639334219	103897.00	286427.00
Gwalior	21160210000250	6749690.00	7056898.00
Khandwa	10470210000311	2619978.00	2027225.00
Khargone	30697884572	781789.00	798968.00
Mandsaur	3770210000052	871631.00	964611.00
Morena	430210000045	3507239.00	2843309.00
Neemuch	2460200000581	1096326.10	1637673.30
Rajgarh	32895980627	973204.00	1400163.00
Shajapur	30699079595	1280222.00	1518546.00
Sheopur	39072325018	1303187.78	1505215.78
Shivpuri	21770210000014	1644519.72	2564850.78
Ujjain	37127235119	21202411.55	2547192.89

5.11: Publications and Media Development by KVKs

During 2022, various research and farmer friendly publications were published and distributed among the clients for issuing timely advisory on technological developments in agriculture and allied areas.

KVK	Abstract	Research Paper	Leaflets/ Folder/ Pamphlet	Popular article	Booklet	Book Chapter	Technical Bulletin	Training Manual	Technical Report	Year Planner	Book	Electronic Media Show (CD/VCD)	Others	Total
Agar Malwa	4	0	2	0	0	0	0	0	0	0	0	0	0	0
Alirajpur	0	2	4	2	0	0	0	0	9	1	1	0	0	0
Ashoknagar	6	8	4	0	0	0	1	0	5	1	0	4	1	0
Barwani	5	5	5	0	2	0	0	0	25	1	0	0	0	0
Lahar (Bhind)	1	7	8	0	1	0	2	0	3	0	1	0	0	0
Datia	4	0	3	4	1	0	0	0	0	0	0	0	0	0
Dewas	1	2	1	4	0	0	0	0	0	0	1	0	0	0
Dhar	3	6	9	7	4	2	0	0	6	1	2	3	0	0
Dhar II (Manawar)	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Guna (Aron)	0	0	5	1	0	1	0	0	8	1	0	0	0	0
Gwalior	1	9	3	12	6	2	6	0	35	1	0	0	0	0
Jhabua	8	2	8	5	0	1	0	7	7	1	0	4	0	0
Khargone	3	2	2	2	1	0	0	0	18	1	0	0	0	0
Mandsaur	1	2	0	0	0	0	0	0	13	1	0	0	0	0
Morena	15	8	1	12		0	0	0	6	1	4	3	0	0
Neemuch	7	2	0	3	3	3	1	0	10	1	0	0	0	0
Shajapur	5	0	4	5	2	0	0	0	0	1	0	4	0	0
Sheopur	2	2	3	5	1	2	0	1	4	1	0	0	0	0
Shivpuri	4	6	2	7	0	0	0	0	5	1	0	0	0	0
Ujjain	10	7	5	5	0	7	0	0	8	2	2	1	0	0
Burhanpur	3	0	1	0	0	2	0	0	7	0	0	0	0	0
Indore	3	4	4	2	0	0	0	0	2	1	0	0	0	0
Ratlam	1	0	0	1	2	0	0	0	0	0	0	0	0	0
Sehore	0	1	2	0	0	0	1	2	1	1	0	0	0	0
Total	**87**	**75**	**80**	**77**	**23**	**20**	**11**	**10**	**172**	**18**	**11**	**19**	**1**	**0**

5.12:Outreach of KVK -2022

The KVKs are functioning at district level as a model institution for transfer of agricultural technologies among farmers and district extension machinery. The KVK work on principles of scientific agriculture and follow cluster based approach for agricultural development in the district. It works through adopted villages and develops them as model for district extension system. The table below gives a detailed account of coverage and outreach of KVK in the district.

Name of	Total number of	Number of Blocks	Number of Villages

KVK	Block/villages in district					
	Block	Village	Intensive	Extensive	Intensive	Extensive
Dewas	6	1067	5	6	55	962
Guna	5	1260	3 (Aron, Guna, Raghogarh)	2 (Bamori, Chachoda)	250	1010
Khandwa	7	725	3	4	4	721
Sheopur	3	610	3	3	10	3
Total	**21**	**3662**	**14**	**15**	**319**	**2696**

5.13: Initiatives on Doubling Farmers Income (DFI)

As per the guidelines of Ministry of Agriculture, Government of India, KVKs under RVSKVV, Gwalior have selected villages for intensive implementation of income generating/enhancing agricultural activities for Doubling Farmers' Income by 2022. The details are as follows;

A. Information about DFI Village

Name of KVK	Block	Name of DFI Village	Total geographical area (ha)	House hold	Population
Dewas	Soncutch	Narana	197	140	922
Guna	Raghogarh	Arashkheda	135	52	316
Khandwa	Chhegaonmakhan	Sulyakhedi	-	98	553
Khandwa	Khalwa	Jhirniya	-	130	710
Sheopur	Karhal	Parond	80. 00	65	512

B. Activities in DFI Village during January to December -2022

KVK	OFT			FLD			Training		Ext. Activities	
	No	Area (ha)	Benf.	No	Area (ha)	Benf.	No.	Benf.	No.	Benef.
Dewas	3	1.2	3	2	2.4	6	2	43	1	37
Guna (Aron)	3	10.8	28	3	3.2	39	7	215	59	290
Khandwa	-	-	-	-	-	-	-	-	-	-
Sheopur	9	6.40	34	10	53	126	9	205	-	-

5.14: Initiatives on Nutri-Smart Village during Jan-Dec-2022

As per the guidelines of Ministry of Agriculture, Government of India, KVKs under RVSKVV, Gwalior have selected villages for intensive implementation of income generating/enhancing agricultural activities for Nutri-Smart Village by 2022. The details are as follows;

A. Information about Nutri-Smart Village

Name of KVK	Block	Name of Nutri-Smart Village
Barwani	Barwani	Borlai
Dewas	Soncutch	Agera
Dhar-II	Manawar	Gulati, Wayal, Bhagyapur, Temriyapura
Guna	Aron	Khamkhea &Piproda Maina
Gwalior	Morar	Kargawan
Gwalior	Ghatigoan	Talpura
Khandwa	Khalwa	Jhirniya
Mandsaur	Mandsaur	Bhuniyakhedi and Menpuriya
Morena	Porsa	Bhajpura
Morena	Joura	Bisangpura
Morena	Pahargarh	Dhoorkuda
Neemuch	Neemuch	Dalpatpura
Rajgarh	6	Chatukheda, Banskheda, Chosla, Nari
Shajapur	Shajapur	Rampura Mewasa
Sheopur	Sheopur	Icchapura
Ujjain	Ujjain	Kalyanpura
Burhanpur	Khaknar	Sandaskala, Nepanagar, Tembi
Burhanpur	Burhanpur	Pipalgaon, Umarda, Bhavsa
Indore	Depalpur & Mhow	Machal & Bardari
Ratlam	Ratlam	Jamthun
Sehore	Ichhawar	Narsinghkheda

B. Activities in Nutri-Smart Village during January to December -2022

KVK	OFT			FLD			Training		Ext. Activities	
	No	Area (ha)	Benef.	No	Area (ha)	Benef.	No.	Benef.	No.	Benef.
Barwani	-	-	-	-	-	-	2	37	5	157
Dewas	25		25	14	-	14	3	74	1	18
Dhar II (Manawar)	-	-	-	-	-	-	5	146	3	79
Guna (Aron)	3	4	20	3	250sqm	30	5	86	15	331
Gwalior	12	-	40	12	1000sqm	40	6	125	12	353
Khandwa	4	-	60	4	-	80	18	794	6	178
Mandsaur	1	100 Tray	10	4	2000sqm	52	9	196	3	65
Morena	5	2	83	4	0.1-0.25	76	15	435	59	1212
Neemuch	3	-	21	3	-	36	14	300	36	313
Rajgarh	120	-	600	120	-	600	6	360	6	360
Shajapur	6	-	30	4	250 sqm	30	6	89	2	48
Sheopur	-	-	-	02	1.20	120	-	-	-	-
Ujjain	5	2 begha	25	2	200 sqm	24	7	127	3	138
Burhanpur	-	-	-	3	10	30	4	96	3	85
Indore	1	-	13	01	0.52	13	6	114	2	45
Ratlam	1	1.0	07	3	2.5	30	2	46	2	65
Sehore	1	1.0	05	4	0.2	40	5	118	8	198

Scientific Advisory Committees (SAC) Meeting of KVKs

The Scientific Advisory Committee meetings were conducted to give necessary guidance and support to carry out the mandated activities of KVK in a more planned and scientific manner. The committee monitors progress and facilitate in-depth exchange of views in specific fields. The committee evolves the scientific and technical vision documents for the KVK, reviews periodically and takes further course of action as deemed fit for furthering scientific and technological activities of the KVK. Activities of KVKs are monitored through these meeting of Scientific Advisory Committees (SAC). Director Extension Services, Joint Director Extension, and scientists from the Directorate of Extension Services participated in these meetings to reviews previous activities and finalize the action plans for coming season. A total of 52 SAC meetings (Kharif and Rabi) were conducted for all 27 KVKs during 2022. Details of SAC meetings organised during the year are as follows:

KVK Name	Kharif 2022		Rabi 2022-23	
	Date of Meeting	Participants	Date of Meeting	Participants
Agar Malwa	27/05/2022	19	01/11/2022	22
Alirajpur	14/07/2022	32	-	-
Ashoknagar	18/06/2022	28	13/03/2023	21
Barwani	22/06/2022	25	19/11/2022	25
Lahar (Bhind)	08/06/2022	26	13/10/2022	-
Datia	16/06/2022	21	14/10/2022	28
Dewas	21/06/2022	31	02/11/2022	45
Dhar	16/06/2022	-	17/10/2022	-
Dhar-II (Manawar)	30/06/2022	15	-	-
Guna (Aron)	17/06/2022	26	06/10/2022	22
Jhabua	13/06/2022	39	24/09/2022	42
Khargone	21/06/2022	29	15/11/2022	27
Mandsaur	11/07/2022	43	23/11/2022	27
Morena	23/05/2022	27	30/09/2022	29
Rajgarh	16/06/2022	-	09/11/2022	-
Shajapur	15/06/2022	25	05/11/2022	36
Sheopur	08/06/2022	19	01/10/2022	21
Ujjain	20/06/2022	37	31/10/2022	35
Burhanpur	23/06/2022	27	17/11/2022	25
Indore	22/06/2022	-	03/11/2022	-
Ratlam	26/05/2022	17	24/11/2022	35
Sehore	14/06/2022	34	-	-

6. LIBRARY AND DOCUMENTATION SERVICES:

Library system of different constituent Colleges of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior continued to play the pivotal role in dissemination of information across the University.

Entire academic community continued to harness the benefits of this useful information system. Textbooks, Reference books, Competitive examination books, digital library e-books, scientific periodical, thesis, report, encyclopedias, CDs relevant to teaching and research activities etc. have been stocked in the library of constituent Colleges of the University.

Books and Journals available:

S.No.	Particulars	No. of books
1.	Total No. of books available in different College Library of Vishwa Vidyalaya.	144759
2.	New books purchased during 2022-23	Nil
3.	*e*-Books	146

Central Library: The fund provided by ICAR has been utilized by the Central Library of the University. The much awaited and highly needed books on various subjects have been purchased. The basic infrastructural facility has been developed that has made the academic atmosphere of the libraries more conductive for the research scholars, students and teachers alike. The computerization of all the e-libraries of Vishwa Vidyalaya has made the functioning smoother now, therefore each and every user is assisted promptly.

The e-library is fully functional connecting the local user through World Wide Web to the global scenario of knowledge. The good quality book cases keep study material safe and intact, and the comfortable furniture is a kind of great relief to the voracious readers**.** In central library total Books are 10873, 9718 printed books, 438 *e*-books, 07 printed magazines, 1303 gifted books, 15 priented journal and 52 E-magazines were available in Central library of VishwaVidhyalaya.

7. INFRASTRUCTURE DEVELOPMENT:

(1) RAK, College of Agriculture, Sehore-

- Construction work of Common Incubation Centre (CIC) building is near about to completion.
- Water Proofing of college building.
- False ceiling & electric work completed in first, second & third year class room.
- Seminar Hall of College has renovated.
- Soil science & Plant Pathology Lab has renovated.

(2) BM, College of Agriculture, Khandwa-

The vision of the Institute is to "ensure good governance, flawless administration and sound human resource management to harness the full potential of the staff and the students so as to transform a process driven institution into a result oriented organization".

Yoga at Gargi girl's hostel

Vermicompost:

This unit is established at Cotton Research Centre, Khandwa and it consist of 12 beds for preparation of Vermicompost, which is used for organic Cotton and Turmeric production in the farm.Vermicomposting uses earthworms to turn organic wastes into very high quality compost, which give all essential micro and macro plant nutrients to plants. Worm casts contain five times more nitrogen, seven times more phosphorus, and 11 times more potassium than ordinary soil.

Vermicompost unit

Madhav Goshala

B.M.College of Agriculture hascattle husbandry unit with 70 cattle's at cotton research centre and is known as "Madhav Gaushala". It is a large source of cow dung provider, which is supplied in making vermin-compost. Cow dung, urine can be used for making Jivamrut and organic pesticides.

The development works carried out at Gaushala.

- Construction of Cattle Shed.
- Construction of grass godown.
- Compound wall.

Cattlesat Madhav Goshala

INITIATIVES TOWARDS ORGANIC FARMING:

Two Vermi-compost units each at College farm and KVK premises have been established. Both the units have six pits and production of vermi-compost has already started and is being used for enriching the soils of the college farm. Besides, under *Krishi Teerth* plan, recently, a vermi-compost unit has also been established in which the compost is being made in open bed instead of pits.

(3) KNK, College of Horticulture, Mandsaur-
Facilities Developed at College Level

S.No.	Facility developed	Quantity	Amount
1.	Skill development Center under DG SCSP	1	120. lakh
2.	Parking yard	1	5.00 lakh

8. GENERAL ADMINISTRATION:

8.1 **General Administration:** The Board of Management (BoM) of RVSKVV is the apex-body, empowered to make policy decisions with the Vice-Chancellor as its Chairperson who is also the Executive Head of the University. The composition of BoM is given below:

BOARD OF MANAGEMENT

NAME OF THE MEMBERS
Prof. Arvind Kumar Shukla Vice-Chancellor RVSKVV, Gwalior (M.P.)
Additional Chief Secretary Farmer Welfare and Agriculture Development MP Govt., Mantralaya, Vallabh Bhawan, Bhopal (M.P.)
Joint Director Department of Finance Gwalior (M.P.)
Mr. Lakhan Singh Yadav
Mr. Virendra Rahguwanshi
Mr. Sanjeev Singh
Mr. Rajendra Singh Rajpoot
Dr. Praveen Shinde
Dr. Sunanda Singh Raghuwanshi
Dr. P.K. Mishra
Mr. Chatur Singh Gurjar
Mr. Atul Sharma
Dr. Amresh Chandra
Dr. P.P. Shastry
Mr. Rajeev Chaudhary
Mr. Anil Saxena (Registrar/Member Secretary) RVSKVV, Gwalior (M.P.)

ACADEMIC COUNCIL

The Academic Council is vested with the responsibility of implementing and monitoring all the academic programmes. The council is headed by the Vice-Chancellor, as chairperson and consists of Dean Faculty, Director Instructions, Director Research and Director Extension, University Head of Departments and Professors as members. The composition details are given below:

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Dr. Arvind Kumar Shukla Hon'ble Vice-Chancellor RVSKVV, Gwalior (M.P.)	**Chairman**
2	Dr. D.H. Ranade Dean, Faculty of Agriculture RVSKVV, Gwalior (M.P.)	Member
3	Dr. S.K. Sharma Director, Research Services RVSKVV, Gwalior (M.P.)	Member
4	Dr. Y.P. Singh Director, Extension Services RVSKVV, Gwalior (M.P.)	Member
5	Dr. S.K. Sharma Director Instruction & Student Welfare RVSKVV, Gwalior (M.P.)	Member
6	Dr. Dheerendra Khare Dean, Faculty of Agriculture JNKVV, Jabalpur (M.P.)	Member
7	Dr. Mukesh Shrivastava Registrar, RLBCAU, Jhansi (U.P.)	Member
8	Dr. Pooran Gaur Professor & Head	Member
9	Dr. S.K. Trivedi Head of Department (Soil Science) College of Agriculture, Gwalior (M.P.)	**Special Member**
10	Mr. Anil Saxena Registrar RVSKVV, Gwalior (M.P.)	**Member Secretary**

ADMINISTRATIVE COUNCIL

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Dr. Arvind Kumar Shukla Hon'ble Vice-Chancellor RVSKVV, Gwalior (M.P.)	**Chairman**
2	Dr. D.H. Ranade Dean, Faculty of Agriculture RVSKVV, Gwalior (M.P.)	Member
3	Dr. S.K. Sharma Director, Research Services RVSKVV, Gwalior (M.P.)	Member
4	Dr. Y.P. Singh Director, Extension Services RVSKVV, Gwalior (M.P.)	Member
5	Dr. S.K. Sharma Director Instruction & Student Welfare RVSKVV, Gwalior (M.P.)	Member
6	Dr. R.S. Chundawat Dean, College of Horticulture, Mandsaur (M.P.)	Member
7	Dr. M. Yasin Dean, College of Agriculture, Sehore (M.P.)	Member
8	Mr. Anil Saxena Comptroller, RVSKVV, Gwalior (M.P.)	Member
9	Dr. H.S. Bhadauria Executive Engineer, RVSKVV, Gwalior (M.P.)	Member
10	Head of Department (Horticulture) College of Agriculture, Gwalior (M.P.)	Member
11	Dr. M.K. Tripathi Head of Department (PMB & Bio-technology) College of Agriculture, Gwalior (M.P.)	Member
12	Registrar RVSKVV, Gwalior (M.P.)	**Member Secretary**

9. IMPORTANT EVENTS/INAUGURATIONS:

Sports and Cultural Activities for National level-

- RVSKVV organized Four days Inter Collegiate games Badminton/Table Tennis/Carrom/Volleyball and Kho-Kho (Men/Women) competition during December 30th January to 02 February at College of Agriculture, Gwalior.

- A Youth festival and cultural competition programmes was organized at College of Agriculture, Gwalior during December 28-30, 2022. The students of College of Agriculture, Gwalior received Theatre, Dance, "Sahitya Shiromani Award" and "Latit Kala Shiromani Award". The students of College of Agriculture, Sehore received Music Award. The students of College of Agriculture, Gwalior received "Over all Best Performance Award".

Participation of students in National Events

Games & sports: Inter collegiate sports/cultural meets have served to link together the five colleges of the university paving the way for participation at national level. The students have participated in **Twelve** inter university **agriunisports** and **Eleven youth festivals** during 2008 to 2022. The performance of students in various sports and cultural meets has been admired.

AGRIUNISPORTS

- Forty Students (26 boys and 14 girls) of RVSKVV, Gwalior participated in XXI All India Inter Agricultural University Sports and Games meet "AGRIUNISPORTS 2023" organized at CCS Haryana Agricultural University, Hisar (Haryana) during 20 to 24 February, 2023 and their performance was appreciated by one and all.

Inaugural function of XXI All India Inter Agricultural University Sports and Games Meet at CCS Haryana Agricultural University, Hisar (Haryana)

AGRIUNIFEST

- Twenty Two Students (09 boys and 13 girls) of RVSKVV, Gwalior participated in 21st All India Inter Agricultural Universities Youth Festival organized at University of Agricultural Science, GKVK Campus, Bengaluru (Karnataka) during 13 to 17 March, 2023 and their performance was appreciated by one and all.

Glimpses of the opening and closing ceremony of 21st All India Inter Agricultural University Youth Festival at University of Agricultural Science, GKVK Campus, Bengaluru

Other Activities

Martyr's Day

- Every year on the occasion of Martyr's Day tributes are paid to the late Rajmata Vijayaraje Scindia on 25th January at the Vishwa Vidyalaya Campus by Hon'ble Vice-Chancellor, senior officers and staff members.

Prof. Arvind Kumar Shukla Vice-Chancellor & Senior Officers paying tributes to late Rajmata Vijayaraje Scindia

Independence/Republic Day Celebration

- RVSKVV, Gwalior celebrated Independence Day on 15 August 2022 and Republic Day on 26th January, 2023. Prof S.K. Rao/Prof Arvind Kumar Shukla, Vice-Chancellor unfurled the tricolor in presence of senior officers, retired personnel, invitees, staff members and students.

Prof S.K. Rao/Prof Arvind Kumar Shukla, Vice-Chancellor addressing on Independence/Republic Day Celebration

-: FOUNDATION DAY CELEBRATION:-

- Virtual celebration of **14th Foundation Day of RVSKVV** was organized on August 19, 2022 in the presence of Dr. R.C. Agrawal**,** Deputy Director General (Agricultural Education) Division of Education, ICAR, New Delhi as chief guest of the function. Dr. D.H. Ranade In-charge Vice Chancellor highlighted the University's achievements as chairman of the programme. Shri Atul Sharma, Board Member also present as special guest.


- Dattopant Thengadi Auditorium and National Seed Congress -2022 of RVSKVV was inaugurated on 21 August, 2022 by **Hon'ble Shri Narendra Singh Tomar,** Union Minister of Agriculture and Farmers Welfare, Govt. of India as Chief Guest in the presence of **Hon'ble Shri Jyotiraditya Scindia,** Union Civil Aviation Minister, Govt. of India as special guest. **Hon'ble Shri Kamal Patel,** Agriculture Minister, M.P. was present as chairman of programme, **Dr. Shobha Sikarwar, Mayor, Gwalior, Shri Ashwani Kumar,** Joint Secretary, Department of agriculture & Farmers Welfare, Govt. of India and **Dr. R.C. Agrawal,** Deputy Director General (Agril. Education) ICAR, New Delhi were also present as special guest. Hon'ble Vice Chancellor, Prof S.K. Rao highlighted the university's achievements.

- The Eight Convocation of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior was held on October 12, 2022. Hon'ble Shri Mangubhai Patel, Governor of Madhya Pradesh and Chancellor, RVSKVV, Gwalior presided over the function. Hon'ble Shri Kamal Patel, Minister, Agriculture & Farmers Welfare, Govt. of M.P, Hon'ble Shri Bharat Singh Kushwaha, Minister, Horticulture and food processing Narmada Valley Development (independent charge) and Hon'ble Dr. R.C. Agrawal, DDG (Agricultural

Education), ICAR, New Delhi were the Guest of Honour , while Hon'ble Members of Board of Management and Academic Council, Directors, Deans, Faculty members, Staff, Distinguished guests and recipients of Degrees graced this event. In the Convocation, a total of 638 students were conferred UG, PG and Ph.D. degrees and Four students received Gold Medals.

10. HUMAN RESOURCE DEVELOPMENT:

Participation of Professors/Scientists/Teachers in National / International Seminars / Symposia/ Conferences/Short term Courses /Trainings/Workshops/summer and Winter Schools etc.

For the year 2022-23

S. No.	Programme/ Training	Name of faculty members	Duration	Organized by
1	Short term course: Entrepreneurial Development in Agriculture for Sustainable Growth and Self Reliance.	Dr. Nisha Singh	8days	Department of Agricultural Extension and Communication COA Gwalior RVSKVV
2	Advance in Agricultural Extension Research	Dr. Shobhana Gupta	11days	National Dairy Research Institute , Karnal , Haryana
3	Professional Development Programmes: Online refresher course on millets (Shree Anna) - Model Crops for susnable farming value addition entreprenurship development grant nutritional security (RCSA 2023)	Dr. Sneha Pandey	20 days	ICAR-IMR, Hyderabad
4	Orientation : Antiragigng week 2023	Dr. Sudhir Singh	6 days	RVSKVV-COA, Gwalior
5	Professional Development Programmes: Online refresher	Dr. Sudhir Singh	20 days	RVSKVV , Gwalior

	course on millets (Shree Anna) - Model Crops for susnable farming value addition entreprenurship development grant nutritional security (RCSA 2023)			
6	Gene Editing and Genomic analysis of Crop Improvement in wheat	Dr. Sushma Tiwari	80 days	Murdoch University, Perth, Western Australia
7	Professional Development Programmes: Analysis of agricultural data using statistical and data mining techniques	Dr. Sneha Pandey	9 days	RVSKVV , Gwalior
8	Professional Development Programmes: Analysis of agricultural data using statistical and data mining techniques	Dr. Sudhir Singh	9 days	RVSKVV , Gwalior
9	Professional Development Programmes: Analysis of agricultural data using statistical and data minig techniques.	Dr. Nisha Singh	9 days	RVSKVV , Gwalior
10	Refresher course: Personality development and communication skills	Dr. Sudhir Singh	9 days	RVSKVV , Gwalior
11	Professional Development Programmes	Dr. Nisha Sapre	30	CSJM University Kanpur & ICAR- ATARI Kanpur
12	Professional Development Programmes	Dr.Narendra Kumawat	30	CSJM University Kanpur & ICAR- ATARI Kanpur
13	Professional Development Programmes	Dr. Deepak Kumar Verma	30	CSJM University Kanpur & ICAR- ATARI Kanpur
14	Professional Development Programmes	Dr. R.K.Singh	30	CSJM University Kanpur & ICAR- ATARI Kanpur
15	Professional Development Programmes	Dr. R.K. Singh	5	NIPHM, Hyderabad
16	Professional	Dr. J.P.Mehra	21	Sri Karan Narendra

	Development Programmes			Agricultural University, Jobner, Rajasthan
17	Professional Development Programmes	Dr. J.P.Mehra	21	ICAR, IGFRI Himachal Pasturelands Palampur H.P. and NADCL Baramulla U.T of J & K
18	Professional Development Programmes	Dr. M. L. Jadav	21	MaharanaPratap University of Agriculture and Technology, Udaipur (Rajasthan)
19	Professional Development Programmes	Dr. M. K. Saxena	21	IGFRI, Palampur and NADCL
20	Professional Development Programmes	Dr. Swati Barche	5	ICAR-NAARM, Hyderabad
21	Professional Development Programmes	Dr. Anvita Sharma	5	ICAR-NAARM, Hyderabad.
22	Professional Development Programmes	Dr. Priyanka Singh	5	ICAR-NAARM, Hyderabad.
23	Professional Development Programmes	Dr.H.K Balai	5	ICAR-NAARM, Hyderabad.
24	Professional Development Programmes	Dr.Nitesh Kumar Panwar	5	ICAR-NAARM, Hyderabad.
25	Professional Development Programmes	Dr. J.P.Mehra	5	NAARM, Hyderabad and RVSKVV-College of Agriculture Indore
26	Professional Development Programmes	Dr. M. L. Jadav	5	ICAR-NAARM, Hyderabad.
27				
28	Short term Course	Dr. Pradyumn Singh	3	Extension Education Institute, Anand and RVKVV,Gwalior
29	Short term Course	Dr. Pradyumn Singh	10	ICAR Sponsered, Dr. YS Parmar Univ., Solan (HP)
30	Competency Enhancement in Agricultural Research and Education	Dr. Manoj Kumar Kureel	5	NAARM & RVSKVV
31	Short course	Dr Priyamvada Sonkar	5 Days	National Institute of Plant Health Management, Hyderabad
32	Short course	B. K. Patidar	10 Days	National Institute of Plant Health Management, Hyderabad
33	Short course	Dr Priyamvada Sonkar	5 Days	NAARM in collaboration with RVSKVV, College of

				Agriculture, Indore (CoA, Indore)
34	Refreshers course	Dr SK Dwivedi	21 Days	IISR, Lucknow, (U.P.)
35	Short course	Dr. Anuj Kumar	10 Days	CAFT Division of Plant Pathology
36	Refreshers course	Dr Priyamvada Sonkar	21 Days	ICAR sponsored Centre for Advanced Faculty Training (CAFT) at Technologies 2022 Department of Dairy Science and Food Technology. Institute of Agricultural Science, Banaras Hindu University, Varanasi (U.P.)
37	Referesher course	Dr. Jyoti Kanwar	21 Days	MPUAT, Udaipur
38	Refreshers course	Dr. Nitin soni	21 Days	JNKVV, Jabalpur
39	Short course	Dr. Pramod Kumar Fatehpuria	5 Days	NAARM, Hyderabad
40	Refreshers course	Dr M K Tripathi	21 Days	Teaching learning center, Ramanujan College University Delhi
41	Refresher course	Dr M K Tripathi	21 Days	Teaching learning center, Ramanujan College University Delhi
42	Refreshers course	Dr SK Dwivedi	21 Days	ICAR, Indian Institure of Millet Resaerch Hyderbad

10.1 Financial Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies for the year 2022-23-

Year -2022-23				
Dates (from-to) (DD-MM-YYYY)	**Title of the conference/ workshops/ name of the professional body**	**Name of the teacher**	**Amount provided by the HEI**	**Purpose (Membershiop fee/travel and other expenses/Registration fee)**
dec 20 to 23 2022	"3rd International Weed Conference" at AAU, Anand (Guj)	Dr Varsha Gupta	7,650	Registration fee
November 15-18, 2022	86th Annual Convention of Indian Society of Soil Science at MPKV, Rahuri	Dr. S. K. Trivedi	4000	
September 12th - 16th 2022	Five days Workshop on "Application of Drones in Agriculture : Away for Entrepreneurship Generation", RVSKVV Gwalior, MP from under the aegis of IDP-NAHEP	Dr. Priyadarshani Khambalkar	nil	

july 29 to 31 2022	All india wheat and barley research workers meet	Dr. Nisha Singh	6000	Registration fee
25th to 27 may 2022	29th Annual Review Meeting of AICRP-WM held at TNAU, Coimbatore	Dr Varsha Gupta	6,000	Registration fee
February, 23rd 2022	57th annaul group meeting of ICAR-All India coordinated research project on pearl millet (online mode)	Dr. R K Pandya	nil	
Dec-12-2022	The Indian Society of Dryland Agri. International Conference ICAR-22/CRIDA, Hyderabad	Dr. Bharat Singh	8000	Registration fee
June-04-2022	XXVI Brain Storming Session on : Water Policy For Rainfed Agri./CRIDA, Hyderabad	Dr. D.V. Bhagat	2000	Registration fee
June-04-2022	XXVI Brain Storming Session on : Water Policy For Rainfed Agri./CRIDA, Hyderabad	Dr. N. Kumawat	2000	Registration fee
Dec-12-2022	The Indian Society of Dryland Agri. International Conference ICAR-22/CRIDA, Hyderabad	Dr. N. Kumawat	9000	Registration fee
Feb-2-4-2023	Malinum Jubliee Conference on Plant and soil health management issue and innovation/Universit y of Mysore, Karnataka	Dr. R.K.Singh	8500	Registration fee
June-04-2022	XXVI Brain Storming Session on : Water Policy For Rainfed Agri./CRIDA, Hyderabad	Dr. S.K. Choudhry	2000	Registration fee
Dec-12-2022	The Indian Society of Dryland Agri. International Conference ICAR-22/ISDA-Central Institute of DARP Agr.Hyderabad	Dr. S.K. Choudhry	9000	Registration fee
Sep-1-2-2022	Annual Group Meeting of Safflower and linseed/Dr. Panjabrao Deshmukh	Dr.J.P.Mehra	3000	Registration fee

	Krishi Vidhyapith Akola COA , Nagpur			
Aug-21-23-2022	11th National Seed Congress on recent advanced in research on Quality seed for self sufficiency in Oilseeds and Pulses./RVSKVV, Gwalior	Dr. M.K. Saxena	4000	Registration fee
Sep-1-2-2022	Annual Group Meeting of Safflower and linseed/Dr. Panjabrao Deshmukh Krishi Vidhyapith Akola COA , Nagpur	Dr. M.K. Saxena	3000	Registration fee
Dec-12-2022	The Indian Society of Dryland Agri. International Conference ICAR-22/CRIDA, Hyderabad	Dr.K.S.Banger	9000	Registration fee
Oct-11-13 2022	National Conference :Salanity Mgt for Land Degradation Neutrality & Livelihood Security under Changing climate Karnal haryana	Dr.K.S.Banger	9000	Registration fee
June-04-2022	XXVI Brain Storming Session on : Water Policy For Rainfed Agri./CRIDA, Hyderabad	Dr. M.L. Jadav	2000	Registration fee
Dec-12-2022	The Indian Society of Dryland Agri. International Conference ICAR-22/CRIDA, Hyderabad	Dr. M.L. Jadav	8000	Registration fee
07.10.2022	Review meeting of BARC Project at RVSKVV Gwalior MP	Dr. AK Saxena	8014	Travel and Other expenses
21.08.2022 to 23.08.2022	National seed congress RVSKVV Gwalior	Dr. Lekhram	4000	Registration fees
21.08.2022 to 23.08.2022	National seed congress RVSKVV Gwalior	Dr. A.K. Saxena	3682	Travel and other expenses
17.08.2022 to 18.08-2022	Annual group meet on Rabi pulses IGKV RAIPUR	Dr. A.K. Saxena	6000	Registration fees
17.08.2022 to 18.08-2022	Annual group meet on Rabi pulses IGKV RAIPUR	Dr. R P Singh	6000	Registration fees

17.08.2022 to 18.08-2022	Annual group meet on Rabi pulses IGKV RAIPUR	DR.M.YASIN	6000	Registration fees
17.08.2022 to 18.08.2022	Annul Group Meet of Rabi pulses of All India Coordinated Research Project on Chickpes and Mullarp at IGKVV, Raipur C.G.	Dr. A.K. Saxena	8871	Travel and other expenses
17.05.2022 to 18.05.2022	52nd Annul Group Meeting of All India Coordinated Research Project on Soybean at Indian Instiute of soybean Research, Indore, M.P.	Dr. B. K. Sharma	10,000	Registration fees
17.05.2022 to 18.05.2022	52nd Annul Group Meeting of All India Coordinated Research Project on Soybean at Indian Instiute of soybean Research, Indore, M.P.	Dr. S.R. Ramgiry	10,000	Registration fees
17.05.2022 to 18.05.2022	52nd Annul Group Meeting of All India Coordinated Research Project on Soybean at Indian Instiute of soybean Research, Indore, M.P.	Dr. Moly Saxena	10,000	Registration fees
10.05.2022 to 11.05.2022	Annual Group meet of kharif pulses at Palampur (HP)	Dr. A.K. Saxena	13071	Travel and other expenses
6/5/2022	AICRP-MULLaRP, Pigeon-pea and Arid Lagumes (Directorate of Research CSK Himancahal Pradesh Krishi VV, Palampur H.P.)	Dr. Lekharam	6000	Registration fee
6/5/2022	AICRP-MULLaRP, Pigeon-pea and Arid Lagumes (Directorate of Research CSK Himancahal Pradesh Krishi VV, Palampur H.P.)	Dr. R. P. Singh	6000	Registration fee
21 to 23-08-2022	National Seed Congress	Dr. SP Mishra	7562	Travel and other expenses
21 to 23-08-2022	National Seed Congress	Dr. MK Kureel	9476	Travel and other expenses
04-13-04-22	10 days training program" Farm Level Production of Bio-inputs"	Dr. S.K. Arsia	15169	Travel and other expenses

23/01/2023 to 24/01/2023	30th AnnualGroup Meeting ICAR-AICRP on Medicinal, Aromatic Plants and Betelvine/ DMAPR, Anand	B.K.Patidar	7555	Registration Fees and Travelling Allowance
05/08/2023 to 07/08/2022	XIII Annual Workshop on AINRP on Onion and Garlic UAS Dharwad/ DOGR Pune	B.K. Patidar	12605	Registration Fees and Travelling Allowance
22/01/2023 to 24/01/2023	XXX AICRP on MAPB group meeting AU Anand (GU)	Basant kumar kachouli	9792	Registration Fees and Travelling Allowance
05/08/2022 to 07/08/2022	AINRPOG XIII Group Meeting held at UAS, Dharwad	Dr. S. S. Kushwah	12155	TA and Registration fee
23/01/2023 to 24/01/2023	30th Annual Group Meet (AGM) of AICRRP on Medicinal & Aromatic Plants at AAU, Anand	Dr. Roshan Gallani	9555	Registration fee, travel and other expenses
09/11/2020 to 29/11/2022	Natural Farming:Perspectives and Prospects in changing Agriculture Scenario	Dr. Jyoti Kanwar	Nil	NA
4/28/2022	State academy of agriculture & Allied Science Gwalior	Dr.Basant Kumar Kachouli	10000	life membership

11. AWARDS AND RECOGNITIONS BY COLLEGES:

(1) College of Agriculture, Gwalior-

S.No.	Name of person	Name of the Award	Awarding Organization
1	Dr. Varsha Gupta	Best Scientist	CAIE, RVSKVV, Gwalior & AEDS,
2	Tirunima Patle	Best poster presentation award	First Prize in Poster Presentation (11th National Seed Congress, RVSKVV, Gwalior)

(2) RAK, College of Agriculture, Sehore-

- Lifetime achievement award to Dr. K.N. Pathak, Professor, Deptt. Of Agril. Extension, RAK College of Agriculture, Sehore in the field of Teaching, Research and Extension by Agri meet foundation on the occasion of National Conference: "Drone a boom for agriculture" organized by SAAST, CSJM University Kanpur U.P. and agrimeet foundation on 29th January 2023.
- Dr.R.C.Jain bestowed with honoris Causa Doctorate Award D.Sc. in Chemistry at Bangkok Thailand on 25th June 2022.

(3) KNK, College of Horticulture, Mandsaur-

SN	Title of Honours /award	Year	Conferring agency	Name of facultuy member
1.	Release of tulsi variety RVSOB-16	2022	State variety release committee, Bhopal	1. Dr. R.S. Chundawat 2. Dr. B.K. Kaucholi
2.	Global Librarian Award	2022	AKS Education	Dr.H.C.Bharvey

12. VISITS ABROAD: Nil

13. PUBLICATIONS:

Research papers/Abstract (Presented & Published)/Books/Book Chapters/ Teaching Manual/ Popular Articles etc.

(1) College of Agriculture, Gwalior-

-Research papers-

S. No.	Author/Authors	Year	Title of paper/Book or book chapter	Journal or Book	NAAS Journal Code & rating if any
1	Nilesh Sharma and Dr. Rajesh Lekhi	2022	Effect of different spacing on growth of potato cv. Kufri Chipsona-1	*The pharma innovation Journal*	5.23
2	Nilesh Sharma and Dr. Rajesh Lekhi	2022	Effect of different nitrogen level on growth of potato cv. Kufri	*The pharma innovation Journal*	5.23

			Chipsona-1		
3	Priyanka Gurjar, Karan Vir. Singh, Rajveer Singh Katoria, Hirdesh Kumar and Rajesh Lekhi	2022	Effect of bio-fertilizers on yield components, marketable bulb yield and economics of onion (*Allium Cepa* L.) under different seedling age	*The pharma innovation Journal*	5.23
4	Priyanka Gurjar, Karan Vir Singh, Rajesh Lekhi and Narendra Singh Gurjar	2022	Influence of seedling age and bio-fertilizer on bulb yield and nutrient uptake by onion (*Allium Cepa* L.)	*Biological forum and international Journal*	5.11
5	Payal Patidar, Murlidhar J. Sadawarthi, P.K.S. Guarjar, V.K. Gupta, R.K. Samadhiya, S.P. Singh and Reema Lautre	2022	Evaluation of advanced processing hybrids and varieties of potato (*Solanum tuberosum*) for chipping performace and yield for north central India	*The pharma innovation Journal*	5.23
6	Manoj Kumar Kureel, Rajesh Lekhi, Dhan Singh Mandloi, Amit Kumar and Rajesh Jatav	2022	Standardization of pruning intensities and concentrations of chemical defoliants in pomegranate *(Punica granatum)* cv. Bhagwa	*The pharma innovation Journal*	5.23
7	Manoj Kumar Kureel, Rajesh Lekhi, Dhan Singh Mandloi, Amit Kumar and Rajesh Jatav	2022	Studies on standardization of pruning intencities and concentrations of chemical defoliants in improving yield and fruit quality of pomegranate (*Punica granatum*) cv. Bhagwa	*Agriculture Mechnization*	6
8	Poonam, KaranVir Singh, S.S. Vimal, Pushpendra Rajpoot, Shubham Singh Rathore, Jitendra Kumar Chhiroliya	2022	Effect of different drying methods on physico chemical attribute of guavas fruit pulp powder	*International Journal of Environment and Climate Change*	5.13
9	Chitranshi Kankar, Murlidhar J. Sadawarthi, Karan Vir Singh, S.P. Singh, R.K. Samadhiya	2022	Evaluation of red sceen potato hybrids/ varieties in north central plains of India	*The pharma innovation Journal*	5.23
10	Amit Kumar, P.K.S. Gurjar, Mohini Parmar, Manoj Kumar Kureel, Rajesh Jatav and	2022	Effect of different crop regulation method on vegetative attributes of Guava (*Psidium guajava* L.) cv. G-27	*The pharma innovation Journal*	5.23

	Ashok Dhakad				
11	Mohni Parmar, P.K.S. Gurjar, Amit Kumar, Khushboo Namdev	2022	Effect of different edible coatings on physical attributes of guava (*Psidium guajava* L.) fruits during different storage period	*The pharma innovation Journal*	5.23
12	DS Mandloi, Praveen Kumar Singh Gurjar, MK Kureel, Rajesh Lekhi and Devendra Vishwakarma	2023	Studies on influence of bio-fertilizers and level chemical fertilizers on growth of onion (*Allium cepa* L.) cv. Bhima Red	*The pharma innovation Journal*	5.23
13	Swarnkar Reetu, Sharma Janmejay and Bairagi Deepak	2022	Root Characterstics Nodulation and yield of lentil (Lens esculenta Moench) under irrigated nutrient management	J. Soil and Crops	
14	Jinger Dinesh, Dhar Shiva, Dass Anchal, Sharma V.K., Shukla Livleen, Paramesh Venkatesh, Parihar Manoj, Joshi Neeshu, Joshi Ekta, Gupta Gaurendra and Singh Satyapriya	2022	Residual silicon and phosphorus improved the growth, yield, nutrient uptake and soil enzyme activities of wheat.	Silicon https://doi.org/10.1007/s12633-022-01676w	8.67
15	Jinger Dinesh, Dhar Shiva, Dass Anchal, Sharma V.K., Shukla Livleen, Paramesh Venkatesh, Parihar Manoj, Joshi Ekta, Singhal Vibha, Gupta Gaurendra, Prasad Dasharath and Vijayakumar S.	2022	Co-fertilization of silicon and phosphorus influences the dry matter accumulation, grain yield, nutrient uptake and nutrient use efficiencies of aerobic rice.	Silicon https://doi.org/10.1007/s12633-021-01239-5	8.67
16	Vijayakumar S., Choudhary Anil Kumar, Deiveegan M., Subramanian E., Joshi Ekta, Goud B Raghavendra and Selvakumar T.	2022	The opportunities and challenges for harvest weed seed control (HWSC) in India : An opinion.	Indian Journal of Weed Science	5.84
17	Para P.K., Kushwah S.S.,	2022	Impact of tillage and chemical weed	Biological Forum - An	5.11

	Sasode D.S., Joshi Ekta, Sharma B.K. and Malgaya G		management practices on wheat yield and nutrient uptake (Triticum aestivum L.).	International Journal:	
18	Para P.K., Kushwah S.S., Sharma J., Sharma B.K. and Malgaya Ganesh	2022	Effect of tillage and chemical weed control practices on the growth and quality characteristics of a late-sown wheat cultivar in Madhya Pradesh gird region (*Triticum aestivum* L.)	The Pharma Innovation Journal	5.23
19	Gupta varsha, Sasode Deep Singh, Joshi Ekta, Singh Y.K., Rahul Ojha and Bhadu Kavita	2022	Herbicidal impact on density of *Cuscuta compestris Yunck.* Emerged in berseem fodder crop	Indian Journal of Weed Science	5.23
20	Singh Neelam, Joshi Ekt, Sasode D.S., Dangi Roop Singh and Chouhan Namrata	2022	Nutrient concentrations and their total uptake as affected by liquid bio-fertilizers in groudnut (*Arachis hypogaea* L.)	Research Biotica	
21	Chicham Sudarshan, Singh S.P., Sasode D.S., Joshi Ekta, Sharma S.K., Sadawarti and Ausari P.K.	2022	Effect of micro irrigation systems, irrigation levels and mulches on economics of potato production cv. kufri jyoti.	The Pharma Innovation Journal	5.23
22	T.C. Yadav, Y.P. Singh, Akhilesh Singh, Shashi S. Yadav, S. R. Jakhar, and D. Choubey	2022	GIS Based Fertility Maps of Chambal Division of Madhya Pradesh, India	Biological Forum- An International Journal	5.11
23	Rohit Kumar, Amita Sharma, Shashi S. Yadav	2022	Bamboo based agro Forestry system for Increasing farmers income	Van Sangyan	
24	Arya V, Trivedi S K, Tomar P S, Singh M and Dhakad H	2022	Effect of Integrated Nutrient Management (INM) on Physico-Chemical Properties of Soils under Pearlmillet–Mustard Cropping Sequence in Typic Ustochrepts	International Journal of Plant & Soil science	5.07

25	Shrivastava, A. Tripathi, M.K., Tiwari, S. Tripathi, N., Tiwari, P.N., Bimal, S.S., Rajpoot P. and Chauhan S.	2023	Evaluation of genetic diversity in Indian mustard (*Brassica juncea* var. rugosa) employing SSR molecular markers	Plant Cell Biotechnology and Molecular Biology 24 (3-4) :10-21	ISSN: 0972-2025 NAAS No.: P_{0100} & rating in 2023: 4.88 & Scopus H Index: 11
26	Rajput S., Jain S., Tiwari S., Barela, A., Chauhan, S., Tiwari, P.N., Gupta, N., Sikarwar R. S., Tripathi N., and Tripathi, M. K.	2023	Biochemical characterization of chickpea (*Cicer arietinum* L.) genotypes	Plant Cell Biotechnology and Molecular Biology 24 (3-4) :1-9	ISSN: 0972-2025 NAAS No.: P_{0100} & rating in 2023: 4.88 & Scopus H Index: 11
27	Tripathi M.K., Tripathi N., Tiwari S. Mishra N., Sharma A., Tiwari S. and Singh S.	2023	Identification of Indian soybean (*Glycine max* [L.] Merr.) genotypes for drought tolerance and genetic diversity analysis using SSR markers	SCI-3(3);2023;31-46	2022273--0890-3670 NAAS ID:SO29 NASS rating in 2023: 7.72
28	Shrivastava, A. Tripathi, M.K., Tiwari, S. Singh, P., Tripathi, N., Tiwari, P.N., Parihar, P., Singh, J. and Chauhan S.	2023	Screening of Indian mustard genotypes against white rust disease based on disease indexing	Biological Forum – An International Journal, 15(4): 268-272	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239 NAAS ID: L014 NASS rating in 2023: 5.11
29	Sharma, S., Tripathi, M.K., Tiwari, S. Solanki, R.S. Chauhan, S., Tripathi, N. Dwivedi N. and Tiwari P.N.	2023	Discriminant function analysis for yield improvement in bread wheat (*Triticum aestivum* L.)	The Pharma Innovation Journal 12(5): 224-232	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 NASS rating in 2023: 5.23
30	Sharma S., Tripathi M. K., Tiwari S., Solanki R. S., Chauhan S., Tripathi N., Dwivedi N. and Kandalkar, V. S.	2023	The Exploitation of genetic variability and trait association analysis for diverse quantitative traits in bread wheat (*Triticum aestivum* L.)	Current Journal of Applied Science and Technology 42(8):19-33	ISSN: 2457-1024. NAAS ID C_{186} & rating in 2023: 4.71
31	Shrivastava A., Tripathi, M.K, Singh, P., Tiwari S., Tripathi N., Tiwari, P.N. Parihar, P.	2023	Disease indexing of Indian mustard genotypes against Alternaria blight disease	The Pharma Innovation Journal 12(4): 08-13	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS

	Singh, J, and Chauhan S.				ID: I382 NASS rating in 2023: 5.23
32	Tare S., Tiwari S., Rathore, M.S., Yasin, M., Tripathi N., Tiwari, P.N. and Tripathi M. K.	2023	An overview of allele mining for crop improvement: TILLING and Eco- TILLING	Plant Cell Biotechnology and Molecular Biology 24 (1-2): 91-103	ISSN: 0972-2025 NAAS No.: P_{0100} & rating in 2023: 4.88 & Scopus H Index: 11
33	Yadav, R.K., Tripathi, M.K., Tiwari, S., Tripathi, N., Asati, R., Patel, V., Sikarwar, R.S. and Payasi, D.K.	2023	Breeding and genomic approaches towards development of Fusarium wilt resistance in chickpea.	*Life.* 13(4):988. https://doi.org/10.3390/life13040988	**ISSN: 2075-1729** Impact factor: in 2022: 3.251 NASS N0. L022and rating in 2023: 925
34	Rajpoot P., Tripathi, M.K. Solanki, R.S., Tiwari S., Tripathi N., Chauhan S., Pandya, R.K. and Khandelwal V.	2023	Genetic variability and multivariate analysis in pearl millet (*Pennisetum glaucum* (L.) R. Br.) germplasm lines	The Pharma Innovation Journal 12(4): 216-226	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 NASS rating in 2023: 5.23
35	Shrivastava A., Tripathi, M. K., Solanki R. S., Tiwari S., Tripathi N., Singh, J. and Yadav, R.	2023	Genetic correlation and path coefficient analysis of yield attributing parameters in Indian mustard	Current Journal of Applied Science and Technology, 42(7) :42-58,	ISSN: 2457-1024. NAAS ID C_{186} & rating in 2023: 4.71
36	Ningwal, R.,Tripathi, M. K., Tiwari, S., Yadav, R. K., Tripathi N., Solanki, R.S., Asati R. and Yasin, M.	2023	Assessment of genetic variability, correlation and path coefficient analysis for yield and its attributing traits in chickpea (*Cicer arietinum* L.)	The Pharma Innovation Journal; 12(3): 4851-4859	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 NASS rating in 2023: 5.23
37	Ningwal R., Tripathi M. K., Tiwari S., Asati, R., Yadav, R. K., Tripathi N. and Yasin M.	2023	Identification of polymorphic SSR markers and diversity analysis in a set of desi chickpea genotypes	Biological Forum – An International Journal, 15(3): 45-51	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239 NAAS ID: L014 NASS rating

					in 2023: 5.11
38	Rajput S., Jain S., Tiwari S., Sikarwar, R. S., Tripathi N., Barela, A. and Tripathi, M. K.	2023	Evaluation of gene-based markers against Fusarium wilt disease in chickpea (*Cicer arietinum* L.)	Current Journal of Applied Science and Technology, 42(6): 26-32	ISSN: 2457-1024. NAAS ID C_{186} & rating in 2023: 4.71
39	Rajpoot P, Tripathi M.K., Tiwari S., Bimal S. S., Tripathi N., Parihar P. Pandya R. K. and C. Tara Satyavathi	2023	Characterization of pearl millet [*Pennisetum glaucum* (l.) R br.] genotypes against blast disease employing disease scoring and gene specific SSR markers	SCI- 3(3) 2023;16-30	QZ CNR 2022273--0890-3670 NAAS ID:SO29 NASS rating in 2023: 7.72
40	Makwana K., Tiwari S., Tripathi M.K. and Patel V.	2023	Morphological diversity analysis of Foxtail Millet (*Sateria italica* (L.) Beauv.) using qualitative and quantitative traits	Scientist.2(2);2023; 319-326	QZ CNR 2022273--0890-3670 NAAS ID:SO29 NASS rating in 2023: 7.72
41	Patel V., Tripathi M.K., Shrivastava R.K., Tiwari S., Chauhan S., Pandya R.K., Makwana K., Tripathi N. and Satyavathi C.T.	2023	Genetic analysis for fertility restoration for the $A_1$and A_4 cytoplasmic genetic male sterility system in pearl millet *Pennisetum glaucum* L.)	Scientist, 2(2): 95-105. DOI: 10.5281/zenodo.7639493	QZ CNR 2022273--0890-3670 NAAS ID:SO29 NASS rating in 2023: 7.72
42	Sharma N., Tiwari S.., Tripathi M K, Gupta N, Singh S. and Sikarwar, RS	2023	Selection of groundnut germplasm lines based on yield, nutritional, antinutritional and antioxidant parameters	Scientist.;2(1): 96-105 DOI: 10.5281/zenodo.7536324	QZ CNR 2022273--0890-3670 NAAS ID:SO29 NASS rating in 2023: 7.72
43	Yadav, S., Tiwari, S., Tripathi, M. K., Tripathi, N., Gupta, N. and Tiwari, S.	2023	Evaluation of high oleic acid content in a set of 96 genotypes of *Arachis hypogaea* L.	Scientist, 2(1): 132-143. DOI: https://doi.org/10.5281/zenodo.7536392	QZ CNR 2022273--0890-3670 NAAS ID:SO29 NASS rating in 2023: 7.72
44	Makwana K, Tiwari S, Tripathi M.K. and Patel V.	2023	Selection of blast resistant lines from diverse germplasm set of foxtail millet	Biological Forum – An International Journal, 15(1): 01-06	ISSN No. (Print): 0975-1130 ISSN No. (Online):

					2249-3239 NAAS ID: L014 NASS rating in 2022: 5.11
45	Sharma A, Mishra N, Tripathi N, Nehra1 S., Singh J. Tiwari S., and Tripathi M K.	2023	Qualitative trait based variability among soybean genotypes	Acta Scientific Agriculture 7.1 02-13	--
46	Parmar A, Tripathi M.K. Tiwari S, Tripathi N, Parihar P and Pandya R. K.	2022	Characterization of pearl millet [*Pennisetum glaucum* (L.) R Br.] Genotypes. against Downey mildew disease employing disease indexing and ISSR markers	Octa J. Biosci. Vol. 10 (2):134-14	ISSN No 2321-3663 NAAS ID: O005 NASS rating in 2023: 4,27
47	Asati, R., Tripathi, M.K., Tiwari, S., Yadav, R.K., Tripathi, N	2022	Molecular breeding and drought tolerance in chickpea	Life, 12, 1846. https://doi.org/10.3390/life1211184	**ISSN: 2075-1729** rating in 2023: 925
48	Tripathi, N.; Tripathi, M.K.; Tiwari, S.; Payasi, D.K.	2022	Molecular breeding to overcome biotic stresses in soybean: Update	*Plants*, *11*, 1967. https://doi.org/10.3390/plants11151967	ISSN: 2223-7747 NAAS ID: P130 *NASS rating in 2023:10.66* Impact factor:4.658
49	Mandloi S., Tripathi M.K., Tiwari S. and Tripathi N.	2022	Genetic diversity analysis among late leaf spot and rust resistant and susceptible germplasm in groundnut (*Arachis hypogea* L.)	Israel Journal of Plant Sciences, http://dx.doi.org/10.1163/22238980-bja10058	ISSN: 0792-9978 NAAS ID: I382 NASS rating in 2022: 6.68
50	Tomar YS, Tiwari S, Tripathi MK Singh, S. and Gupta N.	2022	Genetic diversity, population structure and biochemical parameters estimations driving variations in groundnut germplasm	Legume Research. DOI: 10.18805/LR-4965	ISSN: 0250-5371 NAAS ID: L014 NASS rating in 2022: 6.67
51	Rathore, M.S., Tiwari, S., Tripathi, M.K., Gupta, N., Yadav, S., Singh, S. and Tomar, R.S.	2022	Genetic diversity analysis of groundnut germplasm lines in respect to early and late leaf spot diseases and biochemical Traits	Legume Research. DOI: 10.18805/LR-4833	ISSN: 0250-5371 NAAS ID: L014 NASS rating in 2022:

					6.67
52	Yadav, P. K., Singh, A. K., Tripathi, M. K., Tiwari, S., Yadav, S. K., & Tripathi, N.	2022	Morpho-Physiological and molecular characterization of maize (*Zea mays* L.) genotypes for drought tolerance	European Journal of Applied Sciences, 10(6). 65-87	*ISSN 2634-9221*
53	Mishra, N., Tripathi, M.K., Tiwari, S. Tripathi N. and Sikarwar RS	2022	Evaluation of qualitative trait based variability among soybean genotypes	The Pharma Innovation Journal, 11(9): 1115-1121	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 NASS rating in 2022: 5.23
54	Yadav P K, Singh AK, Tripathi MK, Tiwari S, Yadav SK, Solanki Rand Tripathi N	2022	Assessment of maize (*Zea mays* L.) genotypes on the basis of biochemical contents in respect to drought	The Pharma Innovation Journal 11(6): 1996-2002	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 NASS rating in 2022: 5.23
55	Tomar YS, Tiwari S, Tripathi MK and Solanki R S	2022	Genetic diversity assessment and cluster analysis of morphological yield attributing traits of groundnut (Arachis hypogaea L.)	The Pharma Innovation Journal 11(6): 1444-1450	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 NASS rating in 2022: 5.23
56	Parihar P, Singh P, Pandya RK, Tiwari S and Tripathi MK	2022	Screening of pearl millet promising hybrids and varieties against blast (*Pyricularia grisea*) by disease indexing	The Pharma Innovation Journal 11(6): 664-667	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 NASS rating in 2022: 5.23
57	Tomar Y S, Tiwari S, Tripathi M.K and Gupta N	2022	Influence of myo-inositol phosphate synthase gene in phytic acid contents and superoxide dismutase activity (SOD) of groundnut (*Arachis hypogaea* L.)	Biological Forum – An International Journal, 14(2): 1402-1406	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239 NAAS ID: L014 NASS rating in 2022: 5.11

58	Yadav PK, Singh, A.K. Tripathi M.K., Tiwari S. and Rathore J.	2022	Morphophysiological Characterization of Maize (*Zea mays* L.) Genotypes against Drought	Biological Forum – An International Journal, 14(2): 573-581.	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239 NAAS ID: L014 NASS rating in 2022: 5.11
59	Yadav, P. K., Singh, A. K., Tripathi, M. K., Tiwari, S., Yadav, S. K., & Tripathi, N.	2022	Morpho-Physiological and Molecular Characterization of Maize (*Zea Mays* L.) Genotypes for Drought Tolerance	European Journal of Applied Sciences, 10(6). 65-87	Vol.10 (25). DOI:10.14738/aivp.106.13340.
60	BabitaBaghel, P. K. Malviya and H. K. Balai	2023	Source of Growth and Decomposition analysis of Major Oilseed Crops (Kharif) in Madhya Pradesh	Agricultural Economics and Social Science Research Association	5.08
61	BabitaBaghel, Shalini Mishra and P.K.Makviya	2022	Sources of growth and instability of cotton and castor crops in Madhya Pradesh (India)	The Pharma Innovation Journal	5.23
62	Sharma A., Daipuria O.P., Sharma P. & Gupta S. (2022).	2022	Infrastructural and informational issues faced in utilization of tools in learning activities by undergraduate students of RVSKVV University. International Journal of Agricultural Sciences.	International Journal of Agriculture Sciences	4.78
63	Sharma A., Daipuria O.P., Sharma P. & Gupta S	2022	College-wise correlation analysis of family background and attributes of UG students with utilization of ICT tools in learning activities in RVSKVV University. The Pharma Innovation Journal.	The Pharma Innovation Journal	5.23
64	Suryawanshi D., Gupta S. &Bilaiya S. (2022).	2022	Socioeconomic characteristics of farmers of Satpura range agro climatic zone of Madhya Pradesh and their contraints in employing adaptation strategies to climate change.The	The Pharma Innovation Journal	5.23

			Pharma Innovation Journal.		
65	Suryawanshi D., Gupta S, and Bilaiya S. (2022).	2022	Socioeconomic Information sources preferred by the farmers in receiving farm information. The Pharma Innovation Journal. SP-11 (9):	The Pharma Innovation Journal	5.23
66	Singh, A.K.; Mishra, Y.D.; Gupta, S. & Jadon, P. (2022).	2022	Impact of climate resilient agricultural technologies and social interactiobn under NICRA project in Madhya Pradesh. The Pharma Innovation Journal. SP-11 (9): 9): 817-819	The Pharma Innovation Journal	5.23
67	Singh, A.K. & Mishra, Y.D.	2022	Knoledge level of NICRA beneficiaries on climate resilient technology. ThePharma Innovation Journal. 2022/IJECC/91919	The Pharma Innovation Journal	5.23
68	Shinde, R. & Gupta, S. (2022).	2022	Assessment of employment skills acquired by trainees under Pradhan Mantri Kaushal VikasYojana in agriculture engineering sector in Gwalior division of Madhya Pradesh. The Pharma Innovation Journal. SP-11 (9): 9): 33-36	The Pharma Innovation Journal	5.23
69	Shinde, R.; Gupta, S. Gupta and ShrishtiBilaiya	2022	Profile characteristics of trainees under Pradhan Mantri Kaushal VikasYojna in agriculture engineering sector The Pharma Innovation Journal.	The Pharma Innovation Journal	5.23
70	LalitaNargawe andShobhana Gupta	2022	Attitude of Television Towards Mass Media of the Farmers: A study in Nimar Agro Climatic Region of Madhya Pradesh.	Journal of Community Mobilization and Sustainable Development	5.67
71	LalitaNargawe andShobhana Gupta	2022	Attitude of Farmers Towards Mass Media in Nimar Agro Climatic Region of Madhya pradesh.	Journal of Community Mobilization and Sustainable Development	5.67

72	Pushpak Patel Dr. Shobhana Gupta and Ravi Shinde	2022	Study on profile and Constraints faced by beneficiaries farmers in utilization of soil health card in Surguja district of Chhattisgarh	The Pharma Innovation Journal	5.23
73	Pramode, Shobhana Gupta, KC Sharma, BS Badhala and Rakesh Natwadia	2022	Adoption analysis of vegetable production technology by beneficiaries and non-beneficiaries under solar pump set scheme in jaipur district of Rajasthan	The Pharma Innovation Journal	5.23
74	Pramode, Shobhana Gupta, KC Sharma, BS Badhala and RN Sharma	2022	Knowledge and Association of Solar pump users Regarding vegetable production Technology in Jaipur Rajasthan	The Pharma Innovation Journal	5.23
75	Jagdish Kumar Patidar, Prashant Kumar Singh, Reeti Singh and RK Pandya	2022	Assessment of artificial inoculation techniques for development of chickpea dry root rot caused by *Rhizoctoniabataticola*	The Pharma innovation	5.23
76	Megha Sharma and Dr. Rajni Singh Sasode	2022	Efficacy of fungicides against *Alternariacucumeria* var. *cymopsidis* causing leaf spot disease of cluster bean under *in-vitro* condition	The Pharma innovation	5.23
77	Megha Sharma andRajni Singh Sasode	2022	In-vitro evaluation of different botanicals against *Alternariacucumeria* var. *cymopsidis* causing alternaria leaf blight of Clusterbean	The Pharma innovation	5.23
78	Pramod Kumar Fatehpuria and Rajni Singh Sasode	2022	Scenario of Early Blight and Leaf Curl of Tomato in Gwalior Districts of Madhya Pradesh	Indian Journal of Ecology	5.79
79	Singh. P., Tiwari, S. Parihar. P., Singh, R., Tripathi, N. Pandya. R. K., and Tripathi, M.K.	2023	A new method for genomic DNA extraction from sclerita of *sclerotiorumrolfsii* inciting collar rot of lentil for genomic investigation	Legume research	6.59
80	Parihar. P., Singh. P., Pandya. R. K., Tiwari, S.andTripathi, M.K.	2022	Screening of pearl millet promising hybrid and varieties against blast (*Pyriculariagrisea*) by disease indexing	The Pharma innovation	5.23

81	Sonu Sharma, RK Pandya, Pramod Kumar Fatehpuria, SmitaPrajpati and HK Trivedi	2023	Assessment of different culture media on growth and sclerotia formation of *Sclerotinia sclerotiorum* (Lib) de Bary	The Pharma innovation	5.23
82	Babli, R. K. Pandya, ArvinderKour and Sushma Tiwari	2022	Occurrence of *Alternaria brassicae* and *A. brassicicola* of Mustard in Gird Region of Madhya Pradesh	The Pharma innovation	5.23
83	Babli, R. K. Pandya, ArvinderKour and Sushma Tiwari	2022	*In-vitro* evaluation of homeopathic drugs against *Alternaria brassicae* (Berk.) Sacc. of Indian mustard (*Brassica juncea* (L.) Czern&Coss.)	The Pharma innovation	5.23

Conference Proceedings [Full length papers in Conferences/Symposia/Seminar]-

S. No	Author (s)	Title	Conference Proceedings	Page No.	Year	National/International
1	Sasode Deep SIngh, Gupta Varsha, Joshi Ekta and Singh Y.K.	Impact of non-chemical weed management approaches on weed flora, yield and economics of organically grown potato (*Solanum tuberosum* L.) crop	National Conference "Natural & organic farming for ecological, economical & nutritional security organized by OASI, CSKHPKVV, Palampur		2023	National
2	Singh Neelam, Sasode Deep Singh, Joshi Ekta, Chouhan Namrata, Dangi Roop Singh	Performance of Kharif groundnut as affected by tillage residue management in groundnut-wheat cropping system	National Conference on Sustainable Development through agriculture production, protection & policy landscape for crop care	79	2023	National
3	Gupta Varsha, Sasode D.S., Joshi Ekta, Singh Y.K. and Bhadu Kavita	Herbicidal impact on density of cuscuta campestris Yunck. emerged in berseem	3rd International Weed Conference on "Weed problems and management challenges :	195	2022	International

		fodder crop	Future perspectives" AAU, Anand			
4	Patidar Jitendra, Kewat M.L., Sondhia Shobha, Sasode D.S. and Gupta Varsha	Power harrow : one of the best alternatives for control of Commelina spp. infected soybean field of Malwa region of M.P.	3rd International Weed Conference on "Weed problems and management challenges : Future perspectives" AAU, Anand	17	2022	International

Abstracts/Extended Abstract/Summary-

S. No	Author (s)	Title	Conference Proceedings	Page No.	Year	National/ International
1	Singh Vikash, Sasode D.S, Singh S.P., Joshi Ekta and Trivedi S.K.	Response of paddy straw mulch and differnet sources of nutrient on yield and economics of rice and potato crops under rice-potato cropping system	National Symposium on digital faring : The future of Indian Agriculture, ICAR, IISS, Bhopal	38	2023	National
2	Singh Vikash, Sasode D.S., SIngh S.P., Joshi Ekta, Patel Rajendra and Trivedi S.K.	Effect of organic mulch and nutrient management practices on quality parameters of rice and potato in rice-potato sequence	GAASFSL,		2023	National

Text/Reference Books-

S. No.	Author(s)	Book Name	Year	ISBN No. (Publisher)
1	Arjun Kashyap, R. Lekhi, Hina Manjhi and Brajraj Singh Kasana	Falo Ke Dehik Vikar Avam Nivaran	2022	978-9383774-371
1	Priyadarshani A. Khambalkar, Shashi S. Yadav, Akhilesh Singh, S. K. Trivedi	A Glossary of Soil Science	2022	ISBN : 978-93-91383-29-9

Practical Manuals

S. No	Author(s)/ Editors	Manual	Year	ISBN No./Remark
1	Khambalkar PA, Yadav, Shashi S., Singh, Akhilesh, Trivedi, S. K. and Gurjar Narendra.S.	A Practical Manual on Soil Testing	2022	ISBN : 978-93-94023-03-1:E

Book chapter:

1. Tinee Adlak, Sushma Tiwari, Madhurjit Singh Rathore, Niraj Tripathi, Prakash Narayan Tiwari, and M. K. Tripathi (2023). Biotechnological approaches for genetic improvement of crops. In book: Cutting Edge Research in Biology Vol. 7: 63-84; Publisher: B P International. Print ISBN: 978-81-19217-40-3, eBook ISBN: 978-81-19217-41-0 DOI: 10.9734/bpi/cerb/v7/5376C
2. M.K. Tripathi, G. Tiwari, Sushma Tiwari, Niraj Tripathi, Mohini Sharma, Nishi Mishra and Sharad Tiwari (2023). Effect of diverse plant growth regulator concentrations and amalgamations in plantlet regeneration in *Rauvolfia serpentina* (L.) Benth from cell suspension culture. In book: Research Trends in Multidisciplinary Research, Edition: First, Chapter: 8, Publisher: AkiNik Publications DOI: 10.22271/ed.book.2087
3. M.K. Tripathi, G. Tiwari, Sushma Tiwari, Niraj Tripathi, Devendra K. Payasi and Sharad Tiwari (2022). *In vitro* regeneration of sandalwood (*Santalum album* Linn.) employing different explants.In book: Advances in Agricultural Biotechnology, Edition: First, Chapter: 6, Publisher: AkiNik Publications, DOI: 10.22271/ed.book.2048
4. Tripathi M. K., Tiwari G., Tiwari S, Tripathi N, Sharma M, Bhargav S, Tomar YS, Patidar S. L. and Tiwari S.2022. Influence of plant growth regulators on *in vitro* morphogenesis in *Plumbago Zeylanica* Linn. In book: Research Aspects in Biological Science Vol. 7 Edition: First, Chapter: 7, Publisher: BP International DOI: Page 96-123 DOI: 10.9734/bpi/rabs/v7/3679A
5. Tripathi M. K., Tiwari G., Tiwari S, Tripathi N, Mishra N, Tomar YS, Uikey D S and Tiwari S.2022. Plant Regeneration in *Rauvolfia serpentina* (L.) Benth via Organogenic Mode. In book: Research Aspects in Biological Science Vol. 7 Edition: First, Chapter: 8, Publisher: B P International DOI: Page 124-155 DOI: 10.9734/bpi/rabs/v7/3678A
6. RS Tomar, Prabha Singh, Sushma Tiwari, Manoj Kumar Tripathi, Sanjay Singh, K Bhojaraja Naik, Chandan Kumar Singh, Shailesh Kumar Singh2022. Genomics Approaches for Restoration and Conservation of Agro-Biodiversity. Agro-biodiversity and Agri-ecosystem Management, pp 273–283DOI: 10.1007/978-981-19-0928-3_14
7. Vibhute M., Tripathi M. K., Tiwari R., Tiwari S., Tripathi N., Sharma M., Tomar Y S and Tiwari S. 2022. Massive in vitro propagation from cultured nodal segment of three *Citrus species*. In book: Research Aspects in Biological Science Vol. 6, Publisher: B P International. Page 102-127 DOI: 10.9734/bpi/rabs/v6/3508B
8. Rajpoot N S, Tripathi M. K., Tiwari S, Tomar R. S., Tripathi N, Sikarwar R. S.and Tomar S. S. (2022). Morphological and molecular characterization of Indian mustard germplasm lines. *Research Developments in Science and Technology Vol. 4*, 17 May 2022, Page 151-165 https://doi.org/10.9734/bpi/rdst/v4/2307B
9. Bhawar PC, Tiwari S, Tripathi M. K., Sikarwar R. S., Tomar R. S. and Tripathi N, (2022). Assessment of Groundnut Germplasm Lines for Foliar Fungal Diseases and Population Structure Analysis using Gene Based SSR Markers .*Research Developments in Science and Technology Vol. 4,* 17 May 2022, Page 166-180. https://doi.org/10.9734/bpi/rdst/v4/2308B

10. Deepa Bhatt, M. K. Tripathi, M. Vidhya Sankar, Sushma Tiwari, Mohini Sharma, Niraj Tripathi and Sharad Tiwari (2022). Standardization of *in vitro* regeneration protocol in *Gerbera jamesonii* Bolus Ex Hooker F. In book: Current Topics in Agricultural Sciences Vol. 7, Pp105-121, Edition: First, Chapter: 7, Publisher: B P International, DOI: 10.9734/bpi/ctas/v7/2303B

11. M. K. Tripathi, D. Bele, Sushma Tiwari, Nishi Mishra, Niraj Tripathi, G. Tiwari and Sharad Tiwari (2022). Plantlet regeneration from cultured nodal segments in sandalwood (*Santalum album* Linn.) In book: Research Developments in Science and Technology Vol.2, pp:1-21; Edition: First, Chapter: 1, Publisher: BP International, DOI: 10.9734/bpi/rdst/v2/6011F

12. Sonali Singh, M. K. Tripathi, Sushma Tiwari, Niraj Tripathi, G. Tejovathi, Ashok Ahuja and Sharad Tiwari (2022). Production of synthetic seed from encapsulated nodal segments of giloe (*Tinospora cordifolia* Willd.) In book: Research Developments in Science and Technology Vol.2, pp:156-170; Edition: First, Chapter: 11, Publisher: B P International, DOI: 10.9734/bpi/rdst/v2/2400B

13. Chitralekha Shyam, M. K. Tripathi, Sushma Tiwari, Niraj Tripathi and R. S. Sikarwar (2022). Morpho-physiological variations and genetic components analysis in *Brassica juncea* (Linn.) Czern & Coss In book: Research Developments in Science and Technology Vol. 1 Edition: First, Chapter: 10 pp 98-126, Publisher: B P International DOI: 10.9734/bpi/rdst/v1/6009F

14. Shikha Upadhyay, A. K. Singh, M. K. Tripathi, Sushma Tiwari cand Niraj Tripathi (2022). Biotechnological iinterventions to ccombat against ccharcoal rot and *Rhizoctonia* root rot ddiseases of ssoybean [*Glycine max* (L.) Merrill]. In book: Current Topics in Agricultural Sciences Vol. 6 pp 1-18, Publisher: B P International DOI: 10.9734/bpi/ctas/v6/3250E

15. Chitralekha Shyam, M. K. Tripathi, Sushma Tiwari, Niraj Tripathi and R. S. Sikarwar (2022). Analysis of genetic differences in fatty acids and oil contents among *Brassica juncea* (Linn.) Czern & Coss genotypes. In book: Research Developments in Science and Technology Vol. 1 Edition: First, Chapter: 111 pp 127-149, Publisher: B P International DOI: 10.9734/bpi/rdst/v1/6010F

16. Chitralekha Shyam, M. K. Tripathi, Sushma Tiwari, Niraj Tripathi and Ashok Ahuja (2022). Identification of low and high erucic acid containing genotype(s) in Indian mustard employing molecular markers. In book: Recent Progress in Plant and Soil Research, Vol. 5 pp 18-36, Publisher: BP International DOI: 10.9734/bpi/rppsr/v5/15384D

17. M. L. Choudhary , M. K. Tripathi , Sushma Tiwari , R. K. Pandya, Neha Gupta , Niraj Tripathi and Prerana Parihar (2021). Morpho-physiological and molecular characterization of pearl millet [*Pennisetum glaucum* (L.) R. Br.] germplasm lines for drought tolerance. In book: New Visions in Science and Technology Vol. 5, pp 39-60, Chapter: 4, Publisher: B P International, DOI: 10.9734/bpi/nvst/v5/2541E.

18. Mishra N, Tripathi MK, Tripathi N, Tiwari S, Gupta N, Sharma A and Shrivastav MK. (2021). Role of biochemical and antioxidant enzymes activities in drought tolerance in soybean: A recent study. In book: Current Topics in Agricultural Sciences, Vol. 3, pp 102-119; Chapter: 8; Publisher: BP International DOI: 10.9734/bpi/ctas/v3/2117C.

19. Chitralekha Shyam, M.K. Tripathi, Sushma Tiwari, Ashok Ahuja, Niraj Tripathi and Neha Gupta (2021). Plant Regeneration in Indian mmustard [*Brassica juncea* (Linn.) Czern & Coss]: Experimental iinvestigation. In book: Current Topics in Agricultural Sciences Vol.3, pp120-135, Chapter:9, Publisher: BP International DOI: 10.9734/bpi/ctas/v3/2118C.

20. M. K. Tripathi, Sushma Tiwari, Niraj Tripathi, Gyanendra Tiwari, Deepa Bhatt, Megha Vibhute, Neha Gupta, Nishi Mishra, Prerana Parihar, Purnima Singh, Akash Sharma, Ashok Ahuja and Sharad Tiwari (2021). Plant tissue culture techniques for conservation of biodiversity of some plants appropriate for propagation in degraded and temperate areas. In book: Current Topics in Agricultural Sciences Vol.4 pp 30-60, chapter 4 Publisher: B P International DOI: 10.9734/bpi/ctas/v4/2119C.

21. Gyanendra Tiwari, M.K. Tripathi, Sushma Tiwari, Niraj Tripathi, Devi Singh Uikey and R.P. Patel (2021). *In vitro* pproduction of ssecondary mmetabolites reserpine and ajmalicine in *Rauvolfia serpentina* (L.) Benth. In book: Current Aspects in Pharmaceutical Research and Development Vol. 4, Page 132-152, Chapter: 12, Publisher: BP International, DOI: 10.9734/bpi/caprd/v4/2136C.

22. Sushma Tiwari, M.K. Tripathi, R.S. Tomar and Ashok Ahuja, (2021 Plant Genomic DNA Isolation: An Important Technology for Marker Assisted Selection. In book: Recent Progress in Plant and Soil Research Vol. 4, Page 85-94, Chapter: 7, Publisher: B P International DOI: 10.9734/bpi/rppsr/v4/15255D

23. Ashok Ahuja, M.K. Tripathi, Sushma Tiwari, Niraj Tripathi, Gyanendra Tiwari, Nishi Mishra, Shashank Bhargav and Sharad Tiwari (2021) Recent aadvancements on callus and cell ssuspension ccultures: An eeffectual rreserve for the pproduction of ppharmaceutically ssignificant mmetabolites. In book: Current Aspects in Pharmaceutical Research and Ddevelopment Vvolume No. 6 pp 96-111, Edition: First, Chapter: 9, Publisher: BP International DOI: 10.9734/bpi/caprd/v6/2260C.

24. Mishra N, Tripathi MK, Tiwari S, Tripathi N, Gupta N, Sharma A, Solanki RS and Tiwari S. (2022). Characterization of soybean genotypes on the basis of yield attributing traits and SSR molecular markers. In book: Innovations in Science and Technology Vol. 3, pp 87-106, Chapter: 7, Publisher: B P International. DOI: 10.9734/bpi/ist/v3/2471C

25. Mishra N, Tripathi MK, Tripathi N, Tiwari S, Gupta N and Sharma A. (2022). Characterization of soybean genotypes on the basis of yield attributing traits and SSR molecular markers. In book: Innovations in Science and Technology Vol. 3, pp 49-61, Chapter: 3, Publisher: B P International. DOI: 10.9734/bpi/ist/v3/2454C.

(2) College of Agriculture. Indore-

-Research papers-

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
1.	Yadav, S.S.,Asati,K.P., Barche, S and Sharma A	Combined impact ofmajor andmicronutrients on vegetative growth and incidence ofpests and diseases of Garlic (Allium sativum L.)	Biol.forum-An International J	14(3)	1362-1364	2022				
2.	Gaware, P.,Barche, S.,Rathore, V and Yadav, S.S	Effect of Biodynamic package with biofertilizer on growth, yield, quality and economics ofpotato under Malwa condition of Madhya Pradesh	Biol.forum-An International J	14 (4)	1306-1308	2022				International
3.	Kamathker, A., Barche, S and Sharma, A	Impact of organic mulches on growth, yield and quality ofpotato (Solanum tuberosum L.) in malwa regionof Madhya Pradesh.	Int. J. Farm Sci.	12(4)	133-138	2022				International
4.	Gaware, P.,Barche, S., Sharma, A and Rathore, V	Effect of Biodynamic package with vermicompost on growth, yield, quality and economics ofpotato under Malwa condition of Madhya Pradesh	Int. J. Farm Sci.	12(4)	156-159	2022				International
5.	Swati Barche & Devendra.Bharat	kiwi phal ki Kheti	Rashtriya Krishi	1-2	11-13	2022				National
6.	Akhilesh Jaiswal, Deeksha Tembhre and NK Gupta	Standardization of growing media growth ans yield of cucumber (*Cucumis sativus* L) in containers	The Pharma Innovation	11(12)	1427-1429	2022				National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
7.	Sunil Baghel, Ajay Kumawat, Ankit Pandey, Pawan Devesh and NK Gupta	Evaluation of genetic parameters of Okra (Abelmoschus esculentus L.) under Malwa region of MP	Biological Forem- An International Journal	14(4)	1024-1027	2022				International
8.	Priyanka Jain, Deeksha Tembhre, Ajay Kumawat and NK Gupta	Role of growth stimulents, retardents and inhibitors in combination with micronutrients on growth and development of Okra (*Abelmoschus esculantus* L) var Arka Anamika				2022				
9.	NK Gupta and Ajay Kumawat	Aster phool ki kheti	Krishi Pahal Magazine	2		2022				National
10.	NK Gupta and Ajay Kumawat	Lilium phool ki kheti	Krishi Pahal Magazine	2		2022				
11.	**Balai, H. K.,** Sahu, A. and Bairwa, K. C	Sources of Output Growth and Variability of Natural Rubber in India	*Asian Journal of Agricultural Extension, Economics and Sociology*	41	147-152	2023	4.86	-		International
12.	**Balai, H. K.,** Singh, H., Bairwa, K. C., Meena, G. L., Sharma, L. and Burark, S. S.	Growth and Decomposition Analysis of Rabi Ppulse Crops in Rajasthan	*Economic Affairs*	66	1-6	2021	5.08	-		National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
13.	**Balai, H. K.,** Meena, M. L., Bairwa, K. C. Singh, H., and Meena, G. L.	Growth and Decomposition Analysis of Kharif Pulse Crops in Rajasthan.	*Frontiers' in Crop Improvement*	9	3273-3279	2021	4.67			National
14.	**Balai, H. K.,** Bairwa, K. C., Singh, H., Meena, M. L., and Meena G. L.	To Study the Instability and Causes of Instability of Major Pulse Crops in Karnataka	*Frontiers' in Crop Improvement*	9	3368-3372	2021	4.67			National
15.	**Balai, H. K.,** Singh, H., Bairwa, K. C., Yadav, A. and Meena G. L.	To Study Growth and Decomposition of Major Pulse Crops in Karnataka	*Frontiers in Crop Improvement*	9	3583-9591	2021	4.67			National
16.	**Balai, H. K.,** Bairwa, K. C., Singh, H., Meena, M. L., and Meena G. L.	To Study the Instability and Its Causes in Production of Major Pulse Crops in Rajasthan.	*Agro Economist- An International Journal*	8	121-127	2021	4.58			National
17.	**Balai, H. K.,** Bairwa, K. C., Singh, H., Meena, M. L., Meena G. L and Rajput, A. S.	To Study the Seasonal Price Behaviour of Major Kharif Pulse Crops in Rajasthan	*Agro Economist- An International Journal*	8	107-111	2021	4.58			National
18.	**Balai, H. K.,** Singh, H., Bairwa, K. C. and Meena, G. L.	To Study of Seasonal Price Behaviour of Major Rabi Pulse Crops in Rajasthan	*Journal of Progressive Agriculture*	12	54-59	2021	3.21			National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
19.	Rajput, A. S., **Balai, H. K.,** Bairwa, K. C. and Sharma, L	Labour Absorption in Livestock Activities in Transitional Plain Region of Rajasthan	*Journal of Livestock Science*	12	292 - 297	2021	4.93			National
20.	Bairwa, K.C., **Balai, H.K.,** Meena, G.L., Prasad, D., Kumari, Y., Singh, H. And Yadav, A.	Inter-Temporal Production Performance of Pulse Crops: Indian Context	*Economic Affairs*	65	1-8	2020	5.08			National
21.	Bairwa, K. C., **Balai, H. K.,** Yadav, A., Prasad, D., Murariya, Y., Singh, H. and Meena, G. L.	Secular Analysis of Domestic Animals Composition in Indian Context: Recent Evidence	*Journal of Animal Research*	10	973 - 983	2020	5.43			National
22.	Bairwa, K. C., **Balai, H. K.,** Meena, G. L., Yadav, A. and Prasad, D.	Variability and Source of Output Growth in Major Oilseeds of Rajasthan	*Economic Affairs*	66	147 - 152	2021	5.08			National
23.	Bairwa, K. C., Shukla, U. N., **Balai, H. K.,** Yadav, A., Raigar, P. R., Rajput, A. S. and Lal, B.	Temporal and Spatial Production Price Behaviour of Marketed Rapeseed Mustard in Rajasthan	*Asian Journal of Agricultural Extension, Economics and Sociology*	39	151 - 160	2021	4.86			National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
24.	Meena, G. L., Bairwa, K. C., Meena, M. L., **Balai, H. K.,** Yadav, A. and Meena, P. C.	Variability and Market Integration of Fenugreek Prices in Rajasthan	*Agro Economist- An International Journal*	8	99-106	2021	5.58			National
25.	Bairwa, K. C., Meena, G. L., **Balai, H. K.,** Singh, H. Yadav, A., Meena, M. L., Prasad, D., Meena, S. and Rajput, A. S.	Performance of Major Seed Spices Crops in Rajasthan during Pre and Post – Agri Export Zone periods in Context of Growth, Instability and Decomposition Analysis	*AMA-Agricultural Mechanization in Asia, Africa and Latin America*	53	6067-6081	2022	6.29			International
26.	Bairwa, K. C., Meena, G. L., Singh, H., Meena, M. L., Yadav, A., **Balai, H. K.** and Meena, P. C.	Growth and Variability Analysis of Seed Spices in Rajasthan	*Eonomic Affairs*	67	201-209	2022	5.08			National
27.	Mishra, S., **Balai, H. K**. and Malviya, P. K.	Rabi Pulse Crops Cultivation in Madhya Pradesh (India): Growth and Decomposition Analysis	*Eonomic Affairs*	68	391-395	2023	5.08			National
28.	Baghel, B., **Balai, H. K**. and Malviya, P. K.	Kharif Oilseeds Crops Cultivation in Madhya Pradesh (India): Growth and Decomposition Analysis	*Eonomic Affairs*	68	423-428	2023	5.08			National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
29.	Mishra, S., **Balai, H. K**. and Malviya, P. K.	Growth and Instability of Major Kharif Pulse Crops in Madhya Pradesh State of India	*Agro Economist – An International Journal*	9	251 - 257	2023	5.58			National
30.	**Balai, H.K.,** Rathore, V., Jain, S.K. and Singh, H.	Estimate the marketable surplus of wheat of the respondent in indore (M.P.) Indian.	*International journal of current microbiology and applied sciences*	7	544 – 548	2018	-			International
31.	**Balai, H.K.,** Rathore, V., Jain, S.K. and Singh, H.	Estimation of post harvest losses of wheat in indore (M.P.) India	*Journal of pharmacognosy and phytochemistry*	7	2588 – 2592	2018	-			National
32.	Rathore, V., **Balai, H.K,** Jain, S.K. and Singh, H.	To analyze the cost structure of different cropping system in indore (M.P.) India	*International journal of current microbiology and applied sciences.*	7	3089 – 3098	2018	-			International
33.	Rajput, A.S., **Balai, H.K.,** Sharma, V. and Sharma, R.C.	To analyze the yield and price uncertainties in the production of bottle gourd on contract and non contract farms	*International journal of current microbiology and applied sciences.*	7	4215 – 4221	2018	-			International
34.	Neha Dwivedi, A. Shrivastava, G.K. Vani and Aradhana Singh Rajpoot	Dynamics of growth, instability and spatial distribution of sugarcane in the central states of India	Indian Journal of Economics and Development	18	922 - 928	2022	5.15			National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
35.	Aradhana Singh Rajpoot, Deepak Pal, Neha Dwivedi and Laveena Sharma	The marketing pattern and constraints faced by farmers in marketing of green pea in Patan block of Jabalpur district of Madhya Pradesh	The Pharma Innovation	12	4475-4479	2023	5.23			National
36.	Neha Dwivedi, Aradhana Singh Rajpoot, Yogeshwari Sahu, A. Shrivastava	Marketing Cost and Constraint analysis of Sweet -Corn in Chhindwara District of Madhya Pradesh	International Journal of Current Microbiology and Applied	10	390-395	2021	5.38			International
37.	Yogeshwari Sahu, A.K. Sarawgi, and Neha Dwivedi	Growth analysis of Okra Production in Balod district of Chhattisgarh	International Journal of Current Microbiology and Applied	10	1583-1588	2021	5.38			International
38.	Neha Dwivedi, Ashutosh Shrivastava	Impact of FRP (Fair remunerative prices) on Sugarcane Industry and its regulation in India.	The Pharma Innovation	11	2696-2697	2021	5.23			National
39.	Neha Dwivedi, Ashutosh Shrivastava	Importance of sugarcane production in India and Challenges faced by sugarcane Industry	The Pharma Innovation	9	573-574	2021	5.23			National
40.	Neha Dwivedi, Aradhana Singh Rajpoot, R.M. Sahu, Ashutosh Shrivastava	Cost and return analysis of Sweetcorn in Chhindwara district of Madhya Pradesh	Indian Journal of Economics and Development	16	516-19	2020	4.8			National
41.	Aradhana Singh Rajpoot, Neha Dwivedi, J.K. Gupta	Cost and return analysis of Pea in Jabalpur district of Madhya Pradesh	Indian Journal of Economics and Development	16	504-507	2020	4.8			National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
42.	K.S. Bangar, S.C. Tiwari, U.R. Khandkar, S.K. Verma, N. Kumawat, M.J. Kaledhonkar and G.S. Tagore	Characterization and mapping of groundwater quality of grid region in Central India	Journal of Soil Salinity and Water Quality	13	268 - 277	2021	5.2	-	-	National
43.	S.C. Tiwari, N. Kumawat, M.J. Kaledhonkar, K.S. Bangar and R.K. Sharma	Response of wheat to different irrigation methods under sodic vertisols	Journal of Soil Salinity and Water Quality	13	255 - 260	2021	5.2	-	-	National
44.	K.S. Bangar, N. Kumawat, S.C. Tiwari, M.J. Kaledhonkar and B.B. Parmar	Development of salt tolerant and high yielding varieties of lentil (PDL-1 and PSL-9)	Salinity News	27		2021		-	-	National
45.	N. Kumawat, S.C. Tiwari, K.S. Bangar, U.R. Khandkar, Awani K. Ashok, R.K. Yadav	Influence of different Sources of plant nutrients on soil fertility, nutrient uptake and productivity of soybean under vertisols	Legume Research-An International journal	44	556 - 561	2021	6.67	-	-	International
46.	SangeetaLenka, Narendra Kumar Lenka, A SubbaRao,JRaghuwanshi, **Bharat Singh**, JK Saha& AK Patra	Tillage and nutrient management influence net global warming potential and greenhouse gas intensity in soybean-wheat cropping system	*Indian Journal of Experimental Biology;*	60	207 - 214	2022				

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
47.	ML Jadav, Narendra Kumawat, DV Bhagat, SK Choudhary, **Bharat Singh** and KS Bangar (2022)	Effect of residual soil moisture on yields and monetary return of rain fed cropping sequences under vertisols in Malwa region of Madhya Pradesh.	*The Pharma Innovation Journal*	12	4628-4632	2022				
48.	Jadav M.L., Kumawat N., Bhagat D.V., Choudhary S.K., **Singh Bharat** and Bangar K.S.	Effect of residual soil moisture on yields and monetary return of rain fed cropping sequences under vertisols in Malwa region of Madhya Pradesh.	*The Pharma Innovation Journal;*	12	4628-4632	2022				
49.	**Bharat Singh**, D.V. Bhagat, S.K. Choudhary, K.S. Bangar, M.L. Jadav, N. Kumawat, S. Holkar, A. Upadhyay, S.K. Sharma, K.A. Gopinath, G. Ravindra Chary, A.K. Shukla and V.K. Singh	Overview of Dryland Agriculture Research and Achievements in Malwa Plateau Zone of Madhya Pradesh.	*Indian Journal of Dryland Agricultural Research And Development*.	2	130-134	2022				
50.	Neelesh Raypuriya, SB Das, RS Marabi and Ashwini Kumar	Pathogenicity and Toxicity of *M. anisopliae* (Metchnikoff) Sorokin against *H. armigera* (Hub.) (Lepidoptera: Noctuidae) under in vitro conditions	Agriculture Mechanizatin Asia, Africa and Latin America	53	10941-10949	2022	6.14			International

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
51.	Rahul Patidar, GS Chundawat, Nikki Bhardwaj and Swarna Kurmi	Comparative biology of red spider mite, Tetranychusurticae Koch. (Acari: Tetranychidae) on Brinjal, Okra and Marigold	The Pharma Innovation Journal	11(12)	1290-1293	2022	5.23			**National**
52.	Nikki Bhardwaj, SB Singh, Rahul Patidar and Pawan Kumar Jatav	Field screening of cucumber (Cucumis sativus L.) cultivars against fruit fly (Bactroceracucurbitae Coq.)	The Pharma Innovation Journal	11(12)	**1711-1713**	2022	5.23			**National**
53.	Aakash, Thakur N.S., Singh M.K., Bhayal L., Meena K., Choudhary S.K., Kumawat N., Singh R.K., Singh U.P., Singh S.K., Sanodiya P., Kumar A. and Singh A.K	Sustainability in Rainfed Maize (Zea Mays L.) Production Using Choice of Corn Variety and Nitrogen Scheduling. *Sustainability*,	https://doi.org/10.3390/su14053116	(14): 3116	(14): 3116	2022	9.4	S096		International
54.	Kumar R., Kumawat N., Mishra J.S., Ghosh D, Ghosh S, Choudhary A.K. and Kumar U.	Weed dynamics and crops productivity as influenced by diverse cropping systems in eastern India. *Indian Journal of Weed Science*	Journal of Plant Nutrition,https://doi.org/10.1080/01904167.2022.2027967	*54(1): 18–24.*	*54(1): 18–24.*	2022				National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
55.	Meena R.S., Chauhan G.S., Singh D., Anchra S., Meena R.K., Naik B.B.S., Meena B.L., Kumawat N. and Meena R.L.	Weed dynamics and crops productivity as influenced by diverse cropping systems in eastern India. *Indian Journal of Weed Science*	Journal of Plant Nutrition,https://doi.org/10.1080/01904167.2022.2027967	*54(1): 18–24.*	*54(1): 18–24.*	2022				National
56.	R.S., Kumar R., Bhatt B.P., Mishra J.S., Singh A.K., Naik S.K., Shinde R., Mali S.S., Sarkar P.K., Kumawat N., Singh A.K. and Kumar U.	Production potential, competitive indices, economics and soil health of diversified production system hill and plateau region of eastern India	*Indian Journal of Agricultural Sciences*,	92 (1): 101	92 (1): 104.	2022				National
57.	Rahangdale N., KumawatN., Jadav M.L., BhagatD.V., Singh M.and Yadav R.K. (	Symbiotic efficiency, productivity and profitability of soybean as influenced by liquid bio-inoculants and straw mulch.	*International Journal of Bio-resource and Stress Management*,	13(1): 9-16.	13(1): 9-16.	2022				National
58.	Singh A.K., Shanker R., Kumar R., Singh A.K., Bhushan S., Kumawat N. and Singh N.K.	Effect of weed management practices on crop productivity and economics in dry-direct seeded rice under hill and plateau region of eastern India.	*Journal of Agri Search*,	9 (1): 12-15	9 (1): 12-15	2022				National

11.2 Conference proceedings (Full length papers in conferences/ seminar/ Symposium):

S. No.	Authors	Title	Conerence proceedings	Page no	Year	Citatation	National/ International

S. No.	Authors	Title	Conerence proceedings	Page no	Year	Citata tion	National/ International
1.	Anusuiya Panda, R. K. Bajpai, L. K. Srivastav and **Bharat Singh (2021)**	Remediation of acidic soil of North West India with organic resources.	Indian Society of Agronomy, India Professor Jayashankar Telangana State Agricultural University, Hyderabad 500 030, India	-	**2021**	-	**National**
2.	Rahul Dode, **Bharat Singh,** and Anusuiya Panda	Survey of fertility status using geospatial techniques under soils of Khargone district Madhya Pradesh.	Indian Society of Agronomy, India Professor Jayashankar Telangana State Agricultural University, Hyderabad 500 030, India	-	**2021**	-	**National**
3.	RituParmar, **Bharat Singh,** and Anusuiya Panda	Impact of different organics and inorganic resources on the soil of Vertisols on Malwa Plateau.	Indian Society of Agronomy, India Professor Jayashankar Telangana State Agricultural University, Hyderabad 500 030, India	-	**2021**	-	**National**
4.	Rakesh Mewada, **Bharat Singh,** and Anusuiya Panda	Evaluation of soil available nutrients status using geospatial techniques under soils of Indore district Madhya Pradesh.	Indian Society of Agronomy, India Professor Jayashankar Telangana State Agricultural University, Hyderabad 500 030, India	-	**2021**	-	**National**
5.	Pooja Patidar, **Bharat Singh,** and Anusuiya Panda	Effect of long term application of organic and inorganic fertilizer on soil chemical properties.	Indian Society of Agronomy, India Professor Jayashankar Telangana State Agricultural University, Hyderabad 500 030, India	-	**2021**	-	**National**
6.	RajnadiniVerma, **Bharat Singh,** and Anusuiya Panda	) Effect of low till farming strategies on physicochemical properties of Vertisols MP.	Indian Society of Agronomy, India Professor Jayashankar Telangana State Agricultural University, Hyderabad 500 030, India	-	**2021**	-	**National**

S. No.	Authors	Title	Conerence proceedings	Page no	Year	Citata tion	Nation al/ Intern ational
7.	Bharat Singh, K.S. Bangar, S.K. Choudhary, D.V. Bhagat, M.L. Jadav, A. Upadhyay, S.C. Tiwari, O.P. Girothia and Ramkumar Meena	Integrated Nutrient Management Approach in Soybean (Glycine max L., Merrill) Grown in Vertisols Under Rainfed Condition of Malwa Plateau, Madhya Pradesh.	"Reimagining Rainfed Agro-ecosystems: Challenges and Opportunities (ICRA-2022)	-	2022	-	Intern ationa l
8.	Bharat Singh and S.K. Sharma	Carbon sequestrations impact on black cotton soil under Rainfed condition of Malwa plateau.	"Reimagining Rainfed Agro-ecosystems: Challenges and Opportunities (ICRA-2022) during 22-24, December, 2022 held at ICAR-CRIDA, Hyderabad	-	2022	-	Intern ationa l
9.	Jyoti Bangre, K.S. Bangar, Subhash, Bharat Singh, B.B.Parmar, A. Upadhyay and S.K. Choudhary	Effect of Long Term Fertilizer Application on crop productivity of Wheat (Triticumaestivu m L.) Grown in Vertisols.	"Reimagining Rainfed Agro-ecosystems: Challenges and Opportunities (ICRA-2022) during 22-24, December, 2022 held at ICAR-CRIDA, Hyderabad	-	(202 2)	-	Intern ationa l

Abstracts/Extended abstract/ Summary

S. No.	Author (s)	Title	Conference Proceedings	Page No.	Year	Citation	National/ Internation al
1.	Raypuriya N*, Das SB, Bhowmick AK, Pandey V	EFFICACY OF *Metarhizium anisopliae* (Metchnikoff) SOROKIN AGAINST *Helicoverpaarmigera*(Hubner) (*Lepidoptera: Noctuidae*) Under In	**Advances in Agriculture Technology and Allied Sciences (ICAATAS 2022)**	**218**	**2022**		**Internationa l Conference**

S. No.	Author (s)	Title	Conference Proceedings	Page No.	Year	Citation	National/ International
		Vitro Conditions					
2.	Rahul Patidar and Nikki Bhardwaj	Comparative biology of red spider mite, *Tetranychus urticae*koch. (acari: tetranychidae) on brinjal, okra and marigold	**Sustainable Development through Agriculture Production, Protection & Policy Landscape for Crop Care**	82	2023		**NATIONAL CONFERENCE**
3.	Nikki Bhardwaj and Rahul Patidar	Effect of meteorological parameters on population fluctuation of fruit fly (*Bactroceracucurbitae*coq.) Infesting cucumber (*Cucumis sativus* l.)	**Sustainable Development through Agriculture Production, Protection & Policy Landscape for Crop Care**	78	2023		**NATIONAL CONFERENCE**
4.	SWARNA KURMI, SANJEEV KUMAR, RAJENDRA PATEL, PRAVEEN PATLE AND RAHUL PATIDAR	Importance and idm of eleusine coracana (finger millet)	**Production, Processing and Marketing of Millets: Issues & Solutions**	65	2023		**NATIONAL CONFERENCE**
5.							

Book Chapters

S. No.	Author (s)	Title	Book name	Year	ISBN No.	ISSN No.
1.	Veena Rathore, Anvita Sharma and Rajul Soni	Extension and their various forms in Agricultural Programs and their implications	Advances in Agricultural and Horticultural Sciences	2022	978-93-5607-484-2	
2.	Rajul Soni, Hradesh Patel and Anvita Sharma	Processing and Value addition of Horticultural and Agricultural Crops	Advances in Agricultural and Horticultural Sciences	2022	978-93-5607-484-2	
3.	Jyothsna J, Sirsapalli Bhargav Kiran and Anvita Sharma					
4.	**Neelesh Raypuriya**and Kanak Saxena	Biopesticides and their role in Plant Health Management.	Climate Resilient Smart Agriculture: Approaches & Techniques. **Vital Biotech Publication**, Kota, Raj.India – 324009, pp109-127	2022	**ISBNs:978-93-92953-57-6**	
5.	Ajay Kumawat and **Rahul Patidar**	Production Technology of Chilli and Their Insect-Pest and Disease Management.	Advances in Agriculture and Horticultural Sciences Books	2022	ISBN No. 978-93-5607-484-2. Page no.360-366	
6.	Ajay Kumawat and **Rahul Patidar**	Production Technology of Okra and Their Insect-Pest and Disease Management.	Advances in Agriculture and Horticultural Sciences Books	2022	ISBN No. 978-93-5607-484-2. Page no.371-379	
7.	Ajay Kumawat, Nikki	Tomato Cultivation and Its Insect-Pest and Disease	Advances in Agriculture and Horticultural	2022	ISBN No. 978-93-5607-	

	Bhardwaj and **Rahul Patidar**	Management.	Sciences Books		484-2. Page no.354-359	

Practical Manuals

S. No.	Author (s)	Title	Year	ISBN No.	ISSN No.
1	Dr. H. K. Balai and Dr. P. K. Malviya	Agricultural Finance and Cooperation	2022	RVSKVV Pub. No. 142/2022 dated 7.10.200	
2	Dr. H. K. Balai and Dr. P. K. Malviya	Agricultural Marketing, Trade and Prices	2022	RVSKVV Pub. No. 143/2022 dated 7.10.200	
3	Dr. H. K. Balai and Dr. P. K. Malviya	Farm Management, Production and Resource Economics	2022	RVSKVV Pub. No. 144/2022 dated 7.10.200	
4	Dr.Jyoti Bangre, Dr.K.S. Bangar, Dr. B.B. Parmar, Dr.S.K.Choudhary, Dr. S.K. Sharma	Practical manual on Soil Biology (RVSKVV Pub No.141/2022)	2022	-	-

Technical Bulletins

S. No.	Author (s)	Title	Year	ISBN No.	ISSN No.
1	K.S.Bangar, N. Kumawat, S.C. Tiwari, B.B. parmar, M.J. Kaledhonkar, B.L. Meena and G.S. Tagore	Survey, Characterization and mapping of groundwater quality for irrigation in Madhya Pradesh (Published by ICAR-AICRP on Management of Salt affected soils and use of saline water in agriculture, RVSKVV, COA, Indore. No. AICRRP(SAS&USW)/20022/01,222p)	2022	-	-

Action Taken of Feed Back Received from various stakeholders
2022-23

- Expert guest lecture organized under IDP-NAHEP have significantly supported this initiative.
- Lectures by alumni and technical staff from VV are conducted periodically.
- Contractual services have been provided to ensure smooth operations across all colleges.
- E-materials such as e-books from various publishers and the ICAR CeRA portal, e-journals from the Consortium for e-Resources in Agriculture (CeRA), reports, articles, e-theses from the Krishikosh Repository, Shodhganga, and statistical information from India Agristat are readily available.
- Special classes, invited lectures, and the establishment of language labs under IDP-NAHEP in all constituent colleges are steps taken to enhance English proficiency and ensure student success.
- Technology-centric courses addressing the needs of an ever-evolving world have been conducted under NAHEP.
- Technology-centric courses addressing the needs of an ever-evolving world have been conducted under NAHEP.
- NAHEP has initiated national and international training programs, with selected scientists set to embark on overseas trips for capacity-building initiatives.
- MOUs have been signed with various national and international institutions.
- Students have begun participating in dual degree programs abroad, and new batches from all constituent colleges will soon depart to explore national and international opportunities.
- A faculty exchange program is currently underway.
- Scientists are encouraged to participate in national and international training, which is a mandatory requirement for their promotion.
- Solar energy is being utilized to replace non-renewable power sources.
- Recycling plants have been established under NAHEP to enhance reuse initiatives.
- The establishment of an Eco-Oxy Zone and the promotion of campus activities such as plantation and natural beautification have gained momentum.

ANNUAL PROGRESS REPORT

2021-22

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA

RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Mission

To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

Vision

To transform the Agricultural landscape of Madhya Pradesh by producing excellent dynamic and result oriented skilled human resource in modern Agriculture, thereby creating higher income, employment, gender equity, accessibility, sustainable production system and achieving social welfare for all.

Mandate

- *To serve as a centre of higher education in the field of agriculture and allied sciences.*
- *To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.*
- *To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.*
- *To produce and supply of genuine and quality seed/planting material to the farmers.*

वार्षिक प्रगति प्रतिवेदन

ANNUAL PROGRESS REPORT

2021-22

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Patron : Prof. S. K. Rao
Vice-Chancellor
R.V.S.K.V.V., Gwalior (M.P.)

Editorial Board:

1. Dr. D.H. Ranade, Dean, Faculty of Agriculture - **Chairman**
2. Dr. Sanjay Sharma, Director, Research Services - Member
3. Dr. Y.P. Singh, Director, Extension Services - Member
4. Dr. S.P.S. Tomar, Director Instructions & Student Welfare - Member
5. Dr. Akhilesh Singh, T.O. to DFA Office, RVSKVV - Member (**Secretary**)

Compiled by : Office of the Dean, Faculty of Agriculture,
RVSKVV, Gwalior

Published by : Dean, Faculty of Agriculture
R.V.S.K.V.V., Gwalior (M.P.)

Correct Citation : RVSKVV Annual Report: 2021-22
Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya,
Gwalior-474002 (M.P.)

Prof. S.K. Rao
Vice-Chancellor

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Raja Pancham Singh Marg, Gwalior-474002 (M.P.)
Ph.: 0751-2970502(O)
Fax: 0751-2970502
Email: vcrvsaugwa@mp.gov.in

//FOREWORD//

It gives me an immense pleasure to present the Annual Report of the Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya (RVSKVV) for the year 2021-22 to the end users. This report highlights the activities related to education, research and extension carried out by the University staff in the field of agricultural and allied sciences with a focus on enhancing livelihood status of the farming community. The University has developed credible technology in the field of agriculture and Horticulture. Farmers of the State are being benefited through its network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), nineteen Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs).

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya has grown into a diverse innovative institution of higher education, pursuing excellence in the fields of teaching, research and extension in agricultural sciences. Over the years, the University has sought to make a major contribution in improving the quality of human life in the region through its research-led initiatives in agriculture, environmental related issues and a host of other modern-day challenges including the production of quality seed and genuine planting material. The structure of its activities is rationalized, with emphasis on its distinguished strengths, management of education and development of quality man power and in this direction notable success has been achieved. In addition to the diverse activities related to agricultural sciences, RVSKVV has strong emphases on farmer's skills improvement and empowerment through the nineteen KVKs in the various districts. Teaching and learning quality has been steadily improving in recent years and a large number of capable man powers has been trained here.

I would like to thank all the contributors, members of the Editorial Board and Compilation Committee for compiling and editing this report in a comprehensive and presentable form.

(S.K. Rao)

CONTENTS

Srimant Rajmata Vijayaraje Scindia
(1919-2001)

EXECUTIVE SUMMARY

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, (RVSKVV) Gwalior (MP) was established on August 19, 2008. The University has been since then, catering to the multi farming needs of farming community Agriculture Development, ICAR and other stockholders. It is a new, but fast emerging promising University in the field of agriculture and allied sciences.

The mandate of the University is teaching, research and extension with a view to evolve appropriate solutions and technologies in the field of agriculture. It has a network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), twenty one Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs) spread across six agro-climatic zones in twenty-six districts of Madhya Pradesh. In addition to this, other ongoing projects/schemes *i.e*. non-plan, plan, tribal sub-plan and adhoc projects are also in operation.

During the year 2021-22, the University has undertaken a number of initiatives for the promotion of quality in its mandated areas. The major activities and achievements of the University are as follows:

1. INTRODUCTION

1. Mission:

- To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

2. Mandate:

- To serve as a centre of higher education in the field of agriculture and allied sciences.
- To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.
- To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.
- To produce and supply of genuine seed and planting material to the farmers.

3. Area of Jurisdiction:

RVSKVV, Gwalior is responsible for Agricultural Education, Research and Extension in following 27 revenue districts of the state:- Sheopur, Morena, Bhind, Gwalior, Shivpuri, Guna, Ashoknagar, Datia, Dewas, Shajapur, Agar Malwa, Ujjain, Indore, Dhar, Jhabua, Alirajpur, Ratlam, Mandsaur, Neemuch, Khargone, Badwani, Khandwa, Burhanpur, Bhopal, Sehore, Aron and Rajgarh.

The area under University jurisdiction is a part of the Deccan Plateau and comprises plateaus with mean elevation of 1600 feet above mean sea level; inter spread with the mountains of the Vindhya and Satpura ranges. The maximum height of 1350 m is recorded in Satpura range on the other hand 150 m height is found in Chambal Valley. The main river systems are the Betwa, Chambal, Narmada, Sindh and Tapti. Nearly one third of the state area is covered with tropical forest. The area contains three types of soils, varying from alluvial to medium and heavy black Vertisols with six agro climatic zones.

The geographical area of the state under the University jurisdiction is 137.16 lakh hectares out of this, 74.72 lakh hectares is under cultivation, 24.51 lakh hectares under Kharif and 36.45 lakh hectare under rabi fallow. Out of the total cultivated area,

49.42% is irrigated. However, the area under irrigation varies from as low as 18.85% in Jhabua district to as high as 75.63% in Datia district.

The economy of the area is primarily agriculture based. Nearly 75% population is engaged in agriculture. The Malwa region abounds in rich black cotton soil. The low lying areas of Gwalior and Bundelkhand have light soils, whereas the Narmada Valley is formed by deep rich alluvial deposits.

4. Climatic Conditions:

The overall climate varies from semiarid to sub humid with hot summer; cool and dry winter with an average annual rainfall ranging from 600 to1000 mm. Mean annual rainfall is 1029.21mm.

In general, aberrant monsoon behavior is a common feature in the region that usually creates abnormal weather conditions including long dry spells of 8-20 days duration in the middle of the season.

5. Agro Climatic Zones

Out of 11 agro climatic zones of the state, following six are under the jurisdiction of RVSKVV, Gwalior:

- Gird Zone
- Malwa Plateau
- Nimar Valley
- Jhabua Hills

- Vindhya Plateau (Partial)
- Bundelkhand Zone (Partial)

6. Major Crops and Cropping Pattern

- The main food crops of the area are wheat, rice, mustard, lentil and millets. Important among commercial crops grown in the area are pulses, oil seeds and medicinal crops. The state is poised for a breakthrough in soybean cultivation.
- The area coverage of soybean, groundnut and cotton under the jurisdiction of the University is 69, 66 and 55 per cent, which contributes to about 68, 67 and 56 per cent in total production of these crops in the state respectively. Chickpea, pea, black gram and wheat contributes about 35, 24, 54 and 48 per cent of the total state production from an area of only 20, 05, 46 and 40 per cent, respectively. The productivity of these crops in the region is higher than the state average.
- Area under horticultural crops is showing an increasing trend under the University jurisdiction. Mandarin, sweet oranges and limes under assured irrigation and guava, ber, aonla and custard apple without irrigation in Gird region, orange, grape, chiku, mosambi and acid lime in Malwa plateau; banana, papaya, lime and chiku in Nimar valley and lime, ber, guava, aonla and custard apple in Jhabua hills bloom well. Vegetables like Tomato, Potato, Sweet potato, Brinjal, Okra, Cole crops (Cabbage, Cauliflower), Drumstick, Radish, Carrot, Cucurbits, Arbi, Beans and Leafy vegetables etc. are grown in large acrage. Among the spice crops, turmeric, corriander, ajwain, chillies, garlic, fenugreek and fennel have their own specialties in different agro-climatic zones. The area coverage under seasonal flowers is also showing an increasing trend.

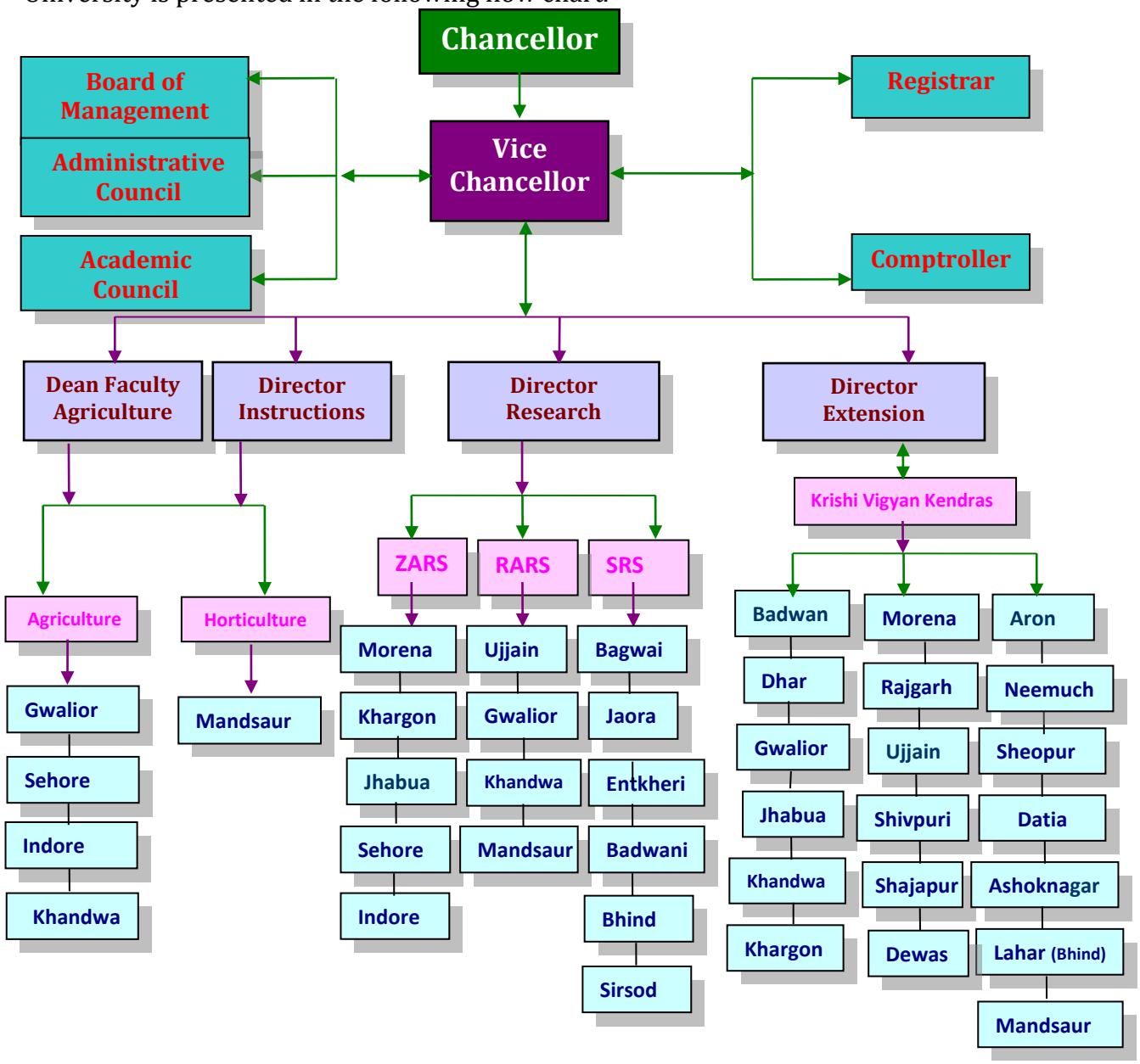
7. Organizational Setup:

Hon'ble Governor of Madhya Pradesh is the Chancellor of the University, and Vice-Chancellor is the Academic Head and Chief Executive of the University, who is supported by the following authorities:

- *Board of Management*
- *Academic Council*
- *Administrative Council*

The University comprises of Faculty of Agriculture headed by Faculty Dean. The constituent colleges are headed by respective Deans. Heads of the Departments are the key persons for teaching, research and extension of the respective discipline/department. Committee of Faculty of Agriculture and Extension Council are also constituted by Vishwa Vidyalaya.

Director Instructions, Director Research Services and Director Extension Services are responsible University authorities for human resource development, research activities and extension activities, respectively. Registrar and Comptroller support the Vice-Chancellor in administration and financial matters. The organizational setup of the University is presented in the following flow chart.



2. ACADEMIC HIGHLIGHTS:

Academic excellence is the backbone of every institute of higher learning. The responsibility increases many folds when the institute aspires for generating world class graduates with the competence to stand tall as a nation builder.

It is through the dissemination of latest technologies and changing knowledge from the global prospective to grass root level that the desirable development in the broad area of agriculture can be attained. The demanding trends in Agriculture/Horticulture need an increase in faculties in such fields and disciplines which have a tremendous market value so that the products of the University are not inclined to government jobs only but would be able to involve themselves in a variety of fields that can boost economy at the State and National level. Therefore resident instruction programme is carried out in the areas of Agriculture and Horticulture in four Agriculture colleges and one Horticulture College in the University.

2.1 Profile of the Colleges:

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya offers undergraduate, post graduate and Ph.D. programmes in the faculty of Agriculture. At present, the University has four Colleges of Agriculture and one college of Horticulture under the faculty of Agriculture. Four constituent Colleges of Agriculture are located at Gwalior, Indore, Sehore and Khandwa and one College of Horticulture is located at Mandsaur.

All these colleges offer Under Graduate and Masters Degree Programmes in different disciplines. Ph.D. programme is offered only at College of Agriculture, Gwalior.

The list of colleges with their location, year of establishment and degree programmes offered is given below.

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (2008)

CoA, Gwalior (1950)

CoA, Sehore (1952)

CoA, Indore (1959)

CoA, Khandwa (1987)

CoH, Mandsaur (2002)

2.1.1 Details of the Colleges:

S. No.	Name of College with location	Year of Establishment	Degree Programme Offered
I	**Faculty of Agriculture**		
1.	**College of Agriculture, Gwalior**	1950	**(i) B.Sc. (Ag.)**
			(ii) M.Sc. (Ag.)
			(1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Plant molecular biology & Biotechnology (9) Fruit Science (10) Vegetable Science
			(iii) Ph.D.
			(1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Fruit Science (9) Vegetable Science
2.	**RAK, College of Agriculture, Sehore**	1952	**(i) B.Sc. (Ag.)**
			(ii) M.Sc. (Ag.)
			(1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science

3.	**College of Agriculture, Indore**	1959	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science
4.	**BM, College of Agriculture, Khandwa**	1987	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** Plant Pathology
5.	**KNK, College of Horticulture, Mandsaur**	2002	**(i) B.Sc. (Hort.)** **(ii) M.Sc. (Hort.)** (1) Fruit Science (2) Vegetable Science (3) Plantation, Spices, Medicinal & Aromatic Crops (4) Floriculture & Landscape Architecture

Resident instruction programme is one of the mandates of the University *i.e.* impart education in Agriculture and Horticulture to produce graduates and post graduates ready to face the existing and new challenges in agriculture sector.

The University follows the semester system of education. Completion of a degree programme requires successful study of prescribed courses as approved by the Academic Council of the University. Course contents of all subjects are periodically updated and new courses are occasionally added to the degree requirement to cope up with the challenges of upcoming technologies. The University follows 10 point scale evaluation system approved by ICAR. Individual attention of each and every student is ensured through the advisory system. At Under graduate level, for a group of 5-10 students, one faculty advisor is appointed for each class and at Post-Graduate level, for each student, an advisory committee consisting of 3-4 faculty members is appointed. The teacher/ advisory guide, supervises and monitors the academic performance of his/her advises besides helping them in their personal problems. The advisor also maintains a close contact with parents/guardians of the students and informs them about the progress of their works/performance.

2.2 Admission Procedure

2.2.1 Undergraduate Programmes

Admission in first year of B.Sc. (Hons.) Agriculture/Horticulture is done on the basis of the merit list provided by the Employee Selection Board (ESB) of the State Government, located at Bhopal. The board conducts a Pre-Agriculture Test (PAT) for B.Sc. (Hons.) Agriculture/Horticulture. The roster for reservation of seats for UG and PG as per provisions made by the State Government for different categories is strictly followed.

All possible efforts are made to fill up all seats of different categories by repeated counseling of the students.

2.2.2 Postgraduate Programmes

Admissions in post graduate programmes are made by the University through joint entrance examination basis. As per merit list, admissions are given to the students in the subject of their choice; subject to the availability of seats. The roster of reservation is also followed for these admissions.

2.2.3 Ph.D. Programmes

Similarly, in Ph.D. programme admission is made through joint entrance examination basis.

2.3 Allocation of Seats and Roster:

During the academic year 2021-22, the total intake capacity was 770 out of which 364 were in undergraduate (UG), 352 in postgraduate (PG) and 54 in Ph.D. degree programme. In the undergraduate level, out of 364 total seats, 308 seats were in B.Sc. (Ag.) and 56 in B.Sc. (Hort.) degree programme. In the post graduate level, out of 364 seats, 256 seats were in M.Sc. (Ag.) and 96 in M.Sc. (Hort.).

Similarly, in Ph.D. programme, out of 54 total seats, 42 seats were in agriculture and 12 were in Horticulture discipline.

2.3.1 Intake Capacity (Degree wise):

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
Degree Programmes						
1.	B.Sc. (Hons.) Agriculture	220	44	11	33	308
2.	B.Sc. (Hort.) Horticulture	40	08	02	06	56
	Total	**260**	**52**	**13**	**39**	**364**
1.	M.Sc. (Ag.)	256	-	-	-	256
2.	M.Sc. (Hort.)	96	-	-	-	96
	Total	**352**	-	-	-	**352**
1.	Ph.D. Agriculture	42	-	-	-	42
2.	Ph.D. Horticulture	12	-	-	-	12
	Total	**54**	-	-	-	**54**
	Grand Total	**666**	**52**	**13**	**39**	**770**

2.3.2 Under Graduate: B.Sc. (Ag. /Hort.)

(A) B.Sc. (Ag.)

Allocation of Seats		**Boys**	**Girls**	**Total**
Roster				
Free Seats	General	50	31	**81**
	ST	36	14	**50**
	SC	24	11	**35**
	OBC	44	13	**57**
Payment Seats		48	02	**50**
NRI Seats		-	-	**06**
Nominee/Fellow	ICAR	25	04	**29**
Total		**227**	**75**	**308**

(B.) B.Sc. (Hort.)

Allocation of Seats		**Boys**	**Girls**	**Total**
Roster				
Free Seats	Gen.	14	06	20
	ST	05	03	08
	SC	05	02	07
	OBC	03	02	05
Payment Seats		06	02	08
NRI Seats		-	-	02
Nominee/Fellow	ICAR	04	02	06
Total		**37**	**17**	**56**

2.3.3 Post Graduate: M.Sc. (Ag. /Hort.):

(A) M.Sc. Agriculture/Horticulture

S.No.	Subject	Gwalior	Indore	Sehore	Mandsaur	khandwa	Total
		PG	PG	PG	PG	PG	PG
1	Agronomy	12	12	12	-	-	36
2	Soil Sc. & Agri. Chemistry	12	12	12	-	-	36
3	Entomology	12	12	12	-	-	36
4	Genetics & Plant Breeding	12	12	12	-	-	36
5	Agri. Economics	8	8	8	-	-	24
6	Plant Pathology	12	12	12	-	8	44
7	Plant Bio Technology	08	-	-	-	-	8
8	Extension Education	12	12	12	-	-	36
Total		**88**	**80**	**80**		**8**	**256**
(B) M.Sc. Horticulture							
1	Veg. Science	12	12	12	12	-	48
2	Fruit Science	12	-	-	12	-	24
3	Floriculture & Landscape Architecture	-	-	-	12	-	12
4	Plantation, Spice, Medicinal and Aromatic Crops	-	-	-	12	-	12
	Total	**24**	**12**	**12**	**48**	**-**	**96**

2.3.4 Ph.D. (Ag. /Hort.):

(A) Agriculture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Agriculture	28	14	**-**	-	42

(B) Horticulture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Horticulture	8	4	**-**	-	12

2.4 Students Strength:

2.4.1 Students Admitted:

S. No.	Degree Programme	No. of Students
1.	B.Sc. (Ag.)	285
2.	B.Sc. (Hort.)	47
Total		**332**
1.	M.Sc. (Ag.)	240
2.	M.Sc. (Hort.)	78
Total		**318**
1.	Ph.D. (Ag. /Hort.)	40
Total		**40**
Grand Total		**690**

2.4.2 Students Strength at a Glance: During the year 2021-22, total 2062 students were on the roll of the University, out of which 1259 in UG, 662 in PG and 141 in Ph.D. degree programmes.

S. No.	Degree Programme	No. of Students (2021-22)
1.	B.Sc. (Ag.)	1064
2.	B.Sc. (Hort.)	195
	Total	**1259**
1.	M.Sc. (Ag.)	505
2.	M.Sc. (Hort.)	157
	Total	**662**
1.	Ph.D. (Agri. /Hort.)	**141**
	G. Total	**2062**

2.5 Experiential Learning Programme: As per the recommendations of Fifth Dean's Committee that the B.Sc. (Ag.)/B.Sc. (Hort.) graduates must have adequate hands on experience on different aspects of agriculture/horticulture. For this purpose, the experiential learning programme has been introduced in the final year that includes different aspects of horticulture and agriculture.

Modules of Experiential learning programme	Nos. of students
B.Sc. (Hons.) Agriculture	
Module – I Crop Production	**275**
Seed Production Technology	
Remote Sensing, GIS & Land Use Planning	
Integrated Farming System	
Water Management	
Soil Management	
Management of Post Harvest Insect Pests & Diseases	
Module – II Crop Protection	
Integrated Pest & Disease Management	
Management of Post Harvest Insect Pests & Diseases	
Non Insect Pest Management	
Pesticides and Plant Protection Equipments	
Nursery Management of Horticultural Crops	
Integrated Farming System	
Module – III Horticulture	
Commercial Vegetable Production	
Commercial Floriculture	
Nursery Management of Horticultural Crops	
Processing & Value Addition of Horticultural Crops	
Integrated Pest & Disease Management	
Management of Post Harvest Insect Pests & Diseases	
Module IV	
Commercial Vegetable Production	
Nursery Management of Horticulture crops	
Protected cultivation of Horticultural crops and seed production of vegetable and flowers	
Processing and value addition of horticultural and crops	
Integrated Pest and Disease Management	

Modules of Experiential learning programme	Nos. of students
Mushroom cultivation	
Module V	
Nursery Production and management	
Module VI	
Protected cultivation of high value vegetable crops	
Module VII	
Floriculture & Landscape Gardening	
Module VIII	
Value addition in horticultural crops	
B.Sc. (Hons.)Horticulture	
Module I	43
Nursery production and management	
Module II	
Protected Cultivation of High value horticultural crops	
Module III	
Floriculture and Landscape Gardening	
Module IV	
Post harvest technology and value addition	

GLIMPSES OF EXPERIENTIAL LEARNING PROGRAMME

1 **PHM (Department of Horticulture)**




2 Tissue Culture (Deptt. of Plant Biotechnology)



3 Soil testing (Deptt. of Soil Science)


4 Protected cultivation of horticulture crops and seed production of vegetable and flower (Deptt. of Horticulture)





Department of Horticulture
College of Agriculture, Indore
ELP Processing Unit
Fruit, Vegetable & Food Crops
Rajmata Vijyaraje Scindia Krishi Vishwavidyalaya
Gwalior (M.P.)


Department of Horticulture
College of Agriculture, Indore
ELP Processing Unit
Fruit, Vegetable & Food Crops
Rajmata Vijyaraje Scindia Krishi Vishwavidyalaya
Gwalior (M.P.)


Department of Horticulture
College of Agriculture, Indore
ELP Processing Unit
Fruit, Vegetable & Food Crops
Rajmata Vijyaraje Scindia Krishi Vishwavidyalaya





REDMI NOTE 9 PRO MAX
BHUPENDRA 3999


REDMI NOTE 9 PRO MAX
BHUPENDRA 3999

REDMI NOTE 9 PRO MAX
BHUPENDRA 3999


2022/4/30 08:03

Weeding in Net House

Sorting of Red Stones for Landscape Gardening

Picking of Annual Seeds

Cleaning &Packaging of Annual Seeds

Making the Miniature Garden

Making Dry Flower Craft

Display of dry flower craft and flower seed

Honourable MP intrect with ELP students and purchase the floral craft

Honourable MLA intrect with ELP students

Landscape work

Nursery bed preparation in open field

Irrigation to nursery bed in polyhouse

Seeding cape goose berry in pot trays

Branch removal in air layered plants

Preparation of Bael Candy

Preparation of Bael Candy

Determination of TSS

Aonla Preserve

Pouch Packing of Aonla Supari

Aonla Supari

2.6 Rural Agricultural/Horticultural Work Experience (RAWE/RHWE): As a part of regular curriculum, the final year students of B.Sc. (Ag.) and B.Sc. (Hort.) are placed in rural areas for one semester in selected villages through Krishi Vigyan Kendras (KVKs) working in the region, where each student is attached to one host farmer for practical training with regards to crop production, crop protection, economics and also dynamics of the rural society. Further, some social activities were also performed by the students like sanitation in the village, plantation in the premises of primary and middle schools.

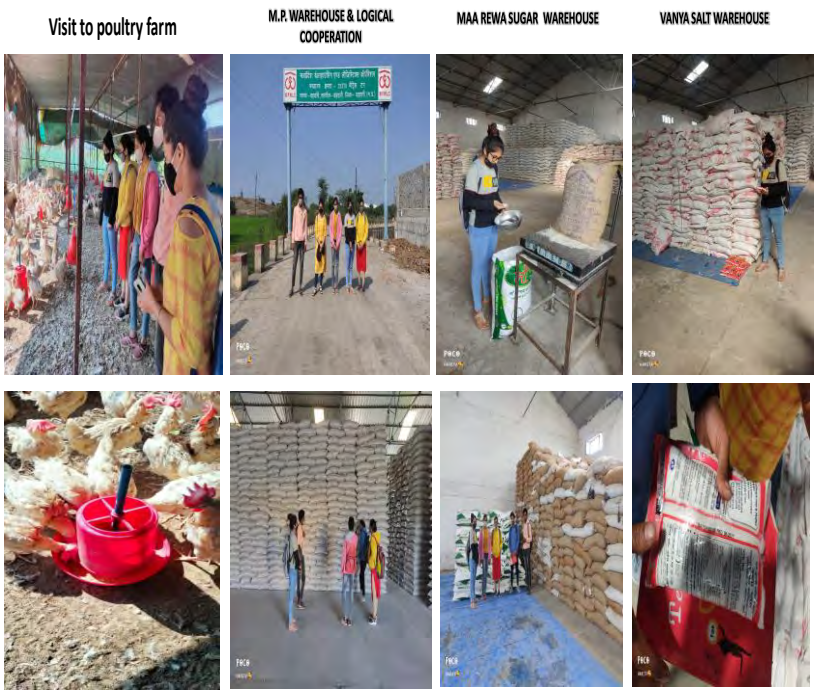
RAWE/RHWE AT A GLANCE

S.No.	Particular	Gwalior	Sehore
1.	**No. of student**	Total Student-81 (Boys-50+Girls-31)	Total Student-62 (Boys-42+Girls-20)
2.	**Adopted villages/ KVKs**	**Provided home town through Acc. to ICAR COVID-19 guideline**	
3.	**Technologies Dessimenated**	• *ImprovedVarities of vegetable crops* • *Water conservation Technology* • *Seed treatment in Kharif and rabi crops* • *Known about vermicompost and azolla unit construction* • *Plant protection in soybean, ground nut, pigeon pea. and mustard* • *Soil sampling, application of micro-nutrients* • *Known about establishment of various agri-enterprise* • *Management Practices of animal husbandry*	• *Survey of host farmers and villages ,* • *Sowing of different crops,* • *Soil testing, Land preparation* • *Use of improved seed* • *Demonstration on seed treatment and other new agriculture technology* • *Promote different irrigation techniques. Water Management* • *Increase the use of organic manures, use of recommended dose of fertilizers.* • *AIA in different agro industries i.e. Seed production unit, nursery, machineries, processing unit ,dairy, poultry etc.*

S.No.	Particular	Indore	Khandwa	Mandsaur
1.	**No. of student**	Total Student-78 (Boys-45+Girls-33)	Total Student-54 (Boys-39+Girls-15)	Total Student-43 (Boys-30+Girls-13)
2.	**Adopted villages/KVKs**	**Provided home town through Acc. to ICAR COVID-19 guideline**		
3.	**Technologies Dessimenated**	• *Tree Plantation Program Organize on the occasion Republic Day* • *Aarogyam Jan swasthya Kendra* • *Anganwadi , Primary and Higher secondary school* • *Social Activity-* • *Village Sali (Bhagsur) Anganwadi* • *Health centre* • *Water Canal – Lower Goy Project* *Biogas production (Gobar Gas)"*	• *1. Orientation and survey of village* • *2. Agronomical Interventions* • *3. Plant Protection Interventions* • *4. Soil Improvement Interventions* • *5. Fruit and Vegetable Production Interventions* • *6. Animal Production Intervention* • *7. Extension and Transfer of Technology Activities*	• *To understand the rural eco-system in relation to agriculture and allied sectors like post-harvest management, agriculture engineering, animal husbandry, poultry, Dairy and Agri-practices of different crops.* • *Students learnt about cultivation practices of spices,pulse crops, vegetable crops,ornamental crops, fruit crops and medicinal and aromatic crops, available in the village and and its vicinity.* • *They had an exposure to integrated nutrient management in host of horticultural crops and their several queries and confusions relatedto INM were solved by the instructors.* • *Students got practical experience regarding preparation and raising of nursery of different vegetables like tomatoes, chilies, cauliflower etc.* • *They had hands on training on seed treatment in crops grown by farmers'viz., Garlic, onion, coriander, methi, chandrasoor, soybean, moong, urid and other crops.*

				• *Students learnt about drip irrigation and sprinkler system in crops like, Garlic, pomegranate, onion, citrus etc.* • *In relation to plant protection, they observed the practical problems of insect-pests and diseases andtheir identification in various crops. Besides, they learnt various measures to control them in ornamental crops like marigold, rose, tube rose, vegetable crops like okra, brinjal, tomato, cabbage, cauliflower, cucumber andchilli, fruit crops likeguava, grapes and mango and spice crops like garlic, onion, and fenugreek and other crops.Students used sticky traps and pheromone trap and assessed their response for management of insect-pests in different crops and also learned about application of pesticides and discrimination in uses.* • *Under Food processing and storage activitiesstudents witnessed harvesting and grading in different horticultural crops like cauliflower, cabbage, tomatoes, chillies, onion, garlic, bottle gourd, fenugreek etc. They also had hands on training on curing in onion and garlic crops.* • *Under fruit production intervention, skill development for tecqniques viz., budding, grafting and layering in different horticultural crops was also undertaken.* • *Under extension activities, they learned ways of effective communication required to transfer the improved agricultural technologies to farmers and to solve various problems pertaining to farming and other related issues.Theywere made to acquaint with on-going extension and rural development projects and provisions made by the state and central government.* • *Students had established good rapport with the KVK which helped them to understand its various services performed to uplift the livelihood of rural community and welfare of the farmers and also they observed the impact and importance of KVK in its jurisdiction.* • *Students collected soil samples, and tested its nutritional status on the basis of which they also learnt how to make recommendations for effective nutrient management.* • *The performance of the students' in this programme had clearly indicatedthe raised confidence and effective non-hasitant communication due to vast exposure to the real farm situation existed in the village.*

GLIMPSES OF READY (RAWE/RHWE) PROGRAMME




KVK SHIVPURI VISIT
MONITORING TEAM
RVSKVV GWALIOR
DAILY DAIRY CHECKING


Vermicompost and Azolla
Light trap for insects


Transplanting rice in main field

Water Canal – Lower Goy Project

Biogas production (Gobar Gas)”

Swachh Bharat Mission

Eradication of Carrot grass

Celebrated of World soil health day Plantation programme at KVK

Celebrating National Farmer's Day at KVK, Talun

Soil sampling

Soil testing

Titration

Training and pruning of **"GUAVA"**

Observing fruit setting

Onion seed

Uprooting seedling

Irrigation in wheat

Fertilizer application

Weedicide spray

Vermicomposting

Seedlings of Tomato (25 - 30 Days)

Observation of crop at 20 days after transplanting

Drenching in Tomato

First stacking in Tomato 50 days after transplanting

Rajlaxmi Kela Group, Barwani

Ripening Chamber (Ethylene Gas) Pre Cooling Chamber

Ripening system

Transport

Bagger Machine

Grain card

JNCOAPPS Ltd.

Mixing And Blowroom Carding Room

Speed Frame

Ring Frame

Yarn Conditioning Plant

final supply of goods in
local market:-
(1bag-60kg 480gm)

final supply of goods for
foreign export:-
(1bag- 45kg 300 gm)

Transportation


ग्राम पंचायत जहांगीरपुरा
स्थानीय उद्यमिता जागरूकता एवं विकास योजना (READY)

Taking crop geometry

Giving plant to host farmer

Implement section of R.A.K College of Agriculture, Sehore

Preparing soil for testing

Vermicomposting

Students applying Social Mapping technique of PRA

Visit to KVK

Collection of soil sample

Practicing guava grafting

Marigold picking

Vermi compost unit visit

Hands on Spraying of insecticide in garlic

Working with farm women

Picking of *chrysanthemum*

Information collection from line Deptt.

Experiencing power spraying

Performing soil testing in lab

Field preparation

Making ring basin for guava tree

Visit to Vertical hydroponic system

Vegetable seed sowing

Visit to pesticide shop

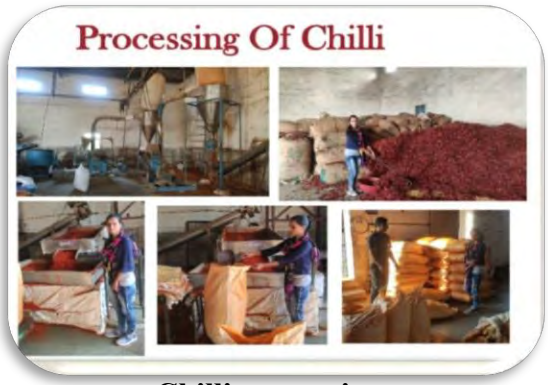
Visit to pesticide shop

Garlic drying

Tomato bagging ready for marketting

Packaging of products

Spice grinding



Chilli processing

Garlic drying

Visit to KVK

Visit to red chilli bazar

Visit to seed processing unit

Visit to cotton market

Visit to spice grinding unit

Visit to chilli grinding unit

Visit tofresh vegetables mandi

Visit to milk collection unit

NATIONAL AGRICULTURAL HIGHER EDUCATION PROJECT

List of Deliverables for Holistic Development of Students and FacultiesYear-2021

SN	Topic	Date
1	Soil less farming – Hydroponics	31 December 2020- 2 January 2021
2	Agro-forestry & its Eco-system Services	6 January 2021
3	Floriculture in India & COVID-19 way forward	12 January 2021
4	Research Publication in SCI and Scopus indexed journals	13 January 2021
5	Research Publication in SCI and Scopus indexed journals	13 January 2021
6	Improving climate resilience and nutritional quality of crops: Maize as an example (International)	15 January 2021
7	Urban farming for young entrepreneur	21 January 2021
8	Entrepreneurship skill development	25-30 January, 2021
9	intellectual property rights Two days' workshop on understanding and filing	25-26, January, 2021
10	Commercial Cultivation of medicinal plant	1 -5 February, 2021
11	Entrepreneurship opportunity through alternate farming system	16 February 2021
12	Introduction to agriculture its challenges and organic as the daily solution	16 February 2021
13	Agriculture environment management, biogas, solar etc.	17 February 2021
14	Seed Management	18 February 2021
15	Doubling Soybean production in India: speed breeding and precision crop management	26 February 2021
16	World Water Day	22 March 2021
17	Declining water resources and remedial measures	22 March 2021
18	Managing water in field crops under changing climate scenario	22 March 2021
19	Novel Strategies for Iron & Zinc Bio fortification of cereal grains (International)	1 April 2024
20	Agro-ecology: Principal and Application (International)	2 April 2021
21	Start UP Master class	24-30 April 2021
22	Weed Science research in India: way forward and scope for entrepreneurship opportunity	17 May 2021
23	Development Training Program	18-21 May 2021
24	Online training programme on Personality	18-21 May 2021

	Development	
25	Online training programme on Personality Development	11-12 June 2021
26	Food and Nutrition Security Challenges & opportunities (International)	16 June 2021
27	Management of Agri-business start-ups & establishing business process (International)	21 June 2021
28	Communication skill for professional	23-24, June 2021
29	Two Days Online Training Program on communication Skill and Professionals	23-24 June 2021
30	Phytoremediation	5 July 2021
31	Can Agro-forestry based systems revitalize he eco-balance	7 July 2021
32	Sustainable management of economically Important NTFPs of central India for their conservation and sustaining livelihood of dependent communities	7 July 2021
33	Role of trees outside forest in combating environment challenges	7 July 2021
34	Remote sensing in the field of environment/ Agriculture	7 July 2021
35	Can Agroforestry based systems revitalize the Eco-Balance	7 July 2021
36	Pomegranate- a fruit for doubling farmers income	12 August 2021
37	Dos and Don'ts during Covid -19	16 August 2021
38	Handling mental health issue amidst the pandemic	16 August 2021
39	Data Management analysis and Interpretation	06-11 September, 2021
	Workshop on data management, analysis and interpretation	6-11 September, 2021
	Introduction and Application of RS & GIS	13 September 2021
40	Vegetable seed production	16September2021
	Physical Fitness for healthy lifestyle	17 September 2021
41	Exploring business opportunities through mushroom cultivation technologies	22 September 2021
42	Diet for fitness	30 September 2021
43	Women rights and cyber crime	05 October 2021
	Management of Infertility in Cattle	15 October 2021
44	Training Program for Personality Development and Communication Skill of students"	25-30 October 2021 8-13November 2021 22-27 November 2021
	Integrated fish farming system models for variables Agricultural production, environmental	26 October 2021

	sustainability and socio economics benefits	
45	Scope & Start-up opportunities in food processing &Agro based industries	1 November 2021
46	Brain Storming academia –Industry and other stakeholder workshop	1-2, November 2021
47	Value Addition and Marketing of various Products from Herbal and Medicinal Plants	1 November 2021
48	Marketing and Export Opportunities in Agriculture Produce international Specification (GAP), International Market Requirement.	1 November 2021
49	Disasters, their origin and management aspects in India	4 December 2021
50	Underutilized horticultural genetic resources of Andaman & Nicobar Islands	4 December 2021
51	Processing, Value addition and Marketing of Medicinal Plant Products for Entrepreneurship Development	29 December 2021

2.7 Thesis Submitted:

2.7.1 M.Sc. (Agriculture/Horticulture): 199 Students submitted Thesis for Post Graduate degree programme in Agriculture discipline and 49 students for Horticulture degree programme.

2.7.2 Ph.D. thesis submitted to Director Instruction for evaluation: 12 student's submiteed Thesis for Ph.D. Agriculture / Horticulture degree programme.

2.8 Academic Excellence:

2.8.1 Student Performance in ICAR-JRF/SRF examination and other Scholarship/Stipends:

S. No.	Name of Fellowship/Scholarship	No. of Students 2021-22
1.	Junior Research fellowship received	**2**
2.	JRF qualified and admitted in different Universities of India without fellowship	**4**
3.	SRF Qualified without fellowship	**4**
4.	NET	**11**
5.	National Talent Scholarship	**36**
6.	Scholarship of Vikramaditya Yojna	**49**
7.	Scholarship of Gaon Ki Beti Yojna	**-**

8.	Dr. Shyamaprasad Mukharji Scholarship	**-**
9.	Medhavi Sambal Yojna	**54**
10.	Mukhyamantri Medhavi Vidyarthi Yojana	**02**
11.	Post Metric Scholarship	**-**
	State Government Scholarship	***397***
	(i) OBC	144
	(ii) SC	76
	(iii) ST	56

3. STUDENTS WELFARE ACTIVITIES:

3.1 National Service Scheme (NSS):

S. No.	Activity(s)	No. of Volunteers Participated
1	No. of students enrolled	395
2	No. of students passed/cleared ***'B' certificate examination***	94
3	No. of students passed/cleared ***'C' certificate examination***	6
4	NSS day celebration/Camp	175
5	Blood donation camp	10
6	Pulse polio camp	12
7	AIDs awareness day	65
8	Beti Bachao Abhiyan	69
9	Malnutrition day	45
10	Parthenium eradication day	13
11	Special camp	-
12	Voter ID awareness camp	-
13	State level camp	1
14	Unit camp	-
15	Rastriya Yuva Day	61
16	Sensitization day	103
17	Environment day	52
18	Plantation day	73

19	Gandhi Jayanti	40
20	RRC State Level Quiz Competition	77

GLIMPSES OF NSS/NCC ACTIVITIES


REDMI NOTE 9
AI QUAD CAMERA
2021/2/21 09:59

3.2 National Cadet Corps (NCC):

S. No.	Activity(s)		Total Students
1.	No. of students enrolled		96
2.	Exam. passed	***'B' certificate***	60
		'C' certificate	36
3.	No. of cadets attended the CATC camp		36
4.	Army Attachment at Gwalior		68

3.3 Students Counseling and Placement:

S. No.	Name of employer / Organization	No. of students employed
1.	Central Govt.	14
2.	Government /public sector	2
3.	Private sector	0
4.	Self employed	2
Total		**18**

3.4 CULTURAL AND SPORTS ACTIVITIES: *There was not any intercollegiate sport or cultural activity carried out this year due to COVID-19 pandemic situation.*

//Order//

Due to the prevailing condition of pandemic Covid, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior has decided to conduct "Abhinandan: A Student Induction Programme" in all its constituent Colleges for newly admitted UG/PG/Ph.D. students in online mode by using virtual platform. The purpose of Abhinandan this year is to familiarize the students with the functioning of the University and to bring them out from the aftershock of the calamity called Covid. It is experienced that the traumatized students need more than academic support and what they need is the implantation of hope for the life ahead and the University along with its teaching community has the responsibility to extend the hand of support to the students during these

catastrophic days therefore the role of mentor-mentee system functional on guardian- ward mode in the University becomes even more important so that the new entrants could begin their academic journey confidently and comfortably, preparing them for their College life and beyond.

This program will commence seven days before the start of the academic session. Online participation of all newly admitted students, staff, and parents is mandatory. The detail of programme is appended below:

ABHINANDAN

"Orientation: Empowering New Beginnings"

A STUDENT INDUCTION PROGRAMME

1. Title	**Creating a Unified Campus Community During and After Covid Hit Days: Fusing Ideas and Integrating Knowledge**
2. Organization:	**Constituent Colleges of RVSKVV, Gwalior**
3. Nature of Project	Mentor-Mentee System under Various Clubs of OMAS project of the University
4. Theme	Guiding Freshers in UG, PG and Ph.D. Programs: Building Confidence, Bonding, and Universal Values for Holistic Development
5. Duration	7 days prior to the commencement of First Semester of newly admitted UG, PG and Ph.D. students of RVSKVV, Gwalior.

Goals

- Foster the holistic development of newly admitted students by playing a positive and catalytic role.
- Cultivate moral and ethical behavior, nurturing human values to empower students to contribute positively to society.
- Support learners in discovering and harnessing their creative potential and talents, while enhancing their physical and psychological strengths

through active participation in co-curricular and extra-curricular activities.

- Instill a sense of social and environmental responsibility among students, promoting sustainable development perspectives and actions as integral to their lifestyles.
- Develop well-rounded citizens equipped with knowledge of constitutional rights and duties, fostering respect for linguistic, cultural, and gender diversity.

Motto:

1. Orient students on institutional profile, academic rules, regulations, and scholarship provisions.
2. Educate students about career prospects in agriculture and related fields.
3. Familiarize students with government plans, policies, and flagship programs.
4. Infuse universal human values to broaden students' life perspectives.
5. Promote regular lifestyle habits and professional discipline among students.
6. Develop students' skills and proficiency in extracurricular and co-curricular activities.
7. Provide platforms for formal and informal interactions among students, faculty, and seniors to enhance interpersonal relations.
8. Sensitize students through clubs like 'Club Sarthee', 'Equal Edge', and 'Club Harmony' on constitutional rights, duties, and respect for linguistic, cultural, and gender diversity.
9. Foster creativity, personality development, and soft skills through activities organized by clubs such as 'Learners' First', 'Shine and Divine', and 'Campus Collage' under Project OMAS.

Activity Schedule:

- Morning Yoga & Exercise: 6:00 AM - 7:30 AM
- Know Your University Session: 9:30 AM - 11:30 AM

- Personal Development Workshop: 11:30 AM - 1:00 PM
- Human Values Session: 2:30 PM - 4:00 PM
- Creative Arts Workshop: 4:00 PM - 5:30 PM
- Evening Sports Activities: 6:00 PM - 7:00 PM

Topics of Lectures to be conducted:

The constituent Colleges of the University are committed to providing students with comprehensive training in various life skills to promote holistic growth and development. This initiative aims to enrich their educational journey, making it dynamic, integrated, and multifaceted, thereby ensuring that graduates from RVSKVV are well-received across all sectors of society. The virtual lectures this year will focus on bringing the students out from the trauma of Covid-19 pandemic.

Deans of all Colleges are encouraged to invite experts from prestigious institutes or renowned freelance speakers to deliver lectures on the following topics:

- “Healing and Growth: Moving Beyond the Covid-19 Experience"
- “Embracing Change: Adapting to a Post-Pandemic World"
- “Hope and Healing: Nurturing Mental Health Post-Covid-19"
- Resilience in Uncertain Times: Coping with the Legacy of Covid-19"
- "Growing Wisdom: Key Tenets of Agricultural Education"
- " Advancing Equality: Navigating Challenges and Solutions in Gender Equity in Education"
- "Legal Literacy Unveiled: Fundamental Concepts and Significance"
- "Espousal of Diversity: Honoring the Rich Tapestry of Humanity"
- "Roadmap to Good Citizenship: Rights, Responsibilities, and Civic Obligations"
- "Ensuring Safety: Anti-Ragging Regulations in Educational Institutions"
- "Pathway to Responsible Citizenship: Rights, Duties, and Civic Engagement"
- "Growing Your Career: Essential Skills and Qualifications for Agriculture Success"
- "Venturing into Agricultural Entrepreneurship: Opportunities and Challenges Ahead"

- "The Psychological Impact of Eve-Teasing: Consequences for Victims and Society"
- "Yoga and Pranayama: Holistic Benefits for Mind, Body, and Soul"
- " "Empowering Self-Discovery: Cultivating Awareness and Confidence"
- "Cultivating Connections: Mastering Networking Skills for Professional Success"
- "Striving for Balance: Progress, Obstacles, and Approaches in Educational Gender Equity"
- " Encouraging Collaboration: Leadership in Team Dynamics"
- "Exploring Human Values: Truth, Honor, Freedom, and Courtesy"
- "Empowering Tomorrow's Voters: Youth Engagement in Electoral Participation"
- "Unlocking Your Potential: Self-Awareness, Confidence, and Personal Growth"

The list of lecture topics provided above is not exhaustive. Deans of the Colleges have the flexibility to choose related topics or relevant subtopics that they find suitable and beneficial for the students of their respective Colleges.

Day wise Activities of *"ABHINANDAN"*

Day –: I Inaugural session from 9:30-10:30					
6-7 AM	**10:30-11:30 AM**	**11:30 AM-1PM**	**2:30-4 PM**	**4-5:30 PM**	**6-7 PM**
	Know your University	**Shape Yourself**	**Human Values**	**Creative Art**	**Sports Activity**
Yoga And Meditation	University + Campus Profile	Lecture on "Healing and Growth: Moving Beyond the Covid-19 Experience	Lecture on "Strategies for promoting mental health and emotional well-being"	Creative Art: Rangoli and Clay Modelling	Warm Up, Introduction to Badminton Grip, lift and Service
Day – II					
Yoga And Meditation	Academic rule and regulations	"Yoga and Pranayama: Benefits for Mind, Body, and	" Advancing Equality: Navigating Challenges	Creative Art :Paper Craft	Warm Up, Introduction to Basketball

		Soul"	and Solutions in Gender Equity in Education"		Passes, dribbling,
Day – III					
Yoga And Meditation	Ragging : Curbing the menace Introduction and interaction with the anti ragging committee	Lecture on "Growing Wisdom: Key Tenets of Agricultural Education"	Lecture on “Resilience in Uncertain Times: Coping with the Legacy of Covid-19"	Creative Art: Collage Making	Warm Up, Introduction to Football Basic rules and regulations Passes and field positions
Day – IV					
Yoga And Meditation	Student amenities/facilities ➢ Placement Section ➢ Advisory system ➢ ARIS Cell ➢ Portal Information ➢ Smart Card ➢ Medical + Insurance Scholarship	Lecture on "Espousal of Diversity: Honoring the Rich Tapestry of Humanity"	Lecture on "Empowering Self-Discovery: Cultivating Awareness and Confidence"	Creative Art: Poster Making And Cartooning	Warm Up, Introduction to Kho-Kho Endurance work, footwork attack
Day – V					
Yoga And Meditation	Sports and cultural activities of the College	Lecture on "Pathway to Responsible Citizenship: Rights, Duties, and Civic Engagement" "	Lecture on “Legal Framework: Anti-ragging Laws and Policies in Educational Institutions”	Creative Art : On The Spot Painting	Warm Up, Introduction to Volley ball, Hand Control, Passes, Service
Day – VI					

Yoga And Meditation	NCC/NSS activities of the College	Lecture on "Introduction to Legal Literacy: Basic Concepts and Importance"	Lecture on "Striving for Balance: Progress, Obstacles, and Approaches in Educational Gender Equity"	Performing Art : Theatre Mono Acting, One Act Play ,Skit	Warm Up, Introduction to Cricket and its rules
Day –VII					
Closing Day					
Yoga And Meditation	Concluding session	Introduction			
	Concluding session: a. Welcome by the dean b. Feedback from the new students c. Prize Announcement d. Introduction and interaction with the senior students e. Distribution of the softcopy of study material, rule and regulation of academics, hostels ragging etc. Course curriculum f. Address by the chief guest g. Vote of thanks	Film Show			

4. RESEARCH HIGHLIGHTS:

List of All India Coordinated Research Projects

S.No.	Project Name	Center
1	AICRP on Weed Control	Gwalior
2	AICRP on Pearl Millet	Gwalior
3	AICRP on Wheat and Barley	Gwalior
4	AICRP on Arid Legumes	Gwalior
5	AICRP on Groundnut	Gwalior
6	ICAR Seed Project	Gwalior
7	AICRP on Management of Salt Affected Soils and use of Saline Water in Agriculture	Indore
8	AICRP on Sorghum	Indore
9	AICRP on Safflower	Indore
10	AICRP on Dryland Agriculture	Indore
11	AICRP on Farming System	Indore
12	AICRP on Chickpea	Indore
13	AICRP on Soybean (NRM)	Sehore
14	AICRP on Chickpea	Sehroe
15	AICRP on MULLaRP	Sehroe
16	AICRP on Pigeonpea	Sehroe
17	AICRP on Cotton	Khandwa
18	AICRP on Medicinal Aromatic Plants	Mandsaur
19	AICRP on Fruits	Mandsaur
20	AINRP on Onion & Garlic	Mandsaur
21	AICRP on Rapeseed & Mustard	Morena
22	AICRP on Water Management	Morena
23	AICRP on Soybean	Morena
24	AICRP on Pigeonpea	Khargone

List of Research Schemes (Non Plan)

S. No.	Scheme Name	Centre
1	Agriculture Research Lab & Institute	Indore
2	Regional Research Center on Pulses	Indore
3	Soil Testing Scheme	Indore
4	Sugarcane Research Scheme	Indore

5	Regional Agriculture Research Station	Gwalior
6	Intensification of Research on Mango, guava & Citrus,	Gwalior
7	Soil Testing Scheme	Gwalior
8	RRS Meteorological Observation	Gwalior
9	Regional Agriculture Research Station	Bagwai
10	Regional Agriculture Research Station/ZARS	Sehore
11	Potato aphid research	Sehore
12	Intensification of Research on Mango, Guava & Citrus,	Entkhedi
13	Horticulture Research Scheme	Jaora (Ratlam)

List of Research Schemes (Plan)

S. No.	Project Name	Centre
1	Fodder Research Scheme	Gwalior
2	Strengthening of M.P. Agriculture Research Institute	Khargone
3	Productivity Improvement of crops under rainfed area	Indore
4	National Agriculture Research Project	Sehore
5	Director of Extension Education	Sehore
6	College of Horticulture	Mandsaur
7	National Agriculture Research Project	Ujjain

List of Research Schemes (Tribal Sub Plan)

S. No.	Project Name	Centre
1	Improvement of Millets	Gwalior
2	Propagation of Aonla & Ber for Tribal	Khandwa
3	Intensive Extension Research Project	Gwalior
4	Intensive Extension Research Project	Sehore
5	Intensive Extension Research Project	Khandwa
6	Intensive Extension Research Project	Indore
7	Intensive Extension Research Project	Khargone
8	National Agriculture Research Project	Morena
9	National Agriculture Research Project	Khargone
10	National Agriculture Research Project	Khandwa
11	National Agriculture Research Project	Jhabua
13	College of Agriculture, Khandwa	Khandwa

List of Externally Funded Projects

S. No.	Title of the Project	Funding Agency	Principal Investigator	Budget (Rs in lakhs)
1.	Validation and Promotion of Location specific Prioritized Component-wise IPM Package in Rapeseed-Mustard	NCIPM, New Delhi	J. C. Gupta (PI) Jagendra Singh (Co-PI) Swati Singh Tomar (Co-PI) ZARS Morena	6 Lakh for three years
2.	Validation and Promotion of Integrated Pest Management in Rice-Mustard Crop in Tribal Village of Madhya Pradesh	NCIPM, New Delhi	J. C. Gupta (PI) Jagendra Singh (Co-PI) Swati Singh Tomar (Co-PI) ZARS Morena	1.5 Lakh for first year
3.	Collection, conservation and cataloging of fruit crops including exotic fruit crops	Madhya Pradesh State Biodiversity Board	Dr. Nitin Soni College Of Horticulture Mandsaur.	59,000/-
4.	Collection, conservation and cataloging of spices crops	Madhya Pradesh State Biodiversity Board	Dr. K C Meena College Of Horticulture Mandsaur	58,000/-

6. SALIENT RESEARCH ACHIEVEMENTS

6.1 Crop Improvement

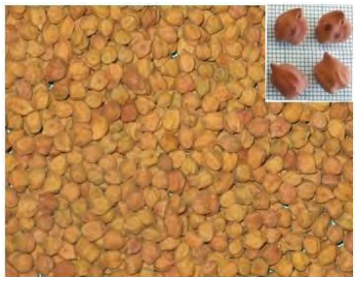
Varieties Notified and released –

- **Chickpea Variety Raj Vijay Gram 2K21** This variety was released by Madhya Pradesh State Seed Sub Committee for cultivation in Madhya Pradesh. It is a medium duration (111 days), extra large seed size brown seed colour, smooth surface, owls head shape, pink flower, large cotyledon high water absorption capacity, wilt resistant, large brown seeded, high yielding variety of chickpea, and found fit for flattened (Chana Jor) , chhoula . value added snacks products with high yield potential .

- **Chickpea Variety Raj Vijay Kabuli Gram 2021 (RVKG 2021)** This variety was released by Madhya Pradesh State Seed Sub Committee for cultivation in Madhya, Pradesh. It is a medium duration (105 days), large seed size, smooth surface; owls head shape, pink flower, yellow cotyledon high

water absorption capacity, wilt resistant, high yielding variety of chickpea.

- **Chickpea Variety Raj Vijay Gram 204 (RVG 204) (RVSSG 8102)** the desi type chickpea variety developed from the cross ICCV10 X ICCL87322 is suitable for Mechanical Harvesting in CZ. It has tall and semi erect growth habit and attractive seeds size 23.4 gm/100 seeds. It has an average yield potential of 2232 kg/ha and matures in 111 days. It exhibits resistance against Fusarium wilt and tolerant to Helicoverpa. The variety has been released for cultivation in Central Zone comprising of Madhya Pradesh, Chhattisgarh, Gujarat, Maharashtra and Southern Rajasthan.



- **Chickpea Variety Raj Vijay Kabuli Gram 2020 (RVKG 2020) (RVSIG 63)** The Kabuli type chickpea variety developed from the cross JSC52 X RVKG100 is suitable for timely sown conditions in NWPZ. It has medium tall and semi spreading plant, white flower with no anthocyanin content in plants, smooth seed surface, cream owls head shape seeds and large seed size of 39.5 gm/100 seeds. It has an average yield of 1637 kg/ha and matures in 147 days. The variety is moderately resistant to *fusarium* wilt. It has been released for cultivation in North West Plain Zone comprising of Punjab, Haryana, Western Uttar Pradesh, Delhi, North Rajasthan, Jammu & Kashmir, plains of Himachal Pradesh and Uttrakhand.

- **Chickpea Variety Raj Vijay Gram 210 [RVG 210]** have been Notified vide Notification No 500(E) Dated 29.01.2021 for cultivation in Madhya Pradesh. It is an earlymaturing variety (109 days), bold seeded, averagepotential yield is 1805 kg/haand resistant to fusarium wilt. It has yellowish creamseed coat and round seedshape.

- **Chickpea Variety Raj Vijay Kabuli Gram 121 [RVKG 121]** have been Notified vide Notification No 500(E) Dated 29.01.2021 for cultivation in Madhya Pradesh. It is avariety which matures in 114 days, having boldseeds (26.30g / 100seeds), average potentialyield is 1970 kg/ha. It hasresistance to fusarium wiltand tolerant to pod borer(Helicoverpaarmigera) and pulse beetle.

- Safflower variety RVSAF 14-1 notified vide Gazette Notification No 8 (E) Dated 24.12.2021. This is first spiny variety with early maturing (126 days to maturity) and high yielding (1792 kg/ha), bold seeded (100 seed weight 5.86 g) and oil% is (29-30%). The variety signifies landmark

achievement in safflower as it overcomes the unresolved problems of late maturity of safflower varieties.

- Safflower variety **RVSAF 18-1** notified vide Gazette Notification No 8 (E) Dated 24.12.2021. Its matures in 127-131 days and yield potential is 1746 kg/ha with oil content (39.1 per cent). It has better performance for major diseases viz; Alternaria leaf spot and Wilt

6.2 Crop Production Technologies

Reflections of ongoing projects (Research Achievements):

- **PERFORMANCE OF AFFORESTATION AFTER RAIN WATER CONSERVATION IN DEEP RAVINE LAND DEEP** ravines along the Chambal river represent the worst form of land degradation by runoff water. A impact study was conducted by AICRP-IWM, ZARS, Morena on performance of forest tree species in terms of growth, biomass production, carbon stock and soil properties was observed after eight year of plantation tree species and rejuvenation of natural vegetation on the degraded ravine land. Ravine land can be reclaimed by the construction of water holding structure in gullies as per hydrological analysis for management of rainwater and utilized sustainably for biomass production, carbon stock through improving vegetation densities/plantations. Tree plantation of *Leucaenaleucocephala* led to maximum improvement of organic carbon, water holding capacity and a sum of all macronutrient availability followed by *Acacia indica*, *Dalbergiasissoo* and *Acacia nilotica*in treated ravine land. Combined ranking in terms of survival, height, the diameter of stumped height and biomass yield showed that the preferred choice for tree species was in the order of Acacia nilotica**>**Azadirachtaindica >Prosopisjuliflora>Leucaenaleucocephala>Balanitesaegyptiaca>Dalbergiasissoo>Acacia catechu for treated Chambal ravine land.

Agricultural land converted in to ravines

*Acacia nilotica*on ravine land

Integrated Drought Management in Rainfed Groundnut : Application of hydrogel @ 2.5 kg ha^{-1} along with mulch application @ 5 tha^{-1} resulted the best drought management practice and increased the pod, haulm and kernel yield, gross & net returns, BC ratio and water productivity of Mallika (ICHG-00440) by 26.9, 21.5, 25.6, 19.0, 23.2, 8.3 and 25 percent, respectively compared to **farmer's practice**. However, it was closely followed by the sole application of mulch @ 5 ha^{-1}, hydrogel application @ 2.5 kg ha^{-1} and endophytic bacteria application.Compared to **one life saving irrigation**, the application of hydrogel @ 2.5 kg ha^{-1} along with mulch application @ 5 t ha^{-1} has increased the pod & haulm yield, HI, gross returns, water productivity and the magnitude of increase was 7.2, 7.6, 9.1, 7.0, 19.0 percent, respectively.

Performance of different varieties of black gram under Jhabua Conditions: Experiment shows that the treatment T6 (PU - 31) had significantly highest grain yield 907 kg/ha followed by the use of treatment T4 (Uttara) the yield obtain 867 kg/ ha and T3 (JU - 86) the yield obtained 813 kg/ha. Hence it has been concluded that maximum yield could be obtained by the Black gram variety PU 31, Uttara and JU - 86.

Identification of groundnut + millet inter cropping system for Grid region of Madhya Pradesh: The significantly highest yield of the **groundnut +millet system** was recorded with groundnut + barnyard millet (6:1) and it was at par with the groundnut +foxtail millet (6:1). It was followed by the groundnut +finger millet (6:1) intercropping system. Similarly, groundnut +barnyard millet (6:1) intercropping system recorded significantly the highest harvest index which was statistically at par with groundnut +foxtail millet (6:1) and groundnut t+ foxtail millet (5:2). The intercropping of groundnut with foxtail millet at 6:1 ratio recorded significantly highest **LER** followed by groundnut+ barnyard millet at 6:1 ratio and groundnut + foxtail millet at 5:2 ratio (0.93). Significantly highest **IER** was recorded under groundnut +barnyard millet (6:1) system which was closely followed by groundnut +foxtail millet (6:1). While significantly highest **economic efficiency** and **production efficiency** was recorded with sole groundnut.

Farmer FIRST Programme ZARS, Morena : The project entitled "Participatory location specific research and technology application through optimizing resources for livelihood security of small holders of Madhya Pradesh" for implementation under Farmer FIRST ProgrammeScheme was initiated on 2016 at the seven selected villages viz. Hadwasi, Lalbans, Satha, Barouli, Mragpura, Palpura and Harchandbasai of Joura &Morena blocks, District of Morena (M.P.) Interventions under this project were carried following modules likeCrop Based module, Horticulture based module, Livestock based module IFS, Fish based module, Enterprise based module andNRM based module.

Intensive cropping system Technology: These technology was conducted at 260 farmers' fields on different intervention with extra short duration varieties of pigeon pea (ICPL-88039), soya bean (RVS-2001-4), blackgram (PU-31), green gram (TJM 3) and pearl millet (Hybrid).The adoption of improved technology increased in grain yield of pigeon pea, soya bean, black gram, green gramandpearl millet **by 16.0%, 17.60%, 17.5%, 22.40% and 12.20%** as compared to farmer practice respectively.

Integrated nutrient management: These technology was conducted at 125 farmers' fields on different crops *viz;*Soy-bean, Green gram, paddy and pearl millet withgreen and organic manure/ Vermicompost – @ 5 t/ha, Liquid Bio-fertilizers – @ 3-5 ml/kg of seed and NPK12:32:16 @ 150-200 kg/ha on soil testbasis.The adoption of improved technology increased in grain yield of Soy-bean, Green gram, paddy and pearl millet**by 22.70%, 20.20%, 16.5% and 13.00%**as compared to farmer practice respectively.

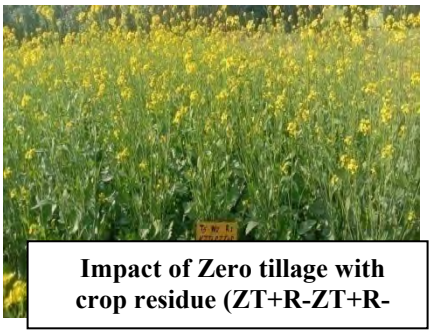
Crop production under precise land levelling: These technology was conducted at 258 farmers' fields on different crops viz;Arhar, Green gram, Til, Pearl millet and Paddy.The

adoption of improved technology increased in grain yield of Arhar, Green gram, Til, Pearl millet and Paddy **by 9.5%, 12.0%, 10.5%, 7.5 and 7.90%** as compared to farmer practice respectively. The water productivity, gross income, net income and B: C ratio also higher under improved practice as compared to farmers practice.


Crop production under broad bed and furrow planting: Trial was conducted at 93 farmers' fields on different crops *viz;* Arhar, Green gram, Soya bean, and Urd.The adoption of improved technology increased in grain yield of Arhar, Green gram, Soya bean, and Urd **by 12.40 %, 23.50 %, 21.00% and 17.40%** as compared to farmer practice respectively. The water use efficiency, gross income, net income and B:C ratio also higher under improved practice as compared to farmers practice.


6.3 Crop protection Technologies

Weed management in mustard under pearl millet based cropping system in conservation agriculture systems: During rabi 2020-21, the maximum production of mustard 2.69 t/ha and profitability was recorded where zero tillage with crop residue (5t/ha) was applied during entire the year (ZT+R-ZT+R-ZT+R) *followedby* zero tillage (2.36 t/ha) in *kharif* and summer without residue and in *rabi* with residue was done(ZT-ZT+R-ZT).Under weed management practices, oxyflorfene 230 g/ha PE followed by the one HW at 35 DAS resulted in significantly higher yield (2.39 t/ha) with net returns.



Impact of Zero tillage with crop residue (ZT+R-ZT+R-

Weed management in potato in maize based non-chemical cropping system : Among all the treatments, the application soil solarization with one hand weeding at 40 DAS resulted in better control of weeds with

Impact of soil solarization with one hand weeding at 40 DAP in potato field

83% WCE and significantly maximum tuber yield (24.63 t/ha)with BC ratio 2.73 and net returns Rs.187291/ha. Earthing up at 20 & 40 DAP was also economically good with BC ratio (2.25) followed by the application of one hand weeding at 20 DAP +straw mulch (5t/ha) at 25 DAP. The increase yield in these treatments was due to effective control of weeds in early stage, which reduced weed growth and gave higher yield attributes of potato and finally resulted to higher yield. However the lowest monetary returns and BC ratio was recorded where soil solarization followed by plastic mulch (25µ) was done.

Management of problematic weed (Cuscutacampestris) in berseem (Trifoliumalexandrinum L.) fodder crop: Among different herbicides applications, the application of imazethapyr 40g/ha after 1st cut +imazethapyre 40g/ha after last cut provided the maximum fodder yield (67.22 t/ha) and seed yield (471 kg/ha) *fb*imazethapyr 40g/ha after 1st cut (66.39 t/ha) and (422kg/ha) fodder and seed yield respectively.

Performance of insecticides to control of gram pod borer (Helicoverpa) on yield of Gram: Among different treatment to control of attack of gram pod borer (Helicoverpa) in gram, mean data of yield shows that the treatment T8 (Chlorantraniliprole @ 100 ml/ha) had highest grain yield 1538 kg/ha followed by the useof treatment T1 (emamectin benzoate @ 250gm/ha) 1510 kg/ha,T6 (Indoxacarb @ 500 ml/ha) 1487 kg/ha T5 (Prophenophos @ 1.5 l/ha) 1470 kg/ha as compared to other treatments and control. Hence it has been concluded that maximum yield could be obtained by the use of Chlorantraniliprole @ 100 ml/ha, emamectin benzoate @ 250gm/ha and Indoxacarb @ 500 ml/ha.

Weed management in pear millet under pearl millet based cropping system in conservation agriculture systems Cowpea: Based on three years experimentation (2019 to 2021) the population of narrow and broad leaved weeds continues to be less under zero tillage with crop residue application during entire the year. The application of pendimethalin + imazethapyr 900 g/ha alone resulted in the maximum control of grasses and provided the maximum grain and Stover yield (844 and 5441 kg/ha), gross and net returns (Rs. 65741 and Rs. 47124/ha) respectively under zero tillage with crop residue application. Therefore, conservation agriculture, especially zero tillage practices with crop

residue application, can contribute to decrease narrow and broad leaved weeds and higher productivity

Effect of integrated weed management on growth and yield of soybean. - Among different treatment combinations, mean data of yield soybean shows that the treatment T1 (Weed free) had significantly highest grain yield 1653 kg/ha followed by the use of treatment T8 (Chlorimuron Ethyl (POE) @ 10 gm /ha + Quizalofop-p-ethyl @ 50 g /ha.) the yield obtained 1610 kg/ha, T5 (Chlorimuron Ethyl (POE) @ 10 gm /ha + Quizalofop-p-ethyl @ 50 g /ha) the yield obtained 1590 kg/ha and T9 (Imazethapyr @ 35 g /ha + Imazamox @ 35 g/ha) the yield obtained 1570 kg/ha. Hence it has been concluded that maximum yield could be obtained by the use of Chlorimuron Ethyl (POE) @ 10 gm /ha + Quizalofop-p-ethyl @ 50 g /ha.

7. Linkages and Collaborations with National and International Organizatons

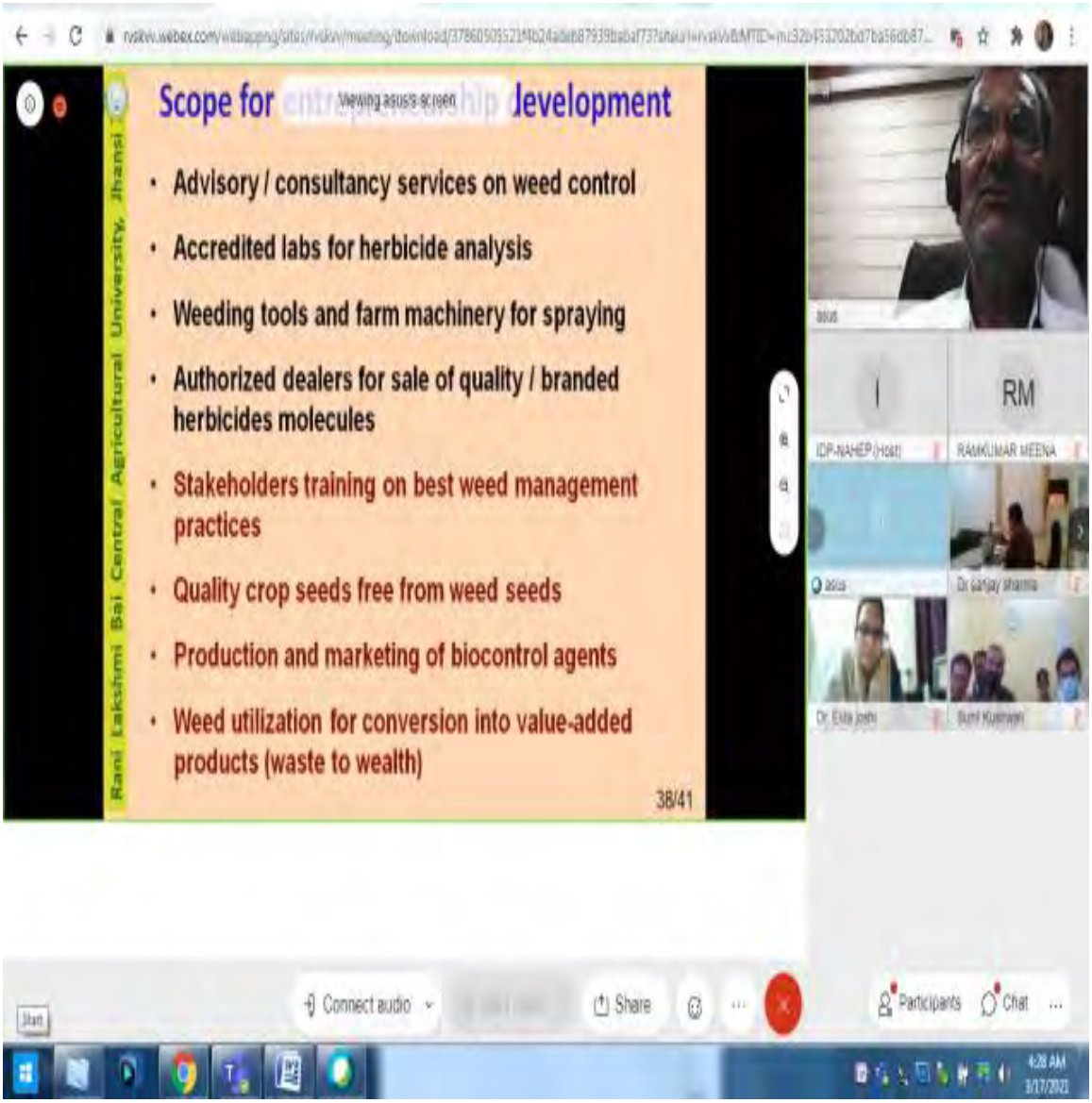
- A MoU was signed between RVSKVV and Indian Red Cross Society, New Delhi on 21st March,2021 for three years to building there silience of communities to disaster and climate change through education, research and awareness progammes as well as strong emphasis on disaster risk manage mentornatural, manmade hazard sand related environmental, technologies and health hazard sand risk.
- MoU has been signed between RVSKVV and Tropical Forest Research Institute, Jabalpur to improve the research activities.
- MoU has been signed between RVSKVV and Atal Bihari Bajpayee Institute of Good Governance and Policy Analysis, Bhopal on 09/11/2021.
- MoU has been signed between RVSKVV and Entrepreneurship Development Institute of India, Gandhinagar.

8. Infrastructure Development

- Girls Hostel, CoA, Gwalior inaugurated by Shri Narendra Singh Tomar, Minister, Agriculture & Farmers Welfare, GoI, New Delhi on 01.07.2021.
- Seed Building & Seed Processing Unit and Seed Storage Unit, CoA, Sehore, inaugurated by Prof. S. K. Rao, Hon'ble Vice-Chancellor, RVSKVV, Gwalior on 24.08.2021
- ATIC Building, RVSKVV, Gwalior, inaugurated by Shri Gangu Bhai Patel, Hon'ble Governor, Madhya Pradesh on 19.11.2021.

9. Seminars/Workshops Organized

- National webinar on "**weed science research in India: Way forward and scope for entrepreneurship opportunity"** was organizedin the month of March, 2021 under AICRP-WM



S.N.	Date	Place	Description	Photograph
1.	22.06.2021	KVK Jhabua	Kadaknath Entrepreneurship Meet	
2	July 15-16, 2021.	Biotechnology Centre, RVSKVV, Gwalior	Organized training on "Recent Trends in Functional Genomics" at Department of Plant Molecular Biology & Biotechnology, Biotechnology Centre, RVSKVV, Gwalior on 15-16, July, 2021. Training programme was based on absolute quantification for reliable functional genomics approach using digital PCR technology. Digital PCR is a novel technology that provides much more data from a single reaction mixture than qPCR. Training was attended by 30 MBBS students/ doctors from Gajraja Medical	 

			College, Gwalior and 35 PG and PhD students from College of Agriculture, Gwalior (MP).	
3	31/03/2021	College of Horticulture, Mandsaur	Angoor utpadan evm Prasahskarndwara Kusal Vikash under DG SCSP	

10. Award and Recognition

S.N.	Name of Scientists	Date	Name of award	Name of Society/ Agency
1.	Abhay Singh, NICRA, Ningnoti	12/04/2021	Best Dryland farmer Award (ICAR-CRIDA): 2020-21	37th Foundation Day: ICAR – CRIDA, 2020-21
2.	AICRPDA Team Indore	16/07/2021	VasantraoNayak award -2020	ICAR, Foundation Day: 2020-21
3.	Dr. Ekta Joshi	25-26 Sep 2021	Best Oral Presentation Award	Mahima Research Foundation and Social Welfare, Banaras Hindu University, Varanasi
4.	Dr. Om Singh	5-7 Aug, 2021	Young Scientist Award in Fruit Science	Agro Environmental Development Society, Rampur, Uttar Pradesh
5.	Dr. I S Tomar	29.12.2021	Utkrasth Vaigyanik Samman – Krishak Vandana	Krishak Vandana, Farmars Magazine MP
6.	Dr Sanjay Kumar Sharma		Prof Sant Singh Memorial Award 2021	Indian Society of Soil Science, ICAR, New Delhi

11. Visits abroad: Nil

12. Publications: Research Papers/Books/Book Chapters/Teaching Manual / Souvenir /Popular Articles

- Shaktawat, R.P.S.and Chundawat, G.S.(2021).Technological and Extension Yield Gaps in Oilseed crops in Mandsaur District of Madhya Pradesh. *J.of Krishi Vigyan.*9(2): 234-237
- Chundawat, G.S.: Singh, S.B. and Patel, R.P.(2021).Field bioefficacy of Flonicamid against sucking insect pests of Soybean *(Glycinmax(L.)* Murril). Journal of Plant Development Science.13(6):363-368
- Reeta Mishra and Satyendra Pal Singh. Reduction in food loss through storage of pulses in hermatic bags. Journal of Community Mobilization and Sustainable Development Vol. 16(1), January-April, 2021.Pg.no.29-32.J158ISSN2230-9047
- Suraj Mali, Sanjay Tiwari and Ranjan Laik. “Influence of organic and in organic amendments and their combination on macronutrient (Zn,Cu,Fe,MnandBoron)
- Up take in grainands traw of variousrice genotypes under Sodic soils of Bihar” (2020). Journal of Pharmacognosy and Phytochemistry,9(5),pp.444-454.

- Visen, Damini; Kumar, A.; Sonkar, Priyamvada and Gallani, Roshan. (2021). Performance of standard chrysanthemum (*Dendranthema grandiflora* Tzvelev) cultivars for growth and post-harvest life under Malwa region of MP. *The Pharma Innovation.* 10(12): 280-282
- Choudhury, B. H.; Islam, S. and Singh Om (2021). Traditional knowledge of indigenous leafy vegetables: A study of herbal medicines and vegetables used by the people of Jorhat district, Assam (India). The Pharma Innovation Journal; SP-10(10): 551-554.
- Shakthi P.N., K.C. Meena, I.S. Naruka, D.K. Patidar, Nitin Soni and K. Alam Khan (2021). Genetic Variability, Heritability, Genetic Advance and Correlation Coefficient Study in Fenugreek Cultivars (Trigonella foenum-graecum L.). Biological Forum – An International Journal,13(3b): 71-75.
- Yamanur, M.M., Kanpure, R.N., Annigeri, S.V. and Dwivedi, S.K. (2021). Effect of different edible coating materials on quality and shelf-life of guava (*Psidium guajava* L.) cv. L- 49. *The Pharma Innovation Journal* 10(12): 2408-2411.
- U.Saxena, S. Raddy, M.K.Saxena&P. Kumari. Identification ofSorghum parental lines with highphenotypic stability using GGE, biplot analysis in Central India. Journal of Crop and Weed: 15 (3); p19-24; 2019
- M.K.Saxena, UshaSaxena. Safflower in Madhya Pradesh- an Overviewof 25 years of research and development. IJCRT; 9(3), p31-38, 2021
- Shaktawat, R.P.S. and Chundawat, G.S. (2021). Technological and Extension Yield gaps in Oilseed crops in Mandsaur District of Madhya Pradesh. *J. of Krishi Vigyan.*9(2): 234-237.
- Chundawat, G.S.: Singh, S.B. and Patel, R.P. (2021). Field bio efficacy of Flonicamid against sucking insect pests of Soybean *(Glycin max (L.)*Murril). Journal of Plant Development Science. 13(6):363-368.

12.1 Papers Published in National and International Journals

S. N.	Author (s)	Title	Journal	Vol.	Page No.	Year	NASS Rating
1	U.Saxena, S. Raddy, M.K.Saxena&P. Kumari	Identification ofSorghum parentallines with highphenotypic stability using GGE, biplot analysis in Central India	Journal of Crop and Weed	15(3)	19-24	2019	5.84
2	M.K.Saxena, UshaSaxena, Sudhanshu Jain,	Safflower in Madhya Pradesh- an	Internationaljournal of Creative Research	9(3)	31-38	2021	5.97impact factor

	YashwantIndrapurkar& H.L. Khapadia	Overviewof 25 years of research and developmen t	thpughts (IJCRT)				
3	**Singh, Y.P.,** Tomar, Sandeep S., Singh, S.	Effect of precise levelling, tillage and seed sowing methods of pearlmillet based cropping systems on productivity and soil quality in dryland area	*Soil and Tillage Research*	212(3):	10506 9.	202 1	**NAAS Score-10.6)**
4	Damar Usha, Sharma RK , Kushwah SS and Singh OP	Influence of varieties, organic manures and inorganic fertilizers on growth, yield and quality of okra (*Abelmoschu s esculentus* L.)	Vegetable Science	48 (1)	73-78	202 1	nil
5	Pandey AK; Khalasi Devang N; Kumar S; Ahlawat TR and Dwivedi SK	Accumulatio n of essential nutrients by various cultivars of mango (*Mangifera indica* L.) during different growth	Progressive Horticulture	53 (1)	36-40	202 1	4.49

		stages.					
6.	Visen, Damini; Kumar, A; Sonkar, P and Gallani, R	Performance of standard chrysanthemum (*Dendranthema grandiflora* Tzvelev) cultivars for growth and post harvest life under Malwa region of MP	*The Pharma Innovation*	10 (12)	280-282	2021	5.23
7.	Choudhury, BH; Islam, S and Singh Om	Traditional knowledge of indigenous leafy vegetables: A study of herbal medicines and vegetables used by the people of Jorhat district, Assam (India)	The Pharma Innovation	10 (10)	551-554	2021	5.23
8.	Shakthi PN; Meena KC; Naruka IS; Patidar DK; Soni N and Khan KA	Genetic Variability, Heritability, Genetic Advance and Correlation Coefficient Study in Fenugreek Cultivars (*Trigonella foenum-graecum* L.).	Biological Forum – An International Journal	13 (3b)	71-75	2021	5.11

9.	Chandravanshi OK, Meena KC, Khan KA, Soni N and Patidar DK	Responses of organic manures and inorganic fertilizers on growth, yield and economics of turmeric (*Curcuma longa* Linn.).	Journal of Medicinal Plants Studies	9(3)	243-247	2021	3.53
10.	Meena, N; Kanpure, RN; Patel, RP; Kachouli, BK and Patidar BK	Effect of foliar spray of nutrients and plant growth regulator on vegetative, reproductive growth, physical character and leaf chlorophyll content of Acid Lime (*Citrus aurantifolia* Swingle).	*Frontiers in Crop Improvement*	9	995-999	2021	4.67
11.	Yamanur, MM; Kanpure, RN; Annigeri, SV and Dwivedi, SK	Effect of different edible coating materials on quality and shelf-life of guava (*Psidium guajava* L.) cv. L- 49.	*The Pharma Innovation*	10 (12)	2408-2411	2021	5.23
12	Singh, Mahendra, Kumar, Manish, Tomar, I.S., Marya, Jagdeesh	**Evaluation of Atrazin50 % WP**	**Journal of AgriSearch**	**8 (4)**	**311-317**	**2021**	4.71

		Herbicide for weed control in Maize of Jhabua HillsZone of Madhya Pradesh					
13	Singh, Mahendra, Kumawat, Narendra, Tomar, I.S., Kumar, Chandan, Singh Dharmendra	Innovative Technological Interventions coupled with propermanagement is the need of the day for producing summer Green Gram in the Tribal District of Madhya Pradesh	J Krishi Vigyan	**10 (1)**	**133-137**	**2021**	4.55

S.No	**Research Publications in referred journals**	**NAAS Journal ID**	**NAAS Journal Rating**
14.	Akash Sharma, M.K. Tripathi, Sushma Tiwari, Neha Gupta, Niraj Tripathi, Nishi Mishra (2021) Evaluation of Soybean (Glycine max L.) Genotypes on the Basis of Biochemical Contents and Anti-oxidant Enzyme Activities. Legume Research 10.18805/LR-4678	L014	6.59
15.	Pramanik, A., Tiwari, S., Tripathi, M.K., Mandloi, S. and Tomar, R.S. (2021). Identification of Groundnut Germplasm Lines for Foliar Disease Resistance and High Oleic Traits using SNP and Gene-based Markers and Their Morphological Characterization. Legume Research. DOI:	L014	6.59

	10.18805/LR-4666.		
16	Mishra, N., Tripathi, M.K., Tiwari, S., Tripathi, , N., Gupta, N. and Sharma, A. (2021). Morphological and Physiological Performance of Indian Soybean [Glycine max (L.) Merrill] Genotypes in Respect to Drought. Legume Research. DOI: 10.18805/LR-4550.	L014	6.59
17	Shyam, C.; Tripathi, M.K.; Tiwari, S.; Tripathi, N.; Solanki, R.S.; Sapre, S.; Ahuja, A.; Tiwari, S. In Vitro Production of Somaclones with Decreased Erucic Acid Content in Indian Mustard [Brassica juncea (Linn.) Czern&Coss]. Plants 2021, 10, 1297. https://doi.org/10.3390/ plants10071297	P129	9.94
18	Tripathi, M.K.; Tripathi, N.; Tiwari, S.; Tiwari, G.; Mishra, N.; Bele, D.; Patel, R.P.; Sapre, S.; Tiwari, S. (2021) Optimization of Different Factors for Initiation of Somatic Embryogenesis in Suspension Cultures in Sandalwood (*Santalum album* L.). Horticulturae, 7, 118. https://doi.org/10.3390/horticulturae7050118	H020a	8.33
19	Shyam, C., Tripathi, M. K., Tiwari, S., Ahuja, A., Tripathi, N. and Gupta, N. (2021) In vitro regeneration from callus and cell suspension cultures in Indian mustard [*Brassica juncea* (Linn.) Czern&Coss] International Journal of Agricultural Technology 2021Vol. 17(3):1095-1112	-	-
20	Nishi Mishra, Manoj Kumar Tripathi, Sushma Tiwari, Niraj Tripathi, Neha Gupta, Akash Sharma and Ravindra Singh Solanki (2021) Evaluation of Diversity among Soybean Genotypes via Yield Attributing Traits and SSR Molecular Markers. Current Journal of Applied Science and Technology 40(21): 9-24	C186	4.71
21	Nishi Mishra, M. K. Tripathi, Niraj Tripathi, Sushma Tiwari, Neha Gupta and Akash Sharma (2021) Validation of Drought Tolerance Gene-linked Microsatellite Markers and Their Efficiency for Diversity Assessment in a Set of Soybean Genotypes. Current Journal of Applied Science and Technology 40(25): 48-57	C186	4.71
22	Sonali Singh, M. K. Tripathi, Sushma Tiwari, Niraj Tripathi, G. Tejovathi and Ashok Ahuja (2021) Encapsulation of Nodal Segments for Propagation and Short-term Storage of Giloe (*Tinospora cordifolia*Willd.): A Medicinally	C186	4.71

	Important Plant Species.Current Journal of Applied Science and Technology 40(30): 15-24		
23	ChitralekhaShyam, M. K. Tripathi, Sushma Tiwari and Niraj Tripathi (2021) Genetic Components and Diversity Analysis in Indian Mustard [*Brassica juncea* (Linn.) Czern&Coss] Based on Different Morpho-physiological Traits. Current Journal of Applied Science and Technology 40(20): 34-57	C186	4.71
24	M. L. Choudhary, M. K. Tripathi, Neha Gupta, Sushma Tiwari, Niraj Tripathi, Prerana Parihar and R. K. Pandya (2021) Screening of Pearl Millet [*Pennisetum glaucum* [L.] R. Br.] Germplasm Lines against Drought Tolerance Based on Biochemical Traits. Current Journal of Applied Science and Technology 40(23): 1-12	C186	4.71
25	Pradeep Kumar Yadav, Sushma Tiwari, Aasha Kushwah, M K Tripathi, Neha Gupta, R S Tomar, V S Kandalkar (2021)Morpho-physiological characterization of bread wheat genotypes and their molecular validation for rust resistance genes *Sr2, Sr31* and *Lr24*.Proceedings of the Indian National Science Academy https://doi.org/10.1007/s43538-021-00049-y	P161	-
26	Mishra, N., Tripathi, M. K., Tripathi, N. Tiwari, S., Gupta, N., Sharma, A. and Shrivastava, M. K. (2021).Changes in biochemical and antioxidant enzymes activities play significant role in drought tolerance in soybean. International Journal of Agricultural Technology 17(4):1425- 1446	-	
27	Y.P. Singh, Sandeep S. Tomar and Sudhir Singh (2021) Effect of precise levelling, tillage and seed sowing methods of pearlmillet based cropping systems on productivity and soil quality in dryland area *Soil & Tillage Research* journal homepage: www.elsevier.com/locate/still	S061	**(NASS Rating 10.60)**
28.	Singh, Y.P., Sinha, R. B. Singh, S. (2021). Performance of tree species and natural vegetation after rain water conservation in ravine land based on biomass, carbon stock and soil properties. *Range Management and Agroforestry*. 42 (1): 7-14.	R009	**(NAAS Score-6.28)**

12.2 Research Papers presented in the Seminar/Symposia

S.N.	Author (s)	Title	Conference Proceedings	Page No.	Place	Year	National / International
1	**Ekta Joshi**, A K Vyas, Shiva Dhar, Anchal Dass, Kailash Prajapati, Dinesh Jinger and D S Sasode	Macro-and micro-nutrient uptake pattern and their use efficiencies for maize (*zea mays* l.) in maize–wheat cropping system under nutrient omissions.	**Souvenir** Recent Advances in Agriculture, Engineering and Biotechnology for Food Security, 25-26 Sep 2021, Mahima Research Foundation and Social Welfare, Banaras Hindu University, Varanasi	27-28	**BHU, Varanasi**	2021	International
2	**EKTA JOSHI**, D.S. SASODE, DINESH JINGER, KIRAN REDDY, VARSHA GUPTA AND SUBHRASINI LENKA	Optimizing crop geometry and nutrition management of *kharif* groundnut (Arachis hypogaea L.) for better yield, economics and higher water productivity	Agri-Innovations to Combat Food and Nutrition Challenges. PJTSAU, Hyderabad, Telangana, India 23-27 November 2021, Volume II	735-737	PJTSAU, Hyderabad, Telangana, India	2021	International
3	DEEP SINGH SASODE, VARSHA GUPTA, **EKTA**	Weed management practices and land configuration effect on weed	Agri-Innovations to Combat Food and Nutrition Challenges. PJTSAU, Hyderabad,	486-488	PJTSAU, Hyderabad, Tela	2021	International

	JOSHI, B S KASANA AND Y.K.SINGH	flora and productivity of mustard in pearl millet-mustard-cowpea cropping system	Telangana, India 23-27 November 2021 Volume I		ngan a, India		
4	VARSHA GUPTA, DEEP SINGH SASODE, **EKTA JOSHI**, B.S. KASANA AND Y.K. SINGH	Management of problem weed *Cuscuta campestris* in berseem fodder crop (*Trifolium alexandrinum* L.)	Agri-Innovations to Combat Food and Nutrition Challenges. PJTSAU, Hyderabad, Telangana, India 23-27 November 2021 Volume II	1040 - 1041	PJTS AU, Hyde raba d, Tela ngan a, India	2021	Internati onal

12.3 Research Papers accepted for publication

12.4 Abstract published in various Conference/Symposia

12.5 Books

1. Nishi Mishra, M. K. Tripathi, Niraj Tripathi, Sushma Tiwari, Neha Gupta and Akash Sharma (2021) Screening of Soybean Genotypes against Drought on the Basis of Gene-Linked Microsatellite Markers Innovations in Science and Technology Vol. 3 Print ISBN: 978-93-5547-469-8, eBook ISBN: 978-93-5547-470-4DOI: 10.9734/bpi/ist/v3/2454C
2. Tomar R S, **Sushma Tiwari**, Prabha Singh, K. Bhojaraja Naik, Anil Kumar (2021). Genome Editing for Improvement of Wheat and Millets. Book Genome Editing in Plants 1 stEdn. CRC press **Taylor and Francis Group**. 12 pages. ISBN9780367815370
3. Kumar A., Tomar RSS, Ajay Chandra, Dinesh Joshi, **Sushma Tiwari,** Prabha Singh, Rakesh Kumar Choudhary, Vishnu Kumar(2021) Genomics-Assisted Improvement of Grain Quality and Nutraceutical Properties in Millets. In: Kumar A., Tripathi

M.K., Joshi D. Kumar V. (eds) Millets and Millet Technology. **Springer,** Singapore. https://doi.org/10.1007/978-981-16-0676-2_17

12.6 Book Chapters

S.N.	Author (s)	Title	Book Name	Page No.	Year	ISBN No.
1	**Ekta Joshi**, Kailash Prajapat, Dinesh Jinger, Deep Singh Sasode and Neelam Singh	Nutrient omission plot technique and its role in determining the nutrients rate and limiting nutrient in SSNM	Precision crop and resource management	41-46	2019	978-93-83168-45-3
2	**Ekta Joshi**, Priyadarshni A. Khambalkar, Akhilesh Singh, Pragati Agarwal, Neelam Singh, Shashi S. Yadav, D.S. Sasode, Popiha Bordoloi and S. S. Bhadauria	Recent Advances in Agricultural Science and technology for sustainable India Part I	Climate Change: Perspectives And Impact On Indian Agriculture	89-99	2021	978-81-953029-5-6
3	**Ekta Joshi** , Pragati Agarwal , D.S. Sasode, Priyadarshini Khambalkar, Popiha Bordoloi, Dinesh Ginger and Neeshu Joshi	Recent Advances in Agricultural Science and technology for sustainable India Part II	Aquaponics: An Innovative Sustainable Food Production Farming System	72-78	2021	978-81-953029-5-6
4	M. L. Choudhary, M. K. Tripathi, Sushma Tiwari, R. K. Pandya, Neha	Morpho-physiological and Molecular Characterization of Pearl Millet [*Pennisetumglaucum*	New Visions in Science and Technology Vol. 5 (Chapter 4)	-	2021	978-93-5547-120-8 (Print) 978-93-

	Gupta, Niraj Tripathi and Prerana Parihar	(L.) R. Br.] Germplam Lines for Drought Tolerance.				5547-121-5 (eBook)
5	C. Shyam, M. K. Tripathi, S. Tiwari, A. Ahuja, N. Tripathi and N. Gupta	Plant Regeneration in Indian Mustard [*Brassicajuncea* (Linn.) Czern&Coss]	Experimental Investigation Current Topics in Agricultural Sciences Vol. 3 (Chapter 9)	-	2021	ISBN: 978-93-5547-186-4 (Print) 978-93-5547-187-1 (eBook)
6	N. Mishra, M. K. Tripathi, N. Tripathi, S. Tiwari, N. Gupta, A. Sharma and M. K. Shrivastava	Role of Biochemical and Antioxidant Enzymes Activities in Drought Tolerance in Soybean	A Recent Study Print Current Topics in Agricultural Sciences Vol. 3 (chapter 8)	-	2021	978-93-5547-186-4 (Print) 978-93-5547-187 (eBook)
7	Gyanendra Tiwari, M. K. Tripathi, Sushma Tiwari, Niraj Tripathi, Devi Singh Uikey and R. P. Patel	In vitro Production of Secondary Metabolites Reserpine and Ajmalicine in *RauvolfiaSerpentina* (L.) Benth.	Current Aspects in Pharmaceutical Research and Development Vol. 4 (Chapter 12)	-	-	978-93-5547-035-5 (Print) 978-93-5547-095-9 (eBook)
8	Sushma Tiwari, M. K. Tripathi, R. S. Tomar and Ashok Ahuja	Plant Genomic DNA Isolation: An Important Technology for Marker Assisted Selection.	Recent Progress in Plant and Soil Research Vol. 4 (Chapter 7)		2021	978-93-5547-359-2 (Print) 978-93-5547-361-5 (eBook)
9	Manoj Kumar Tripathi, Sushma	Plant Tissue Culture Techniques for Conservation of	Current Topics in Agricultural Sciences Vol. 4		2021	978-93-5547-075-1

	Tiwari, Niraj Tripathi, Gyanendra Tiwari, Deepa Bhatt, MeghaVibhute, Neha Gupta, Nishi Mishra, Prerana Parihar, Purnima Singh, Akash Sharma, Ashok Ahuja and Sharad Tiwari	Biodiversity of Some Plants Appropriate for Propagation in Degraded and Temperate Areas.	(Chapter 4)			(Print) 978-93-5547-083-6 (eBook)
10	Ashok Ahuja, Manoj Kumar Tripathi, Sushma Tiwari, Niraj Tripathi, Gyanendra Tiwari, Nishi Mishra, Shashank Bhargavand Sharad Tiwari	Recent Advancements on Callus and Cell Suspension Cultures	An Effectual Reserve for the Production of Pharmaceutically Significant MetabolitesCurrent Aspects in Pharmaceutical Research and Development Vol. 6 (Chapter 9)		2021	978-93-5547-285-4 (Print) 978-93-5547-293-9 (eBook)
11	Nishi Mishra, Manoj Kumar Tripathi, Sushma Tiwari, Niraj Tripathi, Neha Gupta, Akash Sharma, Ravindra Singh Solanki a and Sharad Tiwari	Characterization of Soybean Genotypes on the Basis of Yield Attributing Traits and SSR Molecular Markers.	Innovations in Science and Technology Vol. 3 (Chapter 7)		2021	978-93-5547-469-8 (Print) 978-93-5547-470-4 (eBook)

12.7 Teaching Manual/Bulletin

S.N.	Author (s)	Title	Year	ISBN No./Ref. No.
1	Soni, Nitin, Patidar, D.K., Khan K.A. and Meena K.C. (2020)	उद्यमिता विकास हेतु अंगूर की खेती एवं प्रसंस्करण	2020	RVSKVV/ PME Cell/2020/126

12.8 Popular articles

1. **सरसों फसल की उन्नत उत्पादन तकनीक (विस्तार पत्रिका),** राष्ट्रीय खाद्य सुरक्षा मिशन (तिलहन) योजनान्तर्गत, उपसंचालक कृषि, किसान कल्याण तथा कृषि विकास, जबलपुर एवं कलेक्टर, जिला–जबलपुर (म.प्र.) प्रकाशक–कृषक चेतना, जबलपुर
2. **उड़द की उन्नत उत्पदन तकनीक**, कृषक आराधना, कृषि जगत का प्रमुख साप्ताहिक अखबार पृष्ठ क्र. 10, ग्वालियर, सोमवार 19 जुलाई से 25 जुलाई 2021

4.9 Activities of Seed Production Farms:

RVSKVV is also making sincere efforts to generate cutting edge technology for enhancing crop productivity. Thrust is also farm seed replacement in the state by producing quality seeds of important crops. It is worthwhile to mention that RVSKVV has produce 9051.59 q. **seeds with different crops during 2021-22** which helped the farmers in a big way for seed replacement and thereby enhancing the productivity of crops.

The seed activities in the University are managed with the help of twenty seven seed farms, which are located in twenty four districts and six agro-climatic zones of Madhya Pradesh. Out of the total farm area of 1210.85 ha. only 64.45 % (780.3 ha.) is under cultivation. Among the cultivated area 13.39 % and 34.59 % is irrigated and partially irrigated, respectively. Rest of the cultivated area is under rainfed farming.

The area under plantation crop is about 82.02 ha. Rests of the farm area is fallow or pasture land or occupied by road and buildings.

Breeder seed produced in Kharif and Rabi crops:

S. No.	Crops	Qty. (q.)
(A) Kharif crops		
1.	Soybean	2808.5
2.	Green gram	44.67
3.	Black Gram	4.84
4.	Pearl Millet	-
5.	Sorghum	7.43
6.	Ground Nut	-
7.	Pigeon Pea	45.94
8.	Paddy	383.1
9.	Til	5.31
Total (A)		**3299.79**
(B) Rabi crops		
1.	Wheat	2155.0
2.	Gram	3387.0
3.	Lentil	122.0
	Pea	8.6
4.	Rapeseed and Mustard	79.2
	Safflower	-
	Maize	-
Total (B)		**5751.80**
Grand Total (A+B)		**9051.59**

5. EXTENSION ACTIVITIES:

RVSKVV, Gwaliorhas 27 KrishiVigyanKendras (KVKs) under its jurisdiction established with the financial support of ICAR.Out of which, 22 are under the administrative control of the University and five under NGOs/ICAR institute, which are functioning under technical guidance of Directorate of Extension Services of the University. The Directorate is committed to serve the farmers through its well organized network of KrishiVigyanKendras, which play a vital role in dissemination and transfer of recent emanated research technologies in agriculture, horticulture, livestock production and allied fields.

1. Major Achievements of KVKs - 2021

On Farm Trial (OFT)

The KVKs conducted **440** On Farm Trials for assessment and refinement of new technologies generated by RVSKVV, Gwalior, other Universities and ICAR Institutes as per local needs and micro farming situations. A total of **5586** farmers were the direct beneficiaries of OFTs as their fields/units/animals were chosen for conducting the trials.

Frontline Demonstrations (FLD)

Frontline demonstrations are conducted to demonstrate the potentials of recent and location specific proven technologies of agriculture and allied fields among farming community and extension functionaries for up-scaling in the larger area as well as for generating the production data along with feedback for the research system and planners. During the reporting year, a total number of 3274 beneficiaries got direct benefitsthrough FLDs conducted on various oilseeds, pulses, cereals, vegetables crops and cash crops, agro forestry and other improved farm machineries covering the total area of 1125.43 ha. In addition to these FLDs, 1982 beneficiaries got direct benefits through demonstrations conducted in 885.80 ha area on various oilseed and pulse crops under Cluster Frontline DemonstrationsProgramme. Moreover, demonstrations on 09 important income generating enterprises like LPM, kitchen garden, home science aspects, poultry, farm machinery, vermicompost etc. were also conducted forbenefitting 902 stakeholders directly.

Training Programmes

Training has been considered a key component for updating the knowledge and inculcating new skillsamong the participants. The great emphasis has been given on organizing trainings both for the farmers as well as for the extension workers working at grassroots level. A total of**1962** trainingprogrammes were organized during the year 2021involving**55833**beneficiaries including farmers and farm women, rural youth, extension personnel and sponsored from different agencies.

Other Extension Activities

A large number of extension activities are being regularly organised by KVKs at their campuses and in the villages. These extension activities include method demonstrations for small group to KisanMelas for huge gatheringwith the objective of creating awareness about advancedagricultural technologies. It includes use of old communication techniques of poster exhibition to latest technique of using SMS and social media for transfer of technology. Broadly, these activities are for creating awareness and providing advisory based services like farm advisory services, lectures delivered by resource persons,animal health camps and vaccination camp, exhibitions, extension literature and popular article, media based activities like CD/DVD, film show, news paper coverage, radio talks and TV talks, meeting based like ex-trainee Sammelan, celebration of important days, club meet, farmers' seminar, field day, group meet, Gosthi, Mela and SHG meeting etc.The KVKs are showcasing the available technologies to the district level extension functionaries and farmers through a variety of events and activities. A total of **24831** extension activities were organised by the KVKs during 2021 benefitting **668181** beneficiaries.

Production and Supply of Technological Inputs by KVKs

Timely and adequate availability of the quality seed and planting material is very essential to ensure better yield, but timely and quality supply of it remains as a major constraints to the farmers. Therefore, it was taken as a challenge and appropriate steps were taken at the KVKs for helping the farmers in this regard. The KVKs produced **5827.64** q seed of different crops during 2021-22. Moreover, they also produced and sold **981835 seedlings and saplings** of various vegetables, fruits, ornamental and medicinal plants. The details of various technological inputs and volume produced are as follows;

Bio Products

Bio Product	Total Quantity produced
Vermi compost	6423qtl
Cow dung	625qtl
Nadep	280 qtl
Azolla	4397.5kg
Earth Worm	1014 kg
Bio pesticide	242 kg
Honey	35 kg

Livestock and Products

Bio Product	Total Quantity produced
Dairy animals (No.)	118
Milk Yield - Cow, Buffalo etc. (Litre)	34678
Fish (Kg)	500
Poultry- Birds (No.)	6756
Chicks etc. (No.)	29378
Poultry - Egg (No.)	1572
Goat(No.)	79

Initiatives on application of Information Communication Technology (ICT) for ToT

Kisan Mobile Advisory (KMA) is the easiest ICT tool working successfully for dissemination of latest information to the farmers and farm women. This is a unique programme for making linkages between different stakeholders who are key players for making agriculture more productive.During the year 2021, a total of **1758** farm advisory were issued by the KVKs from which **1244536**beneficiarieswere directly benefited.

In addition, KVKs are also providing audio, video and photo based advisories through Facebook, WhatsApp, Twitter and other popular social media platforms.

Awards and Recognition

KVK Name	Name of award/awardees	Type of award (Ind./Group/Inst./Farmer)	Award category (local/ Regional / National)	Awarding Organizations	Amount received (Rs.)
Dhar	PanditDeendayal Upadhyay Rashtriya Krishi Vigyan Protsahan Puraskar (National) 2020	Institution	National	Indian Council of Agricultural Research (ICAR), New Delhi	350000

RVSKVV KRISHAK FELLOW SAMMAN - 2021

The university has given away three **RVSKVV-Krishak Fellow Samman -2021** during Foundation Day of the University to the best performing farmers of Madhya Pradesh.

Flagship Programmes of ICAR/Government of India implemented:

Cluster Front Line Demonstrations (CFLD) on Oilseed and Pulses

The CFLD programme conducted by the KVKs was satisfactory and properly motivating farmers for growing oilseed and pulses.

Agriculture Technology Information Centre (ATIC)

The Agricultural Technology Information Centre (ATIC) is a 'single window' for dissemination of information and support system for various innovative and farm worthy technologies evolved at the University and Agricultural Research System of India in the pursuit of research and development. The RVSKVV (ATIC) has started functioning under Directorate of Extension Services of the inauguration of the building by Hon'ble Governor of Madhya Pradesh on November 20, 2021.

Raj-Vijay Kitchen Garden Kit

Directorate of Extension of Services Rajmata Vijayaraje Sciendia Krishi VishwaVidhyalaya, Gwalior (MP) has launched the new initiative for nutritional security of farming community namely “Raj Vijay Kitchen Garden Kit”. The Kitchen Garden kit is beneficial for ensuring nutritional security by providing fresh vegetables at household level. It is a pioneer initiative of VishwaVidhyalaya with a big goal to fight with malnutrition at household level. The Directorate has produced and distributed Kitchen Garden Kit 25000 in current year. The kit has been provided to the farming community through KVKs, ATIC and various other units of the University

Attracting and Retaining Youth in Agriculture (ARYA)

RVSKVV-Krishi Vigyan Kendra Morena organized seven days two training programme under ARYA scheme on mushroom production and its value addition for income enhancement and employment generation during October 11-17, 2021&Bee keeping under ARYA schemefor unemployed rural youths of the district during

6. LIBRARY AND DOCUMENTATION SERVICES:

Library system of different constituent Colleges of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior continued to play the pivotal role in dissemination of information across the University.

Entire academic community continued to harness the benefits of this useful information system. Textbooks, Reference books, Competitive examination books, digital library e-books, scientific periodical, thesis, report, encyclopedias, CDs relevant to teaching and research activities etc. have been stocked in the library of constituent Colleges of the University.

Books and Journals available:

S.No.	Particulars	No. of books
1.	Total No. of books available in different College Library of Vishwa Vidyalaya.	141459.00
2.	New books purchased during 2021-22	0.00
3.	*e*-Books	146

Central Library: The fund provided by ICAR has been utilized by the Central Library of the University. The much awaited and highly needed books on various subjects have been purchased. The basic infrastructural facility has been developed that has made the academic atmosphere of the libraries more conductive for the research scholars, students and teachers alike. The computerization of all the e-libraries of Vishwa Vidyalaya has made the functioning smoother now, therefore each and every user is assisted promptly.

The e-library is fully functional connecting the local user through World Wide Web to the global scenario of knowledge. The good quality book cases keep study material safe and intact, and the comfortable furniture is a kind of great relief to the voracious readers**.** In central library total Books are 10341, 9718 printed books, 438 e-books, 07 printed magazines, 1303 gifted books, 15 priented journal and 52 E-magazines were available in Central library of VishwaVidhyalaya.

7. INFRASTRUCTURE DEVELOPMENT:

1. College of Agriculture, Gwalior

S.No.	Department	Infrastructure Development
1	Soil Science & Agricultural Chemistry	Microbiology lab has been Renovated by IDP- NAHEP, RVSKVV, Gwalior
2	Department of Plant Molecular Biology & Biotechnology	Biotechnology Centre, Gene Bank

2. College of Agriculture, Sehore

प्रगति विवरण 2021-2022

क्र.	निर्माण कार्यों का नाम	अनुमानित लागत	संविदा कार्य का नाम	कार्य आदेश क्र./ दिनांक	समय अवधि	टिप्पणी
1.	Work order for renovation of auditorium at RAK COA sehore	5 lakh	M/s Bhrdwaj const.	2501 30-11-2019	6 months	कार्य पूर्ण।
2.	Work order for renovation of post harvest Management of turmeric & Pulses at RAK college sehore.	10 lakh	M/s A. S. Builder	1873 15-12-2020	6 months	कार्य पूर्ण।
3.	Renovation of 2nd Year class room	345 lakh	Shri A.S. Builder and contractor	30-02-2022	6 months	कार्य प्रगति पर है।
4.	Construction of AC seed store	50 lakh	M/s Bhrdwaj Const.	426 02-07-2020	10 months	कार्य पूर्ण।
5.	Construction common incubation center.	99 lakh	M/s Bhrdwaj Const.	2144 25-11-2021	10 months	कार्य प्रगति पर है।
6.	NAHEP Project के अंतर्गत a. Labs roof water proofing Adhesive /Paint Plant pathology lab, Agronomy & Breeding lab, Horticulture lab, Soil Science lab, Entomology lab. b. Roof water proofing of smart classes 1st, 2nd, 3rd Year smart class room, Seminar hall, Physiology class room. 1. Flooring labs Soil Science. 2. Flooring labs Plant pathology. 3. Aluminum Jali. 4. Lectures labs electric fittings. 5. Fals ceiling 1st, 2nd, 3rd, Year. 6. 1st year class painting .	40 lakh	M/s Bhrdwaj Const.	710 21-10-2021	10 months	कार्य पूर्ण।
	7. Seminar hall Electric fittings. 8. Electric fitting, Fall ceiling and language room, NAHEP Office.					

Sub- Engineer
RAK college of Agriculture
Sehore

8. GENERAL ADMINISTRATION:

8.1 **General Administration:** The Board of Management (BoM) of RVSKVV is the apex-body, empowered to make policy decisions with the Vice-Chancellor as its Chairperson who is also the Executive Head of the University. The composition of BoM is given below:

BOARD OF MANAGEMENT

NAME OF THE MEMBERS
Principal Secretary Farmer Welfare and Agriculture Development MP Govt., Mantralaya, Vallabh Bhawan, Bhopal (M.P.)
Secretary Department of Finance MP Govt., Mantralaya, Vallabh Bhawan, Bhopal (M.P.)
Dr. Arvind Kumar Shukla Vice-Chancellor RVSKVV, Gwalior (M.P.)
Mr. Arvind Singh
Mr. lakhan Singh
Mr. Virendra Rahguwanshi
Mr. Rajendra Singh Rajpoot
Dr. Amresh Chandra
Dr. Praveen Shinde
Dr. Sunanda Singh Raghuwanshi
Dr. Rajeev Chaudhary
Dr. P.K. Mishra
Dr. P.P. Shastry
Mr. Chatur Singh Gurjar
Mr. Atul Sharma
Registrar RVSKVV, Gwalior (M.P.)

ACADEMIC COUNCIL

The Academic Council is vested with the responsibility of implementing and monitoring all the academic programmes. The council is headed by the Vice-Chancellor, as chairperson and consists of Dean Faculty, Director Instructions, Director Research and Director Extension, University Head of Departments and Professors as members. The composition details are given below:

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Dr. Arvind Kumar Shukla Vice-Chancellor RVSKVV, Gwalior (M.P.)	**Chairman**
2	Dr. D.H. Ranade Dean, Faculty of Agriculture RVSKVV, Gwalior (M.P.)	Member
3	Dr. S.K. Sharma Director, Research Services RVSKVV, Gwalior (M.P.)	Member
4	Dr. Y.P. Singh Director, Extension Services RVSKVV, Gwalior (M.P.)	Member
5	Dr. S.P.S. Tomar Director Instruction & Student Welfare RVSKVV, Gwalior (M.P.)	Member
6	Dr. Dheerendra Khare Dean, Faculty of Agriculture JNKVV, Jabalpur (M.P.)	Member
7	Dr. Pooran Gaur Professor & Head	Member
8	Dr. S.K. Trivedi Head of Department (Soil Science) College of Agriculture, Gwalior (M.P.)	Member
9	Mr. Anil Saxena Registrar RVSKVV, Gwalior (M.P.)	**Member Secretary**

ADMINISTRATIVE COUNCIL

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Dr. Arvind Kumar Shukla Vice-Chancellor RVSKVV, Gwalior (M.P.)	**Chairman**
2	Dr. D.H. Ranade Dean, Faculty of Agriculture RVSKVV, Gwalior (M.P.)	Member
3	Dr. S.K. Sharma Director, Research Services RVSKVV, Gwalior (M.P.)	Member
4	Dr. Y.P. Singh Director, Extension Services RVSKVV, Gwalior (M.P.)	Member
5	Dr. S.P.S. Tomar Director Instruction & Student Welfare RVSKVV, Gwalior (M.P.)	Member
6	Dr. Mridula Billore Dean, College of Horticulture, Mandsaur (M.P.)	Member
7	Dr. H.D. Verma Dean, College of Agriculture, Sehore (M.P.)	Member
8	Mr. Anil Saxena Comptroller, RVSKVV, Gwalior (M.P.)	Member
9	Dr. H.S. Bhadauria Executive Engineer, RVSKVV, Gwalior (M.P.)	Member
10	Dr. Rajesh Lekhi Head of Department (Horticulture) College of Agriculture, Gwalior (M.P.)	Member
11	Dr. M.K. Tripathi Head of Department (PMB & Bio-technology) College of Agriculture, Gwalior (M.P.)	Member
12	Registrar RVSKVV, Gwalior (M.P.)	**Member Secretary**

9. IMPORTANT EVENTS/INAUGURATIONS:

Martyr's Day

- Every year on the occasion of Martyr's Day tributes are paid to the late Rajmata Vijayaraje Scindia on 25th January at the Vishwa Vidyalaya Campus by Hon'ble Vice-Chancellor, senior officers and staff members.

Prof. S.K. Rao Vice-Chancellor & Senior Officers paying tributes to late Rajmata Vijayaraje Scindia

Independence/Republic Day Celebration

- RVSKVV, Gwalior celebrated Independence Day on 15 August 2021 and Republic Day on 26th January, 2022. Prof S.K. Rao, Vice-Chancellor unfurled the tricolor in presence of senior officers, retired personnel, invitees, staff members and students.

Prof S.K. Rao, Vice-Chancellor addressing on Independence/Republic Day Celebration

- **Girls Hostel** of RVSKVV was inaugurated on 01 July, 2021 by **Hon'ble Shri Narendra Singh Tomar,** Union Minister of Agriculture and Farmers Welfare, Govt.

of India as Chief Guest in the presence of **Hon'ble Shri Pradhuman Singh Tomar,** Minister of Energy, Govt. of M.P., **Hon'ble Shri Vivek Narayan Shejwalkar,** Member of Parliament, Gwalior, **Hon'ble Shri Bharat Singh Kushwah,** Minister of State for Horticulture & Food Processing, Govt. of M.P. and **Dr. R.C. Agrawal,** Deputy Director General (Agril. Education) ICAR, New Delhi.

- The Seven Convocation of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior was held on November 20, 2021. Hon'ble Shri Mangubhai Patel, Governor of Madhya Pradesh and Chancellor, RVSKVV, Gwalior presided over the function. Hon'ble Shri Kamal Patel, Minister, Agriculture & Farmers Welfare, Govt. of M.P, Shri Bharat Singh Kushwah, Minister, Horticulture and food processing Narmada Valley Development (independent charge) and Hon'ble Vice Chancellor, Prof S.K. Rao were the Guest of Honour, while Hon'ble Members of Board of Management and Academic Council, Directors, Deans, Faculty members, Staff, Distinguished guests and recipients of Degrees graced this event. In the Convocation, a total of 1007 students were conferred UG, PG and Ph.D. degrees and eight students received Gold Medals.

Foundation Day Celebration

- Virtual celebration of **13th Foundation Day of RVSKVV** was organized on August 19, 2021 in the presence of Hon'ble Shri Narendra Singh Tomar, Union Cabinet Minister, Agriculture and Farmers Welfare; Govt. of India as chief guest of the function. The programme was presided by Hon'ble Shri Kamal Patel, Minister, Farmer Welfare and Agricultural Development, Govt. of M.P. DR. S.K. Choudhary, Deputy Director General, ICAR, New Delhi & Shri Bharat Singh Kushwah, Minister, Horticulture and food processing Narmada Valley Development (independent charge) was also present as special guest. Hon'ble Vice Chancellor, Prof S.K. Rao highlighted the University's achievements.

ICAR - Winter School on ***"Entrepreneurial Development in Agriculture for Sustainable Growth and Self Reliance"***- 24 February to 16 March, 2022

Department of Agricultural Extension and Communication, RVSKVV- College of Agriculture, Gwalior has organized ICAR Sponsored Winter School of the University on **"Entrepreneurial Development in Agriculture for Sustainable Growth and Self Reliance"** from 24 February to 16 March, 2022.Thirty extension Scientists/Assistant Professors participants from thirteen states of the country, eighty lectures, and sixty four resource personinvolved in the course. The winter school was a successful attempt to provide updated knowledge and skills in the field of agricultural extension.

The course content of the winter school ranged from refreshing entrepreneurship development, risk management, demand driven extension System concept and cases. The participants of the winter school were given a wide range of Virtual Visit of KVK, Agri business development, drones for boosting agricultural productivity, climate smart agriculture, gender empowerment, and also by the means of different management and psychological games, etc. The eminent resource persons like Dr. Anupam Mishra, Vice Chancellor, CAU, Imphal, Dr. J.P. Sharma Vice Chancellor, SKUAST-J, Dr. Sarvanan Raj, Director MANAGE Hyderbad, Dr. S. R. K. Singh, Director ICAR-ATARI, Jabalpurand many more from leading agricultural and extension institutes and ATARIs interacted with the participants, enriched the contents of the course and motivated the trainees for further achievement of their professional goals. Dr. O.P. Daipuria was the Course Director with Dr. Shobhana Gupta as the Course Coordinator of the winter school.

10. HUMAN RESOURCE DEVELOPMENT:

Participation of Professors/Scientists/Teachers in National / International Seminars / Symposia/ Conferences/Short term Courses /Trainings/Workshops/summer and Winter Schools etc.

For the year 2021-22

S. No.	Programme/ Training	Name of faculty members	Duration from….to….	Organized by
1	Short term course: Entrepreneurial Development in Agriculture for Sustainable Growth and Self Reliance.	Dr. Nisha Singh	Feb., 24-March, 16, 2022	Department of Agricultural Extension and Communication COA Gwalior RVSKVV
2	Advance in Agricultural Extension Research	Dr. Shobhana Gupta	Jan, 17-28, 2022	National Dairy Research Institute , Karnal , Haryana
3	Plant Genetic Resources Management and Utilization	Dr. Sushma Tiwari	19 July to 1 Aug, 2021	NBPGR, New Delhi
4	Watershed Hydrological Modelling, ICAR (NAHEP)The Centre for Advanced Agricultural Science and Technology (CAAST) for Climate Smart Agriculture and Water	Dr. Nisha Singh	May, 06-17, 2021	Mahatma Phule Krishi Vidyapeeth (MPKV),Rahuri-413722–141004

	Management (CSAWM)			
5	Advances in Weed Management for Sustainable Agriculture	Dr. Nisha Singh	Dec., 13-18, 2021	Indian Society of Weed Science and DWR-Jabalpur
6	One week Faculty Development programme on Online Teaching and Learning Practices (VR)	Dr. Shashi S. Yadav	Oct., 23-31, 2021	
7	Professional Development Programmes	Dr.Diksha tembhre	24.02.2022 - 16.03.2022	RVSKVV, Gwalior
8	Professional Development Programmes	Dr. Swati Barche	21.05.2022 to 10.06.2022	Agrimeet foundation and Aviana
9	Professional Development Programmes	Dr. Anvita Sharma	21.05.2022 to 10.06.2022	Agrimeet foundation and Aviana
10	Professional Development Programmes	Dr. Anvita Sharma	14.03.2022 to 21.03.2022	ICAR- Indian Agricultural Statistics Reaserch institute, New Delhi
11	Professional Development Programmes	Dr. Anvita Sharma	26.04.2022 to 30.04.2020 and 23.05.2022 to 27.05.2022	ICAR- Indian Veterinary Reaserch institute, Pune
12	Professional Development Programmes	Dr. M. L. Jadav	24.01.2022 to 04.02.2022	ICAR-IISWC, Research Centre, Udhagamandalam, Tamil Nadu.
13	Professional Development Programmes	Dr. Swati Barche	10.08.2021 to 08.09.2021	NAHEP-RVSKVV, Gwalior
14	Professional Development Programmes	Dr.Narendra Kumawat	01.07.2021 to 21.07.2021	RVSKVV Gwalior, NABARD and Agro Environment Development society, Rampur, UP
15	National webinar on Drone Application in Agriculture-Spraying and Beyond	Dr. D.R. Saxena	26.03.2022	NIPHM Hydrabad
16	Winter School on "Crop residues utilization and management for clean energy and environment"	DR. LEKHARAM	23.02.2022 to 15.03.2022	ICAR- Central institute of Agricultural Engineering Bhopal
17	Crop residues utilization and	Dr. B.R. Baraiya	23.02.2022 to 15.03.2022	ICAR- Central institute of Agricultural Engineering

	management for clean energy and environment"			Bhopal
18	Farm Machanization for facilititing Agriculture and Climate Smart Technologies Adoption	Dr. Pooja Singh	4-24 th jan 2022	ICAR- Central institute of Agricultural Engineering Bhopal
19	National training Course on" Opportunities in Agriculture, Animal husbandry and allied sectors for sustainable Entrepreneurship and livelihood security	Dr. G. K. Nema	1-21 July 2021	RVSKVV, NABARD and AEDS
20	Faculty development programme: How to make teaching learning process effective outcome based	Dr.O.P.Sharma	14.06.21 to 21.06.21	Christian Eminent College Indore.
21	Short term Course	Dr. Pradyumn Singh	09.09.2021 to 10.09.2021	NAHEP-IDP, RVSKVV, Gwalior
22	One week faculty development programme on "Smart use of Renewable energy resources for sustainable future.	Dr.D.K.Vani	21.02.2022 to 25.02.2022	Swami Keshvanand Inst. Of Techn., Mngmnt & Gramotthan, Jaipur
23	Capacity development on Solar powered irrigation systems(SPIS)	Dr.D.K.Vani	17.11.2021 to 19.11.2021	BISA , Jabalpur
24	Bamboo based Entrepreneurshp Opportunities, challenges and option for Agriculture Graduates: An Interaction with industrialists, Role Models and Administrators	Dr. Manoj Kumar Kureel	10.08.2021 to 08.09.2021	RVSKVV. NAHEP
25	Refreshers course	Dr. Nitin Soni	21/05/2022 to 10/06/2022	ICAR,IISR and UPCAR Lucknow
26	Short course	Dr. Roshan Gallani	17/03/2022 to	DoR, SKUAST, Srinagar

			26/03/2022	
27	Refreshers course	Dr. Jyoti Kanwar	11/01/2022 to 31/01/2022	NRC on Seed Spices, Ajmer, ICAR
28	Refreshers course	Dr. K.C. Meena	01/11/2022 to 21/11/2022	JNKVV, Jabalpur
29	Short course	Dr. S. B. Singh	17/03/2022 to 26/03/2022	Division of basic sciences and humanities, faculty of horticulture, SKUAST Kashmir
30	Short course	Dr.H.C.Bharvey	27/10/2022 to 09/11/2022	UGC human resource development Centre, Devi Ahilya Vishwavidyalaya, Indore

10.1 Financial Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies for the year 2021-22-

Dates (from-to) (DD-MM-YYYY)	Title of the conference/ workshops/ name of the professional body	Name of the teacher	Amount provided by the HEI	Purpose (Membershiop fee/travel and other expenses/Registration fee)
2022	Dr Varsha Gupta	29th Annual Review Meeting of AICRP-WM held at TNAU, Coimbatore from 25-27 May 2022	6,000	Tamilnadu
2022	Dr. Nisha Singh	All india wheat and barley research workers meet 29 to 31August 2022	6000	RVSKVV Gwalior
2022	Dr Varsha Gupta	"3rd International Weed Conference" at AAU, Anand (Guj) from 20th December -23rd December 2022	7,650	Gujarat
2022	Dr. Priyadarshani Khambalkar	Five days Workshop on "Application of Drones in Agriculture : Away for Entrepreneurship Generation", RVSKVV Gwalior,	Nil	IDP-NAHEP, RVSKVV, Gwalior

		MP from 12th to 16th September 2022 under the aegis of IDP-NAHEP		
2022	Dr. S. K. Trivedi	86th Annual Convention of Indian Society of Soil Science at MPKV, Rahuri from November 15-18, 2022	4000	Chapter of ISSS, Rahuri
2022	Dr. R K Pandya	57th annaul group meeting of ICAR-All India coordinated research project on pearl millet 23rd February, 2022		Online zoom platform
Nov-17-2021	Fifth international Agronomy congress Aggri Innovations to Combat Food & Nutrition Challenges/ISA at PJTSAU, Hyderabad	Dr. N. Kumawat	5000	Registration fee
Nov-17-2021	Fifth international Agronomy congress Aggri Innovations to Combat Food/ISA at PJTSAU, Hyderabad	Dr. S.K. Choudhry	12000	Registration fee
Nov-17-2021	Fifth international Agronomy congress Aggri Innovations to Combat Food & Nutrition Challenges/ISA at PJTSAU, Hyderabad	Dr. M.L. Jadav	6000	Registration fee
02/12/2021 to 04/12/2021	29th AnnualGroup Meeting ICAR-AICRP on Medicinal, Aromatic Plants and Betelvine/ DMAPR, Anand	B.K.Patidar	NA due to Online	Online Mode

12/10/2021 to 13/10/2021	XII Annual Workshop on AINRP on Onion and Garlic/ DOGR Pune	B.K. Patidar	NA due to Online Mode	Online Mode
02/12/2021 to 04/12/2021	XXIX AICRP on MAPB group meeting , (online mode)	Basant kumar kachouli		
12/10/2023 to 13/10/2021	AINRPOG XII Group meeting held online on at ICAR-DOGR, Pune	Dr. S. S. Kushwah	No	
11/01/2022 to 31/01/2022	Crop diversification with low volume high value seed spices and horticultural crops for doubling farmers income	Dr. Jyoti Kanwar	Nil	NA
1/13/2022	Indian Society of Horticultural Research & Development	Dr.K.C. Meena	5000	Life time membership

11. AWARDS AND RECOGNITIONS BY COLLEGES:

SN	Title of Honours /award	Year	Conferring agency	Name of facultuy member
1.	Best Poster Presentation Award (Shared)	2021	SSDAT Meerut, UP, India	Dr R N Kanpure
2.	Excellence in Research Award (Individual)	2021	SSDAT Meerut, UP, India	Dr R N Kanpure
3.	Young Scientist Award in Fruit Science	2021	Agro Environmental Development Society (AEDS), MajhraGhat, Rampur, UP, India	Dr Om Singh
4.	Exellence in Teaching' award	2021	Scientific Educational Research Society, Meerut UP, India	Dr. P. Sonkar

12. VISITS ABROAD: Nil

13. DISTINGUISHED VISITORS: No visitors due to COVID-19 pendamic.

14. PUBLICATIONS:

Research papers/Abstract (Presented & Published)/Books/Book Chapters/ Teaching Manual/ Popular Articles etc.

College of Agriculture, Gwalior-

S.No	Author(s)	Book Name	Year	ISBN No./Remark
1	Reeti Singh	Fungi Classification and Identification	2021	New India Publishing Agency-Nipa
2	Singh. R., Pandya. R. K., Sasode R. S, Fatehpuria P. K. and Patidar. J.	60 Year of Glorious Research 1960-2021.	2021	RVSKVV/PUB/No/116/2021
3	Fatehpuria P. K., Patidar. J.K., Trivedi. H.,Sasode. R.S.,Pandya. R. K., and Singh. R..,(2021)	Mungfali ke pramukh Rog.	2021	Ext./Fol/RVSKVV/PUB/117/2021
4	Trivedi. H.,Fatehpuria P.K.,Patidar. J.K., Trivedi. H.,Sasode. R.S.,Pandya. R. K., and Singh. R..,(2021)	Soybean ke pramukh rog	2021	Ext./Fol/RVSKVV/PUB/118/2021
5	Fatehpuria P. K., Patidar. J.K., Trivedi. H.,Sasode. R.S.,Pandya. R. K., and Singh. R.., (2021)	Dhan ke pramukh Rog	2021	Ext/Fol/RVSKVV/PUB/119/2021
6	Patidar. J.K., Fatehpuria P. K., Trivedi. H.,Sasode. R.S.,Pandya. R. K., and Singh. R., (2021)	Channe ke Pramukh Rog	2021	Ext./Fol/RVSKVV/PUB/120/2021
7	Patidar. J.K., Fatehpuria P. K., Trivedi. H.,Sasode. R.S., Pandya. R. K., and Singh. R.., (2021)	Masur ke Pramukh Rog	2021	Ext./Fol/RVSKVV/PUB/121/2021
8.	Trivedi. H.,Fatehpuria P. K.,Patidar. J.K., Trivedi. H.,Sasode. R.S., Pandya. R. K., and Singh. R..,(2021)	Sarson ke pramukh rog	2021	Ext./Fol/RVSKVV/PUB/122/2021
9	Khambalkar PA, Yadav, Shashi S., Singh, Akhilesh, and Trivedi, S. K.	A Glossary of Soil Science.	2022	*NIPA* Genx Electronic Resources & Solutions P. Ltd. New Delhi.
10	Munesh K. Kushwah, R.S.	"Recent	2022	A Scientific process of seed

	Sikarwar, N.S. Bhadouriya and B.P.S.Raghbhanshi	Advances in Agricultural Science & Technology for Sustainable India".		quality PP.280-286
11	N.S. Bhadouriya, B.P.S. Raghubhanshi, R.S, Sikarwar, Munesh K. Kushwah.	"Recent Advances in Agricultural Science & Technology for Sustainable India".	2022	A case study of Jal Samrudhi. PP.287-293

Research papers:

Sl. No.	**Author/Authors**	**Year**	**Title of paper/Book or book chapter**	**Journal or Book**	**NAAS Journal Code & rating if any**
Agricultural Economics					
1.	Rahul Kumar, AM Jaulkar, SC Srivastava and Sudhir Singh	2021	A study on growth and instability of Paddy and Wheat crops in Gwalior District (Madhya Pradesh)	The Pharma Innovation Journal 2021; SP-10(5): 745-748	ISSN (E): 2277- 7695 ISSN (P): 2349-8242 NAAS Rating: 5.23
2.	Rahul Kumar, Dr. A.M. Jaulkar2, Dr. S.C. srivastava and Dr. Sudhir Singh	2021	Break-even analysis of paddy and wheat production at Dabra Block, Gwalior district (MP)	The Pharma Innovation Journal 2021; SP-10(5): 745-748	ISSN (E): 2277- 7695 ISSN (P): 2349-8242 NAAS Rating: 5.23
3.	Kiran Sharma, A. M. Jaulkar and Rahul sKumar	2020	Factor Influencing Marketable and Marketed Surplus of Major Crops in Morena District	International Journal of Current Microbiology and Applied Sciences	ISSN: 2319-7706 Volume 9 Number 11 (2020) NAAS Rating: 5.38
4.	Kiran	2020	CGR for area, production	International Journal	ISSN: 2319-

	Sharma, A. M. Jaulkar and Rahul Kumar		and productivity of selected crops in Morena District	of Current Microbiology and Applied Sciences	7692 Volume 9 Number 12 (2020) NAAS Rating: 5.38
Department of Agricultural Extension and Communication					
5	Chauhan, K.K., Sharma Prabhakar, Sharma Prashant, and Daipuria, O.P.	2021	Training need of beneficiaries' farmers regarding improved pomology and olericulture practices in Gwalior and Chambal,division	International Journal of Agriculture Sciences	ISSN: 0975-3710 Volume **13** Number 6 (2021) NAAS Rating: 4.73
6	Chauhan, K.K., Sharma P., and Sharma P.	2021	Training need of non-beneficiaries farmers regarding improved pomology and olericulture practices in Gwalior and Chambal division.	Frontiers in Crop Improvement	ISSN: 2393-8234 Volume **09** Number III (2021) NAAS Rating: 4.67
7	Kansana, V.S., O.P. Daipuria and Sharma, P.	2022	Constraints faced by cash and food crops growers with regards to MSP.	International Journal of Agriculture Sciences	ISSN: 0975-3710 Volume **14** Number 2 (2022) NAAS Rating: 4.58
8	Kansana, V.S., O.P. Daipuria and Sharma, P.	2022	Constraints faced by cash and food crops growers with regards to organic manure.	International Journal of Agriculture Sciences	ISSN: 0975-3710 Volume **14** Number 3 (2022) NAAS Rating: 4.58
9	Pramod, Gupta,S.,Sharma, K.C, Badhala,B.S., Sharma,R.N., Choudhary, K. and Natwadia, R.	2022	Knowledge and Association of Solar Pump Users regarding Vegetable production technology in Jaipur Rajasthan.	Indian Journal of Extension Education	ISSN: 05633-7121 Volume **8** Number 4 (2022) NAAS Rating: 5.95
Department of Horticulture					
10	Nimisha Raj	2021	Influence of biofertilizers	*Journal of emerging*	**8**(8) f162 to

	Jain, D. Rajesh Lekhi and Dr. R.C. Jain		and GA_3 on nutritional composition in Moringa (*Moringa oleifera* Lam.) leaves, pods and seeds (2021)	*technologies and innovative research (JRTIR)*	f170
11	Nimisha Jain and D. Rajesh Lekhi	2021	Effect of biofertilizers and GA_3 on growth, yield, quality and economics of drumstick (*Moringa oleifera* Lam.) cv. Bhagya (2021)	*Journal of emerging technologies and innovative research (JRTIR).*, P.No.	**8**(8) f171 to f177
12	Niharika Rathore, Prashant Kumar Gupta, Shubham Singh Rathour and Rajesh Lekhi	2021	Nutra-chemical and organoleptic, quality evaluation of wood apple (*Limonia acidissima* L.)	*International Journal of Plant & Soil Science.*:	**33**(22) 80-86 ISSN: 2320-7035 NAAS rating 5.02
13	Vikas Mandloi, P.K.S. Gurjar and Devendra Vishwakarma	2021	Flowering and Fruiting Pattern of Acid Lime as Affected by Different Growth Regulators and Chemicals	*The Pharma Innovation Journal*	**10**(4) P 661-665 ISSN: 2277-7695 (E) 2349-8242 (P) NAAS rating 5.23
14	Komal Yadav, Karan Vir Singh, R. Lekhi, Shashi, S. Yadav, Arvindra Kaur, Shanker Lal Yadav and Amit Kumar	2021	Effect of Integrated Nutrient Management on Yield Parameters of Sweet Orange (*Citrus sinensis* Osbeck) cv. Mosambi	*Astha Foundation*	Vol. 9, (Special Issue-IX) 3872-3875 ISSN: 2393-8234, Online ISSN: 2454-6011
15	Komal Yadav, Karan Vir Singh, Shashi, S. Yadav, Om Prakash Yadav, Sunil Kumar Yadav and Shanker	2021	Effect of Integrated Nutrient Management on Yield Parameters of Sweet Orange (*Citrus sinensis* Osbeck) cv. Mosambi	*Astha Foundation*	Vol. 9, (Special Issue-IX) 3867-3871 ISSN: 2393-8234

	Lal Yadav				
Department of Plant Pathology					
16	Purnima Singh and Reeti Singh	2021	Mycelial compatibility groups among the isolates of *Sclerotiumrolfsii* associa ted with the collar rot disease of lentil	The Pharma innovation	NASS rating-5.23
17	Prerana Parihar, Purnima Singh and RK Pandya	2021	Survey for the incidence of pearl millet blast disease in pearl millet growing districts of Madhya Pradesh	The Pharma innovation	NASS rating-5.23
18	Jagdish Kumar Patidar, Prashant Kumar Singh, Reeti Singh and RK Pandya	2022	Assessment of artificial inoculation techniques for development of chickpea dry root rot caused by *Rhizoctoniabataticola*	The Pharma innovation	NASS rating-5.23
19	Kiran Makwana, Sushma Tiwari, M. K. Tripathi, A. K. Sharma, R. K. Pandya and A. K. Singh	2021	Morphological characterization and DNA finger printing of pearl millet (*PennisetumGlaucum* (L.) germplasms	Range Management & Agroforestry	NAAS rating-6.23
20	Choudhary, ML, Tripathi, MK, Gupta, N, Tiwari, S, Tripathi, N, Parihar, P and Pandya, RK	2021	Screening of pearl millet [*Pennisetumglaucum* [L] R Br] germplasm lines against drought tolerance based on biochemical traits.	Current Journal of Applied Science & Technology	NAAS rating-4.71
21	Choudhary,, M. L. Tripathi, M.K. , Tiwari, S., Pandya, R. K. Gupta, N., Tripathi, N.	2021	Screening of pearl millet [*Pennisetumglaucum* (L.) R. Br.] germplam lines for drought tolerance based on morpho-physiolgical traits and gene-linked SSR	Current Journal of Applied Science & Technology	NAAS rating-4.71

	and Parihar, P.		markers		
22	P.K. Fatehpuria, R.S. Sasode, R.K. Pandya, P.K. Gupta and Reeti Singh	2021	Survey of Sclerotinia blight of Mustard in Northern Madhya Pradesh.	Annals of Plant Protection Sciences	NAAS rating-4.11
23	P.K. Fatehpuria, R.S. Sasode, R.K. Pandya and P.K. Gupta	2021	Correlation of oxalic acid and virulence pattern among the isolate of *Sclerotinia sclerotiorum*	Annals of Plant Protection Sciences	NAAS rating-4.11
24	Jaiswal S., R. S. Sasode, R.K. Pandya and P.K. Gupta	2021	Bio-agent and chemicals seed dressing for management of Pearl millet downy mildew incited by *Sclerosporagraminicola*	Annals of Plant Protection Sciences	NAAS rating-4.11
Department of Soil Science and Agricultural Chemistry					
25	Priyadarshani A. Khambalkar, Shashi S. Yadav , Akhilesh Singh ,Sudhir Bhadauria, Murlidhar J. Sadawarti	2021	Soil Organic Carbon- an Explanation to Soil Health: a review	Chemical Engineering	v02i04, 62-72. http://dx.doi.org/10.53709/CHE.2021.v02i04.011
Department of Genetics and Planr Breeding					
26	**Sikarwar R.S**., Muwel Kundan, Kushwah.M.K. and Rathore Jaya	**2021**	Combining Ability studies in Sesame (Ssame indicum L.)	journal of pharmacognosy and phytochemistry	**5.21**
27	Chitralekha Shyam, M.K.Tripathi, Niraj	**2021**	Genetic variations in fatty acids and oil compositions among 188 Indian mustard.(*Brassica juncea*	Current Journal of Applied Science and Technology 40(46);9-28,2021;Article	**5.32**

	Tripathi, Sushma Tiwari, and **R.S.Sikarwar**		(Linn.)) Czern & Coss genotypes	no.CJAST.82990	
28	Asha Kushwah, Sanjay Singh, Sushma Tiwari and **R. S. Sikarwar**	**2021**	Evaluation of Genetic Variability, Heritability and Genetic Advance in Advanced Breeding Lines of Wheat (Triticum aestivum L	Int. j. curr. Microbial. app. sci. **(2021)**10(09):531-537	**5.38.**
29	Asha Kushwah, **Ravendra Singh Sikarwar**, Manish Vishwakarma , Sushma Tiwari and Sanjay Singh	**2021**	Relationship among the yield and its yield contributing traits in spring Wheat (Triticum aestivum L)	the pharma Innovation journal 2021; 10(9):1974-1977	**5.23**
30	Preeti Pachauri and R.S.Sikarwar	**2022**	Correlation and path analysis of different environments for yield and components traits in groundnut (*Arachis hypogaea* L.)	The Pharma Innovation journal 2022; 11(2):1181-1186	**5.23**
31	Preeti Pachauri and R.S.Sikarwar	**2022**	scientific cultivation of chickpea in India	The Pharma Innovation journal 2022; 11(2):1187-1191	**5.23**
32	Kulheri Anil, Sikarwar R.S. and Raput shyam Sikarwar	**2022**	Genetic variability studies for yield and yield related traits in groundnut (Arachis hypogaea L.)	The pharma innovation journal 2022; 11(6):315-317.	**5.23.**
33	**Tripathi, M.K**., Tripathi, N., Tiwari, S., Tiwari, G., Mishra, N., Bele, D., Patel, R.P.,	2021	Optimization of different factors for initiation of somatic embryogenesis in suspension cultures in sandalwood (*Santalum album* L.)	Horticulturae, 7, 118. https://doi.org/10.3390/ horticulturae7050118	ISSN: 2311-7524 **Impact Factor: 2.331 (2020); 5-Year Impact Factor: 2.951 (2020)**

	Sapre, S. and Tiwari, S.				**Scopus H-Index: 14 SJR: 0.62** NAAS No.: H020a & **rating in 2022**: **8.33**
34	Yadav P K, Singh AK, Tripathi MK, Tiwari S, Yadav SK, Solanki Rand Tripathi N	2022	Assessment of maize (*Zea mays* L.) genotypes on the basis of biochemical contents in respect to drought	he Pharma Innovation Journal 11(6): 1996-2002	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 **NASS rating in 2022: 5.23**
35	Tomar YS, Tiwari S, Tripathi MK and Solanki R S	2022	Genetic diversity assessment and cluster analysis of morphological yield attributing traits of groundnut (Arachis hypogaea L.)	The Pharma Innovation Journal 11(6): 1444-1450	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 **NASS rating in 2022: 5.23**
36	Parihar P, Singh P, Pandya RK, Tiwari S and Tripathi MK	2022	Screening of pearl millet promising hybrids and varieties against blast (Pyricularia grisea) by disease indexing	The Pharma Innovation Journal 11(6): 664-667	ISSN (E): 2277-7695ISSN (P): 2349-8242NAAS ID: I382 **NASS rating in 2022: 5.23**
37	Tomar Y S, Tiwari S, Tripathi M.K and Gupta N	2022	Influence of myo-inositol phosphate synthase gene in phytic xcid contents and superoxide dismutase activity (SOD) of groundnut (*Arachis hypogaea* L.)	Biological Forum – An International Journal, 14(2): 1402-1406	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239 NAAS ID: L014 **NASS rating in 2022: 5.11**
38	Mandloi S., Tripathi M.K., Tiwari S. and Tripathi N.	2022	Genetic diversity analysis among late leaf spot and rust resistant and susceptible germplasm in	Israel Journal of Plant Sciences, http://dx.doi.org/10.1163/22238980-	ISSN: 0792-9978 NAAS ID: I382 **NASS rating**

			groundnut (*Arachis hypogea* L.)	bja10058	**in 2022: 6.72**
39	Rathore, M.S., Tiwari, S., Tripathi, M.K., Gupta, N., Yadav, S., Singh, S. and Tomar, R.S.	2022	Genetic diversity analysis of groundnut germplasm lines in respect to early and late leaf spot diseases and biochemical Traits	LegumeResearch. DOI: 10.18805/LR-4833	ISSN: 0250-5371 NAAS ID: L014 **NASS rating in 2022: 6.59**
40	Yadav PK, Singh, A.K. Tripathi M.K., Tiwari S. and Rathore J.	2022	Morphophysiological Characterization of Maize (Zea mays L.) Genotypes against Drought	Biological Forum – An International Journal, 14(2): 573-581.	ISSN No. (Print): 0975-1130 ISSN No. (Online): 2249-3239 NAAS ID: L014 **NASS rating in 2022: 5.11**
41	Makwana K, Tiwari S, Tripathi M. K., Sharma A. K., Pandya R. K. and Singh A. K.	2021	Morphological characterization and DNA finger printing of pearl millet (Pennisetum Glaucum (L.) germplasms	Range Management and Agroforestry 42(2):205-211	**NAAS rating: 6.28 in 2022**
42	Shyam C., Tripathi M. K., Tripathi N., Tiwari S. and Sikarwar, R. S.	2021	Genetic Variations in fatty Acids and Oil Compositions among 188 Indian Mustard *Brassica juncea* (Linn.) Czern & Coss genotypes	Current Journal of Applied Science and Technology40(46): 9-28	ISSN: 2457-1024. NAAS ID C_{186} & **rating in 2022: 4.71**
43	Rathore M.S., Tiwari S, Tripthi N., Tripathi M. K. and Tiwari S.	2021	Status and Scenario of Genome Editing Device CRISPR-Cas9 in Crop Advancement	Current Journal of Applied Science and Technology40(48): 8-20	ISSN: 2457-1024. NAAS ID C_{186} & **rating in 2022: 4.71**
44	Yadav PK, Tiwari S, Kushwah A, **Tripathi MK,** Gupta N, Tomar RS, Kandalkar VS.	2021	Morpho-physiological characterization of bread wheat genotypes and their molecular validation for rust resistance genes Sr2, Sr31 and Lr24	Proc. Indian Natl. Sci. Acad. 87:534-545	
45	Mishra, N.,	2021	Cell suspension culture	*Plants*, *10*:	ISSN: 2223-

	Tripathi, M.K., Tiwari, S., Tripathi, N., Sapre, S., Ahuja, A. and Tiwari, S.		and *in vitro* screening for drought tolerance in soybean using poly-ethylene glycol	517. https://doi.org/10.3390/ plants10030517	7747 NAAS ID: P130 ***NASS rating in 2022: 9.94*** Impact factor:3.935
46	Shyam, C., **Tripathi, M.K**., Tiwari, S., Tripathi, N., Solanki, R.S., Sapre, S., Ahuja, A. and Tiwari, S.	2021	*In vitro* production of somaclones with decreased erucic acid content in Indian mustard [*Brassica juncea* (Linn.) Czern&Coss	Plants, 10, 1297. https://doi.org/ 10.3390/plants10071297	ISSN: 2223-7747 NAAS ID: P130 ***NASS rating in 2022: 9.94*** Impact factor:3.935
47	Mishra, N., **Tripathi, M.K**., Tiwari, S., Tripathi, N., Gupta, N. and Sharma, A. .	2021	Morphological and physiological performance of Indian soybean [*Glycine max* (L.) Merrill] genotypes in respect to drought	Legume Research: An International Journal DOI: 10.18805/LR-4550	ISSN: 0250-5371 NAAS ID: L014 **NASS rating in 2022: 6.59**
48	Reddy, S. P., Satyavathi, C.T., Khandelwal V., Patil, H, T., Gupta, P.C., Sharma, L.D., Mungra, K.D., Singh, S.P., Narasimhulu, R., Bhadarge, H.H., Iyanar, K., **Tripathi, M.K.**, Yadav, D., Bhardwaj, R., Talwar, A.M., Tiwari, V.K.,	2021	Performance and stability of pearl millet varieties for grain yield and micronutrients in arid and semi-arid regions of India	Front. Plant Sci. 12:670201. doi: 10.3389/fpls.2021.670201	ISSN: 1664-462X NAAS ID: F_{093} **NASS rating in 2022: 11.75**

	Kachole, U.G., Sravanti, K., Shanthi Priya, M., Athoni, B.K., Anuradha, N., Govindaraj, M., Nepolean, T. and Tonapi, V.A.				
49	Pramanik, A., Tiwari, S., Tomar, R. S., **Tripathi, M. K**. and Mandloi, S	2021	Identification of groundnut germplasm lines for foliar disease resistance and high oleic traits using SNP and gene-based markers and their morphological characterization	Legume Research: An International Journal. DOI: 10.18805/LR-4666	ISSN: 0250-5371 NAAS ID: L014 **NASS rating in 2022: 6.59**
50	Sharma, A., **Tripathi, M.K.,** Tiwari, S., Gupta, N., Tripathi, N. and Mishra, N.	2021	Evaluation of soybean (*Glycine max* L.) genotypes on the basis of biochemical contents and anti-oxidant enzyme activities	Legume Research: An International Journal. In press	ISSN: 0250-5371 NAAS ID: L014 **NASS rating in 2022: 6.59**
51	Choudhary, M. L., **Tripathi, M. K.,** Tiwari, S., Pandya, R. K., Gupta, N., Tripathi, N. and Parihar, P.	2021	Screening of pearl millet [*Pennisetum glaucum* (L.) R. Br.] germplam lines for drought tolerance based on morpho-physiological traits and SSR markers	Current Journal of Applied Science & Technology, 40(5): 46-63	ISSN: 2457-1024. NAAS ID C_{186} & rating in **2021: 4.71**
52	Mishra, N, **Tripathi, MK**, Tripathi, N, Tiwari, S, Gupta, N, Sharma, A	2021	Validation of drought tolerance gene-linked mcrosatellite markers and their efficiency for diversity assessment in a set of soybean genotypes	Current Journal of Applied Science & Technology, 2021e; 40(25): 48-57.	ISSN: 2457-1024. NAAS ID C_{186} & rating in **2021: 4.71**
53	Mishra, N, **Tripathi, MK**, Tiwari, S	2021	1. Evaluation of diversity among soybean genotypes *via* yield attributing traits	Current Journal of Applied Science & Technology, 40(21):	ISSN: 2457-1024. NAAS ID C_{186} & rating in

	Tripathi, N, Gupta, N, Sharma, A, Solanki, RS		and SSR molecular markers	9-24	**2021: 4.71**
54	Shyam C, **Tripathi MK**, Tiwari S, Tripathi N.	2021	Genetic components and diversity analysis in Indian mustard [*Brassica juncea* (Linn.) Czern & Coss] based on different morpho-physiological traits	Current Journal of Applied Science and Technology. 40(20):34-57. DOI: 10.9734/CJAST/2021/v40i2031462	ISSN: 2457-1024. NAAS ID C_{186} & rating in **2021: 4.71**
55	Choudhary, ML, **Tripathi, MK**, Gupta, N, Tiwari, S, Tripathi, N, Parihar, P and Pandya, RK	2021	Screening of pearl millet [*Pennisetum glaucum* [L] R Br] germplasm lines against drought tolerance based on biochemical traits.	Current Journal of Applied Science & Technology, 40(23):1-12	ISSN: 2457-1024. NAAS ID C_{186} & rating in **2021: 4.71**
56	Singh S, **Tripathi MK**, Tiwari S, Tripathi N, Tejovathi G, Ahuja A.	2021	Encapsulation of nodal segments for propagation and short-term storage of giloe (*Tinospora cordifolia* Willd.): A medicinally important plant species	Current Journal of Applied Science and Technology, 40(30):15-24. DOI: 10.9734/CJAST/2021/v40i3031542	ISSN: 2457-1024. NAAS ID C_{186} & **rating in 2021: 4.71**
57	Gupta, N., Tiwari, S., **Tripathi, M. K.** and Bhagyawant, S.	2021	Antinutritional and protein-based profiling of diverse desi and wild chickpea accessions	Current Journal of Applied Science and Technology40(6): 7-18	ISSN: 2457-1024. NAAS ID C_{186} & **rating in 2021: 4.71**
58	Adlak, T., Tiwari, S., Gupta, N., **Tripathi, M. K.**, Sikarwar, R. S., Sastya R. and Gupta, V.	2021	Assessment for yield and nutritional profiling of groundnut with the help of allele specific markers for desirable fatty acids	Int.J.Curr.Microbiol.App.Sci. 10(02): 1625-1637. doi: https://doi.org/10.20546/ijcmas.2021.1002.193	Online ISSN: 2319-7706 Print ISSN: 2319-7692 **RG Journal Impact: 0.16**

59	Verma, K., **Tripathi, M.K**., Tiwari, S. and Tripathi, N.	2021	Analysis of genetic diversity among *Brassica juncea* genotypes using morpho-physiological and SSR markers	Int. J. Curr. Microbiol. App. Sci. 10 (01): 1108-1117. doi: https://doi.org/10.20546/ijcmas.2021.1001.134	Online ISSN: 2319-7706 Print ISSN: 2319-7692 **RG Journal Impact: 0.16**
60	Shyam, C., **Tripathi, M. K.**, Tiwari, S., Ahuja, A., Tripathi, N. and Gupta, N.	2021	*In vitro* regeneration from callus and cell suspension cultures in Indian mustard [*Brassica juncea* (Linn.) Czern & Coss]	International Journal of Agricultural Technology 17(3):1095-1112	ISSN: 2630-0192 H-Index: 3 SJR: 0.16 IF:0.30
61	Mishra, N., **Tripathi, M.K**., Tripathi, N. Tiwari, S., Gupta, N., Sharma, A. and Shrivastav, M.K.	2021	Changes in biochemical and antioxidant enzymes activities play significant role in drought tolerance in soybean	International Journal of Agricultural Technology17(4):1425-1446	
63	Verma, R., **Tripathi, M.K.,** Tiwari, S. Pandya, R. K., Tripathi, N., and Parihar, P.	2021	Screening of pearl millet [*Pennisetum glaucum* (L.) R. Br.] genotypes against blast disease on the basis of disease indexing and gene-specific SSR markers	Int. J. Curr. Microbiol. App. Sci. 10 (02): 1108-1117. doi: https://doi.org/10.20546/ijcmas.2021.1001.134	Online ISSN: 2319-7706 Print ISSN: 2319-7692 **RG Journal Impact: 0.16**

Conference Proceedings [Full length papers in Conferences/Symposia/Seminar]-

S.No	Author (s)	Title	Conference Proceedings	Page No.	Year	National / International
1	Dr. Pragati Agarwal Dr. R. P. Singh Dr. Shashi S. Yadav	Tyrosinase from Aspergillusniger and its evaluation for bioremediation of phenols	Organized by Agro Environmental Development Society (AEDS), Majra ghat Rampur (U.P.)		March, 13-15, 2021	4th International conference on current approaches in Agricultural, Animal Husbandry and applied sciences

						for successful entrepreneurs
2	Dr. Pragati Agarwal Dr. Akhilesh Singh Dr. Shashi S. Yadav	ICT based e-resources in capacity building of faculty in India post Covid-19 era	Organized by UAS, Raichur		March, 16-17, 2021	ICT based e-resources for smart Agriculture-a journey towards atmanirbhar Bharat post Covid-19 pandemic situation

College of Agriculture, Indore

Research Papers

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
1.	K.S. Bangar, S.C. Tiwari, U.R. Khandkar, S.K. Verma, N. Kumawat, M.J. Kaledhonkar and G.S. Tagore	Characterization and mapping of groundwater quality of grid region in Central India	Journal of Soil Salinity and Water Quality	13	268-277	2021	5.2	NIL	NIL	National
2.	S.C. Tiwari, N. Kumawat, M.J. Kaledhonkar, K.S. Bangar and R.K. Sharma	Response of wheat to different irrigation methods under sodic vertisols	Journal of Soil Salinity and Water Quality	13	255-260	2021	5.2	NIL	NIL	National
3.	K.S. Bangar, N. Kumawat, S.C. Tiwari, M.J. Kaledhonkar and B.B. Parmar	Development of salt tolerant and high yielding varieties of lentil (PDL-1 and PSL-9)	Salinity News	27		2021		NIL	NIL	National

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
4.	Aakash, Narendra Singh Thakur, Manoj Kumar Singh, Lalita Bhayal, Kamlesh Meena, Sharad Kumar Choudhary, Narendra Kumawat, Ram Kumar Singh, Udai Pratap Singh, Shrish Kumar Singh, Pratik Sanodiya, Ajay Kumar and Anurag Kumar Singh.	Sustainability in rainfed maize (*Zea mays* L.) production using choice of corn varieties and nitrogen scheduling based on 30-years long-term rainfall data. 2022, Volume 14, Issue 5, 3116 (NAAS Rating 9.25 and ISSN No. 2071 – 1050	Sustainability	14 (5)	3116 1-19	2022	9.25	S096		International
5.	Jadav ML, Bhagat, DV, Girothia O.P., Choudhary S.K. and **Kumawat N.**	Rainwater harvesting to mitigate climate change effects on the cropping sequence in Malwa region of Madhya Pradesh.	*The Pharma Innovation Journal*	10	461-465	2021	5.23	T050	-	National
6.	Rahangdale N., **Kumawat** N., Jadav M.L., Singh M. and Bhagat D.V.	Effect of liquid bioinoculants and straw mulch on health of vertisols and productivity of soybean (*Glycine max*).	*Crop Research*	56	111-117	2021	4.41	C166	-	National
7.	Kumar R., Thirugnanavel A., **Kumawat N.** and Deka B.C.	Paper mill-based integrated nutrition of garden pea in the Eastern Himalayas.	*Indian Journal of Agricultural Sciences*	91	676-676	2021	6.37	I032	-	

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
8.	Yadav R.K., **Kumawat N**., Sarangdevot S.S. and Singh R.K.	Bio-efficacy of seed priming with fungicides against major soil borne diseases of maize	*Journal of AgriSearch*	8	248-253	2021	4.71	J013	-	
9.	Jadav M.L., Ranade D.H., Choudhary S.K. Bhagat D.V., **Kumawat N.,** Upadhyay A. and Girothia O.P.	Evaluation of percolation tank as soil and water conservation measure in Malwa-Nimar region	*Indian Journal of Agricultural Sciences*	10	172-175	2021	5.23	T050	-	National
10.	Jadav M.L., Raidas D.K., **Kumawat N.**, Girothia O.P., Bhagat D.V. and Choudhary S.K.	Pigeonpea (Cajanus cajan L.) growth, yield and monetary influenced by drip irrigation and mulch in Vertisols of Madhya Pradesh.	*Legume Research*	-	-	2021	6.59	L014	-	
11.	Tiwari S.C., **Kumawat N.,** Kaledhonkar M.J., Bangar K.S. and Sharma R.K.	Response of wheat to different irrigation method under sodic Vertisols.	*Journal of Soil Salinity and Water Quality*	13	255-260	2021	4.94	J490		
12.	Pan R.S., Kumar R., Bhatt B.P., Mishra J.S., Singh A.K., Naik S.K., Shinde R., Mali S.S., Sarkar P.K., **Kumawat N.,** Singh A.K. and Kumar U.	Production potential, competitive indices, economics and soil health of diversified production system hill and plateau region of eastern India.	*Indian Journal of Agricultural Sciences*	92	104-104	2022	6.37	I032	-	-

S. No.	Authors	Title	Journal	Vol.	Page No.	Year	NAAS Rating	JID	Citation	National/ International
13.	Rahangdale N., **Kumawat N.**, Jadav M.L., Bhagat D.V., Singh M. and Yadav R.K.	Symbiotic efficiency, productivity and profitability of soybean as influenced by liquid bio-inoculants and straw mulch	*International Journal of Bio-resource and Stress Management*	13	9-16	2022	5.11	I187	-	
14.	Meena R.S., Chauhan G.S., Singh D., Anchra S., Meena R.K., Naik B.B.S., Meena B.L.**,** **Kumawat N.** and Meena R.L.	The Effect of different fertility levels and zinc fertilization on Growth and Yield of baby corn (*Zea mays* L.) hybrid under Southern Rajasthan.	*Agricultural Mechanization in Asia*	53	5859-5564	2022	6.14	A093	-	
15.	Yadav,S., Asati K.P. and Barche ,S	Effect of INM strategies on growth, and Yield of Amaranthus (Amaranthus tricolor L.)	The Pharma Innovation	2	2545-2549	2022	5.23			International
16.	Jain, Priyanka; Tembare, Diksha; Kumawat, Ajay and Gupta, N K	Role of growth stimulators, retardants and inhibitors in combination with micronutrients on growth and development of okra [Abelmoschus esculentus (L.) Moench] Variety Arka Anamika.	The Pharma Innovation Journal	3	1411-1414	2022	5.23			International

Book Chapters

S. No.	Author (s)	Title	Book name	Year	ISBN No.	ISSN No.
	Kumar R., Saurabh K., **Kumawat N.**, Sundaram, P.K., Mishra J.S, Singh D.K., Hans H., Krishna, B. and Bhatt B.P.	Sustaining Productivity Through Integrated Use of Microbes in Agriculture.	Role of Microbial Communities for Sustainability. Microorganisms for Sustainability	2021	978-981-15-9912-5	
	Kumar R., Krishan B., Sundaram P.K., Kumawat N., Jeet P. and Singh A.K.	Crop Diversification: An Approach for Productive and Climate-Resilient Production System. Sustainable Agriculture System and Technologies	-	22	10.1002/9781119808565	
	Veena Rathore, Anvita Sharma and Rajul Soni	Extentions and their various forms in agricultural programs and their implication	Advances in Agricultural and Horticultural Sciences	2022	978-93-5607-484-2	
	Rajul Soni, Hradesh patel and Anvita Sharma	Processing and Value addition of Horticulture and Agricultural crops.	Advances in Agricultural and Horticultural Sciences	2022	978-93-5607-484-2	

KNK, College of Horticulture, Mandsaur

Research Papers published in referred journals: 18

1. Krishna Kumar, R.N. Kanpure, Jyoti Kanwar, B. Kachouli and R.P. Patel (2022). Effect Pre Harvest Spray of Calcium and Potassium Nutrients Sources on Stor age Behaviour of Aonla *(Emblicaofficinalis*Gaertn.) Fruits Cv. Hathijhool. *Progressive Research : An International Journal.,* Vol**17** (1) : 53-56
2. Meena, Naesh, Kanpure, R.N.; Patel, R.P.; Kachouli, B.K. Nad Patidar, B.K. (2021).Effect of foliar spray of nutrients and plant growth regulator on vegetative, reproductive growth, physical character and leaf chlorophyll content of acid lime (*Citrus aurantifolia*Swingle). *Frontiers in Crop Improvement*, 9:995-999.
3. Verma, B.; Kanpure, R.N.; Sonkar, P.; Patidar, B.K.; Kachouli, B. and Anjanave, S.R (2022). Efficacy of growing media and indole-3-butyric acid on survival and success of air layering of guava (*Psidiumguajava*L.) cv. L-49. *Frontiers in Crop Improvement*, 9:2046-2048.
4. Damar, U.; Sharma, R. K.; Kushwah, S. S. and Singh, O. P. (2021). Influence of varieties, organic manures and inorganic fertilizers on growth, yield and quality of okra (*Abelmoschusesculentus* L.). *Vegetable Science* 48(1):73-78.
5. Pardhi, S.; Sharma, R.K.; Kushwah, S.S.; Roshan Gallani, R. (2022). Influence of varieties and integrated nutrient management practices on growth and yield of seed in cowpea (*Vignaunguiculata* L.). *Legume Research- An International Journal* 45(2):227-231.
6. Tripathi MK (2021). Decadal consecutive probabilities and growing season characteristics for crop planning in Morena district of Madhya Pradesh. International Archive of Applied Sciences and Technology 12(3):22-28.
7. Patidar Megha, Kanwar Jyoti, Singh O.P., Rathore G.P.S.(2021). Response of Post Harvest Treatments on Shelf Life of Custard Apple. *Curr.Microbiol.App.Sci* 10(04):400-408.
8. Patidar Megha, Kanwar Jyoti, Kanpure R.N., Singh O.P., Rathore G.P.S.(2021) Effect of different post-harvest parameters on physiological and biochemical parameter of custard apple var. ArkaSahan. *Journal of Pharmacognosy and Phytochemistry*: 10 (2): 1465-1468
9. O K Chandravanshi, K C Meena, K Alam Khan, Nitin Soni and DK Patidar (2021). Responses of organic manures and inorganic fertilizers on growth, yield and economics of turmeric (*Curcuma longa* Linn.). Journal of Medicinal Plants Studies, 9(3): 243-247.
10. Shakthi P.N., K.C. Meena, I.S. Naruka, D.K. Patidar, Nitin Soni4 and K. Alam Khan (2021). Genetic Variability, Heritability, Genetic Advance and Correlation Coefficient Study in Fenugreek Cultivars (*Trigonellafoenum-graecum* L.). Biological Forum – An International Journal, 13(3b): 71-75.
11. K. C. Meena, J. Patel, I. S. Naruka, Ajay Haldar, D. K. Patidar1 and NitinSoni (2021). A Study of Growth Rate and Seed Yield in *Ocimumbasilicum*Germplasms. International Journal of Economic Plants 2022, 9(2):111-114.

12. Bhagora, K.C. Meena, D.K. Patidar, NitinSoni, B.K. Patidar and S.K. Dwivedi(2021). Growth and Yield of Chandrasur (Lepidiumsativum L.) in Response to DifferentSowing Methods and Seed rates. Progressive Horticulture, 53 (2)
13. Visen, Damini; kumar, A.; Sonkar, Priyamvada and Gallani, Roshan. (2021). Performance of Standard chrysanthemum (*Dendranthemagrandiflora*Tzvelev.) cultivars for growth and pos-harvest life under Malwa region of M. P. *The Pharma Innovation Journal*. 10(12): 280-282.
14. Verma, B.; Kanpure, R.N.; Sonkar, Priyamvada; Patidar, B.K.; Kachouli1B. and Anjanave, S.R. (2021). Efficacy of Grow ing Media and Indole-3-Butyric Acid on Survival and Success of Air Layering of Guava (*Psidiumguajava*L.) cv. L-49. *Frontiers in Crop Improvement*. 9(Special Issue-V): 2046-2048.
15. Ekta Rajput, Anuj Kumar, R.K. Sharma, Roshan Gallani and Saransh Saxena (2022). Performance of different cultivars for flowering parameters under MalwaPlateu of Madhya Pradesh. *The Pharma innovation journal*Vol: 11 - Issue:1S; 909-912.
16. Damini Visen, Anuj Kumar, Priyamvada Sonkar and Roshan Gallani (2021). Performance of standard chrysanthemum (*Dendranthemagrandiflora*Tzvelev.) cultivars for growth and post-harvest life under Malwa region of M.P."*The Pharma innovation journal*Vol: 10 - Issue: 12 ; 280-282.
17. A.K. Pandey, Khalasi Devang N., S. Kumar T.R. Ahlawat and Shailendra K. Dwivedi (2021). Accumulation of essential nutrients by various cultivars of mango (*Mangiferaindica* L.) during different growth stages. *Progressive Horticulture*. Vol. 53, No. 1. Pp.36-40.
18. Yamanur MM, Kanpure RN, Annigeri SV and Dwivedi SK (2021). Effect of different edible coating materials on quality and shelf life of guava (*Psidiumguajava* L.) cv. L-49. The *Pharma Innovation Journal*; 10(12): pp. 2408-2411.

Research paper presented in Seminar / Symposia: 03

1. Patel, R.P; Singh S. B and Bharvey, H.C. (2020). Presence of C*uscutareflexa*Roxb.on various host plants in Mandsaur district of Madhya Pradesh**.** International web conference on GlobalResearch Initiatives for Sustainable Agriculture and Allied sciences (GRISAAS-2020) at Meerut, U.P. from 28-30, December, 2020.
2. Priyamvada Sonkar and Sransh Saxena. (2021). Effect of Pre-harvest Spray and Bagging on fruit Quality and organoleptic characters of Guava (*Psidiumguajava* L.) cv. L 49 Fruits. 9th Indian Horticulture Congress-2021 at Chandra Shekhar Azad University of Agriculture and Technology, Kanpur (UP) from 18-21 Nov., 2021.
3. Sonkar, Priyamvada; Solanki, Rajini. Kanpure, R.N and Roshan Gallani. (2001). Efficacy of bio-organic sources on yield and quality of pomegranate cv. Mridula. International Web Conference on Global Research Initiatives for Sustainable, Agriculture & Allied Sciences (GRISAAS-2021) during 13-15 December 2021.

Abstract in Seminar / Symposia: 07

1. Toran Singh Daangi, PriyamvadaSonkar, Roshan Gallani and R.N. Kanpure (2021). Effect of organic and inorganic nutrient sources on growth, yield and quality of ber (*Zizyphusmauritiana* LAMK.). International Web Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021) during 13-15 December 2021. Organized by : Astha Foundation, Meerut in Collaboration with CSAUAT, Kanpur; IGKV, Raipur; 405 UAHS, Shivamogga; BAU Ranchi; SKRAU, Bikaner & SSDAT, Meerut (UP) India.
2. Priyamvada Sonkar, Rajini Solanki, R.N. Kanpure and Roshan Gallani (2021). Efficacy of bio-organic sources on yield and quality of pomegranate cv. Mridula. International Web Conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS-2021) during 13-15 December 2021. Organized by : Astha Foundation, Meerut in Collaboration with CSAUAT, Kanpur; IGKV, Raipur; 405 UAHS, Shivamogga; BAU Ranchi; SKRAU, Bikaner & SSDAT, Meerut (UP) India.
3. Bindesh Arya, K.C. Meena, S. K. Shywar, J. Patel and D.K. Patidar (2021). Varieties evaluation of coriander (*Coriandrumsativum* L.) with organic manures and biofertilizers. 5th international conference on advances in agriculture, environment and biosciences for sustainable development during 05-07 August, 2021, pp 67-68.
4. J. Patel, K.C. Meena, I.S. Naruka, NitinSoni, D.K. Patidar and K. Alam Khan (2021). Ocimumgermplasms: Morpho-phyiological studies in 5th international conference on advances in agriculture, environment and biosciences for sustainable development during 05-07 August, 2021, pp 108-109.
5. Shakthi P.N., K.C. Meena, I.S. Naruka, NitinSoni and K. Alam Khan (2021). Genetic variability, heritability genetic advance and correlation coefficient study in fenugreek cultivar's (*Trigonellafeonum-graecum* L.) in 5th international conference on advances in agriculture, environment and biosciences for sustainable development during 05-07 August, 2021, pp 243.
6. S. K. Shakywar, K.C. Meena, D.K. Patidar, NitinSoni and K. Alam Khan (2021). Responses of organic manures and plant geometry growth and yield of Kalmegh (*Andrographispaniculata*Nees.) in 5th international conference on advances in agriculture, environment and biosciences for sustainable development during 05-07 August, 2021, pp 248-249.
7. Daangi,T. S.; Sonkar, Priyamvada; Gallani, R. and Kanpure, R.N. (2021). Effect of organic and inorganic nutrient sources on growth, yield and quality of ber (*zizyphusmauritiana*Lamk.). International Web Conference on Global Research Initiatives for Sustainable, Agriculture & Allied Sciences (GRISAAS-2021) during 13-15 December 2021.

Book Chapter: 08

1. K. C. Meena, K Alam Khan, NitinSoni and D.K. Patidar (2021). Harvesting, Post-harvest, Processing and Value addition of Medicinal and Aromatic plants for Entrepreneurship development. JPS Scientific Publication, Tiruvannamalai, Tamil Nadu, India. PP 67-84.
2. Nitin Soni, D.K. Patidar, Er. A. K. Khan and K. C. Meena (2021). Entrepreneurship Skills Development through Commercial Production and Value addition of Grapes. JPS Scientific Publication, Tiruvannamalai, Tamil Nadu, India. PP 97-110.
3. Anil K. Singh, Minakshi Padhi, Anjana Sisodia, VandanaSisodia, Vishwa Mohan Dev Chauhan, and Anuj Kumar (2022). Disease Spectrum in Carnation Crop (*Dianthus carophyllus L.*) and Management Strategies. Diseases of horticultural crops: Diagnosis and Management Volume 3: Ornamental Plants and Spice Crops, Page No. 03 -54. Apple Academic Press, USA & CRC Press, Boca Raton, Florida, USA.. ISBN: 978-1-77463-969-6 (pbk) ISBN: 978-1-00316-046-5 (ebk).
4. Soni Nitin, Patidar D.K., Khan K.A. and Meena K.C.(2021) Entrepreneurship skills development through commercial production and value addition of grapes *Opportunities in Agriculture, Animal Husbandry & Allied Sectors for Sustainable Entrepreneurship & Livelihood Security*, Page No. 97 -110. ISBN: 978-93-91342-42-5, JPS scientific publication Tamil Nādu.
5. Meena K.C., Khan Alam, Soni Nitin, and Patidar DK (2021) Harvesting, post harvest, processing and value addition of medicinal and aromatic plants for Enterprecuship development. *Opportunities in Agriculture, Animal Husbandry & Allied Sectors for Sustainable Entrepreneurship & Livelihood Security*, Page No. 97 -110. ISBN: 978-93-91342-42-5, JPS scientific publication Tamil Nādu.
6. A.K. Pandey, Shailendra K Dwivedi and T.R. Ahlawat (2021). Fig (*Ficuscarica* L.) in Book- Sub-Tropical Fruit Crops Theory to Practical. ISBN: 978-93-90611-01-0; Jaya Publishing House Publisher and Distributor, Delhi, pp.218-235.
7. Sanjeev Kumar, Alka Singh, T.R. Ahlawat, Shailendra K. Dwivedi and Dushyant D. Champaneri. (2021). Novel Approaches for Sustainable Development of Horticulture InBook Horticulture: Basic Principles and Recent Approaches. NIPA GENX electronic resources & solutions p. Ltd. New Delhi. ISBN: 978-93-91383-96-1. Pp. 7-23.
8. Shailendra K. Dwivedi, A.K. Pandey, Ankit Pandey and Vivek Tiwari (2021). Post Harvest Management of Horticultural Crops. In Book Horticulture: Basic Principles and Recent Approaches. NIPA GENX electronic resources & solutions p. Ltd. New Delhi.ISBN: 978-93-91383-96-1. Pp. 123-152.
9.

Popular articles: ओम सिंह, प्रियम्वदा सोनकर; ज्योती कंवर एवं ऋचा सिंह (2022) अमरूद में गुणवत्ता युक्त उत्पादन हेतु बहार नियंत्रण, बिरलीकरण एवं थैलाबंदी तकनीक; प्रगतिषील खेती, मेरठ, उत्तरप्रदेश; पेज न. 25-30. (ISSN: 2583-2204).

Action Taken of Feed Back Received from various stakeholders 2021-22

- Some staff positions have been filled on a regular basis, others are currently under recruitment, and the remaining positions are being covered by contractual teachers.
- Guest lectures by experts and alumni are actively conducted.
- Support from contractual teachers continues.
- In colleges with KVK establishments, additional support from KVKs is sought to address staffing shortages and enhance efficiency.
- A state-of-the-art Biotechnology Center is being established, and various labs are being strengthened through the purchase of advanced equipment to support high-quality research.
- Farm implements have been procured and are being judiciously utilized.
- Multiple high-quality lectures are being conducted under the IDP-NAHEP initiative across all colleges.
- To ensure 24/7 security, high-definition CCTV surveillance has been installed at all key points.
- Special emphasis has been placed on enhancing entrepreneurship through Certificate Courses and Training Programs under the IDP-NAHEP initiative.
- An incubation center is being established to further support this objective.
- To address evaluation-related grievances, guidelines have been prepared and implemented to allow students to view their answer books upon request, as prescribed under the RTI Act, significantly increasing transparency.
- In the aftermath of the COVID-19 pandemic, the Shake Hands Club provided comprehensive support to students through a mentor-mentee system modeled on a guardian-ward approach. This initiative helped maintain student morale, with no reports of drastic measures taken by students, as teachers acted as supportive guardians.

- During the COVID period, a WhatsApp group was launched for sharing MCQs, notes, presentations, study materials, and facilitating virtual classes, providing robust academic support to students.
- An online repository of knowledge for competitive exam preparation has been made available to students and faculty, with 24/7 access via smart phones.
- During village and industry attachments, as well as internships under the READY Programme, students have expressed the need for extensive academic support, which is effectively met through this online resource.

ANNUAL PROGRESS REPORT

2020-21

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Mission

To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

Vision

To transform the Agricultural landscape of Madhya Pradesh by producing excellent dynamic and result oriented skilled human resource in modern Agriculture, thereby creating higher income, employment, gender equity, accessibility, sustainable production system and achieving social welfare for all.

Mandate

- *To serve as a centre of higher education in the field of agriculture and allied sciences.*
- *To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.*
- *To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.*
- *To produce and supply of genuine and quality seed/planting material to the farmers.*

वार्षिक प्रगति प्रतिवेदन

ANNUAL PROGRESS REPORT

2020-21

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Patron : Prof. S. K. Rao
Vice-Chancellor
R.V.S.K.V.V., Gwalior (M.P.)

Editorial Board:

1. Dr. D.H. Ranade, Dean, Faculty of Agriculture - **Chairman**
2. Dr. M.P. Jain, Director, Research Services - Member
3. Dr. S.N. Upadhyay, Director, Extension Services - Member
4. Dr. A.K. Singh, Director Instructions & Student Welfare - Member
5. Dr. Akhilesh Singh, T.O. to DFA - Member ***(Secretary)***

Compiled by : Office of the Dean, Faculty of Agriculture,
RVSKVV, Gwalior

Published by : Dean, Faculty of Agriculture
R.V.S.K.V.V., Gwalior (M.P.)

Correct Citation : RVSKVV Annual Report: 2020-21
Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya,
Gwalior-474002 (M.P.)

Prof. S.K. Rao
Vice-Chancellor

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Raja Pancham Singh Marg, Gwalior-474002 (M.P.)
Ph.: 0751-2970502(O)
Fax: 0751-2970502
Email: vcrvsaugwa@mp.gov.in

//FOREWORD//

It gives me an immense pleasure to present the Annual Report of the Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya (RVSKVV) for the year 2020-21 to the end users. This report highlights the activities related to education, research and extension carried out by the University staff in the field of agricultural and allied sciences with a focus on enhancing livelihood status of the farming community. The University has developed credible technology in the field of agriculture and Horticulture. Farmers of the State are being benefited through its network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), nineteen Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs).

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya has grown into a diverse innovative institution of higher education, pursuing excellence in the fields of teaching, research and extension in agricultural sciences. Over the years, the University has sought to make a major contribution in improving the quality of human life in the region through its research-led initiatives in agriculture, environmental related issues and a host of other modern-day challenges including the production of quality seed and genuine planting material. The structure of its activities is rationalized, with emphasis on its distinguished strengths, management of education and development of quality man power and in this direction notable success has been achieved. In addition to the diverse activities related to agricultural sciences, RVSKVV has strong emphases on farmer's skills improvement and empowerment through the nineteen KVKs in the various districts. Teaching and learning quality has been steadily improving in recent years and a large number of capable man powers has been trained here.

In case of research programme, University finds a very special place in NARS through the coordinated projects in pulses, oil seeds, cotton, cereals, horticulture and natural recourses management. Exceptional research work on chickpea improvement, CMS based pigeon pea hybrid, efficient water management for boosting the productivity of other major crops like cotton, soybean, mustard, wheat, medicinal and aromatic plants are some of the noteworthy

contributions of the University. RVSKVV is also making sincere efforts to generate cutting edge technologies for enhancing crop productivity was done by the University. Thrust is also given on seed replacement in the state by producing quality seeds of important crops.

I express my sincere gratitude to the Government of Madhya Pradesh, the ICAR and Government of India for their continued financial support. The contribution of the Members of the statutory bodies like the Board, the Academic Council and the Administrative Council in smooth functioning of the University has been praise worthy. The contribution of all the Deans, Directors, Heads, Registrar and Comptroller of the University in providing relevant information for the Annual Report is acknowledged.

Present Annual Report 2020-21, brought out by the University, covers the development and progress made in the areas of teaching, research & extension and seed production. It is my firm belief that this Annual Report will aptly serve as a show case of the activities of the University. It will be a good reference for administrators, policy makers, staff, students and even the farming community. I would like to thank all the contributors, members of the Editorial Board and Compilation Committee for compiling and editing this report in a comprehensive and presentable form.

(S.K. Rao)

CONTENTS

EXECUTIVE SUMMARY

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, (RVSKVV) Gwalior (MP) was established on August 19, 2008. The University has been since then, catering to the multi farming needs of farming community Agriculture Development, ICAR and other stockholders. It is a new, but fast emerging promising University in the field of agriculture and allied sciences.

The mandate of the University is teaching, research and extension with a view to evolve appropriate solutions and technologies in the field of agriculture. It has a network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), twenty one Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs) spread across six agro-climatic zones in twenty-six districts of Madhya Pradesh. In addition to this, other ongoing projects/schemes *i.e*. non-plan, plan, tribal sub-plan and adhoc projects are also in operation.

During the year 2020-21, the University has undertaken a number of initiatives for the promotion of quality in its mandated areas. The major activities and achievements of the University are as follows:

TEACHING:

- *The University offers two Under Graduate Courses i.e. B.Sc. (Hons.) Agriculture and B.Sc. (Hons.) Horticulture, 13 Post Graduate degree and 9 Ph.D. degree programmes in the different disciplines of Agriculture and Horticulture. The total intake capacity was 774 out of which, 364 were in undergraduate (UG), 356 in postgraduate (PG) and 54 in Ph.D. degree programme.*
- *During the year 2020-21, a total of 1387 boys and 776 girls' (Total Students-2163) students were on the roll of the University, out of which, 875 boys and 490 girls were in UG, 448 boys and 229 girls in PG, and 59 boys and 58 girls were in Ph.D. degree programmes.*
- *In Ph.D., 20 students submitted their thesis to the Director Instructions for evaluation. 167 students submitted Thesis for Post graduate degree program in Agriculture disciplines and 53 students for Horticulture degree programme.*
- *In Experiential learning programme, 251 students of fourth year (B.Sc. Ag. and B.Sc. Hort.) have taken adequate hands-on experience on different aspects of Agriculture/Horticulture to cultivate capabilities suitable to the emerging job markets and build entrepreneurship spirit and business management competence in a way that they will be able to generate employment for themselves and for others.*

- *The modules of experiential learning programme namely Crop Production, Crop Protection, Horticulture, Nursery Production and Management, Protected cultivation of high value vegetable crops, Floriculture & Landscape Gardening, Mashroom Cultivation and Value addition in horticultural crops are running successfully.*
- *Under Rural Agriculture/Horticulture Work Experience 316 students of Fourth Year were placed in different villages of Research Stations/KVKs to learn and solve the practical problems of the farmers of adopted villages.*
- *02 Students of the University qualified the JRF examination.*
- *57 Students of the University received National Talent Scholarship (NTS).*
- *During the year, 415 students of the University have received State Government Scholarship, out of which 237 students belonged to OBC, 84 SC and 94 ST categories.*
- *Under NSS (National Service Scheme) programme, different activities like blood donation camp, Beti Bachao Abhiyan, Social Awareness Camp, Awareness about AIDS, Literacy, Pulse Polio Abhiyan, Mera Gaon Mera Gourav and Environment Day were organized. 17 students were awarded "B" Certificate and 01 student "C" Certificate examination of NSS.*
- *Under National Cadet Corps (NCC) programme, 19 Cadets passed "B" certificate examination and 42 cadets cleared "C" certificate examination.*
- *Through campus interviews, 09 students have been placed in jobs in leading private sectors, 34 students in Government/public sector and 07 self employed.*
- *Through different libraries of the constituent Colleges, 1, 47, 104 books were procured and available to the students out of which 557 books have been purchased during the reporting year. Apart from that, reports, thesis, CDs, 139 e-books, periodicals etc. are also available in the library of constituent Colleges of the University.*
- *In central library total 10341 printed books, 139 e-books, 07 printed magazines, 1303 gifted books, 15 priented journal and 52 E-magazines were available in Central library of VishwaVidhyalaya.*
- *126 research papers were published in peer reviewed journals of national and international repute.*

RESEARCH:

- *Evaluation of IVT (Extra early) entries result revealed that out 9 entries No entries ware found resistant against fusarium udaum in wilt sick plot. Wilt % ranges from 27.1 % to 80.8 %. In the susceptible check ICP-2376 wilt incidence was 95.5 %. Only Two entries were recorded moderate resistance reaction (10-30%) against wilt. LSI was 59.36 % of IVT (Extra early) entries in the wilt sick plot.*
- *Evaluation of IVT (Medium duration) entries result revealed that out 40 entries 4 entries viz AAUVT-13-20, BAUP-16-01, GJP-1606, JGP-1801 etc. showed resistant against fusarium udaum in wilt sick plot. Wilt % ranges from 4.06 % to 95.5 %. In the susceptible check ICP-2376 wilt incidence was 95.5 %. Only Eleven entries were recorded moderate resistance reaction (10-30%) against wilt. LSI was 29.38 % of IVT (MD) entries in the wilt sick plot.*
- *Evaluation of IVT (Late duration) entries result revealed that out 10 entries only 2 entries viz BAHAR, MA-6 etc. showed moderately resistant against fusarium udaum in wilt sick plot. Wilt % ranges from 11 % to 86 %. In the susceptible check ICP-2376 wilt incidence was 95.5 %. No entry was recorded resistance reaction (0-10%) against wilt. LSI was 39.49 % of IVT Lat duration entries in the wilt sick plot.*
- *Evaluation of IVT (Mid early) entries result revealed that out 17 entries only 1 entries ICPL-17116 showed resistant against fusarium udaum in wilt sick plot. Wilt % ranges from 3.3 % to 85.1 %. In the susceptible check ICP-2376 wilt incidence was 95.5 %. Only 4 entry ware recorded moderate resistance reaction (10-30%) against wilt. LSI was 48.23 % of IVT mid early entries in the wilt sick plot.*
- *Evaluation of IVT (Early) entries result revealed that out 15 entries No entries showed resistant against fusarium udaum in wilt sick plot. Wilt % ranges from 28.8 % to 91.3 %. In the susceptible check ICP-2376 wilt incidence was 95.5 % only one entries was recorded moderate resistance reaction (10-30%) against wilt. LSI was 53.92 % of IVT Early duration entries in the wilt sick plot.*
- *Evaluation of AVT I & II (Early, Mid early, late duration) entries result revealed that out 22 entries 3 entries WRG-122, MAL-50, DA-15-1 showed resistant against fusarium udaum in wilt sick plot. Wilt % ranges from 0 % to 95.5 %. In the susceptible check ICP-2376 wilt incidence was 95.5 %. 3 entries were recorded moderate resistance reaction (10-30%) against wilt. LSI was 41.30 % of AVT Mid Early Medium & Late duration entries in the wilt sick plot.*

- *Evaluation of Donors entries result revealed that out 22 entries 10 entries viz. BSMR-74, BSMR-79, BSMR-316, BSMR-553, BSMR-736, BSMR-853, BWR-164, IPA-9F, KPL-43 showed resistant against fusarium udaum in wilt sick plot. Wilt % ranges from 3.1 % to 86.2 %. In the susceptible check ICP-2376 wilt incidence was 95.5 %. 6 entries ware recorded resistance reaction (10-30%) against wilt. LSI was 26.99% of Hybrid & Donors entries in the wilt sick plot.*
- *Evaluation of SVT entries result revealed that out 8 entries 5 entries viz, RVKT-332, RVKT-319, RVKT-324, RVKT-325, RVKT-326 showed resistant against fusarium udaum in wilt sick plot. Wilt % ranges from 3.14 % to 24.62 %. 3 entries were recorded moderate resistance reaction (10-30%) against wilt.*
- *Monitoring of races/strains of Fusarium udum in sick plot through host plant differentials results revealed that differentials ICP-8859, ICP-7035 showed Moderately resistant reaction against fusarium udaum wilt of Pigeonpea in wilt sick plot ranges from 21.9 (ICP-8859) to 89.01 % (ICP-2376) Results indicated that existence two variants (1 & 3) of fusarium udaum prevalent in the region.*
- *Survey was conducted in the 29 villages of Nimar Zone and it is observed that incidence of wilt was low with medium duration varieties like JKM-189, ASHA, TJT-501 (Medium early) and other varieties of private sector whether grown as sole crop or in cropped with Soybean, Cotton, Mungbean, Maize etc. On the Contrary higher wilt incidence were observed with local cultures in sole crop as well as in intercrop with cotton. However it is relevant to mention here that this year (2019-20) received the rainfall of 1215.11 mm which is below average.*
- *Pigeonpea Wilt and Sterility Mosaic Disease Nursery results revealed that out of 45 entries 31 entries were reported resistant (below 10%) against fusarium udum in wilt sick plot, wilt ranges from 0 % to 39.2 % .In susceptible check ICP2376 wilt incidence was 95.5 % and LSI was 8.83 %.*
- *In evaluation of AVT II entries under different row spacing, entry JS 20-34 gave significantly higher yield sown at 30 cm row sowing (1560 kg/ha). While entry AMS 100-39 was better at 45 cm row spacing.*
- *In system intensification for soybean productivity augmentation, variety RVS 24 gave better yield when planted at 45X 15 cm plant geometry. Whereas, variety JS 20-34 gave significantly higher yield, planted at 45X5cm plant geometry.*

- *The MACARENA a biostimulent tested with herbicides. All tested herbicides were comptable with MACARENA. The weeds were controllled effectively with pre emergence applicaation of premix herbicide sodium aciflurofen (16.5%) + clodinafop propragyl (8%EC) @100 ml/ha with MACARENA.*
- *In evaluation of partial factor productivity of soybean, maximum reduction in grain yield was obtained when weed management practice was ommitted from full package. Whereas, minimum reduction was recorded in treatment ommission of insect management practices.*
- *In front line demonstrations, improved production technology increased soybean yield on an average 39.97 % over farmer's practice.*
- *The application of AMF@6kg/ha along with PGPR (penaebasillus Polymixa@20g/kg) seed treatment was found to increase significantly higher nodule number, it's dry weight,/plant at 50% flowering stage together with grain yield and legheamoglolobin content in fresh nodule compared to farmer's practice.*
- *The inoculation of B deogense @5g culture/kg seed treatment was found beneficial and gave the higher nodulation traits (Nodule number and it's dry weight at 50% flowering stage) It's application was also fond beneficial to enhance significantly higher nitrogen, phosphorous contents, chlorophyll content and relative water content over rest of the treatments.*
- *Among the AVT second entries, the NRC 86, NRC 131, JS 97-52 and JS 335 were found suitable to give better nodulating ability (nodule number, their dry weight) legheamoglolobin content in fresh nodules in vertisol.*

SEED PRODUCTION:

- *The University is producing breeder and nucleus seeds of several crops, which is has contribution significant in enhancing seed replacement and increasing productivity of crops.*
- *The seed production in the University is carried out in twenty seven seed production farms. The total farm area is 1210.85 ha., out of which 64.45 per cent (780.37 ha.) is under cultivation. Among the cultivated area, 13.39, 34.59 and 52.02 per cent are covered under irrigated, partially irrigated and rain fed farming, respectively.*
- *The university produced 6895.50 quintal seed of different crops. During Kharif 2020-21 total production of 2151.00 q. seed has been produced under different crops like – Soybean, Green gram, Black gram, Paddy, Cotton, pigeonpea and during Rabi 2020-21 a total of 4744.50 q. seed has been produced under of different Rabi crops like Wheat, Chickpea, Lentil, Mustard and Safflower etc.*

EXTENSION ACTIVITIES:

- *For the assessment of latest technologies generated by RVSKVV, other universities or ICAR institutes of ICAR, 453 On Farm Trials (OFTs) were conducted at farmers' field on various thematic areas related to crops, animals, machineries, post harvest management etc. that benefitted 6183 farmers.*
- *For the purpose of popularizing new technologies, Front Line Demonstrations (FLDs) were carried out on various crops in area of 1159.20 ha on the fields of 505 farmers. In addition to these demonstrations, 2875 FLDs on different enterprises like fisheries, live stock management, vermicompost, value addition, post harvest management, malnutrition, farm machinery etc. were also conducted.*
- *During the year 2020-21 total 1951 trainings were imparted, which benefited 50211 participants including farmers and farm women, rural youth, extension personnel and government officials.*
- *In order to create awareness among farmers of the region, 20029 extension activities were conducted by the KVKs including Farmers' fairs, Farmers meeting, Field days, Exhibitions, Special days celebration were organized which benefited 502095 farmers.*
- *A total number of 67 Abstract, 19 Booklets, 06 Books, Book Chapter 32, 24 Training Manuals, 16 Electronic Media Show (CD/VCD), Technical Bulletin 29 and 70 Research Papers in Journal were prepared by Krishi Vigyan Kendras. KVK Scientists also published 83 popular articles in various agriculture magazine and news papers.*
- *A total number of 41087 soil samples were analysed by different KVKs, State Govt. and 11486 soil health cards were prepared and distributed to farmers of the region.*
- *Under Kisan Mobile Advisory Services, 1439 messages related to new technologies were sent to 131096 beneficiaries of 22699 villages.*
- *'Mera Gaon Mera Gaurav' programme is being implemented by the Vishwa Vidyalaya through its five colleges and three Zonal Agricultural Research Stations. In this programme, the scientists regularly organizing Krishak Sangoshthies, Demonstrations and advising farmers abut recent agricultural technologies in the selected villages.*

Srimant Rajmata Vijayaraje Scindia
(1919-2001)

1. INTRODUCTION

1. Mission:

- To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

2. Mandate:

- To serve as a centre of higher education in the field of agriculture and allied sciences.
- To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.
- To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.
- To produce and supply of genuine seed and planting material to the farmers.

3. Area of Jurisdiction:

RVSKVV, Gwalior is responsible for Agricultural Education, Research and Extension in following 27 revenue districts of the state:
Sheopur, Morena, Bhind, Gwalior, Shivpuri, Guna, Ashoknagar, Datia, Dewas, Shajapur, Agar Malwa, Ujjain, Indore, Dhar, Jhabua, Alirajpur, Ratlam, Mandsaur, Neemuch, Khargone, Badwani, Khandwa, Burhanpur, Bhopal, Sehore, Aron and Rajgarh.

The area under University jurisdiction is a part of the Deccan Plateau and comprises plateaus with mean elevation of 1600 feet above mean sea level; inter spread with the mountains of the Vindhya and Satpura ranges. The maximum height of 1350 m is recorded in Satpura range on the other hand 150 m height is found in Chambal Valley. The main river systems are the Betwa, Chambal, Narmada, Sindh and Tapti. Nearly one third of the state area is covered with tropical forest. The area contains three types of soils, varying from alluvial to medium and heavy black Vertisols with six agro climatic zones.

The geographical area of the state under the University jurisdiction is 137.16 lakh hectares out of this, 74.72 lakh hectares is under cultivation, 24.51 lakh hectares under Kharif and 36.45 lakh hectare under rabi fallow. Out of the total cultivated area,

49.42% is irrigated. However, the area under irrigation varies from as low as 18.85% in Jhabua district to as high as 75.63% in Datia district.

The economy of the area is primarily agriculture based. Nearly 75% population is engaged in agriculture. The Malwa region abounds in rich black cotton soil. The low lying areas of Gwalior and Bundelkhand have light soils, whereas the Narmada Valley is formed by deep rich alluvial deposits.

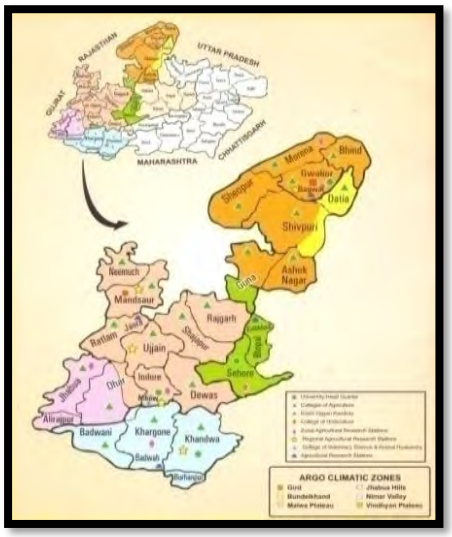
4. Climatic Conditions:

The overall climate varies from semiarid to sub humid with hot summer; cool and dry winter with an average annual rainfall ranging from 600 to1000 mm. Mean annual rainfall is 1029.21mm.

In general, aberrant monsoon behavior is a common feature in the region that usually creates abnormal weather conditions including long dry spells of 8-20 days duration in the middle of the season.

5. Agro Climatic Zones

Out of 11 agro climatic zones of the state, following six are under the jurisdiction of RVSKVV, Gwalior:



- Gird Zone
- Malwa Plateau
- Nimar Valley
- Jhabua Hills
- Vindhya Plateau (Partial)
- Bundelkhand Zone (Partial)

6. Major Crops and Cropping Pattern

- The main food crops of the area are wheat, rice, mustard, lentil and millets. Important among commercial crops grown in the area are pulses, oil seeds and medicinal crops. The state is poised for a breakthrough in soybean cultivation.
- The area coverage of soybean, groundnut and cotton under the jurisdiction of the University is 69, 66 and 55 per cent, which contributes to about 68, 67 and 56 per cent in total production of these crops in the state respectively. Chickpea, pea, black gram and wheat contributes about 35, 24, 54 and 48 per cent of the total state production from an area of only 20, 05, 46 and 40 per cent, respectively. The productivity of these crops in the region is higher than the state average.
- Area under horticultural crops is showing an increasing trend under the University jurisdiction. Mandarin, sweet oranges and limes under assured irrigation and guava, ber, aonla and custard apple without irrigation in Gird region, orange, grape, chiku, mosambi and acid lime in Malwa plateau; banana, papaya, lime and chiku in Nimar valley and lime, ber, guava, aonla and custard apple in Jhabua hills bloom well. Vegetables like Tomato, Potato, Sweet potato, Brinjal, Okra, Cole crops (Cabbage, Cauliflower), Drumstick, Radish, Carrot, Cucurbits, Arbi, Beans and Leafy vegetables etc. are grown in large acrage. Among the spice crops, turmeric, corriander, ajwain, chillies, garlic, fenugreek and fennel have their own specialties in different agro-climatic zones. The area coverage under seasonal flowers is also showing an increasing trend.

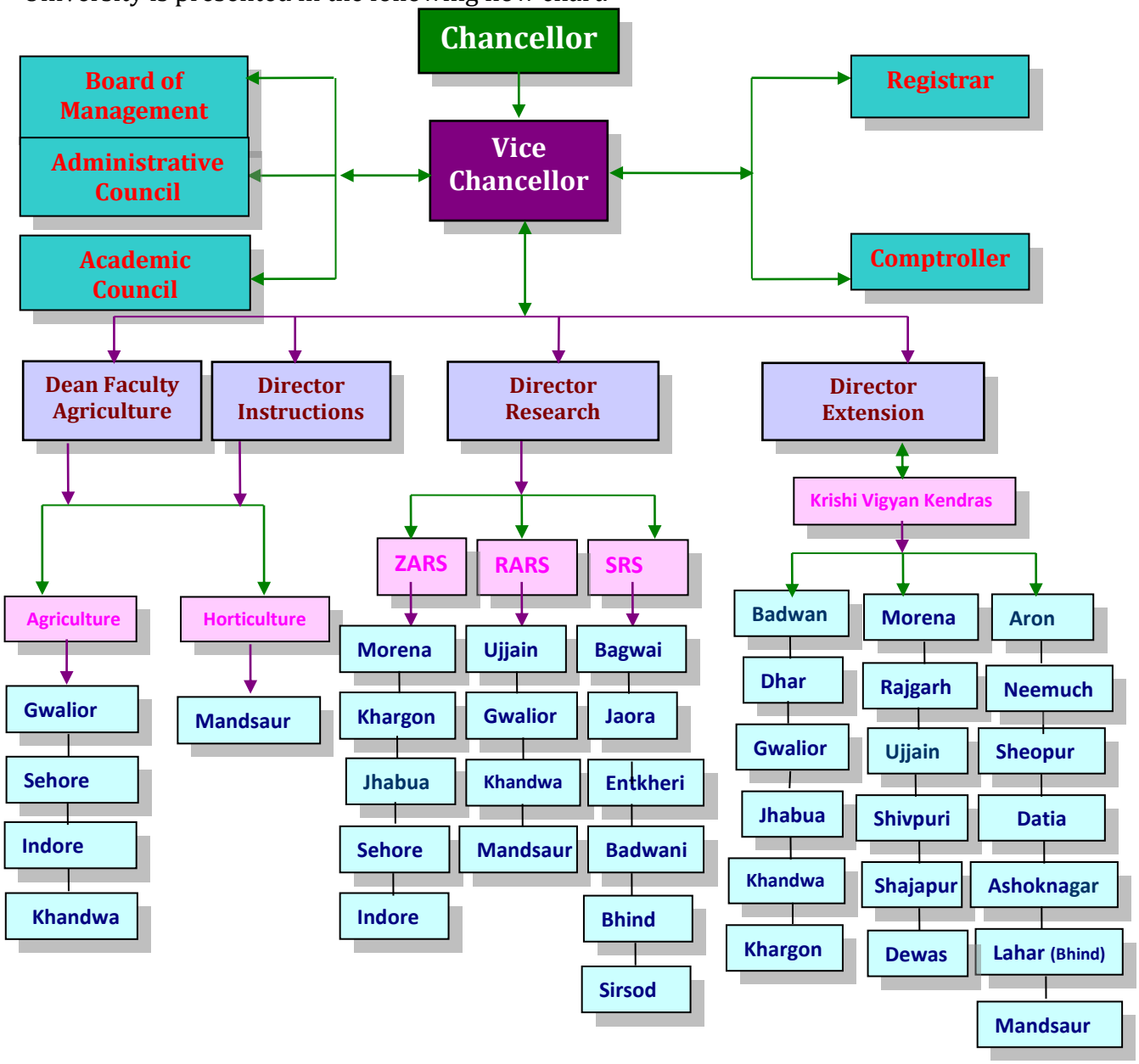
7. Organizational Setup:

Hon'ble Governor of Madhya Pradesh is the Chancellor of the University, and Vice-Chancellor is the Academic Head and Chief Executive of the University, who is supported by the following authorities:

- *Board of Management*
- *Academic Council*
- *Administrative Council*

The University comprises of Faculty of Agriculture headed by Faculty Dean. The constituent colleges are headed by respective Deans. Heads of the Departments are the key persons for teaching, research and extension of the respective discipline/department. Committee of Faculty of Agriculture and Extension Council are also constituted by Vishwa Vidyalaya.

Director Instructions, Director Research Services and Director Extension Services are responsible University authorities for human resource development, research activities and extension activities, respectively. Registrar and Comptroller support the Vice-Chancellor in administration and financial matters. The organizational setup of the University is presented in the following flow chart.



2. ACADEMIC HIGHLIGHTS:

Academic excellence is the backbone of every institute of higher learning. The responsibility increases many folds when the institute aspires for generating world class graduates with the competence to stand tall as a nation builder.

It is through the dissemination of latest technologies and changing knowledge from the global prospective to grass root level that the desirable development in the broad area of agriculture can be attained. The demanding trends in Agriculture/Horticulture need an increase in faculties in such fields and disciplines which have a tremendous market value so that the products of the University are not inclined to government jobs only but would be able to involve themselves in a variety of fields that can boost economy at the State and National level. Therefore resident instruction programme is carried out in the areas of Agriculture and Horticulture in four Agriculture colleges and one Horticulture College in the University.

2.1 Profile of the Colleges:

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya offers undergraduate, post graduate and Ph.D. programmes in the faculty of Agriculture. At present, the University has four Colleges of Agriculture and one college of Horticulture under the faculty of Agriculture. Four constituent Colleges of Agriculture are located at Gwalior, Indore, Sehore and Khandwa and one College of Horticulture is located at Mandsaur.

All these colleges offer Under Graduate and Masters Degree Programmes in different disciplines. Ph.D. programme is offered only at College of Agriculture, Gwalior.

The list of colleges with their location, year of establishment and degree programmes offered is given below.

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (2008)

CoA, Gwalior (1950)

CoA, Sehore (1952)

CoA, Indore (1959)

CoA, Khandwa (1987)

CoH, Mandsaur (2002)

2.1.1 Details of the Colleges:

S. No.	Name of College with location	Year of Establishment	Degree Programme Offered
I	**Faculty of Agriculture**		
1.	**College of Agriculture, Gwalior**	1950	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Environmental Science (9) Plant molecular biology & Biotechnology (10) Fruit Science (11) Vegetable Science **(iii) Ph.D.** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Fruit Science (9) Vegetable Science
2.	**RAK, College of Agriculture, Sehore**	1952	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science
3.	**College of Agriculture, Indore**	1959	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science
4.	**BM, College of Agriculture, Khandwa**	1987	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** Plant Pathology
5.	**KNK, College of Horticulture, Mandsaur**	2002	**(i) B.Sc. (Hort.)** **(ii) M.Sc. (Hort.)** (1) Fruit Science (2) Vegetable Science (3) Plantation, Spices, Medicinal & Aromatic Crops (4) Floriculture & Landscape Architecture

Resident instruction programme is one of the mandates of the University *i.e.* impart education in Agriculture and Horticulture to produce graduates and post graduates ready to face the existing and new challenges in agriculture sector.

The University follows the semester system of education. Completion of a degree programme requires successful study of prescribed courses as approved by the Academic Council of the University. Course contents of all subjects are periodically updated and new courses are occasionally added to the degree requirement to cope up with the challenges of upcoming technologies. The University follows 10 point scale evaluation system approved by ICAR. Individual attention of each and every student is ensured through the advisory system. At Under graduate level, for a group of 5-10 students, one faculty advisor is appointed for each class and at Post-Graduate level, for each student, an advisory committee consisting of 3-4 faculty members is appointed. The teacher/ advisory guide, supervises and monitors the academic performance of his/her advises besides helping them in their personal problems. The advisor also maintains a close contact with parents/guardians of the students and informs them about the progress of their works/performance.

2.2 Admission Procedure

2.2.1 Undergraduate Programmes

Admission in first year of B.Sc. (Hons.) Agriculture/Horticulture is done on the basis of the merit list provided by the Professional Examination Board of the State Government, located at Bhopal. The board conducts a Pre-Agriculture Test (PAT) for B.Sc. (Hons.) Agriculture/Horticulture. The roster for reservation of seats for UG and PG as per provisions made by the State Government for different categories is strictly followed.

All possible efforts are made to fill up all seats of different categories by repeated counseling of the students.

2.2.2 Postgraduate Programmes

Admissions in post graduate programmes are made by the University through joint entrance examination basis. As per merit list, admissions are given to the students in the subject of their choice; subject to the availability of seats. The roster of reservation is also followed for these admissions.

2.2.3 Ph.D. Programmes

Similarly, in Ph.D. programme admission is made through joint entrance examination basis.

2.3 Allocation of Seats and Roster:

During the academic year 2020-21, the total intake capacity was 774 out of which 364 were in undergraduate (UG), 356 in postgraduate (PG) and 54 in Ph.D. degree programme. In the undergraduate level, out of 364 total seats, 308 seats were in B.Sc. (Ag.) and 56 in B.Sc. (Hort.) degree programme. In the post graduate level, out of 364 seats, 260 seats were in M.Sc. (Ag.) and 96 in M.Sc. (Hort.).

Similarly, in Ph.D. programme, out of 54 total seats, 42 seats were in agriculture and 12 were in Horticulture discipline.

2.3.1 Intake Capacity (Degree wise):

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
Degree Programmes						
1.	B.Sc. (Hons.) Agriculture	220	44	11	33	308
2.	B.Sc. (Hort.) Horticulture	40	08	02	06	56
	Total	**260**	**52**	**13**	**39**	**364**
1.	M.Sc. (Ag.)	260	-	-	-	260
2.	M.Sc. (Hort.)	96	-	-	-	96
	Total	**356**	-	-	-	**356**
1.	Ph.D. Agriculture	42	-	-	-	42
2.	Ph.D. Horticulture	12	-	-	-	12
	Total	**54**	-	-	-	**54**
	Grand Total	**670**	**52**	**13**	**39**	**774**

2.3.2 Under Graduate: B.Sc. (Ag. /Hort.)

(A) B.Sc. (Ag.)

Allocation of Seats		Boys	Girls	Total
Roster				
Free Seats	General	50	31	**81**
	ST	36	14	**50**
	SC	24	11	**35**
	OBC	44	13	**57**
Payment Seats		48	02	**50**
NRI Seats		-	-	**06**
Nominee/Fellow	ICAR	25	04	**29**
Total		**227**	**75**	**308**

(B.) B.Sc. (Hort.)

Allocation of Seats		Boys	Girls	Total
Roster				
Free Seats	Gen.	14	06	20
	ST	05	03	08
	SC	05	02	07
	OBC	03	02	05
Payment Seats		06	02	08
NRI Seats		-	-	02
Nominee/Fellow	ICAR	04	02	06
Total		**37**	**17**	**56**

2.3.3 Post Graduate: M.Sc. (Ag. /Hort.):

(A) M.Sc. Agriculture/Horticulture

S.No.	Subject	Gwalior	Indore	Sehore	Mandsaur	khandwa	Total
		PG	PG	PG	PG	PG	PG
1	Agronomy	12	12	12	-	-	36
2	Soil Sc. & Agri. Chemistry	12	12	12	-	-	36
3	Entomology	12	12	12	-	-	36
4	Genetics & Plant Breeding	12	12	12	-	-	36
5	Agri. Economics	8	8	8	-	-	24
6	Plant Pathology	12	12	12	-	8	44
7	Plant Bio Technology	08	-	-	-	-	8
8	Environmental Science	4	-	-	-	-	4
9	Extension Education	12	12	12	-	-	36
Total		**92**	**80**	**80**		**8**	**260**
(B) M.Sc. Horticulture							
1	Veg. Science	12	12	12	12	-	48
2	Fruit Science	12	-	-	12	-	24
3	Floriculture & Landscape Architecture	-	-	-	12	-	12
4	Plantation, Spice, Medicinal and Aromatic Crops	-	-	-	12	-	12
	Total	**24**	**12**	**12**	**48**	**-**	**96**

2.3.4 Ph.D. (Ag. /Hort.):

(A) Agriculture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Agriculture	28	14	**-**	-	42

(B) Horticulture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Horticulture	8	4	**-**	-	12

2.4 Students Strength:

2.4.1 Students Admitted:

S. No.	Degree Programme	No. of Students
1.	B.Sc. (Ag.)	291
2.	B.Sc. (Hort.)	54
Total		**345**
1.	M.Sc. (Ag.)	220
2.	M.Sc. (Hort.)	94
Total		**314**
1.	Ph.D. (Ag. /Hort.)	38
Total		**38**
Grand Total		**697**

2.4.2 **Students Strength at a Glance:** During the year 2020-21, total 2163 students were on the roll of the University, out of which 1365 in UG, 510 in PG and 121 in Ph.D. degree programmes.

S. No.	Degree Programme	No. of Students (2020-21)
1.	B.Sc. (Ag.)	1179
2.	B.Sc. (Hort.)	186
	Total	**1365**
1.	M.Sc. (Ag.)	510
2.	M.Sc. (Hort.)	167
	Total	**677**
1.	Ph.D. (Agri. /Hort.)	**121**
	G. Total	**2163**

2.4.3 **Gender Wise Students Strength:** During the year 2020-21

2.4.4 A total of 1387 boys and 776 girls' (Total Students-2163) students were on the roll of the University, out of which, 875 boys and 490girls were in UG, 448 boys and 229 girls in PG, and 59 boys and 58 girls were in Ph.D. degree programmes.

2.5 Teaching Status:

Completion of a degree programme requires successful study of the courses as approved by the Academic Council. Every student has to study a set of prescribed courses per semester. The semester wise courses offered and total credits covered in different undergraduate and postgraduate degree programmes are given below:

2.5.1 Under Graduate: B.Sc. (Ag. /Hort.)

(A) B.Sc. (Ag.)

B.Sc. (Ag.)	Courses offered (No.)		Total Credits	
	I Sem.	II Sem.	I Sem.	II Sem.
I Year	8	9	20 (14+6)	22 (14+8)
II Year	10	9	26 (15+11)	23 (13+10)
III Year	8	9	20 (13+7)	18 (10+8)
VI Year	5*	6**	20 (0+20)	20 (6+14)
Total	**26**	**33**	**86 (42+45)**	**83 (43+40)**

RAWE/RHWE*, ELP**

(B) B.Sc. (Hort.)

B.Sc. (Hort.)	Courses offered (No.)		Total Credits	
	I Sem.	II Sem.	I Sem.	II Sem.
I Year	11	09	21(13+8)	21(12+9)
II Year	10	09	25(14+11)	23(13+10)
III Year	08	08	19(11+8)	20(12+8)
VI Year	02	02	20(5+15)	20(5+15)
Total	**31**	**28**	**85**(43+42)	**84**(42+42)

2.5.2 Post Graduate: M.Sc. (Ag. /Hort.):

S. No.	Subject/Department	Courses offered (No.)		Total Credits	
		I Sem.	II Sem.	I Sem.	II Sem.
1.	Agronomy	11	09	21 (16+5)	19 (13+6)
2.	Agricultural Economics & Farm Management	10	11	17 (13+4)	22 (14+8)
3.	Entomology	10	11	16 (9+7)	21(13+8)
4.	Extension Education	10	09	18 (12+6)	18 (12+6)
5.	Plant Breeding & Genetics	10	09	20 (13+7)	16 (10+6)
6.	Plant Pathology	11	10	21 (14+7)	19 (12+7)

7.	Soil Science & Agricultural Chemistry	10	09	21 (14+7)	19(13+6)
8.	Fruit Science	10	09	22 (15+7)	16 (10+6)
9.	Vegetable Science	10	09	22 (15+7)	17 (11+6)
10.	Plantation, Spices, Medicinal & Aromatic Crops	10	09	22 (15+7)	17 (11+6)
11.	Floriculture & Landscape Architecture	10	09	22 (15+7)	18 (12+6)

2.5.3 Ph. D. (Ag. /Hort.):

(A) Agriculture:

S. No.	Department	Course offered (No)		Total credits	
		I Sem	II Sem	I Sem	II Sem
1.	Agronomy	09	09	17(13+4)	14 (12+2)
2.	Agricultural Economics & FM	09	09	16 (11+5)	17 (11+6)
3.	Entomology	10	10	15 (11+4)	14 (10+4)
4.	Extension Education	09	09	16 (11+5)	18 (12+6)
5.	Plant Breeding & Genetics	09	09	12 (10+3)	16 (12+4)
6.	Plant Pathology	09	09	17 (11+6)	13 (10+3)
7.	Soil Science & Agricultural Chemistry	09	10	15 (12+3)	17 (14+3)

(B) Horticulture:

S. No.	Department	Course offered (No)		Total credits	
		I Sem	II Sem	I Sem	II Sem
1.	Fruit Science	09	08	17 (11+6)	13 (10+3)
2.	Vegetable Science	10	08	19 (12+7)	13 (10+3)

2.6 Experiential Learning Programme: As per the recommendations of Fifth Dean's Committee that the B.Sc. (Ag.)/B.Sc. (Hort.) graduates must have adequate hands on experience on different aspects of agriculture/horticulture. For this purpose, the experiential learning programme has been introduced in the final year that includes different aspects of horticulture and agriculture.

Modules of Experiential learning programme	Nos. of students
A. B.Sc. (Ag.)	
Module – I Crop Production	**205**
Seed Production Technology	
Remote Sensing, GIS & Land Use Planning	
Integrated Farming System	
Water Management	
Soil Management	
Management of Post Harvest Insect Pests & Diseases	
Module – II Crop Protection	
Integrated Pest & Disease Management	
Management of Post Harvest Insect Pests & Diseases	
Non Insect Pest Management	
Pesticides and Plant Protection Equipments	
Nursery Management of Horticultural Crops	
Integrated Farming System	
Module – III Horticulture	
Commercial Vegetable Production	
Commercial Floriculture	
Nursery Management of Horticultural Crops	
Processing & Value Addition of Horticultural Crops	
Integrated Pest & Disease Management	
Management of Post Harvest Insect Pests & Diseases	
Module IV	
Commercial Vegetable Production	
Nursery Management of Horticulture crops	
Protected cultivation of Horticultural crops and seed production of vegetable and flowers	
Processing and value addition of horticultural and crops	
Integrated Pest and Disease Management	
Mushroom cultivation	
Module V	
Nursery Production and management	
Module VI	
Protected cultivation of high value vegetable crops	
Module VII	
Floriculture & Landscape Gardening	
Module VIII	
Value addition in horticultural crops	
B. B.Sc. (Hort.)	
Module I	46
Nursery production and management	
Module II	
Protected Cultivation of High value horticultural crops	
Module III	
Floriculture and Landscape Gardening	
Module IV	
Post harvest technology and value addition	

GLIMPSES OF EXPERIENTIAL LEARNING PROGRAMME


REDMI NOTE 7 PRO
AI DUAL CAMERA


Department of Horticulture
College of Agriculture, Indore
ELP Processing Unit
Fruit, Vegetable & Food Crops
Rajmata Vijyaraje Scindia Krishi Vishwavidyalaya

2.7 Rural Agricultural/Horticultural Work Experience (RAWE/RHWE): As a part of regular curriculum, the final year students of B.Sc. (Ag.) and B.Sc. (Hort.) are placed in rural areas for one semester in selected villages through Krishi Vigyan Kendras (KVKs) working in the region, where each student is attached to one host farmer for practical training with regards to crop production, crop protection, economics and also dynamics of the rural society. Further, some social activities were also performed by the students like sanitation in the village, plantation in the premises of primary and middle schools.

RAWE/RHWE AT A GLANCE

S.No.	Particular	Gwalior	Sehore
1.	**No. of student**	Total Student-63	Total Student-83
2.	**Adopted villages/ KVKs**	Provided home town through Acc. to ICAR COVID-19 guideline	
3.	**Technologies Dessimenated**	• Hybrid Varities of vegetable crops • Water conservation Technology • Seed treatment in Kharif and rabi crops • Known about Azolla unit construction • Plant protection in soybean, ground nut, pigeon pea. and mustard • Soil sampling, • Application of Micro-nutrients • Management Practices of animal husbandry	• Survey of host farmers and villages , • Sowing ofs different crops, • Soil testing, Land preparation • Use of improved seed • Demonstration on seed treatment and other new agriculture technology • Promote different irrigation techniques. Water Management • Increase the use of organic manures, use of recommended dose of fertilizers

S.No.	Particular	Indore	Khandwa	Mandsaur
1.	**No. of student**	Total Student-78	Total Student-46	Total Student-46
2.	**Adopted villages/KVKs**	Provided home town through Acc. to ICAR COVID-19 guideline		
3.	**Technologies Dessimenated**	Nil	• Orientation and survey of village • Agronomical Interventions • Plant Protection Interventions • Soil Improvement Interventions • Fruit and Vegetable Production Interventions • Animal Production Intervention • Extension and Transfer of Technology Activities	• Students experienced about rural livelihood and conditions in relation to agriculture and allied sector like postharvest management, agriculture engineering, animal husbandry, poultry, Dairy etc. including social structure. • Students learnt about cultivation practices of onion, garlic, soybean, moong, urd, cauliflower, cabbage, chilli, tomato, marigold, chrysanthemum, rose, brinjal, okra, beans, chandrasoor, fenugreek, cucumber, mango, guava, citrus and pomegranate etc. • Students learned about integrated nutrient management different horticultural crops. • They learned about raising nursery of different vegetables crops • They learnt about different method of

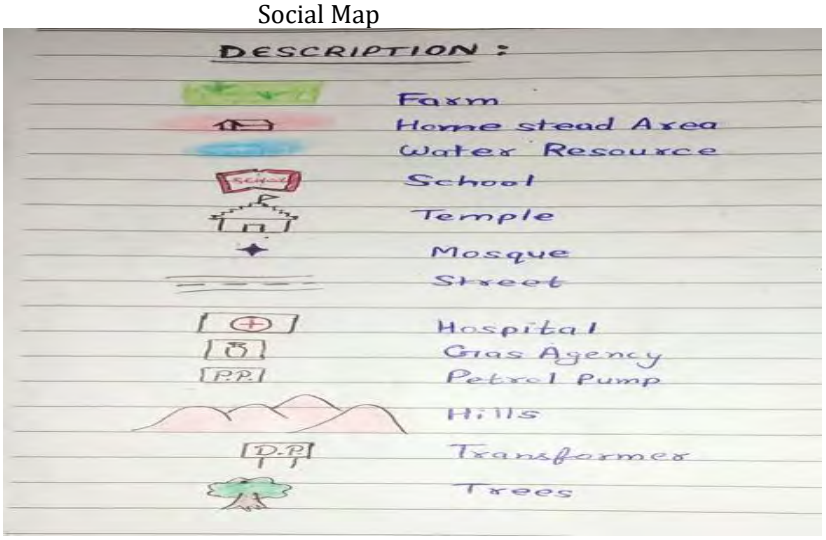
				seed treatment in various crops. • Students learnt about drip irrigation and sprinkler system in Garlic, pomegranate, onion, citrus other horticultural crops. • They were trained to manage insect pest and diseases in different vegetables, ornamental, fruit and spice crops • Students got experience about harvesting and grading in different horticultural crops like cauliflower, cabbage, tomatoes, chillies, onion, garlic, bottle gourd, fenugreek and other available crops. • Students were skilled for curing in onion and garlic crops. • They developed skill in propagation techniques in different horticultural crops. • Students knew about different sticky traps for management of insects in different crops. • They understand about use and importance of pheromone traps for some lepidopterous pests and lure traps for fruit fliesin different crops. • They have developed communication skill to transfer available agricultural technologies among farmers community. • They have acquainted with on-going extension and rural development programes of state and central government. • Ultimately, they have developed confidence and competence to solve complex agricultural problems

GLIMPSES OF READY (RAWE/RHWE) PROGRAMME

Agro industrial Attachment
Sanchi Milk Coperation

S. No.	Activities performed by students	Photographs
1	**Educational Activities** 1- Water Canal – Lower Goy Project 2- Biogas production (Gobar Gas)”-	 Water Canal – Lower Goy Project  Biogas production (Gobar Gas)” 

2	**Social Activity-** **1.** Village Sali (Bhagsur) Anganwadi **2.** Health centre 3. Tree Plantation Program Organize on the occasion Republic Day 4. Aarogyam Jan swasthya Kendra 5. Anganwadi , Primary and Higher secondary school	  Anganwadi Health centre   Tree Plantation Program  Visited Aarogyam Jan swasthya Kendra

		   Visited Anganwadi , Primary and Higher secondary school
3	**PRA Exercise** 1- Social Mapping 2- Resource Map 3- Seasonal Calendar 4- Time Line 5- Venn Diagram	 Social Map  Resource Map










Students applying Social Mapping technique of PRA

Visit of Soil Testing Laboratory

RAWE Students visiting VERMICOMPOST UNIT in Khargone District

Students participating in Swachhata pakhwadafrom 16 to 31 Dec,2020

Students visiting Balaji Seeds Company Plant Sirpur Khandwa.

Field Preparation

Transplanting of Tomato

Transplanting of Cauliflower

Field Preparation

Cultural Practices in Field

Weeding in Garlic Field

Discussion With Farmer in Chilli Field

Viewing the Problem in Tomato Field

Weed Removal From the Field

Practicing Irrigation by Flood System

Spraying of Insecticide in Tomato

Picking of Marigold Flowers

Picking of Cucumber

Staking in Banana

Spraying in Garlic Field Agaist Thrips

Picking of Guava

Spraying of Insecticide in Marigold Field

Spraying of Insecticide in Fenugreek Field

Picking of Guava

Harvesting of Pea

Transplanting of Cauliflower

Harvesting of Marigold

Cummunity Health Center Visit

Observing Flowering in Opium

Learning Preparation of Plant Cuttings

Assessment of Disease in the Field

NATIONAL AGRICULTURAL HIGHER EDUCATION PROJECT

List of Deliverables for Holistic Development of Students and FacultiesYear-2020

SN	Topic	Date
1	Training on Business support services	31 December 2020-02 2021
2	NAHEP project Launch Workshop	01 January2020
3	Sankalp Ki shakti	31 January2020
4	Sensitization workshop on AMS	13-14 February 2020
5	Virtual training on entrepreneurial motivation	09 April- 02 May 2020
6	Training on personality development and employability skills	30 April -30 May 2020
7	Excelsior	30April – 4 May 2020
8	Blossom	5-9 May 2020
9	Language and Communication Skill	5-9 May 2020
10	Sky is the Limit	12 -16 May 2020
11	Momentum	12 -16 May 2020
12	Refining Personality	11-15 May 2020
13	Turn Obstacle in to opportunity	12 May 2020
14	Employability Skill and Interview Skills	14-19 May 2020
15	Entrepreneurship Development	19-23 May 2020
16	Employability Skill	18-22 May 2020
17	Personality development Training	18-21, May 2020
18	Personality Development	25-29 May 2020
19	Landscape Development	25-29 May 2020
20	Career Opportunities in Agriculture: An Interactive Session for Agri- Graduates	28 May 2020
21	Entrepreneurship development through floriculture and land scaping	31 May 2020
22	Introduction to industry readiness for Agriculture students	1 June 2020
23	Self Sufficient Agriculture Graduates	2 June 2020
24	Career Opportunities in Agriculture field	3 June 2020
25	Career opportunities in electronic media for agricultural graduates	4 June 2020
26	Online session on skill development for arbitrageurs	3-7 June 2020
27	Online training on developing start-ups core values for aspiring entrepreneurs	3-7 June, 2020

28	Start-up initiative and entrepreneurship in Agri and food processing domains for youth	09-13 June 2020
29	Virtual training on entrepreneurship as a career option	15-27 June, 2020
30	Online International Student and Faculty Development Program on Innovation Food Processing Technologies: Value Addition, Food Safety and Security	29 June - 1 July 2020
31	Webinar on soil health: role of microorganisms and soil organic matter	06 July 2020
32	Victory over COVID-19 for Agriculture Professional and Faculties	14 -16 July 2020
33	Entrepreneurship opportunities through alternate Horticulture based farming system	16 July 2020
34	On-farm skill development through soil and water conservation technologies: A buffer against production risk in the face of climate risk	25 July 2020
35	Hi-tech Interventions for Agriculture Development and Catalysing Agri-Start-ups	17 August 2020
36	Computer Skill online training on Basic Excel	14-21 October 2020
37	One-week online faculty development program on “online Teaching and Learning practices	23-31 October, 2020
38	One-week online faculty development program on “online Teaching and Learning practices	24 November - 02 December, 2020
39	Technical Knowhow about Govt. Schemes for Budding Food processing Entrepreneurs	4 December 2020
40	National seminar on PMFME Scheme empowering the rural youth for livelihood security	9 December 2020
41	Opportunity for Agriculture graduate and scientist abroad	11December 2020
42	Becoming new age performer of students of College of agriculture, Indore	12-18 October, 2020
43	Online Seminar: scope of study abroad in agriculture	18 December 2020
44	3 days E workshop on start-up opportunity & emerging trends in agriculture domain	22-24, December, 2020
45	ICT Application in Agriculture	24 December 2020
46	Opportunities in custom Hiring Entrepreneurship of Farm Implements	26 December 2020

Indian Council of Agricultural Research

PORFORMA FOR SUBMISSION OF QUARTERLY /YEARLY REPORT UNDER DEVELOPMENT GRANT ACTION PLAN FOR SCHEDULED CAST (DAPSC)/SC SUB-PLAN

Financial Year 2020-21

A. College of Agriculture, Gwalior

1. **Name of the Agriculture University-** RVSKVV, Gwalior
2. **Title of the Project-** "Scheduled Caste- Sub Plan (SC-SP), Development Grant"
3. **Nodal Officer of the Programme –** Dr. V.B. Singh
   Name of the co-ordinators – Dr. Rajni Singh Sasode

Name of the Co-ordinators	Designation	Email	Mobile Number
Dr. V.B. Singh, Nodal Officer	Professor	ssvb_vbs@yahoo.co.in	9926689741
Dr. Rajni Singh Sasode	Scientist	rnikumujjain@gmail.com	9425306020

4. Location of the work:

S.No.	State	District	CD Block	Villages	% SC Population
1	MP	Gwalior	Morar	Kargawa	99.34%
2	MP	Gwalior	Morar	Virampura	34.16%
3	MP	Gwalior	Morar	Siroli	79.3%
4	MP	Gwalior	Morar	Gowai	41.6%
5	MP	Gwalior	Morar	Ganpatpura	53.2%
6	MP	Gwalior	Morar	Chandrapura	47.56%

5. Target Beneficiaries (Please give Details)

S.No.	Date	District	CD Block	Villages (Number)	Families (Number)	Individuals (Number)
1.	02.03.2021	Gwalior	Morar	Kargawa		
		Gwalior	Morar	Virampura		93
		Gwalior	Morar	Siroli		109
2.	03.03.2021	Gwalior	Morar	Kargawa		102
		Gwalior	Morar	Virampura		80
		Gwalior	Morar	Siroli		135
3.	04.03.2021	Gwalior	Morar	Kargawa		109
		Gwalior	Morar	Virampura		93
		Gwalior	Morar	Siroli		106
4.	05.03.2021	Gwalior	Morar	Kargawa		139
		Gwalior	Morar	Virampura		110
		Gwalior	Morar	Siroli		129
5.	23.03.2021 to 25.03.2021	Gwalior	Morar	Gowai		463
		Gwalior	Morar	Ganpatpura		524
		Gwalior	Morar	Chandrapura		483

6. Achievement for the years (2020)

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
1	**Trainings (Capacity building/ Skill Develop . etc.)**	No.													
1.1	1-3 days	No.													
1.2	4-5 days	01	Personality development & Soft Skills (Online) 02-06/02/2021				01	01					45	45	30,000/-
	4-5 days	01	Training & Capacity building programme on "Leadership skill" (Offline) 19-25/03/3021				01	01					123	123	2,00,000/-
	4-5 days	01	Training & Capacity building programme on "Life skills" (Online) 20-25/03/2021				01	01					70	70	
1.3	2-4 weeks	No.													
1.4	More than 4 weeks	No.													
2	**On Fram Trial (OFTs)**	No.													
3	**Front line Demonstration (FLDSs and other**	No.													
4	**Awarenes ss camp, exposure**	03	Swachta awareness camp (2019-				03	03							16,77

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
	visit etc		20)												6/-
		06	Swachta awareness camp (2020-21)				06	06					2735	2735	1,10,000/-
		06	Nutrition awareness camp (2020-21)				06	06							
		06	Health awareness camp (2020-21)				06	06							
		03	Literacy awareness camp (2020-21)				03	03							
5	**Services/ Facilitation**														
5.1	Animal health Camps	No.													
5.2	Artificial inseminat ion/ vaccinatio n	No.													
5.3	Veterinar y services (Hosp-italization)	No.													
5.4	Testing sample of soil ,plant, water feed, fodder	No.													
5.5	Promotio n of agri-entrepren -eurship	No.													
5.6	Promotio n of IFS, IOFS, natural farming, nutria garden.	No.													
5.7	Creation	No.													

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
	market links of farm produces														
5.8	Use of Institute facilities (Processing etc.)	hours													
5.9	Subside/ Assistance	No.													
6	**Distribution of literature**	No.													
7	**Employment generation for livelihood**	manmonths													
8	**Fellowship, Stipend or Scholarship**	No.													
9	**Area oriented R&D Activity**	Projects													
10	**Monitoring & Evaluation of DAPSC/ST (up to 3%)**														
11	**Any other (Specify) Tutorials for SC Students**	01	Tutorial Classes for SC students for higher studies by inviting eminent experts in the field of higher studies for preparing students for national/int				01 (94 lecture)	01 (94 lecture)					60	60	1,50,458/-

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
			ernational competitions 2-26 March 2021												
		01	Entrepreneurship Development Programme for SC beneficiaries 2-26 March, 2021				01 (58 lecture)	01 (58 lecture)					60	60	99,942/-

6. Direct Quantifiable benefits to SC Population : (250 words only)

Human resource development for upliftment and awareness in Sc-clusters is organized by College of Agriculture, Gwalior team in six villages of Morar block. In Kargawa, Virampura and Siroli villages three awareness programmes in each village on Swachta, Health and nutrition were conducted from 02-05/03/2021.In Gowai, Ganpatpura and Chandrapura villages four awareness programmes in each village on Swachta, Health,nutrition and literacy were conducted from 23-25/03/2021. Approximately 750 beneficiaries get benefited by these awareness programmes.

The online training of entrepreneurship development programme with NET/JRF/SRF classes for the preparation of competitive examinations for SC students under **Human Resource Development** programme on social issues under *SC- Sub Plan* was started on 26th February 2021 at College of Agriculture, RVSKVV, Gwalior. In this programme parallel classes of entrepreneurship development programme and tutorial classes (NET/JRF/SRF) were organized by inviting eminent experts from all over India. For entrepreneurship development programme total 58 individual lectures were conducted by the 24 eminent experts. In this programme different topics *i.e*. organic farming, mushroom cultivation, goat and poultry management, seed production technology, fodder management and weed management were covered by the experts**.** Two training programmes were also conducted by EDII, Bhopal with the topics "*Entrepreneurship as a Career Option*" and "*Agro based Entrepreneurial Opportunities*". For tutorial classes total 94 lectures were delivered by the 46 experts from different parts of India for preparing students for national and international competitions. The

programme was ended on 26th March, 2021 and approximately 45-60 students per day were attended the classes and get benefited by these awareness programmes.

7. **Inbuilt mechanism/surveillance system to ensure proper utilization of funds:**
8. **Previous work done, if any**
9. **Infrastructure Developed : (Location)**
10. **Success story/Impact/entrepreneurs, if any**

Revenue (Recurring)

S No.	**Name of the Item**	**Location**	**Number of units**	**Rate per unit**	**Amount (Rs. in lakhs)**
1	Scheduled caste sub plan (SC-SP)	SC Villages of Gwalior District			1.27
2	Capacity building programme	For SC students			2.30
3	Entrepreneurship programme	For SC students			0.99
4	Tutorial classes	For SC students			1.51
Total					**6.07**

Grand total (Capital+ Revenue)= (0+6.07)
In words (Rs in lakh)= Six lack seven thousand
In figures (Rs in lakh)= 6.07

11. Remarks, if any:

B. College of Agriculture, Indore

1. **Name of the Agriculture University:** RVSKVV, Gwalior
2. **Title of the Project:** Scheduled Cast (DAPSC)/SC SP
3. **Name of the co-ordinators:**

Name of the Co-ordinators	Designation	Email	Mobile Number
Dr. G.R. Ambawatia	Professor (Pl. Physiology)	ambavatia01 @gmail.com	9425940256
Dr. S.K. Sharma	Professor (Agronomy)	sanjayjbp.2007@rediffmail.com	9406642754
Dr. N.K. Gupta	Professor (Horticulture)	Dr_nkgupta @yahoo.com	9893098430
Dr. A.K. Sharma	Professor (Agronomy)	ashok.k.sharma.Indore @gmail.com	8319432708

4. **Location of the work:**

S.No.	State	District	CD Block	% SC Population
1	Madhya Pradesh	Indore	Pivday	14%
2.	Madhya Pradesh	Indore	Indore 02	8%
3.	Madhya Pradesh	Indore	Paliya	6%
4.	Madhya Pradesh	Indore	Barlai	10%
5.	Madhya Pradesh	Shajapur	Shajapur	25%
6.	Madhya Pradesh	Ujjain	Mahidpur	30%
7.	Madhya Pradesh	Dewas	Sunwani Karad	6%

5. **Target Beneficiaries (Please give Details)**

S.No.	District	CD Block	Villages (Number)	Families (Number)	Individuals (Number)
1	Indore	Pivday	2	150	120
2.	Indore	Indore 02	4 (Ward)	450	130
3.	Indore	Paliya	1	270	115
4.	Indore	Barlai	1	170	60
5.	Shajapur	Shajapur	1	450	250
6.	Ujjain	Mahidpur	1	80	90
7.	Dewas	Sunwani Karad	1	40	120

6. **Achievements for the year**

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
1	**Trainings (Capacity building / Skill Develop . etc.)**	No.													
1.1	1-3 days	No.	-	-	-	-	-	-	-	-	-	-	-	61	85247.00
		No.	-	-	-	-	-	-	-	-	-	-	-	81	2.40

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
		No.	-	-	-	-	-	-	-	-	-	-	-	81	97200.00
1.2	4-5 days	No.	-	-	-	-	-	-	-	-	-	-	-	39	97500.00
		No.	-	-	-	-	-	-	-	-	-	-	-	36	79500.00
		No.	-	-	-	-	-	-	-	-	-	-	-	31	2.40
		No.	-	-	-	-	-	-	-	-	-	-	-	35	80500.00
		No.	-	-	-	-	-	-	-	-	-	-	-	40	80240.00
		No.	-	-	-	-	-	-	-	-	-	-	-	7	19116.00
1.3	2-4 weeks	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4	More than 4 weeks	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
2	**On Fram Trial (OFTs)**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
3	**Front line Demonstration (FLDSs and other**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
4	**Awareness camp, exposure visit etc**		-	-	-	-	-	-	-	-	-	-	-	-	-
5	**Services / Facilitation**		-	-	-	-	-	-	-	-	-	-	-	-	-
5.1	Animal health Camps	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.2	Artificial inseminat ion/ vaccinati on	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.3	Veterinar y services (Hospitali zation)	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Testing	No.	-	-	-	-	-	-	-	-	-	-	-	-	-

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
.4	sample of soil ,plant, water feed, fodder														
5.5	Promotion of agri-entrepreneurship	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6	Promotion of IFS, IOFS, natural farming, nutria garden.	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7	Creation market links of farm produces	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.8	Use of Institute facilities (Processing etc.)	hours	-	-	-	-	-	-	-	-	-	-	-	-	-
5.9	Subside/ Assistance	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
6	**Distribution of literature**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
7	**Employment generation for livelihood**	man months	-	-	-	-	-	-	-	-	-	-	-	-	-
8	**Fellowship, Stipend or Scholarship**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
9	**Area oriented R&D Activity**	Projects	-	-	-	-	-	-	-	-	-	-	-	-	-
1	**Monitori**		-	-	-	-	-	-	-	-	-	-	-	-	-

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
0	ng & Evaluation of DAPSC/ST (up to 3%)														
11	Any other (Specify) Tutorials for SC Students		-	-	-	-	-	-	-	-	-	-	-	-	-

7. **Direct Quantifiable benefits to SC Population: (250 words only)**
8. **Inbuilt mechanism/surveillance system to ensure proper utilization of funds: -**
9. **Previous work done, if any**
10. **Infrastructure Developed : (Location) -**
11. **Success story/Impact/entrepreneurs, if any**

A. Civil work/Other facilities /List of Tools/Equipment's/Machinery:

S No.	Type of work	Location	Justification	Present Status	Cost
1.	-	-	-	-	-
2.	-	-	-	-	-

12. Budget received (during financial year only)

Capital (Non-recurring)/Revenue

Revenue (Recurring) Rs.15, 00,000.00

S No.		Name of the Item	Location	Number of units	Rate per unit	Amount+GST	Amount (Rs. in lakhs)
(i)(1212)	1	Banner	Shajapur/Agar malwa	3	270	810	810
	2	CADPRO DHA 200 gm-Medicine	Shajapur/Agar malwa	50	170	8500+1020(GST)	9520
	3	ULTIKEMPlus	Shajapur/Agar malwa	150	28	4200+1900(GST-732)	6832
	4	Calcigen 500m tab	Shajapur/Agar malwa	100	19		
	5	Ferce Tr cap	Shajapur/Agar malwa	100	29.66	2966+355.92(gst)	3322

	6	Doctor Fees	Shajapur/Agar malwa	0		3000	3000
	7	Sampat fuels	Shajapur/Agar malwa	0		1000	1000
	8	Diesel	Shajapur/Agar malwa			3000	3000
	9	Snacks	Shajapur/Agar malwa	100	150	1500	1500
	10	Snacks	Shajapur/Agar malwa	6	180	1080	1080
	11	Medicine-delton	Shajapur/Agar malwa	50	29.52	1476	
	12	Face Mask	Shajapur/Agar malwa	200	1.52	304	
	13	Phenyl	Shajapur/Agar malwa	100	25	2500	
	14	Hand Sanitizer	Shajapur/Agar malwa	100	22	2200+GST-888.32)	7368
	15	Garland	Shajapur/Agar malwa	10	20	200	200
	16	Diesel	Shajapur/Agar malwa	11/12 ...	89/87	1000	1000
	17	Food Packets	Shajapur/Agar malwa	120	80	9600	
	18	Tea	Shajapur/Agar malwa	120	10	1200	
	19	Water Bottle	Shajapur/Agar malwa	7	20	140	10940
	20	Tent House Item-Ceiling White	Shajapur/Agar malwa	4	250	1000	
	21	Curtain White	Shajapur/Agar malwa	2	150	300	
	22	Matting	Shajapur/Agar malwa	3	300	900	
	23	Chairs	Shajapur/Agar malwa	20	7	140	
	24	Chair Cover	Shajapur/Agar malwa	15	5	75	
	25	Big Table	Shajapur/Agar malwa	3	40	120	
	26	Small Table	Shajapur/Agar malwa	2	25	50	
	27	Table frill	Shajapur/Agar malwa	2	30	60	
	28	Sheet Big	Shajapur/Agar malwa	2	30	60	2905

	29	Thela Bhada	Shajapur/Agar malwa	4 rounds		200	
	30	Tanjit Pharma-Protiking powder	Shajapur/Agar malwa	25	112	2800	
	31	Protiking Powder Keshar Pista	Shajapur/Agar malwa	25	112	2800	
	32	Purest Hand Sanitizer	Shajapur/Agar malwa	80	22	1760+GST-988.80	8349
	33	Food Plates	Shajapur/Agar malwa	98	80	7840	7840
	34	Leaflet Folder	Shajapur/Agar malwa	1000	1.6	1600+80(gst)	1680
					TOTAL of Bill		**70346**
(ii)(1410)	1	Flex Banner	Barlai Village	1	300	300	300
	2	Diesel	Barlai Village	11/13..	89/86	1000	1000
	3	Dettol Soap	Barlai Village	100	8.05	805	
	4	Face Mask	Barlai Village	500	1.20	600	
	5	Sanitilium	Barlai Village	125	22	2750+(GST-669.9)	4825
	6	Sweets	Barlai Village	7	400	2800	
	7	Samosa	Barlai Village	250	8	2000	
	8	Mixture	Barlai Village	7	180	1260	
	9	Plate	Barlai Village			350	
	10	Glass	Barlai Village			400	6810
	11	Garlands	Barlai Village	6	25	150	150
	12	Sound & Light decoration	Barlai Village			1000	1000
	13	Tent-Ceiling	Barlai Village	15	100	1500	
	14	Table	Barlai Village	8	100	800	
	15	Sheet	Barlai Village	1	100	100	
	16	Net	Barlai Village	3	100	300	
	17	Chair	Barlai Village	15	0	200	
	18	Roll	Barlai Village	1	100	100	3000
	19	Diesel	Barlai Village	27.83	89.84	2500	2500
	20	Radium Sticker	Barlai Village	3	200	600	600
	21	Namkeen	Barlai Village	250gms	0.00	500	500
	22	Fastag recharge	Barlai Village			1000	1000
	23	Snacks-kachori	Barlai Village	50	15	750	
	24	Samosa	Barlai Village	100	15	1500	2250
	25	Sweets	Barlai Village	5	350		1750
	26	Diesel	Barlai Village	5/59..	89/48..	500	500
	27	Tent House Items	Barlai Village			2000	2000

	28	Food	Barlai Village	55	130	7150	7150
	29	Diesel	Barlai Village			7125	7125
	30	Diesel	Barlai Village	33/48..	89/66..	3000	3000
	31	Graphics-Leaflet	Barlai Village	1000	1.60	1600	
	32	Graphics-Leaflet	Barlai Village	1000	1.60	1600+(GST160)	3360
	33	Protichem Powder 200gms	Barlai Village	50	112	5600+(gst672)	6272
	34	Dettol Soap	Barlai Village	100	24	2400	
	35	Dettol Soap	Barlai Village	125	22	2750+(gst927)	6077
	36	Handicraft-Mix Item kit,Jute Bag & Cap	Barlai Village	220	155	34100	
	37	Handicraft-Mix Item kit,Jute Bag & Cap	Barlai Village	285	180	51300+(gst10248)	95648
	37	Diesel	Barlai Village	35/88..	89/17..	3200	3200
				TOTAL of Bill(rounded off)			**160000**
(iii)1465	1	Resume Folder	Indore	40	365	14600	
	2	Pulse Notebook	Indore	50	85	4250	
	3	Power Ball pen	Indore	50	20	1000+(gst2789.62)	19850
	4	M/S Office Training	Indore	38	2000	76000+(gst13680)	89680
					TOTAL of Bill		**109530**
(iv)1496	1	Folder	Indore	25	60	1505	
	2	Pad Roller	Indore	25	57	1425	
	3	Pen drive 32gb	Indore	40	495	19800	22730
					TOTAL of Bill		**22730**
(v)1579	1	Library Books	Indore	47		50000	
	2	Library Books	Indore	139		50000	100000
					TOTAL of Bill		**100000**
(vi)1580	1	Ebooks Library	Indore	25		200000	200000
					TOTAL of Bill		**200000**
(vii)1581	1	ELZIPO Powder	Indore	150	112	16800+(gst2016)	18816
	2	Dettol Soap	Indore	300	24	7200	
	3	Face Mask	Indore	2000	1.2	2400	
	4	Hand Sanitizer	Indore	300	22	6600+(gst2604)	18804
	5	Protiking Powder 200gms	Indore	150	112	16800+(gst2016)	18816
					TOTAL of Bill		**56436**

(viii)1582	1	Ebooks Library	Indore	25			200000
					TOTAL of Bill		**200000**
(ix)1583	1	AC repair Bolero	Dewas,Ujjain,Shajapur Villages				2772
	2	Water Jar	Indore	10	20	200	200
	3	Garland	Indore	5	20	100	100
	4	Tent House-Ceiling	Shajapur/Agar-Malwa	4	300	1200	
	5	Curtain	Shajapur/Agar-Malwa	4	150	600	
	6	Chair	Shajapur/Agar-Malwa	70	20	1400	
	7	Green Matting	Shajapur/Agar-Malwa	8	100	800	
	8	White Sheet	Shajapur/Agar-Malwa	2	20	40	
	9	Vehicle rent	Shajapur/Agar-Malwa			1000	
	10	Sound	Shajapur/Agar-Malwa			1000	6040
	11	Sweets	Shajapur/Agar-Malwa	9	360	3240	
	12	Kachori	Shajapur/Agar-Malwa	80	10	800	
	13	Aloo wada	Shajapur/Agar-Malwa	80	10	800	4840
	14	Toner Cartridge	Shajapur/Agar-Malwa	2	600	1200	1200
	15	Diesel	Shajapur/Agar-Malwa	36/70..	89/23..	3275	3275
	16	Tent House-Ceiling	Shajapur/Agar-Malwa	2	600	1200	
	17	Chair	Shajapur/Agar-Malwa	65	15	975	
	18	Curtain	Shajapur/Agar-Malwa	2	100	200	
	19	Green Matting	Shajapur/Agar-Malwa	2	1000	2000	
	20	Table	Shajapur/Agar-Malwa	4	100	400	
	21	Rent Gaadi	Shajapur/Agar-Malwa			300	5075

	22	Sweets	Shajapur/Agar-Malwa	360	10	3600	
	23	Kachori	Shajapur/Agar-Malwa	80	10	800	
	24	Aaloo Bada	Shajapur/Agar-Malwa	80	10	800	5200
	25	Lock Repair	Shajapur/Agar-Malwa	0		0	521
	26	Remuneration Bill	Indore	8	500	4000	4000
					TOTAL of Bill		**33223**
(x)1584	1	Apptitude Dev Training Online	Indore	39	2500	97500	97500
					TOTAL of Bill		**97500**
(Xi)1625	1	Python Training Language for Data Analytics	Indore	36	2200	79500	79500
					TOTAL of Bill		**79500**
(xii)1626	1	Training Fee-App of data science in Agriculture Iind	Indore	35	2300	80500	80500
					TOTAL of Bill		**80500**
(xiii)1627	1	One day FSSAI training to SC students	Indore	61	1400	85247	85247
					TOTAL of Bill		**85247**
(xiv)1628	1	Professional Fees for adv excel Training	Indore	40	1700	68000+gst12240	80240
					TOTAL of Bill		**80240**
(xv)1629	1	Online Training SC Students Jaipuria Inst of Mgt Faculty Remuneration	Indore	7	2100+gst	17346	
	2	Online Training SC Students Jaipuria Inst of Mgt Soft copy of Material for students	Indore	0	1500+gst	1770	19116
					TOTAL of Bill		**19116**
(xvi)1630	1	Online Training Programme on Enterpreneurial Dev in Mushroom Cultivation	Indore	81	1200	97200	97200

		Technology					
					TOTAL of Bill		**97200**
(xvii)1631	1	Toner cartridge	Indore	2	550	1100	
	2	Ink Bottle black	Indore	3	250	750	
	3	Ink Bottle	Indore	3	350	1050	
	4	Zibronic webcam pro	Indore	2	1800	3600	
	5	USB 2.1 Speaker	Indore	1	650	650+gst1287	8432
					TOTAL of Bill		**8432**
GROSS TOTAL OF ALL BILL UNDER SC SUB PLAN 2020-21							**1500000**

Grand total (Capital+Revenue) = 15, 00,000/-
In words (Rs. in lakh) =Fifteen Lakh Only/-
In figures (Rs. in lakh) =15, 00,000/-

13. Remarks, if any:

C. B.M., College of Agriculture, Khandwa

1. Name of the College- **B.M. College of Agriculture, Khandwa**
2. Title of the Project- **SC Sub plan**
3. Name of the co-ordinators- **Dr S.K. Arsia.**

Name of the Co-ordinators	Designation	Email	Mobile Number
Dr S.K. Arsia	Asstt. Professor.	path030@rediffmail.com	9425851509

4. Location of the work:

Year	State	District	CD Block	% SC Population
2019-20	Madhya Pradesh	Khandwa	Cheagoan Makhan	85%
2020-21	Madhya Pradesh	Khandwa	Khandwa	78%
2021-22	Madhya Pradesh	Khandwa	No fund allocated for these years	
2022-23	Madhya Pradesh	Khandwa		
2023-24	Madhya Pradesh	Khandwa		

5. Target Beneficiaries (Please give Details)

S.No.	District	CD Block	Villages (Number)	Families (Number)	Individuals (Number)
1	Khandwa (2019-20)	Cheagoan Makhan 3 days	Dhabi Gram Panchayat	70	450 villager 150 students
2	Khandwa (2020-21)	Khandwa 3 days	Malgoan Bamangoan Tigariya	85	575 Villagers
3	2021-22	-	-	-	-
4	2022-23	-	-	-	-
5	2023-24	-	-	-	-

6. Achievements for the year 2020-21

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
1	**Trainings (Capacity building/ Skill Develop . etc.)**	No.	-	-	-	-	-	-	-	-		-	-	-	-
1.1	1-3 days	No.	-	-	-	-	-	-	-	-		-	-	-	-
1.2	4-5 days	No.	-	-	-	-	-	-	-	-		-	-	-	-
1.4	More than 4 weeks	No.	-	-	-	-	-	-	-	-		-	-	-	-
2	**On Farm Trial (OFTs)**	No.	-	-	-	-	-	-	-	-		-	-	-	-
3	**Front line Demonstration (FLDSs and other**	No.	-	-	-	-	-	-	-	-		-	-	-	-
4	**Awareness camp, exposure Services/ Facilitation**	-	-	-	-	-	-	-	-		-	-	-	-	-

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
5	**Services/ Facilitation**	**06 Dustbin**	-	0	2	2	2	6			1200/	1200/	1200/	**3,600/**	-
5.1	Animal health Camps	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.2	Artificial inseminatio n/ vaccination	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.3	Veterinary services (Hospitaliza tion)	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.4	Testing sample of soil ,plant, water feed, fodder	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.5	Promotion of agrientrepren eurship	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.6	Promotion of IFS, IOFS, natural farming, **nutria garden**.	**300 Muranga plants**	-	-	-	-	-	-	-	-		-	-	-	-
5.7	Creation market links of farm produces	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.8	Use of Institute facilities (Processing etc.)	hours	-	-	-	-	-	-	-	-		-	-	-	-
5.9	Subside/ Assistance	No.	-	-	-	-	-	-	-	-		-	-	-	-
6	**Distributio n of literature**	No.	-	-	-	-	-	-	-	-		-	-	-	-
7	**Employmen t generation for livelihood**	**1600 units**	-	40 chicks/ person	25 kg starter	2 Water pot	2 Feeder		-	40 person	40 person	40 person	40 person	40 person received 4 things	1,69,600/00
8	**Fellowship, Stipend or Scholarship**	**No.**	-	-	-	-	-	-	-	-		-	-	-	-
9	**Area oriented R&D Activity**	**Projects**	-	-	-	-	-	-	-	-		-	-	-	-
10	**Monitoring & Evaluation of DAPSC/ST (up to 3%)**	**-**	-	-	-	-	-	-	-	-		-	-	-	-

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
11	**Any other (Specify) Tutorials for SC Students**	**-**	-	-	-	-	-	-	-	-		-	-	-	-

7. **Direct Quantifiable benefits to SC Population :** The main objective of the scheme is to increase the income of the target population by way of various income generating schemes, skill development and infrastructure development. This scheme will also help to reduce the poverty among the target population and bring them above the poverty lines and enhance their livelihood.

8. Inbuilt mechanism/surveillance system to ensure proper utilization of funds: **NA**

9. Previous work done, if any- **NA**

10. Infrastructure Developed : (Location) **Nil**

11. Success story/Impact/entrepreneurs, if any

B. Civil work/Other facilities /List of Tools/Equipment's/Machinery:

S No.	Type of work	Location	Justification	Present Status	Cost
-	-	-	-	-	-

12. Budget received (during financial year only) Capital (Non-recurring)/Revenue

S No.	Name of the Item/events	Location	Number of units	Rate per unit	Amount (Rs. in lakhs)
1	(2019-20) - HRD, Classes, Entrepreneurship, PD & capacity building etc	Khandwa	3+ 1	-	13.41 lakh
2	(2020-21) - Swatchata, Nutrition awareness& Health Awareness.	Khandwa	3+1	-	7 Lakh
				Total	20.41 Lakh

Revenue (Recurring)

S No.	Name of the Item	Location	Number of units	Rate per unit	Amount (Rs. in lakhs)
-	-	-	-	-	-

Grand total (Capital + Revenue) = 20.41 Lakh
In words (Rs in lakh) = Twenty Lakh & Forty one thousand only
In figures (Rs in lakh) = 20.41 Lakh

13. Remarks, if any:

D. KNK, College of Horticulture, Mandsaur

1. **Name of the Agriculture University:-** RVSKVV, Gwalior (MP)
2. **Title of the Project:-** SC-SP Sub Plan
3. **Name of the co-ordinators**

Name of the Co-ordinators	Designation	Email	Mobile Number
Dr. I. S. Tomar	Dean	dean.mandsaur@rvskvv.net	8989910003

4. **Location of the work: KNK College of Horticulture, Mandsaur (MP)**

S.No.	State	District	CD Block	% SC Population
1	Madhya Pradesh	Mandsaur	Mandsaur	18.6

5. **Target Beneficiaries (Please give Details)**

S.No.	District	CD Block	Villages (Number)	Families (Number)	Individuals (Number)
1	Mandsaur	Mandsaur	34	837	837

6. **Achievements for the year 2020-21**

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
1	**Trainings (Capacity building/ Skill Develop . etc.)**	No.													
1.1	1-3 days	07	343				Yes	343	343				Yes	343	230000
1.2	4-5 days	No.													
1.3	2-4 weeks	No.													
1.4	More than 4 weeks	No.													
2	**On Fram Trial (OFTs)**	No.													
3	**Front line Demonstration (FLDSs and other**	No.													
4	**Awareness camp, exposure visit etc**	06	489				Yes	489	489				Yes	489	320000
5	**Services/ Facilitation**	03	71				Yes	71	71				Yes	71	240000
5.1	Animal health Camps	No.													
5.2	Artificial insemination / vaccination	No.													
5.3	Veterinary services	No.													

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
	(Hospitalization)														
5.4	Testing sample of soil ,plant, water feed, fodder	No.													
5.5	Promotion of agri-entrepreneurship	No.													
5.6	Promotion of IFS, IOFS, natural farming, nutria garden.	No.													
5.7	Creation market links of farm produces	No.													
5.8	Use of Institute facilities (Processing etc.)	hours													
5.9	Subside/ Assistance	No.													
6	**Distribution of literature**	02	65				Yes	65	65				Yes	65	
7	**Employment generation for livelihood**	man months													
8	**Fellowship, Stipend or Scholarship**	No.													
9	**Area oriented R&D Activity**	Projects													
10	**Monitoring & Evaluation of DAPSC/ST (up to 3%)**														
11	**Any other (Specify) Tutorials for SC Students**	46	71				Yes	71	71				Yes	71	240000

7. **Direct Quantifiable benefits to SC Population :**
   (250 words only)
8. **Inbuilt mechanism/surveillance system to ensure proper utilization of funds:**
9. **Previous work done, if any : NIL**
10. **Infrastructure Developed : (Location) NIL**
11. **Success story/Impact/entrepreneurs, if any: NIL**

12. Budget received (during financial year only)
Capital (Non-recurring)/Revenue

Revenue (Recurring)

S No.	**Name of the Item**	**Location**	**Number of units**	**Rate per unit**	**Amount (Rs. in lakhs)**
					1500000
				Total	1500000

Grand total (Capital+Revenue)
In words (Rs in lakh)=
In figures (Rs in lakh)=

13. Remarks, if any:

2.8 Thesis Submitted:

2.8.1 M.Sc. (Agriculture/Horticulture): 167 Students submitted Thesis for Post Graduate degree programme in Agriculture discipline and 53 students for Horticulture degree programme.

2.8.2 Ph.D. thesis submitted to Director Instruction for evaluation: 20 student's submiteed Thesis for Ph.D. Agriculture / Horticulture degree programme.

2.9 Academic Excellence:

2.9.1 Student Performance in ICAR-JRF/SRF examination and other Scholarship/Stipends:

S. No.	Name of Fellowship/Scholarship	No. of Students 2020-21
1.	Junior Research fellowship received	**2**
2.	JRF qualified and admitted in different Universities of India without fellowship	**-**
3.	SRF Qualified without fellowship	**-**
4.	NET	**-**
5.	National Talent Scholarship	**14**
6.	Scholarship of Vikramaditya Yojna	**-**
7.	Scholarship of Gaon Ki Beti Yojna	**-**
8.	Dr. Shyamaprasad Mukharji Scholarship	**-**
9.	Medhavi Sambal Yojna	**169**
10.	Mukhyamantri Medhavi Vidyarthi Yojana	
11.	Post Metric Scholarship	**415**
	State Government Scholarship	
	(i) OBC	**237**
	(ii) SC	**84**
	(iii) ST	**94**

3. STUDENTS WELFARE ACTIVITIES:

3.1 National Service Scheme (NSS):

S. No.	Activity(s)	No. of Volunteers Participated
1	No. of students enrolled	291
2	No. of students passed/cleared ***'B' certificate examination***	17
3	No. of students passed/cleared ***'C' certificate examination***	1
4	NSS day celebration/Camp	89
5	Blood donation camp	12
6	Pulse polio camp	10
7	AIDs awareness day	98
8	Beti Bachao Abhiyan	105
9	Malnutrition day	35
10	Parthenium eradication day	15
11	Special camp	23
12	Voter ID awareness camp	17
13	State level camp	1
14	Unit camp	-
15	Rastriya Yuva Day	65
16	Sensitization day	115
17	Environment day	50
18	Plantation day	75
19	International Woman's Day	25
20	Awareness Programme	-
21	Pre. RD Camp	-
22	COVID-19 Awareness Programme	98
23	COVID-19 Camp	3
24	National Science Day	1

GLIMPSES OF NSS ACTIVITIES

COVID awareness Programme in Gwalior Mela

International women's day celebration

Expert lectures during camp

Distribution of sanitation kit to farmwomen

Plantation in Temple Campus


Strret play (Nukkad natak) by Students

Cleanliness near by water resources by the Students

Road Safety Awraeness Rally

Awareness Rally


how to protect yourself from coronavirus
1. Wash hands
2. Wear Mask
3. Don't touch Face
4. Maintain Distance
5. Elbow sneezing
#YOU SAVE LIVES
6. Stay At Home
COLLEGE OF AGRICULTURE INDORE
By: Dr. Hiralal Khapediya

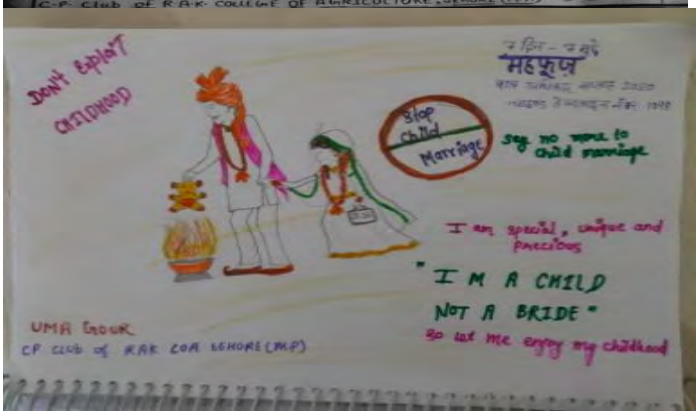

Nss - COA Indore
STAY
AT
HOME
PROTECT
YOU
LOVE
fight against to Corona


हम सब के प्रति कृतज्ञ हैं शासन प्रशासन के सभी अधिकारी
पुलिस डॉक्टर्स सफाई कर्मी दूध वाले पेपर वाले सभी के प्रति
हम कृतज्ञ हैं आप आपके जान जोखिम में डालकर लोगों की
सेवा कर रहे हैं भगवान आपको शक्ति प्रदान करें


पहुँच गयी है गिनती हजारो में,
इसे लाख मत होने दो ,
रुक जाओ अपने घरों में ,
देश को राख मत होने दो !!
#Stayhome #Staysafe
College Of Agriculture Indore


NSS
COA INDORE
This
STAY
HOME
US
Please
Spread

S

S. No.	Activities of NSS	Photograph &News paper cutting
1.	How to prevent the spread of infection and prevention of Kovid-19 by the first, second and third year students of National Service Scheme Unit of RAK Agricultural College, Sehore. For this, students were made aware by making posters and small videos and posting them on social media.	 **Online Social awareness program of Covid-19 by NSS students**
2.	In view of the scorching heat, students of National Service Scheme Unit of RAK Krishi College, Sehore, kept water containers for birds.	  सकोरे से पानी रख रहे पक्षियों की चहचहाहट बनी रहे, यह हमारी जिम्मेदारी पत्रिका न्यूज नेटवर्क सीहोर. आरएके कृषि महाविद्यालय की राष्ट्रीय सेवा योजना इकाई की छात्र-छात्राओं ने पक्षियों की चहचहाहट बनी रहे। इसके लिए अपने-अपने घरों पर सकोरे रखकर पक्षियों के लिए पानी की व्यवस्था की। साथ ही अन्य लोगों से भी अपील की है कि गर्मी में पक्षियों के लिए दाना-पानी की व्यवस्था अवश्य करें। कार्यक्रम अधिकारी डॉ. दीपके रैदास के मार्गदर्शन में कोरोना महामारी के बीच में अलग-अलग जिले में रहकर अपने घरों पर भीषण गर्मी को देखते हुए चेतुवार पक्षियों के लिए दाना-पानी रख रहे हैं। लोगों को इसके लिए प्रेरित कर रहे हैं। कर सीहोर. पक्षियों के लिए सकोरे में पानी रखती छात्राएं। रहे की चेतुवान पक्षियों को भूख प्यास से बचाना हम सभी का कर्तव्य है। छात्राएं तृप्ति तिवारी, कर्तिका लोधी, नीलिमा लोधी, रक्षती जैन, मंजू पीपले आदि ने यह कार्य किया गया तथा यह अन्य लोगों को भी प्रेरित कर रही हैं। **SehorePatrikadated 18.04.2020**
3	Poster for the prevention of child rights, child marriage by NSS students under the guidance of NSS Program Officer D. K. Raidas, under Child Protection Week, from 16 to 22 November 2020 by the Child Protection Club students of National Service Scheme Unit of RAK College of Agricultural Sehore, made people aware on social media through poems.	 

हरिभूमि

भोपाल - सीहोर भूमि
23 Nov 2020

सात दिन तक सोशल मीडिया में पोस्ट कर जागरूक किया

हरिभूमि न्यूज ▶▶ सीहोर

आरएके कृषि महाविद्यालय द्वारा बल संक्षरण क्लब के छात्र - छात्राओं द्वारा बाल संक्षरण सप्ताह का आयोजन 16 से 22 नवम्बर 2020 तक किया गया। जिसके अंतर्गत महफूज बाल अधिकार सप्ताह सात दिन सात मुद्दे जिसमे बाल संक्षरण अधिकार, बल शोषण और बाल विवाह, भिक्षावृति एवं बाल अपराध पर आधारित छात्र छात्राओं द्वारा पोस्टर, रंगोली, स्लोगन, कविताओं के माध्यम से सात दिन तक सोशल मीडिया में पोस्ट कर लोगों को जागरूक किया गया। बाल सप्ताह महफूज के अंतर्गत आज अंतिम दिन आज बाल अधिकार पर गूगल मीट के माध्यम से ऑनलाइन कार्यशाला का आयोजन किया गया।

बाल अधिकार जागरूकता के लिए छात्र-छात्राओं द्वारा सोशल मीडिया में पोस्ट किया गया। बल संक्षरण क्लब के छात्र-छात्राओं बल संक्षरण सप्ताह के अंतिम दिन छात्र छात्राओं ने शपथ ली ।

किसी बच्चों के साथ गलत होता है तो इसकी सूचना तुरंत 1098 पर दे जाये। राष्ट्रीय सेवा योजना कार्यक्रम अधिकारी द्वारा इस अभियान में एनएसएस स्वयंसेवकों की भागीदारी को भी उन्होंने रेखांकित किया। साथ ही उन्हें अपने आसपास रहने वाले बच्चों के प्रति सचेत रहने के लिए कहा।

HaribhoomiSehore Date 23.11.2020

3.2 National Cadet Corps (NCC):

S. No.	Activity(s)		Total Students
1.	No. of students enrolled		160
2.	Exam. passed	***'B' certificate***	19
		'C' certificate	42
3.	No. of cadets attended the CATC camp		26
4.	Army Attachment at Gwalior		-

Glimpses of NCC activities

3.3 Students Counseling and Placement:

S. No.	Name of employer / Organization	No. of students employed
1.	Central Govt.	16
2.	Government /public sector	18/0
3.	Private sector	9
4.	Self employed	7
Total		**50**

3.4 CULTURAL AND SPORTS ACTIVITIES:

3.4.1 CULTURAL ACTIVITIES

There was not any intercollegiate sport or cultural activity carried out this year due to COVID-19 pandemic situation.

1. Postgraduate student Mr. Saransh Saxena has participated in 14th National Inter-University competition and received the national award for best content in Hindi. The competition was held on-line and conducted by GBPUA&T, Pantnagar.
2. All India –Agriculture & Veterinary Universities cultural and Yoga competition was organized by NDVSU, Jabalpur from 15-17 December 2020, our students has participated in this competition and following students have been awarded:-

S. No.	Name of Student	Name of Events	Position
1	Mr. Gokul Prajapati	Solo Song (Non Filmy)	Second
2	Ku. Jyoti Sengar	Yoga	First

//Order//

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, will conduct "Abhinandan: A Student Induction Programme" in all its constituent Colleges for newly admitted UG/PG/Ph.D. students with a purpose to familiarize them with the functioning of the University and to make them ready for the life ahead. The aim of the program is to inspire new entrants to begin their academic journey confidently and comfortably, preparing them for their College life and beyond.

This program will commence ten days before the start of the academic session. Participation of all newly admitted students, staff, and parents is mandatory. The detail of programme is appended below:

ABHINANDAN

"Orientation: Empowering New Beginnings"

A STUDENT INDUCTION PROGRAMME

1. Title	**"Creating a Unified Campus Community: Fusing Ideas and Integrating Knowledge"**
2. Organization:	**Constituent Colleges of RVSKVV, Gwalior**
3. Nature of Project	Mentor-Mentee System under Various Clubs of OMAS project of the University
4. Theme	Guiding Freshers in UG and PG Programs: Building Confidence, Bonding, and Universal Values for Holistic Development
5. Duration	10 days prior to the commencement of First Semester of newly admitted UG, PG and Ph.D. students of RVSKVV, Gwalior.

Goals

- Foster the holistic development of newly admitted students by playing a positive and catalytic role.

- Cultivate moral and ethical behavior, nurturing human values to empower students to contribute positively to society.
- Support learners in discovering and harnessing their creative potential and talents, while enhancing their physical and psychological strengths through active participation in co-curricular and extra-curricular activities.
- Instill a sense of social and environmental responsibility among students, promoting sustainable development perspectives and actions as integral to their lifestyles.
- Develop well-rounded citizens equipped with knowledge of constitutional rights and duties, fostering respect for linguistic, cultural, and gender diversity.

Motto:

1. Orient students on institutional profile, academic rules, regulations, and scholarship provisions.
2. Educate students about career prospects in agriculture and related fields.
3. Familiarize students with government plans, policies, and flagship programs.
4. Infuse universal human values to broaden students' life perspectives.
5. Promote regular lifestyle habits and professional discipline among students.
6. Develop students' skills and proficiency in extracurricular and co-curricular activities.
7. Provide platforms for formal and informal interactions among students, faculty, and seniors to enhance interpersonal relations.
8. Sensitize students through clubs like 'Club Sarthee', 'Equal Edge', and 'Club Harmony' on constitutional rights, duties, and respect for linguistic, cultural, and gender diversity.
9. Foster creativity, personality development, and soft skills through activities organized by clubs such as 'Learners' First', 'Shine and Divine', and 'Campus Collage' under Project OMAS.

Activity Schedule:

- Morning Yoga & Exercise: 6:00 AM - 7:30 AM

- Know Your University Session: 9:30 AM - 11:30 AM
- Personal Development Workshop: 11:30 AM - 1:00 PM
- Human Values Session: 2:30 PM - 4:00 PM
- Creative Arts Workshop: 4:00 PM - 5:30 PM
- Evening Sports Activities: 6:00 PM - 7:00 PM

Topics of Lectures to be conducted:

The constituent Colleges of the University are committed to providing students with comprehensive training in various life skills to promote holistic growth and development. This initiative aims to enrich their educational journey, making it dynamic, integrated, and multifaceted, thereby ensuring that graduates from RVSKVV are well-received across all sectors of society.

Deans of all Colleges are encouraged to invite experts from prestigious institutes or renowned freelance speakers to deliver lectures on the following topics:

- "Cultivating Knowledge: Essential Principles of Agricultural Education"
- "Balancing the Scales: Progress, Hurdles, and Solutions in Gender Equity in Education "
- "Legal Literacy Unveiled: Fundamental Concepts and Significance"
- "Espousal of Diversity: Honoring the Rich Tapestry of Humanity"
- "Roadmap to Good Citizenship: Rights, Responsibilities, and Civic Obligations"
- "Ensuring Safety: Anti-Ragging Regulations in Educational Institutions"
- "Growing Your Career: Essential Skills and Qualifications for Agriculture Success"
- "Venturing into Agricultural Entrepreneurship: Opportunities and Challenges Ahead"
- "The Psychological Impact of Eve-Teasing: Consequences for Victims and Society"

- "Yoga and Pranayama: Holistic Benefits for Mind, Body, and Soul"
- "Personal Growth: Building Self-Awareness and Confidence"
- "Cultivating Connections: Mastering Networking Skills for Professional Success"
- " Encouraging Collaboration: Leadership in Team Dynamics"

- "Exploring Human Values: Truth, Honor, Freedom, and Courtesy"
- "Empowering Tomorrow's Voters: Youth Engagement in Electoral Participation"
- "Unlocking Your Potential: Self-Awareness, Confidence, and Personal Growth"

The list of lecture topics provided above is not exhaustive. Deans of the Colleges have the flexibility to choose related topics or relevant subtopics that they find suitable and beneficial for the students of their respective Colleges.

Day wise Activities of *"ABHINANDAN"*

Day –: I Inaugural session from 9:30-10:30					
6-7 AM	**10:30-11:30 AM**	**11:30 AM-1PM**	**2:30-4 PM**	**4-5:30 PM**	**6-7 PM**
	Know your University	**Shape yourself**	**Human Values**	**Creative Art**	**Sports Activity**
Yoga And Meditation	University + Campus Profile	Lecture on "Cultivating Knowledge: Essential Principles of Agricultural Education"	*Lecture on "Promoting Interfaith Understanding: Embracing Religious Diversity"*	Creative Art: Rangoli and Clay Modelling	Warm Up, Introduction to Badminton Grip, lift and Service
Day – II					
Yoga And Meditation	Academic rule and regulations	"Yoga and Pranayama: Holistic Benefits for Mind, Body, and	"Balancing the Scales: Progress, Hurdles, and Solutions in Gender	Creative Art :Paper Craft	Warm Up, Introduction to Basketball Passes, dribbling,

		Soul"	Equity in Education "		
Day – III					
Yoga And Meditation	Ragging : Curbing the menace Introduction and interaction with the anti ragging committee	Lecture on "Introduction to Legal Literacy: Basic Concepts and Importance" Part-I	Lecture on "The Psychological Impact of Eve-Teasing: Consequence for Victims and Society"	Creative Art: Collage Making	Warm Up, Introduction to Football Basic rules and regulations Passes and field positions
Day – IV					
Yoga And Meditation	Student amenities/facilities ➢ Placement Section ➢ Advisory system ➢ ARIS Cell ➢ Portal Information ➢ Smart Card ➢ Medical + Insurance Scholarship	Lecture on "Espousal of Diversity: Honoring the Rich Tapestry of Humanity"	Lecture on "Unlocking Your Potential: Self-Awareness, Confidence, and Personal Growth"	Creative Art: Poster Making And Cartooning	Warm Up, Introduction to Kho-Kho Endurance work, footwork attack
Day – V					
Yoga And Meditation	Sports and cultural activities of the College	Lecture on "Roadmap to Good Citizenship: Rights, Responsibilities and Civic Obligations"	Lecture on "Legal Framework: Anti-ragging Laws and Policies in Educational Institutions"	Creative Art : On The Spot Painting	Warm Up, Introduction to Volley ball, Hand Control, Passes, Service
Day – VI					
Yoga And Meditation	NCC/NSS activities of the College	Lecture on "Introduction to Legal Literacy: Basic Concepts and	Lecture on "Gender Equity in Education: Achievement	Performing Art : Theatre Mono Acting, One Act	Warm Up, Introduction to Cricket and its

		Importance” Part-II	s, Challenges and Strategies”	Play ,Skit	rules
Day –VII					
Yoga And Meditation	Hostel and Hostel rules ➢ Introduction of warden	Lecture on "Ensuring Safety: Anti-Ragging Regulations in educational Institutions"	Lecture on “Human Values and Professional Ethics”	Performing Art: Solo Song, Group Song	Inter Class Cricket Match –I
Day – VIII					
Yoga And Meditation	OAMS* (Over All Mentoring of Students) and information of clubs	Lecture on "Growing Your Career: Essential Skills and Qualifications for Agriculture Success"	Lecture on “Exploring Human Values: Truth, Honor, Freedom, and Courtesy"	Creative Art: Pencil Shading, Calligraphy	Inter Class Cricket Match -II
Day – IX					
Yoga And Meditation	Introduction session of faculty with new entrants ➢ Name ➢ School passed ➢ % Obtained ➢ Hobby ➢ Achievement	Lecture on "Empowering Tomorrow's Voters: Youth Engagement in Electoral Participation"	Lecture on "Promoting Interfaith Understanding: Embracing Religious Diversity"	Performing Art: Solo Dance, Group Dance	Sports Activity: Athletics Basic information about track and field events
Day – X Closing Day					
Yoga And Meditation	Concluding session	Introduction Party			
	Concluding session: a. Welcome by the dean b. Feedback from	Film Show Lunch Party for All students, faculty and staff			

	the new students c. Prize Distribution d. Introduction and interaction with the senior students e. Prize distribution, Distribution of UG study material, rule and regulation of academics, hostels ragging etc. Course curriculum f.Address by the chief guest g.Vote of thanks				

4. RESEARCH HIGHLIGHTS:

The research network of the University spreads over six agro-climatic zones of Madhya Pradesh and covers 26 revenue districts. These agro-climatic zones are Gird, Malwa Plateau, Nimar Valley, Jhabua Hills, Vindhyan Plateau and Bundelkhand zones. Accordingly, five Zonal Agricultural Research stations, four Regional Agricultural Research Stations and five Special Research Stations have been operating to enhance the productivity and livelihood security of farming community. Presently, 27 All India Coordinated Research Projects on crop improvement, natural resource management and horticulture are running at different centers. Besides these, 7 plan, 12 non plan, 23 tribal sub plan, 5 Agromet Advisory services, 05 externally funded projects are the research strength of the University. The maintenance breeding of crop varieties and production of nucleus seed, breeder seed, hybrid seed and planting materials are managed with the help of twenty seven seed farms.

Research Stations of the University

S.No.	Particulars	No.	Location and Year of Establishment
1.	Zonal Agricultural Research Station	05	Indore (1924), Sehore (1952), Khargone (1964), Morena (1981) and Jhabua (1989)
2.	Regional Agricultural Research Station	04	Gwalior (1916), Khandwa (1964) Ujjain (1989) and Mandsaur (1964)
3.	Special Research Station	06	Enthkedi (1962), Jaora (1964), Bagwai (1964), Badwah (1969), Bhind (2010) and Sirsod (2011)

4.1 List of All India Coordinated Research Projects:

S.No.	Name of Projects	Centre
1	AICRP on Water Management	Morena
2	AICRP on Groundnut	Gwalior
3	AICRP on Rapeseed & Mustard	Morena
4	AICRP on Safflower	Indore
5	AICRP on Soybean	Sehore
6	AICRP on Cotton Improvement Project	Khandwa
7	AICRP on Sorghum improvement	Indore
8	AICRP on Chickpea	Sehore
9	AICRP on Pigeonpea	Khargone
10	AICRP on Pearl Millets	Gwalior
11	AICRP on Wheat Improvement Project	Gwalior
12	AICRP on Dryland Agriculture	Indore
13	AICRP on Medicinal and Aromatic Plants	Mandsaur
14	AICRP on Salt Affected Soils	Indore
15	AICRP on Weed Control	Gwalior
16	AICRP on Arid Legumes (Guar)	Gwalior
17	AICRP on Pigeonpea (Sub Centre)	Sehore
18	AICRP on MULLaRP	Sehore
19	AICRP on Integrated Cropping System	Indore
20	AICRP on Fruits (Grape)	Mandsaur
21	AICRP on Chickpea	Indore
22	AICRP on Soybean	Morena

23	AICRP on Onion & Garlic	Mandsaur
24.	ICAR Seed Project on Seed Production in Agricultural Crops	Gwalior

4.2 Research Schemes (Non Plan)

S. No.	Name of Scheme/Project	Centre
1	Agriculture Research Lab & Institute	Indore
2	Regional Research Station	Indore
3	Soil Testing Scheme	Indore
4	Regional Research Station	Sehore
5	Regional Research Station	Gwalior
6	Regional Research Station	Bagwai
7	Intensification of Research on Mango Guava & Citrus	Gwalior
8	Soil Testing Scheme	Gwalior
9	Intensification of Research on Mango, Guava & Citrus	Enthkedi
10	Horticulture Research Scheme (Seed production)	Jaora
11	Sugarcane Research Scheme	Indore
12	Potato Aphid Research	Sehore

Seed Farms (Non Plan)

S. No.	Name of Scheme/Project	Centre
1	Agriculture Research Farm	Mandsaur
2	Agriculture Research Farm	Khargone
3	Agriculture Research Farm	Khandwa
4	Agriculture Research Farm	Bagwai
5	Agriculture Research Farm	Gwalior
6	Agriculture Research Farm	Ujjain
7	Agriculture Research Farm	Jaora
8	Agriculture Research Farm	Indore
9	Agriculture Research Farm	Sehore
10	Live Stock Farm	Gwalior
11	Live Stock Farm	Sehore
12	Live Stock Farm	Indore

4.3 Research Schemes (Plan)

S. No.	Name of Scheme/Project	Centre
1	Fodder Research Scheme	Gwalior
2	Strengthening of MP Agriculture Research Institute	Khargone
3	Productivity Improvement of crops under rainfed area	Indore
4	National Agricultural Research Project	Sehore
5	Director of Extension Education	Sehore
6	National Agricultural Research Project	Ujjain
7	College of Horticulture	Mandsaur

4.4 India Meteorological Department (GOI)

S. No.	Name of Scheme/Project	Centre
1	Agromet Advisory Services	Morena
2	Agromet Advisory Services	Khargone
3	Agromet Advisory Services	Jhabua
4	Agromet Advisory Services	Sehore
5	Agromet Advisory Services	Indore

4.5 Externally Funded Projects

S. No.	Title of the Project	Funding agency	Principal Investigator	Budget (Rs in lakhs)
1	Insecticide Resistance Management: Dissemination of pink bollworm management strategies	ICAR-Central Institute for Cotton Research, Nagpur	Dr S.K.Parsai, Senior Scientist (Entomology), RVSKVV, College of Agriculture, Khandwa	11.47
2.	Validation and Promotion of Location specific Prioritized Component-wise IPM Package in Rapeseed-Mustard	NCIPM, New Delhi	Dr J. C. Gupta, Senior Scientist (Plant Pathology), ZARS Morena	6 .00

S. No.	Title of the Project	Funding agency	Principal Investigator	Budget (Rs in lakhs)
1.	Validation and Promotion of Location specific Prioritized Component-wise IPM Package in Rapeseed-Mustard	NCIPM, New Delhi	J. C. Gupta (PI) Jagendra Singh (Co-PI) Swati Singh Tomar (Co-PI) Zonal Agricultural Research Station, Morena	0.50
2.	Technology dissemination through Frontline demonstration plots MIDH	DSSD, Calicut	Dr K.S.Kirad, KVK, Dhar	44.60
3.	RVSKVV-BARC Collaborative Experiments	BARC, Mumbai	Director Research Sirvices	2.95

Varieties Notified and released - Following varieties have been recommended for Notification by Central Sub-Committee on Crop Standards, Notification and Release of

varieties of agri-horticultural crops, Ministry of Agriculture Cooperation & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Govt of India, New Delhi-110 001 in its 84th Meeting on dated 10.07.2020 under Chairmanship of DDG (Crop Science), ICAR, New Delhi

Raj Vijay Toria 3 (RVT 3): It matures in 93–99 days. The yield potential is 13.00 q/ha. Plant medium (118-138cm) spreading, Angle of branching is obtuse, Leaves: sessile, green, seed is small to medium, Flowers: bright yellow in colour, Tolerance/ resistance to white rust, *Alternaria* leaf blight on pods, powdery mildew, downy mildew and *Sclerotinia* stem rot, less infestation of aphids. It is Suitable for rainfed and irrigated conditions of Madhya Pradesh

Raj Vijay Arhar 19 (RVA 19) [RVSA-16-1]:): It matures in 96 days. The yield potential is 19 q/ha. Resistant to *Fusarium* wilt and tolerant to Phytophthora blight. It is Suitable for cultivation in Tamilnadu, Karnataka, Andhra Pradesh and Telangana.

4.6 Salient Research Achievements:

Reflections of ongoing projects (Research Achievements)

- **Rain Water Management : Catchments–Storage Command Relationship for Enhancing Water Productivity in Micro –watershed:** Four cropping system models during 2019-20 by using harvested rainwater was evaluated in terms of crop yield, gross return, net return and B: C ratios. Among the different models, Soybean – Onion found the more remunerative as it recorded total net returns Rs. 263111/- per hectare with B: C ratio 4.76 followed by sequentially grown Maize grain – Sweet corn for green cob (Rs. 88632/- with B: C ratio 2.27), soybean – Chickpea (Rs. 58127/- with B: C ratio 2.45.The total 927.54 m^3 water was provided during rabi season toChickpea, Sweetcorn and Onion which was 36 m^3 (5.88 cm depth),394.2m^3(36.80 cm depth)and497.4 m^3(40.64 cm depth),respectively.

- **Application of bio-formulations in *kharif* groundnut production (Rcommendation based on 3 years data):** Application of 75% RDF along with NPK liquid formulation + Zn solublizing bacteria in groundnut crop variety "JGN 3" resulted in the higher pod yield, HI, B:C, gross and net returns as well as higher soil available N, P, K and organic carbon content under groundnut crop. This treatment was at par with 100% NPK with NPK liquid formulation + Zn solubilising bacteria bio formulations application.

- **Effect of Integrated weed management in *kharif* groundnut:** The application of pendimethalin 30EC + Imazethapyr 2 EC @ 1.0 kg/ha PE (ready mix) + quizafop – p- ethyl @ 50 g/ha at 15-20 DAS resulted in the significantly highest pod (2789 kg/ha), haulm yield (11111 kg/ha) water productivity (0.34 kg/m3) and weed control efficiency at 60 DAS (98%) of groundnut. It has also fetched the significantly higher net returns (96829 Rs/ha) and B C ratio (3.55) of the crop. It was followed by application of pendimethalin 30EC + Imazethapyr 2 EC @ 1.0 kg/ha PE (ready mix) with manual weeding at 25-30 DAS (2543 kg/ha, 7778 kg/ha, 0.31 kg/m3 and 88.9%, respectively).

- **Effect of Integrated water management in rainfed groundnut:** The combined application of hydro gel and mulch resulted in significantly highest pod yield (3011 kg/ha), gross (133994 Rs/ha) and net returns (93860 Rs/ha) of crop over application of hydro gel @ 2.5 kg/ha alone and the combined application of hydrogel with endophytic bacteria. The water productivity in groundnut crop with application of hydro gel with mulch, endophytic bacteria and with both mulch and endophytic bacteria was maximum (0.42 kg/m^3) which was significantly superior to farmer's practice (0.35 kg/m^3).

- **Nutrient Management: Permanent manurial trial in soybean-chickpea system in *Vertisols* :**The application of FYM 6 t /ha+ N20 P13 gave highest seed yield of 1943 kg ha^{-1} was found significantly superior with regards to seed productivity and improvement in physical and chemical properties of the soil.

- **Effect of precise leveling and seeding for wheat- based systems in scarce irrigated areas :** In scarce irrigated areas of India, pearl millet-wheat cropping system is depleting soil quality, system productivity and resources. A field experiment at AICRP-IWM, ZARS, Morena was assessed the cereal crop pearl millet (PM) and three legumes- pigeon pea (PP), greengram (GG) and clusterbean (CB) basedwheat (W) systems under two land levelling methods *viz*. traditional (TLL) and precision laser assisted (PLL), and three seeding methods- traditional tillage (TT), zero tillage (ZT) and permanent broad bed- furrow (PBBF) on various parameters. Results of PLL and PBBF crop establishment was significantly enhanced the soil quality parameters, growth characters, less plant mortality of rainy season crops and lodging of wheat compared with traditional practices. Overall improvement in soil quality, system- and water productivity (WP) and net returns were in ordered: PP-W > CB-W > GG-W > PM-W and

PBBF > ZT > TT. Results indicated that PBBF crop establishment in PLL condi tions can be made more sustainable productive, economic profitable, ameliorate soil quality and save resources in scarce irrigation system.

- **Performance of insecticides to control of gram pod borer (Helicoverpa) on yield of Gram**: Among different treatment to control of attack of gram pod borer (Helicoverpa) in gram, mean data of yield shows that the treatment Chlorantraniliprole @ 100 ml/ha had highest grain yield 1575 kg/ha followed by the use of treatment Indoxacarb @ 500 ml/ha (1523 kg/h) and Prophenophos @ 1.5 l/ha (1490 kg/ha) as compared to other treatments and control. Hence it has been concluded that maximum yield could be obtained by the use of Chlorantraniliprole @ 100 ml/ha and Indoxacarb @ 500 ml/ha.

- **Performance of different varieties of wheat under Jhabua conditions:** Mean data of yield shows that the Variety GW 463 had highest seed yield (4643 kg/ ha) followed by the GW 322 (4600 kg ha), HI- 8713 (4580 kg/ha) and HI - 1544 (4550 kg/ha). Hence, it has been concluded that these varieties has been found most suitable for this zone

/

- The application of pendimethalin 1.0 kg/ha as early post emergence (10 DAS) effectively controlled *Cuscuta reflexa* and gave higher fodder yield (86 t/ha) and seed yield (273 kg/ha) of berseem. Application of imazethapyr 40 g/ha after 1st cut (30 DAS) and again applied after last cut (90 DAS) was also found effective to control *Cuscuta reflexa* in berseem.

- **Establishment of Centre of Excellence on Organic cotton:** The centre on Organic cotton Research is established at AICRP on cotton, B. M. College of Agriculture Khandwa. The following facilities has been developed at this centre

i) **Fibre quality testing lab:** The high volume instrument for testing of cotton fibre quality has been installed at this centre. The fibre quality parameters viz Fibre Length, Strength, Micronaire& Maturity, Moisture, Colour and Trash Content (Gravimetric & Optical) can be estimated with the help of these instruments. This instrument works on both High-Volume Instrument (HVI) & International Cotton Calibration (ICC) mode and the testing speed of this instrument is 100 sample/hr.

ii) **Bt. gene contamination testing lab:** A well-equipped Bt gene detection lab has been established at this centre. The screening of Non Bt cotton genotypes for presence of Bt. gene contamination is started at this centre which will help in screening of pure non Bt. cotton genotypes for organic cultivation.

- **Effect of different farming systems on growth, yield, quality and economics of Groundnut:** Different farming systems showed significant influence on various growth parameters as well as yield and yield attributes. The tallest plant

and maximum number of branches plant^{-1} were recorded with application of recommended dose of fertilizers while highest final population of plants was obtained under zero budget natural farming which was found at par with organic farming. The initial plant stand, however, remained unaffected. Similarly, significantly highest number of pods plant^{-1} (17), pod weight plant^{-1} (20 g), shelling% (72), pod yield(1503 kg ha^{-1}) and haulm yield (5563 kg ha^{-1}) were recorded where recommended doses of fertilizers were applied except for 100-seed weight and SMK% which were found highest under zero budget natural farming. The quality parameters *viz.* moisture%, sugar%, protein% and oil% did not differ significantly under different farming systems. However, the application of RDF resulted in maximum value of moisture% and protein% whereas for oil% and sugar% it was recorded highest with organic farming which was at par with control and zero budget natural farming. The post harvest status of soil showed significant variation under different farming system. The highest available nitrogen (190 kg ha^{-1}) and phosphorus (7.3 kg ha^{-1}) was recorded with RDF application and the treatment was at par with organic farming and zero budget natural framing. While the highest available potassium (220 kg ha^{-1}) and organic carbon content (0.46%) was obtained under zero budget natural farming. The application of recommended dose of fertilizers fetched significantly highest gross (82080 Rs ha^{-1}) and net returns (46797 Rs ha^{-1}) whereas zero budget natural farming resulted in significantly highest benefit cost ratio.

- **Evaluation of different soybean based cropping sequences in *Vertisols :*** Three crop sequences Soybean- Chickpea/ Safflower/ Chickpea (Kabuli), Maize-Chickpea/Safflower/ Chickpea (Kabuli) and Black gram- Chickpea/ Safflower/ Chickpea (Kabuli) were grown under rain fed condition. Result revealed that crop sequence soybean -Chickpea found more remunerative as recorded highest total net return Rs.104698/- with B: C ratio of 3.91 followed by Black gram- chickpea (Rs.81815/- with B: C ratio of 3.27), maize – chickpea (Rs.76328/- with B: C ratio of 3.12). Whereas, lowest total net return Rs.9140/- with B: C ratio of 1.25 recorded by sequence Maize- safflower. Result showed that during *Kharif* soybean (JS 20-34) recorded highest seed yield 986 kg/ha followed by maize 695 kg/ha and black gram (417 kg/ha). During ***Rabi*** chickpea (RVG 203) produced higher seed yield 2250, 2188 and 2063 kg/ha grown after soybean, black gram and maize, respectively. Where as, the higher seed yield of safflower 750 kg/ha grown after black gram followed by 688 and 625 kg/ha recorded after soybean and maize.

- **Effect of tillage and mulch on soil properties after harvest of wheat:** The pH values of soil paste were affected significantly by tillage practices (Table 44). Fallow field showed maximum soil pH (8.60) followed by zero tillage (8.52). Mulch did not affect soil pH. Significantly lowest value of ECe (1.37 dS/m) was recorded under conventional tillage followed by reduced tillage (1.45 dS/m) and zero tillage (1.70 dS/m). However, ECe did not influenced significantly by mulch. . ESP as influenced significantly by various tillage and mulch practices. The lowest mean value of ESP (25.60) was recorded under conventional tillage followed by reduced tillage (28.23). The lowest

ESP (28.20) was noticed with mulch as compared to no mulch (30.12). Similarly, significantly higher organic carbon content was recorded with conventional tillage (0.43%). Application of mulch recorded significantly higher organic carbon content (0.42%) as compared to without mulch treatment. The data presented in Table 45 indicated that tillage practices and mulch had no significant effect on available N, P and K.

- **Precise crop establishment and water management practices beneficial for pigeon pea-wheat system:** In water scarce Northern region of Madhya Pradesh state, non-availability of the canal water and poor aquifer formations limit water availability for irrigation and enhanced crop production. A multiyear field study was initiated at AICRP-IWM, ZARS, Morena, to explore possibilities of enhancing crop productivity through improvement in soil quality and efficient use of ground water resources. The results indicated that permanent broad bed furrow (PBBF) seeding and irrigation with drip irrigation significantly enhanced the productivity of crops, wheat equivalent yield and system protein productivity of pigeon pea – wheat besides improving the soil water storage, water-use efficiency and soil quality parameters, as compared with all other methodsof tillage and seeding and irrigation followed under study. Overall improvement in productivity of system was in ordered: PBBF>zero till seeding >conventional tillage seeding and drip> Furrow >boarder strip irrigation in normal and abnormal climatic conditions. The study has indicated that drip irrigation system can be more effective in enhancing wheat equivalent yield, system protein productivity but if economic resources do not allow for drip irrigation system then PBBF with furrow irrigation method can also be a very good option with some management of the crop residues in dry land conditions.

- Enhancing nitrogen use efficiency in Bt. Cotton has been evaluated. Application of 75% RDN + placement (Spot application in 4 splits:-basal, squaring, flowering and boll development) +foliar application of 1 % Urea (3 times: - squaring, flowering and boll development)+ raising of sun hemp between rows incorporated before flowering was obtained highest seed cotton yield. Technology for organic cotton production has been worked out. It was concluded that seed treatment and soil application of reco- bio fertilizers with 1% foliar application of PPFM alongwith Neem cake 250 kg/ha and intercropping with soybean have maximum yield.The five Bt. genotypes and spacing had been evaluated. The genotypes (Denim 703 Bt) Was found superior than other genotypes. Whereas the spacing (60cm X 15 cm) was found superior than the other spacings. The maximum seed cotton yield was found with the interaction S_1 G_5. The maximum seed cotton yield was observed under the genotype (Rassi 659 BG II) with the application of ethrel @ 45 PPM at 40 DAS and mepiquat chloride @ 100 PPM at 90 DAS (G_1B_3).Mepiquat Chloride Sprayed (20ga.i/ha) on the plants at 60 and 75 DAS have

been evaluated. Plant height was clearly decreased by MC. Thus, Mepiquat chloride decreased plant height, LAI but increased the no. of bolls per square metre area and boll weight as well as seed cotton yield.

- **Effect of Land Configuration and Foliar Application of Nutrients for Yield Maximization in Black gram [*Vigna mungo (L.)* Hepper]**

Experimental Details: Twelve treatment combinations consisted with three land configurations (Raised bed, Flat bed sowing followed by ridge making, Flat bed) and four nutrient management (Control (Water spray), Neem coated urea @ 2% spray at flower initiation, TNAU pulse wonder @ 5 kg ha^{-1}spray at flower initiation, NPK (18:18:18) @ 2% spray at flower initiation), tested in strip plot design, keeping plot size of 5.0 m x 2.7 m. The experiment was sown on 23.07.2019 and harvested on 15.10.2019. The variety AKU- 96-3 was used.

Results: Among the land configuration, raised bed method of sowing found significantly superior than flat bed sowing. It gave seed yield of 841 kg/ha. As regards nutrient management, application of NPK 18:18: 18 @ 2% spray gave seed yield of 757 kg /ha which is found significantly superior than the control (615 kg/ha).

- **Effect of different treatments on seed yield of Urdbean.**

S. No.	Treatments	Seed yield (kg/ha)	
		2018-19	2019-20
A	**Land configuration: 03**		841
	2. Flat bed followed by ridge making	690	767
	3. Flat bed	367	466
	SEm ±	32.57	
	CD at 5%	90.41	73
B	**Nutrient management: 04**	516	615
	2. Neem coated urea @ 2% spray	585	682
	3. TNAU pulse wonder @ 5 kg ha^{-1}spray		711
	4. NPK (18:18:18) @ 2% spray		757
	SEm ±		
	CD at 5%		33.48
	CV%	5.22	4.23

- **Effect of fertilizer doses, organic manure and biofertilizer for yield maximization of urdbean and their effect on succeeding rabi crop**

Experimental Details: Eighteen treatment combinations consisted with three levels of recommended fertilizer, two levels of farm yard manure and three *Rhizobium* strains, tested in RBD with three replications, keeping plot size of 5.0 m x 3.0 m. The experiment was sown on 09.07.2019 and harvested on 08.10.2019.The variety AKU 96-3 was used.

Results: Application of 75 % of recommended dose of fertilizer gave significantly higher seed yield 875 kg/ha found on par with 100 % % recommended dose of fertilizer (786 kg/ha) than the 125 % RDF (681 kg/ha).Application of FYM @ 5 ton/ha gave significantly higher seed yield 859 kg/ha than no FYM application 702 kg/ha. Seed treatment with *Rhizobium* + LMn 16 is better yielded 870 kg/ha than the others.

Table: Effect of different treatments on productivity of Urdbean

S. No.	Treatments	Seed yield (kg/ha)	Seed yield (kg/ha)
		2018-19	2019-20
406	Fertilizer level -03		
	F_1 75% RDF	380	875
	F_2 100% RDF		786
	F_3 125% RDF	423	681
	SEm±	2.6	31
	CD at 5%	7.6	105
	CV %	3	17
2	Oragnic manure -02		
	m_0 control	594	702
	m_1 Farm yard Manure (5 ton/ha)	616	859
	SEm±	2.6	25
	CD at 5%	7.6	86
	CV%	3	16
3	Biofertilizer -03		
	B_1 rhizobium	397	787
	B_2 LMn 16	402	784
	B_3 rhizobium+ LMn 16	411	870
	SEm±	2.6	31
	CD at 5%	7.6	105
	CV%	3	17

- **System intensification for soybean productivity augmentation under ridge furrow planting**

  Experimental details: Design: split plot; Replications: 3; Gross plot: 6m x 3.6m; Net plot: 5.5 x 2.7m; Treatments: 08 Main plot: Variety 2(RVS 24 and JS 20-34), sub plot: Plant geometry04(45X5,45X10,45X20,45X30cm);Fertilizer: 20:60:20:20 N: P_2O_5: K_2O: S kg/ha; Sowing: 01-07-2019; Harvesting: JS 20-34(5-10-2019) & RVS 24 (11/10/2019).

  Results: The two factor interaction between varieties and plant geometry was significant. Variety RVS 24 recorded higher grain yield planted at 45X15 cm plant geometry and this combination was significantly at par with RVS24X45X10 cm combination. Whereas, variety JS 20-34 was gave significantly higher yield planted at 45X5 cm then other plant geometries.

- **Survey and surveillance of major insect-pests of grape and their natural enemies status of new emerging insect pests of grapes and their natural enemies :**

Injury level rating for different pests:

Pest	**Injury level**			***Plant part***
	Low	**Moderate**	**High**	
Flea beetle	Up to 15%	16 to 30%	> 30%	Leaf injury

Thrips	Up to 5%	6 to 15%	> 15%	Berry & Leaf injury/scrapping
Mealy bug	Up to 10%	11 to 20%	> 20%	Bud sprout or bunch damage
Helicoverpa	Up to 10%	11 to 20%	> 20%	Berry damage/bunch damage
Spodoptera	Up to 10%	11 to 20%	> 20%	Leaf damage
Mites	Up to 10%	11 to 20%	> 20%	Webbing & browning of leaves

Results: Survey of vineyards was carried out during 2019-2020 in Ratlam district of Madhya Pradesh. The results are presented in Table 1 & 2. Total 10 vineyards were surveyed for observing the prevalence of different insect pests *viz.*, Mealybug (*Maconellicoccus hirsutus*), thrips (*Rhipiphorothrips cruentatus*), flea beetle (*Scelodonta trigicollis*), mites (*Tetranichus urticae*), *Spodoptera* Sp., *Helicoverpa*Sp., and stem borer (*Coelosterna scabrator*). It was observed that out of 10 vineyards surveyed, 4 vineyards (40.00%) were found infested with mealy bug, and but all vineyards having low and moderate level of infestation. Infestation of Thrips was recorded in all 10 vineyards and but the infestation level was low in 5 vineyards (80.00%) while moderate in 2 vineyards (20.00%). The infestation of flea beetle was low to moderate and recorded in 1 vineyards (10.00 %) only. The infestation of stem borer was recorded in 1 vineyard (10.00 %). *Spodoptera* was observed only in one vineyard (10.00%) during the period. There was no recorded infestation of *Helicoverpa* and mite during the period under report. Survey indicates that the thrips, stem borer were the major pests in Ratlam and Mandsaur district which leads to weathering the vineyards.

- **Evaluation of integrated disease management modules against major diseases (bacterial blight/root rot and downy mildew) of opium poppy :**

Result: Evaluation of integrated disease management modules against major diseases (bacterial blight/root rot and downy mildew) of opium poppy were conducted during 2019-20 at research field RVSKVV, College of Horticulture, Mandsaur. Among the nine treatments in the treatment T-3 (Furrow soil application of FYM (500g/m2) enriched with *T. harzianum + P. fluorescens* @ 2.0%, 4-5 days prior to sowing +seed treatment with Streptocycline sulphate @ 0.030% (300ppm) and Metalaxyl @ 2.5g/kg and on appearance of disease symptoms spray of *T. harzianum* and *P. flourescens* @ 0.5 % + Second and third spray with Streptocycline sulphate @ 0.030% (300ppm) and Metalaxyl @ 0.25% at 15 days interval) recorded minimum downy mildew disease incidence (17.33 %) and root stem rot incidence (11.27 %) maximum latex yield (49.81 kg/ha) and seed yield (684.01 kg/ha) and husk yield (691.41 kg/ha) followed by Treatment T-4 (Furrow application of FYM (500g/m2) enriched with *T. harzianum + P. fluorescens* @ 2.0% , 4-5 days prior to sowing. Seed treatment with Streptocycline sulphate @ 0.030% (300ppm) and Metalaxyl

@ 2.5g/kg + on appearance of disease symptoms (any disease) three spray of Bordeaux mixture @ 5000 ppm at 15 days interval)(Downy mildew PDI 19.33 % and root stem rot PDI 12.57 %) and seed yield and husk yield (645 kg/ha and 643.32 kg/ha). Whereas control T-9 recorded highest downy mildew incidence (46.67 %) and stem and root rot incidence (24.27 %), least latex yield (35.13 kg/ha),seed yield (421.02 kg/ha) and husk yield (411.16 kg/ha) respectively.

- Madhya Pradesh being one of the major **cotton** growing states of the country has witnessed spectacular developments in the cotton scenario this season. The area under cotton in the state in 2018-19 was 6.97 lakh hectares and the total production of cotton was 24.00 lakh bales with an average productivity of 585 kg of lint per hectare.

Crop production - Enhancing nitrogen use efficiency in Bt. Cotton have been evaluated. Application of 75% RDN + placement (Spot application in 4 splits:-basal, squaring, flowering and boll development)+foliar application of 1 % Urea (3 times :- squaring , flowering and boll development)+ raising of sun hemp between rows incorporated before flowering was obtained highest seed cotton yield. Technology for organic cotton production has been worked out. It was concluded that seed treatment and soil application of reco- bio fertilizers with 1% foliar application of PPFM alongwith Neem cake 250 kg/ha and intercropping with soybean have maximum yield. The five Bt. genotypes and spacing had been evaluated. The genotypes (Denim 703 Bt) Was found superior than other genotypes. Whereas the spacing (60cm X 15 cm) was found superior than the other spacings. The maximum seed cotton yield was found with the interaction S_1 G_5. The maximum seed cotton yield was observed under the genotype (Rassi 659 BG II) with the application of ethrel @ 45 PPM at 40 DAS and mepiquat chloride @ 100 PPM at 90 DAS (G_1B_3).

- **Rain Water Management Catchments**–Storage Command Relationship for Enhancing Water Productivity in Micro –watershed: Four cropping system models during 2019-20 by using harvested rainwater were evaluated in terms of crop yield, gross return, net return and B: C ratios. Among the different models, Soybean – Onion found the more remunerative as it recorded total net returns Rs. 263111/- per hectare with B: C ratio 4.76 followed by sequentially grown Maize grain – Sweet corn for green cob (Rs. 88632/- with B: C ratio 2.27), soybean – Chickpea (Rs. 58127/- with B: C ratio 2.45. The lowest was recorded with Maize grain – Chickpea (Rs. 34396/- with B: C ratio 2.16). This year productivity of Kharif crops is severely affected due to excess and continue rain fall during crop growth period (1549.8 mm in 66 rainy days).

- **Evaluation of different soybean based cropping sequences in Vertisols** : Three crop sequences Soybean- Chickpea/ Safflower/ Chickpea (Kabuli), Maize Chickpea/Safflower/ Chickpea (Kabuli) and Black gram- Chickpea/ Safflower/ Chickpea (Kabuli) were grown under rain fed condition. Result revealed that crop sequence soybean - Chickpea found more remunerative as recorded highest total net return Rs.104698/- with B: C ratio of 3.91 followed by Black gram- chickpea (Rs.81815/- with B: C ratio of

3.27), maize – chickpea (Rs.76328/- with B: C ratio of 3.12). Whereas, lowest total net return Rs.9140/- with B: C ratio of 1.25 recorded by sequence Maize- safflower. Result showed that during Kharif soybean (JS 20-34) recorded highest seed yield 986 kg/ha followed by maize 695 kg/ha and black gram (417 kg/ha). During Rabi chickpea (RVG 203) produced higher seed yield 2250, 2188 and 2063 kg/ha grown after soybean, black gram and maize, respectively. Where as, the higher seed yield of safflower 750 kg/ha grown after black gram followed by 688 and 625 kg/ha recorded after soybean and maize

- **Success story from farmer's field Effectiveness and utility of percolation tanks in Malwa and Nimar region** : The team of All India Coordinated Research Project for Dryland Agriculture, College of Agriculture, Indore, have been visiting regularly different villages of various districts of Malwa and Nimar region to assess farmers' priorities and problems related to agriculture. Initially during 1990, it was desired by the farmers that project should attempt to enhance the irrigation water availability and should provide improved varieties of different crops for increasing agricultural production and income. Thus, through various ICAR and state supported and financed watershed programmes, number of water-harvesting tanks were constructed mostly on government lands for providing irrigation water to farmers. The improved varieties of different crops like soybean, chickpea, maize etc. enhanced the farm productivity and income with the help of supplemental water through water-harvesting tanks. During 2000 onwards, with the success stories of these water-harvesting tanks, number of farmers were convinced, inspired and provided their own lands and allowed project for the construction of water harvesting tanks on it. This process helped these farmers to grow successful Rabi crops like chickpea, wheat, potato, onion, garlic after kharif which was otherwise not possible. After all these interventions from project side, it was experienced that in Malwa region several geographical situations are existed where successful water-harvesting tanks could not be constructed. These locations are having the cultivated fields, which are underlined by fragmented basalt having very high percolation rate. Thus, the runoff could not be collected and stored for longer time. Therefore, the farmers having these type of situations were not agreeing to construct percolation tank instead of water harvesting tank because they wished to have surface stored water for irrigation. Though they were agreeing to the fact that percolation tank construction would enhance the ground water recharge, which can ultimately can provide increased irrigation water through their tube wells and open wells. Thus, they did not want the construction of percolation tank in their field as it make a part of their cultivated field. During 1991, at the lowest boundary of College of Agriculture, Indore, a percolation tank was constructed with the provision of gabion structure at outlet. The tank is collecting huge amount of runoff as per its capacity and then draining the excess water safely into the natural drain. The stored water is being percolated continuously and its immediate impact can be seen in the adjoining open well, which has started providing irrigation water almost throughout the year since then. In 2000, the project identified a land portion, which was adjoining the ridgeline of the field of Shri S.C.Sharma of village Baroli district Indore. The runoff water from the ridgeline 54 ANNUAL PROGRESS REPORT: 2019-20, DRS RVSKVV used to enter with the high velocity

in field of Shri Sharma and was eroding the parts of cultivated field and thereby damaging the crops and retarding the fertility. The project constructed a 190m long and 2m wide earthen bund in this wasteland by using a bulldozer. Because of this activity, the degraded and wasted land adjoining the ridgeline was converted into tank area, which immediately started collecting the runoff water in the upstream site of the earthen bund. This helped to reduce the losses in the cultivated field due to soil erosion completely and to collect huge amount of runoff water in the wasted portion. Since the soil was underlained by basaltic murram, the stored water was percolated within few days. During 2000 monsoon season itself, this tank area were filled several time with runoff and were percolated. These resulted in the enhanced water availability in the nearby stepwell and other open wells located in the fields of Shri Sharma. These open wells were recharged fully and filled up to the brim, which was otherwise an impossible situation in this village. Due to percolation tank, the 10 ha area could be irrigated with high productivity and income from chickpea and wheat production during rabi season. Though Shri Sharma was involved in agriculture activities for 25 years, he was able to irrigate only 0.75 ha land using open well water before the percolation tank construction. Since 2000 onward, he has been irrigating rabi crops due to enhanced water availability due to construction of percolation tank. Now he is a successful and resourceful farmer and his experience with percolation tank is inspiring many other farmers. In 2005 also, a percolation tank was constructed by the project using bulldozer in a field adjoining to ridgeline in the village Jaitpura block Sanwer district Indore. In the first year itself, a huge amount of runoff was collected in the tank area that enhanced the recharge of nearby open well and tube well. The storage of runoff water in the upper portion also helped in reducing the soil erosion losses in the lower fields. In 2008, a progressive farmer Shri Keval Singh Patel from village Hatod, tehsil Depalpur District Indore contacted the project team and requested to construct water-harvesting tank through technical guidance. The project team observed that after the construction of tank, it would not be possible to retain the stored water for longer time as this portion is underlained by basaltic murram that is having very high percolation rate. Initially, Shri Patel was very distressed initially because he wanted to have water-harvesting tank. However, he agreed to get constructed percolation tank in this portion. With the help of technical guidance from project team, Shri Patel invested Rs 3 lakhs for the construction of a big percolation tank. Actually, this eroded land portion of Shri Patel was adjoining to a ridgeline and the uncontrolled runoff water from this portion was badly damaging his land and crops. In this natural drain line, he initially tried to adopt different measures like loose boulder structures to control the runoff. However, because 55 ANNUAL PROGRESS REPORT: 2019-20, DRS RVSKVV of high velocity of runoff, he could not be able to do so. The project team constructed a percolation tank of size 80x30x2 m in the natural drain line which is now not only collecting the runoff but also completely reduced the chances of heavy damage in the lower portion of the fields. This stored water collected during rainy season since 2008 onward, is getting percolated and recharging nearby open well and tube wells. Because of this, even rabi crops is being grown successfully in most of the cultivated fields which was otherwise impossible before the construction of percolation tank. Shri Patel got so overwhelmed with the success of percolation tank in the first year itself and he

thanked the team several times. He also admitted that only because of team members, he got convinced for the construction of percolation tank, which is not only helping him through subsurface storage of runoff water but also saving the fields of other farmers too from the soil erosion losses and recharging their tube wells. Further, he is proud of solving the problems related to uncontrolled runoff technically and for helping the other farmers socially. In 2010, a percolation tank (2500m3) was constructed by a farmer shri M.K.Patidar in village Panod block Sanwer district Indore under the technical guidance of AICRPDA team. The farmer also provided two shafts for ensuring deeper percolation of the stored runoff water through it. These shafts were provided with metallic filter material on the openings to avoid the entry of foreign materials in ground water. This activity recharged the nearby two tube wells, which provided sufficient irrigation water for the irrigation to rabi crops in almost 10 ha area. This phenomenon is still happening and providing sufficient irrigation water through tube wells even during scanty rainfall period. Similarly the team visited village Lonsara tehsil Rajpura district Barwani in the year 2014 for assessing the problems and providing technical guidance to village farmers. The team observed that in between two ridgelines, an earthen dam was constructed in 1990 that is collecting and storing huge amount of water and providing irrigation water through canal in various villages for irrigation, which has been found very helpful in increasing the crop productivity. The provision dam even recharging throughout the year the tube wells and open wells of the villages with no canals. Actually, before the construction of dam, a seasonal river used to flow naturally through these villages. The amount of flowing water in this river drastically reduced after the construction of earthen dam at the starting point. However instead of flowing water the quantity of subsurface water in this river belt increased in its 10km long river bed. In this portion, the farmers constructed more than 100 open wells at regular interval and surprisingly in each open well, ground water is available within 2-3 m from ground level. Due to availability of appreciable amount of irrigation water, these villages are growing multiple 56 ANNUAL PROGRESS REPORT: 2019-20, DRS RVSKVV crops with wide range of crop diversity. Even during summer season due to enhanced ground water, farmers are growing maize, tomato, cucumber, watermelon and various vegetables successfully, which was otherwise not possible in these village despite locating on the bank of seasonal river. Even the submersible pumps of few tube wells have been replaced by centrifugal pumps as ground water are available within 3-4 m from ground level. This way, it can be experienced that the construction of earthen dam is not only helpful in providing irrigation water through canals but also providing subsurface water through open wells and tube wells in sufficient quantity for various crops grown during kharif, rabi and summer season even in canal free villages. Various village panchayats of different villages constructed stop dams in gullied portion, which resulted in stabilization of gullies and make it possible to drain of runoff water safely for enhancing water availability in the village. The AICRPDA project organized a training programme to different watershed committees in 2016. In this training programme, the technological guidance was provided so that the area between two stop dams in the stabilized gullied could be excavated to construct sunken pond in the series. Further, the excavated soil should be spread into unleveled field or in wasted land so that

crop production can be enhanced. Shri Lokendra Singh Tomar village Harsola, block Mhow District Indore adopted this suggestion and constructed sunken pond in the gullied portion and used the excavated soil to make a new field to make it suitable for crop cultivation. The impact of this development realized immediately in the area, which was very dry on 20.06.2018 for the want of monsoonal rain. The excavated area became full of water on 22.06.2018 in the first rainy shower itself. This portion immediately served as a percolation tank and recharged the nearly open well to convert it into an irrigation source that was otherwise not possible at all. During the entire monsoon season of 2018, this process continued throughout the season and the sunken pond retained huge amount of runoff water and converted it into subsurface water through recharging the open well. Similarly, the huge amount of runoff water retained in portion between the two stop dams, which ultimately reduced the losses in the cultivated fields, located on the downstream sides. In March 2018 in the research field of AICRPDA, a percolation tank of 907 m3 storage capacity was constructed. This percolation tank was so constructed that it not only receives excess water from the HDPE lined water-harvesting tank but also collects the runoff from other agricultural field. The soil of the area is underlined by basaltic murram that is having 18-20 cm percolation rate per day. Therefore, the stored water in the percolation tank continuous gets percolated which ultimately enhances the chances of ground water recharge. Before the construction of this percolation tank, the excess water from lined water harvesting tank and 57 ANNUAL PROGRESS REPORT: 2019-20, DRS RVSKVV runoff water from other areas continuously eroding the lower portions of farm area due to higher velocity of runoff water. Immediately after the construction of percolation tank, the excess runoff water is stored in the percolation tank which ultimately controlling the soil erosion and its adverse effect in appreciable farm area. This way in AICRPDA research field not only runoff water is being collected in lined water harvesting tank (1781m3) but also the runoff water is stored in percolation tank for its ultimate utilization for ground water recharge. Thus, rainwater is properly being managed for its further utilization during kharif and Rabi season and thereby reducing the losses to offsite fields due to soil erosion. The success stories generated from all above-mentioned percolation tanks, many farmers are getting motivated and contacting the project team for providing technical guidance for the construction of percolation tank in their fields, which was otherwise a rare gesture. Based on the experiences gathered from all the percolation tanks, it can be pointed out that these tanks are very useful in storing the runoff and recharging the ground water and even controlling the erosion losses to offsite field located on downstream site. This way percolation tanks can be considered at par with water-harvesting tanks in terms of enhancing availability of irrigation water for the rain fed areas.

Weed management in non-chemical cropping system

Weed management in non-chemical maize-potato–greengram (as green manuring**) cropping system**

Weed management in maize (sweet corn) under non-chemical cropping system

Based on two years experimentation (2018 and 2019) it was concluded that the application of soil solarization with one hand weeding resulted better response to suppress the narrow and broad leaved weeds Among all the non-chemical weed management practices the intercrop (maize+greengram) gave maximum yield of cobs (6.39 t/ha) *fb* the application of soil solarization with one hand weeding (6.09 t/ha) and soil solarization with plastic mulch (5.46 t/ha). However the yield of recommended dose of fertilizers + recommended herbicide (atrazine 750 g/ha PoE) was recorded 5.74 t/ha. Therefore, among non-chemical weed management practices intercrop (maize + greengram) application, can contribute to increase productivity and profitability of sweet corn in maize based cropping system.

***Rabi* 2019-20 (pooled 2018-19 and 2019-20)**

I. **Weed management in potato under maize based non-chemical cropping system**

On the basis of two years data it was concluded that the population of weeds was suppress by the application of soil solarization with plastic mulch *fb* soil solarization with one hand weeding and resulted higher WCE 90%. Therefoe soil solarization can be contribute to decreased narrow and broad leaved weeds, higher productivity and profitability of potato crop under maize based non-chemical cropping system.

On Farm Research (OFR):

i. **Wheat:** From the above findings it can be concluded that application of sulfosulfuron + metsulfuron (30+2) g/ha PoE gave maximum yield (4.31 t/ha) *fb* clodinafop + metsulfuron (60+4) g/ha PoE (4.21 t/ha) in the farmers field, which was 30.50%, and 27.60% higher over farmer's practice (no herbicide applied) respectively. The B:C ratio was found 2.52 and 2.47 in these weed management practices as compared to 2.33 in farmer's field respectively.

ii. **Pearlmillet:** It was observed that all the chemical weed management practices gave higher grain yield over farmers practice. The maximum yield of pearlmillet 2056 kg/ha was obtained with the application of atrazine 0.5 kg/ha + 2,4-D 0.5 kg/ha (PoE) *fb* pendimethalin 1.0 kg/ha PE, which was 32.0%, and 29.0% higher than farmers practices respectively. The B:C ratio (2.85) was also recorded higher with the application of atrazine 0.5 kg/ha + 2,4-D 0.5 kg/ha (PoE).

iii. **Blackgram:** In the experiment of blackgram, the maximum yield 809 kg/ha was recorded with the application of imazethapyr + imazamox (RM) 80 g/ha PoE *fb* pendimethalin + imazethapyr (RM) 750 g/ha PE, which was 41.0%, and 37.0% higher than farmers practice. The B: C ratio was also highest (3.01) recorded in imazethapyr + imazamox (RM) 80 g/ha PoE.

- **Front Line Demonstration (FLD)**

iv. **Wheat:** From the above findings it can be concluded that the combination of sulfosulfuron + metsulfuron (30+2) g/ha PoE gave maximum yield (4.29 t/ha) *fb* clodinafop + metsulfuron (60+4) g/ha PoE (4.25 t/ha) in the farmers field, which was 24%, and 23% higher than farmers practice (no herbicide applied) respectively. The B: C ratio was also found 2.51 and 2.49 in these weed management practices as compared to 2.45 in farmer's field respectively.

v. **Pearlmillet:** In pearlmillet it was observed that both the chemical weed management practices gave higher grain yield over farmers practice. Maximum yield of 2.01 t/ha was obtained with the application of atrazine 500g/ha PE + 2, 4-D 500g/ha (PoE*) fb* atrazine 500g/ha alone, which was 42% and 40% higher than farmers practice respectively. Similarly higher B:C ratio of 1.45 was recorded in atrazine 500g/ha PE + 2,4-D 500g/ha (PoE).

vi. **Blackgram:** In blackgram it was observed that maximum yield of 775 kg/ha was obtained with the application of imazethapyr + imazamox (RM) 80 g/ha PoE *fb* quizalofop-p-ethyl 75 g/ha PoE, which was 42%, and 35% higher than farmers practice. The highest B:C ratio of 2.54 was also recorded in imazethapyr + imazamox (RM) 80 g/ha PoE.

Breeder seed production *Rabi 2019-20*: A quantity of 5820.40 quintals of breeder seed produced of various crops namely Gram , Wheat , Lentil, Mustard, Toria, and Pea produced during Rabi 2019-20.

S. No.	Crops	Production (qt)
1.	Gram	3371.00
2.	Wheat	2233.00
3.	Lentil	63.00
4.	Mustard	53.40
5.	Toria	8.00
6.	Pea	92.00
Total		**5820.40**

Breeder seed production *Kharif* -2020: A quantity of 2141.27 quintals of breeder seed produced of various crops namely Soybean, Green gram, Black gram and Paddy produced during Kharif 2020.

Kharif 2020	
Soybean	1724.30
Green gram	28.14
Black gram	42.17
Paddy	346.66
Total	2141.27

Awards and recognitions

S.N.	Name of Scientists	Date	Name of award	Name of Society/ Agency

01	Dr. R.S. Chundawat, Pr. Scientist	17.08.2019	Dr. APJ Abul Kalam, Life Time achievement award	International society of social economic reform, Bangalore (Karnataka)
02	Dr. R.P. Patel, Dr. S.B. Singh, Dr. R. N. Kanpure & Sh. B.K. Patidar	20-22 Oct. 2019	Poster Presentation-II	Astha Foundation Meerut (M.P.) INDIA
03	Dr. Ekta Joshi (Membership No. 002/EBM/2020)	May 2020	Reviewer of the Year	SBER, Research Biotica
04	Dr. Ekta Joshi	5 June, 2020	Certificate of Merit	National Level Quiz on the occassion of "World Environment Day-2020" organised by the Campus Development-Nature Club & Green Audit Cell.

- **Distinguished Visitors:**

S.N.	Prominent Visitors	Date	Institute/organization	Place of visit description
1.	Hon'ble Shri Narendra Singh Tomar,	20th Feb, 2020	Union Minister of Agriculture & Farmers welfare	ZARS Morena 
2.	Dr. S.K. Rao	16.02.2020 & 6.3.2020	Hon'able Vice Chancellor, RVSKVV, Gwalior	ZARS, Farm
3.	Dr. V.S. Tomar	6.3.2020	Hon'able Ex. Vice Chancellor, RVSKVV, Gwalior & JNKVV, Jabalpur	ZARS, Farm
4.	Sh. Guman Singh Damor	17.09.2019	Member of parliament, Jhabua	ZARS, Jhabua
5.	Dr. T.R. Sharma DDG (Crop Science)	10.02.2020	ICAR, New Delhi	Regional Centre IIPR, Funda (Bhopal) 
6.	Dr. N.P. Singh Director	04.02.2020	Indian Institute of Pulses Research,	Experimental field of AICRP-Chickpea, R.A.K.

			Kanpur	College of Agriculture, Sehore 
7.	Dr. A.K. Singh (DI) and Dr. M.P. Jain (DRS)	February, 2020	RVSKVV, Gwalior	 Field of Ag. Research farm (AICRP-WM)
8.	Dr. M.S. Yadav Principal Scientist, Plant Pathology, NCIPM, New Delhi	25-26 February, 2019	NCIPM, ICAR, New Delhi	Villages of Bhind, Villages of Morena and ZARS Farm, Morena
9	Hon'ble Vice-Chancellor Prof. S.K. Rao and Former Vice-Chancellor and Board Member Prof. V.S. Tomar	7 March, 2020	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.)	ZARS, Research field, Morena (M.P.)
10	Dr. Sanjeev Gupta PC (MULLaRP) & Dr.Shiv Kumar Lentil Breeder ICARDA	13.02.2020	Indian Institute of Pulses Research, Kanpur & ICARDA	MULLaRP Experiments at COA Sehore 
11	Dr.Ved Prakash Lentil Breeder and Dr.Shailendra Singh (Agronomist)	29.02.2020	ICAR Monitoring team for MuLLaRP	MuLLaRp Monitoring of MuLLaRP experiments 
12	Dr. R.G. Somkuwar, Director	18/02/2020	NRC, Grapes, Pune	AICRP on fruits Research trails College of Horticulture, Mandsaur
13	Dr. A.K. Upadhyay, Principal	18/02/2020	NRC, Grapes, Pune	AICRP on fruits Research trails College of Horticulture, Mandsaur

	scientist			
14	Dr. Roshni Samrath scientist	18/02/2020	NRC, Grapes, Pune	AICRP on fruits Research trails College of Horticulture, Mandsaur

S.N.	Prominent Visitors	Date	Institute/organization	Place of visit description
15	Hon'ble Central Agriculture Minister, Shri Narendra Singh Tomar	17/09/2019	Government of India	ZARS, Research field, Morena (M.P.)
16	Director of Rapeseed & Mustard, Bharatpur	07/12/2019	Directorate of Rapeseed Mustard, Bharatpur (Raj.)	ZARS, Research field, Morena (M.P.)
17	Hon'ble Vice-Chancellor Prof. S.K. Rao	17/09/2019	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.)	ZARS, Research field, Morena (M.P.)

4.7 Organized Meetings/ Workshops /Seminar etc

- Krishak Sangoshthi under FFP Project at Morena: Shri Narendra Singh Tomar, Union Minister of Agriculture & Farmers welfare inaugurated the Krishak Sangoshthi through video conferencing on 7th March, 2020 organized at the Santha Village, Morena district under the FFP project. Shri Tomar urged the farmers for making the Farmers producers organizations (FPOs) that can revolutionize the agricultural field of the country. The Minister expressed his concerns on the major irrigation water related problems, such as, majority of farmers in region use flood irrigation resulting in low yield, quality of produce, decreasing water table and soil health, etc. In his address, Prof. S.K. Rao, Vice-Chancellor, Rajmata VijayarajeScindia Krishi Vishwa Vidyalaya, Gwalior, emphasized to promote the IFS modules, protected cultivation, vegetable production, processing and value-addition and agro-based enterprises for higher profits. Prof. Rao urged to develop the aggregation modules for the farmers on commodity and community-based group farming linked with the FPOs. Prof. V.S. Tomar, Former Vice-Chancellor, RVSKVV also present on this vocation. More than 2000 farmers, rural youth, ARS, trainees, Senior Officers, various dignitaries attended the programme.

- Two days In-Service Training was conducted at ZARS, Morena on 23-24 Ferbruary, 2020. Twenty agriculture personals were attend the training programme on Production Technology of rapeseed-mustard, Plant protection techninques and they were updated with the latest high yielding varieties and field visit of the research farm was also done

- Two Skill developments training of 200 hours each on subject Nursery worker organized on 26/02/2020 to 22/03/2020 at College of Horticulture, Mandsaur. In this training program total 44 rural youth and students were participated.
- One field day organized at village rain dist. Ratlam on 17.02.2020 on innovative grape farmer Field of Mr Rajesh Ji Patel in Chairmanship of Dr.M.P.Jain DRS, RVSKVV, Gwalior and Dr. S.N. Mishra, Dean College of Horticulture, Mandsaur. The programme starts with enlighten lamp by Chief guest Dr. R.G. Somekuwar, Director NRC, Grapes Pune. In starting of programme Dr. Somkuwar were given suggestions for successful cultivation for grape growing after this Dr. A.K. Upadhyay Principal scientist NRCG, Pune give details about soil health and fertilizer schedule. Dr. S. N. Mishra given lecture for how increasing income with horticulture corps. Total 70 farmers, department officials and KVK persons were participated in this programme

- Two day training (February 24-25, 2020) was organized at College of Horticulture, Mandsaur on Instrument and laboratory equipment handling operation techniques.

- The Annual Farm Meeting was organized through Video Conferencing (Google meet) on May 11-12, 2020 under the chairmanship of Prof. S K Rao, Hon'ble Vice Chancellor, RVSKVV, Gwalior. The authorities of the University, Dean of the Colleges, ADRs, Senior Scientist & Head of the KVKs, officer In-charges farms, breeders working at different places of the University and HOD's was linked to attend the meeting.
- Review meeting of the Institutional Research Project was organized on May 21, **2020 t**hrough Video Conferencing (VC) under the Chairmanship of Hon, ble Vice Chancellor to review the physical & financial progress of the Institutional Research Project. The authorities of the University, Dean of the Colleges, ADRs, and Project In-charges working at different places of the University was linked to attend the meeting.
- The Research Review Meeting of All India Coordinated Research Projects (ICAR) was organized through Video Conferencing (Google meet) on May 22-23, 2020 under the chairmanship of Prof. S K Rao, Hon'ble Vice Chancellor, RVSKVV, Gwalior. The authorities of the University, Dean of the Colleges, ADRs, Project In-charges working at different places of the University and HOD's were linked to attend the meeting.
- The Research Review Meeting of Plan, Non plan, TSP and GKMS Projects was organized through Video Conferencing (Google meet) May 26, 2020 under the chairmanship of Prof. S K Rao, Hon'ble Vice Chancellor, RVSKVV, Gwalior. The authorities of the University, Dean of the Colleges, ADRs, Project In-charges working at different places of the University and HOD's was linked to attend the meeting.
- The review meeting of BARC/BISA/RKVY Projects was organized on **June 02, 2020** under the Chairmanship of Hon, ble Vice Chancellor of the University through Video Conferencing (Google meet). The authorities of the University, Dean of the Colleges, ADRs, Project In-charges working at different places of the University was linked to attend the meeting.

- The review meeting of Externally funded /Adhoc research Projects Projects was organized on **June 03, 2020** under the Chairmanship of Hon, ble Vice Chancellor of the University through Video Conferencing (Google meet). The authorities of the University, Dean of the Colleges, ADRs, Project In-charges working at different places of the University was linked to attend the meeting.
- **World Soil Day**: organized to bring awareness about Soil Health among public and farming community focusing theme **"Keep Soil Alive-protect Soil Biodiversity**" under the Convenorship of Dr.S.C.Gupta,HS Soil Science and Chairmanship of Dr.H.D.Verma,Dean Sehore with special guest lecture of Dr.S.K.Verma Ex-Dean COA Gwalior. Farmers, Students Scientists/Professors and officers of Deptt of Agriculture participated in online program on 5th Dec. Major focus was on judicious use of fertilizers and Agrochemicals, checking soil erosion and enhancing soil organic carbon by adopting various means.

- Webinar on "Entrepreneurship Opportunities Through Alternate Horticulture Based Farming System" was organized on 16/07/2020 at RVSKVV Gwalior and inaugurated by Prof. S.K. Rao , Hon'ble Vice Chancellor, RVSKVV, Gwalior Patron, in presence of Prof. V.S. Tomar Ex. Vice Chancellor, RVSKVV,Gwalior and JNKVV, Jabalpur, Dr. M.P. Jain, Director Research Services, RVSKVV, Gwalior and University officers and Scientific staff of RVSKVV, Gwalior.
- **Soybean Field day**: Soybean field day was organized at Village Atralia, Block Ichhawar, Distt. Sehore, on 01/10/2020. In this programme 25 farmers were participated. Dr.H.D.Verma, Dean, Dr. M.D.Vyas, Principal Scientist, Dr. G.K.Nema, Scientist, Shri T.Singh, Technical Officer and Shri Pawan Singh Maravi were present in the programme. Dr. Verma emphasized in his address that the farmers should adopt new technologies to improve their productivity. Dr. Vyas and Dr Nema delivered lectures on improved package of soybean and chickpea, respectively. Shri Trilochan Singh conducts the programme. Dean and farmers viisited the FLDs planted in this village and interact to farmers regarding the technology given by the college. Farmers were satisfied and convienced with the technology.

MoUs Signed:

- MoU between various Firms/companies and RVSKVV, Gwalior for develop a Seed Development Framework initially for the State of Madhya Pradesh, India, with the potential for expansion to other regions by developing and setting up a central place for the conservation of Germplasm/ Genepool and promising advancedlines of arboreums and hirsutums in "Centre of Excellence" at the CoE (Centre of Excellence), Khandwa, MP, And;

1. **Partech Seeds Pvt. Ltd.**,, Makarba, Ahmedabad, Gujrat-51, And;

2. **Vasudha Pratibha Syntex Ltd.**, Scheme No. 54, Vijay Square, Indore, Madhya Pradesh- 425010, And;
3. **Chetna Organic Agriculture Producer Company Limited (COAPCL)**, Vittalwadi,Hyderabad-500029,Telengana,India, And;
4. **Aga Khan Foundation**, 6, BhagwanDasRoad,NewDelhi-110001,India, And;
5. **Research Institute of Organic Agriculture Forschungsinstitut für biologischen Landbau (FiBL), Department of International Cooperation**, FiBL,Ackerstasse113,Postfach219,5070 Frick, Switzerland, And;
6. **Action for Social Advancement (ASA), The Farmers House**, Tulip Greens, Village Mahabadia, Kolar Road, Bhopal-462042, Madhya Pradesh, India, And;
7. **Solidaridad Network**, A-5, 1st Floor, Shankar Garden, Main Najafgarh Road, Vikaspuri, New Delhi-110018,India, And;
8. **WWFIndia**, 172- B, Lodhi Estate, New Delhi-110003, And;
9. **Organic Cotton Accelerator (OCA)**, Watersteeg 3, 1012 NV, Amsterdam (NL), And;
10. **Laudes India LLP**, 307,Vatika City Point, MGRoad, Gurgaon-122001,Haryana

- Sign the MoU between India Meteorological Department (IMD) and RVSKVV, Gwalior under Gramin Krishi Mausam Seva (GKMS) scheme.
- Sign the MoU between M. P. State Agril Marketing Board, Bhopal and RVSKVV, Gwalior for two projects namely **"Construction of Auditorium and sangosthi Hall and other work"** with an outlay of 1189.61 lakhs and **"Establishment of gene bank at Biotechnology Centre"** with an outlay of 925.00 lakhs.

- **MoU:** The MoU has been signed between ICAR-National Research Center for Grapes and Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior on 25th August 2020 for transfer of technology, research and training purpose. Through this MoU our university student and other stakeholders will directory be benefited.

4.8 Text/Reference Books/Manual/ Book Chapters

S.N.	Author(s)	Book Name	Year	ISBN No./ Ref No
1	SB Singh, AK Badaya & SN Upadhayay	TOXICOLOGY OF INSECTICIDES	2019	BIOTECH BOOKS (ISBN:978-81-7622-459-8)
2	Dr. Nitin Soni Co Author	Training manual developed on processing and value addition of Non-Alcoholic beverages and spices	2020	RVSKVV Pub. No. 104/2019
3	Dr. R.P. Patel, **B.K. Patidar** , S.B. Singh, K. Alam Khan and R. Dubey	मशरूम उत्पादन, प्रसंस्करण एंव विपणन	2020	RVSKVV Pub. No. 106/2019

Text/Reference Books:

S.No.	Author(s)	Book Name	Year	ISBN No.
4	Prajapati, RA and Charurvedi, R	Recent Trends in Fiction Writing in India	2020	ISBN 978-1-64951-463-9

Book Chapters

S.N.	Author (s)	Title	Book Name	Page No.	Year	ISBN No.
1	Dr. Nitin Soni	Commercial production of grapes for developing the entrepreneur skills	21 Days Innovative Training Programme (ITP) on "Recent Technologies of Agribusiness Management and Agri Entrepreneurship" Venue: NADCL, Baramulla, J & K - 193103(THROUGH ONLINE MODE)During: 8th to 28 th October-2020	-	2020	-
2	Dubey R., Kushwah, SS and Mishra, A..	Recent advances in organic farming with special reference to weed management.	Advanced Agriculture	93-108.	2020	ISBN 978-93-88879-99-6 (HB)
3	Mishra, A , Dubey R., Pant, P, Mehta, P, Shinde, R and Rathod, S.	Nano clay: A boon for enhancing agriculture productivity	Advanced Agriculture	291-313	2020	ISBN 978-93-88879-99-6 (HB)

4.9 Activities of Seed Production Farms:

RVSKVV is also making sincere efforts to generate cutting edge technology for enhancing crop productivity. Thrust is also farm seed replacement in the state by producing quality seeds of important crops. It is worthwhile to mention that RVSKVV has produce 6895.50 q. **seeds with different crops during 2020-21** which helped the farmers in a big way for seed replacement and thereby enhancing the productivity of crops.

The seed activities in the University are managed with the help of twenty seven seed farms, which are located in twenty four districts and six agro-climatic zones of Madhya Pradesh. Out of the total farm area of 1210.85 ha., only 64.45 % (780.3 ha.) is under cultivation. Among the cultivated area 13.39 % and 34.59 % is irrigated and partially irrigated, respectively. Rest of the cultivated area is under rainfed farming.

The area under plantation crop is about 82.02 ha. Rests of the farm area is fallow or pasture land or occupied by road and buildings.

Breeder seed produced in Kharif and Rabi crops:

S. No.	Crops	Qty. (q.)
(A) Kharif crops		
1.	Soybean	1724.30
2.	Green gram	28.14
3.	Black Gram	21.62
4.	Pearl Millet	-
5.	Sorghum	1.25
6.	Ground Nut	-
7.	Pigeon Pea	14.50
8.	Paddy	346.66
9.	Til	14.55
Total (A)		**2151.0**
(B) Rabi crops		
1.	Wheat	2295.80
2.	Gram	2396.80
3.	Lentil	34.50
	Pea	6.0
4.	Rapeseed and Mustard	11.40
	Safflower	-
	Maize	-
Total (B)		**4744.50**
Grand Total (A+B)		**6895.50**

5. EXTENSION ACTIVITIES:

RVSKVV, Gwaliorhas 27 KrishiVigyanKendras (KVKs) under its jurisdiction established with the financial support of ICAR.Out of which, 22 are under the administrative control of the University and five under NGOs/ICAR institute, which are functioning under technical guidance of Directorate of Extension Services of the University. The Directorate is committed to serve the farmers through its well organized network of KrishiVigyanKendras, which play a vital role in dissemination and transfer of recent emanated research technologies in agriculture, horticulture, livestock production and allied fields.

The KVKs are assessing the technological needs of the farmers of the districts and revalidating the technology for adoption through On Farm Testing. The KVKs are disseminating technologies and strengthening the farmers through, Front Line Demonstrations, Training Programmes for Farmers and Farm Women, Extension functionaries and Vocational Training for Rural Youth and other regular ExtensionActivities in selected villages of the concerned district. Thus, they contribute in minimizing the gap between prevailing farmers' yield and production potential in specific area.

Mission

Directorate of Extension Services is committed to serve the farmers andto achieve the motto of the University, which isto reach the un-reached through its extension system. The main objectives of the Directorate are:

1. Transfer of technology, assessment, application, refinement and providing feedback to the researchers.
2. Up gradation of knowledge and skill of extension functionaries as well as farming community.
3. Development and dissemination of technology through print and electronic media for mass reach.
4. Catering the needs of farming communities through single window system.
5. Linkage with line departments, concerned institutions and NGOs.
6. Reviewing the activities of KVKs and technological backstopping of KVK scientists and help in formulating action plan.
7. Popularization of low draft improved agricultural implements.

KrishiVigyanKendras

Twenty two KrishiVigyanKendras of RVSKVV are located at thedistricts of Agar-Malwa, Alirajpur, Ashok Nagar, Badwani, Bhind (Lahar), Datia, Dewas, Dhar, Dhar II (Manawar), Guna (Aron), Gwalior, Jhabua, Khandwa, Khargone, Mandsaur, Morena, Neemuch, Rajgarh, Shajapur, Sheopur, Shivpuri and Ujjain. KVK Bhopal is workingunder

administrative control of ICAR-CIAE and KVKs in districts Indore, Sehore, RatlamandBurhanpur are working under the aegis of reputed NGOs, with technical backstopping of RVSKVV. KVKs facilitate the process of assessment of technology through OFT, skill upgradation through training programmes, and technology dissemination through method and result demonstrations, KisanMelas, Seminars and mass campaigns etc.

Agro-climatic Zone wise Location of KVKs

Agro-climatic Zone	Features	District / KVK's under the Zone
Gird Zone	Semi-arid climate, situated between 152-224msl, annual rainfall 566-977 mm and soils are Alluvial medium black, mixed red black and red yellow in colour.	Sheopur, Morena, Bhind, Gwalior, Shivpuri (Partial), Guna (Partial) and Ashok Nagar
Bundelkhand	High temperature, situated between 266-560msl, annual rainfall 750-1200mm with shallow clayey loam soil	Datia, Shivpuri (Partial)
Malwa Plateau	Semi-arid climate, situated between 450-675 msl , annual rainfall 800-1200mm, soil is medium to deep black (vertisol)	Neemuch, Mandsaur, Ujjain, Shajapur, Rajgarh, Dewas and Dhar (Partial), Indore Ratlam and Agar-Malwa
Jhabua Hills	Undulated topography, situated between 450-700 msl, erratic rainfall (600-800mm) and shallow to medium skeletal gravely soil	Alirajpur, Jhabua and Dhar (Partial)
Nimar Valley	Hot and dry weather, situated between 450-700 msl, less annual rainfall (600-800mm), soil is deep black clayey (vertisol)	Badwani, Khargone, Khandwa, Burhanpur
Vindhyan Plateau	Hot humid climate, undulated topography, situated between 350-600 msl, annual rainfall, 1000-1200mm and medium black soil.	Guna (Partial), Bhopal, Sehore

Mandate of KVK

The major mandate of KVKs is the assessment, refinement and demonstration of technology/ products.

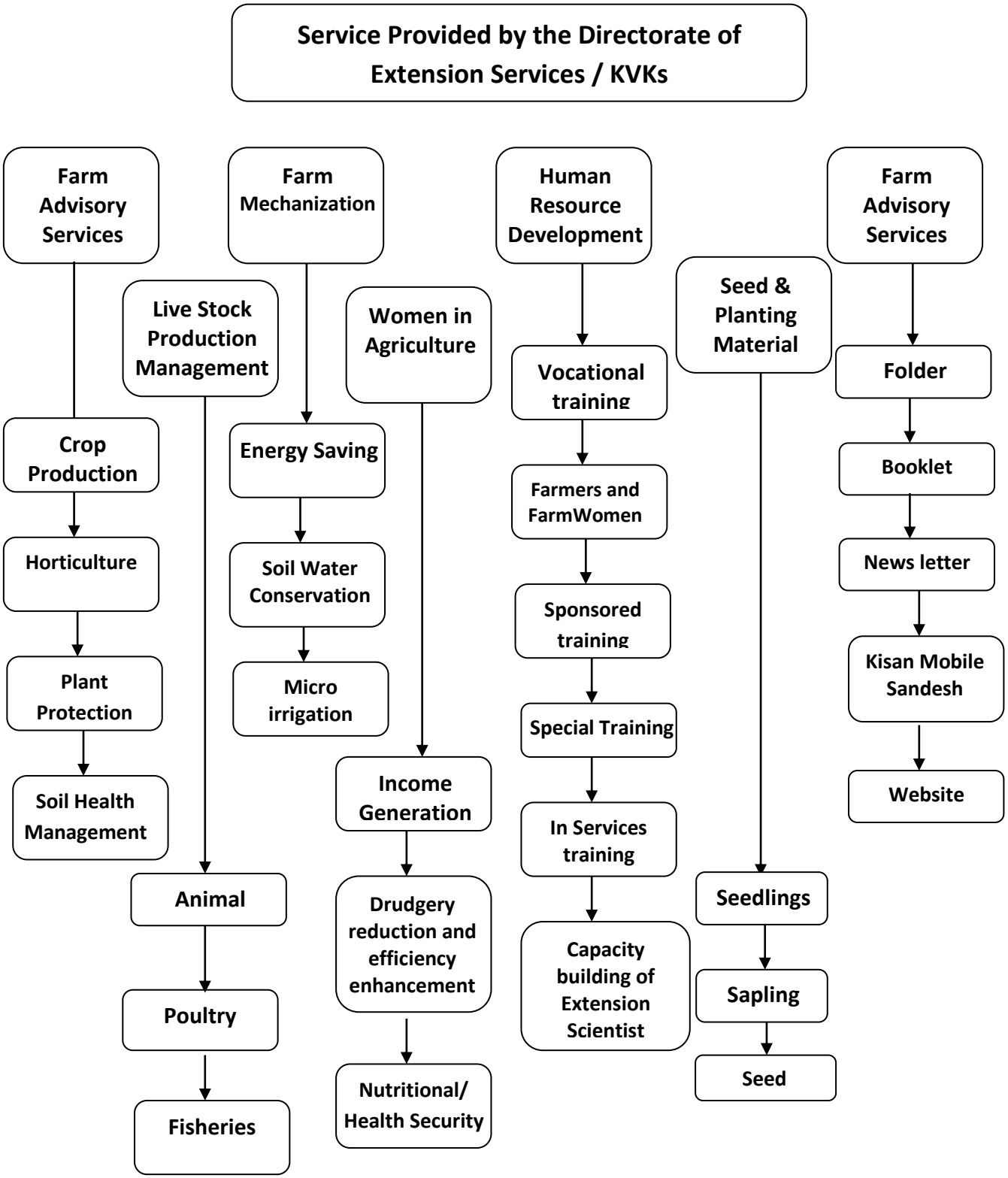
The major activities of KVKs are as follows:

- On farm testing for assessing the suitability of technology farming systems.
- Frontline demonstrations to establish production potentials of newly released technologies on farmers' fields and provide feedback.

- Training of farmers and farmwomen to upgrade their knowledge and skills in modern agricultural technologies and training of extension personnel to orient them in the frontier areas of technology development.
- Work as resource and knowledge centre of agricultural technologies for supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district.
- Create awareness about frontier technologies through a number of extension activities *viz*: Farmer fair, Field day, Campaign, Ex-trainees meet, etc.
- For enhancing the productivity through increased seed replacement rate and use of quality planting material KVKs are taking up the activities of producing quality seed and planting material.

Thrust Areas

- Doubling Farmers Income by 2022
- Development of agri-preneurship among farmers
- Enhance crop productivity through, intensive vocational trainings of farmers, farm women and rural youth.
- Demonstrate and disseminate the integrated approach encompassing the feasible components of farming and related technologies targeting towards enhancing the farm family income.
- Crop diversification with suitable oilseed, pulse, fruit and vegetable cultivation.
- Testing of early maturing high yielding varieties of major crops on farmer's field.
- Awareness regarding different methods of water harvesting and conservation including construction of small water retention structures (Rain-Water harvesting)
- Soil fertility improvement to sustain soil health.
- Integrated nutrient management in different crops.
- Popularization of resource conservation technologies.
- Post harvest value addition and entrepreneurship development for agricultural produce.
- Balanced feeding and reproduction of livestock and poultry.
- Clean milk production and processing of dairy products.
- Promotion of exotic and off-season cultivation of vegetables, medicinal and aromatic plants.
- Promotion of organic farming.
- Use of improved implements for drudgery reduction.
- Demonstrations of improved farm – machinery to farmers.
- Demonstrations on utilization of innovative traditional knowledge of the farmers.


Service Provided by the Directorate of Extension Services / KVKs
Farm Advisory Services
Crop Production
Horticulture
Plant Protection
Soil Health Management
Farm Mechanization
Energy Saving
Soil Water Conservation
Micro irrigation
Live Stock Production Management
Animal
Poultry
Fisheries
Women in Agriculture
Income Generation
Drudgery reduction and efficiency enhancement
Nutritional/ Health Security
Human Resource Development
Vocational training
Farmers and FarmWomen
Sponsored training
Special Training
In Services training
Capacity building of Extension Scientist
Seed & Planting Material
Seedlings
Sapling
Seed
Farm Advisory Services
Folder
Booklet
News letter
Kisan Mobile Sandesh
Website

KVKs identified as Centre of Specialization

S. No.	Name of KVKs	Specialization
1.	Agar Malwa	New KVK, hence not specialised yet
2.	Alirajpur	New KVK, hence not specialised yet
3.	Aron (Guna)	Coriander Production Technology
4.	Ashok Nagar	Durum Wheat Production Technology
5.	Badwani	Chilli Production and Value addition of spices
6.	Datia	Natural Resource Management
7.	Dewas	Integrated Farming System
8.	Dhar	High tech vegetable cultivation
9.	Dhar II (Manawar)	New KVK, hence not specialised yet
10.	Gwalior	• Hi tech Horticulture • Vermi-composting Technology
11.	Jhabua	Kadaknath rearing in Integrated Farming System
12.	Khandwa	Cotton Production Technology
13.	Khargone	Pomegranate & Watermelon Production Technology
14.	Lahar(Bhind)	Crop diversification
15.	Mandsaur	Seed spices
16.	Morena	• Apiculture • Conservation agriculture
17.	Neemuch	Garlic Processing Technology
18.	Rajgarh	Hi tech fruit nursery
19.	Shajapur	Mandarin Production Technology
20.	Sheopur	Management of soil & water resources & IFS
21.	Shivpuri	Mechanization in ground nut and Hi - tech tomato production
22.	Ujjain	Integrated Nutrient Management
23.	Bhopal	Farm mechanization
24.	Sehore	Integrated Farming System
25.	Ratlam	Dairy Management and Dairy Technology
26.	Indore	Organic Farming
27.	Burhanpur	Banana Production Technology

1. Major Achievements of KVKs - 2020

1.1 On Farm Trial (OFT)

The KVKs conducted 453 On Farm Trials for assessment and refinement of new technologies generated by RVSKVV, Gwalior, other Universities and ICAR Institutes as per local needs and micro farming situations. A total of 6183 farmers were the direct beneficiaries of OFTs as their fields/units/animals were chosen for conducting the trials. Details of OFTs conducted by KVKs under the DES are given below:

A. Institutions wise OFTs conducted on crops and enterprises during 2020-21

Host Institute	No. of OFTs	Beneficiaries
a. OFT on Crops		
RVSKVV	347	4854
ICAR & NGO	76	1049
Sub Total	**423**	**5903**
b. OFT on Enterprises		
RVSKVV	16	145
ICAR & NGO	14	135
Sub Total	**30**	**280**
Grand Total	**453**	**6183**

Thematic area wise details of OFTs conducted on crops and enterprises are described below.

B.Thematic area wise details of OFTs conducted during 2020-21

Thematic Area	No. of OFTs	No. of Beneficiaries
Cropping Systems	2	10
Varietal evaluation	78	635
Improved Implement/Farm Machinery	21	163
Integrated Crop Management	35	325
Integrated Disease Management	15	122
Integrated Pest Management	47	401
Integrated Nutrient Management	46	403
Natural Resource Management	6	96
Resource Conservation Technology	12	86
Indigenous Technology Knowledge (ITK)	9	65
Soil Fertility Management	22	1325
Weed Management	18	169
Drudgery Reduction	9	98
Nutritional Security	19	189
Income Generation	8	89
Information and Communication Technology	20	875

(ICT)		
Agro-forestry	5	25
Horticulture crop	37	287
LPM (Nutrition, Disease Management)	24	237
Post Harvest Management	3	25
Organic Farming	3	25
Extension (Awareness, Convergence, Group Approach etc.)	7	485
Integrated Farming System	1	5
Others (Poultry, fisheries etc)	6	43
Total	**453**	**6183**

1. 2: Frontline Demonstrations (FLD)

Frontline demonstrations are conducted to demonstrate the potentials of recent and location specific proven technologies of agriculture and allied fields among farming community and extension functionaries for up-scaling in the larger area as well as for generating the production data along with the feedback for research system and planners. During the reporting year, a total number of 2680 beneficiaries got direct benefitsthrough FLDs conducted on various oilseeds, pulses, cereals, vegetables crops and cash crops, agro forestry and other improved farm machineries covering the total area of 924.30 ha. In addition to these FLDs, 2875 beneficiaries got direct benefits through demonstrations conducted in 1159.20 ha area on various oilseed and pulse crops under cluster frontline demonstrationsprogramme. Moreover, demonstrations on 08 important income generating enterprises like LPM, kitchen garden, home science aspects, poultry, farm machinery, vermicompost etc. were also conducted forbenefitting 1428 stakeholders directly. Details of FLDs are provided in next three tables.

A. Crop wise details of FLDs Conducted during 2020-21 by KVKs

S. No.	Crop	Area (ha)	No. of Beneficiaries	% increase
a. Cereals				
1.	Wheat	179	467	16.19
2.	Maize	49.8	158	28.17
3.	Pearl millet	12.0	10	14.0
4.	Rice	10.0	25	18.34
5.	Sorgham	16.0	40	56.37
6.	Barley	4.0	10	-
b. Pulses				
1.	Black Gram	43.4	123	34.77
2.	Chickpea	119	287	23.68
3.	Gram	18.6	38	12.64
4.	Pigeon pea	27.0	78	24.96
5.	Green Gram	2.0	10	20.0

6.	Urd	6	15	27.23
c. Oilseed				
1.	Soybean	119.9	307	31.42
2.	Mustard	50.9	129	15.55
3.	Groundnut	2.0	10	1.60
4.	Sesame	2.0	5	30.20
d. Vegetables				
1.	Ash gourd	3.0	15	43.62
2.	Bottle gourd	3.0	20	13.99
3.	Cabbage	2.0	20	19.17
4.	Cauliflower	9.5	39	14.33
5.	Potato	3.0	10	19.33
6.	Cucumber	1.0	10	15.62
7.	Mushroom	10.0	10	100.0
8.	Sponge gourd	3.2	8	28.26
9.	Tomato	13.1	58	28.50
10.	Other Vegetables	26.5	125	132.0
e. Spices				
1.	Azotobacter	10.0	10	25.71
2.	Chilli	35.2	100	25.20
3.	K. Onion	7.6	28	31.16
4.	Onion	32.9	142	13.49
5.	Coriander	13.2	43	12.34
6.	Fenugreek	5.8	21	10.24
7.	Garlic	32	127	15.59
8.	Turmeric & Ginger	0.5	5	-
9.	Nigella	05	10	66.89
f. Fibre Crops				
1.	Cotton	20.0	47	19.53
g. Flower Crops				
1.	Marigold	6.0	20	22.05
h. Medicinal Crops				
1.	Ajawain	5.0	10	45.32
i. Fruit Crops				
1.	Banana	1.0	45	5.07
2.	Guava	4.0	10	20.78
3.	Mandarin	2.0	10	19.30
4.	Papaya	4.0	15	65.22
5.	Watermelon	4.0	10	24.0
Total		**924.30**	**2680**	**-**

B. FLDs conducted on enterprises during 2020-21

S. No.	Enterprise	Area (ha)/No. of unit	No. of Beneficiaries	% increase
1.	L. P. M.	227	219	20.89
2.	Farm Machinery	70.8	156	53.25
4.	Fish	02	08	246.0
5.	Poultry	50	50	35.22
6.	Kitchen Garden	1.7	151	52.15
7.	Home Science	218.6	714	40.19
8	Vermicompost	95	130	42.14
Total		**665.10**	**1428**	**-**

C. Cluster Frontline Demonstration (CFLD) on Pulses and Oilseed conducted by KVKs during 2020-21

S.No.	Cluster Crop	Variety	Area (ha)	No. of Beneficiaries	% increase
a. Pulses					
1.	Black Chickpea	MASH 479	40	100	38.22
2.	Black Gram	PratapUrad -1	35.2	113	58.92
		PU 1	40	100	41.57
		PU 31	40.5	140	30.07
		Sekhar 2	20	50	76.41
3.	Chickpea	RVG-201	122	305	33.24
		RVG-202	379.5	900	30.31
		RVG-203	50	125	30.20
4.	Pigeonpea	Rajeshwari	5.2	13	20.31
		PA 291	20	50	7.56
		TJT-501	25.2	63	34.16
5.	Field pea	IPFD 4-9 and IPFD 12-2	20	50	
6.	Moongbean	IPM 205-7	16	40	85
		MH-421	10	25	33.18
7.	Green Gram	Shikha	10	25	20.60
Total			**833.6**	**2099**	**-**
b. Oilseed					
1.	Mustard	Girraj	60	150	35.06
		IJ 31	40	100	18.63
		RVM-1	30	75	
		NRCHB 101	550	1375	22.11
		PM 30 & RVM 2	124	310	9.68
		PM-25	20	0	0

		RH 0749	20	50	37.76
2.	Soybean	RVS 2001-4	30	75	
		JS-2029	30	75	17.93
		JS-2034	145.2	365	40.76
		JS-2069	20	50	26.97
		RVS 2001-4	60	150	22.54
3.	Sesame	TKG 308	10	50	-
4.	Ground nut	GG-20	20	50	20
Total		**-**	**1159.2**	**2875**	**-**

1.3: Training Programmes

Training has been considered a key component for updating the knowledge and inculcating new skillsamong the participants. The great emphasis has been given on organizing trainings both for the farmers as well as for the extension workers working at grassroots level. A total of 1951 trainingprogrammes were organized during the year 2020 involving50211beneficiaries including farmers and farm women, rural youth, extension personnel and sponsored from different agencies.

Training Programmes conducted by KVKs during - 2020

S. No.	Name of training	No. of Courses	Beneficiaries		
			Male	Female	Total
1.	Farmers & Farm Women	1322	25861	8680	34541
2.	Rural Youth	159	3447	1043	4490
3.	In-Service /Extension Activities	149	2402	1468	3870
4.	Vocational	100	1497	595	2092
5.	Sponsored	221	3469	1569	5218
Total		**1951**	**36856**	**13355**	**50211**

1.4: Other Extension Activities

A. Extension Activities

With the objective of creating awareness about advancedagricultural technologies, a large number of extension activities are being regularly organised by KVKs at their campuses and in the villages. These extension activities include method demonstrations for small group to KisanMelas for huge gathering. It includes use of old communication techniques of poster exhibition to latest technique of using SMS and social media for transfer of technology. Broadly, these activities are for creating awareness and providing advisory based services like farm advisory services, lectures delivered by resource persons,animal health camps and vaccination camp, exhibitions, extension literature and

popular article, media based activities like CD/DVD, film show, news paper coverage, radio talks and TV talks, meeting based like ex-trainee Sammelan, celebration of important days, club meet, farmers' seminar, field day, group meet, Gosthi, Mela and SHG meeting etc.The KVKs are showcasing the available technologies to the district level extension functionaries and farmers through a variety of events and activities. A total of 20029 extension activities were organised by the KVKs during 2020 benefitting 502095 beneficiaries as given in table below;

Extension Activities Conducted by KVKs during - 2020

S. No.	Activity	No. of Activities	Beneficiaries			Total
			Male	Female	Extension Officials	
1	Advisory Services	3678	226512	25411	921	252844
2	Agri-Mobile Clinic	363	499	22	17	538
3	Animal Health Camp	28	664	67	91	822
4	Awareness Programme	129	4497	1484	224	6205
5	Celebration of Important /Special Days	329	11683	5581	881	18145
6	Diagnostic Visits	460	7392	849	288	8529
7	Exhibition	71	13191	2272	640	16103
8	Exposure Visits	66	1647	138	77	1862
9	Extension Literature	116	16142	2046	167	18355
10	Ex-trainees Sammelan	43	1278	213	86	1577
11	Farmers Visit to KVK	10683	29369	6443	868	36680
12	Farm Science Club	12	337	49	3	389
13	Farmers Seminar/Workshop	23	702	53	45	800
14	Field Day	219	7017	1406	244	8667
15	Film Show	163	4002	930	138	5070
16	Group Meetings/Interface	39	884	287	80	1251
17	Group Discussion	85	1610	424	80	2114
18	Kisan Ghosthi/Sammelan	139	5652	1010	356	7018
19	Farmer Fair	109	45679	2750	303	48732
20	Krishi Mahotsav	05	144	44	08	196
21	Lectures Delivered as Resource Persons	719	19506	5000	970	25476
22	MahilaMandals Conveners' Meetings	72	143	745	53	941
23	Method Demonstrations	182	1543	570	119	2232
24	Mushroom Mela	01	104	101	0	205
25	PradhanmantriPhasalBeemaYojana	46	1967	311	94	2372
26	PM Kisan Samman Nidhi	01	91	14	16	121
27	Scientific Visit to Farmers Field	1489	11302	1684	348	13334
28	SHG Conveners' Meetings	66	800	436	56	1292
29	Soil Health Camp	31	1486	218	112	1816
30	Soil Test Campaigns	34	1656	420	100	2176
31	SwachhtaAbhiyan (Sanghosthi)	12	339	191	18	548
32	Technology Week	35	2832	687	125	3644
33	Others	581	10836	1074	131	12041
Total		**20029**	**431506**	**62930**	**7659**	**502095**

B. Mass Media used for Wide Publicity

Besides extension activities mentioned above, a variety ofmass media being used for wide publicity and adoption of various agricultural technologies. The KVK wise details of mass media are given in table below;

KVK	CD/ DVD	Radio Talk	TV Talk	Newspaper Coverage	Farmers' Fair	Extension Literature	Internet (You Tube)	Social Media (Whats App, Facebook, Twitter etc.)	Total
Agar Malwa	0	01	0	42	0	0	0	24	**67**
Alirajpur	0	02	0	10	01	04	0	35	**52**
Ashoknagar	10	16	02	10	01	04	02	50	**95**
Barwani	02	0	0	65	0	20	05	108	**200**
Lahar (Bhind)	0	0	0	24	0	0	0	26	**50**
Datia	0	01	02	34	0	10	0	25	**72**
Dewas	0	10	08	26	0	05	0	0	**49**
Dhar	0	08	02	63	02	08	03	45	**131**
Manawar (Dhar II)	0	0	0	25	0	0	0	53	**78**
Aron (Guna)	02	04	01	18	02	0	0	18	**45**
Gwalior	0	05	07	86	0	0	0	26	**124**
Jhabua	0	04	01	36	0	87	0	18	**146**
Khandwa	0	02	0	25	0	0	02	0	**29**
Khargone	0	0	0	20	0	0	0	100	**120**
Mandsaur	17	0	0	19	02	14	0	35	**87**
Morena	0	03	0	12	01	0	0	50	**66**
Neemuch	0	10	0	48	0	03	03	12	**76**
Rajgarh	0	02	02	13	0	05	01	06	**29**
Shajapur	0	06	07	53	0	0	0	127	**193**
Sheopur	0	05	0	16	0	04	0	112	**137**
Shivpuri	01	10	0	15	0	02	0	30	**58**
Ujjain	18	10	04	35	0	05	03	98	**173**
Bhopal	0	0	01	0	0	0	0	0	**01**
Burhanpur	0	0	02	25	0	03	0	25	**55**
Indore	0	03	01	0	0	0	08	58	**70**
Ratlam	0	07	01	50	0	25	0	298	**381**
Sehore	0	02	07	87	0	0	01	19	**116**
Total	**50**	**111**	**48**	**857**	**09**	**199**	**28**	**1398**	**2700**

1.5: Production and Supply of Technological Inputs by KVKs

Timely and adequate availability of the quality seed and planting material is very essential to ensure better yield, but timely and quality supply of it remains as a major constraints to the farmers. Therefore, it was taken as a challenge and appropriate steps were taken at the KVKs for helping the farmers in this regard. The KVKs produced 5028.42 q seed of different crops during 2020-21. Moreover, they also produced and sold 896388 **seedlings and saplings** of various vegetables, fruits, ornamental and medicinal plants. The details of various technological inputs and produced are as follows;

A. Seed Production

Crop	Total SeedProduced(q)
a. Pulses, Oilseed and Cereals	
Chickpea	1498.19
Wheat	792.89
Green Gram	60.0
Soybean	1516.0
Black Gram	881.9
Cotton	22.0
Sorghum	0.50
Rice	18.0
Mustered	16.81
Barley	60.0
Coriander	10.0
Pigeon pea	20.5
b. Vegetables	
Amaranths (Chaulai)	0.59
Sponge Gourd (Gilki)	0.91
Spinach	0.92
Okra	0.62
Garlic	3.85
Runner Bean (Sem)	0.24
Ginger	20.0
Bottle Gourd	0.30
Fenugreek	104.2
Total	**5028.42**

B. Planting Material (Seedlings/Saplings) Production

Crop	Quantity (No.)
a.Vegetables	
Tomato	239209
Brinjal	64537
Chilli	239354
Cabbage	42963
Cauliflower	41895
Onion	110220

Sweet Potato	100
Capsicum	40000
b.Fruit Plants	
Mango	1539
Lemon	2822
Pomegranate	505
Guava	8566
Karonda	397
Jackfruit	1441
Custard Apple	5929
Jamun	895
Aonla	80
Drum Stick	20944
Water Melon	16000
Bans	10
Cashew nut	91
Beal	125
Citrus	133
Papaya	12660
Orchid	400
MeethaNeem	08
c. Ornamental plants	
Marigold	28850
Ashok	47
Rose	126
Gudhal	13
Jasmine	04
Champa	17
Gladiolus	5000
Mogra	14
Kaner	06
Tuberose	1000
Golden Durenta	655
Other Plants	6000
d. Forest plants	
Bargad	02
Kumut	91
KadwaNeem	363
Bamboo	291
Gulmohar	336
Khamer	881
Khejadi	27
Karanj	136
Shami	27
Pipal	171
Imali	642
Amaltas	21

Sesam	713
Kesiasama	59
Siras	45
e. Medicinal Plants	
Gilloy	28
Total	**896388**

C. Bio Products

Bio Product	Total Quantity produced
Vermi compost	5251 q
Earth Worm	1105 kg.
Trichoderma	106 kg
Bio Pesticide(Panchgavya, Jiwamrita, Bijamrita etc.)	10050 L
Azolla	1818.36 kg

D. Livestock and Products

Bio Product	Total Quantity produced
Dairy animals (No.)	111
Milk Yield - Cow, Buffalo etc. (Litre)	50661
Fish (Kg)	500
Poultry- Birds (No.)	4799
Chicks etc. (No.)	11335
Poultry - Egg (No.)	5893

1.6 Soil and Water Sample Analysed

Soil and water testing is an import activity of KVK for improving the soil fertility and sustainability of agricultural production. KVK wise details of soil samples collected, analyzedand numbers of soil health card distributedamong farmers have been given hereunder;

a. Status of Soil Sample and Soil Health cards

KVK	Status of establishment of Soil testing Laboratory - (Y/N) if yes, mention year	Sanctioned	Procured	Collected by KVKs	Provided by Dept./ DDA	No. of Samples Analyzed			No. of Farmers Benefited			No. of Villages Covered	Amount Realized	Soil Health Card Distributed to the Farmers by KVK (No.)	
						by KVKs		By Department	by KVKs		By Department			Through Mini Soil Testing kit	Through Soil testing laboratory
						Mini Soil Testing Kit	Soil Testing Lab		Mini Soil Testing Kit	Soil Testing Lab					
Agar Malwa	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alirajpur	N	0	0	300	0	0	0	0	0	0	0	07	0	0	0
Ashoknagar	Y	2	2	200	0	200	0	0	200	0	0	10	0	0	0
Barwani	Yes	0	0	500	0	175	212	0	175	212	0	48	0	175	212
Bhind	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Datia	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dewas	2012	0	03	204	0	204	0	0	165	0	0	29	0	0	0
Dhar	Yes	02	02	1000	934	870	1064	10201	870	1064	10201	1420	0	712	822
Manawar (Dhar II)	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guna	Yes, 2005	1	1	257	0	57	200	0	57	200	0	17	11250	57	200
Gwalior	-	0	0	03	0	0	0	0	0	03	0	03	0	0	0
Jhabua	Yes	2	2	1375	0	175	1200	0	175	1200	0	7	0	175	1200
Khandwa	Y,2005	2	2	442	0	40	432	2767	40	432	2767	113	45000	40	2899
Khargone	Y, 2004	1	1	789	0	789	0	0	789	0	0	32	160000	789	0
Mandsaur	Yes	2	2	550	0	550	0	235	550	0	235	17	0	550	0
Morena	Yes, 2005	0	0	430	0	0	430	0	0	430	0	15	0	0	430
Neemuch		2	2	595	6386	595	0	10550	595	0	25832	799	0	595	0
Rajgarh	Yes	1	1	1000	0	1000	0	0	1000	0	0	15	0	1000	0
Shajapur	Yes	2	2	539	4128	539	4128	389	0	829	389	0	829	47	85
Sheopur	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shivpuri	No	2	2	200	0	238	0	0	238	0	0	152	0	238	0
Ujjain	Yes	1	1	700	0	0	700	0	0	700	0	25	147425	0	700
Bhopal	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Burhanpur	N	2	2	150	00	150	00	00	150	00	00	2	00	150	00
Indore	2005	2	2	205	0	185	20	0	185	20	0	11	12290	185	20
Ratlam	Y	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Sehore	Yes & 2012	0	0	290	0	0	205	2587	0	156	2587	142	0	0	205
Total	**-**	**26**	**29**	**9729**	**11448**	**5767**	**8591**	**26729**	**5189**	**5246**	**42011**	**2864**	**376794**	**4713**	**6773**

b. Details of water samples analyzed

KVK Name	No. of Samples	No. of Farmers	No. of Villages	Amount Realized	Test Report Distributed to the Farmers (No.)
Jhabua	11	11	4	-	11
Rajgarh	50	50	10	-	50
Note: Other KVKs not analyzed water samples					

1.7: Footfall of farmers in KVKs -2020

The table below gives a KVK wise complete account of farmers', VIPs and officials visited the centre for various purposes around the year. It is observable that the KVKs establish its place as a scientific agricultural institution at district level providing functional solutions to the farmers on various agricultural issues.

Name of KVK	**Footfall during 2020**			
	No. of Farmers	**No. of officials**	**No. of VIPs**	**Total**
AgarMalwa	139	25	0	164
Alirajpur	624	38	06	668
Ashoknagar	300	25	6	331
Barwani	2857	51	14	2922
Lahar (Bhind)	308	36	01	345
Datia	1406	19	06	1431
Dewas	875	57	06	938
Dhar	12562	143	24	12729
Manawar (Dhar II)	Not reported			
Aron (Guna)	845	42	02	889
Gwalior	7298	146	12	7456
Jhabua	1608	65	4	1677
Khandwa	2412	18	1	2431
Khargone	584	32	4	620
Mandsaur	1779	35	4	1818
Morena	2120	175	12	2307
Neemuch	2352	56	0	2408
Rajgarh	938	92	10	1040

Shajapur	2551	23	10	2584
Sheopur	187	36	0	223
Shivpuri	680	72	16	768
Ujjain	1653	45	13	1711
Bhopal	2619	281	3	2903
Burhanpur	1183	15	02	1200
Indore	1476	45	2	1523
Ratlam	1805	93	13	1911
Sehore	2882	232	08	3122
Total	**54043**	**1897**	**179**	**56119**

1.8: Initiatives on application of Information Communication Technology (ICT) for ToT

Kisan Mobile Advisory (KMA) is the easiest ICT tool working successfully for dissemination of latest information to the farmers and farm women. This is an unique programme for making linkages between different stakeholders who are key players for making agriculture more productive.During the year 2020, a total of 1439 farm advisory were issued by the KVKs from which 1310966beneficiarieswere directly benefited.

In addition, KVKs are also providing audio, video and photo based advisories through Facebook, WhatsApp, Twitter and other popular social media platforms given in following tables.

A. Status of Kisan Mobile Advisory (KMA) - 2020

Name of KVK	Number of calls received	No. of Advisory Sent	No. of farmers received messages	Total no of villages in District	No of village Covered by KVK through KMA
Agar Malwa	0	0	0	0	0
Alirajpur	385	06	7866	-	-
Ashoknagar	4718	30	32000	912	912
Badwani	1744	42	30538	693	693
Bhind	405	27	21627	877	475
Datia	254	15	124000	610	610
Dewas	273	26	65334	1034	1034
Dhar	1616	60	128632	1576	1270
Manawar-Dhar II	0	09	16608	340	340
Guna	2145	161	65570	1260	1260

Gwalior	324		26500	717	717
Jhabua	258	83	11986	813	813
Khandwa	0	81	34282	710	710
Khargone	1238	125	61741	1407	1407
Mandsaur	2043	33	107590	944	944
Morena	515	122	18249	775	775
Neemuch	0	37	31040	799	799
Rajgarh	2278	116	5682	1702	1702
Shajapur	271	233	25700	947	947
Sheopur	1292	09	50000	610	589
Shivpuri	720	35	45324	1368	1368
Ujjain	889	59	63808	1095	1095
Bhopal	1231	09	65228	503	438
Burhanpur	37	22	20244	272	250
Indore	0	28	37595	633	633
Ratlam	0	40	42618	1053	1053
Sehore	14201	31	171204	1049	1049
Total	**36837**	**1439**	**1310966**	**22699**	**21883**

B. Status of Information through Whatsapp by KVKs

KVK	No. of Whatsapp Groups	No of Farmer Members	Activity details on Whatsapp group
Alirajpur	07	492	Advisory and agricultural information sent on groups
Ashoknagar	04	803	Agriculture, weather, machine, variety, plant protection, horticulture etc. information posts
Barwani	07	249	Weather updates, improved variety of crops, sowing date, seed rate, fertilizer doses, plant protection etc.
Lahar (Bhind)	02	60	Advisories, trainings, webinars and other information
Datia	05	250	Solution of farmers problems
Dewas	01	100	Problem Solution Interaction
Dhar	11	783	General Chat, Technology Videos, Important information, Notification, Online Training Links, Training date and other
Manawar (Dhar II)	01	65	Crop Information
Guna	08	1956	Information for awareness on Agri technologies Multimedia Video, Images & Tex advice Nutrition, Value Addition, Questionnaire

Jhabua	03	241	65
Khandwa	05	668	Discussion about problems facing by famers and their solutions with improved practices
Khargone	08	726	-
Mandsaur	03	412	-
Morena	02	285	02
Neemuch	06	506	-
Rajgarh	03	500	Advisory on disease and insect - pest management
Sheopur	05	485	Information regarding improved agriculture technology
Shivpuri	05	1230	Advisory message etc.
Ujjain	05	353	-
Bhopal	17	1027	1709 messages on various advisories
Burhanpur	06	349	Advisory & Awareness
Indore	13	818	Timely advisory on agriculture and allied areas
Ratlam	08	995	Activity related to farmers query and share agriculture news, magazines and awareness activities.
Sehore	06	417	-

C. Information throughSocial Media by KVKs

KVK	Face book			Twitter	
	Scientists	Farmers connected	No of Post	No of Tweets	Followers
Agar Malwa	-	-	-	-	-
Alirajpur	01	-	14	11	09
Ashoknagar	03	1021	50	30	Mass
Barwani	35	148	21	8	56
Lahar (Bhind)	-	-	-	13	34
Datia	42	200	12	10	-
Dewas	-	-	-	-	-
Dhar	04	3350	24	23	524
Manawar (Dhar II)	-	-	53	53	8
Aron (Guna)	86	128	11	02	12
Gwalior	-	-	-	-	-
Jhabua	-	-	-	-	-
Khandwa	01	112	11	-	-
Khargone	49	1236	135	26	256
Mandsaur	56	3176	31	0	0
Morena	15	5000	78	-	-

Neemuch	07	156	18	12	5
Rajgarh	20	100	-	-	-
Shajapur	-	-	-	-	-
Sheopur	20	50	21	03	09
Shivpuri	04	1500	85	-	-
Ujjain	46	2801	38	51	38
Bhopal	-	-	-	-	-
Burhanpur	34	3850	350	15	119
Indore	06	5000	42	20	23
Ratlam	05	4995	47	17	98
Sehore	05	58	-	-	-
Total	**-**		**1041**	**294**	**1191**

D. Mobile Apps developed by KVKs

S. No.	Name of KVK	Title of Mobile App	Language of App.	Number of Downloads
1.	Barwani	Kvk Barwani	Hindi	15
2.	Jhabua	Jhabua Khetibadi	Hindi/ English	200+
3.	Ujjain	KVK Ujjain	Android Operating System, Language Java	-

E. Status of KVK Website during January to December - 2020

Name of KVK	Date of start of website	Address of Website	No. of updates During 2020	No. of visitors during 2020
Alirajpur	2019	www.kvkalirajpur.org	07	4052
Barwani	2016	www.kvkbarwani.org	38	12000
Lahar (Bhind)	2013	www.kvklahar.com	26	1210
Datia	2011	www.kvkdatia.com	07	10414
Dhar	2011	www.kvkdhar.com	52	> 8000
Gwalior	2012	www.kvkgwalior.com	18	5596
Jhabua	2018	www.kvkjhabua.org	42	17308
Khandwa	2019	kvkkhandwa.org.in	Nil	-
Mandsaur	2015	https://kvk.icar.gov.in/	51	-
Morena	2017	www.kvkmorena.com	06	656
Neemuch	2011	www.kvkneemachzpdvii.org	46	86
Rajgarh	2013	kvkrajgarhzpdvii.org	12	300
Shajapur	2014	kvkshajapur.rvskvv.net	15	295
Sheopur	2016	https://kvk.icar.gov.in/	41	-
Shivpuri	2014	www.kvkshivpuri.org	04	590000

Ujjain	2011	https://kvkujjain.org	48	6002
Indore	2006	www.kvkindore.co.in	14	2382
Ratlam	2011	www.kvkratlam.org.in	18	221
Sehore	2015	kvksehore.nic.in	05	27848

1.9 Awards & Recognitions

Major awards, recognitions and appreciations received by the KVK scientists, associated farmers and KVK as an institution are given in the table below;

Awards and Recognition -2020

KVK Name	Name of award /awardees	Type of award (Ind./Group/Inst./Farmer)	Award category (local/ Regional / National)	Awarding Organizations	Amount received (Rs.)
Barwani	Haldhar Organic Krishak Purushar – 2019 MrsSarikaPatidar of District Barwani	Individual (Farmers)	National	ICAR , New Delhi	-
Datia	PanditDeendayal Upadhyay Krishi Vigyan Protsahan Puruskar (National)	Institutional	National	ICAR , New Delhi	-
	Dhanuka Innovative Agriculture Award for Water Harvesting	Institutional		DhanukaAgritech Pvt. Ltd.	-
Dhar	Krishak Fellow Award - 2020	Individual (Farmer)	State Level	Rajmata Vijyaraje Scindia Krishi Vishwavidhyalya, Gwalior	10000
Jhabua	Breed Conservation Award 2020 for Kadaknath Chicken	Institutional	National	National Bureau of Animal Genetic Resources (ICAR), Karnal (Haryana)	10,000
	National Poultry Extension Award	Institutional	National	Poulrty Association of India	-
	Dhanuka Ag. Innovative Award	Institutional	National	DhanukaAgritech Pvt. Ltd	
Khargone	Devarth Awards "Convergent Thinker" ShriAvinashDangi	Individual (Farmer)	Regional	Advanced Academy	NIL
	Farmers Fellow Award/ ShriAvinashDangi	Individual (Farmer)	Regional	RVSKVV, Gwalior	10000
	Organic India Haladhar/ ShriAvinashDangi	Individual (Farmer)	Regional	Krishi Jagaran	NIL

	State Level Annual Biodiversity Award 2020/ ShriAvinashDangi	Individual (Farmer)	Regional	MP State Biodiversity Board, Bhopal	300000
Morena	Best KVK Award-2020	Institutional	National	Outlook Agriculture Conclave and Swaraj Awards at NASC Complex, ICAR, New Delhi	
Ujjain	PanditDeenDayal Upadhyay Krishi PurotsahanPuraskar(Zonal)	Institutional	Zonal	ICAR, New Delhi	7.5 Lakh
Bhopal	ICAR Innovative Farmer Award 2020, Sh. Shyam Singh Kushawaha, Bhopal	IARI Kisan MelaPusa,New Delhi	National	IARI, Pusa, New Delhi (Pusa Krishi Vigyan Mela)	

1.10 Status of Revolving Funds - 2020

KVK	Account No.	Opening balance on 01 .01.2020 (Rs.)	Closing balance 31.12.2020 (Rs.)
AgarMalwa	37127235119	300000	300000
Alirajpur	29940210000458	300000	325000
Ashoknagar	30685855476	576089	851293
Barwani	30704699890	548300	811640
Datia	36470787786	818131	1377786
Dewas	19110110016503	4443358	1523625
Dhar	30657822680	1103045	889910
Manawar (Dhar II)	38095420207	1,00,000	1,14,000
Guna	30639334219	83490.00	230669.00
Gwalior	21160210000250	4019243.00	5043028.00
Jhabua	30702878779	4874850.25	5091239.25
Mandsaur	03770210000052	438813	495276
Morena	00430210000045	29,34,375	34,74,943
Rajgarh	32895980627	200000	912585
Shajapur	30699079595	750980	949646
Sheopur	39072325018	803282.00	932824.00
Shivpuri	21770210000014	570597	719661.56
Ujjain	1450110065738	1103454	1428300
Burhanpur	953220110000408	50428	16178
Indore	882110110002616	2763255	3263799
Ratlam	2348735072	572043	689515

1.11: Publications and Media Development by KVKs

During 2020, various research and farmer friendly publications were published and distributed among the clients for issuing timely advisory on technological developments in agriculture and allied areas.

KVK	Abstr	Resea	Leafle	Popu	Boo	Book	Techn	Train	Techn	Year	Bo	Electr	Tot

	act	rch Paper	ts/ Folder/ Pamphlet	lar article	klet	Chapter	ical Bulletin	ing Manual	ical Report	Planner	ok	onic Media Show (CD/VCD)	al
Agar Malwa	0	04	0	0	0	0	0	0	0	0	0	0	**04**
Alirajpur	0	0	04	0	02	0	0	0	06	01	0	0	**13**
Ashoknagar	0	02	04	0	02	02	0	01	04	01	0	06	**22**
Barwani	12	11	14	0	0	05	20	01	26	01	01	02	**93**
Lahar (Bhind)	0	0	11	0	0	0	0	0	0	0	0	0	**11**
Datia	05	05	06	0	0	0	0	0	05	01	0	0	**22**
Dewas	0	05	0	10	0	0	01	0	02	0	0	0	**18**
Dhar	04	0	03	04	01	03	03	04	02	01	01	0	**26**
Manawar (Dhar II)	0	01	02	0	0	0	0	0	0	01	0	04	**08**
Aron (Guna)	0	0	05	03	0	01	0	02	08	01	0	0	**20**
Gwalior	06	03	02	15	01	02	02	01	54	01	01	0	**88**
Jhabua	0	0	04	01	01	01	0	0	07	01	0	0	**15**
Khandwa	03	01	04	0	0	05	0	02	0	0	0	0	**15**
Khargone	0	0	04	02	02	0	0	0	22	01	0	0	**31**
Mandsaur	02	05	10	02	0	0	01	0	05	01	0	0	**26**
Morena	14	05	03	10	01	05	0	04	02	01	01	0	**46**
Neemuch	0	03	05	05	03	04	0	0	10	01	01	0	**32**
Rajgarh	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Shajapur	07	05	04	0	03	0	0	01	0	01	0	0	**21**
Sheopur	03	04	02	0	0	0	0	02	05	01	0	0	**17**
Shivpuri	0	02	02	02	0	0	02	04	06	01	0	01	**20**
Ujjain	05	05	02	07	0	03	0	0	02	01	0	03	**28**
Bhopal	0	01	0	01	0	0	0	0	0	0	0	0	**02**
Burhanpur	04	02	02	0	0	0	0	02	02	0	0	0	**12**
Indore	02	01	0	04	0	01	0	0	0	01	0	0	**09**
Ratlam	0	02	25	17	03	0	0	0	10	01	01	0	**59**
Sehore	0	03	04	0	0	0	0	0	02	06	0	0	**15**
Total	**67**	**70**	**122**	**83**	**19**	**32**	**29**	**24**	**180**	**25**	**6**	**16**	**673**

1.12: Outreach of KVK -2020

The KVKs are functioning at district level as a model institution for transfer of agricultural technologies among farmers and district extension machinery. The KVK work on principles of scientific agriculture and follow cluster based approach for agricultural development in the district. It works through adopted villages and develops them as model for district extension system. The table below gives a detailed account of coverage and outreach of KVK in the district.

Name of KVK	Total number of Block/villages in district		Number of Blocks		Number of Villages	
	Block	Village	Intensive	Extensive	Intensive	Extensive
Agar Malwa	03	01	01	02	-	-
Alirajpur	06	543	02	06	03	27
Ashoknagar	04	921	03	04	15	450
Barwani	07	693	05	07	35	208
Lahar (Bhind)	06	877	04	02	27	798
Datia	03	610	02	01	60	150
Dewas	06	1067	05	06	28	962
Dhar	13	1579	05	08	71	1532
Manawar (Dhar II)	07	340	02	05	15	340
Guna	05	1260	03	02	86	1174
Gwalior	04	717	04	04	67	650
Jhabua	06	12	06	0	12	813
Khandwa	07	710	03	04	4	710
Khargone	09	1407	03	06	26	1293
Mandsaur	05	944	02	02	352	607
Morena	07	775	05	07	16	460
Neemuch	03	799	03	0	3	799
Rajgarh	06	1600	04	02	675	993
Shajapur	04	587	04	04	32	587
Sheopur	03	610	02	01	08	589
Shivpuri	08	1368	06	02	250	985
Ujjain	06	1095	06	06	38	1095
Bhopal	02	-	02	02	12	215
Burhanpur	02	272	02	02	20	250
Indore	04	633	04	04	24	633
Ratlam	06	1086	06	06	12	213
Sehore	05	1049	04	05	25	925
Total	**145**	**21555**	**98**	**100**	**1908**	**16869**

1.13: Initiatives on Doubling Farmers Income (DFI)

As per the guidelines of Ministry of Agriculture, Government of India, KVKs under RVSKVV, Gwalior have selected villages for intensive implementation of income generating/enhancing agricultural activities for Doubling Farmers' Income by 2022. The details are as follows;

A. Information about DFI Village

Name of KVK	Block	Name of DFI Village	Total geographical area (ha)	House hold	Population
Agar Malwa	-	-	-	-	-
Alirajpur	Udaigarh	Khushalbardi	213	131	740
Ashoknagar	Ashoknagar	Khariyamahu	-	250	1200
Barwani	Barwani	Lonsara	284.77	261	2088
Lahar (Bhind)	Lahar	Baijpura	309	224	1178
Datia	Datia	Kakraua	-	-	-
Dewas	Soncutch	Narana	197	140	922
Dhar	Nalcha	Avalia	89	22	155
Manawar (Dhar II)	-	-	-	-	-
Guna	Raghogarh	Arashkheda	135	52	268
Gwalior	Bhitarwar	Banwar	1766	1246	5000
Jhabua	-	-	-	-	-
Khandwa	Khalwa, Punasa and ChegaonMakhan	Jhirniya, Dait and Sulyakhedi	-	303	1703
Khargone	Gogawa	Baijapur	-	-	-
Mandsaur	Malhargarh	Chillodpipliya	426.92	244	1206
Morena	Joura	Bisangpura	218	96	1207
Neemuch	Neemuch	Malkheda	1037	401	1977
Rajgarh	Zirapur	-	-	-	-
Shajapur	Shajapur	Gopipur	460	392	770
Sheopur	Karhal	Parond	80.00	65	512
Shivpuri	Shivpuri	Rator	-	-	-
Ujjain	Ghattiya	Salakhedi	200	106	700
Bhopal	Berasia and Panda	Sagonia	-	-	-
Burhanpur	Burhanpur Burhanpur Khaknar Khaknar	Dhoolkot Umarda Karkheda Nimandhad	-	1780	9824
Indore	Indore	Akya	245.3	73	412
	Depalpur	Machal	683.8	715	3790
Ratlam	Ratlam	Jaamthun	720.93	339	763
	Piploda	Nawabganj	295.74	150	691
Sehore	Sehore	Bijlon	1066.05	424	2380

B. Activities in DFI Village during January to December -2020

KVK	OFT			FLD			Training		Ext. Activities	
	No	Area (ha)	Benf.	No	Area (ha)	Benf.	No.	Benf.	No.	Benef.
Agar Malwa	-	-	-	-	-	-	-	-	-	-
Alirajpir	01	2.0	05	04	16.0	40	05	71	02	62
Ashoknagar	03	3.0	130	03	4.0	60	01	21	02	43
Barwani	03	4.0	35	02	04	10	10	262	35	628
Lahar (Bhind)	01	0.4	2	01	-	05	01	20	-	-
Datia	07	13.65	67	04	8.2 ha and 04 animal	14	11	135	03	173
Dewas	10	4.0	10	05	2.0	05	01	21	02	51
Dhar	04	12.0	40	02	6.0	25	04	172	04	58
Manawar (Dhar II)	-	-	-	-	-	-	-	-	-	-
Aron (Guna)	04	37.0	55	03	9.5 &05 Unit	73	07	215	10	290
Gwalior	05	7.0	70	02	12	50	08	204	11	420
Jhabua	-	-	-	-	-	-	-	-	-	-
Khandwa	07	14.0	61	08	16.0	70	11	322	-	-
Khargone	03	8.4	21	06	24	60	09	243	06	150
Mandsaur	01	1.0	5	02	6.4	21	03	62	05	122
Morena	01	LPM	68	-	-	-	01	22	02	92
Neemuch	02	2.0	14	02	10.0	24	10	250	21	183
Rajgarh	10	10.0	50	08	8.0	80	12	300	10	325
Shajapur	02	8.0	20	01	4.0	10	06	117	03	97
Sheopur	09	6.4	34	10	53.0	126	09	205	-	-
Shivpuri	-	-	-	09	3.2	13	03	55	01	55
Ujjain	1	0.4	1	5	10.8	27	03	73	01	38
Bhopal	-	-	-	-	-	-	-	-	-	-
Burhanpur	04	8.8	31	02	2.2	17	02	51	04	151
Indore	02	12.5	20	06	16.5 33 Nos.	78	05	83	05	142
Ratlam	04	2.6	36	05	33.2	92	11	234	03	75
Sehore	03	1.5	25	08	14.2	60	10	177	66	636

1.14: Flagship Programmes of ICAR/Government of India implemented by KVKs/DES

1. National Innovations on Climate Resilient Agriculture (NICRA)

National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agricultural Research (ICAR) launched in February, 2011. The project aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstration. The research on adaptation and mitigation covers crops, livestock,

fisheries and natural resource management. The project consists of four components viz. Strategic Research, Technology Demonstration, Capacity Building and Sponsored/Competitive Grants.The project was formally launched by the Hon'ble Union Minister for Agriculture & Food Processing Industries ShriSharadPawarji on 2nd February 2011.

NICRA is being implemented by five KVKs under RVSKVV, Gwalior since 2011. Three KVKs namely Datia, Guna and Morena is implementing the project since its inception in 2011 whereas two more KVKs i.e. Jhabua and Ratlam were included in NICRA during 2015-16. KVK Datia had been awarded as Best NICRA KVK twice during 2014 and 2019 for outstanding work in water conservation under technology demonstration component.

<table>
<tr><td>  </td><td> 
</td></tr>
<tr><td>Stored rain water in renovated check dam</td><td>Stored rain water in farm pond (scientist of ATARI Zone IX Jabalpur visited the farm pond)</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Height of Constructed Poly Bag Check Dam (BoriBandhan)</td><td>Rain water Stored in BoriBandhan</td></tr>
</table>

2. Cluster Front Line Demonstrations (CFLD) on Oilseed and Pulses

A. Pulses

Indian government imports large quantity of pulses to fulfil domestic requirement of pulses. In this regard, to sustain this production and consumption system, the Department of Agriculture, Cooperation and Farmers Welfare had sanctioned the project "Cluster Frontline Demonstrations on pulses from 2015-16" to ICAR-ATARI, Jabalpur through National Food Security Mission. The basic strategy of the Mission is to promote and extend improved technologies, i.e., seed, micro-nutrients, soil amendments, integrated pest management, farm machinery and implements, irrigation devices along with capacity building of farmers. This project was implemented by all KVKs under RVSKVV, Gwalior with main objective to boost the production and productivity of pulses through CFLDs with latest and specific technologies.

CFLD on Black gram during Kharif 2018

Cluster demonstration of Field Pea during 2017-18

B. Oilseed

Oil seed crops have ecological conditions in India, resulted in the production of 7.87 m tonnes of seed mustard in 2013-2014 and our productivity is 10.9kg/ha. It is now widely accepted fact that training to farmers and farm women increases the technical knowledge regarding package of practices. KVKs are playing a vital role across the rural economy in distinguish field as animal husbandry, horticulture, plant protection and food processing. India is an important rape seed mustard growing country in the world, occupying largest area and has second position in production after China.

CFLD Monitoring Visit

3. Seed Hub Project

The Government of India has launched Seed Hub Project during 2016-17 to promote indigenous production of pulses in India by creating 150 Seed Hubs in KVKs across the country. ICAR-IIPR, Kanpur has been given responsibility of nodal agency at National level. Four KVKs namely Datia, Dewas, Morena and Ujjain has been selected for implementation of Seed Hub project among KVKs under RVSKVV, Gwalior. Major crop like Black gram, Green gram, Pigeon pea, chick pea and fields pea are being taken up for seed production under the seed hub project.

Crops under Seed Hub Project Datia

4. Attracting and Retaining Youth in Agriculture (ARYA)

In order to create interest and confidence among rural youth in agriculture, there is needed to make agriculture more profitable. Retaining youth in agriculture and making agriculture more profitable are thus, big challenges. There is a continuous increase in migration of rural youth to urban areas. On the other hand, small holdings are on the rise which posses challenge to food security for increasing population. Thus, it was felt to bring a comprehensive model for the development of rural youth in general and agricultural youth in particular. Thus, realising the importance of rural youth in agricultural development especially from the point of view of food security of the country, ICAR has initiated a programme on "Attracting and Retaining of Youth in Agriculture (ARYA)" with following objectives;

1. To attract and empower the Youth in Rural Areas to take up various Agriculture, allied and service sector enterprises for sustainable income and gainful employment in selected districts.
2. To enable the Farm Youth to establish network groups to take up resource and capital intensive activities like processing, value addition and marketing.
3. To demonstrate functional linkage with different institutions and stakeholders for convergence of opportunities available under various schemes/program for sustainable development of youth.

KVK, Gwalior was selected for implementing ARYA project during 2016-1 in first phase and currently five KVKs under RVSKVV are implementing this project.

5. Farmers' FIRST Project

The Farmer FIRST as a concept of ICAR is developed as farmer in a centric role for research problem identification, prioritization and conduct of experiments and its management in farmers' conditions. The focus is on farmer's Farm, Innovations, Resources, Science and Technology (FIRST). Two terms 'enriching knowledge' and 'integrating technology' qualify the meaning of Farmer FIRST in Indian context. Enriching knowledge signifies the need for the research system as well as farmers to learn from each other in context to existing farm environment, perception of each other and interactions with the sub-systems established around. Technology integration is looked from the perspective that the scientific outputs coming out from the research institutions, many times do not fit as such in the farmers' conditions and thus, certain alterations and adaptations are required at field level for their acceptance, adoption and success. 'Farmer FIRST' programme aims at enhancing farmer-scientist interface for technology development and application. It will be achieved with focus on innovations, technology, feedback, multiple stakeholder's participation, multiple realities, multi method approaches& vulnerability and livelihood interventions.

The Farmers' FIRST Project is being implemented in RVSKVV since2016-17 in ZARS/KVK, Morena.

6. District Agro-meteorological Units (DAMU)

India Meteorological Department, Ministry of Earth Sciences, Government of India, New Delhi has established District Agro -meteorological Units (DAMU) at 07 KVKs under RVSKVV jurisdiction and process of establishing 04 more such units is in advanced stage at IMD level. Major objective of DAMU is to provide timely weather and agricultural updates to the farmers and other stakeholders at micro level.

7. Diploma in Agricultural Extension Services for Input Dealers (DAESI)

Agri-Input Dealers in the country are a prime source of farm information to the farming community, besides the supply of inputs and credit. However, majority of these dealers do not have formal agricultural education. In order to build their technical competency in agriculture and to facilitate them to serve the farmers better and to act as para – extension professionals, National Institute of Agricultural Extension Management (MANAGE) has launched a self-financed "One-year Diploma in Agricultural Extension Services for Input Dealers (DAESI) Program" during the year 2003 for the input dealers. Due to positive impact of the program, Ministry of Agriculture & Farmers' Welfare, Government of India has decided to implement this program for Input dealers in all the States of the country. The program is being implemented by MANAGE through State Agricultural Management and Extension

Training Institutes (SAMETIs). The Department of Agriculture and Cooperation & Farmers' Welfare (DAC & FW), GoI, will subsidize the course fee 50% per Input dealer. The technical information is delivered through Contact Classes by Agricultural Experts & Practitioners at district level on Sundays or Market holidays for 48 days including field visits spread over a year.

DAESI programme is also being implemented by more than 10 RVSKVV-KVKs through Department of Agricultural Development &Farmers' Welfare, Govt. of M.P.

8. MeraGaonMera Gaurav (MGMG)

The programme is being implemented by the University through in five constituent colleges i.e. College of Agriculture, Gwalior, Indore, Sehore, Khandwa and College of Horticulture, Mandsaur and three ZARS viz; Jhabua, Khargore and Morena. The above V.V. units are organizing regular extension activities under MGMG in their identified villages.

9. Scheduled Caste Sub Plan (SCSP)

The SCSP has been started by the Government of India to benefit the farmers of scheduled caste (SC) communities of the country. This programme is being implemented by two RVSKVV- KVKs namely Datia and Ujjain. Under SCSP programme, various extension activities like training, awareness camps and distribution of input and machinery are being organised for farmers belong to scheduled caste.

10. Kisan OPD Initiated:

All theKVKs under RVSKVV have started regular Kisan OPD for diagnosis of day to day problems brought by the farmers to the KVK scientists.

11. Other Programmes:

The KVKs are developing infrastructure and organizing various activities and under Government programmes like RKVY, PKVY, GKRY, Swachh Bharat Abhiyan and TSP etc. In addition to this, special days like International Soil Health Day,World Women Day, World Environment Day, Milk Days, Technology and Nutrition Week etc. are being celebrated by the KVKs on regular basis.

2. Major Activities of Directorate of Extension Services

2.1: Establishment of Centre for Agribusiness Incubation & Entrepreneurship (CAIE)

Centre for Agribusiness Incubation & Entrepreneurship has been established under Directorate of Extension Services with financial support of NABARD for promoting entrepreneurial ventures in agriculture sector. The centre will identify, train and groom new agri-preneurs through incubation support, when start functioning.

2.2: Establishment of Agriculture Technology Information Centre (ATIC)

The Agricultural Technology Information Centre (ATIC) is a 'single window' for dissemination of information and support system for various innovative and farm worthy technologies evolved at the University and Agricultural Research System of India in the pursuit of research and development. The construction work of ATIC building is completed near the main campus and it has to be furnished and inaugurated soon.

Newly Constructed ATIC Building

2.3: Raj-Vijay Kitchen Garden Kit

Directorate of Extension of Services Rajmata Vijayaraje Sciendia Krishi VishwaVidhyalaya Gwalior (MP) has launched the new initiative for nutritional security of farming community namely "Raj Vijay Kitchen Garden Kit". The Kitchen Garden kit is beneficial for ensuring nutritional security by providing fresh vegetables at household level. It is a pioneer initiative of VishwaVidhyalaya with a big goal to fight with malnutrition at household level. The initiative is started during the year 2020 with preparation of 1000 Kitchen Garden Kit and in current year the Directorate is in process of making 25000 kits this year. The produced kit will be provided to the farming community through ATIC and various platforms.

2.4: Community Radio Station (CRS)

The Directorate of Extension Services has submitted an application to Ministry of Information and Broadcasting, Government of India for establishment of Community Radio Station at ATIC building which is under process at frequency allotment stage in the ministry.

2.5: RVSKVV- Krishak Fellow Samman - 2020

The Directorate of Extension Services has initiated an annual award for the farmers of Madhya Pradesh. The award is conferred to best performing three innovative farmers selected through a set procedure every year during Foundation Day of the University.

2.6: Weekly online programme 'Raj Vijay Krishi Sandesh' started

The Directorate has started a weekly online **'Raj Vijay Krishi Sandesh'** programme for farmers and extension workers for updating them and providing solution on various issues and problems of agricultural and allied areas. The programme is organised for one hour during evening time in which farmers, extension workers, scientists used to participate and interact with the experts on a specific subject chosen for the discussion.

2.7: Memorandum of Understanding (MoUs) signed

The Directorate has signed06 MoUs during the year with several Government and Non-Government Organizations to facilitate extension activities at various districts of its jurisdiction.

S. No.	Name of Institution	Major Objective	Year
1.	*Petroleum Conservation Research Association (PCRA), Mumbai*	To createawareness activities among farmersand other stakeholders of agriculture sector about petroleum and fuel conservation.	2020-21
2.	ICAR-IISR, Indore	Augmenting soybean production in tribal districts of Madhya Pradesh for sustainable livelihood security	2020-21
3.	*India Meteorological Department,* Ministry of Earth Sciences. Government of India, New Delhi	To provide timely weather and agricultural updates through DAMU and GKMS	Contd...
4.	Transform Rural India Foundation (TRIF) an Initiative of TATA Trust	To establish a Technology Demonstration Centre at KVKs of RVSKVV, Gwalior	2019
5.	East-West India Pvt Ltd,	Establishment of Demonstration	2019

	Aurangabad	units of High tech vegetable cultivation at RVSKVV-KVKs.	
6.	ICAR-IGFRI, Jhansi	Crop, Fodder and Livestock based technological modules for upliftment of tribal community in Barwani district of M.P.	2020-21

2.8: Scientific Advisory Committees (SAC) Meeting of KVKs

The Scientific Advisory Committee meetings were conducted to give necessary guidance and support to carry out the mandated activities of KVK in a more planned and scientific manner. The committee monitors progress and facilitate in-depth exchange of views in specific fields. The committee evolves the scientific and technical vision documents for the KVK, reviews periodically and takes further course of action as deemed fit for furthering scientific and technological activities of the KVK. Activities of KVKs are monitored through thesemeeting of Scientific Advisory Committees (SAC). Director Extension Services, Joint Director Extension, and scientists from the Directorate of Extension Services participated in these meetings to reviews previous activities and finalize the action plans for coming season.A total of 52 SAC meetings (Kharif and Rabi) were conducted for all 27 KVKs during 2020. Details of SAC meetings organised during the year are as follows:

KVK Name	Kharif 2020		Rabi 2020-21	
	Date of Meeting	Participants	Date of Meeting	Participants
Agar Malwa	July 2020	30	September 2020	30
Alirajpur	23.7.2020	38	21.6.2020	32
Ashoknagar	14.07.2020	17	16.09.2020	30
Barwani	14.07.2020	18	25.09.2020	35
Lahar (Bhind)	15.07.2020	21	26.09.2020	22
Datia	15.07.2020	14	28.11.2020	39
Dewas	16.07.2020	39	29.07.2020	34
Dhar	16.07.2020	21	21.09.2020	23
Manawar (Dhar II)	17.07.2020	30	22.09.2020	20
Aron (Guna)	17.07.2020	08	23.09.2020	12
Gwalior	17/06/2020	25	26/09/2020	29
Jhabua	24.07.2020	24	27.09.2020	21
Khandwa	21.07.2020	15	24.09.2020	17
Khargone	20.07.2020	31	24.09.2020	39
Mandsaur	21.07.2020	18	25.09.2020	27
Morena	21.07.2020	18	25.09.2020	22
Neemuch	22.07.2020	25	23.09.20	25
Rajgarh	22.07.2020	26	26.09.20	32
Shajapur	23.07.2020	35	29.09.2020	38
Sheopur	29-09-2020	21	20-11-2020	25

Shivpuri	24.7.2020	23	30.9.2020	29
Ujjain	24-07-2020	29	30-09-2020	34
Bhopal	**No SAC Meeting was organised during the Year**			
Burhanpur	25-07-2020	32	01-10-2020	25
Indore	27.07.2020	21	03.10.2020	18
Ratlam	27.07.2020	27	03.10.2020	29
Sehore	27.07. 2020	27	03.10. 2020	26

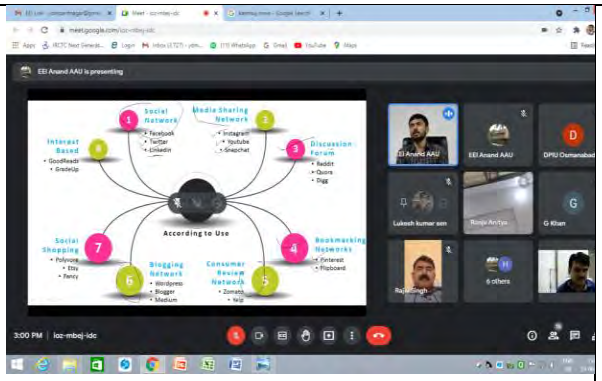
2.9: Training /Workshops/ Meetings organised by the Directorate of Extension Services

Following capacity building/ HRD programmes and workshops/ review workshops were conducted for KVK scientists by the Directorate of Extension Services during the year 2020:

Programme	Title of programme	Date	No. of Participants	Level of Participants
A. Capacity Building Programme				
Capacity Building Programme	On Farm production of organic inputs	February 4-5, 2020	26	Scientists of KVKs
	Preparation and dissemination of agromet advisories at Block level under DAMU	February 23-27, 2020	16	Scientists of KVKs
Collaborative Training Programme: DES, RVSKVV, Gwalior with SIAET, Bhopal	Refresher Training cum Workshop for Production Technology of Kharif Crop	August 05-06, 2020	Online Mode Approx. 100	District and Block level Extension Worker
	Refresher Training cum Workshop for Production Technology of Rabi Crop	October 20-21, 2020	Online Mode Approx. 100	District and Block level Extension Worker
DES, RVSKVV, Gwalior (M.P.) and National Agriculture Development Cooperative Ltd., Baramulla (U.T. of J& K) jointly organised online 21 Days Training Programme organised	Recent Technologies of Agribusiness Management and Agri Entrepreneurship during	October 08-28, 2020	100	Scientists, Agri-professional and other stakeholders
B. National Webinar Organised				
1.	National Webinar on	June 19,	>1000	Scientists,

	Rehabilitation of Non-agriculture Migrant Labourers due to COVID -19 Pandemic: Challenges and Opportunities	2020		Students, Policy Makers, Ag. Administrators etc.
2.	National Webinar on Climate Resilience Agriculture Opportunities & Potential	July 27, 2020	429	Scientists and Students
C. Western Regional Farmers Fair	KRISHI VIJAY-2020	January 28-30, 2020	>3600	Participants from all over the Western Zone states
D. Exhibition and Sangosthi	Raj Vijay Fulwari – 2020 (An Exhibition of Horticulture and processed products)	January 28-30, 2020	>200	KVKs, Farmers, Nursery, institutions and Industry
E. Workshop/ Meeting	Review Work Shop of KVKs	May 18-20, 2020	30	Senior Scientist & Head of KVKs

Glimpses of Activities by KVKs and DES, RVSKVV, Gwalior



Online Capacity Building Programme for Scientists

Online SAC Meeting

Training Pgogramme

National Webinar organised by DES

Inauguration of Krishi Vijay -2020

Training of Organic Farming-Khandwa Model

National Workshop of Agro-meteoroogy

Release of Kitchen Garden Kit during Krishi Vijay - 2020

6. LIBRARY AND DOCUMENTATION SERVICES:

Library system of different constituent Colleges of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior continued to play the pivotal role in dissemination of information across the University.

Entire academic community continued to harness the benefits of this useful information system. Textbooks, Reference books, Competitive examination books, digital library e-books, scientific periodical, thesis, report, encyclopedias, CDs relevant to teaching and research activities etc. have been stocked in the library of constituent Colleges of the University.

Books and Journals available:

S.No.	Particulars	No. of books
1.	Total No. of books available in different College Library of Vishwa Vidyalaya.	147104
2.	New books purchased during 2020-21	557
3.	*e*-Books	148

Central Library: The fund provided by ICAR has been utilized by the Central Library of the University. The much awaited and highly needed books on various subjects have been purchased. The basic infrastructural facility has been developed that has made the academic atmosphere of the libraries more conductive for the research scholars, students and teachers alike. The computerization of all the e-libraries of Vishwa Vidyalaya has made the functioning smoother now, therefore each and every user is assisted promptly.

The e-library is fully functional connecting the local user through World Wide Web to the global scenario of knowledge. The good quality book cases keep study material safe and intact, and the comfortable furniture is a kind of great relief to the voracious readers**.** In central library total Books are 10341, 9718 printed books, 438 e-books, 07 printed magazines, 1303 gifted books, 15 priented journal and 52 E-magazines were available in Central library of VishwaVidhyalaya.

7. INFRASTRUCTURE DEVELOPMENT:

(1) College of Agriculture, Gwalior:-

S.No.	Department	Infrastructure Development
1	Plant breeding & Genetics	1. Refrigerated Incubator with Shaker 2. Ultra pure water purification system 3. Bench Top lyophilizer 4. Fragment Analyzer 5. Flow Cytometer 6. Multimode reader 7. Horizontal Leminar air flow 8. Cold room for short term storage unit 9. Cryotome 10. Manual cup filter to pack soil in bag Tissue culture media 11. mixing, automtic filling and capping quipment

(2) College of Agriculture, Indore: - Nil

(3) RAK, College of Agriculture, Sehore:- Following structures were completed during 2020-21

- Construction of seed hub
- Vermi-compost shed

Vermicompost Shed

Seed hub building

(4) BM, College of Agriculture, Khandwa: -

The vision of the Institute is to "ensure good governance, flawless administration and sound human resource management to harness the full potential of the staff and the students so as to transform a process driven institution into a result oriented organization".

Vermicompost:

This unit is established at Cotton Research Centre, Khandwa and it consist of 12 beds for preparation of Vermicompost, which is used for organic Cotton and Turmeric production in the farm.Vermicomposting uses earthworms to turn organic wastes into very high quality compost, which give all essential micro and macro plant nutrients to plants. Worm casts contain five times more nitrogen, seven times more phosphorus, and 11 times more potassium than ordinary soil.

Vermi-compost unit at Cotton Research Centre

Madhav Goshala

B.M.College of Agriculture hascattle husbandry unit with 70 cattle's at cotton research centre and is known as "Madhav Gaushala". It is a large source of cow dung provider, which is supplied in making vermin-compost. Cow dung, urine can be used for making Jivamrut and organic pesticides.

The development works carried out at Gaushala.

- Construction of Cattle Shed.
- Construction of grass godown.
- Compound wall.
- Cattlesat Madhav Goshala

INITIATIVES TOWARDS ORGANIC FARMING:

Two Vermi-compost units each at College farm and KVK premises have been established. Both the units have six pits and production of vermi-compost has already started and is being used for enriching the soils of the college farm. Besides, under *Krishi Teerth* plan, recently, a vermi-compost unit has also been established in which the compost is being made in open bed instead of pits.

An area of one hectare has been earmarked for organic farming as per the directives of the VV. Since last three years organic crops like Cotton, Wheat, Arhar, Turmeric. Gram, Onion, Kinova, Maize, Watermelon, Moringa, Mango, Pomegranate and Custard apple have been cultivated without using any synthetic chemicals. Facilities for micro (drip) irrigation have also been established.

Sports and Gym facilities available

Physical exercise is important for maintaining physical fitness and can contribute positively to maintaining a healthy body. College also has a Gymnasium with latest machines like Cardio Equipment, strength equipment, Treadmill, Rehabilitation Upright Bike, Massager etc. Sports complex and Gym is presently used by students as well as by the staff for activity requiring physical effort, carried out to sustain or improve health and fitness. New Machines and other health equipments are purchased in order to strengthen Gymnasium.

Auditorium

Auditorium is not available at the College. However, a seminar hall has been established in the College. A newly built conference hall with a sitting capacity of 75, was inaugurated by Hon'ble Vice Chancellor RVSKVV, Dr S.K. Rao with the name "Ambedkar Hall".

Auditorium

Soil Science lab

Plant Pathology Lab

(5) KNK, College of Horticulture, Mandsaur

Facilities Developed at College Level

S.No.	Facility developed	Qty	Amount
1.	Solar water heaters at Boys & Girls Hostels	02	100,000/-
2.	Solar Lights	07	100,000/-
3.	Open Gym Facility	01	100,000/-
4.	Amusement park	01	96,000/-
5.	Print books purchased for library	82	100,000/-
6.	e-books purchased for library	30	400,000/-

Facilities Developed at Department Level
Name of Department:

S. No.	Name of the Department	Facilities Developed (Equipment purchased)	Qty	Cost
1.	Fruit Science	Fruit Penetrometer	01	42468/-
		Pruning chain saw	01	8050/-
2.	Vegetable Science.	Leaf area meter	01	75166/-
3.	Soil Science and Agricultural Chemistry	Flame photometer	01	80000/-
4.	Soil Science and Agricultural Chemistry	Analytical weighing balance	01	65000/-
5.	Floriculture & Landscape Architecture	Lawn Mower	01	35784/-
6.	Plantation, Spice, Medicinal And Aromatic Plants.	Colorimeter	01	99800/-

Glimpses




Open Gym and Amusement Park

Lawn Mower

Solar Water Heaters

8. GENERAL ADMINISTRATION:

8.1 **General Administration:** The Board of Management (BoM) of RVSKVV is the apex-body, empowered to make policy decisions with the Vice-Chancellor as its Chairperson who is also the Executive Head of the University. The composition of BoM is given below:

BOARD OF MANAGEMENT

S. No.	NAME AND ADDRESS OF MEMBERS
1	Principal Secretary Farmer Welfare and Agriculture Development MP Govt., Mantralaya, Vallabh Bhawan, Bhopal (M.P.)
2	Secretary Department of Finance MP Govt., Mantralaya, Vallabh Bhawan, Bhopal (M.P.)
3	Prof. S.K. Rao Vice-Chancellor RVSKVV, Gwalior (M.P.)
4	Dr. N.S. Rathore Deputy Directore General (Agril. Eduaction) ICAR, KAB-II, Pusa, New Delhi
5	Ex. Vice-Chancellor (RVSKVV/JNKVV) DH-33 A, DD Nagar, Morar, Gwalior (M.P.)
6	Shri Munna Lal Goyal MLA Murar, Gwalior (M.P.)
7	Dr. Sushil Kumar Piyashi Agril. Engineear (SWE) College of Agriculture Engineering Aadhartal, Jabalpur (M.P.)
8	Sh. Praveen Kumar Shinde F-108/29, Shivaji Nagar, Bhopal (M.P.)
9	Sh. Shivraj Sharma Bal Niketan Road Gandhi Colony, Morena (M.P.)
10	Sh. Ranjeet Singh Rana H-32, Purani Court Ghasmandi, Morar, Gwalior (M.P.)
11	Dr. Sunanda Singh Raghuwanshi E-7/59, SBI Colony, Arera Colony, Bhopal (M.P.)
12	Registrar RVSKVV, Gwalior (M.P.)

ACADEMIC COUNCIL

The Academic Council is vested with the responsibility of implementing and monitoring all the academic programmes. The council is headed by the Vice-Chancellor, as chairperson and consists of Dean Faculty, Director Instructions, Director Research and Director Extension, University Head of Departments and Professors as members. The composition details are given below:

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Prof. S.K. Rao Vice-Chancellor RVSKVV, Gwalior (M.P.)	**Chairman**
2	Dr. Rajpal Singh (Rtd.) Professor & Head Bhopal (M.P.)	Member
3	Dr. C.V. Ratnam Hyderabad (Telangana)	
4	Dr. D.H. Ranade Dean, Faculty of Agriculture RVSKVV, Gwalior (M.P.)	Member
5	Dr. M.P. Jain Director, Research Services RVSKVV, Gwalior (M.P.)	Member
6	Dr. S.N. Upadhyay Director, Extension Services RVSKVV, Gwalior (M.P.)	Member
7	Dr. A.K. Singh Director Instruction & Student Welfare RVSKVV, Gwalior (M.P.)	Member
8	Dr. Riti Singh Head of Department (Pathology) College of Agriculture, Gwalior (M.P.)	
9	Shri D.L. Kori Registrar RVSKVV, Gwalior (M.P.)	**Member Secretary**

ADMINISTRATIVE COUNCIL

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Prof. S.K. Rao Vice-Chancellor RVSKVV, Gwalior (M.P.)	**Chairman**
2	Dr. D.H. Ranade Dean, Faculty of Agriculture RVSKVV, Gwalior (M.P.)	Member
3	Dr. M.P. Jain Director, Research Services RVSKVV, Gwalior (M.P.)	Member
4	Dr. S.N. Upadhyay Director, Extension Services RVSKVV, Gwalior (M.P.)	Member
5	Dr. A.K. Singh Director Instruction & Student Welfare RVSKVV, Gwalior (M.P.)	Member
6	Dean, College of Agriculture, Race Course Road, Gwalior (M.P.)	Member
7	Dean, College of Agriculture, Indore (M.P.)	Member
8	Comptroller RVSKVV, Gwalior (M.P.)	Member
9	Dr. H.S. Bhadauria Executive Engineer RVSKVV, Gwalior (M.P.)	Member
10	Dr. O.P. Daipuria Head of Department (Extension) College of Agriculture, Gwalior (M.P.)	Member
11	Dr. V.S. Kandalkar Head of Department (Pl. Breeding & Genetics) College of Agriculture, Gwalior (M.P.)	Member
12	Shri D.L. Kori Registrar RVSKVV, Gwalior (M.P.)	**Member Secretary**

9. IMPORTANT EVENTS/INAUGURATIONS: There was not any information/activity carried out of this year due to COVID-19 pandemic situation.

10. HUMAN RESOURCE DEVELOPMENT:

Participation of Professors/Scientists/Teachers in National / International Seminars / Symposia/ Conferences/Short term Courses /Trainings/Workshops/summer and Winter Schools etc.

2020-21

S. No.	Programme/ Training	Name of faculty members	Duration	Organized by
1	Advances in Weed Management for Sustainable Agriculture	Dr. Nisha Singh	5 days	Indian Society of Weed Science and DWR-Jabalpur
2	Bamboo Based entrepreneurship opportunities challenges and option for agriculture graduates: An interaction and industrialist, roll models and administrators	Dr. Sudhir Singh	30 days	NAHEP, RVSKVV, Gwalior
3	Watershed Hydrological Modelling, ICAR (NAHEP)The Centre for Advanced Agricultural Science and Technology (CAAST) for Climate Smart Agriculture and Water Management (CSAWM)	Dr. Nisha Singh	11 days	Mahatma Phule Krishi Vidyapeeth (MPKV),Rahuri-413722– 141004
4	Physology of learning	Dr. Sushma Tiwari	15 days	ICAR-NAARM, Hydrabad
5	Capacity building programme on farm production Bio -agaents	Dr. Reeti SinghDr. R.K. PandyaDr. Rajni Singh SasodeMr. Hemant Kumar TrivediDr. Jagdish Kumar PatidarDr. Pramod Kumar FatehpuriaDr. R K singhDr. R. P. PatelShri B. K. PatidarDr. Y.K. JainShri J.C. GuptaDr. Ashish BobadeDr. Anil Kumar SinghDr. Arvinder Kaur, Dr.	2 Days	RVSKVV , Gwalior

		Rakesh Yadav, Dilip Kumar Suryawanshi, Dr. S.K. Parsai, Dr. A. K. Badaya, Dr. P. D. Singh, Dr. Swati Tomar, Dr. G. S. Chundavat, Dr. Amit Kumar, Dr. A. K. Yadav, Dr. S.S. Sarandeot, Dr. Rashmi Bajpai, Dr S.P.S Tomar, Dr Shashi S.Yadav, Dr. Amita Sharma, Dr S.K.Singh, Dr. S.K. Daneliya, Dr Ravi Yadav		
6	Bamboo Based entrepreneurship opportunities challenges and option for agriculture graduates: An intraction and industrialst, roll models and administrators	Dr. Sudhir Singh	30	NAHEP, RVSKVV, Gwalior
7	Professional Development Programmes	Dr. Nisha Sapre	21	ICAR-NAHEP, Hyderabad.
8	Professional Development Programmes	Dr. M. L. Jadav	5	College of Agricultural engineering and Technology, Junagarh
9	Professional Development Programmes	Dr. M. L. Jadav	5	NAHEP-College of Agricultural Engineering, JNKVV, Jabalpur (M.P.)
10	Professional Development Programmes	Dr. M. L. Jadav	10	NAHEP-College of Agricultural Engineering, JNKVV, Jabalpur (M.P.)
11	Professional Development Programmes	Dr. M. K. Saxena	21	IIMR, Hyderabad
12	Professional Development Programmes	Dr. N.S Thakur	7	IDP – NAHEP – RVSKVV – Gwalior, Madhya Pradesh
13	Professional Development Programmes	Dr. J.P.Mehra	21	RVSKVV Gwalior and NADCL Baramulla J&K
14	Short Term Course	Dr. Swati Barche	10	MANAGE Hyderabad India
15	Refresher course	Dr. Neelesh Raypuriya	21	CCS -HAU, Hisar
16	Chickpea diseases-Detection, Phenotyping and Management	Dr. Moly Saxena	3 days	ICRISAT and RAK CoA Sehore
17	online teaching & learning practices	Dr. Moly Saxena	7 days	IIT- Delhi
18	online teaching &	Dr. D.R. Saxena	7 days	IIT- Delhi

	learning practices			
19	Career opportunities in agriculture: An interactive session for agri-graduates	Dr. D.R. Saxena	01 day	NAHEP and RVSKVV Gwalior (MP)
20	Series of Recombinant DNA Technology Webinar	Dr. D.R. Saxena	60 days	Merck High-end skill devbelopment Center, A CSIR- IMT ech Institute and Merck Innovation Lab Banglore and Chandigarh
21	Short term Course	Dr. Pradyumn Singh	5	NIPHM, Hydeabad
22	Short term Course	Dr. Pradyumn Singh	2	DES, RVSKVV, Gwalior
23	Faculty development programme on Online teaching and Learning Practices	Dr. Manoj Kumar Kureel	9	RVSKVV, NAHEP, ICAR, Virtual Labs, Virtuality
24	Short course	Dr. R.N. Kanpure	9 Days	Virtual Labs, IIT, Delhi
25	Short course	B. K.Patidar	05 Days	National Institute of Plant Health Management, Hyderabad
26	Short course	Dr. Roshan Gallani	8 Days	Online , New Delhi
27	Short course	Dr. Nitin Soni	07 Days	Reginal Center of Organic Farming Jabalpur, Ministry of Agriculture and Farmer Welfare
28	Short course	Basant Kumar Kachouli	10 Days	Department of Biotechnology and Crop Improvement University of Horticulture Sciences, Bagalkot
29	Refreshers course	Dr. Jyoti Kanwar	21 Days	NRC, Seed Spices, Ajmer
30	Short course	Dr M K Tripathi	10 Days	Virtual NAHEP & RVSKVV, Gwalior
31	Refreshers course	Dr.H.C.Bharvey	21 Days	UGC, Sponsored

10.1 Financial Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies for the year 2020-21-

Dates (from-to) (DD-MM-YYYY)	Title of the conference/ workshops/ name of the professional body	Name of the teacher	Amount provided by the HEI	Purpose (Membershiop fee/travel and other expenses/Registration fee)
Feb.4-5 2020	DES, RVSKVV, Gwalior	Dr. Rashmi Bajpai	-	-
February,14 2020	National Workshop on Career Development Centre (National Agricultural Higher Education Project Component 2) on	Dr. S. K. Trivedi	-	-
October 01 ,2020	Inter national Webinar on "Soil Spactroscopy: An Emerging Technique for Rapid Soil Health Assessment"	Dr. S. K. Trivedi	-	-
May,11-13 2020	Online Webiner on Carbon Sequestration in Climate Smart Agriculture" MPKV, Rahuri, MS.	Dr. Priyadarshani Khambalkar	-	-
	National workshop on Techniques in hyperspectral data analysis processing organized by IESD, BHU and Department of Physics, BHU (5 days)	Dr. Jaya Prajapati	-	-
Dec 14 to 18 2020	introduction to plant biosecurity and plant qurantine (national institute of plant health management)	Dr. R.K. Pandya	nil	-
COVID - 19				
02/11/2020 to 5/11/2020	28th AnnualGroup Meeting ICAR-AICRP on Medicinal, Aromatic Plants and Betelvine/ DMAPR, Anand	B.K.Patidar	NA due to Online	Online Mode
22/06/2020 to 24/06/2022	XIII Annual Workshop on AINRP on Onion and Garlic/ DOGR Pune	B.K. Patidar	NA due to Online	Online Mode
02/11/2020 to 05/11/2020	XXVIII AICRP on MAPB group meeting , (online mode)	Basant kumar kachouli		-
16th June, 2020	National webinar on 'Technological advances in crop production during COVID-19'organized by Directorate of Research, SKRAU, Bikaner Rajasthan	Dr. S. S. Kushwah	No	-
23/06/2020 to 24/06/2020	AINRPOG XI Group Meeting held online at ICAR-DOGR, Pune	Dr. S. S. Kushwah	No	-

28/07/2020	Webinar on "Changing scenario of vegetable production& marketing in pandemic period" Organized by College of Horticulture, Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut (UP).	Dr. S. S. Kushwah	No	-
05/09/2020	Webinar on "Future perspectives in agricultural education" organized by NAHEP (ICAR)-CAAST, IARI, New Delhi	Dr. S. S. Kushwah	No	-
10/09/2020	National webinar on 'contemplative perspectives on Seed: conservation, quality assurance and supply systems' organized ICAR-Indian Institute of Seed Science, Mau	Dr. S. S. Kushwah	No	-
09/10/2020	Webinar on 'translating physiology into techniques for abiotic stress tolerance' organized by ICAR-NIASM, Baramati, SARAS &ISPP, New Delhi on	Dr. S. S. Kushwah	No	-
27/10/2020	International webinar on Harnessing the potential of tropical tuber crops under changing climate (HPTTC 2020) organized by ICAR-Central Tuber Crops Research Institute, Sreekariyam, Thiruvananthapuram, Kerala on	Dr. S. S. Kushwah	No	-
11/11/2020 to 13/11/2020	National webinar on "Challenges and opportunities of vegetable production in warm humid tropics" organized by Department of Vegetable Science, College of Horticulture, Kerala Agricultural University, Thrissur & Indian Society of Vegetable Science, Varanasi	Dr. S. S. Kushwah	No	-
27/11/2020	Webinar on 'Genomics strategies for improvement of abiotic stress tolerance in crop plants' organized by ICAR-NIASM, Baramati on	Dr. S. S. Kushwah	No	-
01/02/2020 to 21/02/2020	Good Agricultural Practices and value chain management in high value low volume horticultural crops	Dr. Jyoti Kanwar	Nil	-

11. AWARDS AND RECOGNITIONS BY COLLEGES:

1. College of Agriculture, Gwalior-

S.No.	Name of person	Name of the Award	Awarding Organization
1	Dr. Sushma Tiwari	Best oral presentation award	NESA New Delhi and IASRI, New Delhi

2. College of Agriculture, Indore-

1. **B.B. Kushwah received certificate of appreciation** in outstanding accomplishment in collaborative work in the development of Sorghum variety RVJ 2357 during 2021.
2. **N.S. Thakur received certificate of appreciation** in recognition of outstanding accomplishment in Collaborative work in the Development of Sorghum Variety RVJ 1862 under AICRP on Sorghum, RVSKVV, College of Agriculture, Indore by Honorable Vice Chancellor and Director Research Services, RVSKVV, Gwalior.
3. **N. Kumawat got Young Agronomist Award 2020** on the occasion of International Web Conference on "Perspective on Agricultural ad Applied Sciences in COVID-19 Scenario (PAAS-2020)" organized by Agricultural 7 Environmental Technology Development Society (AETDS), U.S. Nagar Uttrakhand during October 4-6 October 2020
4. **N.S. Thakur received Reviewer Excellence Award** in recognition of significant and outstanding contribution to the Legume Research Journal and reviewing the article "Yield analysis of chickpea (Cicer arietinum) + mustard (Brassaca juncea) intercropping system as influenced by weed management practices" on dated 20-07-2020 from the Editors of ARCC Journals.
5. **Jitendra Patidar awarded Second Best Poster Presentation** in Indian Society of Weed Science Biennial Conference on "Weed Management for Enhancing Farmers' Income and Food Security", held at ICAR - Central Coastal Agricultural Research Institute, Goa (India) during 5-7 February, 2020.
6. **Jitendra Patidar awarded Fellowship for training of Young Scientist** of M.P. Council of Science and Technology in 35th MP young scientist Congress during 2020.
7. **Dr. Swati Barche received BIOVED YOUNG SCIENTIST ASSOCIATE AWARD 2020** on the 22nd Agricultural Scientists and Farmers Congress on PHT & Management for empowering the rural society and Employment Generation on 22-23 Feb,2020 at Prayagraj.
8. Dr. R.K. Singh received Research excellence award 2020 by Institute of Scholars.

3. KNK, College of Horticulture, Mandsaur

1. Soni Nitin, Meena K.C. Khan K.A., Patidar D. K., Haldhar Ajay and Thakur Riya. awarded with Research of Excellence Fellow award for outstanding

contribution in the field of Horticulture by Society for Scientific Development in Agriculture and Technology, on the occasion of International Conference on GRISAAS-2020 during 28-30December, 2020.

2. Soni Nitin, got Appreciation letter form Dean college of Horticulture on 26th January 2021

12. VISITS ABROAD: Nil

13. DISTINGUISHED VISITORS:

1. **RAK, College of Agriculture, Sehore-** Hon'ble Vice chancellor Dr.S.K.Rao and Board members Dr. V.S.Tomar and Dr Arvind Kumar Hon'ble vice chancellor CAU Jhansi visited college campus and research fields and interact with scientists on11.02.2021

2. **KNK, College of Horticulture, Mandsaur-**

S.No.	Name of dignatory	Designation	Period	Purpose
1	Shri Kamlashankar Vishvakarma	Former OSD to Minister at Ministry of Health and Family Welfare, Government of India and Member of Human Right Commission, Government of India	10.08.2020	To visit vermicompost unit

14. PUBLICATIONS:

Research papers/Abstract (Presented & Published)/Books/Book Chapters/ Teaching Manual/ Popular Articles etc.

S. No.	Category of publication	Nos
1	Papers Published in National and International Journals	126
2	Abstract published in various conference/souvenir	09
3	Books	13
4	Practical Manual/Popular Articals	06

14.1 Papers Published in National and International Journals:

Research papers:

S.No.	Author (s)	Title	Journal	Volume	Page No.	Year	NASS Rating	JID	ISSN	National / International
Department of Horticulture:										
1	Devendra Vishvakrma, Rajesh Lekhi, Karan	Effect of biofertilizers with levels of fertilizer on	*The Pharma Innovation Journal.*	**9**(7)	592-595	2020	5.03		2349-8242	

	Vir Singh, Manoj Kumar Kureel and Dhan Singh Mandloi (2020).	growth of onion bulbs.								
2	Devendra Vishvakrma, Rajesh Lekhi, Karan Vir Singh and Vikas Mandloi	Effect of biofertilizers with levels of fertilizer on yield attributes and economic of onion bulbs.	*Journal of Pharmacognosy and Phytochemistry.*	**10**(1):	2570-2573.	2021	5.21		2349-8234	
3	Shriya Rai, Dr. Karan Vir Singh, Dr. Arjun Kashyap and Priyanka Gangele	Influence of PGRs, sowing time and varieties on growth of coriander (*Coriandrum sativum* L.)	Journal of Pharmacognosy and Phytochemistry	**9**(5)	1400-1403	2020	5.21		2278-4136	
4	Shriya Rai, Dr. Karan Vir Singh, Dr. Arjun Kashyap and Priyanka Gangele	Effect of PGRs, sowing time and varieties on growth of coriander (*Coriandrum sativum* L.) under gird region condtions	International Journal of Chemical Studies	**8**(5)	1449-1452	2020	5.31		2349-8528	
5	Priyanka Gangele, Dr. Rashmi Bajpai, Dr. Arjun Kashyap, Shriya Rai and Shiv Kumar Ahirwar	Impact of biofertilizers and levels of zinc and potassium on growth analytical parameters of Potato (*Solanum tuberosum* L.)	International Journal of Chemical Studies	**8**(5)	2198-2200	2020	5.31		*2349-8528*	
6	Priyanka Gangele, Dr. Rashmi Bajpai, Dr. Arjun Kashyap, Shriya Rai and Shiv Kumar Ahirwar	Effect of biofertilizers and levels of zinc and potassium on growth of potato (*Solanum tuberosum* L.)	Journal of Pharmacognosy and Phytochemistry	**9**(5)	863-866	2020	5.21		2278-4136	
7	Chythra Somanathan Nair, Rajesh Lekhi, Dev Jatav and Jyoti Ahirwar	Influence of Edible Coatings with and without calcium on physico-chemical characteristics of Guava (*Psidium guajava* L.) cv. Gwalior-27 during storage	International Journal of Current Microbiology and Applied Sciences	**10**(02)	1200-1208	2021	5.38		*2319-7706*	
8	Khushboo Tandon, PKS Gurjar, Priyanka Gurjar and R Lekhi	Effect of organic substances and plant growth regulators on growth of tamarind (*Tamarindus*	International Journal of Chemical Studies	**9**(1)	1700-1703	2020	5.31		*2349-8528*	

		indica L.) Seedlings								
Department of Agronomy										
9	Gupta V, Sasode DS, Joshi E and Singh Y.K.	Response of non-chemical approaches of weed management in potato (*Solanum tuberosum)* crop under organic cultivation mode	*Indian Journal of Agricultural Sciences*	90 (11)	2076-82	2020	6.21	I032	0019-5022	National
10	Gupta V, Sasode DS, Joshi E Tiwari S and Singh YK	Weed flora dynamics and yield of mustard as influenced by tillage and weed management in pearlmillet-mustard-cowpea cropping system	*Indian Journal of Weed Science*	52(3)	254–258	2020	5.84	L107	0974-8164	National
11	Bhadu K, Gupta V, Rawat GS and Sharma J	Comparative performance of pigeonpea (*Cajanus cajan* (L). Millsp.) based intercropping systems with short duration pulses and oilseed crops in gird region of M.P.	*International Journal of chemical studies*	8(5)	192–194	2020		I193	2349-8528	International
12	Mohaniya LS, Sasode DS and Gupta V	Integrated Weed Management Studies in Potato (Solanum tuberosum L.)	*International Journal of Current Microbiology and Applied Sciences*	9(10)	3475-3486	2020		I207	2319-7692	International
13	Gupta V, Joshi Ekta, Sasode D.S. and Kasana B.S.	Nodulation, weed flora and yield of greengram *(Vigna radiata* L.) influenced by use of herbicides	*Indian Journal of Agricultural Sciences*	90 (7)	1241–44	2020	6.21	I032	0019-5022	National
14	Sasode DS, Joshi E, Jinger D, Sasode RS, Gupta V and Singh YK	Conservation tillage and weed manage-ment practices effect on weeds, yield and profitability of cowpea (*Vigna* unguiculata)	*Indian Journal of Agricultural Sciences*,	90 (1)	86-90	2020	6.21	I032	0019-5022	National
15	Sasode DS, Joshi E, Gupta V, Singh YK.	Weed Flora Dynamics and Growth Response of Green Gram (*Vigna radiata* L.) to Weed Management Practices	*International Journal of Current Microbiology and Applied Sciences*	9(4)	365-370	2020		I207	2319-7692	International

	Department of Plant Pathology:									
16	Chobe, D.R., Singh, R., US,Sharath and Pandya RK	Mutation induced alteration in agronomic traits of M1 generation chickpea.	*Journal of Pharmacognosy and Phytochemistry*	9 (3)	1978-1984	2020	5.21	S/2042/SDM/NW/2014)	2278-4136	National
17	Sharma, S.; Singh, Reeti; Kumar, A.	The biochemical changes in cluster bean leaves due to Alternaria blight infection.	*International Journal of Chemical Studies*	8(3)	146-153	2020	5.31		2349-8528	International
18	Anupriya, Sasode, S. Rajni and Prahlad,	*In-vitro* evaluation of different culture media for the growth of *Alterneria cucumerina* var. *cyamopsidis* caused Alternaria leaf spot of cluster bean	*International Journal of Chemical Studies*	8(2)		2020	5.38		2319-7692	International
19	Kashyap, V., Patidar, J.K., Singh, R. and Pandya, R.K.	Occurrence and distribution of chickpea wilt in central part of India	*International Journal of Chemical Studies*	8(6)	1170-1172	2020	5.31		2349-8528	International
20	Singh, P. K., Patidar, J. K., Singh, R. and Roy, S.	Screening of Potato Varieties against Black Scurf Caused by *Rhizoctonia solani* Kuhn	*International Journal of Current Microbiology and Applied Sciences*	10(1)	1444-1449	2021	5.38		2319-7692	International
	Department of Agricultural Extension and Communication									
21	Sen Rashmita, Sharma Prashant , Pateriya Rinky and Sharma Prabhaker	Training need of farm women regarding improved agronomical horticultural and poultry practices in gird zone Mp	Pharacognosy and phyto chemistry	Sp9(4)	150-154	2020	5.21	J415	15-154	National
22	Lalita Nargawe and Shobhana Gupta	Mass Media Utilization Behaviour of Farmers in Nimar Agro Climatic Region of Madhya	Journal of Community Mobilization and Sustainable Development	Vol. 16(2),	319-324	2021	5.67	J158	2230-9047	National

		Pradesh								
23	Lalita Nargawe and Shobhana Gupta	Mass Media Preferences of the Farmers: A Study in Nimar Agro Climatic Region of Madhya Pradesh	New Age International Journal of Agriculture Research and Development	Vol.3(2)	1-6	2021	-	-	-	International
24	Rawat R; Sharma P; Daipuria, O.P. and Sharma, P	Association between aspects of dairy farmers and their overall annual income.	International Journal of Agriculture sciences	Vol.12(21)	10367-10369	2020	4.73	I160	0973-130X	International
25	Rawat R; Daipuria, O.P. and Sharma, P	Association between aspects of dairy farmers and their annual income through dairy farming.	International Journal of Agriculture sciences	Vol.12(21)	10345-10347	2020	4.73	I160	0973-130X	International
Department of Soil Science										
26	Dharmendra Singh, Sangeeta Lenka, Narendra Kumar Lenka, Sudhir Kumar Trivedi, Sudeshna Bhattacharjya, Sonalika Sahoo, Jayanta Kumar Saha and A. K. Patra	Effect of Reversal of Conservation Tillage on Soil Nutrient Availability and Crop Nutrient Uptake in Soybean in the Vertisols of Central India	Sustainability	12	6608	2020	8.59	S096	2071-1050	International
	Department of Environmental Science									
27	Amita Sharma, Shashi.S.Yadav & Manoj Bansal	Perennial fodder crops as a tool for carbon dioxide assimilation in winter by application of best combination of fertilizer doses	International Journal of creative research thoughts	8, Issue	1765-1774	2020	13.69		2320-2882	International
28	Amita Sharma, Sonu Sagar, Shashi.s.Yadav & Lakhan S. Mohaniya	Growth and Yield Bdehaviour of Pigeon Pea (Cajanus cajan L.) and Black gram (Vigna mungo L. Under Different Levels	International Journal of creative research thoughts	8, Issue	235-244	2020			2320-2882	International

		of Elevated CO2								
29	Amita Sharma, Gyanaranjan Sahoo, Gaurav Sharma	Rural Development Approaches and Strategies	Sambodhi Journal	44		2021	11.80		2249-6661	International
30	Gyanaranjan Sahoo, Afaq Majid Wani and Amita Sharma	Socio-Economic and Ecological Effect of Covid-19	International research journal	9		2021			2229-4929	International
31	Amita Sharma & Gyanaranjan Sahoo	Agroforestry in Organic Farming	Magazine	02, Issue 04		2021			2582-7049	
32	Gyanaranjan Sahoo, Afaq Majid wani, Sandeep Rout, Amita Sharma Satyajeet Kar and Ajay Kumar Prusty	Impact and Contribution of Forest in Mitigating Global Climate Change	Design engineering	04	667-682	2021	8.83		0011-9342	International
33	Gyanaranjan Sahoo, Majid wani, Amita Sharma, Sandeep Rout	Agroforestry for forest and landscape restoration	International Journal of advance study and research work	Special issue ICROIRT	536-542	2020			2281-5997	International
34	Gaurav Sharma , Amita Sharma , M.J. Dobriyal and Vishnu Kumar	Effective utilization of degraded soil and undulating lands of Chambal ravines: Possibilities & opportunities	AGRI-Life	02 issue 02	11-14	2020				International
	Department of Plant molecular Biology and Biotechnology									
35	Mishra, N.TripathiM.K.; Tiwari S.Tripathi N.Sapre S. Ahuja, A.andTiwari, S.	Cell Suspension Culture and In Vitro Screening for Drought Tolerance in Soybean Using Poly-Ethylene Glycol.	Plants	10 (517)	1-20	2021	8.76	P130	2223-7747	International
36	Tripathi, M.K.; Tripathi, N.; Tiwari, S.; Tiwari, G.; Mishra, N.; Bele, D.; Patel, R.P.; Sapre, S.; Tiwari, S.	Optimization of Different Factors for Initiation of Somatic Embryogenesis in Suspension Cultures in Sandalwood (Santalum album L.)	Horticulturae	7 (118)	2-15	2021	-	-	-	International
37	Neha Gupta, Sushma Tiwari, M. K. Tripathi and Sameer S. Bhagyawant	Antinutritional and Protein Based Profiling of Diverse Desi and Wild Chickpea Accessions	Current Journal of Applied Science and Technology	40 (06)	7-18	2021	4.71	C186	2457-1024	International
38	Vinod Kumar	Morpho-	Indian journal	80(2)	163-172	2020	6.55	I068	0019-	National

	Sahu, Sushma Tiwari, M. K. Tripathi, Neha Gupta, R. S. Tomar and M Yasin	physiological and biochemical traits analysis for Fusarium wilt disease using gene-based markers in desi and Kabuli genotypes of chickpea (Cicer arietinum L.)"	of Genetics and Plant breeding,						5200	
39	Vinod Kumar Sahu, Sushma Tiwari, Neha Gupta, M K Tripathi and M Yasin (2020) Doi 10.18805/LR-4265	Evaluation of physiological and biochemical contents in Desi and Kabuli chickpea.	Legume Research	Doi 10.18805/ LR-4265		2020	6.53	L014	050-5371	National
40	Nishi Mishra, M.K. Tripathi, Sushma Tiwari, Niraj Tripathi1, H.K. Trivedi (2020) Legume Research.	Morphological and Molecular Screening of Soybean Genotypes against Yellow Mosaic Virus Disease.	Legume research	doi 10.18805/ LR-4240		2020	6.53	L014	050-5371	National
41	Baghel, R., Sharma, A. K., Tiwari, S., Tripathi, M. K. and Tripathi, N.	Genetic diversity analysis of Indian mustard (Brassica spp.) germplasm lines using SSR molecular markers.	Int. J. Curr. Microbiol. App. Sci.	9 (12)	137-143	2020	-	I207	2319-7692	National
42	Verma, K., Tripathi, M.K., Tiwari, S. and Tripathi, N.	Analysis of genetic diversity among Brassica juncea genotypes using morpho-physiological and SSR markers.	Int. J. Curr. Microbiol. App. Sci.	10 (01)	1108-1117	2021	-	I207	2319-7692	National
43	Choudhary M L, Tripathi M K, Tiwari S, Pandya R K, Gupta N, Tripathi N and Parihar P	Screening of Pearl Millet [Pennisetum glaucum (L.) R.Br.] Germplasm Lines for Drought Tolerance Based on Morpho-physiological Traits and SSR Markers.	Current Journal of Applied Science and Technology.	40(5)	46-63	2021	4.71	C186	2457-1024	International
44	Deepak Kumar Ausari1, Bharat Singh,Aakash, Rahul Kumawat1 and Yashwant Gehlot	GIS Based Mapping of Soil Fertility Status of Tehsil Jobat, District Alirajpur, Madhya Pradesh, India	International Journal of Current Microbiology and Applied Sciences	9	60-69	2020	5.38			International
45	Bharat Singh, Shweta Pawar, Ashok	Effect of organics and inorganics on	International Journal of Current	10	1-10	2020	5.38			International

	Sharma, N.S. Thakur and Rini Shrivas	soil properties - A step towards nutrient management in Vertisols of Malwa Region	Microbiology and Applied Sciences							
46	Shweta Pawar, Bharat Singh, N.S. Thakur, Ashok Sharma, and Rini Shrivas	Integrated Nutrient Management – A remedy for enhancing the lives of Microbes in soil	International Journal of Current Microbiology and Applied Sciences	10	11-15	2020	5.38			International
47	Shweta Pawar, Bharat Singh, Ashok Sharma, N.S. Thakur and Rini Shrivas	Nutrient Management Practices for Enhancing Soybean Production in Rainfed condition	International Journal of Current Microbiology and Applied Sciences	10	16-23	2020	5.38			International
48	Rini Shrivas, Bharat Singh, N.S. Thakur, Ashok Sharma, and Shweta Pawar	Reduced tillage and use of organics: A progressive manoeuvre towards conservation of resources and improvement in soil intrinsic properties.	International Journal of Current Microbiology and Applied Sciences	10	24-35	2020	5.38			International
49	SC Tiwari, Narendra Kumawat, KS Bangar, RK Sharma, MJ Kaledhonkar and BL Meena	Yield and water productivity of cabbage on sodic vertisols as influenced by drip application rate and irrigation schedule	Journal of Soil Salinity and Water Quality	12	271-276	2020	4.80			National
50	Mr. Anand Mulewa, Dr. Sandhya Choudhary, Dr. D. K. Verma	Study of Tomato Producer's Entrepreneurial Behaviour under National Horticulture Mission (NHM) in Dhar District of Madhya Pradesh	International Journal of Advances in Agricultural Science and Technology,	Vol.7 Issue.4,	17-22	April-2020,	3.77	**2348 - 1358**		International Journal
51	Mr. Anil Singh, Dr. Sandhya Choudhary, Dr. S.K. Choudhary, Dr. Deepak Kumar Verma	A Study on Impact of NICRA (National Innovation of Climate Resilient Agriculture) Project on Adoption of Recommended Production Technology of chickpea in Indore block, Indore district	*IOSR Journal of Agriculture and Veterinary Science,*	Volume 14, Issue 2 Ser.	33-36	(February 2021).	3.77	2319-2380		International Journal
52	Mr. Pankaj Sharma, Dr. Sandhya Choudhary, Dr. S.K. Choudhary,	A Study on Identification of Indigenous Technology Knowledge (ITK) and its	*International Journal of Advances in Agricultural Science and Technology*	Vol.8 Issue.2	33-38	February-2021	3.77	**2348 - 1358**		International Journal

	Dr. Deepak Kumar Verma	Utilization in Contemporary Modern Agriculture at ur District of Madhya Pradesh								
53	Ms. Nikita Saiyam, **Dr. Deepak Kumar Verma,** Dr. Sandhya Choudhary	A Study on Job Performance of Anganwadi Workers under ICDS Scheme in Sehore District of Madhya Pradesh.	*International Journal of Advances in Agricultural Science and Technology***,**	Vol.8 Issue.2	49-54	Februa ry-2021	3.77	**2348 - 1358**		International Journal
54	Singh A.K., Singh R.S., Singh A.K., Kumar R., **Kumawat N.**, Singh N.K., Singh, S.P. and Shanker R.	Effect of Weed Management on Weed Interference, Nutrient Depletion by Weeds and Production Potential of Long Duration Pigeonpea (*Cajanus cajan* L.) under Irrigated	International Journal of Current Microbiology and Applied Sciences	9(1)	676-689	2020	-	-	-	International
55	**Kumawat N.,** Yadav R.K., Singh M., Dudwe T.S. and Tomar I.S.	Effect of phosphorus and bioinoculants and their residual effect on succeeding chickpea (*Cicer arietinum*) cropping system	Indian Journal of Agricultural Sciences,	90 (2)	320-325	2020	6.21	-	-	National
56	Kumar R. Deka, B.C., **Kumawat N.** and Thirugnanave l A.	Effect of integrated nutrition on productivity, profitability and quality of french bean (*Phaseolus vulgaris*).	Indian Journal of Agricultural Sciences	90 (2)	431-435	2020	6.21	-	-	National
57	Meena B.L., Singh R.K. , Meena R.S., **Kumawat N.** and Joshi N.	Effect of rice residue and weed management practices on growth and yield of wheat.	International Journal of Current Microbiology and Applied Sciences	9(6)	2361-2367	2020	-	-	-	International
58	Meena S.K., Mundra S.L., Singh V., Meena R.S., Meena V., Bhimwal J.P., Jat H. and **Kumawat N.**	Economical weed management practices to enhance the production of clusterbean [*Cyamopsis tetragonoloba* (L.) Taub.]	International Journal of Chemical Studies	8(5)	127-132	2020	-	-	-	International
59	Meena S.K. , Mundra S.L., Meena R.S., Sumariya H. K., Chaudhary P., Yadav T.K and **Kumawat N.**	Response of clusterbean (*Cyamopsis tetragonoloba* L.) to weed management practices and phosphorus levels under	International Journal of Current Microbiology and Applied Sciences,	*9*(9)	748-755	2020	-	-	-	International

		sub-tropical climatic conditions of Rajasthan								
60	Tiwari S.C., **Kumawat N.,** Bangar K.S., Sharma R.K. Kaledhonkar M.J. and Meena B.L.	Yield and water productivity of cabbage on sodic as influenced by drip application rate and irrigation schedule	Journal of Soil Salinity and Water Quality,	12(2)	271-276	2020	4.94	-	-	National
61	Kushwaha artika Singh,. **Choudhary S.K.**	Innovative farming practices and their effects on the economic viability of crops of Malwa region	International Journal of advanced research		2320-5407	2020	-	-	-	International
62	**Bharat Singh**, Shweta Pawar, **Ashok Sharma, N.S. Thakur** and RiniShrivas	Effect of organics and inorganics on soil properties - A step towards nutrient management in Vertisols of Malwa Region.	International Journal of Current Microbiology and Applied Sciences	10	1-10	2020	-	-	-	International
63	Shweta Pawar, **Bharat Singh, N.S. Thakur, Ashok Sharma,** and RiniShrivas	Integrated Nutrient Management – A remedy for enhancing the lives of Microbes in soil.	International Journal of Current Microbiology and Applied Sciences	10	11-15	2020	-	-	-	International
64	Shweta Pawar, **Bharat Singh, Ashok Sharma, N.S. Thakur** and RiniShrivas	Nutrient Management Practices for Enhancing Soybean Production in Rainfed condition.	International Journal of Current Microbiology and Applied Sciences	10	16-23	2020	-	-	-	International
65	RiniShrivas, **Bharat Singh, N.S. Thakur, Ashok Sharma** and Shweta Pawar	Reduced tillage and use of organics: A progressive manoeuvre towards conservation of resources and improvement in soil intrinsic properties	International Journal of Current Microbiology and Applied Sciences	10	24-35	2020	-	-	-	International
66	R.L. Rajput, **B.B. Kushwaha**	Yield Analysis of Chickpea (*Cicer arietinum*) with Mustard (*Brassaca juncea*) Intercropping System as Influenced by Weed Management Practices	Legume Research- An International Journal	44 (Issue 1)	94-97	2021	6.53	10.18805/LR-3842	-	International
67	Pankaj Sharma; Dr. Sandhya	A Study on Identification of Indigenous	International Journal of Advances in	Vol.8 Issue.2,	33-38.	2021	-	-	-	International

	Choudhary; **Dr. S.K. Choudhary; Dr. Deepak Kumar Verma**	Technology Knowledge (ITK) and its Utilization in Contemporary Modern Agriculture at Shajapur District of Madhya Pradesh	Agricultural Science and Technology							
68	Mr. Anil Singh, Dr. Sandhya Choudhary, **Dr. S.K. Choudhar, Dr. Deepak Kumar Verma**	A Study on Impact of NICRA (National Innovation of Climate Resilient Agriculture) Project on Adoption of Recommended Production 69Technology of chickpea in Indore block, Indore district	*IOSR Journal of Agriculture and Veterinary Science*	*Volume 14, Issue 2 Ser. I.*	*33-36*	2021	-	*e-ISSN: 2319-2380*	-	International
69	Narsingh Dudawe, Dr. Sandhya Choudhary, **Dr. S.K. Choudhary and Dr. Deepak Kumar Verma**	A study of technological gap in cultivation of Bt-cotton under FLD through KVK Khargone (M.P.)	International Journal of Agriculture Extension and Social Development	Volume 4; Issue 1	106-108	2021	-	-	-	International
70	**Swati Barche**, Dharmendra Singh Dodiyar and Kamal Singh Kirad	Impact of priming techniques on germination, vigor, growth and survivability of drumstick (Moringa oleiferaL) Variety PKM-1 under open and protected condition	Int.J. Agric. Sciences	16	170-174	2020	4.82	0973-130X		
71	**Swati Barche** and Kamal Singh Kirad	Efficacy of herbicides on weed growth and bulb yield in onion under kymour plateau region of Madhya Pradesh, India	Int .J. Agric. Sciences	16	218-222	2020	4.82	0973-130X		
72	Mukesh Birla., R.K. Singh and Neha Barade (2020).	Validation of detection techniques and Management of Seed Borne diseases of chilli (*Capsicum annum*).	*Journal of Pharmacognosy and Phytochemistry*.	***9(***6)	168-171					
73	Parveen G. Ansari, **R. K. Singh**, Shruti Kaushik, Ashok Krishna, T.	Detection of symbionts and virus in the whitefly *Bemisia tabaci* (Hemiptera:	*J. Entomol. Zool.*	**52** (4)	567-579					

	Wada and H. Noda. 2017.	Aleyrodidae), vector of the *Mungbean Yellow Mosaic India Virus* in central India. *Appl*								
74	Srivastava, A. K., Saxena, D. R., Saabale, P. R., Raghuvanshi, K. S., Anandani, V. P., Singh, R. K., Sharma, O.P., Wasiniker, A. R., Sahni, Sangita, Varshney, R. K., Singh, N. P. and Dixit, G. P. (2021).	Delineation of genotype-by-environment interactions for identification and validation of resistant genotypes in chickpea to *fusarium* wilt using GGE biplot	Crop Protection.	144	105571					
75	Dubey, S.C., Singh, B., Gupta, Om, Saxena, D. R., Sharma, O. P., Kohire, O. D., Anadani, V. P., **Singh, R. K**., and Tripathi, A. 2017.	Management of wilt and root rots of chickpea (*Cicer arietinum*) using *Trichoderma harzianum* in India	*Indian Journal of Agricultural Sciences.*	**87** (10)	1283-1287					
76	R K Singh, Sunil Silavat, Jagdish Kumar Patidar and Vivek Kashyap 2019.	Development of chickpea wilt (Fusarium oxysporum f. sp. ciceri) incidence in relation to soil edaphic and aerial environments	*Indian Journal of Agricultural Sciences.*	**89** (2)	47-51					
77	Patidar, J. K., Kashyap, V., Singh, P. K., Singh, R. and **Singh, R. K.** 2018.	Biocontrol potential of native strains of *Trichoderma* against *Rhizoctonia bataticola* causing dry root rot of chickpea.	*International journal of Agricultural Science.*	**10** (2)	5066-5068					
78	OP Bharti, RK Pandya, RK Singh, JC Gupta, Ashish Kumar and RC Sharma 2018.	Variability in *Sclerotinia sclerotiorum* of mustard in northern region of M.P. (India)	*International journal of Chemical Studies.*	6 (6)	1096-1099					
79	Omprakash Bharti, RK Pandey, Reeti Singh and RK Singh 2019.	A potential menace: Stem rot in mustard.	*International journal of Chemical Studies.*	6 (6)	4672-4678					
80	Shyam Lata Pal, Ashok	Influence of date	*International*	6 (3)	240-243					

	Krishna, RK Singh and Narendra Birla 2018.	of sowing and chickpea varieties on occurrence of collar rot and variability among isolates of *Sclerotium rolfsii*	*journal of Chemical Studies.*							
81	**Patidar Jagdish Kumar, Kashyap Vivek, Singh Prashant Kumar, Singh Reeti and Singh R.K. 2018.**	**Bio-control potential of native strains of *Trichoderma* against *Rhizoctonia bataticola* causing dry root rot of chickpea.**	International journal of Agriculture sciences.	10(2)	5066-5068					

82. Bharti. Kolah, Bakoria, M., Dubey, G., Parmar, R, Somasundaram, Shirale, A., **Gupta, S.C.,** Patra, A.K. and Mohanty S.R. (2020). Methane consumption potential of Soybean-Wheat, maize-wheat and maize-gram cropping systems undercoventional and no tillage agriculture in a tropical vertisol. The Journal of Agricultural Science 1-9 https://doi.org/10.1017/S00218596200004 16. **(NAAS Rating 7.33).**
83. Choube,K.,**Raidas, D.K.,** Jaiswal, R.K. and Chakraborty, S. (2020). "**Effect of different weed management practices on growth and yield of cauliflower (*Brassica oleracea* var*. botrytis* L.)"** Journal of *Pharmacognosy and Phytochemistry* 2020; 9 (3): 603-605 (NAAS Rating – 5.21)
84. Deepika Thakur , K. N. Pathak , Minakshi Meshram and Vidhi Motiwale (2020),Profile of Beneficiaries Rural Women under KVK in Madhya Pradesh *Int.J.Curr.Microbiol.App.Sci* 9(**10**): 3535-3541
85. Khandwe, Rupendra, Yasin, M., Mulewa, D. and **Raidas, D.K. "Influence of various environment temperature regimes on Chickpea genotypes under Vindhyan plateau of Madhya Pradesh"** Paper presented in International Plant Physiology Virtual Conference on "Prospected of Plant Physiology for Climate Proofing Agriculture" during December 6-7, 2020 Sher-e-Kashmir University of Agricultural Science & Technology, Jammu & Indian society for Plant Physiology, New Delhi.
86. Kollah,B.Bakoriya,M.Dubey,G.Parmar,RSomosundram,J.,Shirale,A.**Gupta,S.C**.,Patra,A.K., Mohanty,S.R.(2020). Methane consumption potential of Soybean-Wheat, Maize-Wheat and Maize-Gram cropping system under conventional and no tillage agriculture in a tropical Vertisol. *The Journal of Agricultural Sciences1-9 https:/www.cambridge.org/core.IP address: 27.57.147.155.*

87. Lenka, S., S.K. Malviya, N.K. Lenka, S. Sahoo, S. Bhattacharjya, **R.C. Jain**, J.K. Saha and A.K. Patra (2020). Manure Addition influences the effect of tillage on soil aggregation and aggregate associated carbon in a vertisol of Central India. *Journal ofEnvironmentalBiology., vol. (41) (6) , 1585-1593 .DOI:* **(NAAS Rating :6.7)**
88. Patidar,R.Mohanty,M.,Sinha,N.K.**Gupta,S.C**.Somasundram,R.S.,Chaudhary,R.Soliya,R.,Hati,K.M.Prabhakar,M,Sammi Reddy,K.,Patra,A.K and Shrinivas Rao Ch ((2020) Potential impact of future climate change on maize (*Zea mays L*.) under rainfed condition in central India.*Journal of Agrometerology*22 (1): 18-23**(NASS Rating 6.64)**
89. Rachit K Saxena[, *], Anil Hake, Anupama Hingane, CV Sameer Kumar, Abhishek Bohra, MuniswamySonnappa, Abhishek Rathore[1], **Anil Mishra**, AN Tikle, ChouratSudhakar,SRajamani,DKPatil,IPSingh,NPSingh,RajeevKVarshney(2020). Translational Pigeonpea Genomics Consortium for accelerating genetic gains in pigeonpea (*Cajanus cajan* L.)
90. Jaiswal,R.K., Ali, S.A., Niwariya, Jayashri, Mewara, Nidhi (2020) .Effect of sulphur and Zinc on growth and yield of Kharif Onion (*Allium Cepa* L.)*The Pharma Innovation Journal* ; 9(1) :359-362.
91. Jaiswal, R.K., Ali, S.A., Niwariya, Jayashri, Psuame, Swati (2020). 2019) Effect of organic manure on and biofertilizers on growth and quality of cabbage (*Brassica oleracea* L. var *capitata*) *International Journal of Applied Science and technology*, 11(4):55-60.
92. Nishi Jain, K. N. Pathak, Abhilasha Sharma, R. S. Gurjar,Shahrukh Khan and Reena Bhawel (2020) Perception of Farmers towards Pradhan Mantri Fasal Bima Yojana (PMFBY) in Sehore Block of Sehore District Madhya Pradesh, *Int.J.Curr.Microbiol.App.Sci* ,Special Issue-**11**: 2865-2870.
93. Priyanka Joshi, **M Yasin**ans P M Gaur (2020) Screening and identification of germplasm suitable for mechanical harvesting from genetic stock of chickpea (*Cicer arietinum L)*Accepted for oral presentation in the PRS -Proceeding System scheduled on July 12-15 2020 Omaha Nebraka USA
94. **Raidas D.K.** andRupendraKhandwe (2020) I**mpact of plant growth regulators on growth parameters and physiology of Kalmegh"** Paper presented in International Plant Physiology Virtual Conference on "Prospected of Plant Physiology for Climate Proofing Agriculture" during December 6-7, 2020 Sher-e-Kashmir University of Agricultural Science & Technology, Jammu & Indian society for Plant Physiology, New Delhi.
95. Raidas DK, Ramgiry SR and **Khandwe Rupendra** (2020). Effect of water logging condition on growth, physiology and yield characteristics of soybean genotypes (*Glycine max* L Merrill). *Ind J Pure and App Biosci.* 8(2):496-500. (NAAS Rating – 4.74)

96. **Raidas, D.K.,** Upadhayaya, S.D., Sharma, A. and Choudhary, A.K. (2020). "**Role of plant growth hormones on economic yield, andrographolide and active ingredient content in Kalmegh (*Andrographis peniculata*Burn F. Ex)"** Journal of *Pharmacognosy and Phytochemistry* 2020; 9(5): 2381-2383605 (NAAS Rating – 5.21)
97. **Raidas, D.K.,** Upadhayaya, S.D., Sharma, A. and Ramgiry, S. R. (2020). "**Response of Kalmegh (*Andrographis peniculata*Burn F. Ex) To Foliar Spray of Plant Growth Hormones on Morpho-Physiological Traits"***Ind. J. Pure App. Biosci.* 2020; 8 (5), 206-212 (NAAS Rating – 4.7)
98. Reena Bhawel, KN Pathak, Shahrukh Khan, Abhilasha Sharma, HRNagar and Khushbu Khatri (2020)An evaluation study of the improved varieties of soybean adopted by the farmers,*Journal of Pharmacognosy and Phytochemistry*; 9(**3)**: 1971-1974
99. Shahrukh Khan, KN Pathak, Nishi Jain, Abhilasha Sharma, Reena Bhawel and HR Nagar (2020) Effectiveness of mobile Agro-advisory services in extension delivery system,*Journal of Pharmacognosy and Phytochemistry*; Sp 9(3): 32-35
100. Singh M, Kumar S, Basandrai AK, Basandrai D, Malhotra N, **Saxena DR,** et al. (2020). Evaluation and Identification of wild lentil accessions for enhancing genetic gains of cultivated varieties. PLoS ONE 15(3): e0229554. http://doi.org/10.1371/journal PloS One 0229554. (NAAS rating 8.78).
101. Srivastava, A.K., Dixit, G.P., Singh, N.P., **Saxena, D.R.,** Saable, P.R., Raghuvanshi, K.S., and Anandani, V.P. (2021). Evaluations of chickpea (Cicer arietinum L.) accessions for Fusarium wilt resistance. *J. Environ. Biol.* 42: 82-89. (NAAS rating 6.56).
102. Vinod kumarSahu, Sushma Tiwari, Neha Gupta, M K Tripathi and **M Yasin** (2020) Evaluation of physiological and biochemical contents in desi and kabuli chickpea. accepted for publication in Legume Reseach
103. Reena Parmar, Anuj Kumar, M Vidhya Sankar and Shiwani Kshirsagar (2020). Effect of rooting media on propagation of marigold (*Tagetes erecta* L.) through shoot cutting. *Research Journal of Agricultural Sciences* Vol : 11 - Issue : 4 ; 925-929
104. Videsh Vasuniya, Anuj Kumar, Vidhya Sankar M and Roshan Gallani (2020). Evaluation of standard chrysanthemum (*Dendrathema grandiflora* Tzvelve.) cultivars in the Malwa region of Madhya Pradesh, *Green Farming* Vol. (2 & 3) 184-188 ; March-June, 2020
105. Payal Vyas, Anuj Kumar, Vidhya Sankar M and Sunil Bheel (2020). Effect of micronutrients (Zn, B and Fe) in flowering and post- harvest parameters of gladiolus (L.). *Green Farming* Vol. (2 & 3) 179-183 ; March-June, 2020
106. Shiwani Kshirsagar, Anuj Kumar, Om Singh, Roshan Gallani and Reena Parmar (2021). Effect of postharvest preservatives on vase life of cut rose (*Rosa hybrida* L.) cv. top secret, *Journal of Pharmacognosy and Phytochemistry* 2021; 10(1): 1056-1061

107. Pandey AK, Pathak S, Barman P and Dwivedi SK. 2020. Influence of Nutrients and Plant Growth Regulators on Growth, Flowering and Yield Characteristics of Strawberry cv. Chandler. *Int. J. Curr. Microbiol. App. Sci*, 9(11): 143-151.
108. Monu Rajore, Jyoti Kanwar, GPS Rathore and B Kachouli (2021). Evaluation of guava (*Psidium guajava* L.) cultivars for morphological, yield and quality attributes under Malwa plateau conditions. *Journal of Pharmacognosy and Phytochemistry* 10(2): 483-485.
109. Megha Patidar, Jyoti Kanwar, OP Singh and GPS Rathore (2021). Effect of different post-harvest parameters on physiological and biochemical parameter of custard apple var. Arka Sahan. *Journal of Pharmacognosy and Phytochemistry*. 10(2):1465-1468.
110. Megha Patidar, Jyoti Kanwar, OP Singh and GPS Rathore (2021). Study on the Effect of Post Harvest Treatments on Shelf Life of Custard Apple (*Annona squamosa* L.) Variety Arka Sahan during Storage. *Int.J.Curr.Microbiol.App.Sci. 10*(01): 3159-3164.
111. Megha Patidar, Jyoti Kanwar, OP Singh and GPS Rathore (2021). Response of Post Harvest Treatments on Shelf Life of Custard Apple (*Annona squamosa* L.) variety Arka Sahan during Storage. *Int.J.Curr.Microbiol.App.Sci.* 10(04): 400-408
112. Magadum, Basavraj, Kanpure, R. N.; Singh, O. P.; Bhandari, J. and Kachouli, B. (2020). Effect of pruning intensity and spray of plant growth regulators on growth, yield and economics of guava fruit (*Psidium guajava* L.) cv. Sardar. *Multilogic in Science*, 10(35):1323-1327.
113. M. Thomas, N. Tripathi, K.C. Meena, J.L.N. Sastry, G.P. Kimothi, S. Sharma, J. Katna, D. Khare and N. Prasad (2020). Effect of Containers and duration of storage on the guggulsterone and volatile oils contents of guggul. The Pharma Innovation Journal, 9 (1): 25-30.
114. Sahu, P., I.S. Naruka, K.C. Meena, G.P.S. Rathore and Ajay Halder (2020). Effect of intricated nutrient management on fenugreek (*Trigonella foenum-graecum* L.) growth, yield and yield attributes. International Journal of seed Spices 10 (2): 51-55.
115. Shakthi Prasad N, Meena KC, Naruka IS and Surendra SG (2020). Study of growth, phenology and seed yield in fenugreek (*Trigonella foenum-graecum* L.) varieties. International Journal of Chemical Studies, 8(4): 2924-2927.
116. P.N. Shakthi, K.C. Meena, I.S. Naruka, A. Haldar and N. Soni. (2020). Performance of fenugreek (*Trigonella foenum-graecum* L.) genotypes for yield and yield contributing traits. International J. Seed Spices 10(1), January 2020:11-15.
117. Surendra Singh Ghoshi, Meena KC, Shakthi Prasad N and IS Naruka (2020). Study of growth, phenology and bulb yield in garlic (*Allium sativum* L.) genotypes under Malwa

plateau of Madhya Pradesh. Journal of Pharmacognosy and Phytochemistry, 9(5): 1983-1986.

118. Moni Thomas, Niraj Tripathi, Kailash Chandra Meena, E.S. Nishad, K. Vidyasagaran (2020). Changes in Gum Yield and Anatomy of *Commiphora wightii* (Arnott.) Bhandari in Response to Foliar Application of PGR and Nutrients. Chemical Science Review and Letters, 9 (36), 991-1002.
119. Chouhan, G.S., Kushwah, S. S., Singh, O.P., Sharma, R. K. (2020). Genetic variability and correlation analysis for fruit yield and quality traits in bottle gourd. Indian Journal of Horticulture, 77 (2): 287-292.
120. Upadhyay, Shikha; Singh, A.K. Tripathi, M.K.; Tiwari, Susma; Tripathi, Niraj and Patel, R. P.2020. In vitro selection for resistance against charcoal rot disease of soybean [Glycine max (L) Merril] Legume Research-An International Journal, 10.18805/LR-4440 pp1-7.
121. Dhakad, Angurbala; Sonkar, Priyamvada; Bepari, A. and Kumar, U. 2020. Effect of pre-harvest application of plant growth regulators and calcium salts on biochemical and shelf life of acid lime (Citrus aurantifolia Swingle). Journal of Pharmacognosy and Phytochemistry. 9(4): 1983-1985.
122. Kumar, Umesh; Sonkar, Priyamvada and Maida, Pankaj. 2020. Performance of Strawberry (Fragaria x ananassaDuch.) Varieties for Growth and Fruit Physical Parameters under Western Malwa Plateau Conditions of Madhya Pradesh, India. Int. J. Curr. Microbiol. App.Sci. 9(1): 1347-1352.
123. Tiwari, S.; Sharma, R.K. Kushwah, S.S. and Pandey, B. (2020). Correlation analysis on different characters in garden pea (*Pisum sativum* var *hortense* L.). *International Journal of Chemical Studies* 8(3): 1180-1183.
124. Lakhan, Kushwah, S.S. Sharma, R. K. and Gallani, R. (2020). Performance of round melon [*Praecitrullus fistulosus* (Stocks) Pangalo] varieties under different nutrient level during *Kharif* season. *Int.J.Curr.Microbiol.App.Sci* 9(5): 1988-2001.
125. Ismail, Muhammad Heikal, *Khursheed Alam Khan*, Ngadisih Ngadisih, Mami Irie, Sze Pheng Ong, Ching Lik Hii, and Chung Lim Law (2020). "Two-step falling rate in the drying kinetics of rice noodle subjected to pre-treatment and temperature." *Journal of Food Processing and Preservation, 44(11): e14849.
126. Choudhary, R.; Kushwah, S.S. Sharma, R.K. and Kachouli, B.K. (2020). Effect of sowing dates on growth, flowering and yield of Indian bean varieties under agroclimatic conditions of malwa plateau in madhya Pradesh. *Legume Research- An International Journal*, 43(4): 539-545.

14.2 Abstract published in various conference/souvenir:

S. No	Author (s)	Title	Conference Proceedings	Page No.	Year	National / International
1	Gupta V, Sasode DS, Joshi E, Kasana BS, Bhadauria V.P.S, Singh YK.	Weed flora dynamics, growth and yield response of mustard (Brasica juncea L.) under conservation tillage and weed management practices	National Conference on Resource Conservation for Soil Security and Jalshakti: Farmeres Perspective in Bundelkhand (RCSSJ-2020)		2020	National
2	Sasode DS, Gupta V, Joshi E, Kasana BS and Singh YK	Weed flora dynamics, growth and yield response of pearlmillet (Pennisetum glaucum L.) under conservation tillage and weed management practices.	-		2020	National
3	Gupta V, Sasode DS, Joshi E, Kasana B.S, Singh YK and Bhadauria V.P.S.	Weed management in sweet corn in maize based non-chemical cropping system	ISWS Biennial Conference-2020 "Weed Management for Enhancing Farmers income and Food Security	241	2020	National
4	Sasode DS, Gupta V, Kasna B.S, Joshi E, Singh YK and Bhadauria V.P.S.	Management of Cuscuta by different herbicides and its impact on yield of berseem (Trifolium alexandrinum L.) fodder crop	ISWS Biennial Conference-2020 "Weed Management for Enhancing Farmers income and Food Security	232	2020	National
5	Jitendra Patidar, M.L. Kewat and Shobha Sondhia	Residue concentration, persistence and dissipation of fomesafen in soybean crop and soil	Indian Society of Weed Science Biennial Conference on "Weed Management for Enhancing Farmers' Income and	Proceedings, O-68, p-97	2020	National

			Food Security"			
6	Muni Pratap Sahu, Mewa Lal Kewat, J.K. Sharma, A.K. Jha, Jitendra Patidar and Lalita Badole	Effect of weed control practices and crop mulch against weeds in chickpea	Indian Society of Weed Science Biennial Conference on "Weed Management for Enhancing Farmers' Income and Food Security"	Proceedings, P-85, p-185	2020	National
6	Kunika Silodiya and Jitendra Patidar	Mitigation and management of herbicide residue in soil – A review	Indian Society of Weed Science Biennial Conference on "Weed Management for Enhancing Farmers' Income and Food Security"	Proceedings, P-165, p-265	2020	National
7	Jitendra Patidar	Effect of early-post-emergence herbicides against weeds in soybean in Madhya Pradesh	35th M. P. Young Scientist Congress	Souvenir p-5	2020	National

8. Megha Patidar and Jyoti Kanwar (2020). Study of physic-chemical quality and shelf life of custard apple (Annona squamosa L.) var. Arka Sahan by post harvest treatment during storage. Global approaches in natural resources management for climate smart agriculture. Souvenir Book GNRSA-2020:153-154.
9. Ghoshi Surendra, Meena K.C., Naruka I. S., Haldhar A., Soni Nitin and Patidar D.K. (2020) studies of garlic (Allium Sativum L) cultivar for morphology, yield and yield attributing traits under Malwa plateau of Madhya Pradesh National webinar on "approaches towards development of rural and agriculture sector in the present scenario" 8-9 May 2020.

14.3 BooK/Book Chapter/Reference Book:

S. No	Author (s)	Title	Book Name	Year	ISBN No	ISSN No
1.	**D.H. Ranade, M.L. Jadav, Indu Swarup, O.P. Girothia, D.V. Bhagat, Akhilesh Singh and Sharad Choudhary**	Rain Water Management in Rainfed Areas	Biotech Books, New Delhi,	2020	ISBN: 978-81-7622-458-1	-
2.	**दीपक हरी रानडे, , दुष्यंत विजय भगत, ओमप्रकाश गिरोठिया ,एस के चौधरी, आशीष उपाध्याय**	"भूअपवाहित वर्षा जल एकत्रीकरण व संचित जल का उपयोग"	Biotech Books, New Delhi,	2020	ISBN: 978-81-7622-464-2	-
3.	K.S.Kirad, S.S. Chouhan, G.S.Ghatiye, Swati Barche, Bhupendra Kurmi and M.P. Nayak	Hand Book of INM	Hand Book of INM	2021	978-93-86658-24-1.	
4.	Gopala and R.K. Singh	Diseases of Field and Horticultural Crops and Their Management	Diseases of Field and Horticultural Crops and Their Management	2021	978-93-89996-31-9	
5.	R.K. Singh and Gopala	The mollicutes	Innovative approaches in diagnosis and management of crop diseases	--	978-1-77463-024-2	
6.	R.K. Singh and Gopala	Nano molecules and biocontrol agents	Innovative approaches in diagnosis and management of crop diseases	--	978-1-77463-026-6	
7.	R.K. Singh and Gopala	Field and horticultural crops	Innovative approaches in diagnosis and management of crop diseases	--	978-1-77463-025-9	

8. पटेल, राजेष प्रसाद, कानपुरे, आर.एन. एवं हलदार, अजय (2019) मषरूम उत्पादन, प्रबंधन एवं विपणन न्यू इंडिया पब्लिषिंग एजेन्सी नई दिल्ली ISBN978-93-89907-0-63. RVSKVV pub. No. 106/2019.
9. Dubey, Rajiv, Kushwah, Shailendra Singh and Mishra, Aakash (2020). Recent advances in organic farming with special reference to weed management. *Advanced Agriculture*, Page No. 93 -108. ISBN: 978-93-88879-99-6, New Delhi Publishers, New Delhi.
10. Mishra, Aakash, Dubey, Rajiv, Pant, Pawan, Mehta, Punit, Shinde, Rajkumar and Rathod, Sandip (2020). Nano clay; a boon for enhancing agriculture productivity. *Advanced Agriculture*, Page No. 291-313. ISBN: 978-93-88879-99-6, New Delhi Publishers, New Delhi.

11. Jyoti Kanwar, Saniya, Santosh Choudhary and Suchitra Mishra (2021) *Carrisa carandus* L. *Perrenial underutilized Horticultural species of india*, Jaya Publishing House: 49-62.
12. Santosh Choudhary, Jyoti Kanwar, Mahesh Choudhary and Suchitra Mishra (2021). Zizyphus nummularia (Burm.f.) Wight et. Arn. *Perrenial underutilized Horticultural species of india*, Jaya Publishing House: 337-346
13. Soni, Nitin,Patidar D.K., Khan K.A. and Meena K.C.(2020) "Commercial production of grapes for developing the entrepreneur skill" published in 21 days NITP 2020 on recent technologies of agribusiness management and Agri entrepreneurship jointly organized RVSKVV, Gwalior and NADCL, Baramullya from 8 to 28 October 2020.

14.4 Popular Articles:-

1 Gopala and R.K. Singh Practical Manual on Diseases of Field and Horticultural Crops and their Management 2020

2 Dubey, Rajiv (2021). Vermicomposting Technology: An alternative approach in waste management. *Just Agriculture*, March 2021 pp-46-49.

3 भण्डारी, जितेन्द्र, कानपुरे, आर.एन., पाटीदार, डी.के. (2020) अनार की वैज्ञानिक खेती एवं महत्व मध्य भारत कृषक भारती ग्वालियर, अक्टूबर 2020 पृष्ठ 10–11

4 BhandariJitendra and SoniNitin (2019) Hydroponics- soil less culture. Agri and food E-newsletterVolume 2 - Issue 9 - September 2020

5 Kushwah, S.S., Choudhary, R. and Nagar, G. (2020). *Adhik Amdani avam Kam Avadhi ki Phasal Ganthgobhi*. Phalphool, 41(5):45-48.

6 डॉ. आई.एस.नरूका, डॉ.पी.पी.सिंह, जितेन्द्र भंडारी एवं डॉ. के.सी.मीणा (2020) कलोंजी है एक औधषीय एवं मसाला फसल, वैज्ञानिक बागवानी की लोकप्रिय पत्रिका का फलफूल आई.सी.ए.आर. नवम्बर–दिसम्बर 2020 पृष्ठ 4–5.

Action Taken of Feed Back Received from various stakeholders 2020-21

Action Plan for Smooth Conduction of Academic Activities during COVID-19 and Psychological Support for Students

All Deans are responsible for ensuring the implementation of these measures to guarantee the smooth continuation of academic activities and to provide essential psychological support to students during the COVID-19 pandemic.

1. Continuation of Academic Activities:

- **Adopt Online Learning Platforms:** Transition to virtual classrooms using platforms such as Zoom, Microsoft Teams, or Google Meet. Ensure that all course materials, lectures, and assignments are accessible online.
- **Develop a Comprehensive Online Curriculum:** Create a structured online curriculum that includes video lectures, reading materials, interactive sessions, and assessments to ensure continuity in learning.
- **Provide Technical Support:** Offer training and technical support for both faculty and students to familiarize them with online tools and platforms.
- **Regular Virtual Interaction:** Schedule regular online sessions, including lectures, group discussions, and office hours, to maintain engagement and address academic queries.
- **Assessments and Examinations:** Implement online assessment tools and ensure a clear, fair process for conducting exams, including the use of proctoring software if necessary.
- **Access to Resources:** Ensure that digital libraries, e-books, and academic resources are accessible to students remotely.

2. Measures for Psychological Support:

- **Virtual Counseling Services:** Provide access to online counseling and mental health support through trained professionals to help students cope with stress, anxiety, and other mental health issues.

- **Regular Check-ins:** Encourage faculty and staff to conduct regular virtual check-ins with students to offer support, address concerns, and maintain a connection.
- **Create Supportive Communities:** Establish online support groups or forums where students can share experiences, offer mutual support, and stay connected with peers.
- **Wellness and Stress Management Workshops:** Organize online workshops focusing on wellness, stress management, and coping strategies to help students navigate the challenges of remote learning.
- **Promote Physical Health:** Encourage students to engage in regular physical activity, offer virtual yoga or fitness classes, and share resources on maintaining a healthy lifestyle.
- **Recognition and Motivation:** Recognize and celebrate students' achievements and milestones through virtual awards and acknowledgments to keep them motivated.
- **Flexible Deadlines:** Implement flexible deadlines and provide accommodations for students facing difficulties due to the pandemic, such as technical issues or health concerns.

वार्षिक प्रतिवेदन

ANNUAL REPORT

2019-20

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Mission

To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

Vision

To transform the Agricultural landscape of Madhya Pradesh by producing excellent dynamic and result oriented skilled human resource in modern Agriculture, thereby creating higher income, employment, gender equity, accessibility, sustainable production system and achieving social welfare for all.

Mandate

- *To serve as a centre of higher education in the field of agriculture and allied sciences.*
- *To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.*
- *To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.*
- *To produce and supply of genuine and quality seed/planting material to the farmers.*

वार्षिक प्रतिवेदन

ANNUAL REPORT

2019-20

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA
RAJA PANCHAM SINGH MARG, GWALIOR-474002 (M.P.)

Patron : Prof. S. K. Rao
Vice-Chancellor
R.V.S.K.V.V., Gwalior (M.P.)

Editorial Board:

1. Dr. D.H. Ranade, Dean, Faculty of Agriculture - **Chairman**
2. Dr. M.P. Jain, Director, Research Services - Member
3. Dr. S.N. Upadhyay, Director, Extension Services - Member
4. Dr. A.K. Singh, Director Instructions & Student Welfare - Member
5. Dr. K.V. Singh, (T.O. to Vice-Chancellor) - Member
6. Dr. Akhilesh Singh, T.O. to DFA - Member ***(Secretary)***

Compiled by:

1. Dr. Y.D. Mishra, DES Office, RVSKVV, Gwalior
2. Dr. H.P. Singh, DRS Office, RVSKVV, Gwalior

Published by : Dean, Faculty of Agriculture
R.V.S.K.V.V., Gwalior (M.P.)

Correct Citation : RVSKVV Annual Report: 2018-19
Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya,
Gwalior-474002 (M.P.)

Prof. S.K. Rao
Vice-Chancellor

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya
Raja Pancham Singh Marg, Gwalior-474002 (M.P.)
Ph.: 0751-2970502(O)
Fax: 0751-2970502
Email: vcrvsaugwa@mp.gov.in

//FOREWORD//

It gives me an immense pleasure to present the Annual Report of the Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya (RVSKVV) for the year 2019-20 to the end users. This report highlights the activities related to education, research and extension carried out by the University staff in the field of agricultural and allied sciences with a focus on enhancing livelihood status of the farming community. The University has developed credible technology in the field of agriculture and Horticulture. Farmers of the State are being benefited through its network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), nineteen Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs).

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya has grown into a diverse innovative institution of higher education, pursuing excellence in the fields of teaching, research and extension in agricultural sciences. Over the years, the University has sought to make a major contribution in improving the quality of human life in the region through its research-led initiatives in agriculture, environmental related issues and a host of other modern-day challenges including the production of quality seed and genuine planting material. The structure of its activities is rationalized, with emphasis on its distinguished strengths, management of education and development of quality man power and in this direction notable success has been achieved. In addition to the diverse activities related to agricultural sciences, RVSKVV has strong emphases on farmer's skills improvement and empowerment through the nineteen KVKs in the various districts. Teaching and learning quality has been steadily improving in recent years and a large number of capable man powers has been trained here.

In case of research programme, University finds a very special place in NARS through the coordinated projects in pulses, oil seeds, cotton, cereals, horticulture and natural recourses management. Exceptional research work on chickpea improvement, CMS based pigeon pea hybrid, efficient water management for boosting the productivity of other major crops like cotton, soybean, mustard, wheat, medicinal and aromatic plants are some of the noteworthy

contributions of the University. RVSKVV is also making sincere efforts to generate cutting edge technologies for enhancing crop productivity was done by the University. Thrust is also given on seed replacement in the state by producing quality seeds of important crops.

The Extension activities viz., trainings, demonstrations, field days, study tours, Kishan Mela, Krishi Goshtis and other farm advisory services were carried out to help the farming community of the region to solve their farm related problems. Biodiversity fair cum exhibition and awareness programme was one of the mega events which served as a platform for integration of farmers and Scientist on bio diversity conservation and display the biodiversity available in the M.P. and Chhattisgarh.

The students' performance in academic, sports and cultural events was impressive. The faculty of teaching, non-teaching and farm laborers joined their hands in fulfilling the mandate of the University.

I express my sincere gratitude to the Government of Madhya Pradesh, the ICAR and Government of India for their continued financial support. The contribution of the Members of the statutory bodies like the Board, the Academic Council and the Administrative Council in smooth functioning of the University has been praise worthy. The contribution of all the Deans, Directors, Heads, Registrar and Comptroller of the University in providing relevant information for the Annual Report is acknowledged.

Present Annual Report 2019-20, brought out by the University, covers the development and progress made in the areas of teaching, research & extension and seed production. It is my firm belief that this Annual Report will aptly serve as a show case of the activities of the University. It will be a good reference for administrators, policy makers, staff, students and even the farming community. I would like to thank all the contributors, members of the Editorial Board and Compilation Committee for compiling and editing this report in a comprehensive and presentable form.

(S.K. Rao)

CONTENTS

EXECUTIVE SUMMARY

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, (RVSKVV) Gwalior (MP) was established on August 19, 2008. The University has been since then, catering to the multi farming needs of farming community Agriculture Development, ICAR and other stockholders. It is a new, but fast emerging promising University in the field of agriculture and allied sciences.

The mandate of the University is teaching, research and extension with a view to evolve appropriate solutions and technologies in the field of agriculture. It has a network of five colleges (four Agriculture and one Horticulture), five Zonal Agricultural Research Stations (ZARS), four Regional Agricultural Research Stations (RARS), six Special Research Stations (SRS), twenty one Krishi Vigyan Kendras (KVKs) and twenty-eight All India Coordinated Research Projects (AICRPs) spread across six agro-climatic zones in twenty-six districts of Madhya Pradesh. In addition to this, other ongoing projects/schemes *i.e*. non-plan, plan, tribal sub-plan and adhoc projects are also in operation.

During the year 2019-20, the University has undertaken a number of initiatives for the promotion of quality in its mandated areas. The major activities and achievements of the University are as follows:

TEACHING:

- The University offers two Under Graduate Courses *i.e*. B.Sc. (Hons.) Agriculture and B.Sc. (Hons.) Horticulture, 13 Post Graduate degree and 9 Ph.D. degree programmes in the different disciplines of Agriculture and Horticulture. The total intake capacity was 774 out of which, 364 were in undergraduate (UG), 356 in postgraduate (PG) and 54 in Ph.D. degree programme.
- During the year 2019-20, a total of 1370 boys and 726 girls' (Total Students-2096) students were on the roll of the University, out of which, 865 boys and 444 girls were in UG, 446 boys and 224 girls in PG, and 59 boys and 58 girls were in Ph.D. degree programmes.
- In Ph.D., 18 students submitted their thesis to the Director Instructions for evaluation. 190 students submitted Thesis for Post graduate degree program in Agriculture disciplines and 73 students for Horticulture degree programme.
- In Experiential Learning programme, 277 students of fourth year (B.Sc. Ag. and B.Sc. Hort.) have taken adequate hands-on experience on different aspects of Agriculture/Horticulture to cultivate capabilities suitable to the emerging job markets and build entrepreneurship spirit and business management competence in a way that they will be able to generate employment for themselves and for others.
- The modules of experiential learning programme namely Crop Production, Crop Protection, Horticulture, Nursery Production and Management, Protected cultivation of high value vegetable crops, Floriculture & Landscape Gardening, Mashroom Cultivation and Value addition in horticultural crops are running successfully.
- Under Rural Agriculture/Horticulture Work Experience 277 students of Fourth Year were placed in different villages of Research Stations/KVKs to learn and solve the practical problems of the farmers of adopted villages.
- 02 Students of the University qualified the JRF examination.

- 29 Students of the University received National Talent Scholarship (NTS).
- During the year, 594 students of the University have received State Government Scholarship, out of which 356 students belonged to OBC, 153 SC and 85 ST categories.
- Under NSS (National Service Scheme) programme, different activities like blood donation camp, Beti Bachao Abhiyan, Social Awareness Camp, Awareness about AIDS, Literacy, Pulse Polio Abhiyan, Mera Gaon Mera Gourav and Environment Day were organized. 17 students were awarded "B" Certificate and 01 student "C" Certificate examination of NSS.
- Under National Cadet Corps (NCC) programme, 60 Cadets passed "B" certificate examination and 28 cadets cleared "C" certificate examination.
- Through campus interviews, 33 students have been placed in jobs in leading private sectors, 40 students in Government/public sector and 03 self employed.
- Through different libraries of the constituent Colleges, 1, 36,566 books were procured and available to the students out of which 9239 books have been purchased during the reporting year. Apart from that, reports, thesis, CDs, 139 *e*-books, periodicals etc. are also available in the library of constituent Colleges of the University.
- In central library total 10341 printed books, 139 e-books, 07 printed magazines, 1303 gifted books, 15 priented journal and 52 E-magazines were available in Central library of VishwaVidhyalaya.
- 120 research papers were published in peer reviewed journals of national and international repute.

RESEARCH:

- Evaluation of different soybean based cropping sequences in *Vertisols:* Three crop sequences Soybean- Chickpea / Safflower/ Mustard, Maize-Chickpea/Safflower/Mustard and Black gram- Chickpea/Safflower/Mustard was grown under rainfed condition. Result showed that Hy. Maize (Done 1588) recorded highest seed yield (4545 kg/ha) followed by soybean (JS 20-34) and black gram (848 kg/ha). During *rabi*chickpea (RVG 202) produced higher seed yield 1667, 1625 and 1500 kg/ha grown after soybean, black gram and maize, respectively. Where as, the higher seed yield of safflower 800 kg/ha grown after black gram followed by 750 and 708 kg/ha recorded after maize and soybean. The data indicated that crop sequence Maize -Chickpea found more remunerative as recorded highest total return Rs.150900/- with B: C ratio of 4.31 followed by Maize – safflower (Rs.93400/- with B: C ratio of 3.67), soybean – chickpea (Rs.82605/- with B: C ratio of 3.36) and black gram – chickpea (Rs.80880/- with B: C ratio of 3.31). Whereas, lowest return Rs.51325/- with B: C ratio of 2.47 recorded by sequence soybean- safflower. Mustard not germinated due to poor moisture condition.
- The soil and ground water survey of dewas district was carried out by the centre using remote sensing techniques. On the basis of soil samples collected the salt affected area of the district was generated. About 88.5 % ground water samples belonged to good quality water and 9.8% samples fell in marginally saline water category. As far as salt affected soil is concerned, total 2702 hectare area in district was delineated as salt affected. Out of total salt affected area, slightly saline (361 hectares) was higher in Dewas tehsil followed by Moderate alkali (354 hectares) present in Tonkkhurd tehsil of the district. Water table fluctuation was recorded in 13 well samples situated in head reach of Indira Sagar Command (NSC) during the pre canal irrigation period (2005 and 2012) and post canal irrigation period (2015 and 2019). After commissioning of canal irrigation system in head reaches the average water table fluctuation were around 1.53 and 1.34 m during 2015 & 2019. The analysis of canal water quality showed that the waters are good for irrigation. The soil parameters of the area indicated that slight increase in pH, EC and organic carbon.Grain and straw yield of wheat was significantly influenced by various tillage systems and mulch during the experimentation. Among the tillage systems highest grain yield (3285 kg/ha) and straw yield (4827 kg/ha) was recorded in conventional tillage which was significantly superior to reduced tillage and zero tillage. Whereas grain yield did not influence significantly by the application of mulch.Application of rice crop residue as mulch @ 5 t/ha produced significantly higher straw yield (4761 kg/ha) in comparison to no mulch (4502 kg/ha). The data also showed that tillage and mulch had no significant on pHs, available N, P and K. However, significantly lowest value of ECe (1.39 dS/m) was recorded under conventional tillage followed by reduced tillage (1.47 dS/m) and lowest in zero tillage (1.73 dS/m). While, ECe did not affect by mulch.

- Long Term Manurial Trial in Vertisols:Based on the average of last 27 years, treatments T6 (FYM 6 t ha-1 + N20 P13) gave highest seed yield of 1905 kg ha-1 was found significantly superior with regards to seed productivity however, treatment T6 was found superior to rest of the treatments with regards to improvement in physical and chemical properties of the soil. The treatment T1i.e., control was found statistically inferior to all the treatments in respect of yield and fertility status. Organic matter decomposition has indicated the advantage of recycling organic matter and nutrients from farmyard manure. The organic matters contained in them influence the physical, chemical and biological properties of the soil. These studies clearly indicate that a part of the inorganics can be substituted, thus substantially cutting the cost of cultivation. These sources need to be tapped in future as alternatives for deriving nutrients and improving soil health.
- Monitoring of races/ strains of fusarium udaum through host plant differentials results revealed that differentials ICP-9174, ICP-8859, ICP-7035 showed registend reaction against fusarium udaum wilt of Pigeonpea in wilt sick plot renges from 6.39 (ICP-9174) to 92.88 % (ICP-2376) Results indicated that existence two variants (1 & 3) of fusarium udaum prevalent in the region
- Survey was conducted in the 28 villages of Nimar Zone and it is observed that incidence of wilt was low with medium duration varieties like JKM-189, ASHA, TJT-501 (Medium early) and other varieties of private sector whether grown as sole crop or in cropped with Soybean, Cotton, Mungbean, Maize etc. On the Contrary higher wilt incidence were observed with local cultures in sole crop as well as in intercrop. However it is relevant to mention here that this year (2018-19) received the rainfall of 634 mm which is below average.
- Evaluation of ICAR-ICRISAT Pigeonpea wilt and sterility Mosaic Disease Nursery entries results revealed that out of 40 entries 15 entries were reported resistant (below 10%) against fusarium udum in wilt sick plot, wilt ranges from 2.65 % to 93.03 % .In susceptible check ICP2376 wilt incidence was 93.03 % and LSI was 15.56 %.
- The percent pod damage by pod borer inPigeonpea started in 35 SMW (0.1%) and pod fly in 36 SMW (0.2%) which was their normal appearance of time for Nimar zone. The pest infestation was increased gradually as the time passed and reached its peak (34.3%) for pod borer and (40.6%) for pod fly in 51 SMW.

SEED PRODUCTION:

- The University is producing breeder and nucleus seeds of several crops, which is has contribution significant in enhancing seed replacement and increasing productivity of crops.
- The seed production in the University is carried out in twenty seven seed production farms. The total farm area is 1210.85 ha., out of which 64.45 per cent (780.37 ha.) is under cultivation. Among the cultivated area, 13.39, 34.59 and 52.02 per cent are covered under irrigated, partially irrigated and rain fed farming, respectively.
- The university produced 9911.40 quintal seed of different crops. During Kharif 2019-20 total production of 3603.70 q. seed has been produced under different crops like – Soybean, Green gram, Black gram, Paddy, Cotton, pigeonpea and during Rabi 2019-20 a total of 6307.70 q. seed has been produced under of different Rabi crops like Wheat, Chickpea, Lentil, Mustard and Safflower etc.

EXTENSION ACTIVITIES:

- For the assessment of latest technologies generated by RVSKVV, other universities or ICAR institutes of ICAR, 375 On Farm Trials (OFTs) were conducted at farmers' field on various thematic areas related to crops, animals, machineries, post harvest management etc. that benefitted 5455 farmers.
- For the purpose of popularizing new technologies**,** Front Line Demonstrations (FLDs) were carried out on various crops in area of 1054.46 ha on the fields of 505 farmers. In addition to these demonstrations, 1895 FLDs on different enterprises like fisheries, live stock management, vermicompost, value addition, post harvest management, malnutrition, farm machinery etc. were also conducted.
- During the year 2019-20 total 1959 trainings were imparted, which benefited 52782 participants including farmers and farm women, rural youth, extension personnel and government officials.
- In order to create awareness among farmers of the region, 20570 extension activities were conducted by the KVKs including Farmers' fairs, Farmers meeting, Field days, Exhibitions, Special days celebration were organized which benefited 717876 farmers. Among live stock based activities 59 AHC and 3 AVC were organised.
- A total number of 90 Abstract, 28 Booklets, 06 Books, 30 Training Manuals, 387 Electronic Media Show (CD/VCD), Technical Bulletin 27 and 44 Research Papers in Journal were prepared by Krishi Vigyan Kendras. KVK Scientists also published 112 popular articles in various agriculture magazine and news papers.
- A total number of 134538 soil samples were analysed by different KVKs, State Govt. and 231457 soil health cards were prepared and distributed to farmers of the region.
- Under Kisan Mobile Advisory Services, 1519 messages related to new technologies were sent to 1043704 beneficiaries of 23395 villages.
- '*Mera Gaon Mera Gaurav*' programme is being implemented by the Vishwa Vidyalaya through its five colleges and three Zonal Agricultural Research Stations. In this programme, the scientists regularly organizing Krishak Sangoshthies, Demonstrations and advising farmers abut recent agricultural technologies in the selected villages.

कार्यकारी सारांश

राजमाता विजयाराजे सिंधिया कृषि विश्वविद्यालय, ग्वालियर (म.प्र.) की स्थापना १६ अगस्त २००८ को हुई। विश्वविद्यालय प्रारम्भ से ही कृषि समुदाय की शिक्षा संबंधी आवष्यकताओं की पूर्ति हेतु कार्यरत है। यह विश्वविद्यालय नवीन होने के बावजूद कृषि एवं कृषि संबधी विज्ञानों के क्षेत्रों में अपनी दुतगामी आशाजनक पहचान बना रहा है।

विश्वविद्यालय का उद्देश्य कृषि क्षेत्र में शैक्षणिक, अनुसंधान एवं प्रसार कार्य, उचित समाधान एवं तकनीक को ध्यान में रखते हुए करना है। विश्वविद्यालय के अन्तर्गत पाँच महाविद्यालय (चार कृषि एवं एक उद्यानिकी महाविद्यालय), पॉच आंचलिक कृषि अनुसंधान केन्द्र, चार क्षेत्रीय अनुसंधान केन्द्र, छः विषेश अनुसंधान केन्द्र, उन्नीस कृषि विज्ञान केन्द्र एवं अठाईस अखिल भारतीय समन्वित अनुसंधान परियोजनायें शामिल हैं जो कि म.प्र. के छः कृषि जलवायुवीय क्षेत्रों एवं छब्बीस जिलों में फैले हुये हैं। इसके साथ ही दूसरी परियोजनायें जैसे गैर-योजनाकृत, योजनाकृत, आदिवासी उप-योजना एवं अनौपचारिक परियोजनायें भी क्रियाशील हैं।

वर्ष २०१६-२० के दौरान विश्वविद्यालय द्वारा गुणवत्ता बढाने एवं उद्देश्यों की पूर्ति हेतु नये कदम उठायें गये है, जो इस प्रकार हैः-

शिक्षणः-

- विश्वविद्यालय द्वारा कृषि एवं उद्यानिकी के विभिन्न विषयों में दो स्नातक पाठ्यक्रम, बी.एससी. (आनर्स) कृषि एवं बी.एससी. (आनर्स) उद्यानिकी, ग्यारह स्नातकोत्तर (एम.एससी.) पाठ्यक्रम तथा नौ विद्या वाचस्पिती (पीएच.डी.) विषयों में उपाधि प्रदान की जाती है। कुल ७७४ सीटों में से स्नातक की ३६४, स्नातकोत्तर की ३५६ एवं विद्या वाचस्पति की ५४ सीटों पर नये विद्यार्थियों को प्रवेश दिया जाता है। स्नातक स्तर की ३६४ सीटों में से, ३०८ सीटें बी.एससी. (कृषि) एवं ५६ सीटें बी.एससी. (उद्यानिकी) उपाधि पाठ्यक्रम की हैं।

- वर्ष २०१६-२० में विश्वविद्यालय के अन्तर्गत कुल २०६६ विद्यार्थियों (१३७० छात्र एवं ७२६ छात्रायें) ने प्रवेश लिया, इनमें से १,३०६ विद्यार्थी (८६५ छात्र एवं ४४४ छात्राऐं) स्नातक पाठ्यक्रम में, ६७० विद्यार्थी (४४६ छात्र एवं २२४ छात्रायें) स्नातकोत्तर पाठ्यक्रम में तथा ११७ विद्यार्थी (५६ छात्र एवं ५८ छात्रायें) विद्या वाचस्पति पाठ्यक्रमों में अध्ययनरत हैं।

- विद्या वाचस्पति उपाधि पाठ्यक्रम के विद्यार्थियों द्वारा १८ एवं स्नात्कोत्तर विद्यार्थियों द्वारा १६० शोध प्रबंध (थीसिस) मूल्यांकन हेतु निदेशक शिक्षण एवं छात्र कल्याण, रा.वि.सिं.वि.वि., ग्वालियर में प्रस्तुत की गई।

- अनुभव जन्य अधिगम कार्यक्रम के अन्तर्गत चतुर्थ वर्ष के २७७ छात्र (स्नातक कृषि एवं स्नातक उद्यानिकी) पंजीकृत हुये। कार्यक्रम के अन्तर्गत विद्यार्थियों में वर्तमान प्रतिस्पर्धी युग में कृषि एवं उधानिकी के क्षेत्र में स्वयं एवं अन्य जनो हेतु व्यवसाय प्रबंध एवं उद्यमिता के द्वारा रोजगार के अवसर पैदा करने की क्षमता का विकास तथा छात्रों में बाजार के अन्दर टिक सकने की क्षमता विकसित की जाती है।

- अनुभव जन्य अधिगम कार्यक्रम के अनुखण्ड नामतः फसल उत्पादन, फसल संरक्षण, बागवानी, पौधशाला उत्पादन एवं प्रबंधन, उच्च मूल्य वाली सब्जियों की संरक्षित खेती, फूलो की खेती और भू-दृश्य वास्तुकला एवं उद्यानिकी फसलों में मूल्य संवर्धन सफलतापूर्वक चल रहें हैं।

- ग्रामीण कृषि/उद्यानिकी कार्यानुभव कार्यक्रम के अन्तर्गत चतुर्थ वर्ष के २७७ विद्यार्थियों को विभिन्न गांवो, अनुसंधान केन्द्रों एवं कृषि विज्ञान केन्द्रों पर किसानों की समस्याओं को समझने एवं समाधान करने के लिये भेजा गया।

- विश्वविद्यालय के ०२ विद्यार्थियों ने कनिष्ठ अनुसंधान अध्येतावृत्ति परीक्षा में अहर्ता प्राप्त की।

- विश्वविद्यालय में २६ विद्यार्थियों ने राष्ट्रीय प्रतिभा छात्रवृत्ति (एन.टी.एस.), के अंतर्गत छात्रवृत्ति प्राप्त की।

- इस वर्ष विश्वविद्यालय के ५६४ विद्यार्थियों को राज्य सरकार छात्रवृत्ति प्राप्त हुई जिनमे से ३५६ छात्र अन्य पिछड़ा वर्ग, १५३ अनुसूचित जाति एवं ८५ अनुसूचित जनजाति वर्ग के है।

- राष्ट्रीय सेवा योजना के अन्तर्गत विद्यार्थियों द्वारा विभिन्न गतिविधियों जैसे रक्तदान शिविर, बेटी बचाओं अभियान, सामाजिक जागरूकता अभियान, एड्स जागरूकता अभियान, शिक्षा, पल्स पोलियो अभियान, मेरा गांव मेरा गौरव एवं पर्यावरण दिवस आदि आयोजित की गई। राष्ट्रीय सेवा योजना के अन्तर्गत १७ विद्यार्थी "बी" एवं ०१ विद्यार्थी ने "सी" प्रमाण पत्र से सम्मानित किये गये।

- राष्ट्रीय केडेट कोर के अन्तर्गत ६० छात्रों ने "बी" प्रमाण पत्र एवं २८ छात्रों ने "सी" प्रमाण पत्र परीक्षा उतीर्ण की।

- विश्वविद्यालयीन परिसर साक्षात्कारों के द्वारा ३३ विद्यार्थियों ने निजी, ४० विद्यार्थियों ने सरकारी संस्थानों में और ०३ विद्यार्थियों ने स्वरोजगार प्राप्त किया।

- विश्वविद्यालय के विभिन्न महाविद्यालयों के पुस्तकालयों द्वारा विद्यार्थियों को १,३६५६६ पुस्तकें उपलब्ध कराई गई, जिसमें से ६२३६ पुस्तकें एवं १३६ ई-पुस्तके इस वर्ष क्रय की गई। इसके अलावा शोधग्रंथ अध्यापन, सघन संग्रहण इकाई, ई-पुस्तक एवं नियतकालिक पत्रिकायें भी सम्बन्धित महाविद्यालयों के पुस्तकालयों में उपलब्ध कराई गई।

- विश्वविद्यालय के नवस्थापित केन्द्रीय पुस्तकालय द्वारा छात्रों, शिक्षको और वैज्ञानिकों को कुल १०३४१ पुस्तकें १३६ ई-पुस्तके, ०७ प्रिन्टेड मैगजीन एवं १३०३ उपहार स्वरूप पुस्तके उपलब्ध कराई गई।

- १२० शोध पत्र विभिन्न राष्ट्रीय एवं अर्न्तराष्ट्रीय शोध पत्रिकाओं में प्रकाशित किये गये।

अनुसंधानः-

- विभिन्न सोयाबीन आधारित फसल प्रणालियों का आकलन -:तीन फसल प्रणालियाँ सोयाबीन-चना/ कुसुम /सरसों ,मक्का-चना/ कुसुम/ सरसों और मसूर-चना/ कुसुम/ सरसों को वर्षा आधारित पद्धति में बोया गया । परिणाम दर्शाते है कि हाइब्रिडमक्का Done -1588) (द्वारा सबसे ज्यादा बीज का उत्पादन4545) किलोग्राम/हेक्टेयर (इसके उपरांत सोयाबीन और मसूर848) किलोग्राम/ हेक्टेयर(रबी के दौरान चने (RVG-202) का उत्पादन सोयाबीन, मसूर तथा मक्के के बाद क्रमशः 1667 ए 1625एवं1500 किलोग्राम/हेक्टेयर प्राप्त किया गया । इन फसल प्रणालियों में मक्का-चना सबसे अधिक लाभदायक पाया गया) आय रूपये 150900 तथा लाभ लागत अनुपात.4ण्3
- अखिल भारतीय समन्वित लवण प्रभावित मृदा का प्रबंध एव कृषि में लवणीय जल का उपयोग अनुसंधान परियोजना द्वारा देवास जिले के भूजल एवं मृदा सर्वेक्षण किया गया । देवास जिले के दूर संवेदन तकनीकी द्वारा मृदा एवं जल सर्वेक्षण हेतु जिले के कुछ भाग से नमूने एकत्रित किये गये । मृदा नमूनों के परीक्षण के आधार पर लवणीय क्षारीय मृदाओं का क्षेत्रफल ज्ञात करके मानचित्र तैयार किया गया । जिले में 88.5 प्रतिशत भूजल नमूने अच्छी किस्म के पाये गये एवं 9.8 प्रतिशत नमूने सीमांत लवणीय पाये गये । लवणीय एवं क्षारीय मृदाओं का जिले में क्षेत्रफल लगभग 2702 हेक्टयर पाया गया । इसमें कम लवणीय भाग 361 हेक्टेयर देवास तहसील में एवं मध्यम क्षारीय भाग 354 हेक्टेयर टोक खुर्द तहसील में पाया गया। नर्मदा सागर के आधीन क्षेत्र के 13 कुओं में नहर शुरू होने के पहले (2005 एवं 2012) तथा बाद के (2015 और 2019) जल स्तर में अन्तर ज्ञात किया गया । इसमें यह पाया गया कि नहर के हेड रीच पर जल स्तर 1.53 मीटर एवं 1.34 मीटर 2015 एवं 2019 में प्राप्त हुआ, नहर के जल का परीक्षण से भी यह पता चलता है कि यह जल सिंचाई के लिये अच्छा हैं। मृदा परीक्षण के विभिन्न गुणों का परीक्षण भी किया, इससे यह ज्ञात हुआ कि पी.एच., ई.सी एवं कार्बनिक पदार्थ में अल्पवृद्धि पाई गयी है।जुताई की विभिन्न प्रणालिया एवं पलवार के प्रयोग से गेंहू का दाना एवं भूसे की उपज सार्थक प्रभावित हुई है। जुताई की प्रणालियों में, पारंपरिक जुताई में उच्चतम अनाज की उपज (3285 किलोग्राम प्रति हेक्टर) और भूसे की उपज (4827 किलोग्राम प्रति हेक्टेयर) दर्ज की गई, जो कि कम जुताई और शुन्य जुताई से बेहतर थी । पलवार के प्रयोग ने दाना और भूसे की उपज को सार्थक प्रभावित नहीं किया। मल्च के रूप में चावल के अवशेष का पलवार 5 टन प्रति हेक्टेयर प्रयोग से दाने की उपज (4761 प्रति हेक्टेयर) प्राप्त हुई। ऑकड़ों से यह भी पता चला है कि जुताई और मल्च से पी.एच., उपलब्ध एन.पी.के. पर कोई सार्थक प्रभाव नही पाया गया। ई.सी.. का सबसे कम मान (1.39 डी.एस./एम.) पारम्परीक जुताई में पाया गया। उसके बाद कम जुताई (1.47 डी.एस/एम) और शुन्य जुताई में (1.73 डी.एस/एम) पाया गया। जबकि पलवार ने ई.सी. को सार्थक प्रभावित नहीं किया।
- दूरस्थ दीर्घ अवधि खाद प्रयोग–**समन्वित पोषण प्रबंधन : सोयाबीन चना प्रणाली-पहले वर्ष किये गये अनुसन्धान के आधार पर सामान्य विधि के मुकाबले सोयाबीन** JS9560 **किस्मद्वारा FYM छः टन/हेक्टेयर +** N 20P13 **द्वारा सर्वाधिक उपज** (1600 **किलोग्राम/हेक्टेयर**) **प्राप्त की गई ।**
- सूखा ग्रस्त भूखण्ड में फ्यूझेरियम उडम के प्रभेदों का मॉनिटरींग अरहर प्रविश्टियॉ क्रमशः आई सी पी–9174, 8859 एवं आईसीपी–7035 में सूखा रोग नही आया, सूखा रोग की तीव्रता 6.39 : (आईसीपी–9174) से 92.88 (आई सी पी–2376) के मध्य रही, क्षेत्र में फ्युझेरीयम उडम के दो प्रभेद क्रमषः 1 एवं 3 उपसिथत पाये गए।

- 5 जिलों के 28 गॉव में अरहर के खेतों का सर्वेक्षण किया गया है। अरहर खेतों के सर्वेक्षण से ज्ञात हुआ की जहॉ मुख्य एवं अंतरवर्ती के रूप में अरहर बोई गई है, दोनो दशाओं में सूखा रोग आ सकता है, मध्यम अवधि में पकने वाली प्रजातियॉ जैसे आषा, जेकेएम–189, टीजेटी 501 एवं निजी क्षेत्र कुछ प्रजातियों में सूखा रोग कम आता है, जहॉ स्थनिय प्रजातियॉ कपास, सोयाबिन आदि के साथ अंतरवर्तीय फसल के रूप में ली गई वहॉ सूखा रोग अधिक आया, इस वर्ष मानसून मे 2 बार मध्यम अवधी का सुखा गिरने के कारण व अधिकतापमान आदी के कारण सूखा रोग की तीव्रता निम्न से मध्यम स्तर की रही, इस वर्ष 2018–19 में वर्षा 634 एमएम हुई जो औसत वर्षा से कम थी।
- सूखा रोग एवं बॉझपन रोग मूलयांकन पौधशाला में 40 प्रविष्टियों पर अध्ययन किया गया, 15 प्रवष्टियॉ सूखा रोग के लिए प्रतिरोधी पाई गई जहॉ फ्युझेरीयम उडम के कारण रोग की तीव्रता 10 % से कम पाई गई । सूखा रोग की तीव्रता 2.65 % से 93.03 % के मध्य रही, सबसे अधिक तीव्रता आई सी पी 2376 मे 93.03 % दर्ज की गई एवं प्रदर्षन का सुखने का औसत 15.56 % था।

बीज उत्पादनः

- विश्वविद्यालय के २७ बीज उत्पादन प्रक्षेत्रों के माध्यम से बीज उत्पादन का कार्य चल रहा है। प्रक्षेत्रों का कुल क्षेत्र १२१०.८५ हेक्टेयर है जिसमें से ६४.४५ प्रतिशत (७८०.३७ हेक्टेयर) में बोआई की जाती है। बोआई क्षेत्र क्रमशः १३.३६ प्रतिशत, ३४.५६ प्रतिशत और ५२.०२ प्रतिशत क्षेत्र सिंचित आंशिक सींचित एवं वर्षा अधारित क्षेत्र के अंर्तगत आता है।

- कृषकों को बीज बदलने में मद्द हेतु विश्वविद्यालय विभिन्न फसलों का बीजोत्पादन कर रहा है ताकि फसलों की उत्पादकता को बढ़ाया जा सके।

- विश्वविद्यालय द्वारा वर्ष २०१६-२० में ६६११.४० क्विंटल बीज का उत्पादन किया गया। इसके अंतर्गत खरीफ २०१६-२० में कुल बीज का उत्पादन ३६०३.७० क्विंटल प्रप्त हुआ जिसमें सोयाबीन, मूंग, उड़द, धान, कपास,एवं आधार फसलों का बीज है। इसी प्रकार रबी २०१६-२० में कुल बीज का उत्पादन ६३०७.७० क्विंटल प्राप्त हुआ। जिसमें गेहूं, चना, सरसों, मसूर, तोरिया, एवं कुसुम फसलों का बीज है।

प्रसार -

- कृषि विज्ञान केन्द्रों द्वारा आर.वी.एस.के.वी.वी, अन्य कृषि विश्वविद्यालयों एवं अन्य संस्थाओं द्वारा विकसित नवीन तकनीकों के प्रभाव का आंकलन करने के लिए विभिन्न क्षेत्रों जैसे फसलोत्पादन, पशुपालन, कृषिअभियांत्रिकी, कटाई उपरान्त प्रबन्धन पर आधारित ३७५ प्रक्षेत्र परीक्षण आयोजित किये गये, जिससे ५४५५ कृषक लाभान्वित हुए।

- नवीन तकनीकों को कृषकों तक पँहुचाने के उद्देश्य से वर्ष २०१९-२० में १०५४.४६ हे. क्षेत्रफल में फसलों पर ५०५ कृषकों के यहाँ अग्रिम पंक्ति प्रदर्शन आयोजित किये गये। इनके अतिरिक्त मछली पालन, पशुपालन, केचुंआ खाद, मूल्य संवर्धन, कटाई उपरान्त प्रबन्धन आदि उद्यमों तथा कुपोषण एवं अभियंत्रण पर १८९५ अग्रिम पंक्ति प्रदर्शन भी आयोजित किये गये।

- इस वर्ष (२०१९-२०) १९५९ प्रशिक्षण आयोजित किये गये, जिससें ५२७८२ किसान, ग्रामीण युवा, महिलायें, प्रसार कार्यकर्ता एवं सरकारी कर्मचारी लाभान्वित हुये।

- क्षेत्र के किसानों में जागरूकता लाने के उद्देश्य से, किसान मेले, बैठक, कृषक दिवस, प्रदर्शनी आदि सहित २०५७० विस्तार गतिविधियां आयोजित की गई, जिनमें ७१७८७६ कृषक लाभान्वित हुये।

- कृषि विज्ञान केन्द्रों के वैज्ञानिकों द्वारा ९० एब्स्टेक्ट, २८ पुस्तिकाएं, ०६ बुक्स, ३० प्रशिक्षण मैन्युअल, इलेक्ट्रोनिक्स मीडिया कार्यक्रम३८७, टेक्निकल बुलेटिन २७ एवं ४४ अनुसंधान प्रपत्र तैयार किये गये। इनके अतिरिक्त विभिन्न कृषि पत्रिकाओं तथा समाचार पत्रों में कृषि विज्ञान केन्द्रों के वैज्ञानिकों के ११२ आलेख भी प्रकाशित हुए।

- कृषि विज्ञान केन्द्रों, विभिन्न प्रशासनिक व सरकारी विभागों के द्वारा १३४५३८ मृदा नमूनों का विश्लेषण कर एवं इनका २३१४५७ मृदा स्वास्थ्य पत्रक तैयार कर कृषकों को वितरित किये गये।

- किसान मोबाईल सलाह सेवा के द्वारा नवीन कृषि तकनीक से संबन्धित १५१९ संदेश भेजे गये, जिसमें से २३३९५ ग्रामों के १०४३७०४ कृषक लाभान्वित हुए।

- विश्वविद्यालय द्वारा ०५ महाविद्यालयों (कृषि महाविद्यालय, ग्वालियर/इन्दौर/सीहोर/खण्डवा एवं उद्यानिकी महाविद्यालय, मंदसौर) तथा ०३ आंचलिक कृषि अनुसंधान केन्द्रों (मुरैना/झाबुआ/खरगौन) के माध्यम से 'मेरा गांव मेरा गौरव' कार्यक्रम संचालित किया जा रहा है। इस कार्यक्रम में विश्वविद्यालय के वैज्ञानिकों द्वारा विभिन्न ग्रामों में नियमित रूप से संगोष्ठी तथा प्रदर्शन आयोजित किये जा रहे है तथा कृषकों को नवीन कृषि तकनीकों पर सलाह दी जा रही है।

Srimant Rajmata Vijayaraje Scindia
(1919-2001)

1. INTRODUCTION

1. Mission:

- To impart education, conduct research and extension activities for enhancing productivity, optimization of profit, sustainability of agriculture and allied sectors and improving rural livelihood in the state of Madhya Pradesh.

2. Mandate:

- To serve as a centre of higher education in the field of agriculture and allied sciences.
- To conduct basic, strategic, applied and anticipatory research in the field of agriculture and allied sciences.
- To disseminate technologies to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.
- To produce and supply of genuine seed and planting material to the farmers.

3. Area of Jurisdiction:

RVSKVV, Gwalior is responsible for Agricultural Education, Research and Extension in following 26 revenue districts of the state:
Sheopur, Morena, Bhind, Gwalior, Shivpuri, Guna, Ashoknagar, Datia, Dewas, Shajapur, Agar Malwa, Ujjain, Indore, Dhar, Jhabua, Alirajpur, Ratlam, Mandsaur, Neemuch, Khargone, Badwani, Khandwa, Burhanpur, Bhopal, Sehore and Rajgarh.
The area under University jurisdiction is a part of the Deccan Plateau and comprises plateaus with mean elevation of 1600 feet above mean sea level; inter spread with the mountains of the Vindhya and Satpura ranges. The maximum height of 1350 m is recorded in Satpura range on the other hand 150 m height is found in Chambal Valley. The main river systems are the Betwa, Chambal, Narmada, Sindh and Tapti. Nearly one third of the state area is covered with tropical forest. The area contains three types of soils, varying from alluvial to medium and heavy black Vertisols with six agro climatic zones.

The geographical area of the state under the University jurisdiction is 137.16 lakh hectares out of this, 74.72 lakh hectares is under cultivation, 24.51 lakh hectares under Kharif and 36.45 lakh hectare under rabi fallow. Out of the total cultivated area,

49.42% is irrigated. However, the area under irrigation varies from as low as 18.85% in Jhabua district to as high as 75.63% in Datia district.

The economy of the area is primarily agriculture based. Nearly 75% population is engaged in agriculture. The Malwa region abounds in rich black cotton soil. The low lying areas of Gwalior and Bundelkhand have light soils, whereas the Narmada Valley is formed by deep rich alluvial deposits.

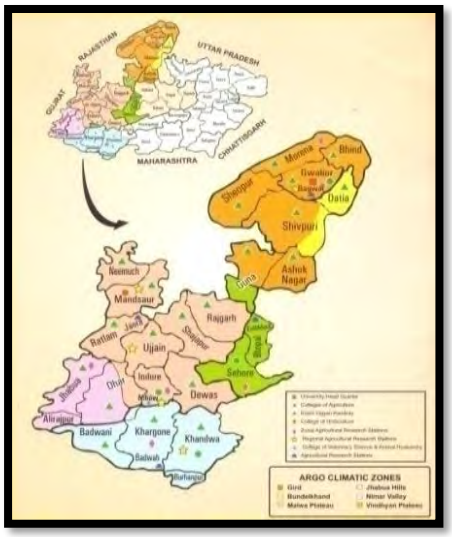
4. Climatic Conditions:

The overall climate varies from semiarid to sub humid with hot summer; cool and dry winter with an average annual rainfall ranging from 600 to1000 mm. Mean annual rainfall is 1029.21mm.

In general, aberrant monsoon behavior is a common feature in the region that usually creates abnormal weather conditions including long dry spells of 8-20 days duration in the middle of the season.

5. Agro Climatic Zones

Out of 11 agro climatic zones of the state, following six are under the jurisdiction of RVSKVV, Gwalior:



- Gird Zone
- Malwa Plateau
- Nimar Valley
- Jhabua Hills
- Vindhya Plateau (Partial)
- Bundelkhand Zone (Partial)

6. Major Crops and Cropping Pattern

- The main food crops of the area are wheat, rice, mustard, lentil and millets. Important among commercial crops grown in the area are pulses, oil seeds and medicinal crops. The state is poised for a breakthrough in soybean cultivation.
- The area coverage of soybean, groundnut and cotton under the jurisdiction of the University is 69, 66 and 55 per cent, which contributes to about 68, 67 and 56 per cent in total production of these crops in the state respectively. Chickpea, pea, black gram and wheat contributes about 35, 24, 54 and 48 per cent of the total state production from an area of only 20, 05, 46 and 40 per cent, respectively. The productivity of these crops in the region is higher than the state average.
- Area under horticultural crops is showing an increasing trend under the University jurisdiction. Mandarin, sweet oranges and limes under assured irrigation and guava, ber, aonla and custard apple without irrigation in Gird region, orange, grape, chiku, mosambi and acid lime in Malwa plateau; banana, papaya, lime and chiku in Nimar valley and lime, ber, guava, aonla and custard apple in Jhabua hills bloom well. Vegetables like Tomato, Potato, Sweet potato, Brinjal, Okra, Cole crops (Cabbage, Cauliflower), Drumstick, Radish, Carrot, Cucurbits, Arbi, Beans and Leafy vegetables etc. are grown in large acrage. Among the spice crops, turmeric, corriander, ajwain, chillies, garlic, fenugreek and fennel have their own specialties in different agro-climatic zones. The area coverage under seasonal flowers is also showing an increasing trend.

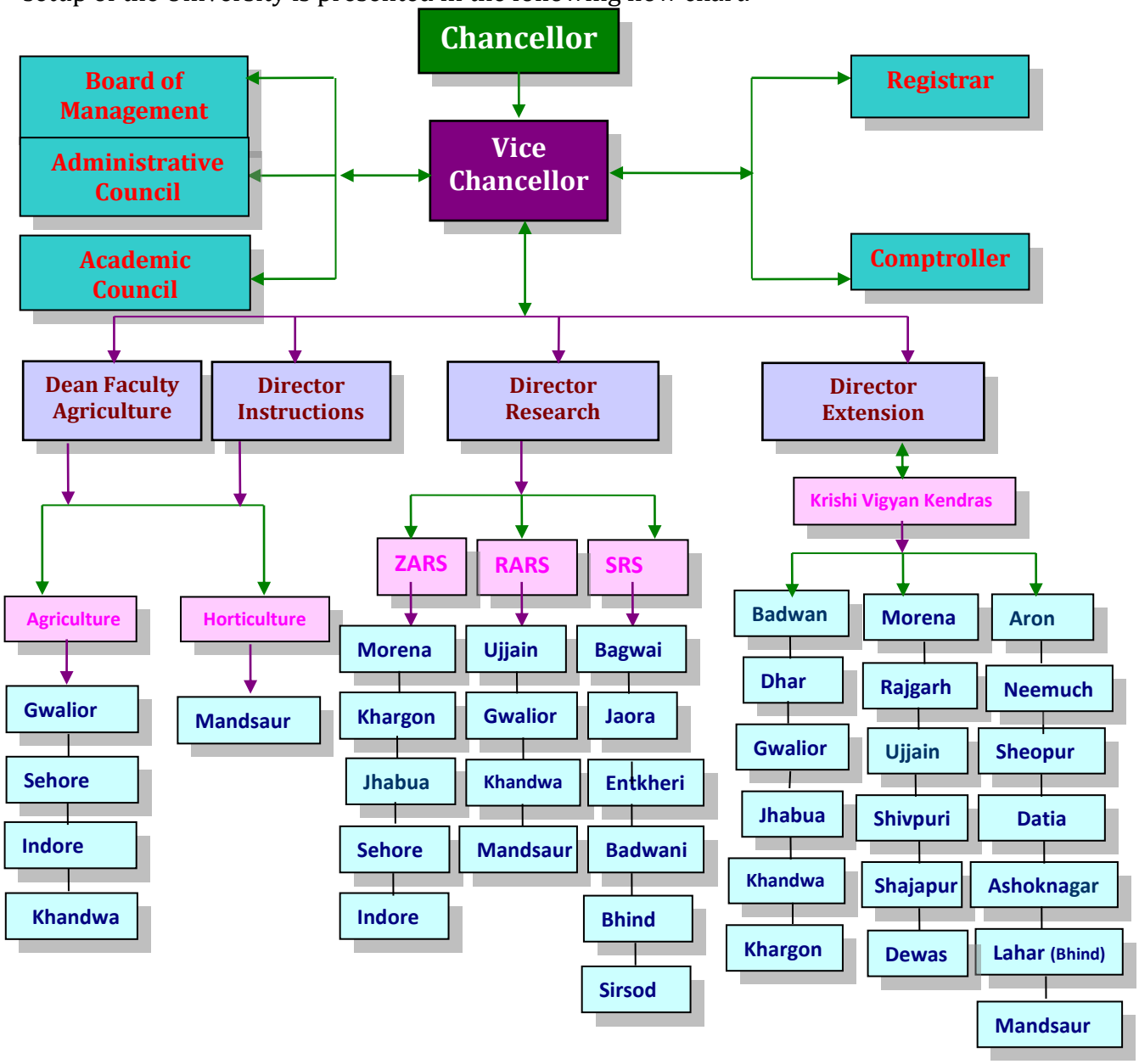
7. Organizational Setup:

Hon'ble Governor of Madhya Pradesh is the Chancellor of the University, and Vice-Chancellor is the Academic Head and Chief Executive of the University, who is supported by the following authorities:

- *Board of Management*
- *Academic Council*
- *Administrative Council*

The University comprises of Faculty of Agriculture headed by Faculty Dean. The constituent colleges are headed by respective Deans. Heads of the Departments are the key persons for teaching, research and extension of the respective discipline/department. Committee of Faculty of Agriculture and Extension Council are also constituted by Vishwa Vidyalaya.

Director Instructions, Director Research Services and Director Extension Services are responsible University authorities for human resource development, research activities and extension activities, respectively. Registrar and Comptroller support the Vice-Chancellor in administration and financial matters. The organizational setup of the University is presented in the following flow chart.



2. ACADEMIC HIGHLIGHTS:

Academic excellence is the backbone of every institute of higher learning. The responsibility increases many folds when the institute aspires for generating world class graduates with the competence to stand tall as a nation builder.

It is through the dissemination of latest technologies and changing knowledge from the global prospective to grass root level that the desirable development in the broad area of agriculture can be attained. The demanding trends in Agriculture/Horticulture need an increase in faculties in such fields and disciplines which have a tremendous market value so that the products of the University are not inclined to government jobs only but would be able to involve themselves in a variety of fields that can boost economy at the State and National level. Therefore resident instruction programme is carried out in the areas of Agriculture and Horticulture in four Agriculture colleges and one Horticulture College in the University.

2.1 Profile of the Colleges:

Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya offers undergraduate, post graduate and Ph.D. programmes in the faculty of Agriculture. At present, the University has four Colleges of Agriculture and one college of Horticulture under the faculty of Agriculture. Four constituent Colleges of Agriculture are located at Gwalior, Indore, Sehore and Khandwa and one College of Horticulture is located at Mandsaur.

All these colleges offer Under Graduate and Masters Degree Programmes in different disciplines. Ph.D. programme is offered only at College of Agriculture, Gwalior.

The list of colleges with their location, year of establishment and degree programmes offered is given below.

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWA VIDYALAYA, GWALIOR (2008)

CoA, Gwalior (1950)

CoA, Sehore (1952)

CoA, Indore (1959)

CoA, Khandwa (1987)

CoH, Mandsaur (2002)

2.1.1 Details of the Colleges:

S. No.	Name of College with location	Year of Establishment	Degree Programme Offered
I	**Faculty of Agriculture**		
1.	**College of Agriculture, Gwalior**	1950	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Environmental Science (9) Plant molecular biology & Biotechnology (10) Fruit Science (11) Vegetable Science **(iii) Ph.D.** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Fruit Science (9) Vegetable Science
2.	**RAK, College of Agriculture, Sehore**	1952	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science
3.	**College of Agriculture, Indore**	1959	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** (1) Agronomy (2) Entomology (3) Extension Education (4) Agriculture Economics & Farm Management (5) Plant Breeding and Genetics (6) Plant Pathology (7) Soil Science & Agricultural Chemistry (8) Vegetable Science
4.	**BM, College of Agriculture, Khandwa**	1987	**(i) B.Sc. (Ag.)** **(ii) M.Sc. (Ag.)** Plant Pathology
5.	**KNK, College of Horticulture, Mandsaur**	2002	**(i) B.Sc. (Hort.)** **(ii) M.Sc. (Hort.)** (1) Fruit Science (2) Vegetable Science (3) Plantation, Spices, Medicinal & Aromatic Crops (4) Floriculture & Landscape Architecture

Resident instruction programme is one of the mandates of the University *i.e.* impart education in Agriculture and Horticulture to produce graduates and post graduates ready to face the existing and new challenges in agriculture sector.

The University follows the semester system of education. Completion of a degree programme requires successful study of prescribed courses as approved by the Academic Council of the University. Course contents of all subjects are periodically updated and new courses are occasionally added to the degree requirement to cope up with the challenges of upcoming technologies. The University follows 10 point scale evaluation system approved by ICAR. Individual attention of each and every student is ensured through the advisory system. At Under graduate level, for a group of 5-10 students, one faculty advisor is appointed for each class and at Post-Graduate level, for each student, an advisory committee consisting of 3-4 faculty members is appointed. The teacher/ advisory guide, supervises and monitors the academic performance of his/her advises besides helping them in their personal problems. The advisor also maintains a close contact with parents/guardians of the students and informs them about the progress of their works/performance.

2.2 Admission Procedure

2.2.1 Undergraduate Programmes

Admission in first year of B.Sc. (Hons.) Agriculture/Horticulture is done on the basis of the merit list provided by the Professional Examination Board of the State Government, located at Bhopal. The board conducts a Pre-Agriculture Test (PAT) for B.Sc. (Hons.) Agriculture/Horticulture. The roster for reservation of seats for UG and PG as per provisions made by the State Government for different categories is strictly followed.

All possible efforts are made to fill up all seats of different categories by repeated counseling of the students.

2.2.2 Postgraduate Programmes

Admissions in post graduate programmes are made by the University through joint entrance examination basis. As per merit list, admissions are given to the students in the subject of their choice; subject to the availability of seats. The roster of reservation is also followed for these admissions.

2.2.3 Ph.D. Programmes

Similarly, in Ph.D. programme admission is made through joint entrance examination basis.

2.3 Allocation of Seats and Roster:

During the academic year 2019-20, the total intake capacity was 774 out of which 364 were in undergraduate (UG), 356 in postgraduate (PG) and 54 in Ph.D. degree programme. In the undergraduate level, out of 364 total seats, 308 seats were in B.Sc. (Ag.) and 56 in B.Sc. (Hort.) degree programme. In the post graduate level, out of 364 seats, 260 seats were in M.Sc. (Ag.) and 96 in M.Sc. (Hort.). Similarly, in Ph.D. programme, out of 54 total seats, 42 seats were in agriculture and 12 were in Horticulture discipline.

2.3.1 Intake Capacity (Degree wise):

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
Degree Programmes						
1.	B.Sc. (Hons.) Agriculture	220	44	11	33	308
2.	B.Sc. (Hort.) Horticulture	40	08	02	06	56
	Total	**260**	**52**	**13**	**39**	**364**
1.	M.Sc. (Ag.)	260	-	-	-	260
2.	M.Sc. (Hort.)	96	-	-	-	96
	Total	**356**	**-**	**-**	**-**	**356**
1.	Ph.D. Agriculture	42	-	**-**	-	42
2.	Ph.D. Horticulture	12	-	**-**	-	12
	Total	**54**	**-**	**-**	**-**	**54**
	Grand Total	**670**	**52**	**13**	**39**	**774**

2.3.2 Under Graduate: B.Sc. (Ag. /Hort.)

(A) B.Sc. (Ag.)

Allocation of Seats		Boys	Girls	Total
Roster				
Free Seats	General	50	31	**81**
	ST	36	14	**50**
	SC	24	11	**35**
	OBC	44	13	**57**
Payment Seats		48	02	**50**
NRI Seats		-	-	**06**
Nominee/Fellow	ICAR	25	04	**29**
Total		**227**	**75**	**308**

(B.) B.Sc. (Hort.)

Allocation of Seats		Boys	Girls	Total
Roster				
Free Seats	Gen.	14	06	20
	ST	05	03	08
	SC	05	02	07
	OBC	03	02	05
Payment Seats		06	02	08
NRI Seats		-	-	02
Nominee/Fellow	ICAR	04	02	06
Total		**37**	**17**	**56**

2.3.3 Post Graduate: M.Sc. (Ag. /Hort.):

(A) M.Sc. Agriculture/Horticulture

S.No.	Subject	Gwalior	Indore	Sehore	Mandsaur	khandwa	Total
		PG	PG	PG	PG	PG	PG
1	Agronomy	12	12	12	-	-	36
2	Soil Sc. & Agri. Chemistry	12	12	12	-	-	36
3	Entomology	12	12	12	-	-	36
4	Genetics & Plant Breeding	12	12	12	-	-	36
5	Agri. Economics	8	8	8	-	-	24
6	Plant Pathology	12	12	12	-	8	44
7	Plant Bio Technology	08	-	-	-	-	8
8	Environmental Science	4	-	-	-	-	4
9	Extension Education	12	12	12	-	-	36
Total		**92**	**80**	**80**		**8**	**260**
(B) M.Sc. Horticulture							
1	Veg. Science	12	12	12	12	-	48
2	Fruit Science	12	-	-	12	-	24
3	Floriculture & Landscape Architecture	-	-	-	12	-	12
4	Plantation, Spice, Medicinal and Aromatic Crops	-	-	-	12	-	12
	Total	**24**	**12**	**12**	**48**	**-**	**96**

2.3.4 Ph.D. (Ag. /Hort.):

(A) Agriculture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Agriculture	28	14	**-**	-	42

(B) Horticulture:

S.No.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	Ph.D. Horticulture	8	4	**-**	-	12

2.4 Students Strength:

2.4.1 Students Admitted:

S. No.	Degree Programme	No. of Students
1.	B.Sc. (Ag.)	296
2.	B.Sc. (Hort.)	48
Total		**344**
1.	M.Sc. (Ag.)	246
2.	M.Sc. (Hort.)	79
Total		**325**
1.	Ph.D. (Ag. /Hort.)	49
Total		**49**
Grand Total		**718**

2.4.2 **Students Strength at a Glance:** During the year 2019-20, total 1904 students were on the roll of the University, out of which 1330 in UG, 513 in PG and 61 in Ph.D. degree programmes.

S. No.	Degree Programme	No. of Students (2019-20)
1.	B.Sc. (Ag.)	1113
2.	B.Sc. (Hort.)	196
	Total	**1309**
1.	M.Sc. (Ag.)	537
2.	M.Sc. (Hort.)	133
	Total	**670**
1.	Ph.D. (Agri. /Hort.)	**117**
	G. Total	**2096**

2.4.3 Gender Wise Students Strength: During the year 2019-20, a total of 1370 boys and 726 girls' (Total Students-2096) students were on the roll of the University, out of which, 865 boys and 444 girls were in UG, 446 boys and 224 girls in PG, and 59 boys and 58 girls were in Ph.D. degree programmes.

2.5 Teaching Status:

Completion of a degree programme requires successful study of the courses as approved by the Academic Council. Every student has to study a set of prescribed courses per semester. The semester wise courses offered and total credits covered in different undergraduate and postgraduate degree programmes are given below:

2.5.1 Under Graduate: B.Sc. (Ag. /Hort.)

(A) B.Sc. (Ag.)

B.Sc. (Ag.)	Courses offered (No.)		Total Credits	
	I Sem.	II Sem.	I Sem.	II Sem.
I Year	8	9	20 (14+6)	22 (14+8)
II Year	10	9	26 (15+11)	23 (13+10)
III Year	8	9	20 (13+7)	18 (10+8)
VI Year	5*	6**	20 (0+20)	20 (6+14)
Total	**26**	**33**	**86 (42+45)**	**83 (43+40)**

RAWE/RHWE*, ELP**

(B) B.Sc. (Hort.)

B.Sc. (Hort.)	Courses offered (No.)		Total Credits	
	I Sem.	II Sem.	I Sem.	II Sem.
I Year	11	09	21(13+8)	21(12+9)
II Year	10	09	25(14+11)	23(13+10)
III Year	08	08	19(11+8)	20(12+8)
VI Year	02	02	20(5+15)	20(5+15)
Total	**31**	**28**	**85**(43+42)	**84**(42+42)

2.5.2 Post Graduate: M.Sc. (Ag. /Hort.):

S. No.	Subject/Department	Courses offered (No.)		Total Credits	
		I Sem.	II Sem.	I Sem.	II Sem.
1.	Agronomy	11	09	21 (16+5)	19 (13+6)
2.	Agricultural Economics & Farm Management	10	11	17 (13+4)	22 (14+8)
3.	Entomology	10	11	16 (9+7)	21(13+8)
4.	Extension Education	10	09	18 (12+6)	18 (12+6)
5.	Plant Breeding & Genetics	10	09	20 (13+7)	16 (10+6)
6.	Plant Pathology	11	10	21 (14+7)	19 (12+7)

7.	Soil Science & Agricultural Chemistry	10	09	21 (14+7)	19(13+6)
8.	Fruit Science	10	09	22 (15+7)	16 (10+6)
9.	Vegetable Science	10	09	22 (15+7)	17 (11+6)
10.	Plantation, Spices, Medicinal & Aromatic Crops	10	09	22 (15+7)	17 (11+6)
11.	Floriculture & Landscape Architecture	10	09	22 (15+7)	18 (12+6)

2.5.3 Ph. D. (Ag. /Hort.):

(A) Agriculture:

S. No.	Department	Course offered (No)		Total credits	
		I Sem	II Sem	I Sem	II Sem
1.	Agronomy	09	09	17(13+4)	14 (12+2)
2.	Agricultural Economics & FM	09	09	16 (11+5)	17 (11+6)
3.	Entomology	10	10	15 (11+4)	14 (10+4)
4.	Extension Education	09	09	16 (11+5)	18 (12+6)
5.	Plant Breeding & Genetics	09	09	12 (10+3)	16 (12+4)
6.	Plant Pathology	09	09	17 (11+6)	13 (10+3)
7.	Soil Science & Agricultural Chemistry	09	10	15 (12+3)	17 (14+3)

(B) Horticulture:

S. No.	Department	Course offered (No)		Total credits	
		I Sem	II Sem	I Sem	II Sem
1.	Fruit Science	09	08	17 (11+6)	13 (10+3)
2.	Vegetable Science	10	08	19 (12+7)	13 (10+3)

2.6 Experiential Learning Programme: As per the recommendations of Fifth Dean's Committee that the B.Sc. (Ag.)/B.Sc. (Hort.) graduates must have adequate hands on experience on different aspects of agriculture/horticulture. For this purpose, the experiential learning programme has been introduced in the final year that includes different aspects of horticulture and agriculture.

Modules of Experiential learning programme	Nos. of students
A. B.Sc. (Ag.)	
Module – I Crop Production	**226**
Seed Production Technology	
Remote Sensing, GIS & Land Use Planning	
Integrated Farming System	
Water Management	
Soil Management	
Management of Post Harvest Insect Pests & Diseases	
Module – II Crop Protection	
Integrated Pest & Disease Management	
Management of Post Harvest Insect Pests & Diseases	
Non Insect Pest Management	
Pesticides and Plant Protection Equipments	
Nursery Management of Horticultural Crops	
Integrated Farming System	
Module – III Horticulture	
Commercial Vegetable Production	
Commercial Floriculture	
Nursery Management of Horticultural Crops	
Processing & Value Addition of Horticultural Crops	
Integrated Pest & Disease Management	
Management of Post Harvest Insect Pests & Diseases	
Module IV	
Commercial Vegetable Production	
Nursery Management of Horticulture crops	
Protected cultivation of Horticultural crops and seed production of vegetable and flowers	
Processing and value addition of horticultural and crops	
Integrated Pest and Disease Management	
Mushroom cultivation	
Module V	
Nursery Production and management	
Module VI	
Protected cultivation of high value vegetable crops	
Module VII	
Floriculture & Landscape Gardening	
Module VIII	
Value addition in horticultural crops	
B. B.Sc. (Hort.)	
Module I	51
Nursery production and management	
Module II	
Protected Cultivation of High value horticultural crops	
Module III	
Floriculture and Landscape Gardening	
Module IV	
Post harvest technology and value addition	

GLIMPSES OF EXPERIENTIAL LEARNING PROGRAMME

Transplanting of annuals in poly beg

Planting of rose

Management of ELP nursery

Planting of lawn grass

Development of vertical garden

Seed extraction of flowering annual

View of flowering annual field

Students activity in the field

View of flowering annual nursery

Marketing of flowering plants

ELP unit visited by Dean Sir

Floral gift prepared by ELP students

Preparation of Mixed Vegetable Pickles

Mixed Vegetable Pickles

Aonla Candy After Drying

Aonla Candy Ready For Sale

Pricking of Beal Fruit Halves For Preparation of Beal Candy

Beal Candy Ready For Marketing

Preparation of Guava Jelly

Guava Jelly Ready For Sale

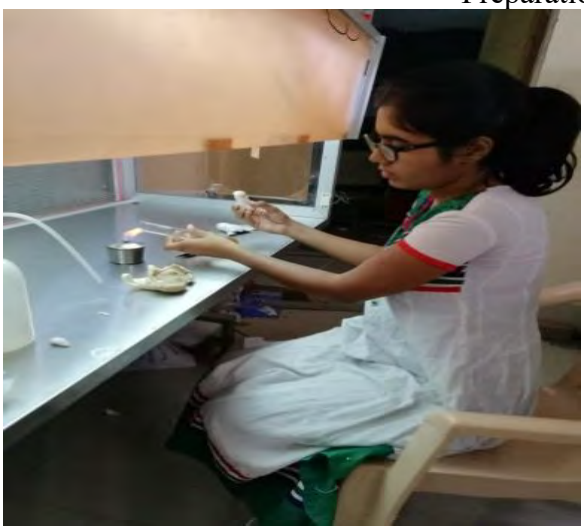
Beal Preserve Ready For Sale

Beal Product Testing and Marketing

Preparation of Aonla Supari

Packing of Aonla Supari

Preparation of Media




Inoculation and preparation of pure culture

Preparation of Mushroom Spawn

Treatment of Wheat Straw


Spawining


Irrigation on mushroom begs

Harvesting of Button Mushroom


Cleaning of mushroom

2.7 Rural Agricultural/Horticultural Work Experience (RAWE/RHWE): As a part of regular curriculum, the final year students of B.Sc. (Ag.) and B.Sc. (Hort.) are placed in rural areas for one semester in selected villages through Krishi Vigyan Kendras (KVKs) working in the region, where each student is attached to one host farmer for practical training with regards to crop production, crop protection, economics and also dynamics of the rural society. Further, some social activities were also performed by the students like sanitation in the village, plantation in the premises of primary and middle schools.

RAWE/RHWE AT A GLANCE

S.No.	Particular	Gwalior	Sehore
1.	**No. of student**	Boys 29 + Girls 17 **Total 46**	Boys 37 +Girls 14 **Total 51**
2.	**Adopted villages/ KVKs**	KVK, Shipuri:- Rator KVK, Aron:- Araskheda KVK, Seopur: - Indrapura, Lalitpura and Galmanya	➢ Shajapur KVK Girls students- 14 ➢ Rajgarh KVK -15 ➢ Ichhawar KVK - 22 ➢ Village-7 Total Farmer- 255
3.	**Technologies Dessimenated**	➢ Hybrid Verities of vegetable crops ➢ Water conservation Technology ➢ Seed treatment in Kharif and rabi crops ➢ Spacing, ➢ Plant protection in soybean, ground nut, pigeon pea. and mustard ➢ Soil sampling, ➢ Application of Micro-nutrients Management Practices of animal husbandry	➢ Soil testing ➢ Conduction of PRA ➢ Use of improved seed ➢ Seed treatment of different crops. ➢ Ridge Bed and ridge furrow method of sowing ➢ Soil and water management practices ➢ Increase the use of organic manures. ➢ Different irrigation techniques ➢ Water Harvesting. ➢ Biogas plant ➢ Proposed improved cultural practices for Agricultural crops, vegetables and fruit crops. ➢ Mushroom production. ➢ Method and Result Demonstration of different agri.practices ➢ Tree plantation. ➢ Cleaning of village. ➢ Participation in Blood Donation Camp, Health Care Camp& Animal care Camp. ➢ Cleaning of Drinking Water ➢ Participation in Adult Education programme. ➢ Giving Information about the cleanliness of Teeth, Cloths & Hand. ➢ Establishing a library in a village with the help of Sarpanch and young people of the village.

S.No.	Particular	Indore	Khandwa	Mandsaur
1.	**No. of student**	Boys 48 +Girls 34 **Total 82**	Boys 30 +Girls 18 **Total 48**	Boys 31 **+** Girls 20 **Total 51**
2.	**Adopted villages/KVKs**	-	KVK Badwani (16 Boys only) Villages- Balkuna-05 Lonsara-05 Kalibedi- 06 KVK Khargone (18 Girls only)Villages Piprata- 09 Baijapur- 09 KVK, Burhanpur (14 Boys only) Villages Umarda07 Nimandhar 07 Total Villages - 07 Total student- 48	Boys 31- KVK, Neemuch (Village-, Bhameshar, Ambikheda and Ramnagar) Girls 20– KVK, Ratlam (Village- Chipiya, Riyawan and Talidana
3.	**Technologies Dessimenated**	RAWE program, for 6 months the under the supervision of Program Coordinators of KVK's. Every student was allotted 1 host farmer in the adopted villages for his/ her learning experience in the field of crop production, crop protection and extension programs & other activities observed in village from time to time & sharing the experience through rapport building with their host farmers. The RAWE students observed the socio economic problems and agricultural problems, and also conducted farmer's group meeting, PRA activities, Krishak Sangoshthi to solve their problems and learnt from them. The following activities were performed by the RAWE students under the supervision of KVKs.	1. Drip irrigation system 2. Strategy for cost of cultivation 3. Application of PRA technique for the identification of agricultural livestock & poultry problem and planning 4. Nursery management 5. Fruit and vegetable preservation 6. Value addition of crops 7. INM 8. IPM 9. Sampling of soil for testing 10. Marketing strategies 11. Diversified farming practices Demonstration of improved varieties of Soybean, chilly, Banana, cotton etc.	1. During the Rural Horticultural Work Experience Programme students understood about rural conditions in relation to agriculture and allied sector like post harvest management, agriculture engineering, animal husbandry, poultry, Dairy etc. 2. Students learnt about cultivation practices of onion, garlic, soybean, moong, urd, cauliflower, cabbage, chilli, tomato, marigold, chrysanthemum, rose, brinjal, okra, beans, chandrasoor, fenugreek, cucumber, mango, guava, citrus and pomegranate etc. 3. Students learned about integrated nutrient management different horticultural crops. 4. They learned about raising nursery of different vegetables like tomatoes, chilies etc. 5. They learnt about different method of seed treatment in Garlic onion, wheat, coriander, methi, chandrasoor, soybean, moong, urd and other crops.

				6. Students learnt about drip irrigation and sprinkler system in Garlic, pomegranate, onion, citrus, ber etc. 7. They were trained to manage insect pest and disease in different crops like Marigold, rose, tube rose, okra, guava, grape, mango, garlic, onion cucumber, brinjal, tomato, cabbage, cauliflower, chilli, fenugreek and other crops. 8. Students got experience about harvesting and grading in different horticultural crops like cauliflower, cabbage, tomatoes, chillies, onion, garlic, bottle gourd and fenugreek etc. 9. Students developed skill for curing in onion and garlic crops. 10. They developed skill in budding, grafting and layering in different horticultural crops. 11. Students used sticky traps for management and control of insects in different crops. 12. They understand about use and importance of pheromone traps in fruits and vegetable crops. 13. They have developed communication skill to transfer available agricultural technologies among farmers community. 14. They have acquainted with on-going extension and rural development activities of state and central government. 15. They participated in different KVK activities to understand more about agriculture and its management.

GLIMPSES OF READY (RAWE/RHWE) PROGRAMME



Village attachment activities



Village attachment activities



Agro Industrial Attachment



RAWE Monitoring


REDMI NOTE 6 PRO
MI DUAL CAMERA


ग्रामीण उद्यमिता एवं जागरूकता
विकास योजना
(READY)
कृषि महाविद्यालय, इन्दौर
ग्राम - काँकरिया चाँद त.तरान


Krishi Bio-Products & Research Pvt. Ltd.
कृषि बायो प्रोडक्ट्स एण्ड रिसर्च प्रा.लि.
An ISO : 9001:2015, 14001:2015, 18001:2007 Certified Company | An Organically Approved Bio Products
Regd. Office : 10/83 Kibe Colony, Station Road, RAU, Indore Mob. No. 9926422222
Works : Pithampur Road, RAU, Indore (M.P.) Email ID : krishibio.indore@gmail.com


कृषि बायो प्रोडक्ट्स एण्ड रिसर्च प्रा.लि.


threshing of soybean


sowing of soybean crop


line sowing


harvested of soybean plot


कृषि विज्ञान केन्द्र, बड़वानी


AMMONIA

READY students (Boys) with Dean, COH, Mandsaur and Course instructors.

READY students (Girls) at KVK Ratlam during visit of with Dean, COH, Mandsaur and Course instructors

Students ready for collection of soil samples for soil nutrient analysis at K.V.K., Neemuch

Student collecting soil samples from adopted farmers field

Visit of scientist at KVK Neemuch

Eradication of parthenium by RHWE students at KVK Neemuch

Preparation of waste decomposer by students at KVK Neemuch

Student's field visit by KVK Ratlam staff

Students performing agriculture activities in farmers field

Student performing weeding at farmers field

READY students with course instructors and KVK staff at KVK Neemuch

Students participating in Jal shakti Abhiyan Krishi Mela at Alhed and Jawad (Neemuch)

READY students with school student at Bhameshar discussing about human nutrition

READY students with school student at Bhameshar discussing about human nutrition

Students visiting Masala mandi at Neemuch

Students performing garlic sowing at farmers field by garlic planter

READY students analysing soil Samples at KVK

Conduction of Krishak Sanghosthi by READY

Neemuch

Students at soil testing lab at KVK Neemuch

Stuents with the help of KVK, Neemuch.

READY student performing pruning in citrus at KVK, Neemuch

Spray Imidacloprid 17.8 % S.L. @ 0.4ml/l or Thiamethoxam 25WG @ 0.3 g/L or Diamethoate 30 % E.C. @ 1.5ml/L of water in Citrus crop to control blackfly.

Performing Swachchhata Pakhwada at KVK Neemuch

Students were familiar with nature of damage of leaf miner infestation in marigold crop at farmer's field.

Bronzing is due to the deficient levels of Nitrogen, Phosphorous and Zinc,As Nitrogen and Phosphorous supplied by 19:19:19, $ZnSO_4$ is Sprayed as micronutrient spray

Inspection of unfruitfullness in Soybean at farmers field by READY students

READY students visited Betelwine farm under protected cultivation at Maru's farm at Manasa

Control aphid by spray Beauveria Bassiana 1.15 % WP @ 5g /L or Imidacloprid 17.8 % S.L.SP @ 0.4ml/l or Thiamethoxam 25WG @ 0.3 g/l of water in mustard crop.

Chilli plant infested by white fly and farmers were advised to control by spray of Acetamiprid 20% SP @ 0.3g/l or Diafenthiuron 50 % WP @ 1.2 g/ L of water

READY students visited goat farm to undertsnad about goat

Ready students performing sorting and packaging of grlic at farmers field

Student learning about treatment of garlic cloves with ready mix of Carbendazim 12% + Mancozeb 63% WP @ 3g/kg seed at farmer's field.

Student learning about grading in Garlic

READY Students learning about estimation of fat content in milk samples at milk collection unit

READY students at krishak sangoshti at Bhamesar

NATIONAL AGRICULTURAL HIGHER EDUCATION PROJECT (NAHEP)

RAJMATA VIJAYARAJE SCINDIA KRISHI VISHWAVIDYALAYA

List of Deliverables for Holistic Development of Students and FacultiesYear-2019

In Online Mode

SN	Topic	Date
1.	Employment Generation among Rural Youth through Agripreneurship	30 July 2019
2.	e-Extension	03 December 2019
3.	Design Thinking for Agricultural Implements	17 December 2019

Indian Council of Agricultural Research

PORFORMA FOR SUBMISSION OF QUARTERLY /YEARLY REPORT UNDER DEVELOPMENT ACTION PLAN FOR SCHEDULED CAST (DAPSC)/SC SUB-PLAN

Financial Year 2019-20

COLLEGE WISE REPORT

A- College of Agriculture, Gwalior

1. **Name of the Agriculture University-** RVSKVV, Gwalior
2. **Title of the Project-** "Scheduled Caste- Sub Plan (SC-SP), Development Grant"
3. **Nodal Officer of the Programme –** Dr. V.B. Singh
4. **Name of the co-ordinators –** Dr. Rajni Singh Sasode

Name of the Co-ordinators	Designation	Email	Mobile Number
Dr. V.B. Singh, Nodal Officer	Professor	ssvb_vbs@yahoo.co.in	9926689741
Dr. Rajni Singh Sasode	Scientist	rnikumujjain@gmail.com	9425306020

5. Location of the work:

S.No.	State	District	CD Block	Villages	% SC Population
1	MP	Gwalior	Morar	Kargawa	99.34%
2	MP	Gwalior	Morar	Virampura	34.16%
3	MP	Gwalior	Morar	Siroli	79.3%
4	MP	Gwalior	Morar	Gowai	41.6%
5	MP	Gwalior	Morar	Ganpatpura	53.2%
6	MP	Gwalior	Morar	Chandrapura	47.56%

6. Target Beneficiaries (Please give Details):

S.No.	Date	District	CD Block	Villages (Number)	Families (Number)	Individuals (Number)
1.	02.03.2021	Gwalior	Morar	Kargawa		
		Gwalior	Morar	Virampura		93
		Gwalior	Morar	Siroli		109
2.	03.03.2021	Gwalior	Morar	Kargawa		102
		Gwalior	Morar	Virampura		80
		Gwalior	Morar	Siroli		135
3.	04.03.2021	Gwalior	Morar	Kargawa		109
		Gwalior	Morar	Virampura		93
		Gwalior	Morar	Siroli		106
4.	05.03.2021	Gwalior	Morar	Kargawa		139
		Gwalior	Morar	Virampura		110

		Gwalior	Morar	Siroli		129
5.	23.03.2021 to 25.03.2021	Gwalior	Morar	Gowai		463
		Gwalior	Morar	Ganpatpura		524
		Gwalior	Morar	Chandrapura		483

7. Achievement for the years 2019-20

S. No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
1	**Trainings (Capacity building/ Skill Develop . etc.)**	No.													
1.1	1-3 days	No.													
1.2	4-5 days	01	Personality development & Soft Skills (Online) 02-06/02/2021				01	01					45	45	30,000/-
	4-5 days	01	Training & Capacity building programme on "Leadership skill" (Offline) 19-25/03/3021				01	01					123	123	2,00,000/-
	4-5 days	01	Training & Capacity building programme on "Life skills" (Online) 20-25/03/2021				01	01					70	70	
1.3	2-4 weeks	No.													
1.4	More than 4 weeks	No.													
2	**On Fram Trial (OFTs)**	No.													
3	**Front line Demonstration (FLDSs and other**	No.													
4	**Awareness camp, exposure visit etc**	03	Swachta awareness camp (2019-20)				03	03							16,776/-

		06	Swachta awareness camp (2020-21)				06	06					2735	2735	1,10,000/-
		06	Nutrition awareness camp (2020-21)				06	06							
		06	Health awareness camp (2020-21)				06	06							
		03	Literacy awareness camp (2020-21)				03	03							
5	**Services/ Facilitation**														
5.1	Animal health Camps	No.													
5.2	Artificial inseminati on/ vaccinatio n	No.													
5.3	Veterinary services (Hosp-italization)	No.													
5.4	Testing sample of soil ,plant, water feed, fodder	No.													
5.5	Promotion of agri-entrepren -eurship	No.													
5.6	Promotion of IFS, IOFS, natural farming, nutria garden.	No.													
5.7	Creation market links of farm produces	No.													
5.8	Use of Institute facilities (Processin g etc.)	hours													
5.9	Subside/ Assistance	No.													
6	**Distributi on of literature**	No.													

7	**Employment generation for livelihood**	manmonths													
8	**Fellowship, Stipend or Scholarship**	No.													
9	**Area oriented R&D Activity**	Projects													
10	**Monitoring & Evaluation of DAPSC/ST (up to 3%)**														
11	**Any other (Specify) Tutorials for SC Students**	01	Tutorial Classes for SC students for higher studies by inviting eminent experts in the field of higher studies for preparing students for national/international competitions 2-26 March 2021				01 (94 lecture)	01 (94 lecture)					60	60	1,50,458/-
		01	Entrepreneurship Development Programme for SC beneficiaries 2-26 March, 2021												99,942/-
							01 (58 lecture)	01 (58 lecture)					60	60	

8. Direct Quantifiable benefits to SC Population: ***(250 words only)***

Human resource development for upliftment and awareness in Sc-clusters is organized by College of Agriculture, Gwalior team in six villages of Morar block. In Kargawa, Virampura and Siroli villages three awareness programmes in each village on Swachta, Health and nutrition were conducted. In Gowai, Ganpatpura and Chandrapura village's four awareness programmes in each village on Swachta, Health, nutrition and literacy were conducted. Approximately 830 beneficiaries get benefited by these awareness programmes.

The online training of entrepreneurship development programme with NET/JRF/SRF classes for the preparation of competitive examinations for SC students under **Human Resource Development** programme on social issues under *SC- Sub Plan* was started on 26th February 2021 at College of Agriculture, RVSKVV, Gwalior. In this programme parallel classes of entrepreneurship development programme and tutorial classes (NET/JRF/SRF) were organized by inviting eminent

experts from all over India. For entrepreneurship development programme total 58 individual lectures were conducted by the 24 eminent experts. In this programme different topics *i.e*. organic farming, mushroom cultivation, goat and poultry management, seed production technology, fodder management and weed management were covered by the experts**.** Two training programmes were also conducted by EDII, Bhopal with the topics "*Entrepreneurship as a Career Option*" and "*Agro based Entrepreneurial Opportunities*". For tutorial classes total 94 lectures were delivered by the 46 experts from different parts of India for preparing students for national and international competitions. The programme was ended on 26th March, 2021 and approximately 45-60 students per day were attended the classes and get benefited by these awareness programmes.

9. Inbuilt mechanism/surveillance system to ensure proper utilization of funds:

10. Previous work done, if any

11. Infrastructure Developed : (Location)

12. Success story/Impact/entrepreneurs, if any

A. Civil work/Other facilities /List of Tools/Equipment's/Machinery:

S No.	Type of work	Location	Justification	Present Status	Cost
Nil	Nil	Nil	Nil	Nil	Nil

13. Budget received (during financial year only)

Capital (Non-Recurring)/Revenue

S No.	Name of the Item	Location	Number of units	Rate per unit	Amount (Rs. in lakhs)
	Nil	Nil	Nil	Nil	Nil
Total					**Nil**

Revenue (Recurring)

S No.	Name of the Item	Location	Number of units	Rate per unit	Amount (Rs. in lakhs)
1	Scheduled caste sub plan (SC-SP)	SC Villages of Gwalior District			1.27
2	Capacity building programme	For SC students			2.30
3	Entrepreneurship programme	For SC students			0.99
4	Tutorial classes	For SC students			1.51
Total					**6.07**

Grand total (Capital+ Revenue)= (0+6.07)
In words (Rs in lakh)= Six lack seven thousand
In figures (Rs in lakh)= 6.07

14. Remarks, if any:

B- College of Agriculture, Indore

1. **Name of the Agriculture University: College of Agriculture, RVSKVV, Gwalior**
2. **Title of the Project: Scheduled Cast (DAPSC)/SC SP**
3. **Name of the co-ordinators:**

Name of the Co-ordinators	Designation	Email	Mobile Number
Dr. G.R. Ambawatia	Professor (Pl. Physiology)	ambavatia01 @gmail.com	9425940256
Dr. N.K. Gupta	Professor (Horticulture)	Dr_nkgupta @yahoo.com	9893098430
Dr. H.L. Khapediya	Assist. Prof. (Pl. Physiology)	hkhapediya @gmail.com	9009711172
Dr. R.K. Singh	Scientist (Plant pathology)	rakesh0429 @gmail.com	9340368837

4. **Location of the work:**

S.No.	State	District	CD Block	% SC Population
1	Madhya Pradesh	Indore	-	-
2.	Madhya Pradesh	Indore	-	-
3.	Madhya Pradesh	Indore	-	-

5. **Target Beneficiaries (Please give Details)**

S.No.	District	CD Block	Villages (Number)	Families (Number)	Individuals (Number)
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

6. **Achievements for the year**

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
1	**Trainings (Capacity building/ Skill Develop . etc.)**	No.													
1.1	1-3 days	No.	-	-	-	-	-	-	-	-	-	-	-	35	66500.00
		No.	-	-	-	-	-	-	-	-	-	-	-	30	97350.00
		No.	-	-	-	-	-	-	-	-	-	-	-	35	49875.00
1.2	4-5 days	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
1.3	2-4 weeks	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4	More than 4 weeks	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
2	**On Fram Trial (OFTs)**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
3	**Front line**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
	Demonstration (FLDSs and other														
4	**Awareness camp, exposure visit etc**		-	-	-	-	-	-	-	-	-	-	-	-	-
5	**Services/ Facilitation**		-	-	-	-	-	-	-	-	-	-	-	-	-
5.1	Animal health Camps	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.2	Artificial insemination / vaccination	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.3	Veterinary services (Hospitalization)	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.4	Testing sample of soil ,plant, water feed, fodder	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.5	Promotion of agri-entrepreneurship	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6	Promotion of IFS, IOFS, natural farming, nutria garden.	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7	Creation market links of farm produces	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.8	Use of Institute facilities (Processing etc.)	hours	-	-	-	-	-	-	-	-	-	-	-	-	-
5.9	Subside/ Assistance	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
6	**Distribution of literature**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
7	**Employment generation for livelihood**	manmonths	-	-	-	-	-	-	-	-	-	-	-	-	-
8	**Fellowship, Stipend or Scholarship**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
9	**Area oriented R&D Activity**	Projects	-	-	-	-	-	-	-	-	-	-	-	-	-
10	**Monitoring & Evaluation of DAPSC/ST (up to 3%)**		-	-	-	-	-	-	-	-	-	-	-	-	-

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
11	Any other (Specify) Tutorials for SC Students		-	-	-	-	-	-	-	-	-	-	-	-	-

7. **Direct Quantifiable benefits to SC Population: (250 words only)**
8. **Inbuilt mechanism/surveillance system to ensure proper utilization of funds: -**
9. **Previous work done, if any**
10. **Infrastructure Developed : (Location) -**
11. **Success story/Impact/entrepreneurs, if any**
12. **Budget received (during financial year only)**
13. **Capital (Non-recurring)/Revenue-**Revenue (Recurring) Rs.6,96,070.00/-

S.No.	Bill No.	Name of the Items	Location	Name of the Units	Rate Per Unit	Amount (Rs.In Lakhs)
1	1177	PH.Tester	Indore	1 PC	4650	4650
					GST	837
		Total				**5487**
2	1374	1/2 PVC fruit vall	Indore	4	60	240
3		1/2*1'' Brass Nipple	Indore	6	70	420
4		1'' CI Cap plug	Indore	5	15	75
5		1'' CI plug	Indore	5	12	60
6		1/2''CI Cp Taper Cock	Indore	14	120	1680
7		3/4*1/2'' CPVC Brass Elbow	Indore	12	35	420
8		3/4'' CPVC Elbow	Indore	12	10	120
9		1/2'' Brass Angle cock	Indore	4	85	340
10		Tafflon Tape	Indore	15	15	60
11		118 ML CPVC Solvent	Indore	1	60	60
					GST	625
		Total				**4100**
12	1465	36 W.Tube Rod	Indore	30	36	1080
					GST	194
						1274
13		18 W. Led Panel	Indore	7	312.5	2187.5
					GST	262.5
						2450
		Total				**3724**
14	1623	Battery (MP09V3278)	Indore	1	5883	5883
		Total				**5883**
15	1885	Fire Extinguisher 2 Kg		6	2803	16818
					GST	3027
		Total				**19845**
16	1906	A4 Size paper	Indore	20	172	3440

17		A4 Size paper 75 GSM	Indore	20	194	3880
18		Ruler Paper	Indore	10	350	3500
19		Envelops	Indore	500	0.65	325
20		**Total**				**11145**
21	1961	Honorarium to Resource person	Indore	13 Lecture	500/-per Lecture	6500
22		_POL	Indore	2LT	80/-	160
23		Banners	Indore	2	430/-	430
24					GST	78
25						508
26		**Total**				**7168**
27	1985	Library Books	Indore	401	0	200000
		Total				**200000**
28	1987	Paracip 650Mg	Indore	150	11.5	1725
29		Pantosec -D tab	Indore	20	42	840
					GST	308
						2873
30		Sneczy tab	Indore	30	15	450
31		Eldeflox	Indore	20	38	760
32		rexlyte	Indore	50	5.2	260
33		livozel-tab	Indore	50	6	300
34		Freelax tab	Indore	30	6.2	186
35		Onvin Md	Indore	20	19	380
36		TT.Inj.0.5 ML	Indore	30	10.29	240
					GST	309
		Total				2885
37		Alcof Syp 60 ml	Indore	30	28	840
38		Alcof Syp 100 ml	Indore	30	48	1440
39		Cotton 400 Gms	Indore	2	140	280
					GST	307
						2867
40		Bandaz Do2*2	Indore	5	30	150
41		Bandaz Do2*3	Indore	5	78	390
42				2	72	144
43				30	24	720
44				10	44	440
45				150	4.5	675
					GST	302
		Total				2821
46		BP Instrument	Indore	1	1390	1390
47		Gluco one test meter	Indore	1	682	682
					GST	249
						2321
48		Care Pore tape 2''	Indore	6	62	372
49		Care Pore tape 3''	Indore	6	68	408

					GST	94
		Total				874
50		Flat tharmameter	Indore	5	110	550
51		Stetoscope	Indore	2	600	1200
52		Syringe Needle 3 ML	Indore	300	3	900
					GST	318
		Total				2968
53		Ronmox500 Mg	Indore	15	23.3	350
						42
					GST	392
						392
		Total				**18001**
54	1995	Mixer Bajaj	Indore	1	2850	2850
55		Gas Burner	Indore	1	3350	3350
56		tapela	Indore	1	2300	2300
57		steel thali	Indore	50	160	8000
58		jhara	Indore	1	290	290
59		palta	Indore	1	280	280
60			Indore	2	240	480
61		tawa	Indore	1	250	250
		Total				**17800**
62	1998	Ricoh Toner	Indore	2	4557	9114
		Total				**9114**
63	2002	MDP Conducted Capacity of	Indore			97350
64		Building Training				
		Total				**97350**
65	2003	Food Processing & Agro Processing	Indore	35	1500	52500
66		Training Program			5% Discount	2625
		Total				**49875**
67	2004	FSSAI Food Safty Cert.Training	Indore	35	2000	70000
					5% Discount	3500
		Total				**66500**
68	2007	Quick Heal Security	Indore	1	10623	10623
		Total				**10623**
69	1375	Termite Spray	Indore	2	178	356
					GST	64
						420
70		Termite Spray	Indore			4035
		Total				**4455**
71	1539	Ground Rolling	Indore			3000
72		Printing Of Dress	Indore	33	35	1155
73		Medicines	Indore			112
74		Fare	Indore	34	500	17000
75		Fare	Indore	34	500	17000
76		Hon.to trainer	Indore			3000
77		oinment gel	Indore	2	199	398
78		Glucon d	Indore	1	39	39
79		Glucon d Powder	Indore	1	28	28
80		Glucon d Powder	Indore	1	80	80

						545
81		Refreshment for players	Gwalior			6755
82		DA	Gwalior			39600
83		Shoes for players	Indore	20	700	14000
84		Room rent GH	Gwalior	2 days	500	1000
85		Room rent GH	Gwalior	2 days	500	1000
86		Room rent GH	Gwalior	2 days	500	1000
87		fare	Gwalior			1500
88		refreshment +DA for 3 students	Gwalior	3	300	900
89		fare	Bhopl			720
90		refund in dean a/c	Indore			6713
		Total				**115000**
91	1860	Nashta	Indore			4400
92		Data recovery Installation	Indore			1250
93		Bhojan Prasadi	Indore	40	60	2400
94		Bhojan Prasadi	Indore	40	60	2400
95		Bhojan Prasadi	Indore	40	60	2400
96		Bhojan Prasadi	Indore	40	60	2400
97		Bhojan Prasadi	Indore	40	60	2400
					GST	600
		Total				12600
98		Photo Album	Indore	80	200	16000
			Indore	1	2000	2000
						18000
99		Letter Pad	Indore	75	32	2400
100		Cello pen	Indore	75	9.5	713
101		Folder button bag	Indore	75	24	1800
		Total				4913
102		Photocopy Paper A4 Size	Indore	15	194	2910
103		Legal paper	Indore	10	260	2600
104		acrylic colour	Indore	4	180	720
105		Brush round	Indore	3	120	360
106		Sheet mix colour	Indore	30	5	150
		Total				6740
107		Panchar				97
108		Fule		29.23	68.4	2000
		Total				**50000**
		G.Total				**696070**

Grand total (Capital+Revenue) = 6, 96,070/-
In words (Rs. in lakh) =Six Lakh Ninety Six Thousand Seventy Only/-
In figures (Rs. in lakh) =6, 96,070/-

14. Remarks, if any:

(C) B.M. College of Agriculture, Khandwa

1. Title of the Project- SC Sub plan

2. Name of the co-ordinators- Dr S.K. Arsia

Name of the Co-ordinators	Designation	Email	Mobile Number
Dr S.K. Arsia	Asstt. Professor.	path030@rediffmail.com	9425851509

3. Location of the work:

Year	State	District	CD Block	% SC Population
2019-20	Madhya Pradesh	Khandwa	Cheagoan Makhan	85%

4. Target Beneficiaries (Please give Details)

S.No.	District	CD Block	Villages (Number)	Families (Number)	Individuals (Number)
1	Khandwa (2019-20)	Cheagoan Makhan 3 days	Dhabi Gram Panchayat	70	450 villager 150 students
2	Khandwa (2020-21)	Khandwa 3 days	Malgoan Bamangoan Tigariya	85	575 Villagers
3	2021-22	-	-	-	-
4	2022-23	-	-	-	-
5	2023-24	-	-	-	-

5. Achievements for the year (2019-20)

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
1	**Trainings (Capacity building/ Skill Develop. etc.)**	No.	-	-	-	-	-	-	-	-		-	-	-	-
1.1	1-3 days	No.	-	-	-	-	-	-	-	-		-	-	-	-
1.2	4-5 days	No.	-	-	-	-	-	-	-	-		-	-	-	-
1.4	More than 4 weeks	No.	-	-	-	-	-	-	-	-		-	-	-	-
2	**On Farm Trial (OFTs)**	No.	-	-	-	-	-	-	-	-		-	-	-	-
3	**Front line Demonstration (FLDSs and other**	No.	-	-	-	-	-	-	-	-		-	-	-	-
4	**Awareness camp, exposure Services/ Facilitation**	**3 units**	-	-	-	-	-	-	-	-	-	-	-	5000/	5000/
5	**Services/ Facilitation**	**02 Dustbin**	-	2					-	1200/				**1200**	1200

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
5.1	Animal health Camps	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.2	Artificial insemination/ vaccination	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.3	Veterinary services (Hospitalization)	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.4	Testing sample of soil ,plant, water feed, fodder	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.5	Promotion of agrientrepreneurship	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.6	Promotion of IFS, IOFS, natural farming, **nutria garden**.		-	-	-	-	-	-	-	-		-	-	-	-
5.7	Creation market links of farm produces	No.	-	-	-	-	-	-	-	-		-	-	-	-
5.8	Use of Institute facilities (Processing etc.)	hours	-	-	-	-	-	-	-	-		-	-	-	-
5.9	Subside/ Assistance	No.	-	-	-	-	-	-	-	-		-	-	-	-
6	**Distribution of literature**	No.	-	-	-	-	-	-	-	-		-	-	-	-
7	**Employment generation for livelihood**	**-**	-	-	-	-	-	-	-	-		-	-	-	-
8	**Fellowship, Stipend or Scholarship**	**No.**	-	-	-	-	-	-	-	-		-	-	-	-
9	**Area oriented R&D Activity**	**Projects**	-	-	-	-	-	-	-	-		-	-	-	-
10	**Monitoring & Evaluation of DAPSC/ST (up to 3%)**	**-**	-	-	-	-	-	-	-	-		-	-	-	-
11	**Any other (Specify) Tutorials for**			45	40	42	45			45	40	42	45	172	

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
	SC Students														

6. **Direct Quantifiable benefits to SC Population :** The main objective of the scheme is to increase the income of the target population by way of various income generating schemes, skill development and infrastructure development. This scheme will also help to reduce the poverty among the target population and bring them above the poverty lines and enhance their livelihood.
7. **Inbuilt mechanism/surveillance system to ensure proper utilization of funds:** NA
8. **Previous work done, if any-** NA
9. **Infrastructure Developed : (Location)** Nil
10. **Success story/Impact/entrepreneurs**, if any
11. **Civil work/Other facilities /List of Tools/Equipment's/Machinery:**

S No.	Type of work	Location	Justification	Present Status	Cost
-	-	-	-	-	-

12. **Budget received (during financial year only) Capital (Non-recurring)/Revenue**

S No.	Name of the Item/events	Location	Number of units	Rate per unit	Amount (Rs. in lakhs)
1	(2019-20) - HRD, Classes, Entrepreneurship, PD & capacity building etc	Khandwa	3+ 1	-	13.41 lakh
2	(2020-21) - Swatchata, Nutrition awareness& Health Awareness.	Khandwa	3+1	-	7 Lakh
				Total	20.41 Lakh

Revenue (Recurring)

S No.	Name of the Item	Location	Number of units	Rate per unit	Amount (Rs. in lakhs)
-	-	-	-	-	-

Grand total (Capital + Revenue) = 20.41 Lakh
In words (Rs in lakh) = Twenty Lakh & Forty one thousand only
In figures (Rs in lakh) = 20.41 Lakh

13. **Remarks, if any:**

(C) KNK, College of Horticulture, Mandsaur

1. **Name of the Agriculture University:- RVSKVV, Gwalior (MP)**
2. **Title of the Project:- SC-SP Sub Plan**
3. **Name of the co-ordinators**

Name of the Co-ordinators	Designation	Email	Mobile Number
Dr. I. S. Tomar	Dean	dean.mandsaur@rvskvv.net	8989910003

4. **Location of the work: KNK College of Horticulture, Mandsaur (MP)**

S.No.	State	District	CD Block	% SC Population
1	Madhya Pradesh	Mandsaur	Mandsaur	18.6

5. **Target Beneficiaries (Please give Details)**

S.No.	District	CD Block	Villages (Number)	Families (Number)	Individuals (Number)
1	Mandsaur	Mandsaur	50	685	825

6. **Achievements for the year 2019-20**

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
1	**Trainings (Capacity building/ Skill Develop . etc.)**	No.													
1.1	1-3 days	12	825				12	12	825				825	825	260000
1.2	4-5 days	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
1.3	2-4 weeks	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4	More than 4 weeks	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
2	**On Fram Trial (OFTs)**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
3	**Front line Demonstration (FLDSs and other**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
4	**Awareness camp, exposure visit etc**	03	360				Yes	1	1				30	30	260000
5	**Services/ Facilitation**	No	-	-	-	-	-	-	-	-	-	-	-	-	-
5.1	Animal health	No.	-	-	-	-	-	-	-	-	-	-	-	-	-

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
	Camps														
5.2	Artificial inseminatio n/ vaccination	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.3	Veterinary services (Hospitaliza tion)	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.4	Testing sample of soil ,plant, water feed, fodder	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.5	Promotion of agri-entrepreneu rship	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6	Promotion of IFS, IOFS, natural farming, nutria garden.	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7	Creation market links of farm produces	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
5.8	Use of Institute facilities (Processing etc.)	hours	-	-	-	-	-	-	-	-	-	-	-	-	-
5.9	Subside/ Assistance	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
6	**Distributio n of literature**		-	-	-	-	-	-	-	-	-	-	-	-	-
7	**Employme nt generation for livelihood**	manmo nths	-	-	-	-	-	-	-	-	-	-	-	-	-
8	**Fellowship, Stipend or Scholarshi p**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
9	**Area oriented R&D**	Projects	-	-	-	-	-	-	-	-	-	-	-	-	-

S.No.	Items/Activities	Units	Annual Targets	Quantity					Annual Targets	No. of Beneficiary					Budget (In lakh)
				Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total	
	Activity														
10	**Monitoring & Evaluation of DAPSC/ST (up to 3%)**	No.	-	-	-	-	-	-	-	-	-	-	-	-	-
11	**Any other (Specify) Tutorials for SC Students**						Yes	91	91				91	91	120000

7. **Direct Quantifiable benefits to SC Population: (250 words only)**
8. **Inbuilt mechanism/surveillance system to ensure proper utilization of funds: Filled by VV**
9. **Previous work done, if any NIL**
10. **Infrastructure Developed : (Location):- NIL**
11. **Success story/Impact/entrepreneurs, if any :- NIL**

Revenue (Recurring)

S No.	Name of the Item	Location	Number of units	Rate per unit	Amount (Rs. in lakhs)
	N/A				2998850
	N/A				
	N/A			Total	2998850

Grand total (Capital+Revenue)
In words (Rs in lakh)=
In figures (Rs in lakh)=

- Remarks, if any:

2.8 Thesis Submitted:

2.8.1 M.Sc. (Agriculture/Horticulture): 190 Students submitted Thesis for Post Graduate degree programme in Agriculture discipline and 73 students for Horticulture degree programme.

2.8.2 Ph.D. thesis submitted to Director Instruction for evaluation: 18 student's submiteed Thesis for Ph.D. Agriculture / Horticulture degree programme.

2.9 Academic Excellence:

2.9.1 Student Performance in ICAR-JRF/SRF examination and other Scholarship/Stipends:

S. No.	Name of Fellowship/Scholarship	No. of Students 2019-20
1.	Junior Research fellowship received	**02**
2.	JRF qualified and admitted in different Universities of India without fellowship	**-**
3.	SRF Qualified without fellowship	**-**
4.	NET	**03**
5.	National Talent Scholarship	**29**
6.	Scholarship of Vikramaditya Yojna	**-**
7.	Scholarship of Gaon Ki Beti Yojna	**-**
8.	Dr. Shyamaprasad Mukharji Scholarship	**27**
	Medhavi Sambal Yojna	**37**
9.	Mukhyamantri Medhavi Vidyarthi Yojana	**05**
10	Post Metric Scholarship	**594**
	State Government Scholarship	
	(i) OBC	**356**
	(ii) SC	**153**
	(iii) ST	**85**

3. STUDENTS WELFARE ACTIVITIES:

3.1 National Service Scheme (NSS):

S. No.	Activity(s)	No. of Volunteers Participated
1	No. of students enrolled	376
2	No. of students passed/cleared ***'B' certificate examination***	17
3	No. of students passed/cleared ***'C' certificate examination***	01
4	NSS day celebration/Camp	110
5	Blood donation camp	149
6	Pulse polio camp	18

7	AIDs awareness day	151
8	Beti Bachao Abhiyan	85
9	Malnutrition day	28
10	Parthenium eradication day	03
11	Special camp	33
12	Voter ID awareness camp	03
13	State level camp	02
14	Unit camp	106
15	Rastriya Yuva Day	65
16	Sensitization day	25
17	Environment day	150
18	Plantation day	190
19	International Woman's Day	-
20	Awareness Programme	-
21	Pre. RD Camp	-

GLIMPSES OF NSS ACTIVITIES


राष्ट्रीय सेवा योजना
डिजिटल बैंकिंग
घर–घर लाओ बैंक
Digital India
कृषि महाविद्यालय,इन्दौर (म.प्र.)


राष्ट्रीय सेवा योजना
(NSS)
"समाज सेवा के माध्यम से व्यक्तित्व विकास"
राष्ट्रीय सेवा योजना
वृक्षारोपण कार्यक्रम

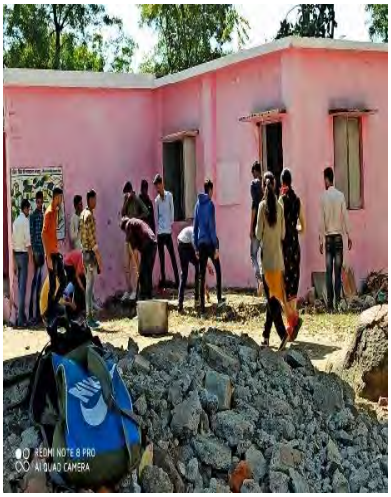

राष्ट्रीय सेवा योजना


राष्ट्रीय सेवा योजना
पल्स पोलियो अभियान
एवं टीकाकरण
आर. ए. कृषि महाविद्यालय, सीहोर


राष्ट्रीय सेवा योजना
Be a Hero
Donate Blood


रेड रिबिन क्लब
NACO
(एड्स रोको जागरूकता अभियान)
राष्ट्रीय सेवा योजना

Mornig rally by students



Cleanliness by students

Mornig rally by students

Mornig rally by students

Mornig rally by students

Mornig rally by students

Students interaction with sarpanch

Students making NSS shape

Former NSS I/C Dr G. S. Chundavat addressed students on last day

Blood donation camp

Blood donation camp27/01/2020

Blood donation by students

RRC I/C Dr S B Singh with students

Girls for haemoglobin check-up

Scene out side the camp

Blood donation by student

Blood donation by student

Blood donation by student

Enthusiasm for blood donation

Girl student Pooja jatav donated blood

College staff Mr Prakash donated blood

3.2 National Cadet Corps (NCC):

S. No.	Activity(s)		Total Students
1.	No. of students enrolled		121
2.	Exam. passed	***'B' certificate***	60
		'C' certificate	28
3.	No. of cadets attended the CATC camp		60
4.	Army Attachment at Gwalior		-

Glimpses of NCC activities

3.3 Students Counseling and Placement:

S. No.	Name of employer / Organization	No. of students employed
1.	Central Govt.	11
2.	Government /public sector	29
3.	Private sector	33
4.	Self employed	03
Total		**76**

3.4 CULTURAL AND SPORTS ACTIVITIES:

3.4.1 CULTURAL ACTIVITIES

3.4.1.1 Cultural activity at University level: A festival of knowledge and Inter-Collegiate cultural competition was organized at College of Agriculture, Gwalior (January 9-11, 2020). Five constituent colleges of the Vishwa Vidyalaya *viz.* College of Agriculture, Gwalior, Indore, Sehore, Khandwa and College of Horticulture, Mandsaur participated enthusiastically in the competitions held under 18 categories of singing, dancing, fine arts and theatre.

"Youth Festival" Inter-Collegiate Cultural Competition- a meeting place for creative minds to discuss their ideas and allow for testing of their ideas in the face of intense competition, rigorous evaluations and a touch of the carnival. Winners of the competitions were awarded certificates, trophies in the intra-college events.

S.No.	Activity	Winner
1	One Act Play	College of Agriculture, Gwalior
2	Folk Dance	College of Agriculture, Gwalior
3	Skit	KNK, College of Horticulture, Mandsaur
4	Elocution	College of Agriculture, Gwalior/ KNK, College of Horticulture, Mandsaur
5	Patriotic Song	KNK, College of Horticulture, Mandsaur
6	Group Song	College of Agriculture, Gwalior
7	Rangoli Competition	RAK, College of Agriculture, Sehore
8	Mono Acting	College of Agriculture, Gwalior
9	Cartooning	College of Agriculture, Gwalior
10	Poster Making	BM, College of Agriculture, Khandwa
11	Debate (Against)	College of Agriculture, Gwalior/Indore/Khandwa & KNK, College of Horticulture, Mandsaur
12	Solo Song	RAK, College of Agriculture, Sehore
13	Extempore	College of Agriculture, Gwalior
14	Quiz Competition	BM, College of Agriculture, Khandwa
15	On spot Painting	College of Agriculture, Gwalior
16	Clay Modeling	College of Agriculture, Gwalior
17	Mime	College of Agriculture, Indore

PARTICIPATION OF STUDENTS IN NATIONAL EVENTS

//AGRIUNIFEST//

- 19th All India Inter Agricultural University Youth Festival was organized by Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, Dist: Banaskantha, Gujarat during 03rd to 07th February, 2019. Students (22) of this university actively participated in the events.

Glimpses of the opening and closing ceremony of 19th All India Inter Agricultural University Youth Festival at Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar

- Twenty Two Students (08 boys and 14 girls) of RVSKVV, Gwalior participated in 20th All India Inter Agricultural University Youth Festival organized at Indira Gandhi Krishi Vishwa vidyalaya, Raipur (Chhattisgarh) during 08 to 12 February, 2020 and received Silver Medal in Patriotic Song (Indian) and Fourth Position in Clay Modeling & Cartooning competitions.

Glimpses of the opening and closing ceremony of 20th All India Inter Agricultural University Youth Festival at Indira Gandhi Krishi Vishwa vidyalaya, Raipur (Chhattisgarh)

//Order//

To familiarize newly admitted students of UG/PG/Ph.D. programs, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, will conduct "Abhinandan: A Student Induction Programme" in all its constituent colleges. This program will commence seven to ten days before the start of the academic session. Participation of all newly admitted students, staff, and parents is mandatory. The aim of the program is to inspire new entrants to begin their academic journey confidently and comfortably, preparing them for their college life and beyond.

The detail of programme is appended below:

ABHINANDAN-2019

"Orientation: Empowering New Beginnings"

A STUDENT INDUCTION PROGRAMME

1.Title	**"Creating a Unified Campus Community: Fusing Ideas and Integrating Knowledge"**
2. Organization	
3. Nature of Project	Mentor-Mentee System under Various Clubs of OMAS project of the University
4. Theme	Guiding Freshers in UG and PG Programs: Building Confidence, Bonding, and Universal Values for Holistic Development
5. Duration	10 days prior to commencement of First Semester of newly admitted UG, PG and Ph.D. students of RVSKVV, Gwalior.

Goals

- Foster the holistic development of newly admitted students by playing a positive and catalytic role.

- Cultivate moral and ethical behavior, nurturing human values to empower students to contribute positively to society.
- Support learners in discovering and harnessing their creative potential and talents, while enhancing their physical and psychological strengths through active participation in co-curricular and extra-curricular activities.
- Instill a sense of social and environmental responsibility among students, promoting sustainable development perspectives and actions as integral to their lifestyles.
- Develop well-rounded citizens equipped with knowledge of constitutional rights and duties, fostering respect for linguistic, cultural, and gender diversity.

Motto:

1. Orient students on institutional profile, academic rules, regulations, and scholarship provisions.
2. Educate students about career prospects in agriculture and related fields.
3. Familiarize students with government plans, policies, and flagship programs.
4. Infuse universal human values to broaden students' life perspectives.
5. Promote regular lifestyle habits and professional discipline among students.
6. Develop students' skills and proficiency in extracurricular and co-curricular activities.
7. Provide platforms for formal and informal interactions among students, faculty, and seniors to enhance interpersonal relations.
8. Sensitize students through clubs like 'Club Sarthee', 'Equal Edge', and 'Club Harmony' on constitutional rights, duties, and respect for linguistic, cultural, and gender diversity.
9. Foster creativity, personality development, and soft skills through activities organized by clubs such as 'Learners' First', 'Shine and Divine', and 'Campus Collage' under Project OMAS.

Activity Schedule:

- Morning Yoga & Exercise: 6:00 AM - 7:30 AM

- Know Your University Session: 9:30 AM - 11:30 AM
- Personal Development Workshop: 11:30 AM - 1:00 PM
- Human Values Session: 2:30 PM - 4:00 PM
- Creative Arts Workshop: 4:00 PM - 5:30 PM
- Evening Sports Activities: 6:00 PM - 7:00 PM

Topics of Lectures to be conducted:

The constituent Colleges of the University are committed to providing students with comprehensive training in various life skills to promote holistic growth and development. This initiative aims to enrich their educational journey, making it dynamic, integrated, and multifaceted, thereby ensuring that graduates from RVSKVV are well-received across all sectors of society.

Deans of all Colleges are encouraged to invite experts from prestigious institutes or renowned freelance speakers to deliver lectures on the following topics:

- Building a Foundation: Core Principles of Quality Agricultural Education
- Gender Equity in Education: Achievements, Challenges and Strategies
- Introduction to Legal Literacy: Basic Concepts and Importance
- Understanding and Respecting Diversity: Celebrating Differences in Pluralistic Society
- Path to become an ideal Citizen : Rights, Responsibilities and Civic Duties
- Legal Framework: Anti-ragging Laws and Policies in Educational Institutions
- Career Development Strategies: Skills and Qualifications for Success in Agriculture Careers
- Introduction to Agricultural Entrepreneurship: Opportunities and Challenges
- Psychological Effects of Eve-Teasing: Impact on Victims and Society

- Health Benefits of Yoga and Pranayam: Enhancing Physical, Mental and Emotional Well-being
- Personality Development: Self Awareness: Self Confidence and Personal Growth
- Networking Skills: Building Professional Relationships and Connections
- Team Building and Collaboration: Leadership in Group Dynamics
- Human Attributes: Truth, Honour, Freedom and Courtesy
- *Swarvdharm Samrasta Sambhaw*
- Youth and Electoral Engagement: Empowering the next generation of voters

The list of lecture topics provided above is not exhaustive. Deans of the Colleges have the flexibility to choose related topics or relevant subtopics that they find suitable and beneficial for the students of their respective Colleges.

Day wise Activities of *"ABHINANDAN"*

Day – IInaugural session from 9:30-10:30					
6-7 AM	**10:30-11:30 AM**	**11:30 AM-1PM**	**2:30-4 PM**	**4-5:30 PM**	**6-7 PM**
	Know your University	**Shape yourself**	**Human Values**	**Creative Art**	**Sports Activity**
Yoga And Meditation	University + Campus Profile	Lecture on "Building a Foundation : Core Principles of Quality Agricultural Education"	Lecture on "Understanding and Respecting Diversity: Celebrating Differences in Pluralistic Society"	Creative Art: Rangoli and Clay Modelling	Warm Up, Introduction to Badminton Grip, lift and Service

Day – II					
Yoga And Meditation	Academic rules and regulations	Lecture on "Health Benefits of Yoga and Pranayam: Enhancing Physical, Mental and Emotional Well-being"	Lecture on "Psychological Effects of Eve-Teasing: Impact on Victims and Society"	Creative Art :Paper Craft	Warm Up, Introduction to Basketball Passes, dribbling,
Day – III					
Yoga And Meditation	Ragging : Curbing the menace Introduction and interaction with the anti ragging committee	Lecture on "Introduction to Legal Literacy: Basic Concepts and Importance"	Lecture on "Path to become an ideal Citizen : Rights, Responsibility and Civic Duties"	Creative Art:Collage Making	Warm Up, Introduction to Football Basic rules and regulations Passes and field positions
Day – IV					
Yoga And Meditation	Student amenities/facilities ➢ Placement Section ➢ Advisory system ➢ ARIS Cell ➢ Portal Information ➢ Smart Card ➢ Medical + Insurance Scholarship	Lecture on "Introduction to Agricultural Entrepreneurship : Opportunities and Challenges"	Lecture on "Personality Development : Self Awareness : Self Confidence and Personal Growth"	Creative Art: Poster Making And Cartoon Making	Warm Up, Introduction to Kho-Kho Endurance work, footwork attack
Day – V					
Yoga And Meditation	Sports and cultural activities of the College	Lecture on "Career Development Strategies: Skills and	Lecture on "Legal Framework: Anti-ragging Laws and	Creative Art : On The Spot Painting	Warm Up, Introduction to Volley ball, Hand Control, Passes, Service

		Qualifications for Success in Agriculture Careers"	Policies in Educational Institutions"		
Day – VI					
Yoga And Meditation	NCC/NSS activities of the College	Lecture on "Career Opportunity & guidance and prospects of agriculture & its allied Science"	Lecture on "Gender Equity in Education: Achievements Challenges and Strategies"	Performing Art : Theatre Mono Acting, One Act Play ,Skit	Warm Up, Introduction to Cricket and its rules
Day –VII					
Yoga And Meditation	Hostel and Hostel rules ➢ Introduction of warden	Lecture on "Networking Skills: Building Professional Relationships and Connections"	Lecture on "Human Values and Professional Ethics"	Performing Art: Solo Song, Group Song	Inter Class Cricket Match -I
Day – VIII					
Yoga And Meditation	OAMS* (Over All Mentoring of Students) and information of clubs	Lecture on" Team Building and Collaboration: Leadership in Group Dynamics"	Lecture on "Human Attributes: Truth, Honour, Freedom and Courtesy"	Creative Art: Pencil Shading, Calligraphy	Inter Class Cricket Match -II
Day – IX					
Yoga And Meditation	Introduction session of faculty with new entrants ➢ Name ➢ School passed ➢ % Obtained ➢ Hobby ➢ Achievement	Lecture on "Youth and Electoral Engagement: Empowering the next generation of voters"	Lecture on *"Swarvdharm Sambhaw"*	Performing Art: Solo Dance, Group Dance	Sports Activity: Athletics Basic information about track and field events

Day – X Concluding Day					
Yoga And Meditation	Concluding session: a. Welcome by the dean b. Feedback from the new students c. Prize Distribution d. Introduction and interaction with the senior students e. Prize distribution, Distribution of UG study material, rules and regulations of academics, hostels ragging etc.Course curriculum f. Address by the chief guest g. Vote of thanks	Film Show Lunch Party for All students, faculty and staff	-	-	-

GLIMPSES OF CULTURAL ACTIVITIES

Participants of 11th Inter Collegiate Youth Festival at Gwalior




III Year student Mr.Naveen Tiwari participating in 20th all India Inter Agricultural Universities Youth festivat at IGKVV, Raipur

3.2 SPORTS ACTIVITIES:

(1) College of Agriculture, Gwalior-The performance of the various teams is as under:

S. No.	Activity	Male		Female	
		Winner	Runner	Winner	Runner
1.	Badminton	-	-	-	✓
2.	Athletics	✓		✓	-
3.	T.T.	-	✓	-	✓
4.	Volley ball	✓	-	-	-
5.	Kabaddi	✓	-	-	-
6.	Kho-Kho	✓	-	-	-

(2) College of Agriculture, Indore- Indoor games – Held at B. M. College of Agriculture, Khandwa during 12-14 December 2019. The details of the performance of the teams as follows:

Activity	Male		Female	
Badminton	Mr. Sanjay Verma	**Runner**	KuNeha Patel	**Participated**
	Mr. Shyam Patidar		Ku. Swarnima Kaurav	
	Mr. Satyam Upadhyay		Ku. Soniya Chouhan	
	Mr. Lakhan Patel		Ku. Sanu Patel	
T. T.	Mr. Yashraj Solanki	**Participated**	Ku. Vineeta Patidar	**Participated**
	Mr. Madhusudan Popandiya		Ku. Samriddhi Udaywal	
	Mr. Jay Narayan Patel		Ku. Nikita Patidar	
	Mr. Krishna Patel		Ku. Deshie Choubey	
Carrom	Mr. Shubham Kumar Badvan	**Participated**	Ku. Sonu Suryavanshi	**Runner**
	Mr. Deepak Surage		Ku. Aayushi Solanki	
	Mr. Sikra Soliya		Ku. Tara Kanel	

Volley Ball		Kabaddi	
Mr. Sanjay Verma	**Participated**	Mr. Chandrashekhar Parmar	**Runner**
Mr. Nikhil Patil		Mr. Sanjay Verma	
Mr. Sumit Patel		Mr. Saurabh Louvanshi	
Mr. Pankaj Waskel		Mr. Ravindra Birla	
Mr. Shubham Sahu		Mr. Krishn Kant Patel	
Mr. Sattyam Upadhyay		Mr. Hukum Chandra Iyer	
Mr. Abhishek Malgaya		Mr. Durgesh Mujalde	
Mr. Yogesh Chandrawanshi		Mr. Manoj Yadav	
Mr. Vineet Vaibhav		Mr. Deepu Prajapati	
Mr. Ratnesh Singh Dhurve		Mr. Aman Shrivastav	
Mr. Ajay Chouhan		Mr. Ankit Parmar	
Mr. Lokendra Verma			
Kho-Kho			
Mr. Madhusudan Popandiya	**Participated**	Mr. Nitesh Chouhan	**Participated**
Mr. Amitesh Patil		Mr. Shantilal Bhamboriya	

Mr. Prakash Sisodiya		Mr. Vishal Ikwale	
Mr. Aniket Chouhan		Mr. Rohit Rawat	
Mr. Lakhan Patel		Mr. Swapnesh	
Mr. Chetan		Mr. Sandeep Tomar	

ATHLETICS - The Athletics events were held at College of Agriculture, Gwalior during 15-17 January 2020. The details of the performance of the teams as follows:

Activity	**Male**		**Female**	
100 m	Mr. Amitesh Patil	**S**	Ku. Reena Nigwal	**S**
200 m	Mr. Amitesh Patil	**S**	Ku. Kirti Gaur	**B**
400 m	Mr. Amitesh Patil	**G**	Ku. Reena Nigwal	**S**
800 m	-	**-**	Ku. Neha Patel	**S**
1500 m	-	**-**	Ku. Sangeeta Jamare	**B**
4 x 100 m	Mr. Amitesh Patil	**B**	Ku. Reena Nigwal	**B**
	Mr. Sumit Patel	**B**	Ku. Kirti Gaur	**B**
	Mr. Hukum Chandra Iyer	**B**	Ku. Tara Kanel	**B**
	Mr. Ajay Chouhan	**B**	Ku. Neha Patel	**B**
Shot-put	-	**-**	Ku. Deshie Choubey	**B**
Discuss	Mr. Hukum Chandra Iyer	**B**	Ku. Mahak Chaturvedi	**G**
Javelin	-	**-**	-	**-**
Long Jump	Mr. Vishal Ikwale	**S**	Ku. Reena Nigwal	**S**
High Jump	Mr. Hukumchand Iyer	**B**	Ku. Neha Patel	**B**
Total telley of Medals				
Gold		**1**		**1**
Silver		**3**		**4**
Bronze		**3**		**5**
		7		**10**

03 players from College of Agriculture, Indore were selected in RVSKVV, Team and participated in XX All India Agricultural University Sports and Games meet 2019-20. The meet was held at **Venkateswara Veteinary University, Tirupathi during 1st to 5th March 2020**. Ku. Mahak Chaturvedi Mr. Amitesh Patil Mr. Chandrashekhar Parmar

(3) RAK, College of Agriculture, Sehore- In this year Intercollegiate Sports & Games Meet 2019-20, held at College of Agriculture, Khandwa and College of Agriculture, Gwalior Badminton/ Table – Tannis/ Carrom (Men & Women), Vollyball & Kho-Kho (Man) were organized at College of Agriculture, Khandwa during 12 December - 14 December, 2019. Forty four players (Thirty four boys and ten Girls) were represented our college and Games of carrom (Boys) runner of the college team. Participant inthis game Mr. Hareesh Nayak, Shyam Lal Rawat, Ankit Malviya And Ujwal Kavreti Athletics (Men & Women) & Kabaddi (Men) were organized at

College of Agriculture , Gwalior during 15 to 17 January 2020. Twenty eight players (eighteen Boys and ten Girls) were represented our college.

(4) BM, College of Agriculture, Khandwa-College organized Inter Collegiate Indoor Games Under the title (***Spandan2019***) Viz, Badminton, Table tennis, Carom, Chess, and outdoor games namely Volley Ball and Kho-Kho Tournament of R.V.S.K.V.V, from 12-14 Dec 2019. College of Agriculture Khandwa was Winner in Carom (Boys and Girls Both), Table Tennis (Boys and Girls Both), and Badminton (Boys Section) and runner in Kho-Kho, Volleyball.

(5) KNK, College of Horticulture, Mandsaur-

S.No.	Activities	Winner		Runner	
		Male	Female	Male	Female
1.	Badminton-Single	-	Winner	-	-
2.	Badminton-Double		Winner	-	-
3.	Running 1500	Winner	-	-	-
4.	Running 800	-	-	Runner	-
5.	Long jump	-	-	Runner	-

PARTICIPATION OF STUDENTS IN NATIONAL EVENTS

Games & sports: Inter collegiate sports/cultural meets have served to link together the five colleges of the university paving the way for participation at national level. The students have participated in **Eleven** inter university **agriunisports** and **Ten youth festivals** during 2008 to 2020. The performance of students in various sports and cultural meets has been admired.

AGRIUNISPORTS

- Forty Three Students (30 boys and 13 girls) of RVSKVV, Gwalior participated in XIX All India Inter Agricultural University Sports and Games meet "AGRIUNISPORTS 2019" organized at Punjab Agricultural University, Ludhiana during 02nd to 05rh January, 2019 and their performance was appreciated by one and all.

Inaugural function of XIX All India Inter Agricultural University Sports
And Games Meet at Punjab Agricultural University, Ludhiana

- Forty Students (28 boys and 12 girls) of RVSKVV, Gwalior participated in XX All India Inter Agricultural University Sports and Games meet "AGRIUNISPORTS 2020" organized at Sri Venkateswara Veterinary University, Tirupati (A.P.) during 01st to 05rh March, 2020 and received **Gold Medal in High Jump.**

Inaugural function of XX All India Inter Agricultural University Sports
and Games Meet at Sri Venkateswara Veterinary University, Tirupati (A.P.)

GLIMPSES OF SPORTS ACTIVITIES


REDMI NOTE 8
AI QUAD CAMERA


REDMI NOTE 8
48MP QUAD CAMERA

5. RESEARCH HIGHLIGHTS:

The research network of the University spreads over six agro-climatic zones of Madhya Pradesh and covers 26 revenue districts. These agro-climatic zones are Gird, Malwa Plateau, Nimar Valley, Jhabua Hills, Vindhyan Plateau and Bundelkhand zones. Accordingly, five Zonal Agricultural Research stations, four Regional Agricultural Research Stations and five Special Research Stations have been operating to enhance the productivity and livelihood security of farming community. Presently, 27 All India Coordinated Research Projects on crop improvement, natural resource management and horticulture are running at different centers. Besides these, 7 plan, 12 non plan, 23 tribal sub plan, 5 Agromet Advisory services, 05 externally funded projects are the research strength of the University. The maintenance breeding of crop varieties and production of nucleus seed, breeder seed, hybrid seed and planting materials are managed with the help of twenty seven seed farms.

Research Stations of the University

S.No.	Particulars	No.	Location and Year of Establishment
1.	Zonal Agricultural Research Station	05	Indore (1924), Sehore (1952), Khargone (1964), Morena (1981) and Jhabua (1989)
2.	Regional Agricultural Research Station	04	Gwalior (1916), Khandwa (1964) Ujjain (1989) and Mandsaur (1964)
3.	Special Research Station	06	Enthkedi (1962), Jaora (1964), Bagwai (1964), Badwah (1969), Bhind (2010) and Sirsod (2011)

4.1 List of All India Coordinated Research Projects

S.No.	Name of Projects	Centre
1	AICRP on Water Management	Morena
2	AICRP on Groundnut	Gwalior
3	AICRP on Rapeseed & Mustard	Morena
4	AICRP on Safflower	Indore
5	AICRP on Soybean	Sehore
6	AICRP on Cotton Improvement Project	Khandwa
7	AICRP on Sorghum improvement	Indore
8	AICRP on Chickpea	Sehore
9	AICRP on Pigeonpea	Khargone
10	AICRP on Pearl Millets	Gwalior
11	AICRP on Wheat Improvement Project	Gwalior
12	AICRP on Dryland Agriculture	Indore
13	AICRP on Medicinal and Aromatic Plants	Mandsaur
14	AICRP on Salt Affected Soils	Indore
15	AICRP on Weed Control	Gwalior
16	AICRP on Arid Legumes (Guar)	Gwalior
17	AICRP on Pigeonpea (Sub Centre)	Sehore
18	AICRP on MULLaRP	Sehore
19	AICRP on Integrated Cropping System	Indore

20	AICRP on Fruits (Grape)	Mandsaur
21	AICRP on Chickpea	Indore
22	AICRP on Soybean	Morena
23	AICRP on Onion & Garlic	Mandsaur
24.	ICAR Seed Project on Seed Production in Agricultural Crops	Gwalior

4.2 Research Schemes (Non Plan)

S. No.	Name of Scheme/Project	Centre
1	Agriculture Research Lab & Institute	Indore
2	Regional Research Station	Indore
3	Soil Testing Scheme	Indore
4	Regional Research Station	Sehore
5	Regional Research Station	Gwalior
6	Regional Research Station	Bagwai
7	Intensification of Research on Mango Guava & Citrus	Gwalior
8	Soil Testing Scheme	Gwalior
9	Intensification of Research on Mango, Guava & Citrus	Enthkedi
10	Horticulture Research Scheme (Seed production)	Jaora
11	Sugarcane Research Scheme	Indore
12	Potato Aphid Research	Sehore

Seed Farms (Non Plan)

S. No.	Name of Scheme/Project	Centre
1	Agriculture Research Farm	Mandsaur
2	Agriculture Research Farm	Khargone
3	Agriculture Research Farm	Khandwa
4	Agriculture Research Farm	Bagwai
5	Agriculture Research Farm	Gwalior
6	Agriculture Research Farm	Ujjain
7	Agriculture Research Farm	Jaora
8	Agriculture Research Farm	Indore
9	Agriculture Research Farm	Sehore
10	Live Stock Farm	Gwalior
11	Live Stock Farm	Sehore
12	Live Stock Farm	Indore

4.3 Research Schemes (Plan)

S. No.	Name of Scheme/Project	Centre
1	Fodder Research Scheme	Gwalior
2	Strengthening of MP Agriculture Research Institute	Khargone
3	Productivity Improvement of crops under rainfed area	Indore
4	National Agricultural Research Project	Sehore
5	Director of Extension Education	Sehore
6	National Agricultural Research Project	Ujjain
7	College of Horticulture	Mandsaur

4.4 India Meteorological Department (GOI)

S. No.	Name of Scheme/Project	Centre
1	Agromet Advisory Services	Morena
2	Agromet Advisory Services	Khargone
3	Agromet Advisory Services	Jhabua
4	Agromet Advisory Services	Sehore
5	Agromet Advisory Services	Indore

4.5 Externally Funded Projects

S. No.	Title of the Project	Funding agency	Principal Investigator	Budget (Rs. in lakhs)
01	Survey study of Krishi Upaj Mandies (KUM) of Gwalior and Chambal Division of M.P. for identification of causes and control of their losses	Mandi Board	18.70	Dr S. C. Srivastva, Technical officer to DRS, Directorate of Research, RVSKVV, Gwalior
02	Evaluation of groundnut germplasm for folier disease persistence and fatty acid composition using Marker Assistant Selection Approaches	MPCOST	9.30	Dr Sushma Tiwari, Scientist Plant Breeding, CoA, Gwalior
03	Strengthening of seed infrastructure facilities at soybean breeder seed production centers	Indian Institute of Seed Science, ICAR, Mau	187.814	DRS
04	Establishment of Modal Nursery under RVSKVV, Gwalior at Krishi Vigyan Kendra, Gwalior & Neemach	FWAD, Bhopal	95.00	DRS SSH, KVK, Gwalior SSH, KVK, Neemach

05	Technology dissemination through Frontline demonstration plots MIDH	DSSD, Calicut	8.30	DES, RVSKVV, Gwalior
06	Project under Entrepreneurship Development Programme (EDP) on "Fruit and Vegetable Processing at Fruit Research Station, Entkhedi, Bhopal M.P."	National Research Development Corporation, New Delhi	3.00	Dr. Shalini Chakraborty, Scientist, Fruit Research Station, Entkhedi, Bhopal M.P.
07	Insecticide Resistance Management: Dissemination of pink bollworm management strategies	Central Institute for Cotton Research, Nagpur	10.00	Dr S. K. Parsai, Senior Scientist (Entomology), RVSKVV, CoA, Khandwa
8	Delivering more produce and income to farmers through enhancing genetic gains for chickpea and pigeonpea	DAC, New Delhi	27.02	Dr. M. Yasin, PS (PB), AICRP on Chickpea, CoA, Sehore
9	Validation and Promotion of Location specific Prioritized Component-wise IPM Package in Rapeseed-Mustard	NCIPM, New Delhi	6.00	Dr J. C. Gupta ZARS, Morena
10	Construction of Auditorium and Symposium Hall	Mandi Board	1189.61	DRS, RVSKVV, Gwalior
11	Establishment of gene bank at Biotechnolgy Centre RVSKVV, Gwalior	Mandi Board	925.00	Dr M.K.Tripathi, Principal Scientist College of Agriculture, Gwalior

4.6 Salient Research Achievements:

- **Release /Registered /Notified of New varieties**

  - **Raj Vijay Gram 210 [RVG 210]:** This variety was released by Madhya Pradesh State Seed Sub Committee for cultivation in Madhya Pradesh in its meeting held on June 03, 2019 at Mantralaya, Bhopal. It is an variety early maturing variety (109 days), bold seed size (26.7 g hundred seed weight), average yield potential 1805 kg/ha and resistant to *Fusarium* wilt. It have yellowish cream seed coat, extra bold seed size, round seed shape, good looking, early maturing and high yielding variety in desi pea shaped category.

  - **Raj Vijay Kabuli Gram 121 [RVKG 121]:** This variety was released by Madhya Pradesh State Seed Sub Committee for cultivation in Madhya Pradesh in its meeting held on June 03, 2019 at Mantralaya, Bhopal. It is an variety matures in 114 days, bold seed size (26.30 g hundred seed weight), average yield potential 1970 kg/ha. It has resistant to *Fusarium* wilt**Tolerance to pod borer *(Helicoverpa armigera*) and pulse beetle.**

- **Chickpea Variety Raj Vijay Gram 204 (RVG 204)** :It has Long plant, bold seeded, matures in 111 days, resistant to wilt and tolerance to pod borer and potential yield is 2300-2500 kg/ha. It is suitable for mechanical harvesting Madhya Pradesh

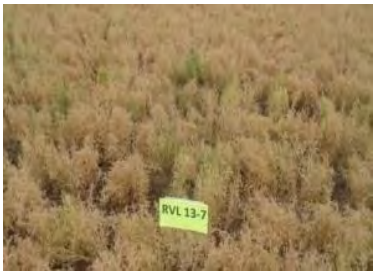
- **Chickpea Variety Raj Vijay Gram 205 (RVG 205)** : It has Long plant, pink flower, bold seeded, matures in 107-118 days, resistant to wilt and tolerance to pod borer and potential yield is 2000-2500 kg/ha. It is First green seeded variety of M.P.

- **Chickpea (Kabuli) Variety Raj Vijay Kabuli Gram 111 (RVKG 111)**: It have long plant, bold seeded(26.12g/100 seed), matures in 117 days, moderately resistant against *Fusarium* wilt, Root Rot (DRR) and tolerant to pod borer (*Helicoverpa*) and pulse beetle. The potential yield is 2000-2200 kg/ha. It is recommended for semi irrigated to irrigated conditions of MP.

- **Chickpea (Kabuli) VarietyRaj Vijay Kabuli Gram 151 (RVKG 151** :It have medium tall (38.7cm) with semi spreading plants and bold seeds (54.3g/100 seed). It

matures in 113 days, resistant to moderately resistant against *Fusarium* wilt, Dry Root Rot (DRR) and tolerant to pod borer (*Helicoverpa*) and pulse beetle. The potential yield is 2000-2100 kg/ha. It is recommended for timely sown semi irrigated to irrigated conditions of MP.

- **Lentil** variety **RVL 13-7**: It matures in 102 days with the average grain yield 1300-2300 kg/ha. Its plant type is semi erect, medium height (36-40cm) and branches with broad leaf which is very much suitable for intercropping.Large seed size of 3.2 g/100 seed, tolerant to wilt, shattering resistant and escape the drought. Recommended for timely sown conditions of MP.



- **Lentil** variety **RVL 13-5**: Its plant type is semi erect, maturity duration is 106 days; medium height and branches with broad leaf, which is very much suitable for intercropping and its potential yield is 14 q/ha.

- **Cotton variety RVK 11**have been Notified vide No. (SO 3220 (E) 06.09.2019 for south Zone (Tamil Nadu, Karnataka, and Andhara Pradesh) belonging to medium maturity group, and found tolerant to sucking pests. In rainfed production system was given by the variety was with a yield potential of 2400 kg /ha.

Following varieties were released by Madhya Pradesh State Seed Sub Committee for cultivation in Madhya Pradesh in its meeting held on June 03, 2019 At Mantralaya, Bhopal (M.P.)

- **Raj Vijay Gram 210 [RVG 210]:** It is an early maturing variety (109 days), bold seed size (26.7 g / hundred seed weight), average yield potential 1805 kg/ha and resistant to *Fusarium* wilt. It has yellowish cream seed coat, round seed shape and early maturity.

- **Raj Vijay Kabuli Gram 121 [RVKG 121]:** It is a variety which matures in 114 days, having bold seed size (26.30 g / hundred seed weight), average yield potential 1970 kg/ha. It has resistance to *Fusarium* wilttolerance to pod borer *(Helicoverpa armigera*) and pulse beetle.

Following varieties were released by Madhya Pradesh State Seed Sub Committee for cultivation in Madhya Pradesh in its meeting held on September 26, 2019 at Mantralaya, Bhopal

- **Lentil variety RVL 15-1**: It matures in 100 days with the average grain yield 1700 kg/ha. Its plant type is semi erect, medium height and branches with broad leaf which is very much suitable for intercropping.Large seed size of 3.05 g/100 seed, resistant to wilt, shattering resistant and escape the drought. Recommended for timely sown conditions of MP.

- **Mustard** variety **Raj Vijay Mustard 3**: It matures in 125-139 days with yield potential is 1800-2800 kg/ha, Shape of leaf pinnate and petiolate dark green, thick at bottom and thin smooth on upper portion of the plant, plant height (182-228cm), Yellow Flower, Dark brown to reddish brown Seed colour, 1000 seed wt (g): 3.7-4.4 g, Oil content 37-42%, Moderately resistance to *Alternaria* leaf blight, powdery mildew and downy mildew& white rust, and tolerant to resistant for *Sclerotinia* stem rot.

- **Safflower** variety **Raj Vijay Safflower – 14-1 (RVSAF 14-1) :**It matures in 121 days with the average grain yield 1800-2200 kg/ha. Its plant type is spiny and big capitulum and Colour of flower is orange red, plant height 80-100 cm, Oil content 29-30%, lodging resistant, shattering resistant, Moderately tolerant to wilt.

- **Guava** variety **Gwalior-Bahar**: This variety fruits are oblong in shape and have higher fruit weight, fresh thickness, fruit yield and total soluble sugars. Fruit weight 244g, length 7.80cm, width 7.40 cm, flesh thickness 1.53 cm, TSS 8.3^0b, Number of seeds/100 g pulp277, weight of seeds/100g pulp1.7g and yield per plant is 85-90kg and Fruit matures in 125-130 days.

- **Guava** variety **Gwalior-8**: This variety is a selection from Allahabadi Safeda Seedlings, fruits are medium to medium large with cream white, thick flesh, few seeds, acid sweet, good quality and heavy bearer, fruits are mostly round shaped. Fruit weight 282 g, length 7.50 cm, width 8.30 cm, flesh thickness 2.53 cm, TSS 9.07^0b, Number of seeds/100 g pulp 138, weight of seeds/100g pulp1.40g and yield per plant is 88-95 kg. and fruit matures in 118-125 days.

- **Guava** variety **Gwalior-21**: This variety is a selection from Allahabadi Safeda Seedlings, fruits are medium to medium large with cream white, thick flesh, few seeds, acid sweet, good quality and heavy bearer, fruits are mostly round shaped. Fruit weight 301.5 g, length 7.29 cm, width 8.10 cm, flesh thickness 1.78 cm, TSS 9.02^0b, Number of seeds/100 g pulp 142, weight of seeds/100g pulp1.77g and yield per plant is 85-90 kg and Fruit matures in 120-125 days.

- **Guava** variety **Gwalior-27**: This variety is a selection from Allahabadi Safeda Seedlings, fruits are medium to medium large with cream white, thick flesh, few seeds, acid sweet, good quality and heavy bearer, fruits are mostly round shaped. Fruit weight 279.67 g, length 7.72 cm, width 7.14 cm, flesh thickness 1.62 cm, TSS 11.92^0b, Number of seeds/100 g pulp 163, weight of seeds/100g pulp1.37g and yield per plant is 85-90 kg. and Fruit matures in 120-125 days

- **Asalio (Chandrasur)** variety **Raj Vijay Asalio-1001**: Its Early maturing (110-115 days)variety with yield potentials 1800-1900 kg/ha, Narrow leaf, Plant height (92.41 cm), No. of Branch/Plant(14.27), 100 seed weight 1.9g, oil content 20 % and Resistant to Alternaria leaf blight

- **Asalio (Chandrasur)** variety **Raj Vijay Asalio-1016**: Its Medium maturing (121-126 days) with yield potentials 1800-1900 kg/ha, Mid broad leaf, Plant height (92.75 cm), No. of branch/Plant(14.0), 100 seed weight 1.93 g, oil content 20 % and resistant to alternaria leaf blight

- **Safed Musali** variety **Raj Vijay Safed Musli-412**: It matures in 85-95 days, Herbasius stemless plant with 3 to 4 flowering scape, Non lodging type, fasciculated root/ha, yield potentials 3000-3400 kg/ha (root), Root powder content 1.15 % sapogenine and 9.2 % steroidal saponine and resistant to fasciculated root rot

Reflections of ongoing projects (Research Achievements)

- **Triumph in the development of new Soybean line RVSM 2011-35:** Entry of soybean **RVSM 2011-35** was identified asthe high yielding strain of soybean for Central Zone under AICRP network of IVT which ranked **Ist position** in seed yield and gave 12 % higher seed yield over best check (JS 335) and matured in 94 days with seed index 12 (g) in the 49th Annual Group Meeting which was held at BAU, Ranchi during March 16-18, 2019. This strain was developed at Morena in collaboration with Sehore Center. This strain has high degree of resistance to YMV which is under the mandate of Morena center

- **Evaluate response of chickpea genotypes to molybdenum seed supplementation** -In a station trial conducted to evaluate response of chickpea genotypes to molybdenum seed supplementation along with *Rhizobium+PSB* application, significant effect of molybdenum supplementation @1g ammonium molybdate/kg seed along with *Rhizobium+PSB* on various genotypes of chickpea was observed. Effect of Genotypes as well as of Mo found significant. .JAKI 9218 yielded highest. Interaction was non significant, however JG 16 and RVG 202 responded highest (13.8% yield increase) to molybdenum application.

- **Management of sodic Vertisols through resource conservation technologies:** The field experiment was carried out during rabi 2018-19 at Salinity Research Farm, Barwaha on Management of sodic vertisols through resource conservation technologies in rice-wheat cropping system. The experiment was laid out in split plot design and tillage treatment viz., conventional tillage (T1), Reduced tillage (T2), zero tillage (T3) and fallow (T4) were allotted in main plot and mulches viz., no mulch (M0) and with mulch (M1) were allotted in sub plot. Results revealed that the highest seed yield (33.15 q/ha) was obtained under zero tillage with mulched plot followed by in conventional tillage with no mulch.

- **Integrated disease management Modules against bacterial stem rot and blight diseases of opium poppy -** Integrated disease management organic modules against bacterial stem rot (Erwinia spp.) and blight disease of opium poppy were evaluated at research field, RVSKVV, College of Horticulture, Mandsaur. Among the integrated disease management modules against bacterial stem rot and blight disease, In furrow soil application of Neem cake mixture (100g/m^2) enriched with Trichoderma + Pseudomonas talc based formulation each @ 2.0% at sowing plus seed treatment with streptocycline @ 0.035% plus drenching with

Hexaconazol 5Ec @ 0.1% at 40, 55 and 70 DAS resulted minimum bacterial stem rot disease (20.78%) and higher latex (58.39 kg), seed (994.62 kg) and capsule husk yield (916.25 kg) over control (37.56%, 41.44 kg, 777.88 kg & 681 kg/ha respectively).

- **Agro- ecological Analysis of various insect- pest on Brassica crops -** The field experiment was conducted on four different cultivars of Brassica varieties. The variety namely B.J. RH-749, E. Sativa JMTA-06-01, B.napus GSL-1 and B. rapa, NC-1 verities was sown in TS & LS condition in different major insect –pest in Brassica crops The Result indicate that that the aphid appearance was recorded on SMW 1 st .The highest peak level of aphid population/ top 10 cm top twig 0.4 to 3.0 , SMW 3rd to SMW 7th and The highest peak level of aphid population/ top 10 cm top twig 0.4 to 3.5 , SMW 1st to SMW 13 th was found in all four varieties in Timely Sown & Late sown Condition. The temperatue range 26to 31° C maximum and 8.1to 15.4° C minimum were conductive for aphid population. The peak activity of coccinelllides appearance of adults /plant 0.2 to 1.4 SMW 6th to SMW 9 th was found in all Brassica varities . The temperature range 26 to 31° C maximum and 8.1to 15.4° C minimum were conductive for aphid & coccinelllides population.
- Activities of Honey bee *Apis mellifefa L.*pollinators visit /minute/plant on four different cultivars of Brassica varieties. The variety namely B.J. RH-749, E. Sativa JMTA-06-01, B.napus GSL-1 and B. rapa, NC-1 verities was sown in TS &LS condition. The highest peak activity of honeybee 0.2 to 1.0 SMW 1st to SMW 9th was found in all Brassica varities. The temperature range 26 to 31° C maximum and 8.1to 15.4° C minimum. Honey bee *Apis mellifefa L*positively associated with maximum temperature as well as minimum temperature at flowering stage .
- **Effect of mulches and scheduling on yield of cabbage and soil properties of Vertisols:** A field experiment was conducted on Effect of mulches and scheduling on yield of cabbage and soil properties of Vertisols at Salinity Research Farm, Barwaha during rabi season of 2018-19. The experiment was laid out in strip plot design. In main plot irrigation scheduling was allotted (S_1: daily irrigation, S_2: Alternate day and 3rd day scheduling), while in sub plot four mulches were allotted (M_1: no mulch, M_2: plastic mulch, M_3: rice straw mulch and M_4: wheat straw mulch). Among the scheduling, the highest cabbage yield (1011 kg/ha) was observed in daily irrigation it was closely followed by alternate day scheduling (8980 kg/ha). However, the lowest yield was recorded with 3rd day irrigation scheduling. Similarly, among the mulching treatments, plastic mulching produced highest

yield of cabbage (7667 kg/ha) followed by wheat straw. The lowest yield was obtained in no mulched plot.

- The experiences gathered from the construction of these five water harvesting tanks through participatory approach under NICRA during 2018-19 suggested that the construction of tanks not only beneficial to bigger farmers but also helpful to enhance productivity and farm income to small farmers who construct the small sized tanks even in a smaller portion of their fields. With the success and advantages of theses tanks in the very first year, the farmers are overwhelmed and motivating other farmers to adopt this technology. It is a perfect example of coordination between scientists and farmers. The surprising and encouraging results and impacts of these tanks, proved the hypothesis wrong that the construction of water harvesting tanks is not professionally beneficial not to the small and marginal farmers but only to large and big farmers.

- **Weed management in potato in maize based organic cropping system:** Among all the non chemical methods of weed control, soil solarisation followed by black plastic mulch gave maximum tuber yield (28 t/ha) as well as reduced the weed density and dry weight of weeds followed by soil solarisation + hand weed at 40DAP (26.0 t/ha). The lowest yield was recorded in weedy check plot (13.87 t/ha).

- **Management of problematic weeds *Cuscuta*in berseem:**Imazethapyr 40 g/ha after 1st cutting of berseem was effective to control the *Cuscutta*. Same treatment recorded higher seed and fodder yield of berseem. Application of pendimethalin 1.0 kg/ha after 10 days of sowing was also found effective to control the C*uscutta* and other weeds and getting higher yield.

- **Biological control of water hyacinth by *Neochetina spp*.**: This experiment was conducted in 2015 in the pilua dam near Morena District. The water level in pond was around 10 feet. After 3 years on an average 80-90 feeding scars / leaf of water hyacinth were observed due to infestation of *Neochetina spp*. It was also observed that feeding of leaves was very high and further dried. Around 85-90%

(scale1) die back symptoms were observed on water hyacinth in 2018. Now pond is free from water hyacinth in 2019.

Weevils released in pond full of water hyacinth in 2015(Before)

The same pond cleared from water hyacinth by the weevils in 2019 (After)

- **Effect of levels of slope and method of irrigation in soybean – wheat cropping system :**Sowing of rainy crops on flat bed is the practice in central India which resulted plant mortality due to temporary water logging several times. The initial stages of pulse crops are more sensitive from water logging in comparison to later stage. Similarly in winter season also excess use of irrigation water by traditional method is in practice, resulting declining water table, deteriorating quality and increasing energy for pumping. Higher growth and yield attributing characters at 0.1% slope under permanent broad bed and furrow method of irrigation produced higher growth and yield attributing characters, seed (1.76 t ha^{-1}) and straw yield (2.38 t ha^{-1}), net returns (Rs. 26,781 ha^{-1}), B:C ratio (2.04), and water productivity of soybean. Similarly higher growth, yield attributing characters and grain yield (5.29 t ha^{-1}) with maximum gross returns (Rs. 94,143 ha^{-1}), net profit (Rs. 68,424 ha^{-1}), B:C ratio (3.66) and water productivity of wheat were achieved with 0.1% slope level with permanent brad bed and furrow method of irrigation.

- **Impact of tillage and relay cropping of berseem in pearl millet– mustard:** The cultivation practices of pearl millet (*Pennisetumglaucam*) – mustard (*Brassica juncea*) (P-M) in arid and semi-arid tropics of India has been showing signs of fatigue and productivity stagnating or decline trend from quite some times.In order to improve the productivity of the system and to make it profitable to farmers, it was considered necessary to diversify through legume crop based relay berseem (RB) cropping and shift of crop establishment practices from traditional to conservation agriculture (CA) based. CA-based crop establishment methods and RB crop treatments were significantly improved soil health compared with conventional till (CT) without RB crop. Compared to CT, the system productivity with treatments of CA based tillage and RB improvement by 12% compared to CT and RB, respectively. Adoption of CA based tillage and relay

berseem crop treatment saving production cost by 13,390 Rs. ha^{-1}, and gave additional net profit of 35,945 Rs. ha^{-1} compared with compared with CT and RB.The savings of total water use by 85 ha-mm, enhancing WP by 24%. In conclusion, crop establishment with CA based tillage and RB in mustard crop pearl millet based system best options for improving soil health, production of crops, economic profitability and water productivity

- **Assessment of soil water conservation techniques and cropping systems:** On Farm experiments in Chambal canal command areas of Morena district (2015 to 2019) showed that at head reaches pigeon pea – wheat followed by paddy – wheat; at mid reaches pigeon pea – wheat followed by cluster bean – wheat and at lower reaches cluster bean – barley followed by pearl millet – mustard and pearl millet – chickpea were the beneficial crop rotations. Impact of laser leveling on yield of crops was from 7.2 to 11.8% and increase in water productivity from 5.0 to 12.0%. Among irrigation method, broad bed and furrow was found best in terms of yield (7 to 21% in *Kharif* season crops and 5 to 13% in *Rabi* season crops), economic benefits and water productivity in all head, mid and lower reaches of canal command area in all crops except paddy.

- **Application of bio-formulations in *kharif* groundnut production**

The application of 75% recommended dose of NPK with biofertilizer (Liquid NPK + Zn solublizing bacteria) resulted in the highest pod yield (2738 kg/ha), haulm yield (7353 kg/ha), maximum net returns (87082 Rs/ha) and gross returns (122324 Rs/ha) of groundnut crop. But, it was statistically at par with 100% RDF application of NPK along with the biofertilizer (Liquid NPK + Zn solublizing bacteria). However, in terms of productivity and economics, application of 75% recommended dose of NPK with biofertilizer (Liquid NPK + Zn solublizing bacteria) resulted better.

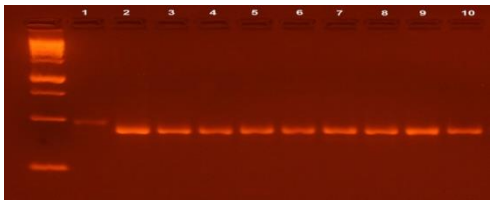
- **Management of pearl millet blast :**

For the management of blast of pearl millet sixteen botanicals and cow urine were evaluated under *in vitro* condition. Among all the treatments, the cow urine absolutely inhibited the mycelia growth while, in botanicals the maximum growth was inhibited by *Azadirachta indica* (Neem Seed Kernel Extract). Further the effective fungicides, botanicals and cow urine were evaluated in the field. Trifloxystrobin + Tebuconazole @0.05% was found most effective against blast followed by propiconazole @ 0.05%, while among non-chemical

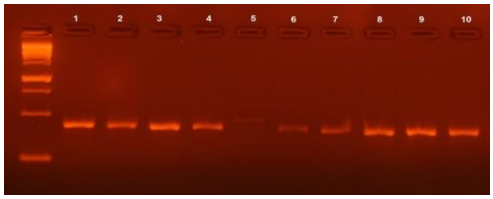
treatments the cow urine @ 3 % and (Neem Seed Kernel Extract).@ 20% were found very effective for the organic management of blast.

- **Molecular characterization of *Pyricularia grisea* in Pearl Millet:**

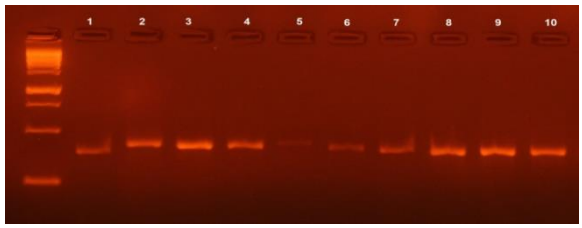
  Eleven isolates of *Pyricularia grisea* were collected from blast infected pearl millet crop cultivated in five districts *viz.,* Morena, Bhind, Gwalior, Shivpuri and Sheopur of Madhya Pradesh to determine genetic diversity among the isolates. For the detection of molecular variability eight primers were shortlisted in the beginning of banding patterns by using DNA samples of pearl millet isolates. Among these markers, the sequence of three markers of URP showed polymorphic bands *viz.,* URP 30, URP 25 and URP 38. On the bases of electrophoretic banding pattern of SSR primers, pair wise genetic resemblance among eleven isolates was estimated and a dendrogram was generated using "Mega Software" (v2.3.3). Cluster analysis showed that accessions of *Pyricularia grisea* under study fell into two major group and their sub groups. Major group I, contains two Isolates *viz.,* PG-1 and PG-3 and major group II is divided into four sub groups, first sub group contains two isolates *viz.,* PG-5 and PG-8, sub group second and third having two isolates *viz.,* PG-9, PG-10 and PG-2, PG-4, respectively. Fourth sub group contain PG-6 and PG-7 isolates



URP - 25



URP - 30



URP – 38

Figure: Polymorphic Gel Picture

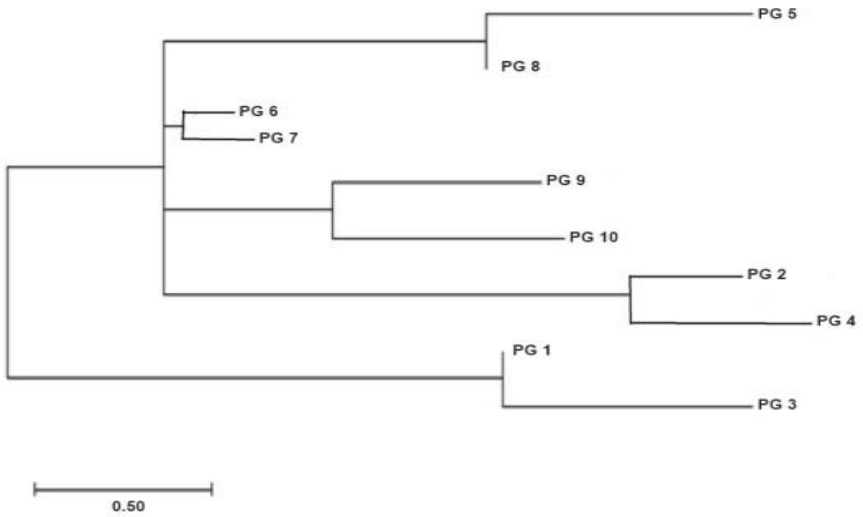


Figure: The diagrammatic representation of clusters based on primers

- **Integrated disease management through organic modules against root rot and foliar disease of Ashwagandha -** Integrated disease management through organic modules against root rot and foliar disease of Ashwagandha were evaluated at research field RVSKVV, College of Horticulture, Mandsaur. Among the seven treatments in integrated disease management modules against seedling rot and foliar disease, the treatment in furrow soil application of Neem cake mixture (100g/m^2) enriched with *Trichoderma + Pseudomonas* talc based formulation each @ 2.0% at sowing plus three foliar sprays of garlic bulb extract (w/v) @ 10 % recorded minimum disease incidence (18.84 %) and maximum dry root and seed yield (578.58 kg/ha and 376.16 kg/ha) followed by seed treatment with carbendazim + mancozeb 3 g /kg seed plus drenching and three foliar sprays with Tebuconazol 25 EC @ 0.1% at first initiation of disease followed by 15 days interval recorded minimum disease incidence (20.50 %) and dry root and seed yield (555.70 kg and 352.95 kg/ha) over control (42.84%, 234.34 kg and 186.22 kg/ha) respectively.
- The significantly highest pod (2789 kg/ha) and haulm yield (11111 kg/ha) of groundnut were recorded with application of pendimethalin 30EC + Imazethapyr 2 EC @ 1.0 kg/ha PE (ready mix) + quizafop – p- ethyl @ 50 g/ha at 15-20 DAS and was followed by Pendimethalin 30EC + Imazethapyr 2 EC @ 1.0 kg/ha PE (ready mix) + manual weeding at 25-30 DAS (2543 kg/ha & 7778 kg/ha) and Pendimethalin@ 0.75/1.0 kg/ha PE + manual weeding at 25-30 DAS (2475 kg/ha & 8862 kg/ha).

- The highest value of water productivity and weed control efficiency (WCE)in groundnut at 60 DAS was obtained with application of pendimethalin 30EC + Imazethapyr 2 EC @ 1.0 kg/ha PE (ready mix) + quizafop – p- ethyl @ 50 g/ha at 15-20 DAS (0.34 kg/m^3 and 98%) and was at par with Pendimethalin 30EC + Imazethapyr 2 EC @ 1.0 kg/ha PE (ready mix) + manual weeding at 25-30 DAS (0.31 kg/m^3 and 88.9%).
- The studies were conducted on Enhancing nitrogen use efficiency in Bt. Cotton. It could be concluded that the maximum seed cotton yield (1556.66Kg/ha) were found significantly under the application of 75% of RDN + placement (spot application in 4 splits: basal, squaring, flowering and boll development) + foliar application of 1% Urea (3 times: squaring, flowering and boll development) + raising of sun hemp between rows incorporated before flowering(T_7) which were 71.88 and 11.85% higher over control and 100% of RDN respectively, resulting into maximum boll weight, no. of bolls per square meter and higher the nitrogen use efficiency. The values of gross and net return as well as B-C ratio were maximum under the treatment (T_7).
- **Multi location evaluation of promising lines of Opium Poppy for higher yield and quality :** Seed yield (kg/ha) ranges from 1077 kg (UOP-79) to 1411 kg (UOP-20) as compared to check 1373 kg (JOP-540) during 2016-17 and 885 kg/ha (MOP 511) to 1193 kg/ha (JOP 540 during 2017-18 and 724.31 kg (Chetak Aphim) to 933.34 kg (MOP-278) during 2018-19. Over all mean seed yield ranges from 917.5 kg (UOP-79) to 1239.0 kg (UOP-30). The latex yield (kg/ha) ranges from 61 kg/ha (MOP-278) to 102 kg/ha (UOP-20) and 48 kg/ha (MOP-511) to 83 kg/ha) (UOP -80) during 2016-17 and 2017-18 and 53.64 kg, MOP-511 to 61.38 kg UOP-80 during 2018-19 respictively. Maximum latex yield recorded by entry UOP-20 (102 kg/ha) followed by chetak aphim (95 kg/ha), UOP-30 (83 kg/ha), UOP-80 (72 kg/ha), UOP-79 (69 kg/ha) and MOP-511 (67 kg/ha) as compaire to check MOP-540 (62 kg/ha) during 2016-17 where as during 2017-18 maximum latex yield recorded by entry UOP 80 (83 kg/ha) followed by Chetak Aphim (76 kg/ha) and UOP 19 (65 kg/ha). Morphine Content ranges from 10-4% (UOP-20) to maximum 12.8% (MOP-278) followed by MOP - 511 (12.6%) as compare to check JOP-540 (12.1%) during 2016-17 where as during 2017-18 it ranges from 11.7% (chetak aphim) to 13.4 (UOP 20) followed by 13.1% (MOP 278) as compaired to check 11.9% (Jop 540). During 2018-19 maximum latex yield 61.38 kg recorded by UOP-80, followed by 56.4 kg (MOP-

278) and 55.57 kg (UOP-79). Over all performance maximum latex yield recored by entry UOP-30, UOP-79, UOP 80 as compared to check where as maximum seed yield recorded by 1219.0 kg (UOP-30 kg) followed 1057.4 kg (MOP-278) 1016.4 kg (MOP-511). The entry UOP 30, MOP-278 and MOP-511 must be recommended for seed yield.

- **Effect of organic fertilizer, trichoderma, Neem Cake along with micronutrients on the growth and latex yield of opium poppy crop :** The result are found to be significant. The above table result reveal that the highest latex yield (69.0 kg/ha) recorded in T6 fallowed by T3 (66.0 kg). Under seed yield, highest seed yield recorded in T6 (17.0 q/ha). Treatment T6 recorded highest capsul (3.5) per plant as well as highest plant height (115 cm) recorded in the same treatment. The experiment concluded with the remark that the addition application of sulphure, zinc, boran, trichoderma, vermi compost along with RDF is required for the better latex and seed yield in opium poppy crop.

- **Performance of new wheat genotypes at different dates of sowing under irrigated conditions:** 25th November sown wheat crop produced the maximum yield (5726 kg/ha) which was significantly superior to other dates of sowing. On mean basis across sowing time, variety MACS 6222 produced the maximum and significantly higher grain yield (5434 kg/ha) followed by HS 562 (5274 kg/ha) and HI 1544 (5259 kg/ha).
- **Performance of new wheat genotypes at restricted irrigated conditions:** Two irrigations at CRI and boot leaf stage gave significantly higher grain yield in comparison to one and no irrigation. Check variety MP 3288 gave the highest yield (4030 kg/ha) followed by DDW 47 (3810 kg/ha) and HI 8627 (3633 kg/ha) when crop irrigated at CRI and late tillering stage.
- **Weed management in maize (sweet corn) under non-chemical cropping system:** Application of atrazine 750 g/ha as POE gave the maximum yield (7.31 t/ha) with B:C ratio 4.45. Although among the organic methods of weed control, intercropping (greengram with sweet corn) gave maximum corn yield (7.27 t/ha) *fb* hoeing at 20 & 40 DAS (6.44 t/ha). Among all non-chemical weed management practices the application of white and black plastic mulch was not economically feasible.
- **Weed management in potato under maize based non-chemical cropping system:** On the basis of results obtained from the experimental site, the treatment soil solarization with plastic mulch (25μ) resulted in better control of weeds with 88% efficiency of weed control. It resulted maximum tuber yield

(28.25 t/ha) fb soil solarization with one hand weeding at 40 DAS (26.00 t/ha) and also fetched maximum net returns Rs. 166933 with B:C ratio 2.44.

- **On Farm Research and demonstration of weed management technologies, their adaptation and Impact assessment:**

  i. **Wheat:** In the experiment of wheat it was concluded that application of sulfosulfuron + metsulfuron (30+2) g/ha PoE gave maximum yield (4.34 t/ha) *fb* clodinafop + metsulfuron (60+4) g/ha PoE (4.25 t/ha) in the farmers field, which was 29.89%, and 27.19% higher over farmer's practice (no herbicide applied) respectively. The B:C ratio was found 2.55 and 2.50 in these weed management practices as compared to 2.38 in farmer's field respectively.

  ii. **Pearlmillet:** It was observed that all the chemical weed management practices gave higher grain yield over farmers practice. The maximum yield of pearlmillet 2399.25 kg/ha was obtained with the application of atrazine 0.5 kg/ha + 2,4-D 0.5 kg/ha (PoE) *fb* pendimethalin 1.0 kg/ha (PE), which was 49.35%, and 41.49% higher than farmers practice respectively. The highest B:C ratio was also recorded with post emergence application of atrazine 0.5 kg/ha + 2,4-D 0.5 kg/ha (2.31).

  iii. **Blackgram:** In the experiment of blackgram, the maximum yield 888.25 kg/ha was recorded with the application of imazethapyr + imazamox (RM) 80 g/ha PoE *fb* pendimethalin + imazethapyr (RM) 750 g/ha PE, which was 43.44%, and 30.28% higher than farmer's practice respectively. The B:C ratio was also recorded highest with imazethapyr + imazamox (RM) 80 g/ha PoE (2.40).

- **Developing resource efficient and resilient rapeseed-mustard based cropping systems under the current and future climate :**Under Raised bed method of planting in kharif 2018-19 the Bajra, Maize, Soybean , Green gram, Sesame and Cluster bean occupied first position, producing maximum yield as 2611,2631, 1411, 891, 700 and 1647 kg/ha respectively. Similarly the Kharif crops namely Bajra ,Maize, Soybean ,Green gram , Sesame ,and Cluster-bean, occupied second position under conventional method of sowing which yielded 2436, 2560, 1240, 802, 574 and 1691 kg/ha respectively. In case of Zero tillage method of sowing during Kharif season the crop namely Pearl millet, Maize, Soybean, Green gram, Sesame and Cluster bean, occupied Third position for producing grain yield as 2142, 2560, 1241, 802, 574 and 1691 kg/ha respectively. The different method of sowing like Raised bed, conventional and zero tillage tasted for over all Kharif crops as mentioned above occupied I,II,III position for producing grain yield as 1648,1551 and 1217 kg/ha respectively. The Raised bed planting method tasted in Rabi 2018-19 for Indian mustard obtained first position for producing maximum seed yield as 2145 kg/ha which followed by conventional (1599 kg/ha) and Zero tillage method (1490 Kg/ha). The Green gram –Mustard cropping system was found as superior for producing Maximum seed yield of Mustard i.e. 1946 Kg/ha. which followed by Maize - Mustard (1873 kg/ha) and Soybean-mustard (1850 kg/ha). whereas the Pearlmillet –Mustard sequence was comparatively very poor which produced

minimum seed yield of 1258 kg/ha.The interaction Green gram –mustard X Raised bed planting recorded maximum seed yield of Mustard (2316 Kg /ha) and followed by Pearlmillet –Mustard X Raised bed planting (2222 kg/ha).

- **Studies on system of mustard intensification (SMI) in rapeseed mustard through transplanting:** The Species *Brassica carinata* (PC-6) recorded maximum seed yield of 3488 kgha^{-1} which closely followed by *Brassica juncea* (RH-749) yielded 3274 kgha$^{-1.}$ Whereas, the lowest seed yield (2874 kgha^{-1}) obtained with the species *Brassica napus* (GSC-7).The conventional planting method was found as the best for seed yield (3757 kgha-1) production which seconded (3086 kgha^{-1}) by the plot in which the crop transplanted at 45 x 45 cm row to row and plant to plant distance. Whereas the plot in which the crop transplanted at 60 x 60 cm row to row and palnt to plant distance produced minimum seed yield of 2794 kgha^{-1}. The interaction *Brassica juncea* (RH-749) X conventional planting 3941 kgha^{-1} was found as superior which closely followed by *Brassica carinata* (PC-6) X conventional planting 3889 kgha^{-1} from the seed yied point of view.

- **Effect of Land Configuration and Foliar Application of Nutrients for Yield Maximization in Black gram [*Vigna mungo (L.)* Hepper]:** Among the land configuration, raised bed method of sowing found significantly superior than flat bed sowing. It gave seed yield of 757 kg/ha. As regards nutrient management, application of NPK 18:18: 18 @ 2% spray gave seed yield of 679 kg /ha which is found significantly superior than the control (517 kg/ha).
- **Effect of fertilizer doses, organic manure and biofertilizer for yield maximization of urdbean and their effect on succeeding rabi crop:** Application of 125 % recommended dose of fertilizer gave significantly higher seed yielded 423 kg/ha found on par with 100 % % recommended dose of fertilizer than the 75 % RDF (380 kg/ha).Application of FYM @ 5 ton/ha gave significantly higher seed yield 616 kg/ha than no FYM application 594 kg/ha. Seed trearment with rhizobium + LMn 16 is better than the others.
- **Agronomic evaluation of AVT- 2 bold seeded lentil genotypes for high productivity :** The results indicated that the genotype LLSA-18-2 recorded significantly higher seed yield (1269 kg/ha) at par with LLSA 18-4 (1212 kg/ha) as compared to rest of genotypes. As regards dates of sowing, the first date i.e.14th Nov.2018 gave maximum seed yield (1294 kg/ha), found at par with second date of sowing i.e. 24th Nov. 2018
- **Survey and surveillance of major insect-pests of grape and their natural Enemies' status of new emerging insect pests of grapes and their natural enemies :** Survey of vineyards was carried out during 2018-2019 in Ratlam district of Madhya Pradesh.. Total 10 vineyards were surveyed for observing the prevalence of different insect pests' *viz.*, Mealybug (*Maconellicoccus hirsutus*),

thrips (*Rhipiphorothrips cruentatus*), flea beetle (*Scelodonta trigicollis*), mites (*Tetranichus urticae*), *Spodoptera* Sp., *Helicoverpa* Sp., and stem borer (*Coelosterna scabrator*). It was observed that out of 10 vineyards surveyed, 6 vineyards (60.00%) were found infested with mealy bug, and but all vineyards having low level of infestation. Infestation of Thrips was recorded in all 10 vineyards and but the infestation level was low in 6 vineyards (60.00%) while moderate in 4 vineyards (40.00%). The infestation of flea beetle was low to moderate and recorded in 2 vineyards (20.00 %) only. The infestation of stem borer was recorded in 5 vineyards (50.00 %). *Spodoptera* was observed only in one vineyard (10.00%) during the period. There was no recorded infestation of *Helicoverpa* and mite during the period under report. Survey indicates that the thrips, stem borer were the major pests in Ratlam and Mandsaur district which leads to weathering the vineyards.

- **Validation of online interactive weather information based disease and insect pest risk assessment in Grape :** After the foundation pruning incidence of powdery mildew was not observed in advisory plot and farmers practice plot. Similarly incidence of downy mildew was also not observed in the range in advisory plot and farmers practice plot. However, after the fruit pruning incidence of powdery mildew was observed in the range of 0 to 38.37 per cent in advisory plot, while 0 to 21 percent incidence seen in farmers practice plot. The incidence of downy mildew was observed Nil in advisory plot and farmers practice plot. In online advisory plot total three sprays done for management of powdery mildew and three sprays for downy mildew during the season. In Farmers practice, they applied total five sprays for management of powdery mildew and three sprays for management of downy mildew during the season. The results indicate that there was saving of two sprays for powdery during the period of report by the use of online advisory as compared to farmers practices with reduction in disease intensity. In case of yield parameter AWS plot with less chemical spry also give yield equal to famer practice.
- **Catchments–Storage Command Relationship for Enhancing Water Productivity in Micro –watershed:** An experimentfor enhancing water productivity in micro –watershed,Soybean, Hy.maize were sown in *Kharif* season.Whereas, Chickpea, Sweet corn for green cobs, Potato and onion were planted in *Rabi* season.Among the different models, Hy.Maize– Sweet corn (Green cob) found the more remunerative as it recorded total net returns Rs.75426/- per hectare with B: C ratio 4.35 followed by sequentially grown Hy.Maize-Chickpea- (Rs. 50303/- with B: C ratio 3.97), Soybean –Onion (Rs. 53532/- with B: C ratio 3.29) and soybean – Chicpea(Rs. 31414/- with B: C ratio 3.03).The soybean- Potato recorded lowest net return Rs. 36302/- with B: C ratio

2.53.The sweet corn (Suger-75)for green cobs,Onion, Potato and chickpea were sown in *rabi* season. Result revealed that sweet corn (Suger-75) for green cobs recorded highest net return Rs. 84184/- followed by onion Rs. 78175/- and potato Rs. 43714/- (B: C ratio 2.62) whereas lowest was recorded by chickpea Rs. 33939/- per ha with higher B: C ratio of 3.61.

- **Evaluation of different soybean based cropping sequences in *Vertisols:*** Three crop sequences **Soybean**- Chickpea/Safflower/Mustard, Maize-Chickpea/Safflower/Mustard and Black gram- Chickpea/Safflower/Mustard were grown under rainfed condition. Result showed that Hy. Maize (Done 1588) recorded highest seed yield (4545 kg/ha) followed by soybean (JS 20-34) and black gram (848 kg/ha). During *rabi*chickpea (RVG 202) produced higher seed yield 1667, 1625 and 1500 kg/ha grown after soybean, black gram and maize, respectively. Where as, the higher seed yield of safflower 800 kg/ha grown after black gram followed by 750 and 708 kg/ha recorded after maize and soybean. The data indicated that crop sequence Maize -Chickpea found more remunerative as recorded highest total return Rs.150900/- with B: C ratio of 4.31 followed by Maize – safflower (Rs.93400/- with B: C ratio of 3.67), soybean – chickpea (Rs.82605/- with B: C ratio of 3.36) and black gram – chickpea (Rs.80880/- with B: C ratio of 3.31). Whereas, lowest return Rs.51325/- with B: C ratio of 2.47 recorded by sequence soybean- safflower. Mustard not germinated due to poor moisture condition.
- **Long Term Manurial Trial in *Vertisols:*** Based on the average of last 27 years, treatments T_6 (FYM 6 t ha-1 + N20 P13) gave highest seed yield of 1905 kg ha^{-1} was found significantly superior with regards to seed productivity however, treatment T6 was found superior to rest of the treatments with regards to improvement in physical and chemical properties of the soil. The treatment T_1*i.e.,* control was found statistically inferior to all the treatments in respect of yield and fertility status. Organic matter decomposition has indicated the advantage of recycling organic matter and nutrients from farmyard manure. The organic matter contained in them influence the physical, chemical and biological properties of the soil. These studies clearly indicate that a part of the inorganics can be substituted, thus substantially cutting the cost of cultivation. These sources need to be tapped in future as alternatives for deriving nutrients and improving soil health.
- **Satellite experiment on effect of integrated nutrient management (INM) in soybean-chickpea system *:*** Results revealed that, during year 2018-19 the soybean variety of JS 95-60 produced higher yield (1600 kg ha^{-1})with FYM 6 tkg ha^{-1} + N20P13as compared to convention practice (1500 kg ha^{-1}). Almost similar resultswere observed in case of soybean straw yield. Economic analysis revealed that the highest net return of Rs. 40300 ha^{-1} was obtained in treatment FYM 6 t kg ha^{-1} + N20P13 and Rs. 40300 ha^{-1}38700 $ha^{-1}$with conventional practice.The highest B:C ratio of 1.97 was obtained withbalance fertilization. Rain water use

efficiency by soybean crop varied from 2.40 kg $ha^{-1}mm^{-1}$ (Convention practice) to 2.56 kg ha^{-1} mm^{-1} (FYM 6 t kg ha^{-1} + N20P13) respectively.

- **Sorghum :** The crop was sown during first week of July 2018 as per the protocol. Performance wise except few lines overall germination was uniform ranged from 80 to 95 percent, shoot fly caused damaged to the genotypes at 21 DAE which was more or less remained same up to 28 DAE .The mortality of the crop plants was observed in some of the replications due to weed flora. This year sucking pest infestation on crop ,Panicle damage caused due to lepidopteron and sap sucking pestswas also at lower population .The overall crop growth was quite satisfactory. Genotypes performed better in their categories in keeping lower shoot fly, stem borer dead hearts and lower panicle damage, among the test varieties and hybrid genotypes .The resistant checks showed their superiority in keeping less pest infestation with comparatively higher yields obtained from them. The maximum shoot and panicle pest damage was observed in susceptible checks. In case of seed treatment trial , Seed treated with Thiamethoxam 30 FS@ 10 ml/kg+ soil application of carbofuran 3G @ 8 kg/ ha. at 30 DAE. Sorghum seed treated with fipronil 5 SC @5ml/kg+ Sorghum seed treated with Imidacloprid 70 WS @ 3g/ kg of. Sorghum seed treated with Acetamipride 20SP @5ml.kg.(18gram/plot)over sorghum crop without any application (Control).

- **Assessing pre and post canal irrigation effect on soil, water and crops in Vertisols of Narmada Sagar Command:**

  Background: Degradation of soil physical and chemical environment is a serious problem in command areas of the country. It is conjectured that due to improper management of irrigation, every year as much area goes out of cultivation as is brought under irrigation. The inherent soil characteristics, climate, topographical features and manmade activities of irrigation independently or jointly give rise to problem of soil degradation and ultimately loss of production. Irrigation thus becomes curse when problem of soil degradation starts. The peninsular India particularly Deccan Plateau is by and large characterized by the presence of Vertisols and associated soils stretched over 22.9 million hectares out of which 2.3 million hectares are in Madhya Pradesh. The major irrigation project of Madhya Pradesh viz. Tawa, Barna, Bargi, and Halali etc. are predominantly having black soil group. Black soils are rated as problem soil for farming because they are difficult to work with when either too dry or too wet. They are characterized by low infiltration, slow water transmission within soil profile and prone to chemical degradation under impeded drainage conditions. Commissioning of canal irrigation can solve the problem of dryness; however problem of wetness also needs to be anticipated at the same time. The problem of wetness was not anticipated in Tawa and Barna command as a result of which area has started observing problem of water table and salt build up. Kool (1998) reported area of 1250 ha and 7500 ha under water table range of 0-1 m and 1-3

m water table depth range in Barana Command. Singh (1992) reported an area of 6600 ha affected with salinity problem in Tawa Command. Irrigation in Indira Sagar Command (ISC) of Narmada Sagar command has yet to start in a year or two after completion of canal network. As this is the right time to start monitoring physico-chemical properties, ground water fluctuation, crop productivity and hydrologic characteristics to have a suitable data base for comparison in future. In general the soils of Indira valley of Madhya Pradesh are medium to deep and having alkaline elements. Introduction of canal irrigation is a latest development in this area; as such proposed study will lead to generate database on impact of irrigation project on soil, water and crop to plan strategies for enhancing production on sustainable basis in this region.

- **Technique :** Pre and post monsoon water tables were recorded in 13 Nos. wells situated in head reach of ISC during the pre canal irrigation period (2005 and 2012) and post canal irrigation period (2015 and 2019) and same were used to calculate the year wise WT fluctuations for the comparison. The data on area under various *kharif* and *rabi* crops along with their productivity of Khandwa district were collected for the pre canal irrigation period. The collected data of pre canal irrigation period on productivity of various *kharif* and *rabi* crops was statistically analyzed for calculating Sustainability yield Index (SDI) during the year 2015-16. The SYI (Singh *et. al.* 1990) was calculated based on yield equivalents like average yield, standard deviation and maximum yield over the years.

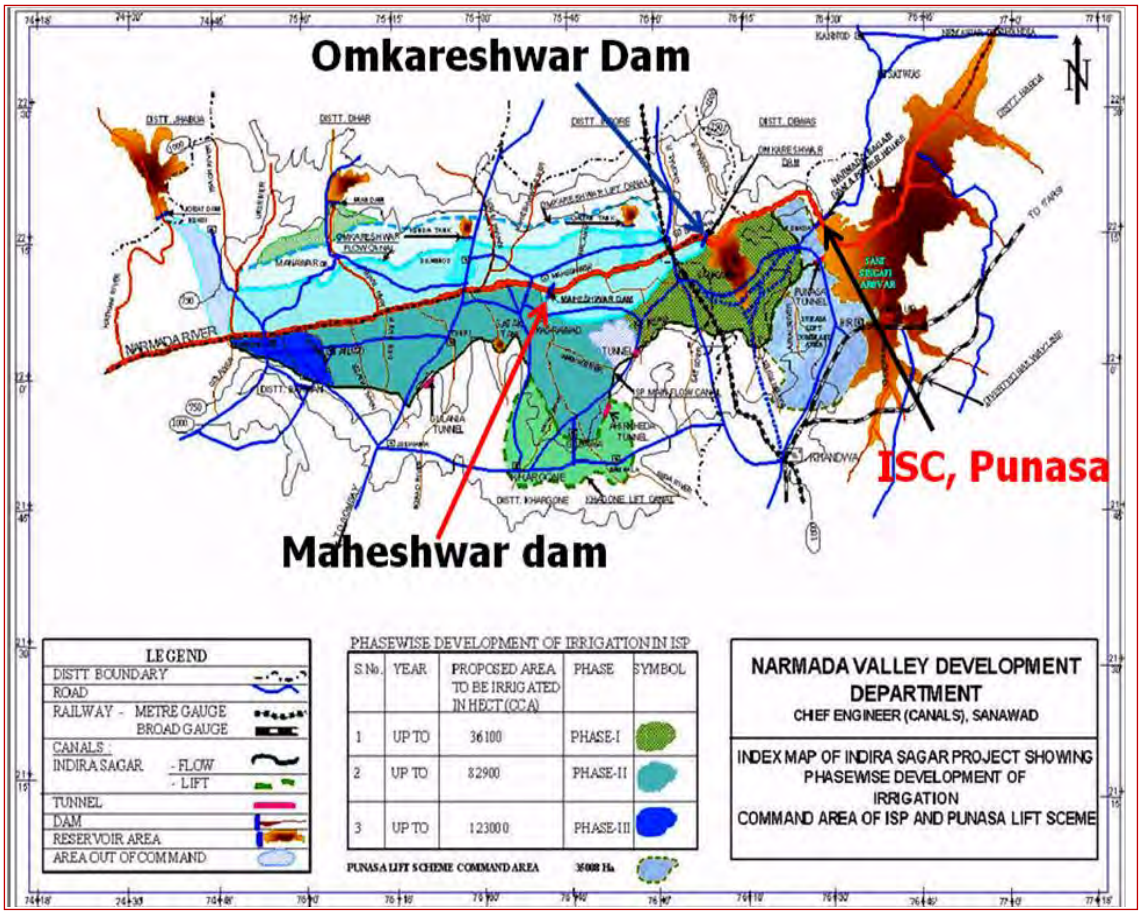


Fig. Pre and post canal irrigation area of Narmada Sagar Command

Water table fluctuations

Water tables were recorded in 13 Nos. wells situated in head reach of Indira Sagar Command (ISC) during the pre canal irrigation period (2005 and 2012) and post canal irrigation period (2015 and 2019) as shown in Table 01. The average fluctuation of pre and post water table depths of 13 wells during pre canal irrigation period 2005 and 2012 were 4.21 m and 2.29 m respectively. Although, irrigation was not commissioned in the year 2012 yet there was huge impounding behind the dam and water was allowed to flow in the canal distribution system. After commissioning of canal irrigation system in head reaches the average water table fluctuation were around 1.53 and 1.34 m during 2015 & 2019 indicating rise of water table in the area.

Table 01. Water Table fluctuations recorded during pre and post canal irrigation period in head reaches of Indira Sagar Command

Well No.	Depth (m)	Latitude	Longitude	Water Table, m											
				2005			2012			2015			2019		
				Pre	Post	Fluctuation	Pre	Post	Fluctuation	Pre	Post	Fluctuation	Pre	Post	Fluctuation
1	09.60	22^{0}09’06.5”	76^{0}17’59.6”	8.00	5.20	2.80	5.90	1.00	4.90	5.20	3.15	2.05	4.8	3.1	1.7

2	13.00	22⁰09’08.9”	76⁰ 18’18.0”	11.00	6.70	4.30	10.00	5.40	4.60	4.90	3.50	1.40	3.0	1.1	1.9
3	12.00	22⁰08’38.5”	76⁰ 18’48.9”	10.00	5.40	4.60	7.00	3.70	3.30	2.45	2.40	0.05	2.9	2.7	0.2
4	10.55	22⁰07’4.2”	76⁰ 20’4.3”	8.80	4.60	4.20	4.10	0.90	3.20	4.40	3.00	1.40	4.1	3.8	0.3
5	08.70	22⁰ 7’44.2”	76⁰ 20’2.9”	8.70	3.80	4.90	3.90	1.40	2.50	4.75	4.50	0.25	2.7	0.8	1.9
6	09.00	22⁰07’4.2”	76⁰ 20’9.0”	9.00	3.90	5.10	4.10	2.80	1.30	5.00	2.00	3.00	3.1	0.7	2.4
7	09.50	22⁰07’1.5”	76⁰ 19’0.0”	8.50	6.00	2.50	5.80	3.90	1.90	6.15	4.00	2.15	4.6	2.1	2.5
8	09.50	22⁰08’0.5”	76⁰ 19’4.0”	9.05	4.75	4.30	1.50	1.00	0.50	3.70	1.40	2.30	3.4	2.7	0.7
9	11.00	22⁰ 4’25.0”	76⁰ 18’23.7”	9.00	5.70	3.30	5.20	3.40	1.80	3.50	2.20	1.30	2.2	2.0	0.2
10	11.00	22⁰ 2’05.1”	76⁰ 16’23.2”	9.20	5.90	3.30	5.20	3.80	1.40	5.00	3.30	1.70	4.9	4.1	0.8
11	10.00	22⁰ 2’40.8”	76⁰ 16’4.8”	8.70	4.90	3.80	1.00	1.00	0.00	6.70	4.20	2.50	5.4	3.0	2.4
12	09.00	22⁰ 3’47.6”	76⁰ 15’8.4”	8.00	2.90	5.10	6.50	2.80	3.70	4.20	3.30	0.90	3.5	2.2	1.3
13	09.00	22⁰ 8’10.3”	76⁰ 9’44.7”	9.00	2.50	6.50	5.00	4.30	0.70	2.40	1.50	0.90	2.3	1.1	1.2
Average of WT fluctuation						**4.21**			**2.29**			**1.53**			**1.34**

Water quality of canal water

Water samples collected during post irrigation period (2015-16 and 2018-19) from main canal, Kelwa distributary, minor and sub- minor which were analyzed for pH, EC, water soluble anions and cations (Table 02. The estimated values of pH, EC, SAR and RSC were found in the range of 7.21 to 7.40, 0.36 to 0.39 dS/m, 0.82 to 0.95 and Nil respectively during pre canal irrigation period (2012-13). Estimated values of pH, EC, SAR and RSC are found in the range of 7.31 to 7.42, 0.38 to 0.68 dSm^{-1}, 0.77 to 0.88 and Nil respectively during post canal irrigation period (2018-19). The values of water quality parameters clearly indicate that waters are of good quality for irrigation.

Table 10. Water quality of canal water

Water Quality	2012-13	2018-19
pH	7.21-7.40	7.31-7.42
EC (dSm^{-1})	0.36-0.39	0.38-0.68
SAR	0.82-0.95	0.77-0.89
RSC (me L^{-1})	Nil	Nil

Soil properties around main canal

Surface and subsurface soil samples were collected during post irrigation period (2018-19) around main canal with the distance of 1, 2, 3, and 5 km. The samples were anlysed for EC, pH and organic carbon content (Table 03). Soil pH, Ec and OC ranged from 7.40 - 7.79, 0.18-0.36 dSm^{-1} and 0.28-0.65% respectively in surface and subsurface samples. The surface soil samples depicted higher pH, EC and OC content.

Table 03: Soil properties around main canal

Distance from Main canal	Depth (cm)	pH	EC (dSm^{-1})	OC (%)
1 KM	0-30	7.53	0.20	0.53
	30-60	7.40	0.18	0.44
2 KM	0-30	7.39	0.26	0.29
	30-60	7.38	0.21	0.28
3 KM	0-30	7.79	0.32	0.50
	30-60	7.64	0.28	0.47
5 KM	0-30	7.61	0.36	0.65
	30-60	7.41	0.24	0.60

Breeder seed production *Rabi*-2018-19: A quantity of 5353.20 quintals of breeder seed of various crops namely Wheat, Gram, Lentil, Pea, Rapeseed & mustard and Toria produced during Rabi 2018-19.

S. No.	Crops	Production (qt)
1.	Wheat	2153.00
2.	Gram	3037.00
3.	Lentil	13.60
4.	Pea	72.40
5.	Rapeseed & mustard	42.70
6.	Toria	34.50
Total		**5353.20**

- **Breeder seed production *Kharif* -2019:** A quantity of 2583.70 quintals of breeder seed produced of various crops namely Soybean, Sorghum, Green Gram, Black Gram and til produced during Kharif 2019.

S. No.	Crops	Production (qt)
1.	Soybean	2408.00
2.	Green Gram	31.01
3.	Black Gram	25.65
4.	seas am	11.90
5.	Sorghum	2.14
6.	Paddy	105.00
Total		2583.70

- **Organized Meetings/ Workshops /Seminar etc:-**

S.N.	Date	Place	Description	Photograph
1	6/2/2019 to 3/3/2019	College of Horticulture, Mandsaur	Skill Development training programme on Nursery worker conducted form 6/03/2019 to 3/03/2019 at College of Horticulture funded by Agriculture Skill council of India (ASCI). Total 20 candidates participated in this training programme.The training was conducted as per the norms and guideline of ASCI. The main objective of training was improve the skill the as nursery worker and teach the different nursery work like grafting, budding, nursery bad preparation, safety majors in work place etc.	
2.	May 29-30, 2019	Directorate of Research Services, RVSKVV, Gwalior	Annual Farm Review Meeting of Seed Production Programme 2018-19 and Planning for Kharif 2019. Total number of 70 Scientists, officer Incharge Farms and Breeders of the University attend the Meeting	
3.	June 10, 2019	Directorate of Research Services, RVSKVV, Gwalior	Review meeting of the revolving fundto review the physical & financial progress of revolving funds for PHM Unit /Soil testing/ Dairy/vermi-compost/ Herbal Garden	
4.	June 11, 2019	Directorate of Research Services, RVSKVV, Gwalior	Review meeting of the seed Hub/EBSP Project to review the physical, technical & financial progress of the seed hub & EBSP project	

- **Distinguished Visitors:**

S.N.	Prominent Visitors	Date	Institute/organization	Place of visit description
1.	Dr P.K.Rai, Director	26/10/2019	Directorate of Rapeseed& Mustard, Bharatpur (Raj.)	ZARS, Research field, Morena (M.P.)
2.	Dr P.K.Rai, Director	07/12/2019	Directorate of Rapeseed & Mustard, Bharatpur (Raj.)	ZARS, Research field, Morena (M.P.)
3.	Hon'ble , Shri Narendra Singh Tomar Minister of Agriculture and Farmer Welfare, Rural Development and Panchayat Raj,	17/09/2019	Government of India	ZARS, Research field, Morena (M.P.)
4	Hon'ble Shri Sachin Subash Yadav Minister of Farmers Welfare and Agricultural Development Department, Department of Horticulture and Food Processing Department	04.09.2019	Govt. of M.P. Bhopal	Visited AICRP-Chickpea Centre and viewed ongoing research activities of the Centre.
5	Dr. Radha krishnan T, Director	16.08.2019	ICAR-DGR, Junagadh	Field of Ag. Research farm (AICRP-WM) COA Gwalior
6.	Dr Hariprasanna Dr SS Rao Dr Shyam Prasad	11.10.19	IIMR, Hyderabad	Monitoring of Sorghum Research work, Indore & Farmers Fields at Manpur, Mamdav & other tribal villages of Dharampuri block of Dhar District

Text/Reference Books:

S.No.	Author(s)	Book Name	Year	ISBN No.
1	Ranade D.H., Jadav, M.L., Swarup Indu, Girothia, O.P., Bhagat, D.V., Singh Akhilesh and Choudhary Sharad	Rainwater management in rainfed areas.	2019	978-81-7622-458-1
2	Ranade D.H., Jadav, M.L., Swarup Indu, Girothia, O.P., Bhagat, D.V., Choudhary, S.K. and Upadhyaya, Ashish	Apvahit versha jal akatrikaran v sanchit jal ka upyog.	2019	978-81-7622-464-2
3	Reeti Singh, Rajni Singh Sasode, Ajay Kumar, Pragati Saini, R.K. Pandya, Ashish Bobade, Radha Gupta and J.K. Patidar	Hand book of fungi	2019	-

Technical bulletin

S.N.	Author (s)	Title	Year	ISBN No./Ref. No.
1	Joshi Ekta, Sikarwar RS, Sasode D.S, Sasode R.S, Kasana BS, Tiwari Sushma and Gupta Varsha	*Moongfali fasal utpaadan ki unnat taqniq*	(**2019)**.	

MoUs Signed:

- MoU signed on 26.11.2019 for Developing Agro Business Incubator to establish the criteria under which ABVIIITM and **RVSKVV** will carry out joint collaborative activities to create an Agro Business Incubator at ABVIIITM, Gwalior for promoting mutual cooperation in education, research and outreach with RVSKVV, Gwalior
- A partnership agreement between ICRISAT and RVSKVV for the project entitled "Delivering more produce and income to farmers through enhancing genetic gains for chickpea and pigeonpea"
- Signed the MoU on 05.09.2019 for Collaborative Research with RVSKVV, Gwalior with Bhabha Atomic Research Centre (BARC), Trombay, Mumbai, Maharashtra
- Sign the MoU on 02.09.2019 for facilitating Research and Extension work with KAMATAN FARM TECH Pvt Ltd, New Delhi & Madhya Bharat Consortium of farmer producer Company Ltd, Bhopal

- **Research Publications in referred journal**

S. No.	Author (s)	Title	Journal	Vol.	Page No.	Year	NASS Rating
1	Ranade D.H., Jadav, M.L., Swarup Indu, Bhagat, D.V. and Girothia, O.P	Effectiveness and utility of in Malwa and Ninar region.	Indian farming	69(07)	25-27	2019	-
2	Ranade, D.H., Jadav, M.L., Swarup, Indu, Upadhyaya A., Bhagat, D.V. and Girothia, O.P.	Enhancing crop productivity through water harvesting tank under changing climatic conditions	Int. J. Agril. Sciences.	Vol 11(16) :.	8885 - 8887	2019	4.82
3	Ranade, D.H., Jadav, M.L., Swarup, Indu, Upadhyaya A., Bhagat, D.V. and Girothia, O.P.	Innovative and modified ridge – furrow irrigation system in malwa region.	Int. J. Agril. Sciences	Vol 11(15)	8880 - 8889 .	2019	4.82
4	Ranade, D.H., Jadav, M.L., Swarup, Indu, Bhagat, D.V. and Girothia, O.P.	Innovative and modified ridge – furrow irrigation system in malwa region	Indian Farming	69(7):	25-27	2019	4.82
5	Narendra Singh, N.S. Bhadauria, Pradyumn Singh	Bioefficacy of plant extracts against Mustard aphid and their natural enemies	Flora and Fauna	25 (1)	31-33	2019	4.55
6	Bharat Lal, NS Bhadauria, Pradyumn Singh	Seasonal Incidence of sucking insect pest in brinjal and their natural enemies in Gird region of Madhya Pradesh, India	Journal of Pharmacognosy and Phytochemistry	Vol. 8, Issue 4 , Part AI	2077 - 2079	2019	5.21
7	Narendra Singh, N.S. Bhadauria, Pradyumn Singh	Bioefficacy of plant extracts against Mustard aphid and their natural enemies	Flora and Fauna	25 (1)	31-33	2019	4.55
8	Bharat Lal, NS Bhadauria, Pradyumn Singh	Seasonal Incidence of sucking insect pest in brinjal and their natural enemies in Gird	Journal of Pharmacognosy and Phytochemistry	Vol. 8, Issue 4 , Part AI	2077 - 2079	2019	5.21

		region of Madhya Pradesh, India					
9	Sasode D S, Joshi Ekta, Jinger Dinesh, Gupta Varsha and Singh Y. K.	Conservation tillage and integrated weed management effects on weed supression, productivity and profitability of cowpea *(Vigna unguiculata*)	*Indian Journal of Agricultural Sciences*	Accepted: 03 July 2019.	-	2019	6.23
10	Gupta Varsha, Sasode D S, Joshi Ekta and Kasana B.S.	Conservation tillage and integrated weed management effects on weed supression, productivity and profitability of cowpea *(Vigna unguiculata*)	*Indian Journal of Agricultural Sciences*	Accepted: 25 October 2019. File no 84662	-	2019	6.23
11	Gupta Varsha, Joshi Ekta, Sasode D S, Singh Lakhan, Kasana B S and Singh Y K	The Effect of chemical and non-chemical control methods on weeds and yield in potato (*Solanum tuberosum* L.) cultivation under potato based organic cropping system.	*International Journal of Current Microbiology and Applied Sciences.*	8(7)	2737-2747	2019	5.38
12	Gupta Varsha, Sharma S, Sasode D S, Joshi Ekta, Kasana B S and Joshi Neeshu	Efficacy of herbicides on weeds and yield of greengram.	*Indian Journal of Weed Science*	51(3)	262-265	2019	5.17
13	Joshi Neeshu, Gupta Varsha, Joshi Shourabh and Parewa H P	Biochar: A Way to combat climate change by improving soil health.	*Indian Journal of Plant and Soil*.	6(2)	109-115	2019	3.07
14	V.P.S. Bhadauria, Varsha Gupta and F.M. Prasad	Effect on growth parameters and oil content of lemongrass with respect to iron pyrite under and continuous use of	*Journal of Plant Development Sciences*	11(1)	57-60	2019	4.57

		rsc rich irrigation water.					
15	Kushwah, G.; Sharma, R. K.; Kushwah, S. S. and Mishra, S.	Effect of organic manures, inorganic fertilizers and varieties on growth, yield and quality of tropical carrot	*Indian J. Hort*	76(3)	451-456	2019	6.10

- **Research Publications in referred journal**

S. No.	Author (s)	Title	Journal	Volu.	Page No.	Year	NASS Rating	JID	ISSN	National / International
1.	Pandey G.P., Khandkar U.R., Tiwari S.C. and Kumawat N.	Response of different levels of nitrogen on wheat yield when cultivated on sodic vertisols soils.	*Indian Journal of Soil Salinity and Water Quality*	10 (2)	254-258	2018	4.94	J472	0976-0806	National
2.	Kumawat N., Yadav R.K., BangarK. S., TiwariS.C., Morya J. and KumarR	Studies on Integrated Weed Management Practices in Maize:	Agricultural Reviews	40 (1)	29-36	2019	4.38	A092	0976-0539	National
3	Nitin Soni, Prakash Patil, K.C. Meena, Ajay Haldar*, Dharmendra K. Patidar and Rajesh Tiwari	Evaluation of Different Coloured Varieties of Grapes under Nontraditional Area of Malwa Plateau: A Thin Line Tool for	International Journal of Current Microbiology	Volume 8 Number 03	1968-1976	(2019)	5.38	I199	2319-7706	International

		Doubling the Farmer Income								
4	V K Tiwari	Morphological parameters in breeding for higher seed yield in Indian mustard [*Brassica juncea*	(L.) Czern. & Coss.] EJPB	Vol.10 (1)	p187-195	2019	4.97			National
5	Ekta Joshi, D.S. Sasode, R.S. Sikarwar, Varsha Gupta and B.S. Kasana	Optimizing crop geometry and nutrient management for yield, water productivity and economics of *kharif* groundnut (*Arachis hypogaea* L.).	*Legume Research*				6.23	L010	ISSN 0976-0571	National
6.	Singh Neelam, Joshi Ekta, Sasode D.S, Sikarwar, R.S. and Rawat, G.S.	Liquid Biofertilizer and inorganic nutrients effect on physiological, quality parameters and productivity of kharif Groundnut	*.International Journal ofCurrent Microbiology and Applied Sciences*	Vol. 7 (09	729-735		5.38	I199	ISSN : 2319-7706	

4.9 Activities of Seed Production Farms:

RVSKVV is also making sincere efforts to generate cutting edge technology for enhancing crop productivity. Thrust is also farm seed replacement in the state by producing quality seeds of important crops. It is worthwhile to mention that RVSKVV has produce 9911.40 q **seeds** with different crops during 2019-20 which helped the farmers in a big way for seed replacement and thereby enhancing the productivity of crops.

The seed activities in the University are managed with the help of twenty seven seed farms, which are located in twenty four districts and six agro-climatic zones of Madhya Pradesh. Out of the total farm area of 1210.85 ha., only 64.45 % (780.3 ha.) is under cultivation. Among the cultivated area 13.39 % and 34.59 % is irrigated and partially irrigated, respectively. Rest of the cultivated area is under rainfed farming.

The area under plantation crop is about 82.02 ha. Rests of the farm area is fallow or pasture land or occupied by road and buildings.

Breeder seed produced in Kharif and Rabi crops:

S. No.	Crops	Qty. (q.)
(A) Kharif crops		
1.	Soybean	3289.0
2.	Green gram	115.5
3.	Black Gram	52.7
4.	Pearl Millet	0.0
5.	Sorghum	16.3
6.	Ground Nut	0.0
7.	Pigeon Pea	0.0
8.	Paddy	130.20
9.	Til	0.0
Total (A)		**3603.70**
(B) Rabi crops		
1.	Wheat	2669.0
2.	Gram	3545.0
3.	Lentil	2.70
	Pea	50.0
4.	Rapeseed and Mustard	41.0
	Safflower	0.0
	Maize	0.0
Total (B)		**6307.70**
Grand Total (A+B)		**9911.40**

5. EXTENSION ACTIVITIES:

RVSKVV, Gwalior has 27 Krishi Vigyan Kendras (KVKs) under its jurisdiction established with the financial support of ICAR. Out of which, 22 are under the administrative control of the University and five under NGOs/ICAR institute, which are functioning under technical guidance of Directorate of Extension Services of the University. The Directorate is committed to serve the farmers through its well organized network of Krishi Vigyan Kendras, which play a vital role in dissemination and transfer of recent emanated research technologies in agriculture, horticulture, livestock production and allied fields.

The KVKs are assessing the technological needs of the farmers of the districts and revalidating the technology for adoption through On Farm Testing. The KVKs are disseminating technologies and strengthening the farmers through, Front Line Demonstrations, Training Programmes for Farmers and Farm Women, Extension functionaries and Vocational Training for Rural Youth and other regular Extension Activities in selected villages of the concerned district. Thus, they contribute in minimizing the gap between prevailing farmers' yield and production potential in specific area.

Mission

Directorate of Extension Services is committed to serve the farmers andto achieve the motto of the University, which isto reach the un-reached through its extension system. The main objectives of the Directorate are:

1. Transfer of technology, assessment, application, refinement and providing feedback to the researchers.
2. Up gradation of knowledge and skill of extension functionaries as well as farming community.
3. Development and dissemination of technology through print and electronic media for mass reach.
4. Catering the needs of farming communities through single window system.
5. Linkage with line departments, concerned institutions and NGOs.
6. Reviewing the activities of KVKs and technological backstopping of KVK scientists and help in formulating action plan.
7. Popularization of low draft improved agricultural implements.

Krishi Vigyan Kendras

Twenty two Krishi Vigyan Kendras of RVSKVV are located at the districts of Agar-Malwa, Alirajpur, Ashok Nagar, Badwani, Bhind (Lahar), Datia, Dewas, Dhar, Dhar II (Manawar), Guna (Aron), Gwalior, Jhabua, Khandwa, Khargone, Mandsaur, Morena, Neemuch, Rajgarh, Shajapur, Sheopur, Shivpuri and Ujjain. KVK Bhopal is working under administrative control of ICAR-CIAE and KVKs in districts Indore, Sehore, Ratlam and Burhanpur are working under the aegis of reputed NGOs, with technical backstopping of RVSKVV. KVKs facilitate the process of assessment of technology through OFT, skill upgradation through training programmes, and technology dissemination through method and result demonstrations, Kisan Melas, Seminars and mass campaigns etc.

Agro-climatic Zone wise Location of KVKs

Agro-climatic Zone	Features	District / KVK's under the Zone
Gird Zone	Semi-arid climate, situated between 152-224msl, annual rainfall 566-977 mm and soils are Alluvial medium black, mixed red black and red yellow in colour.	Sheopur, Morena, Bhind, Gwalior, Shivpuri (Partial), Guna (Partial) and Ashok Nagar
Bundelkhand	High temperature, situated between 266-560msl, annual rainfall 750-1200mm with shallow clayey loam soil	Datia, Shivpuri (Partial)
Malwa Plateau	Semi-arid climate, situated between 450-675 msl , annual rainfall 800-1200mm, soil is medium to deep black (vertisol)	Neemuch, Mandsaur, Ujjain, Shajapur, Rajgarh, Dewas and Dhar (Partial), Indore Ratlam and Agar-Malwa
Jhabua Hills	Undulated topography, situated between 450-700 msl, erratic rainfall (600-800mm) and shallow to medium skeletal gravely soil	Alirajpur, Jhabua and Dhar (Partial)
Nimar Valley	Hot and dry weather, situated between 450-700 msl, less annual rainfall (600-800mm), soil is deep black clayey (vertisol)	Badwani, Khargone, Khandwa, Burhanpur
Vindhyan Plateau	Hot humid climate, undulated topography, situated between 350-600 msl, annual rainfall, 1000-1200mm and medium black soil.	Guna (Partial), Bhopal, Sehore

Mandate of KVK:

The major mandate of KVKs is the assessment, refinement and demonstration of technology/ products.

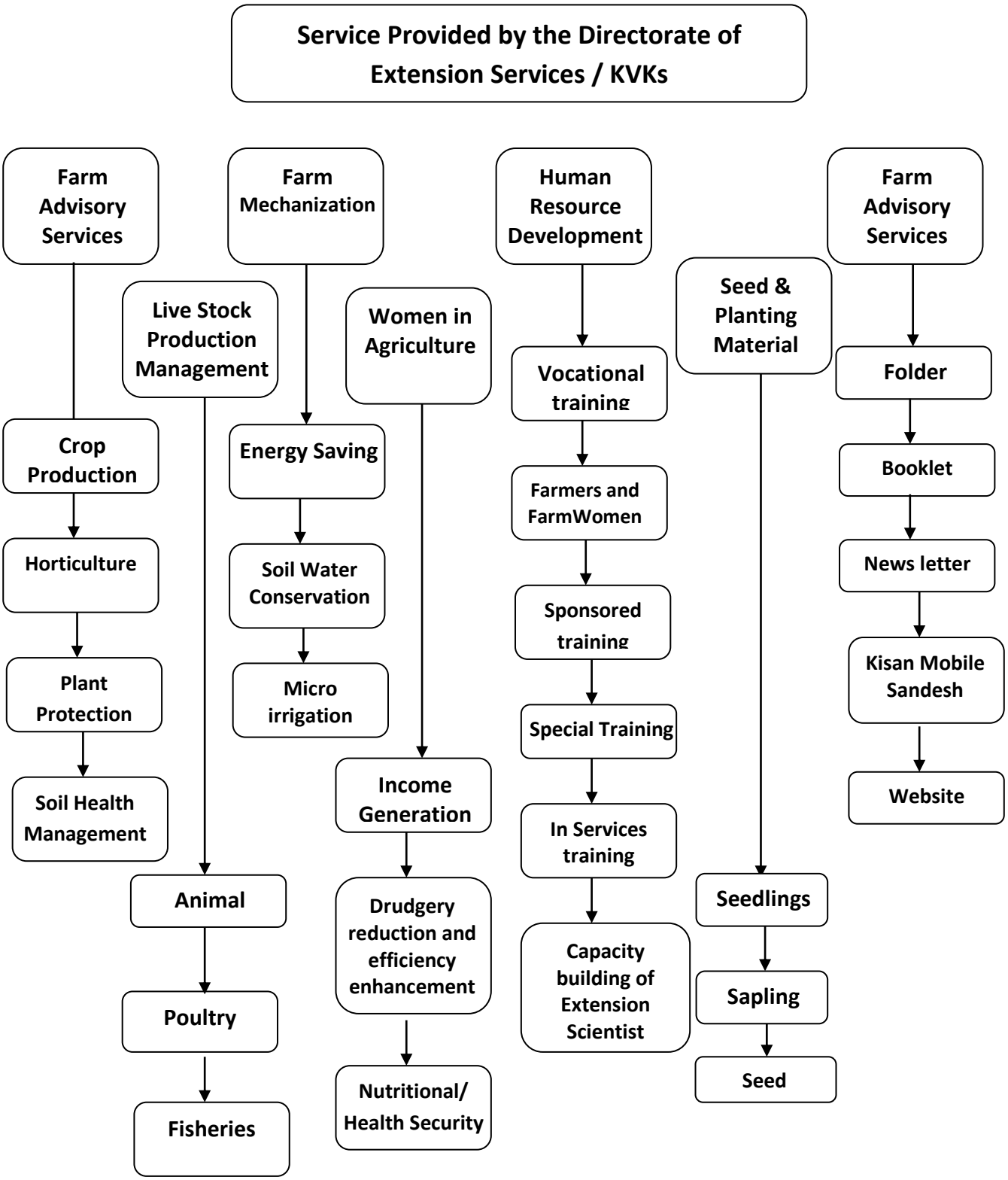
The major activities of KVKs are given below:

- On farm testing for assessing the suitability of technology farming systems.
- Frontline demonstrations to establish production potentials of newly released technologies on farmers' fields and provide feedback.
- Training of farmers and farmwomen to upgrade their knowledge and skills in modern agricultural technologies and training of extension personnel to orient them in the frontier areas of technology development.
- Work as resource and knowledge centre of agricultural technologies for supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district.
- Create awareness about frontier technologies through a number of extension activities *viz*: Farmer fair, Field day, Campaign, Ex-trainees meet, etc.
- For enhancing the productivity through increased seed replacement rate and use of quality planting material KVKs are taking up the activities of producing quality seed and planting material.

Thrust Areas:

- Doubling Farmers Income by 2022
- Development of agri.-premiership among farmers
- Enhance crop productivity through, intensive vocational trainings of farmers, farm women and rural youth.
- Demonstrate and disseminate the integrated approach encompassing the feasible components of farming and related technologies targeting towards enhancing the farm family income.
- Crop diversification with suitable oilseed, pulse, fruit and vegetable cultivation.
- Testing of early maturing high yielding varieties of major crops on farmer's field.
- Awareness regarding different methods of water harvesting and conservation including construction of small water retention structures (Rain-Water harvesting)
- Soil fertility improvement to sustain soil health.
- Integrated nutrient management in different crops.
- Popularization of resource conservation technologies.
- Post harvest value addition and entrepreneurship development for agricultural produce.
- Balanced feeding and reproduction of livestock and poultry.
- Clean milk production and processing of dairy products.
- Promotion of exotic and off-season cultivation of vegetables, medicinal and aromatic plants.
- Promotion of organic farming.

- Use of improved implements for drudgery reduction.
- Demonstrations of improved farm – machinery to farmers.
- Demonstrations on utilization of innovative traditional knowledge of the farmers.



KVKs identified as Centre of Specialization

S. No.	Name of KVKs	Specialization
1.	Agar Malwa	New KVK, hence not specialised yet
2.	Alirajpur	New KVK, hence not specialised yet
3.	Aron (Guna)	Coriander Production Technology
4.	Ashok Nagar	Durum Wheat Production Technology
5.	Badwani	Chilli Production and Value addition of spices
6.	Datia	Natural Resource Management
7.	Dewas	Integrated Farming System
8.	Dhar	High tech vegetable cultivation
9.	Dhar II (Manawar)	New KVK, hence not specialised yet
10.	Gwalior	• Hi tech Horticulture • Vermi-composting Technology
11.	Jhabua	Kadaknath rearing in Integrated Farming System
12.	Khandwa	Cotton Production Technology
13.	Khargone	Pomegranate & Watermelon Production Technology
14.	Lahar(Bhind)	Crop diversification
15.	Mandsaur	Seed spices
16.	Morena	• Apiculture • Conservation agriculture
17.	Neemuch	Garlic Processing Technology
18.	Rajgarh	Hi tech fruit nursery
19.	Shajapur	Mandarin Production Technology
20.	Sheopur	Management of soil & water resources & IFS
21.	Shivpuri	Mechanization in ground nut and Hi - tech tomato production
22.	Ujjain	Integrated Nutrient Management
23.	Bhopal	Farm mechanization
24.	Sehore	Integrated Farming System
25.	Ratlam	Dairy Management and Dairy Technology
26.	Indore	Organic Farming
27.	Burhanpur	Banana Production Technology

1. Major activities of KVKs under RVSKVV, Gwalior

1.1 On Farm Trial

The KVKs conducted 375 On Farm Trials for assessment and refinement of new technologies generated by RVSKVV, Gwalior, other Universities and ICAR Institutes as per local needs and micro farming situations. A total of 5455 farmers were direct beneficiaries of the OFTs as their fields/units/animals were chosen for conducting the trials. Details of OFTs conducted by KVKs under the directorate are given below:

Institutions wise OFTs on crops and enterprises conducted during 2019-20

Host Institute	No. of OFTs	Beneficiaries
OFT on Crops		
RVSKVV	262	3432
ICAR & NGO	57	758
Sub Total (a)	**319**	**4190**
OFT on Enterprises		
RVSKVV	39	911
ICAR & NGO	17	354
Sub Total(b)	**56**	**1265**
Grand Total	**375**	**5455**

Thematic area wise details of OFTs conducted on crops and enterprises are described below.

Thematic area wise details of OFTs conducted during 2019-20

Thematic Area	No. of OFTs	No. of Beneficiaries
Cropping Systems	8	41
Varietal evaluation	66	551
Improved Implement/Farm Machinery	18	193
Integrated Crop Management	26	222
Integrated Disease Management	15	128
Integrated Pest Management	31	290
Natural Resource Management	08	79
Resource Conservation Technology	05	30

Thematic Area	No. of OFTs	No. of Beneficiaries
TOT	02	150
Soil Fertility Management	51	499
Medicinal crops	03	30
Weed Management	16	142
Drudgery Reduction	8	104
Nutritional Security	11	143
Income Generation	11	85
Information and Communication Technology	15	1302
Agro-forestry	02	10
Horticulture crop	23	191
LPM (Nutrition, Disease Management)	21	250
Others (Poultry, fisheries, Mushroom etc)	35	1015
Total	**375**	**5455**

1. 2 Frontline Demonstrations

Frontline demonstrations are conducted to demonstrate the potentials of recent and location specific proven technologies of agriculture and allied fields among farming community and extension functionaries for up-scaling in the larger area as well as for generating the production data along with the feedback for research system and planners. During the reporting year, a total number of **1895** FLDs were conducted on various oilseeds, pulses, cereals, vegetables crops and cash crops, agro forestry and other improved farm machineries covering the total area of **1054.46ha**. In addition to these FLDs, **3485** demonstrations in **1578 ha** area were also conducted on various oilseed and pulse crops under **cluster demonstrations** programme. Moreover, demonstrations on **07**important income generating enterprises like KMAS, dairy, poultry, goatry, azola, raised bed etc. were also conducted through which **505** farmers were directly benefitted.

Crop wise details of FLDs Conducted during 2019-20through KVKs

S. No.	Crop	Area (ha)	No. of Beneficiaries	% increase
Cereals				
1.	Rice	14	45	98.16
2.	wheat	123.8	326	13.99
3.	Maize	39.2	104	178.6
4.	Pearl millet	2	10	21.16
5.	Jwar (Sorgham)	4	10	-
Pulses				
6.	Black Gram	64.6	155	26.08
7.	Gram	35.8	104	12.02
8.	Pigeon pea	18	62	27.10

9.	Green Gram	9.2	28	25.98
10.	Linseed	2.8	7	-
Oilseed				
11.	Soybean	107.9	259	21.78
12.	Mustard	20.5	58	14.36
13.	Groundnut	04	10	25.55
14.	Sesame	2	5	30.69
Vegetables				
15.	Cauliflower	4	10	23.37
16.	Tomato	4.6	18	12.71
17.	Okra	1	10	36.55
18.	Potato	3	10	26.43
19.	Cactus	12	12	-
20.	Bottelgourd	1	10	14.14
21.	Cucumber	3.5	20	13.615
22.	Okra	1	10	36.55
Spices				
23.	Garlic	29	111	15.3
24.	Chilli	24	75	48.95
25.	Onion	18.5	64	19.50
26.	K. Onion	21.6	176	44.08
27.	Corriander	4.8	17	-
28.	Fenugreek	2.6	13	10.24
Fibre Crops				
29.	Cotton	10	30	14.45
Flower Crops				
30.	Marigold	7	30	30.01
Medicinal Crops				
31.	Tulsi	2.6	13	20
32.	Ajwaian	7.6	23	32.79
Fruit Crops				
33.	Banana	-	5	15.29
34.	Papaya	4	15	23.68
35.	Drumstick	10	10	100
36.	Sugarcane	2	10	-
37.	Guava	4	10	21.33
38.	Mandarin	2	10	-
	Total	**627.6**	**1895**	**1054.46**

FLDs conducted on enterprises during 2019-20

S. No.	Enterprise	Area (ha)/No. of unit	No. of Beneficiaries	% increase
1	Buffalo	154	184	20.22
2	Cow	20	20	13.56
3	Goat	10	10	61.33
4	Fish	6	14	492
5	Poultry	15	15	66.5
6	Kitchen Garden	2	15	35.44
7	Home Science	121.05	247	44.13
Total		**328.05**	**505**	**733.18**

Cluster Demonstration Pulses and Oilseed conducted by KVKs during 2019-20

S. No.	Cluster Crop	Variety	Area (ha)	No. of Beneficiaries	% increase
	Pulses				
1	Black Gram	PU 1	20	50	36.13
		PU-31	20	50	43.40
		Pratap Urad-1	70	190	36.81
		Sekhar 2	20	50	-
2	Chickpea	RVG202	255	375	-
		RVG201	80	125	-
		JG14	50	50	-
		JG11	10	25	-
3	Pigeonpea	Rajeshwari	10	25	32.32
		Pusa-992	30	75	44.99
4	Green Gram	T.J.M.-3	10	25	28.68
		MH-421	25	25	20.4
6	Filed Pea	Aman	20	50	
	Total		**620**	**1115**	
	Oilseed				
5	Soybean	RVS-2001-4	90	200	23.43
		JS 20-29	10	25	32.86
6	Mustard	IJ 31	20	50	19.75
		Giriraj	10	25	-
		NRCHB 101	668	1670	-
		RH406	10	25	-
		RVM-2	130	325	-
7	Groundnut	GG-20	10	25	20
9	Sesame	T.K.G.-308	10	25	55.91
Total			**958**	**2370**	

1.3 Training Programmes

Training has been considered a key component for updating the knowledge and inculcating new skills among the participants. The great emphasis has been given on organizing trainings both for the farmers as well as for the trainers. A total of 1959 training programmes were organized involving to 52782 beneficiaries including farmers and farm women, rural youth, extension personnel and sponsored from different agencies detail of which are given in following table.

S. No.	Training	No. of Courses	No. of Beneficiaries
1.	Farmers & Farm Women	1274	33419
2.	Farm Women	280	6739
3.	Rural Youth	111	3018
4.	Extension personnel/ In Service	130	3622
5.	Vocational trainings	57	1488
6.	Sponsored Training	107	4496
Total		**1959**	**52782**

1.4 Extension Activities

With the objective of creating awareness about advanced agricultural technologies, a number of extension activities were organised by KVKs at their campuses and in the villages. These extension activities include method demonstrations for small group to Kisan Melas for huge gathering. It includes use of old communication techniques of poster exhibition to latest technique of SMS and social media use for transfer of technology. Broadly, these activities are advisory based like farm advisory services, lectures delivered by resource persons, animal health camps and vaccination camp, exhibitions, extension literature and popular article, media based activities like CD/DVD, film show, news paper coverage, radio talks and TV talks, meeting based like ex-trainee Sammelan, celebration of important days, club meet, farmers' seminar, field day, group meet, Gosthi, Mela and SHG meeting Technology week concept was given to the KVKs for showcasing the available technologies to the district level extension functionaries and farmers. A total of 20570 extension activities organised by the KVKs benefitting 717876 beneficiaries. Details of various extension activities are given below:

Extension Activities - 2019

S. No	Particulars	No of Activities	No. of Beneficiaries
1.	Advisory Services	28	50050
2.	Agri. mobile clinic	814	58348
3.	Animal Health Camp	42	2218
4.	Awareness programme	143	9844
5.	Celebration of important days	182	13451
6.	Diagnostic visits	692	7821
7.	Exhibition	119	22925

8.	Exposure visits	55	1734
9.	Extension Literature	122	13114
10.	Ex-trainees Sammelan	25	1006
11.	Farm advisory Services	1122	316566
12.	Farmers Seminar/Workshop	3	378
13.	Farmers visit to KVK	12579	38727
14.	Field Day	230	8808
15.	Film Show	238	4492
16.	Group meetings	148	3248
17.	Interface	2	109
18.	Kharif/Rabi Sammelan	2	984
19.	Kisan Ghosthi	210	10259
20.	Kisan Mela	52	42904
21.	Krishi Mahotsav	7	1570
22.	Lectures delivered as resource persons	1118	50702
23.	Mahila Mandals conveners meetings	40	1377
24.	Method Demonstrations	174	1858
25.	Newspaper coverage	216	0
26.	Popular articles	3	0
27.	Pradhanmantri phasal beema yojana	24	2073
28.	Radio talks	49	0
29.	Swachchhata Abhiyan	223	3760
30.	Swachchhata Pakhwada	3	1282
31.	Scientific visit to farmers field	1355	15705
32.	Self Help Group conveners meetings	88	1981
33.	Soil health Camp	122	2522
34.	Soil test campaigns	110	3160
35.	Summer deep ploughing campaigning	2	141
36.	Technology Week Celebration	42	4569
37.	TV talks	9	0
38.	Live Interaction of Hon'ble PM with farmers	3	391
39.	Parthaniyam Awareness week programme 16.08.2018 to 22.08.2018	1	341
40.	Others	173	19458
Total		**20570**	**717876**

1.5 Production and Supply of Technological Inputs

Timely and adequate availability of the quality seeds to ensure better yield is very essential and remains as a major constraints to the farmers. Therefore, it was taken as a challenge and appropriate steps were taken at the KVKs for helping the farmers in this regard. The KVKs produced 3987.76 q seed of different crops during 2019-20. The details are given in following table.

a. Seed Production

Name of KVK	Crop	Type of Seed	Quantity produced(q)
Alirajpur	Soybean, Blackgram, Pigeonpea and Gram	Breeder and TL	87
Ashoknagar	Black gram, Chickpea	Breeder	118
Barwani	Soybean and Chickpea	Breeder	255
Bhind	Mustard, Wheat and Barley	Breeder and TL	352.61
Datia	Barley and Sunhemp	-	207.72
Dewas	Soybean, Chickpea and Wheat	Breeder	401.3
Dhar	Soybean and Chickpea	Breeder	308
Guna	Soybean , Black gram and Chickpea	Breeder and TL	416.4
Gwalior	Okra, Fenugreek, Spinach, Sponge gourd Bottle Gourd and Marigold	TL	206.5 Kg
Jhabua	Soybean	Breeder	
Khandwa	Soybean	Breeder	45
Khargone	Soybean, Pigeonpea and Chickpea	Breeder	489.2
Mandsaur	Soybean, green gram, chick pea and lentil	Breeder	334.5
Neemuch	Soybean and Chickpea, Tulsi and Ashwagandha	Breeder and TL	52
Rajgarh	Soybean, Wheat and Lentil	Breeder	
Shajapur	Soybean and Chickpea, Cucumber, Gilki,	Breeder	216.08
Sheopur	Soybean, Chickpea and Wheat	Breeder and TL	25.3
Shivpuri	Soybean and Chickpea	Breeder	301.2
Ujjain	Soybean, Chickpea and Wheat	Breeder	
Burhanpur	Soybean, Pigeonpea, Wheat, Chickpea, Maize	-	19

Ratlam	Maize, Wheat, Soybean, Groundnut, Chick pea and Black gram	-	43.9
Sehore	Soybean, Wheat Pigeonpea, Barley, Chickpea,	TL	70.354
Manawar	Soynean & gram	Breeder	266.5
Morena	Gram	Breeder	18.5
Indore	Soynean & gram	TL	74.45
Total Seed Produced at KVK Farms (q)			**3987.76**

b. Planting Material (Seedlings/Saplings) Production:

Crop	Quantity (No.)
Vegetables	6485
Tomato	209841
Brinjal	21198
Chilli	111335
Cabbage	30427
Cauliflower	24566
Broccoli	0
Knol-Khol	0
Bottle Gourd	500
Water meloon	10000
Bitter Gourd	500
Fenufreek	200
Kharif Onion	42191
Cucumber	500
Potato	286
Mushroom	2.1 Kg
Fruit Plants	6472
Mango (Grafted)	924
Lemon	1134
Pomegranate	32
Guava	200
Karonda	0
Jackfruit	287
Custard Apple	4699
Jamun	1788
Aonla	69
Drum Stick	1070
Ber Bud	200
Beal	37
Guava	1736
Papaya	16517
Sweet Orange	150

Almond	2
Ornamental plants	1000
Marigold	17205
Ashok	164
Rose	19
Gladiolus	2500
Forest plants	
Bargad	5
Kumut	5
Kadwa Neem	1
Gudhal	4
Kumut	5
Bamboo	520
Gulmohar	245
Ashok	164
Amltas	4
Mogra	1
Shami	37
Pipal	58
Karanj	234
Sulagana fali	600
Total	**516117**

1.6 Soil and Water Sample Analysed

Soil and water testing is an import activity of KVK for improving the soil fertility and sustainability of agricultural production. KVK wise details of soil samples collected, analyzed and numbers of soil Health Card distributed among farmers have been given hereunder.

a. Status of Soil Sample and Soil Health cards

KVK Name	Status of establishment of Soil testing Laboratory (Y/N) and year, if yes	Soil Testing Kits till date		No of soil samples		No. of Samples analyzed			No. of Farmers benefited			No. of Villages covered	Amount realized	Soil health card distributed to the farmers by KVK (Nos)	
						by KVKs		By Department	By KVK		By Department			Through Mini Soil Testing kit	Through Soil testing laboratory
		Sanctioned	Procured	Collected by KVKs	Provided by Dept./ DDA	Mini Soil Testing kit	Soil testing laboratory		Mini Soil Testing kit	Soil testing laboratory					
Agar	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Malwa															
Alirajpur	N	-	-	500			550			550		17	0		
Ashoknagar	Y, 2018-19	2	2	250	0	250	0	0	250	Nil	-	250	0	250	0
Barwani	Yes	-	-	1580	0	496	112	0	615	112	NA	52	0	615	112
Lahar (Bhind)	Y, 2013	1	1	579	0	579	0	4820	579	0	4820	374	0	579	0
Datia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dewas	Y, 2012	02	02	320	0	320	0	0	320	0	0	26	10875	320	0
Dhar	Y	2	2	1000	0	713	688	23856	656	636	148848	1510	0	656	636
Dhar (Manawar)	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guna	Yes 2005	1	1	542	153	484	211	0	484	211	-	8	0	484	211
Gwalior	Y	1	1	1016	171	0	2637	0	0	14594	0	0	0	0	0
Jhabua	Y, 2006	2	2	800	0	250	750	0	250	750	-	13	0	250	750
Khandwa	Y, 2005	2	2	240	1274	392	725	7553	1670	4569	40009	27	0	1670	4569
Khargone	Y, 2005	1	1	542	880	542							0		
Mandsaur	Yes	2	2	307	0	307	307	784	307	0	784	305	0	0	0
Morena	Y, 2005	-	-	749	0	0	749	-	-	749	-	18	0	0	729
Neemuch		2	2	595	6386	595	0	10550	595	0	25832	799	0	595	0
Rajgarh	Y	1	1	180	0	180	0	0	180	0	0	4	0	180	0
Shajapur	Y	2	2	539	4128	539	4128	389	0	829	389	0	829	47	85
Sheopur	-	-	-	-	0	0	0	0					0		
Shivpuri	No	2	2	160	0	160	0	0	160	0	0	10	9600	160	0
Ujjain	Y	1	1	756	244	100	900	0	100	900	0	15	0	100	900
Bhopal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Burhanpur	N	0	2	300	1503	1803	0	4741	1803	0	10314			1803	0
Indore	Y, 2004-05	2	2	130	470	600	0	10873	600	-	28317	26	54691	600	0
Ratlam	Y, 2008	2	2	62	0	62	62	0	62	62	-	22	18600	62	62
Sehore	Y, 2012	-	-	130	2000	0	130	3692	-	130	-	84	0	0	130
Total				**11277**	**17209**	**8372**	**11949**	**67258**	**8631**	**24092**	**259313**	**3560**	**94595**	**8371**	**8184**

b. Details of water samples analyzed :

KVK Name	No. of Samples	No. of Farmers	No. of Villages	Amount realized	Test report distributed to the farmers (Nos)
Jhabua	25	25	15	-	25
Note: Other KVKs not analyzed water samples					

1.7 Kisan Mobile Advisory Services

Kisan Mobile Advisory (KMA) is the easiest ICT tool working successfully for dissemination of latest information to the farmers and farm women. This is a unique programme for making linkages between different stakeholders who are key players for making agriculture more productive. During the year 2019, a total of 1519 farm advisory were issued by the KVKs from which 1043704 beneficiaries directly benefited. In addition to this, KVKs also provided audio, video and photo based advisories through WhatsApp.

Status of Kisan Mobile Advisory (KMA) - 2019

Name of KVK	Number of calls received	No of Messages sent	No. of farmers received messages	Total no of villages in District	No of village Covered by KVK through KMA
Agar Malwa	-	0	0	227	-
Alirajpur	-	0	0	288	-
Ashoknagar	-	33	32000	921	921
Badwani	11	62	30600	693	693
Bhind	238	41	16124	877	257
Datia	1135	57	123000	610	610
Dewas	-	39	38890	1067	1027
Dhar	1524	70	126489	1576	1270
Dhar II (Manawar)	-	0	0	1576	0
Guna	2118	26	53777	1260	1260
Gwalior	387	52	26500	717	717
Jhabua	226	103	13240	813	813
Khandwa	-	52	34282	710	710
Khargone	-	93	95416	1407	1407
Mandsaur	3323	30	120223	944	944

Morena	206	53	13710	775	775
Neemuch	-	39	18650	799	799
Rajgarh	3014	270	Not Mentioned	1600	908
Shajapur	271	233	Not Mentioned	587	587
Sheopur	-	28	50600	610	610
Shivpuri	1197	22	51000	1235	1235
Ujjain	264	55	64199	1096	166
Bhopal	-	-	-	-	-
Burhanpur	35	23	20244	272	250
Indore	-	33	37568	633	633
Ratlam	-	61	42610	1053	1053
Sehore	27150	44	34582	1049	1049
Total	**41099**	**1519**	**1043704**	**23395**	**18694**

1.8: Publications and Media Development by KVKs

During 2019, various research and farmer friendly publications were published and distributed among the clients for issuing timely advisory on technological developments in agriculture and allied areas.

Literature/Media Published/ Developed by KVKs: 2019

S. No.	Literature/ Publication/Media	Number
1.	Abstract	90
2.	Book	06
3.	Book Chapter	19
4.	Booklet	28
5.	Leaflets/ Folder/ Pamphlet	105
6.	Popular article	112
7.	Technical Bulletin	27
8.	Training Manual	30
9.	Technical Report	166
10.	Year Planner	20
11.	Research Paper	44
12.	Electronic Media Show (CD/VCD)	387

1.9 : Farmers visit to KVK

The table below gives a KVK wise complete account of farmers', VIPs and officials visited the centre for various purposes around the year. It is observable that the KVKs establish its place as a scientific agricultural institution at district level providing functional solutions to the farmers on their agricultural issues.

Footfall of farmers in KVKs -2019

Name of KVK	Footfall during 2019			
	No. of Farmers	No. of officials	No. of VIPs	Total
AgarMalwa	153	10	2	165
Alirajpur	568	56	02	626
Ashoknagar	249	50	6	305
Barwani	3276	35	14	3325
Lahar (Bhind)	325	75	9	409
Datia	1823	32	05	1860
Dewas	1029	237	23	1289
Dhar	34502	272	12	34786
Dhar II (Manawar)	-	-	-	-
Guna	1650	175	36	1861
Gwalior	5547	311	22	5880
Jhabua	486	74	8	568
Khandwa	6406	26	2	6434
Khargone	630	56	7	693
Mandsaur	2748	122	30	2902
Morena	5214	555	25	5794
Neemuch	2486	78	6	2570
Rajgarh	550	102	10	662
Shajapur	2551	23	10	2584
Sheopur	Not Mentioned			
Shivpuri	2344	48	5	2397
Ujjain	4004	121	38	4163
Bhopal	Not reported			
Burhanpur	2000	150	12	2126 approx
Indore	4850	129	10	4989
Ratlam	2556	153	18	2727
Sehore	4561	280	17	4858
Total	**90508**	**3170**	**329**	**93973**

1.10: Outreach of KVK

The KVKs are functioning at district level as a model institution for transfer of technologies among farmers and district extension machinery. The KVK work on principles of scientific agriculture and follow cluster based approach for agricultural

development in the district. It works in adopted villages and develop them as model for district extension system. The table below gives a detailed account of coverage and outreach of KVK in the district

Outreach of KVK - 2019

Name of KVK	Total number of Block/villages in district		Number of Blocks		Number of Villages	
	Block	Village	Intensive	Extensive	Intensive	Extensive
Agar Malwa	-	-	-	-	-	-
Alirajpur	6	543	2	06	03	27
Ashoknagar	4	921	3	4	15	450
Barwani	7	693	4	7	46	356
Lahar (Bhind)	6	877	4	6	27	798
Datia	03	610	03	03	50	610
Dhar	13	1579	5	8	68	1511
DharII (Manawar)	7	-	-	-	-	-
Dewas	06	1067	5	6	25	950
Guna	05	1260	03	02	75	1185
Gwalior	04	717	04	04	67	650
Jhabua	4	6	6	813	-	-
Khandwa	7	725	3	4	4	721
Khargone	9	1407	3	6	22	1395
Mandsaur	05	944	3	2	570	374
Morena	07	775	05	07	16	460
Neemuch	1	3	7	748	799	799
Rajgarh	6	1600	4	2	653	947
Shajapur	4	587	4	4	32	587
Sheopur	3	610	3	-	13	68
Shivpuri	8	1235	6	2	250	985
Ujjain	6	1096	6	6	38	1096
Bhopal	Not Reported	-	-	-	-	-
Burhanpur	02	272	02	02	20	250
Indore	04	633	04	04	17	633
Ratlam	06	1086	6	6	9	108
Sehore	05	1049	04	05	25	925
Total	**138**	**20295**	**99**	**1657**	**2844**	**15885**

1.11 Other Important Achievements

1.11.1: Awards & Recognitions:

Major awards, recognitions and appreciations received by the KVK scientists, associated farmers and KVK as an institution are given in the table below;

KVK Name	Name of award /awardees	Type of award (Ind./Group/Inst./Farmer)	Award category (local/ Regional / National)	Awarding Organizations	Amount received
Alirajpur	First prize for mango exhibition/ Shri Yuvraj Singh	Farmer	National	Department of Horticulture Govt of U.P.	-
Ashoknagar	Jewik Krishi Protsahan Puraskar Dr. BS Gupta	Individual	Patanjali Peeth, Haridwar	Nil	
	Scientist of the year Dr. VK Jain(Scientist)	Individual	JNKVV, Jabalpur	Nil	
	Young Scientist of the year Sh.HK Trivedi	Individual	JNKVV, Jabalpur	Nil	-
	Jag Jivan Ram innovator farmer Sh. Rajpal Narvariya	Individual	ICAR New Delhi		100000
	Dr. V.K. Jain	Individual	-	SOHR and Innovation, Agra	50000
Barwani	Innovative Farmer/ Mrs. Lalita Mukati	Farmer	National	ICAR, New Delhi	
	National HaldharAward"/ Mrs. Lalita Mukati	Farmer	National	ICAR, New Delhi	100000

	Appreciation for organic farming/ Mrs. Lalita Mukati	Farmer	State	RVSKVV, Gwalior	10000
Dhar	Fakhruddin Ali Ahmed Award For Outstanding Research in Tribal Farming System-2018	Individual	National	ICAR	50000
Datia	Receiving Best NICRA KVK Award	**Institutional**	National	ICAR – CRIDA	-
Jhabua	RVSKVV Best extension scientist award	Individual	Regional	RVSKVV, Gwalior	
	RVSKVV Best innovative Farmer award	Individual	Regional	RVSKVV, Gwalior	
	Dhanuka Innovative Best KVK Award-2018	KVK team	National	Dhanuka Agritech Limited, New delhi	2,50,000/-
	Dhanuka Innovative farmer Award-2018	Individual	National	Dhanuka Agritech Limited, New delhi	25000/-
Morena	Dr. S. P. Singh	Individual **"2nd National Conference cum workshop"**	National	Department of Bio technology & Microbiology KALP Laboratories, Mathura	-
Ujjain	Sh. Ashwini Singh	Farmer	National	AIASA, ICAR and JNKVV	-
	Sh. Ashwini Singh	Farmer	National	ICAR, New Delhi	50000

	Smt. Ghazala Khan	Individual	-	RVSKVV, Gwalior	-
	Dr. R.P.Sharma	Individual	State	Governmen t of Gujarat	-
	Dr. R.P.Sharma	Individual	State	RVSKVV, Gwalior	-
	Sh. Ashwini Singh	Farmer	State	RVSKVV, Gwalior	10000
	Sh. Hakam Singh	Individual	-	Dhanuka Innovative Award	-
Burhanpur	Dr. Ajeet Singh Sr. Scientist & Head	Best poster award entitled Impact of mulching on water melon	National	Progressive Horticultur e Conclave 2019 held at ICAR-IISR, Lucknow, UP. Dated December 8-10, 2019.	-
	Mahindra Samridhi Award 2019	Shri Jitendra Patidar	Farmer	Mahendra Samriddhi India Agri Award Feb. 2019	211000.0 0
	Mahindra Samridhi Award 2019 (Krishak Samrat Samman)	Shri Arvind Dhakad	Farmer	Mahendra Samriddhi India Agri Award Feb. 2019	51000.00
	Best Farmer Representin g of District Level in Agriculture Field	-	05 Farmer	Project Directorate, ATMA, Ratlam (M.P.)	25000.00 each
	Best Farmer Representin g of Block Level in Agriculture Field	-	30 Farmers	Project Directorate, ATMA, Ratlam (M.P.)	10000.00 each

Award and Recognition: 2020-21

- ICAR - Pt. Deendayal Upadhyay Krishi Vigyan Protsahan Puruskar - 2019 (National) conferred to KVK Datia (National Best KVK)
- ICAR - Pt. Deendayal Upadhyay Krishi Vigyan Protsahan Puruskar - 2019 (Zonal – Zone IX) conferred to KVK Ujjain (Zonal Best KVK)
- Haldhar Organic Krishak Purushar – 2019 (National) given to Mrs Sarika Patidar of District Barwani
- Dhanuka Ag. Innovative Award (National) - KVK Jhabua
- National Poultry Extension Award by Poulrty Association of India - KVK Jhabua
- Dhanuka Innovative Agriculture Award for Water Harvesting – KVK Datia
- Outlook - Swaraj Award –2019 - KVK Morena

1.11.2 Programme on International Soil Health Day

On the occasion of International Soil Day on 5th December, 2019 Kisan Sammelan were organized at all the Krishi Vigyan Kendras in these Sammelans and Soil Health Cards were distributed to the farmers.

1.11.3 Progress of Seed Hub Project

KVK	Crop	Kharif		Rabi	
		Area (ha)	Production (q)	Area (ha)	Production (q)
Datia	Black gram	70.05	00	-	-
	Chick Pea RVG-202	-	-	20.50	174.44
Dewas	Black Gram	8.50	0	-	-
	pigeon pea Rajeshwari	8.00	2.64	-	-
	Chickpea RVG-203	-	-	49.5	461.52
Morena	Pigeon pea	02	00		
	Chickpea	-	-	2.5	9.60
Ujjain	Chickpea	RVG-202		38.00	225.00

1.11.5: Flagship Programmes of ICAR implemented by KVKs/DES:

1. National Innovations on Climate Resilient Agriculture (NICRA)

National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agricultural Research (ICAR) launched in February, 2011. The project aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstration. The research on adaptation and mitigation covers crops, livestock, fisheries and natural resource management. The project consists of four components viz. Strategic Research, Technology Demonstration, Capacity Building and Sponsored/Competitive Grants. The project was formally launched by the Hon'ble

Union Minister for Agriculture & Food Processing Industries Shri Sharad Pawarji on 2nd February 2011.

NICRA is being implemented by five KVKs under RVSKVV, Gwalior since 2011. Three KVKs namely Datia, Guna and Morena is implementing the project since its inception in 2011 whereas two more KVKs i.e. Jhabua and Ratlam were included in NICRA during 2015-16. KVK Datia had been awarded as Best NICRA KVK twice during 2014 and 2019 for outstanding work in water conservation under technology demonstration component.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Stored rain water in renovated check dam</td><td>Stored rain water in farm pond (scientist of ATARI Zone IX Jabalpur visited the farm pond)</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Height of Constructed Poly Bag Check Dam (Bori Bandhan)</td><td>Rain water Stored in Bori Bandhan</td></tr>
</table>

2. Cluster Front Line Demonstrations (CFLD) on Oilseed and Pulses

A. Pulses

Indian government imports large quantity of pulses to fulfil domestic requirement of pulses. In this regard, to sustain this production and consumption system, the Department of Agriculture, Cooperation and Farmers Welfare had sanctioned the project "Cluster Frontline Demonstrations on pulses from 2015-16"

to ICAR-ATARI, Jabalpur through National Food Security Mission. The basic strategy of the Mission is to promote and extend improved technologies, i.e., seed, micro-nutrients, soil amendments, integrated pest management, farm machinery and implements, irrigation devices along with capacity building of farmers. This project was implemented by all KVKs under RVSKVV, Gwalior with main objective to boost the production and productivity of pulses through CFLDs with latest and specific technologies.

CFLD on Black gram during Kharif 2018

Cluster demonstration of Field Pea during 2017-18

B. Oilseed

Oil seed crops have ecological conditions in India, resulted in the production of 7.87 m tonnes of seed mustard in 2013-2014 and our productivity is 10.9kg/ha. It is now widely accepted fact that training to farmers and farm women increases the technical knowledge regarding package of practices. KVKs are playing a vital role across the rural economy in distinguish field as animal husbandry, horticulture, plant protection and food processing. India is an important rape seed mustard growing country in the world, occupying largest area and has second position in production after China.

Visit of Shri Pradip Agrawal Ji M.L.A. Seonda constituency on cluster front line demonstration of mustard village Raraua Jivan Dated

3. Seed Hub Project

The Government of India has launched Seed Hub Project during 2016-17 to promote indigenous production of pulses in India by creating 150 Seed Hubs in KVKs across the country. ICAR-IIPR, Kanpur has been given responsibility of nodal agency at National level. Four KVKs namely Datia, Dewas, Morena and Ujjain has been selected for implementation of Seed Hub project among KVKs under RVSKVV, Gwalior. Major crop like Black gram, Green gram, Pigeon pea, chick pea and fields pea are being taken up for seed production under the seed hub project.

Crops under Seed Hub Project Datia

4. Attracting and Retaining Youth in Agriculture (ARYA)

In order to create interest and confidence among rural youth in agriculture, there is needed to make agriculture more profitable. Retaining youth in agriculture and making agriculture more profitable are thus, big challenges. There is a continuous increase in migration of rural youth to urban areas. On the other hand, small holdings are on the rise which posses challenge to food security for increasing population. Thus, it was felt to bring a comprehensive model for the development of rural youth in general and agricultural youth in particular. Thus, realising the importance of rural youth in agricultural development especially from the point of view of food security of the country, ICAR has initiated a programme on "Attracting and Retaining of Youth in Agriculture (ARYA)" with following objectives;

1. To attract and empower the Youth in Rural Areas to take up various Agriculture, allied and service sector enterprises for sustainable income and gainful employment in selected districts.
2. To enable the Farm Youth to establish network groups to take up resource and capital intensive activities like processing, value addition and marketing.

3. To demonstrate functional linkage with different institutions and stakeholders for convergence of opportunities available under various schemes/program for sustainable development of youth.

KVK, Gwalior was selected for implementing ARYA project during 2016-1 in first phase and currently five KVKs under RVSKVV are implementing this project.

5. Farmers' FIRST Project

The Farmer FIRST as a concept of ICAR is developed as farmer in a centric role for research problem identification, prioritization and conduct of experiments and its management in farmers' conditions. The focus is on farmer's Farm, Innovations, Resources, Science and Technology (FIRST). Two terms 'enriching knowledge' and 'integrating technology' qualify the meaning of Farmer FIRST in Indian context. Enriching knowledge signifies the need for the research system as well as farmers to learn from each other in context to existing farm environment, perception of each other and interactions with the sub-systems established around. Technology integration is looked from the perspective that the scientific outputs coming out from the research institutions, many times do not fit as such in the farmers' conditions and thus, certain alterations and adaptations are required at field level for their acceptance, adoption and success. 'Farmer FIRST' programme aims at enhancing farmer-scientist interface for technology development and application. It will be achieved with focus on innovations, technology, feedback, multiple stakeholder's participation, multiple realities, multi method approaches, vulnerability and livelihood interventions.

The Farmers' FIRST Project is being implemented in RVSKVV since 2016-17 in ZARS/KVK, Morena.

6. Mera Gaon Mera Gaurav (MGMG): The programme is being implemented by the University through in five constituent colleges i.e. College of Agriculture, Gwalior, Indore, Sehore, Khandwa and College of Horticulture, Mandsaur and three ZARS viz; Jhabua, Khargore and Morena. The avobe V.V. units are organizing regular extension activities under MGMG in their identified villages.

2. Major Activities of Directorate of Extension Services

2.1 Meeting of Scientific Advisory Committees and monitoring of KVKs

The Scientific Advisory Committee meetings were conducted to give necessary guidance and support to carry out the mandated activities of KVK in a more planned and scientific manner. The Committee monitors progress and facilitate in-depth exchange of views in specific fields. The Committee evolves the scientific and technical vision documents for the KVK, reviews periodically and takes further course of action as deemed fit for furthering scientific and technological

activities of the KVK. Activities of KVKs are monitored through thesemeeting of Scientific Advisory Committees (SAC). Director Extension Services, Joint Director Extension, and other scientists from the Directorate of Extension participated in these meetings to reviews previous activities and finalize the action plans for coming season. A total of50 SAC meetings (Kharif and Rabi) were conducted for all 27 KVKs during 2019-20. Details of SAC meetings organised during the year are as folows:

SAC Meetings Organised

Name of KVK	Date of SAC			Participants in SAC			Remarks
	1	2	3	1	2	3	
Agar Malwa	June 2019	October 2019	-	30	30	-	
Alirajpur	10.01.2019	12.7.2019	24.10.2019	40	32	35	
Ashoknagar	07.02.2019	23.09.2019	24.10.2019	40	-	-	
Barwani	07.09.2019	06.11.2019	-	24	21	-	
Lahar (Bhind)	27-03-2019	23-09-2019	11-10-2019	29	33	21	
Datia	27-09-2019	11-10-2019	-	17	30	-	
Dewas	24.09.2019	16.10.2019	-	29	34	-	
Dhar	27.09.2019	23.10.2019	-	15	17	-	
Dhar (Manawar)	26.09.2019	23.10.2019	-	26	24	-	
Guna	20.11.2019	25.09.2019	24.05.2019	43	38	28	Special meeting 06.02.2019 32 Participants
Gwalior	30/09/2019	05/10/2019		32	38		
Jhabua	09.01.2019	11.07.2019	25.10.2019	38	35	50	
Khandwa	05.09.2019	16.10.2019	-	14	14	-	
Khargone	06.09.2019	17.10.2019	-	23	30	-	
Mandsaur	25.09.2019	16.10.2019	-	26	24	-	
Morena	28.09.2019	04.10.2019	-	35	41	-	
Neemuch	10.10.2019	15.10.2019	-	28	22	-	
Rajgarh	Jun-19	Oct-19	-	32	34	-	
Shajapur	15.10.2019	21.08.2019	-	35	38	-	
Sheopur	-	-	-	-	-	-	**Not mentioned**
Shivpuri	29.8.2019	09.10.2019		22	27	-	
Ujjain	25.09.2019	18.10.2019	-	34	54	-	

Bhopal	-	-	-	-	-	-	**Not Reported**
Burhanpur	16.10.2019	-	-	20	-	-	
Indore	17.10.2019	-	-	21	-	-	
Ratlam	27.09.2019	-	-	21	-	-	
Sehore	24.09.2019	16.10.2019	-	33	**16**	-	

2.2 Establishment of Agriculture Technology Information Centre (ATIC)

The construction work of ATIC building is in final stage and it has to be furnished and started soon.

2.3 Training /Workshops/ Meetings organised by the Directorate of Extension Services

Following capacity building/ HRD programmes and workshops/ review workshops were conducted for KVK scientists by the directorate of extension services during the year 2019-20:

Programme	Title of programme	Date	No. of participants	Level of Participants
CBP/Backstopping	Honey Bee Keeping - An Entrepreneur for Enhancing Farm Income	February 1-3, 2019	33	SS& Head/ Scientist
	Training on Process of e-Tendering	March 12-13, 2019	23	DDOs/Officers of various V.V. units
	On Farm production of organic inputs	February 4-5, 2020	30	KVK scientists
	Preparation & dissemination of agromet advisories at Block level under DAMU	February 23-27, 2020	>30	KVK scientists and DAMU staff
Exhibition and Sangosthi	Raj Vijay Fulwari – 2020 (An exhibition on Horticulture and processed products)	28-30 January, 2020	>200	KVKs, Farmers, Nursery, institutions and Industry
Workshop	ARM of GKMAS * FASAL	18-20 December, 2019		PI/CoPI and Scientists of GKMS & FASAL

				from All India
Mela	KRISHI VIJAY-2020	28-30 January 2020	>3000	Participants from all over India in west zone krishi Mela

2.4 Western Region Agricultural Fair (Krishi Vijay - 2020) Organised

Rajmata Vijayaraje Scindia Krishi VishwaVidyalaya, Gwalior (M.P.) organized Western Region Agriculture Fair (Krishi Vijay-2020) at College of Agriculture Campus, Gwalior during January 28-30, 2020 in collaboration with Directorate of Extension, Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture Cooperation & Farmers Welfare, Government of India, New Delhi. The theme of the fair was Farmers' Empowerment through Agri-preneurial Ventures. The farmers' fair was inaugurated by Sh. Sachin Yadav, Hon'ble Minister, Department of Farmers Welfare and Agriculture Development, Govt. of Madhya Pradesh and Mr. Lakhan Singh Yadav, Hon'ble Minister, Department of Animal Husbandry, Govt. of Madhya Pradesh in gracious presence of Prof. S. K. Rao, Hon'ble Vice Chancellor, RVSKVV, Gwalior.

Sh. M. B. Ojha, Commissioner, Gwalior division and Prof. S. K. Rao, Hon'ble Vice Chancellor, RVSKVV, Gwalior were present as Chief guests during valedictory ceremony of the 03-days long grand farmers' event. Hon'ble Vice Chancellor acquainted the guests about the overwhelming response of the exhibitors from across the country.

More than 3600 farmers and agriculture professionals from western region states i.e. Madhya Pradesh, Rajasthan, Gujarat, Maharashtra, Chhattisgarh participated in the fair. The fair exhibit more than 100 stalls showcasing latest agricultural technologies from various public and private sector organizations, NGOs, FPOs, SHGs, KVKs, Progressive framers etc. for updating the stakeholders of agriculture on most recent advancements.

The fair focused on latest technological attractions like IFS models, food processing and value addition, entrepreneurial ventures in agriculture and allied areas, crop diversification, water management technologies, Nutri-sensitive agriculture, climate resilient technologies, organic-*Paramparagat* farming, Hi-tech horticultural technologies, IPM, INM, Medicinal and Aromatic Plants and advancement in seed technology etc. The enough space was provided for sale counters of seed, planting materials, Bio-fertilizers and Bio-pesticides etc. Furthermore, a regular *Krishak Sangosthi* was organised on relevant subjects for the farmers with reputed experts in five sessions throughout the three days fair. It was

splendidly successful attempt by DES, RVSKVV, Gwalior for organizing Western Region Agriculture Fair.

2.5 Raj Vijay Fulwari 2020 organised

Directorate of Extension Services, RVSKVV, Gwalior (M.P.) organized "Raj Vijay Fulwari-2020" at College of Agriculture, Gwalior on January 28-30, 2020. Three-day exhibition was organized with splendid display of exhibits of quality fruits, vegetables, variety of flowers and preserved fruit items. The exhibition was inaugurated by Sh. Sachin Yadav, Hon'ble Minister, Department of Farmers Welfare and Agriculture Development, Govt. of Madhya Pradesh. Mr. Lakhan Singh Yadav, Hon'ble Minister, Department of Animal Husbandry, Govt. of Madhya Pradesh was also present during the inauguration.

Prof. S. K. Rao, Hon'ble Vice Chancellor, RVSKVV, Gwalior and Sh. M. B. Ojha, Commissioner, Gwalior division were as Chief guests during valedictory ceremony of the 03-days exhibition Hon'ble Vice Chancellor acquainted the guests about the overwhelming response of the exhibitors from 27 districts under RVSKVV, Gwalior. 73 participants were registered with their exhibits under various categories of Rajvijay Fulwari 2020.

The flower exhibition displayed various stalls like preserved fruit (16), fruits in basket (41), seasonal flowers (18), floral decoration (10), vegetables in basket (62), bonsai and land scap (24), seasonal cut flowers-Rose (31), ornamental in pots (22) and home garden (24) exhibits during the event for judgment by the various committee of experts constituted.

The farmers and institutions were awarded with awards for the quality display of their products and items under various categories after the evaluation by the various evaluation committees at the end of the programme. Total 103 and 82 first prizes respectively were given for the different exhibits displayed by the participants. 62 exhibits were judged for consolation certificate under various categories. The event was visited by more than 3600 visitors.

2.6 राट्रीय कार्यशाला – कृषि मौसम विज्ञान एवं 13th Annual Review Meeting of GKMS organised

Directorate of Extension Services, RVSKVV, Gwalior in collaboration with Department of Agrometeorology, Ministry of Earth Sciences, Government of India had organized 13th Annual Review Meeting of Gramin Krishi Mausam Sewa (GKMS) during December 18-20, 2019. Director General of IMD Dr. M. Mohapatra inaugurated the workshop in the chairmanship of Hon'ble Vice Chancellor Prof. S.K.Rao. More than 330 delegates from all the Indian states participated and presented their report in several technical sessions. The emerging issues of climate change and challenges for agro-advisories in the future were discussed through panel discussion and invited lead papers from renowned experts in the field.

The annual programme of 130 campuses under GKMS was reviewed in the meeting besides presentations of Dr. K.K. Singh and Dr. Manish Bhan in the house for effective uploading of meteorological information for timely issues of weather based advisories to the farmers in their respective areas. A one day training programme for the scientists and technical staff of District Agro Meteorological Unit (DAMU) was also organized on 21st December, 2019.

2.7 Swatch Bharat Abhiyan

SwachchtaDiwas and activities on keeping India cleanwere organized in all KrishiVigyanKendrasunder 'Swachcha Bharat Abhiyan' in which farmers and farm women were conveyed the message of cleanliness.

GLIMPSES OF ACTIVITIES BY KVKS AND DES, RVSKVV, GWALIOR

6. LIBRARY AND DOCUMENTATION SERVICES:

Library system of different constituent Colleges of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior continued to play the pivotal role in dissemination of information across the University.

Entire academic community continued to harness the benefits of this useful information system. Textbooks, Reference books, Competitive examination books, digital library e-books, scientific periodical, thesis, report, encyclopedias, CDs relevant to teaching and research activities etc. have been stocked in the library of constituent Colleges of the University.

Books and Journals available:

S.No.	Particulars	No. of books
1.	Total No. of books available in different College Library of Vishwa Vidyalaya.	1,36,566
2.	New books purchased during 2018-19	9239
3.	*e*-Books	-

Central Library: The fund provided by ICAR has been utilized by the Central Library of the University. The much awaited and highly needed books on various subjects have been purchased. The basic infrastructural facility has been developed that has made the academic atmosphere of the libraries more conductive for the research scholars, students and teachers alike. The computerization of all the e-libraries of Vishwa Vidyalaya has made the functioning smoother now, therefore each and every user is assisted promptly. The e-library is fully functional connecting the local user through World Wide Web to the global scenario of knowledge. The good quality book cases keep study material safe and intact, and the comfortable furniture is a kind of great relief to the voracious readers. In central library total Books are 10341, 9718 printed books, 139 e-books, 07 printed magazines, 1303 gifted books, 15 priented journal and 52 E-magazines were available in Central library of VishwaVidhyalaya.

7. INFRASTRUCTURE DEVELOPMENT:

(1) College of Agriculture, Gwalior:-

S. No.	Department	Infrastructure Development
1	Plant breeding & Genetics	Cytogenetic lab, seed Technology lab and Library
2	Plant Moleular Biology and Biotechnology	Strengthen Molecular Biology Lab, Biochemical lab and Tissue culture Lab at Biotechnology Centre

(2) College of Agriculture, Indore:-

S. No.	Name	Amount P.a.c. (lakhs)	Type/ complection
1.	Construction of boundary wall	14.00	Construction
2.	Construction of cattle shed	3.00	Construction
3.	Construction of seed hub	33.00	Construction
4.	Construction of additional room at girls hostel	20.00	Construction
5.	Construction of CC road at college campus	5.00	Construction
6	Construction of gate at college campus	5.14	Construction

(3) RAK, College of Agriculture, Sehore:-

- Construction of seed hub
- Construction of seed store
- Construction of boundry wall of girls hostel
- Construction of boundry wall near F quarters
- Renovation work of seminar hall
- Threshing floor/Open shed
- Vermicompost shed

Vermicompost Shed

Seed store

Boundry wall near F quarters

Threshing floor/Open shed

(4) BM, College of Agriculture, Khandwa: - The vision of the Institute is to "ensure good governance, flawless administration and sound human resource management to harness the full potential of the staff and the students so as to transform a process driven institution into a result oriented organization".

College Dispensary-The College has fully equipped Dispensary. Presently, the dispensary has a Medical Officer and a Peon. Agriculture College Dispensary is rendering quality medical services round the clock to students, staff and their family members, pensioners and their families. Besides, it shoulders medical accountabilities during seminars, conferences, Health Awareness Camps, routine health check-ups etc. Since the inception of the dispensary, medicines and other medical aid were provided free of cost.

Extension of sports complex "Parth"

Shelter shade near Polyhouse

Ambedkar Hall (Conference Hall)

A newly built conference hall with a sitting capacity of 75 was inaugurated by Hon'ble Vice Chancellor RVSKVV, Dr S.K. Rao with the name "Ambedkar Hall".

"Ambedkar" Conference Hall

Soil Science lab

Pathology Lab

Gym strengthens–Physical exercise is important for maintaining physical fitness and can contribute positively to maintaining a healthy body. College also has a Gymnasium with latest machines like Cardio Equipment, strength equipment, Treadmill, Rehabilitation Upright Bike, Massager etc. Sports complex and Gym is presently used by students as well as by the staff for activity requiring physical effort, carried out to sustain or improve health and fitness. New Machines and other health equipments are purchased in order to strengthen Gymnasium.

Organic Turmeric Processing Unit: It is established at Cotton Research Centre, Khandwa. Organic turmeric is produced in the farm and this unit will help us in processing it to the final value added product. Good quality of organic turmeric is a great source of "*Curcumin*" which is good for health.

Organic Turmeric Farming and Processing Unit

Vermicompost: This unit is established at Cotton Research Centre, Khandwa and it consist of 12 beds for preparation of Vermicompost, which is used for organic Cotton and Turmeric production in the farm.Vermicomposting uses earthworms to turn organic wastes into very high quality compost, which give all essential micro and macro plant nutrients to plants. Worm casts contain five times more nitrogen, seven times more phosphorus, and 11 times more potassium than ordinary soil.


Vermi-compost unit at Cotton Research Centre

Organic Bio-char: A new Organic Bio-Char Box has been set in college research farm. It is used for carbon sequestration. The unit is established for preparing coal from crop (cotton) residuals. It will not only provide destroy crop residual but will be an additional source of income for the farmer community. It is also eco-friendly.


Organic Bio-Char

Madhav Goshala-B.M. College of Agriculture has cattle husbandry unit with 70 cattle's at cotton research centre and is known as "Madhav Gaushala". It is a large source of cow dung provider, which is supplied in making vermin-compost. Cow dung, urine can be used for making Jivamrut and organic pesticides.

The development works carried out at Gaushala.

- Construction of Cattle Shed.
- Construction of grass godown.
- Compound wall.

Cattles at Madhav Goshala

Initiatives towards Organic Farming: Two Vermi-compost units each at College farm and KVK premises have been established. Both the units have six pits and production of vermi-compost has already started and is being used for enriching the soils of the college farm. Besides, under *Krishi Teerth* plan, recently, a vermi-compost unit has also been established in which the compost is being made in open bed instead of pits. An area of one hectare has been earmarked for organic farming as per the directives of the VV. Since last three years organic crops like Cotton, Wheat, Arhar, Turmeric. Gram, Onion, Kinova, Maize, Watermelon, Moringa, Mango, Pomegranate and Custard apple have been cultivated without using any synthetic chemicals. Facilities for micro (drip) irrigation have also been established.

(5) KNK, College of Horticulture, Mandsaur

Infrastructure Development:- Facilities Developed at College level:

S. No.	Facility developed	Qty	Amount
1.	Sanitary incinerator for girls hostel	01	22,000/-
2.	Water tanks with pvc pipes etc. for drinking water facility in girls hostel	02	28,320/-
3.	Attendance machine for PG students of the college	04	26,800/-
4.	Water filter for girls hostel	01	9900/-
5.	Water tanks with accessories for water supply in college	04	45225/-
6.	Print books purchased for library	450	200,000/-

Facilities Developed at department level:
Name of Department:

S. No.	Name of the Deparment	Facilities Developed (equipment purchased)	Qty	Cost
1.	For fruit science deptt.	Pruning chain saw	01	16986/-
2.		Brush cutter	01	19501/-
3.		Luper shear	05	3513/-
4.	For veg. science deptt.	Precision balance	01	20907/-
5.		Thermohygrometer	01	2912/-
6.		Infrared Thermometer	01	19990/-
7.	For plantation, spices deptt.	Spray pump	01	5180/-
8.	For plantation, spices deptt.	Water pump	01	9906/-
9.	For plantation, spices	Weighing machine	01	8614/-

10.	deptt.	Starter	01	4600/-
11.		Mixer	01	2800/-
12.		Dryer	01	3100/-
13.		Spray pump	01	15160/-
14.	For post-harvest deptt.	Solar dryer	01	15015/-
15.		Bottle washing machine	01	15545/-
16.	PHM Lab	✓ Chemical analysis for percent reducing sugar, non-reducing and total sugar, percent acidity, percent ascorbic acid, pyruvic acid (micro mole/gram), organolaptic evaluation (colour, texture, taste, flavour) e.t.c. ✓ Preparation and preservation of various value added products i.e. Beal Candy, Aonla Candy and Blended RTS	NA	NA

Glimpses

Entrepreneurship development in Mushroom Production, Processing and Marketing

Training on Honey Bee Keeping

8. GENERAL ADMINISTRATION:

8.1 **General Administration:** The Board of Management (BoM) of RVSKVV is the apex-body, empowered to make policy decisions with the Vice-Chancellor as its Chairperson who is also the Executive Head of the University. The composition of BoM is given below:

BOARD OF MANAGEMENT

S. No.	NAME AND ADDRESS OF MEMBERS
1	Principal Secretary Farmer Welfare and Agriculture Development MP Govt., Mantralaya, Vallabh Bhawan, Bhopal (M.P.)
2	Secretary Department of Finance MP Govt., Mantralaya, Vallabh Bhawan, Bhopal (M.P.)
3	Deputy Directore General (Agril. Eduaction) ICAR, KAB-II, Pusa, New Delhi
4	Dr. Vijay Singh tomar Ex. Vice-Chancellor (RVSKVV/JNKVV) DH-33 A, DD Nagar, Morar, Gwalior (M.P.)
5	Dr. O.P. Mathuriya Agriculture Scientist C-333, Kailash Vihar, AV-1 Kalyanpur, Kanpur-208017 (U.P.)
6	Dr. Sushil Kumar Piyashi Agril. Engineear (SWE) College of Agriculture Engineering Aadhartal, Jabalpur (M.P.)
7	Sh. Praveen Kumar Shinde F-108/29, Shivaji Nagar, Bhopal (M.P.)
8	Sh. Shivraj Sharma Bal Niketan Road Gandhi Colony, Morena (M.P.)
9	Sh. Ranjeet Singh Rana H-32, Purani Court Ghasmandi, Morar, Gwalior (M.P.)
10	Dr. Sunanda Singh Raghuwanshi E-7/59, SBI Colony, Arera Colony, Bhopal (M.P.)

ACADEMIC COUNCIL

The Academic Council is vested with the responsibility of implementing and monitoring all the academic programmes. The council is headed by the Vice-Chancellor, as chairperson and consists of Dean Faculty, Director Instructions, Director Research and Director Extension, University Head of Departments and Professors as members. The composition details are given below:

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Dr. S.K. Rao Vice-Chancellor RVSKVV, Gwalior	**Chairman**
2	Dr. Mridula Billore Dean, Faculty of Agriculture RVSKVV, Gwalior	Member
3	Dr. M.P. Jain Director, Research Services RVSKVV, Gwalior	Member
4	Dr. R.N.S. Banafar Director, Extension Services RVSKVV, Gwalior	Member
5	Dr. A.K. Singh Director, Instructions and Dean, Student Welfare RVSKVV, Gwalior	Member
6	Dr. A.K. Singh Managing Director, National Horticulture Board Ministry of Agriculture and Farmer Welfare, Govt. of India 85, Institutional Area, Sector-18, Gurgaon-122012 (HR)	Member
7	Dr. Rajpal Singh Former Professor and Head 278-A, Durgesh Vihar, J.K. Road, Bhopal-462041 (M.P.)	Member
8	Shri D.L. Kori Registrar, RVSKVV, Gwalior	**Member Secretary**

ADMINISTRATIVE COUNCIL

S. No.	NAME AND ADDRESS OF MEMBERS	OFFICIALS
1	Dr. S.K. Rao Vice-Chancellor RVSKVV, Gwalior	**Chairman**
2	Dr. Mridula Billore Dean, Faculty of Agriculture RVSKVV, Gwalior	Member
3	Dr. M.P. Jain Director, Research Services RVSKVV, Gwalior	Member
4	Dr. R.N.S. Banafar Director, Extension Services RVSKVV, Gwalior	Member
5	Dr. A.K. Singh Director, Instruction and Student's Welfare RVSKVV, Gwalior	Member
6	Two Dean colleges nominated by the Vice-Chancellor for a period of two years by rotation- 1. Dean, College of Agriculture, Gwalior. 2. Dean, College of Agriculture, Indore.	Member
7	Dr. (Smt.) Sugandhi Tiwari Comptroller RVSKVV, Gwalior	Member
8	Dr. H.S. Bhadauria Executive Engineer/In-charge of Work section RVSKVV, Gwalior	Member
9	Two Heads of Department from Agriculture Faculty by rotation according to the seniority for a period of two year- 1. Head of Department (Extension Education). 2. Head of Department (Genetics Pl. Breeding).	Member
10	Shri D.L. Kori Registrar, RVSKVV, Gwalior	**Member Secretary**

9. IMPORTANT EVENTS/INAUGURATIONS:

Republic Day

RVSKVV, Gwalior celebrated 70th Republic Day on January 26, 2019. Prof S.K. Rao, Hon'ble Vice Chancellor hoisted the tricolor in the presence of senior officers, invitees, staff members and students. He also addressed the gathering.

Occasion of Martyr's Day

On the occasion of Martyr's Day tributes were paid to late Rajmata Vijayaraje Scindia on January 25, 2019 at the Vishwa Vidyalaya Campus by Hon'ble Vice-Chancellor, senior officers and staff members.

150th Birth Anniversary of Mahatma Gandhi Celebrated

Various activities are being conducted in all the colleges by the staff and students to pay tributes to the Father of the Nation, **Mahatma Gandhiji**. The activities including visit to industries of the students to have industrial experience for self-employment; lectures on cleanliness, self-employment and women empowerment by subject experts and social activists; Human Resource Development; Hands on practice on Nursery management, preparation of vermin composting and Blood/ Checkup Camps *etc.* were organized.

International Yoga Day (June 21, 2019)

University headquarter, all constituent colleges and KVKs under the jurisdiction of the university celebrated Fifth International Yoga Day on June 21, 2019. Senior officers and Staff members participated in Yoga programme organized at various campuses.

Sixth Convocation

The Sixth Convocation of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior was held on October 22, 2019. Hon'ble Shri Lalji Tondon, the Governor of Madhya Pradesh and Chancellor of Universities presided over the function. Hon'ble Dr. Mangla Rai, Former Secretary DARE and DG, ICAR, New Delhi delivered the convocation address. Shri Sachin Subhash Yadav, Hon'ble Minister, Farmer Welfare and Agriculture Development, Govt. of M.P. was Chief Guest. Prof. S.K. Rao, Vice Chancellor presented the university progress report. A total of 521 students were awarded UG, PG and Ph.D. degrees, five students received Gold Medals and 3 students received **Sirtaj Bahadur Sinha Memorial** Cash Prize.

Foundation Day

11th Foundation Day of University was celebrated on August 19, 2019 in the gracious presence of Dr. Arvind Kumar, Hon'ble Vice Chancellor, Rani Laxmi Bai Central Agricultural University, Jhansi (U.P.) as Chief Guest of the function. Shri Munna Lal Goyal, Hon'ble MLA, Gwalior & Board Member and Shri Ranvir Jatav, Hon'ble MLA & Board Member were present as Special Guests. Hon'ble Vice Chancellor, Prof S.K. Rao highlighted the University's achievements.

Independence Day

RVSKVV, Gwalior celebrated Independence Day on August 15, 2019. Prof. S.K. Rao, Hon'ble Vice Chancellor unfurled the Tricolor in the presence of senior officers, invitees, staff members and students.

WHAT'S NEW ?

University Ranking

ICAR Ranking-2018: University is ranked number 19 amongst Agriculture Universities.

10. HUMAN RESOURCE DEVELOPMENT:

Participation of Scientist in National/International Seminars/Symposia/ Conferences/ Short term Courses /Trainings/Workshops/Summer and Winter Schools etc.

For the Year 2019-20

S. No.	Programme/ Training	Name of faculty members	Duration from ...to...	Organized by
1	Advance in potato production technology and its future propertecus.	Dr. R.S. Sikarwar	19/11 to 09/12/2019	ICAR-CPRI, Modipuram
2	Assessing Soil Plant Atmosphere Continuum (SPAC) for Enhanced Input Use Efficiency. Dr. O.P. Choudhary, Director-CAFT.	Dr. Nisha Singh	Oct.,01 to Oct.,21,2019	Department of Soil Science, Punjab Agricultural University, Ludhiana (Punjab) - 141004
3	Next generation sequencingand its applicationin plant science.	Dr. Sushma Tiwari	03-23-/09/2019	ICAR- Department of Biotechnology
4	Professional Development	Dr. Neelesh Raypuriya	16-05-2020 to 20-05-2020	CoA, Balaghat

	Programmes			
5	Professional Development Programmes	Dr. M. L. Jadav	12.05.2020 to 29.05.2020	NAHEP-Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani (M.S.)
6	Professional Development Programmes	Dr.Diksha tembhre	14.02.2020 to 05.03.2020	ICAR- Central Institute of Agricultural Engineering, Bhopal
7	Professional Development Programmes	Dr. Narendra kumawat	14.02.2020 to 05.03.2020	ICAR- Central Institute of Agricultural Engineering, Bhopal
8	Professional Development Programmes	Dr. R. K. Singh	27-01-2020 to 31-01-2020	NIPHM, Hyderabad
9	Professional Development Programmes	Dr.Narendra Kumawat	02.12.2019 to 06.12 2019	Maharana Pratap University of agriculture and technology, Udaipur
10	Professional Development Programmes	Dr. M. L. Jadav	02.12.2019 to 06.12.2019	Directorate of Extension Education, MPUAT, Udaipur
11	Professional Development Programmes	Dr. J.P.Mehra	20.11.2019 10.12.2019	GBPUAT, Pantnagar,Uttrakhand
12	Professional Development Programmes	Dr. R. K. Singh	03-10-2019 to 23-10-2019	GBPUAT, Pantnagar,Uttrakhand
13	Professional Development Programmes	Dr. Narendra kumawat	03.01.2019 to 23.01 2019	ICAR- Central Institute of Agricultural Engineering, Bhopal
14	Current Applications, Challenges and Perspective of Genomics-Assisted Breeding for Crop Improvement	Dr. B.R. Baraiya	16.01.2020 to 05.02. 2020	ICAR and BAU Sabour
15	Winter School on "*Technological advances made, priorities and future strategies in organic agriculture for sustainable farm production and doubling farmers income*"	DR. LEKHARAM	03.12.2019 to 23.12.2019	University of agricultural science Raichur
16	Detection, Diagnosis and management of plant diseases 03.12.2019 (six week course)	Dr. D.R. Saxena	03.12.2019	BHU
17	Training on Application of Remote sensing and Geographic Information systems(GIS) in Agriculture development	Dr.D.K.Vani	5.8.2019 to 9.8.2019	EEI, Anand

18	Training programme on " Role of technology in community level disaster mitigation for Scientists & Technologists	Dr.D.K.Vani	4.11.2019 to 8.11.2019	Centre for Disaster Management, LaBaSNAA, Mussoorie
19	Faculty development programme on Climate Change	Dr. Pradyumn Singh	14.02.2020 to 05.03.2020 to ICAR- Central Institute of Agricultural Engineering, Bhopal	Madhya Pradesh Clean Development Mechanism Agency and Environmental Planning and Coordination Organization
20	ICAR Sponsored 21 days Faculty Development Training on " Productivity, Economics and Environmental Performance in Organic Agriculture	Dr. Sanjay Kumar	05.09.2019 to 25.09.2019	Centre for Advanced Faculty Training on Organic Farming, Directorate of Research, MPUAT, Udaipur
21	Massive Open Online Course (MOOC)	Dr. Manoj Kumar Kureel	01.09.2019 to 30.11.2019	NATIONAL INSTITUTE OF PLANT HEALTH MANAGEMENT Rajendranagar, Hyderabad
22	Short course	Dr.Roopesh Chaturvedi	01/11/2019 to 14/11/2019	HRDC sponsored by UGC
23	Refreshers course	Dr. Jyoti Kanwar	04/01/2019 to 24/01/2019	SKN College of Agriculture
24	Refreshers course	Dr. Nitin soni	04/01/2019 to 24/01/2019	SKN College of Agriculture
25	Short term course	Dr. Roshan Gallani	05/08/2019 to 09/08/2019	Extension Education Institute , Anand (Gujrat)
26	Refresher Course	S.S. Kushwah	19/11/2019 to 09/12/2019	CPRI, Modipurum, Meerut (ICAR)
27	Refreshers course	Dr. S. B. Singh	04/10/2019 to 24/10/2019	Department of Entomology, CCS Haryana Agriculture university, Hissar
28	Refresher Course	Basant Kumar Kachouli	07/11/2019 to 27/11/ 2019	Swami Keshwanand Rajasthan Agricultural University, ICAR
29	Orientation Program	Dr.H.C.Bharvey	31/10/2019 to 20/11/2019	UGC, Sponsored
30	Refreshers course	Dr. K.C. Meena	04/01/2019 to 24/01/2019	SKN, Agriculture University Rajasthan
31	Refreshers course	Dr. R. K. Sharma	03/09/2019 to 23/09/2019	CAFT on Horticulture (Vegetables), Dept. of Vegetable Science, Dr. YS Parmar University of Horticulture and Forestry, Nauni (Solan) HP
32	Refreshers course	Dr. Om Singh	01/01/2019 to 21.01/2019	MPUAT, Udaipur

33	Refereshers Course	Dr. Roshan Gallani	04/09/2019 to 24/09/2019	AAU, Jorhat Assam
34	Refreshers course	Dr. Anuj Kumar	17/01/2020 to 06/02/2020	ICAR, Division of Fruit and Horticultral Technology
35	Refreshers course	Dr. O.P.Singh	03/01/2019 to 23/01/2019	Devi Ahilaya Vishwavidhyalaya, Indore (UGC-HRDC)
36	Refreshers course	Dr. R.P.Patel	08/11/2019 to 28/11/2019	MPUAT, Udaipur
37	Refreshers course	Dr. K.C. Meena	17/01/2020 to 06/02/2020	ICAR, Division of Fruit and Horticultral Technology
38	Short course	Dr.Roopesh Chaturvedi	20/01/2020 to 31/01/2020	Department of Science and Technology, Amity University
39	Refreshers course	Dr. Nitin soni	17/01/2020 to 06/02/2020	IARI, New Delhi
40	Refreshers course	Dr. S. B. Singh	11/10/2020 to 31/10/2020	Jointly organized AEDS, CSRTI & Bioved research Institute of agriculture, technology and science, Allahabad and Puducherry Institute of agriculture sciences, thavalakuppam, Puducherry
41	Short course	Dr. Alam Khan	14/12/2019 to 17/12/2019	National Institute ofTechnology, Rourkela, India

10.1 Financial Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies for the year 2019-20-

Year -2019-20				
Dates (from-to) (DD-MM-YYYY)	**Title of the conference/ workshops/ name of the professional body**	**Name of the teacher**	**Amount provided by the HEI**	**Purpose (Membershiop fee/travel and other expenses/Registration fee)**
oct 15th to 16th 2019	26th Annual Review Meeting held at AAU, JORHAT 15-16 October, 2019	Dr Varsha Gupta	6000	Registration fee
10/13/2019	DESI- Diploma Couse on Production technology in Onion & Garlic	Dr. Rashmi Bajpai	-	-

Septembe r 03 - 09, 2019	National workshop on Molecular Analysis and its application organized RML Avadh University Ayodhya and Cytogene research and development Lucknow (7 days)	Dr. Jaya Prajapati		
November 15-18, 2019	84th Annual Convention of Indian Society of Soil Science at BHU, Varanasi from	Dr. S. K. Trivedi	4000	
November 15-18, 2019	84th Annual Convention and National Seminar on Developments in Soil Science organized by Indian Society of Soil Science (4 days)	Dr. Jaya Prajapati	2000	
March 02-03, 2019	National Seminar on “Strategies for Soil Health Management Achievements & Researchable IssuesOrganized by Department of Soil Science, RVSKVV, Gwalior	Dr. Shashi S. Yadav	2500	
Feb 23-24, 2019	National Conference on Resilience and Resource Management including ICT for Sustainable Agriculture and Biotechnology during	Dr. Shashi S. Yadav	nil	
March,15-17 2019	54th annaul group meeting of ICAR-All India coordinated research project on pearl millet	Dr. R K Pandya		
	AICRP Chickpea Bursa Agric. Univ. Ranchi	Dr. Reeti Singh	nil	

Feb. 01-03, 2019	4th National Brassica Conference (NBC-2019).Innovative Approaches in Oilseed Brassica Towards Self Sufficiency.	Dr. Rajni Singh Sasode	nil	
May-28-30-2019	49th Annual Group Meeting 28-30 May 2019 at CCSHA Univ. Hisar, Society of Millets Research ICAR IIMR, Hyderabad-RVSKVV, Gwalior	Dr. A.K. Badaya	8000	Registration fee
Sep-4-06-2019	Annual Group Meeting of Safflower and linseed/Chandra Sekhar Azad Universtiy of Agriculture and Technology, Kanpur	Dr. A.L. Kushwaha	4000	Registration fee
May-28-30-2019	49th Annual Group Meeting 28-30 May 2019 at CCSHA Univ. Hisar, Society of Millets Research ICAR IIMR, Hyderabad-RVSKVV, Gwalior	Dr. B.B. Kushwaha	8000	Registration fee
Jan-16-19, 2019	XXVI Biennial Workshop on AICRPDA held at Bengaluru/ICAR-CRIDA, Hyderabad	Dr. Bharat Singh	4000	Registration fee
Jan-16-19, 2019	XXVI Biennial Workshop on AICRPDA held at /ICAR-CRIDA, Hyderabad	Dr. D.H. Ranade	4000	Registration fee
Jan-16-19, 2019	XXVI Biennial Workshop on AICRPDA held at Benguluru/ICAR-CRIDA, Hyderabad	Dr. D.V. Bhagat	4000	Registration fee
Jan-01-2020	7th Internation conference on phytopathology in achiving UN	Dr. R.K.Singh	11800	Registration fee

	sustainable/Indian Phytopathological Society, New Delhi			
22-23 Feb-2020	Post Harvest Technology & mgt for the rural society & employement generation at Bioved Res Indt of Agr & tech & Sciences Moharab Shrivengverpur Allahabad	Dr. R.K.Singh	10000	Registration fee
May-28-30-2019	49th Annual Group Meeting 28-30 May 2019 at CCSHA Univ. Hisar, Society of Millets Research ICAR IIMR, Hyderabad-RVSKVV, Gwalior	Dr. Usha Saxena	8000	Registration fee
Sep-4-06-2019	Annual Group Meeting of Safflower and linseed/Chandra Sekhar Azad Universtiy of Agriculture and Technology, Kanpur	Dr. M.K. Saxena	4000	Registration fee
Jan-16-19, 2019	XXVI Biennial Workshop on AICRPDA held at	Dr. M.L. Jadav	4000	Registration fee
10-12 Feb 2020	International conference on pulse as the Climate Smart Crops Challanges and opportunities at Bhopal	Dr. Lekhram	6000	Registration Fees
10-12 Feb 2020	International conference on pulse as the Climate Smart Crops Challanges and opportunities at Bhopal	Dr. A.K. Saxena	6000	Registration Fees
06-11 Jan 2020	Five days national Training on Bio fertilizer Productions (AM	Dr. R.C. Jain	15534	Travel and other

	Fungi) Hyderabad			
11-12 Dec 2019	GEF Project meeting at NRC Pusa, New Delhi	Dr. M. Yasin	24337	Travel and other
12-13 Sep 2019	Annual Group Meet on Rabi pulse of AICRP on Mullarp 2019, CAU, Imphal	Dr. A.K. Choudhary	4000	Registration Fees
12-13 Sep 2019	Annual Group Meet on Rabi pulse of AICRP on Mullarp 2019, CAU, Imphal	DR. R.P. Singh	4000	Registration Fees
12-13 Sep 2019	Annual Group Meet on Rabi pulse of AICRP on Mullarp 2019, CAU, Imphal	Dr. A.K. Saxena	4000	Registration Fees
12 to 13 sep 2019	Rabi pulse Group meet on Mullarp, CAU, Imphal	DR. R.P. Singh	19487	Travel and other
12 to 13 sep 2019	Rabi pulse Group meet on Mullarp, CAU, Imphal	DR. A.K Saxena	17395	Travel and other
27-29 Aug 2019	Annual workshop on Chickpea, BAU Ranchi	Dr. H.D. Verma	28915	Travel and other
5/30/2019	Annual Group meeting of AICRP on Cotton (South and Central Zone)	Dr. JP Mehra	11960	TA+Registration fee)
5/30/2019	Annual Group meeting of AICRP on Cotton (South and Central Zone)	Dr. SK Parsai	17890	TA+Registration fee)
5/30/2019	Annual Group meeting of AICRP on Cotton (South and Central Zone)	Dr. DK Shrivastava	13146	TA+Registration fee)
1/22/2020	Cotton Production technology in the next decade: Problems and pespectives	Dr. SK Parsai	18225	TA+Registration fee)
11/6/2019	Developments in Soil Science:2019	Dr. UPS Bhadauria	12842	TA
9/26/2019	Bhartiya Krishi Anusandhan Samiti	Dr Manoj Kumar Kureel	Life Time	4000
18/10/2019 to	18/10/2019 to 19/10/2019	B.K.Patidar	14621	Registration Fees and Travelling

19/10/2019				Allowance
18/10/2019 to 19/10/2019	XXVII AICRP on MAPB group meeting , YSRHU Venkataramangudam	Basant kumar kachouli	15164	
31/05/2019 to 2/06/2019	AINRPOG X Group Meeting organised by ICAR-DOGR, Pune and Division of Vegetable Science IARI New Delhi	Dr. S. S. Kushwah	12980	TA and Registration fee
05/06/2019 to 07/06/2019	National Symposium on "Advances in Agriculture through Sustainable Technologies and Holistic Approaches" Organised by Society for Advancement of Human and Nature (SADHNA) Solan (HP)	Dr. Roshan Gallani	10768	Registration fee, travel and other expenses
18/02/2019 to 19/02/2019	National seminar on Technological Advancement in Horticulture for 21st century College of Horticulture and Forestry, Jhalawar (Raj.)	Dr. R.N.Kanpure	2500	
04-10-2019 to 24-10-2019	Winter school on "Role of precision farming in urban and peri urban horticulture in the era of Urbanization	Dr. Jyoti Kanwar	Nil	NA

11. AWARDS AND RECOGNITIONS BY COLLEGES:

(1) College of Agriculture, Gwalior-

S. No.	Name of Scientists	Name of award	Name of Society/ Agency
1	Dr.V.S.Kandalkar	Best teacher award of the year	Gwalior Vikas Samiti,Gwalior
2	Dr Sushma Tiwari	Chaudhary Charan Singh Award	Global Environment and Social association (GESA), New Delhi
3	Dr Sushma Tiwari	Fellow Award	Global Environment and Social association (GESA), New Delhi

(2) College of Agriculture, Indore- Dr. Swati Barche get BIOVED YOUNG SCIENTIST ASSOCIATE AWARD 2020 on the 22nd Agricultural Scientists and Farmers Congress on PHT & Management for empowering the rural society and Employment Generation on 22-23 Feb, 2020 at Prayagraj.

(3) KNK, College of Agriculture, Mandsaur-

1. Dr. Rajiv Dubey received Best Participant Award in ICAR sponsored 21 days (03-23 October, 2019) training (based on evaluation tests and training performance) organized by Department of Soil and Water Engineering, College of Technology and Engineering, MaharanaPratap University of Agriculture and Technology, Udaipur (Rajasthan) at MPUAT, Udaipur, Rajasthan.
2. Patel R. P; Singh S. B; Kanpure, R. N. and Patidar, B. K. received second poster award with title of poster effect of abiotic factors on occurrence of fruit rot disease on ambebahar guava(Psidiumguajava L) caused by PhytophthoranicotianaeVarParasitica (Dastur) Waterhouse on the occasion of International conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences (GRISAAS- 2017) during 20-22 October, 2019 at ICAR-National Academy Of Agricultural Research Management, Hyderabad, Telangana (India).
3. Patel R. P. awarded with Fellow award for outstanding contribution in the field of Plant Pathology by Society for Scientific Development in Agriculture and Technology, on the occasion of International Conference on GRISAAS-2019 during 20-22 October, 2019 heldat ICAR-National Academy of Agricultural Research Management, Rajendranagar, Hyderabad, Telangana, India
4. Dr. S.K. Dwivedi awarded with “Young Scientist Award-2019” in the field of Post-Harvest & Technology. During "1st Foundation Day Program was organized during 20 June 2019 at the auditorium of ICAR-Indian Institute of Sugarcane Research (IISR), Lucknow, Uttar Pradesh.
5. H C Bharvey awarded with Excellence in Communication Award given by (SSDAT) GRISAAS -2019 during 20-22 October,2019 held at ICAR-National Academy of Agricultural Research Management, Rajendranagar,HyderabadTeangana,India.

12. VISITS ABROAD: Nil

13. DISTINGUISHED VISITORS:

S. No.	Name	Designation	Date
01	Dr.Sunanda Raghuwanshi	Board Member	22/10/2020
02	Dr Mangala Rai	Former DG, ICAR	21/10/2020
03	Dr.A.S. Kharab	Project Coordinator (Barley Wheat)	04/03/2020
04	Dr.S.R.Pancholi	Principal Scientist	04/03/2020
05	Dr.P.S. Shekhawat	Principal Scientist	04/03/2020
06	Dr.Dinesh Kumar	Principal Scientist	04/03/2020
07	Dr.H.S.Yadav	Ex. DRS, RVSKVV, Gwalior	20/09/2019
08	Dr.Rachit Saxena	Sr.Scientist,(ICRISAT, Hydrabad)	07/10/2019
09	Dr. Shyam Sundar Choudhary	Professor and Head , MPUAT, Plant Pathology	25.09.19
10	Dr. M.S. Shankar,	Former, Director Research Services, University of Agricultural Sciences, GKVK, Bangalore	8-6-2019

11. Hon'ble Agriculture Minister Mr. Sachin Yadav Govt. of M.P visited this chickpea project, field and interacted with scientists of the project on 04.09.2019.
12. Dr. M.P. Jain DRS, RVSKVV Gwalior visited MULLaRP project, field and interacted with scientists of the project on 07.09.2019
13. Dr. N.P. Singh Director, IIPR, Kanpur visited MULLaRP project, field and interacted with scientists of the project on 09.11.2019
14. Dr. A.K. Singh Director Instruction, RVSKVV, Gwalior experimental area and PG students of Deptt. Of Plant breeding discussed with students of PG students of the department on 22.01.2020
15. Dr. Sanjeev Gupta, PC (MULlaRP) IIPR, Kanpur and Dr. Shiv Kumar, Lentil Breeder ICARDA visited MULlaRP project, field and interacted with scientists of the project on 13.02.2020.
16. Director Indian Institute of Soybean Research, Indore, Dr. V.S.Bhatia and Dr. S.D.Billore PI Soybean Agronomy visited on 27/9/2019

S.No.	Name of dignatory	Designation	Period	Purpose
17.	Dr. R.G Somkuwar	Director, NRC grapes	17-18 February,2020	Field day and AICRP Experiments visit
18.	Dr. Ajay Kumar Upadhyay,	Principal Scientist (Soil Science) Principal Scientist (Soil Science), Pune	17-18 February,2020	Field day and AICRP Experiments visit

19.	Dr. Roshni Samrath	Scientist, NRC grapes, Pune	17-18 February,2020	Field day and AICRP Experiments visit
20.	Dr. S. N. Upadhyay	DES, RVSKVV, Gwalior	22-23 November, 2019	Monitor extension activities
21.	Dr. P. Manivel	Ex. Director and Principle Scientist, Plant Breeding DMAPR, Anand Guj.	11, Dec. 2019	To Survey and identify the Isabgol and Medicinal Plants growing area

14. PUBLICATIONS:

Research papers/Abstract (Presented & Published)/Books/Book Chapters/ Teaching Manual/ Popular Articles etc.

S. No.	Category of publication	Nos
1	Papers Published in National and International Journals	117
2	Abstract published in various conference/souvenir	30
3	Books	15
4	Practical Manual/Articals	12
5	Book Chapter	14

14.1 Papers Published in National and International Journals:

S. No	Author (s)	Title	Journal	Volume	Page No.	Year	NASS Rating	JID	ISSN	National / International
1	Gupta Varsha, Joshi Ekta, Sasode Deep Singh, Singh Lakhan, Kasana B.S. and Singh Y.K.	The Effect of Chemical and Non-Chemical control methods on weeds and yield in potato (*Solanum tuberosum* L.) cultivation under potato based organic cropping system.	*International Journal Current Microbiology and Applied Sciences.*	8 (7)	2737-2747	2019	5.38			International
2	Sasode, D.S, Joshi Ekta, Gupta Varsha, Kasana B.S. and Singh Y.K.	Weed flora dynamics and growth response of green gram (*Vigna radiata* L.) to weed management practices.	*International Journal Current Microbiology and Applied Sciences*	9 (4)	365-370	2020	5.38			International

3	Joshi Ekta, Sasode D.S., Sikarwar R.S., Gupta Varsha and Kasana B.S.	Optimizing crop geometry and nutrient management for yield, water productivity and economics of kharif groundnut (*Arachis hypogaea* L.)	*Legume Research*	42 (5)	676-679	2019	6.23			national
	Tomar Bhavna, Sasode D.S., Bhadauria S.S., Tomar Sudeep Singh and Tomar Shobhana	Effect of different dates of sowing on growth and yield of pearlmillet (*Pannisetum glaucum* L.) varieties under semi-arid region	*International Journal of Chemical Studies*	8 (1)	2198-2202	2020	5.31			International
4	Singh Neelam, Joshi Ekta, Sasode D.S., Roop Singh Dangi and Namrata Chouhan	Soil fertility, macro and micro nutrients uptake and their use efficiencies under integrated nutrient management in groundnut (*Arachis hypogaea* L.).	*International Journal of Chemical studies*	8(1)	1983-1987	2020	5.38			International
5	Sasode D.S., Joshi Ekta, Jinger Dinesh, Sasode Rajni Singh, Gupta Varsha and Singh Y.K.	Conservation tillage and weed management practices effect on weeds, yield and profitability of cowpea (*Vigna unguiculata*).	*Indian Journal of Agricultural Sciences*	90 (1)	86-90	2020	6.23			national
6	Gupta V, Sharma S, Sasode D.S., Joshi E, Kasana BS and Joshi N.	Efficacy of herbicides on weeds and yield of greengram	Indian Journal of Weed Science	51(3)	262–265	2019	5.17			national

8	Bobde A., PP Shastry P. P. , Patidar J. K., Singh Reeti and Pandya	Survey of anthracnose of chilli: A potential threat to chilli crop in major chilli growing districts of Madhya Pradesh	International Journal of Chemical Studies	7(5)	1917-1919	2019	5.31	I185	2321-4902	International
9	Singh P. K, Patidar J K, Singh R., Roy S and Pandya RK	Evaluation of culture media for the growth ofRhizoctoniasolani causing black scurf of potato	International Journal of Chemical Studies 2019; 7(5): 1917-1919	7 (5)	2189-2192	2019	5.31	I185	2321-490	International
10	Singh Priyanka , ParhiarPrerana and Pandya RK	Management of Pearl millet through foliar application of cow urine, selective chemicals and botanicals	*Journal of Pharmacognosy and Phytochemistry*	8 (4)	546-547	2019	5.21	S/2042/SDM/NW/2014)	2349-8234	National
11	Singh Priyanka , ParhiarPrerana and Pandya RK	Evaluation of culture media for the growth of *Pyriculariagrisea* causing blast of pearl millet	*International Journal of Chemical Studies*	7(3)	831-833	2019	5.31		ISSN: 2349-8528	International
12	HarneAmol , Singh Reeti and Verma Deepak Kumar.	Integrated management of dry root rot of clusterbean incited by *Rhizoctoniabataticola* (Taub.) Butler	International Journal of Chemical Studies	7(5)	72-74	2019	5.31		ISSN: 2349-8528	International
13	HarneAmol , Singh Reeti and Verma Deepak Kumar	Bioefficacy of antagonist on mycelial growth of *Rhizoctoniabataticola* by dual culture technique	International Journal of Chemical Studies	7(3)	4849-4851	2019	5.31		ISSN: 2349-8528	International
14	Verma, D.K. Sasode, S. Rajni and Harne A.R.	Screening of promising genotypesof Clusterbean against *Colletotrichumcapsici* f.sp. *cyamopsicola* under field	*Inter. J. Curr. Microbiol. App. Sci*	8 (2)	3002-3004	2019	5.38		ISSN:2319-7692	International

		condition.								
15	Verma, D.K. Sasode, S. Rajni and Harne A.R. and Singh Reeti,	Survey forseverity of anthracnose of cluster bean in northern Madhya Pradesh.	*J. Pharmacognosy and Phytochemistry*	8 (1)	1043-1044	2019	5.21		ISSN:2349-8234	National
16	Parihar, P.; Singh, P. and Pandya, R.K.	Survey of northern Madhya Pradesh pearl millet.	*Journal of Pharmacognosy and Phytochemistry*	8(5)	412-413	2019	5.21		ISSN: 2349-8234	National
17	Parihar,P.; Singh,P. and Pandya R.K	Performance of promising hybrids and varieties of pearl millet against blast (*Pyriculariagrisea*	*International Journal of Chemical Studies*	7(1)	1837-1838	2019	5.31		ISSN: 2349-8528	International
18	Anupriya, Sasode, S. Rajni and Prahlad,	Management of *Alternaria cucumerinavar. cyamopsidis* through plant extracts, bio products and fungicides *in vitro* and *in-vivo*.	Inter. J. Curr. Microbiol. App. Sci.	9(3)		2020	5.38		ISSN:2319-7692	International
19	Purnima Singh Sikarwar and K. S. Tomar	Nutrient management study in sweet orange (*Citrus sinensis* L) cv. Mosambi	Journal of Pharmacognosy and Phytochemistry	7(2)	2217-2219	2018	5.21		2278-4136	
20	Purnima Singh Sikarwar and K. S. Tomar	Effect of micronutrients on growth, yield and quality parameters of Sweet Orange (*Citrus sinensis* L.) cv. Mosambi	International Journal of Current Microbiology and Applied Sciences	7(4)	1-9	2018	5.38		*2319-7706*	
21	Rajkumar Deshlehra, Karan Veer Singh, Rajesh Lekhi and S.K.	Effect of growth regulators, micronutrients and chemicals on yield attributes and economics of acid lime cv-Vikram in	Journal of Pharmacognosy and Phytochemistry	8(6)	549-551	2019	5.21		2278-4136	

	Singh	Ambebahar under high density planting system (*Citrus aurantifolia* Swingle)								
22	Rajkumar Deshlehra, Karan Veer Singh, Rajesh Lekhi and Jagati Yadagiri	Effect of growth regulators, micronutrients and chemicals on reproductive and quality of acid lime cv- Vikram in Ambebahar under high density planting system (*Citrus aurantifolia* Swingle)	Journal of Pharmacognosy and Phytochemistry	8(6)	552-554	2019	5.21		2278-4136	
23	Richa Pyasi, A.K. and R.P. Singh	Effect of different levels of NPK and FYM on growth and yield of potato	International Journal of Current Microbiology and Applied Sciences	8(10)	2713-2718	2019	5.38		*2319-7706*	
24	Richa Pyasi, A.K. and R.P. Singh	Effect of inorganic fertilizer and biofertilizers on growth, yield and quality of potato	International Journal of Chemical Studies	7(5)	1773-1776	2019	5.31		*2349-8528*	
25	Deepa Bhatt, Karan Vir Singh, A.K. Barholia and Devendra Vishvkarma	Effect of fertilizer application and spacing on the Growth and yield of Taro (*Colocasia esculenta* (L.) Schott	International Journal of Current Microbiology and Applied Sciences	8(12)	2857-2865	2019	5.38		*2319-7706*	
26	Deepa Bhatt, Karan Vir Singh, A.K. Barholia and Devendra Vishvkarma	Effect of different levels of fertilizer and plant spacing on the quality parameters of Taro (*Colocasia esculenta* (L.) Schott	Journal of Pharmacognosy and Phytochemistry	8(6)	481-483	2019	5.21		2278-4136	

27	Bharat Lal, N.S. Bhadauria, Pradyumn Singh and S.P.S. Tomar	Seasonal incidence of sucking insect pests in brinjal and their natural enemies in gird region of Madhya Pradesh, India.	Journal of Pharmacognosy and Phytochemistry	8(4)	2077-2079	2019	5.21			International
28	Gautam S., Tomar S.P.S., Singh P.D., Suryawanshi D.K., and Singh U.C.	Screening of brinjal (solanum melongena L.) varieties against insect pest complex.	Intern. J. Agri. Sci.	11; 07	8180-8182	2019	4.82			International
29	Tarun Kumar, SPS Tomar, Pradyumn Singh, NKS Bhadauria, and NS Bhadauria	Seasonal incidence of major insect pests of soybean in gird region central India.	*Journal of Entomology and Zoology Studies*	7 (1)	447-450	2019	5.53			International
30	Tarun Kumar, SPS Tomar, NKS Bhadauria, Pradyumn Singh and NS Bhadauria	Efficacy of insecticides against major insect-pests of soybean in gird region at central India	*International Journal of Chemical Studies*.	7 ; 2	13-18	2019	5.31			International
31	Bharat Lal, N.S. Bhadauria and S.P.S. Tomar	Biology and Morphometics of Plume Moth, Exelastis atomosa (Wals.) on Pigeonpea Variety- Saket under Laboratory Conditions in Gwalior, Madhya Pradesh Region, India	*Int.J.Curr.Microbiol.App.Sci*		1880-1886	2019	5.38			International

32	Sulekha Kesari, Shashi S Yadav, PA Khambalkar	Effect of fertility levels and varieties on growth and forage yield of cluster bean (Cyamopsis tetragonolobus L.	Int. J. Chem. Stud.,;	7 (4),	1066-1071	2019	5.31		ISSN: 2321-4902, Print ISSN: 2349-8528	International
33	Priyadarshani A. Khambalkar , Shashi S Yadav	Soil health: importance and assessment.	Journal of Experimental Zoololgy India	20 (4),	1-4	2019	5.51		ISSN : 0972 - 0030	National
34	Vikas Baghel,Jyoti Kumar Thakur,Shashi S. Yadav,Madhab Chandra Manna,Asit Mandal, Abhay Omprakash Shirale,Poonam Sharma, Nishant K. Sinha,Monoranjan Mohanty ,Amar Bahadur Singh &Ashok K. Patra	Phosphorus and Potassium Solubilization From Rock Minerals by Endophytic Burkholderia sp. Strain FDN2-1 in Soil and Shift in Diversity of Bacterial Endophytes of Corn Root Tissue with Crop Growth Stage	Geomicrobiology Journal,)	Volume 37, - Issue 6	550-563	2020	7.71	G032	ISSN 1947-5705	International link: https://doi.org/10.1080/01490451.2020.1734691
35	Bhoopendra Singh et al.,	Elevated CO2 Chlorpyrifos and biochar influence nitrification and microbial abundance in the rhizosphere of wheat cultivated in a tropical vertisol	Rhizosphere	10	1-8	2019	5.38	-	24522198	International

36	Nargawe, L.and Y.D.Mishra	Association of socio-persnol attributes of the beneficiaries with impact of KMA	Community Mobilization and sustainable Developmen t.	14 (3)	467-472	2019				National
37	Vinod Kumar Sahu, Sushma Tiwari, M. K. Tripathi, Neha Gupta, R. S. Tomar and M Yasin	Morpho-physiological and biochemical traits analysis for Fusarium wilt disease using gene-based markers in *desi*and *Kabuli* genotypes of chickpea (*Cicerarietinum* L.)"	Indian Journal of Genetics & Plant Breeding	-	-	2020	6.47	ED – 1494 /2020	0019-5200	National
38	Vinod Kumar Sahu, Sushma Tiwari Neha Gupta, M K Tripathi and M Yasin	Evaluation of physiological and biochemical contents in Desi and Kabuli chickpea.	Legume Research				6.34		0250-5371	National
39	RakeshBhowmick, Sushma Tiwari, Vandana Rai, and Nagendra Kumar Singh	Diffential Expression and Co-location of Prohibitin Family Genes in Salt-tolerance QTL Regions of the Rice Genome"	The Indian Journal of Agricultural Sciences				6.25			National
40	Bhawar, P. C., Tiwari, S.,Tripathi, M. K., Tomar, R. S., &Sikarwar, R. S.	Screening of Groundnut Germplasm for Foliar Fungal Diseases and Population Structure Analysis Using Gene Based SSR Markers.	Current Journal of Applied Science and Technology,	39(2),	75-84		5.32			International
41	Adlak T, Sushma Tiwari, Tripathi MK, Neha Gupta, Vinod Kumar	An advanced tool for crop improvement	Current Journal of Applied Science and Technology	33(1)	1-11	2019	5.35			

	Sahu, Punamchand Bhawar, Kandalkar VS. Biotechnology									
42	Kaur I. B:, Barche. S.: Kaur, M and Asati, K.P	Assessment of the Correlation and Path Analysis with Association of Growth and Yield Characteristics in Okra.	IJCMB AS):	8(5	2331-2338	2019	5.38	4.119	.	International
43	. Kaur I. B:, Barche. S.: Kaur, M and Asati, K.P.	Study of different parameters of genetic variability and performance of various genotypes in Okra.	International Journal of Chemical Studies	7(3)	382-384	2019	5.31	0.565		Innternational
44	Bhanuja Dwivedi, Garima Diwan and K.P.Asati	ct of PGR's and theirmethods of applicationon growth of kharif OnionCv.ADR	IJCMB AS	8 (9)	1597-1610	2019	5.38	4.119		International
45	Bhanuja Dwivedi and K.P.Asati	Effect of PGR's and theirmethods of applicationon yield , quality and economics of kharif OnionCv.ADR	The pharma Innovation journal	8 (10)	70-73	2019	5.03			
46	Jain, N., Choudhary, S., Wankhede , A.,Barche, S and Jain,S.K.	Adoption Behavior of Orange Producer under National Horticulture Mission (NHM) at Shajapur district of M.P.	SSRG Int. J. Agric. & Environ. Sci	(5)	57-59.	2019		ISSN: 2394 – 2568		
47	Sinha N.K., Kushwaha h.S., Paliwal D.K. Sharma A.K. and Thakur N.S.	Integrated nutrient management in different type of maize in Malwa Plateau of Madhya Pradesh	Trends in Biosciences	12 (12)	879-886	2019	3.94	-	-	National

48	AMULE R and Choudha ry S.K.	Impact on land Configuration, Integrated Nutrient Management and Mulch on Different Cropping systems in Malwa Plateau in Madhya Pradesh.	Internationa l Journal of Agriculture Sciences	11 (5)	7999-8001	2019	4.20	-	-	International
49	Aakash, Lalita Bhayal, N.S. Thakur, Sudheer Kumar Kirar and S.K. Choudha ry	Energetics of maize production system as influenced by varieties and nitrogen scheduling	Journal of Experimetal Biology and Agricultural Sciences	7(5)	462-467	2019	5.07	-	-	National
50	Kumawa t N., Yadav R.K., Bangar K.S., Tiwari S.C., Morya J. and Kumar R	Studies on Integrated Weed Management Practices in Maize: A review.	*Agricultural Reviews*	40 (1)	29-36	2019		-	-	National
51	Khandka r, U.R., Tiwari, S.C. Kumawa t N., Awani K. A., Bangar K.S. and Singh S.P.	Response of micronutrients, organics and biofertilizers on growth and yield of soybean under Vertisols.	*Journal of Experimenta l Zoology*	20 (10)	108-111	2019		-	-	National
52	Kumawa t N., Tiwari S.C., Bangar K.S., Khandka r U.R., Awani K. Ashok and Yadav, R.K.	Influence of different sources of plant nutrients on soil fertility, nutrient uptake and productivity of soybean under Vertisols.	*Legume Research,* DOI: 10.18805/L R-4164			2019		-	-	National

53	Bharat Singh, Shweta Pawar, Ashok Sharma, N.S. Thakur and Rini Shrivas	Effect of organics and inorganics on soil properties - A step towards nutrient management in Vertisols of Malwa Region.	International Journal of Current Microbiology and Applied Sciences	10	1-10	2020	5.38	-	-	International
54	Shweta Pawar, Bharat Singh, N.S. Thakur, Ashok Sharma, and Rini Shrivas	Integrated Nutrient Management – A remedy for enhancing the lives of Microbes in soil.	International Journal of Current Microbiology and Applied Sciences	10	11-15	2020	5.38	-	-	International
55	Shweta Pawar, Bharat Singh, Ashok Sharma, N.S. Thakur and Rini Shrivas	Nutrient Management Practices for Enhancing Soybean Production in Rainfed condition.	International Journal of Current Microbiology and Applied Sciences	10	16-23	2020	5.38	-	-	International
56	Rini Shrivas, Bharat Singh, N.S. Thakur, Ashok Sharma and Shweta Pawar	Reduced tillage and use of organics: A progressive manoeuvre towards conservation of resources and improvement in soil intrinsic properties	International Journal of Current Microbiology and Applied Sciences	10	24-35	2020	5.38	-	-	International
57	Singh A.K., Singh R.S., Singh A.K., Kumar R., Kumawat N., Singh N.K., Singh, S.P. and Shanker R.	Effect of weed management on weed interference, nutrient depletion by weeds and production potential of long duration pigeonpea (*Cajanus cajan* L.) under irrigated.	*International Journal of Current Microbiology and Applied Sciences*	9(1)	676-689.	2020				International

58	Kumawat N., Yadav R.K., Singh M., Dudwe T.S. and Tomar I.S.	Effect of phosphorus and bioinoculants and their residual effect on succeeding chickpea (*Cicer arietinum*) cropping system.	*Indian Journal of Agricultural Sciences*	90 (2)	320-325.	2020				National
59	Kumar R. Deka, B.C., Kumawat N. and Thirugnanavel A.	Effect of integrated nutrition on productivity, profitability and quality of french bean (*Phaseolus vulgaris*).	*Indian Journal of Agricultural Sciences*	90 (2)	431-435.	2020				National
	Prashant Kumar, Dr. Abhay Wankhede, Dr.Sandhya Choudhary	A Study on Scientific Temperament of Durum Wheat Growers Under Fld Conducted By Iari, Regional Station In Indore District Of Mdhya Pradesh	International Journal of Recent Scientific Research	Vol. 10, Issue, 05(C), pp.	32295-32299,	May, 2019	13.383 Impact factor-7.383	0976-3031	-----	International
60	Mr. Bhupendra Chouhan, Dr. Sandhya Choudhary, Dr. Abhay Wankhede, Dr. K. S. Kumar	Adoption Behaviour of Beneficiary and Non-Beneficiary (FLD) Farmers of Green Gram Cultivation Khargone District of Madhya Pradesh	International Journal of Environment, Agriculture and Biotechnology (IJEAB)	Vol-4, Issue-5,	1404-1406	Sep-Oct-2019	9.118 Impact factor-3.118	2456-1878	-----	International
61	Mr.Krishnapal Chouhan, Dr. Sandhya Choudhary, Dr. Abhay Wankhede, Dr. K. S. Kumar	Women Empowerment Through Self Help Groups In Dhar District Of M. P.	International Journal of Innovative Research and Advanced Studies (IJIRAS)	Vol-6 Issue 9,	103-105	Sep-2019	6.239 Impact factor-0.239	2394-4404	-----	International
62	Mr.Anand Muleva, Dr Abhay Wankhede., Dr.	Entrepreneurial Behaviour of Tomato Producers under National Horticulture Mission (NHM)	IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)	Volume 12, Issue 10 Serial. I	47-49	October -2019	9.26 Impact factor-3.26	2319-2380,	-----	International

	Sandhya Choudhary,Dr.S.K. Jain	in Dhar district of Madhya Pradesh								
63	Ms. Sonila Bhanvar; Dr. Sandhya Choudary; Dr. D.K. Verma; Dr. A. Wankhede	Impact on Sustainable Rural Livelihood of Integrated Watershed Management Program of Beneficiary Farmers in Khandwa District of Madhya Pradesh	International Journal of Advances in Agricultural Science and Technology,	Vol.6 Issue. 10	40-44	October-2019	3.77	2348-1358	-----	International
64	Ms. Nishi Jain Dr Sandhya Choudhary, Dr.Abhay Wankhede Dr. Swati Barche Dr.S.K.Jain	Adoption Behavior of Orange Producer under National Horticulture Mission (NHM) at Shajapur district of M.P.	SSRG International Journal of Agriculture & Environmental Science (SSRG-IJAES) –	Volume 6 Issue 5 –	57-59	Sep - Oct 2019	7.47 Impact factor-1.47	2394 - 2568	-----	International
65	Ms. Vaijanti Patidar; Dr. Sandhya Choudhary; Dr.D.K. Verma; Dr. Abhay Wankhede;Dr. S.K. Choudhary	Impact of Recommended Bio-Fertilizers Technologies on Yield of Soybean in Ujjain District of M.P.	International Journal of Advances in Agricultural Science and Technology,	Vol.6 Issue. 10,	50-54	October-2019,	6.601 Impact factor-0.601	2348-1358	-----	International
66	Mr.Vikas Bhayal, Dr Abhay Wankhede., Dr. Sandhya Choudhary, Dr.S.K.Jain	Impact and Awareness of Soil Health Card with Reference to Maize Production in Dhar District of Madhya Pradesh	International Journal of Applied Agricultural Research	Volume 14, Number 2	79-85	2019	7.419 Impact factor-1.419	0973-2683	-----	International

67	Vaijanti Patidar Sandhya Choudhary Abhay Wankhede and S. K. Choudhary	Adoption of Recommended Bio-fertilizer Technologies among Soybean Growers in Ujjain District of Madhya Pradesh	Asian Journal of Agricultural and Horticultural Research	Volume 4 (4)	1-5	2019	9.928 Impact factor-3.928	2581-4478	-----	International
68	Neelesh Raypuriya, SB Das ,AK Bhowmick and Vibha	Mass multiplication of M. anisopliae on various substrates	Journal of Entomology and Zoology studies	7(2)	614-616	2019	5.53			National
	Neelesh Raypuriya, SB Das ,AK Bhowmick and Vibha	Compatibility of M.anisopliae with various adjuvants	Journal of Entomology and Zoology studies		544-547	2018	5.53			National
69	Raypuriya N, Choudhary RK, Swathi P And Prajapati S	Influence Of Method And Application Time Of Nitrogen On Pest Incidence Of Sorghum, Sorghum Bicolor (L.) Moench Genotypes	International Journal of Bioresource and stress management	8(3)	413-417	2017	4.65			International

70. Yadav Lavkesh, Vyas MD and Rupendra Khandwe (2019).Effect of different plant growth regulators on Morpho-physiological and productivity of soybean (*Glycine max* L Merrill). Soybean Research 17 (1& 2) : 95-98.
71. Raidas DK, Ramgiry SR and Khandwe Rupendra (2020). Effect of water logging condition on growth, physiology and yield characteristics of soybean genotypes (*Glycine max* L Merrill). *Ind J Pure and App Biosci.* 8(2) 496-500.
72. Khandwe Rupendra, Yasin M, Mulewa D, Bariya BR and Raidas DK (2020). Evaluation and identification of high temperature tolerant genotypes of chickpea (*Cicer arietinum* L.). Paper presented in International conference on climate smart crops : Challenges and oppurtunities organised by ICAR Indian Institute of Pulse Research, Kanpur at Bhopal during February 10-12, 2020.
73. Patidar,R.Mohanty,M.,Sinha,N.K.Gupta,S.C.Somasundram,R.S.,Chaudhary,R.Soliya,R.,Hati,K.M. Prabhakar,M,Sammi Reddy,K.,Patra,A.K and Shrinivas Rao Ch ((2020) Potential impact of future climate change on maize (*Zea mays L.*) under rainfed condition in central India. *Journal of Agrometerology*22 (1): 18-23

74. Kollah,B.Bakoriya,M.Dubey,G.Parmar,RSomosundram,J.,Shirale,A.Gupta,S.C.,Patra,A.K.,Mohanty,S.R.(2020). Methane consumption potential of Soybean-Wheat ,Maize-Wheat and Maize-Gram cropping system under conventional and no tillage agriculture in a tropical Vertisol. *The Journal of Agricultural Sciences1-9 https:/www.cambridge.org/core.IP address:27.57.147.155.*

75. Mishra, A.K. and S. Napit (2019). Heterosis and inbreeding depression for yield and yield components in sesame (Sesamum indicum L.) . *International Journal of Genetics.11 (8) :* 629-631

76. Mishra, A.K (2019) Association Analysis in Diverse Populations of Soybean. Soybean Research 17(1&2):30-39

77. Rachit K Saxena, *, Anil Hake, Anupama Hingane, CV Sameer Kumar, Abhishek Bohra, Muniswamy Sonnappa, Abhishek Rathore[1], Anil Mishra, AN Tikle, Chourat Sudhakar, SRajamani, DKPatil, IPSingh, NPSingh, RajeevKVarshney (2020). Translational Pigeonpea Genomics Consortium for accelerating genetic gains in pigeonpea (*Cajanus cajan* L.)

78. Jaiswal,R.K., Ali, S.A., Niwariya, Jayashri, Mewara, Nidhi (2020) .Effect of sulphur and Zinc on growth and yield of Kharif Onion (*Allium Cepa* L.)*The Pharma Innovation Journal* ; 9(1) :359-362.

79. Jaiswal, R.K., Ali, S.A., Niwariya, Jayashri, Psuame, Swati (2020) . 2019) Effect of organic manure on and biofertilizers on growth and quality of cabbage (*Brassica oleracea* L. var *capitata*) *International Journal of Applied Science and technology*, 11(4):55-60.

80. Ali, S.A., Jaiswal, R.K., Niwariya, Jayashri, Uikey, Shushmita (2019) Effect of different organic manure on growth and yield of radish (*Rahanus sativus* L.) *International Journal of Chemical studies,* 7(6):1397-1401.

81. Singh R., Jain, Aruna., Jain, Nimisha and Jain, R C(2019). Influence of P&K with and without Rhizobium japonicum and phosphorous solubilizing Bacteria on growth and Yield Sustainability of soybean in Black Soil. Int.J.Pure App.Biosci.7(2) 224-227.

82. Alex Greenlon, peter L chang, Zehara Mohammed Damtew ,AtsdeMueta, NoeliaCarrasquilla- Garcia , donghyun Kim, Hien P. Nguyen ,VasantikaSuryawanshi, Chirtopher ,Pkieg, Sudeer Kumar Yadav , jai SinghPatelArpanMukharjee, Sripadaudupa, Imanebenjelloun, Thami-AlMI, Mohammad YasinBhvaneshwaraPatil, sarvjeet Singh, Brinchi Kumar Sharma , Eric J B von Wettberg, Abdulla Kahraman, BekirBukun, fassilAssefa , Kassahun , tesfaye, AsnakeFikre and Douglas R Cook (2019). Global-level population genomics reveals differential effects of geography and phylogeny on horizontal gene transfer in soil bacteria. . Published in PNAS USA.

83. Gupta, S.C. and Vishwakarma D (2019). Role of beneficial microbes in improving soil health and pulse production in black soils of central India. Key note lecture in national seminar on strategies for soil health management achievements & researchable issues. March 2-3. RVSKVV, Gwalior.

84. Saxena, D.R., Saxena, M. and Tiwari, N. (2019). Morphological and cultural variability in *Fusariumoxysporum* f. sp. *lentis*causing vascular wilt of lentil. *Indian Phytopath*. 72: 665-673.

85. Mukherjee, P.K., Mehetre, S.T., Sherkhane, D., Muthukathan, G., Ghosh, A., Kotasthane, A.S., Khare, N., Rathod, P., Sharma, K.K., Nath, R., Tewari, A.K., Bhattacharyya, S., Arya, M., Pathak, D., Wasnikar, A., Tiwari, R.K.S. and Saxena, D.R. (2019). A Novel Seed-Dressing Formulation Based on a Improved Mutant

Strain of *Trichodermavirens* and its Field Evaluation. *Front. Microbiology* 30 https://doi.org/10.3389/frmicb.2019 01910

86. Sharma, M., Gosh R., Tarafdar, A., Kumar, A.V., Chobe, D.R., Gaur, P.M., Samineni, S., Gupta, Om Singh, N.K., Saxena, D.R., Safiualla, M., Pithia, M.S., Ghante, P.M., Mahalinga, D.M., Upadhayay, J.B. and Harer, P.N. (2019). Exploring the Genetic Cipher of Chickpea (*Cicerarietinum* L.)Through identification and multi-environment Validation of Resistant Sources Against Fusarium Wilt (*Fusariumoxysporum* f. sp. *ciceris)*.Front. Sustain. Food Syst.Doi.10.3389/fsufs 2019.00078
87. Alex Greenlon, peter L chang, Zehara Mohammed Damtew , Atsde Mueta, Noelia Carrasquilla- Garcia , donghyun Kim, Hien P. Nguyen ,Vasantika Suryawanshi, Chirtopher ,Pkieg, Sudeer Kumar Yadav , jai SinghPatel Arpan Mukharjee, Sripada udupa, Imane benjelloun, Thami-AlMI, Mohammad Yasin Bhvaneshwara Patil, sarvjeet Singh, Brinchi Kumar Sharma , Eric J B von Wettberg, Abdulla Kahraman, Bekir Bukun, fassil Assefa , Kassahun , tesfaye, Asnake Fikre and Douglas R Cook. Global-level population genomics reveals differential effects of geography and phylogeny on horizontal gene transfer in soil bacteria. (2019). Published in PNAS USA. NAAS rating 15.0
88. Sushma Tiwari , Neha gupta , M K Tripathi and M Yasin (2020) Morpho-physiological and biochemical traits analysis for Fusarium wilt disease using gene-based markers in *desi* and *Kabuli* genotypes of chickpea (*Cicer arietinum* L.)" Accepted for publication in the Indian Journal of Genetics and Plant Breeding.
89. Vinod kumar Sahu, Sushma Tiwari, Neha gupta, M K Tripathi and M Yasin (2020) Evaluation of physiological and biochemical contents in desi and kabuli chickpea. accepted for publication in Legume Reseach
90. Priyanka Joshi, M Yasin ans P M Gaur (2020) Screening and identification of germplasm suitable for mechanical harvesting from genetic stock of chickpea (*Cicer arietinum L)* Accepted for oral presentation in the PRS -Proceeding System scheduled on July 12-15 2020 Omaha Nebraka USA
91. Lovekesh Patel , Priyanka Joshi and Mohammad Yasin (2020) Genetic diversity in green seeded lines derived by recombination breeding and land races of Chickpea (*Cicer arietinum L*). submitted for Publicatin
92. Saxena A.K., Ram Lekha and Saxena Kanak. (2020). Combining ability studies in lentil for seed yield and its component traits. Poster presented in International Conference on Pulses the climate smart Crops: Challenges and Opportunities. held at Bhopal from 10-12, Feb. 2020. Pp-186
93. Ram Lekha, Saxena A.K and Barraiya Balram.. (2020)Combining ability and heterosis for seed yield and its component characters in Mungbean (Vigna radiata (L) Wilczek.) Poster presented in International Conference on Pulses the climate smart Crops: Challenges and opportunities. held at Bhopal from 10-12, Feb. 2020 pp 198.
94. Sanjay Kumar, H. S. Kushwaha and D. K. Paliwal (2020). Biomass Production and Production Efficiency of Different Soybean [*Glycine max* (L.) Merrill] based Cropping Systems in Malwa Plateau of Madhya Pradesh. Int. J. Curr. Microbiol. App. Sci. 2020. 9(1): 1353-1359.
95. Sanjay Kumar, H. S. Kushwaha and Paliwal, D. K. (2019). Productivity and system profitability of diversified soybean [Glycine max (L.) Merrill] based

cropping systems in Malwa Plateau of Madhya Pradesh. Ann. Agric. Res. New Series Vol. 40 (4) : 248-252

96. Kumar Sanjay, Naruka I S,Shaktwat R.P.S., Singh O.P.andMeenaK,C. 2019. Response of garlic (Allium sativum L.) to organic and inorganic fertilizers, *International Journal of Agricultural Sciences*,11(7):8209-8211.
97. KushwahLalit,Sharma R.K.,Kushwah, S.S. and Singh, O.P. 2019.Influence of organic manures,inorganic fertilizers and their combinations on growth and quality of radish (*Raphanussativus*L.) *International Journal of Chemical Studies*,7(6): 2972-2974.
98. Kushwah,Lalit,Sharma, R.K.,Kushwah, S.S. and Singh, O.P. 2020.Influence of organic manures and inorganic fertilizers on growth yield and profitablity of radish (*Raphanusativus*L.) *Annals of Plant and Soil Research*,22(1): 14-18.
99. Gami, J.Sonkar, Priyamvada.Haldar, A and Patidar, D.K. 2019. Effect of prte harvest spray of $ZnSO_4$, KNO_3 and NAA on growth, yield and quality of ber (*Zizyphusmauritiana*Lamk.) cv. Seb under Malwa Plateau conditions.*International Journal of Current Microbiology and Applied Sciences,*8(3): 1977-1984.
100. Jamra, Ranjeet, Kanwar, Jyoti, Dubey, Rajiv and Choudhary, Ramesh. Chandra. 2020. Effect of integrated nutrient management practices on growth, productivity and profitability of aonla. *International Journal of Chemical Studies*,7(6):960-962.
101. Yadav, Alka. Kanwar, Jyoti.Dubey, Rajiv. and Megha,Upadhyay. 2020. Effect of foliar application of urea, zinc sulphate and borax on flowering, fruiting and yield of acid lime (*Citrus aurantifolia*Swingle) vari. Kagzi lime under Malwa Plateau conditions. *Journal of Pharmacognosy and Phytochemistry*,9(2):483-485.
102. Gallani, R. Wankhede, R and Pandey, A. 2019. Assessment of economic sulphur doses of soybean (*Glycine max Merill L.*) in Malwa region of western M.P. *Journal of Pharmacognosy and Phytochemistry*,SP2: 440-442.
103. Gehlot, Y. Aakash, Gallani, R. Bangar, K.S. and Kirar, S.K. 2019. Nature of soil reaction and status of EC, OC and macro nutrients in Ujjain Tehsil of Madhya Pradesh. *Int. J. of Chemical studies*,7(6): 1323-1326.
104. Singh, S. B. and Patel, R. P. 2019. Management of chilli insect pests by using different doses of Emamectin Benzoate3.7% + Difenthiuron 46.3% WP.*Journal of Plant Development Sciences*, 10 (9): 499-504.
105. Patel R. P.Singh S. B.Kanpure, R. N. and Patidar, B. K. 2019. Effect of abiotic factors on occurrence of fruit rot disease on ambebaharguava(*Psidiumguajava* L) caused by PhytophthoranicotianaeVarParasitica (Dastur) Waterhouse*. Progressive Research-An International Journal,*14(3): 225-227.
106. Kushwah, G. Sharma, R. K.Kushwah, S. S. and Mishra, S. N. 2019. Effect of organic manures, inorganic fertilizers and varieties on growth, yield and quality of tropical carrot. *Indian J. Hort*.,76(3): 451-456.
107. Verma, Bhavna. Soni, Ravikant.Singh, S.B. and Choudhary, R.K. 2019. Efficacy Assessment of Insecticidal Alternation for the Management of Jassid (Amrascabiguttulabiguttula Ishida) and Aphid (Aphis gossypii Glover) Pest of Bt Cotton. *Int.J.Curr.Microbiol.App.Sci*.,8(11): 2342-2349.
108. Patidar, Rahul.Singh, S.B.Kamde, Narendra and Patidar, Rajesh. 2019. Reaction of different sorghum hybrids against sorghum insect pestinfestation.*Journal of Entomology and Zoology Studies*,7(5): 13-21.

109. Ankit, Pandey.Neeru, Dubey.and Shailendra, K.Dwivedi. 2019. Standardization of suitable time of harvest Aonla (*Emblicaofficinalis*garten.) cvs. NA-7 and Chakaiya fruit on storage and quality. *Journal of Pharmacognosy and Phytochemistry*,SP2: 781-784.
110. Ankit, Pandey.Neeru, Dubey and Shailendra, K.Dwivedi. 2019. Effect of pre-harvest treatments on storage quality of aonla cv. NA – 7 and Chakiya.*Journal of Pharmacognosy and Phytochemistry*,SP2: 785-789.
111. Ankit, Pandey.Neeru, Dubey and Shailendra, K. Dwivedi. 2019. Effect of foliar application and time of harvesting on quality attributes of aonla (*emblicaofficinalis*garten.) Cv. Chakaiya. *Plant Archives,*(2):2726-2730.
112. Yadav, Alka. Kanwar, Jyoti. Singh, Om. and Patidar, Megha. 2020. Effect of foliar spray of urea and micro-nutrients on yield and quality of acid lime (Citrus aurantifoliaSwingle) cv. Kagzi lime. *International Journal of Chemical Studies*, 8(2): 208-211.
113. Bharvey, H.C. and Sharma, Hemant. 2019. Analytical Study of M.Sc. (Horticulture) Thesis under the Department of Vegetable Science and Fruit Science at KNK College of Horticulture Mandsaur (M.P.).*Recent Trends*, (Sp.Issue)6(1):1-9.
114. Basant, kachouli. Singh,A.K. Patidar, H. and Sikarwar, R.S. 2019. Stability analysis for yield and quality attributes in brinjal (solanummelongene). *Int.J.Chemical Stus*.,7(2): 4458-4464.
115. Basant, kachouli. Singh,A.K.Jatav, S.K. and Kushwah, S.S. 2019. Combining ability analysis for yield and yield attributes character in brinjal (solanummelongena). *J.Pharmacognosy&Phytochemistry*, 8(3): 4009-4012.
116. Tripathi, M.K. 2019. Study of crop weather relationship in Indian mustard under different growing environments. *TECHNOFAME*,8(2): 36-45.
117. Jamra, Ranjeet. Kanwar, Jyoti.Dubey, Rajiv. And Choudhary, Ramesh. Chandra. 2020. Effect of integrated nutrient management practices on growth, productivity and profitability of aonla. *International Journal of Chemical Studies*,7(6):960-962.

14.2 Abstract published in various conference/souvenir:

S. No	Author (s)	Title	Conference Proceedings	Page No.	Year	National / International
1	**Sasode D.S,** Gupta Varsha, Kasana B.S, Joshi Ekta, Singh Y.K. and Bhadauria V.P.S.	Management of *Cuscutaa reflexa* by different herbicides and its impact on yield of berseem (*Trifolium alexandrinum* L.) fodder crop.	ISWS Biennial Conference, 5-7 Feb. 2020 at ICAR- Central Coastal Agricultural Research Institute, Old Goa		2020	
2	**Sasode D.S,** Joshi Ekta, Gupta Varsha	Weed flora dynamics, growth and yield response of mustard (Brassica juncea L.) under conservation. Tillage and weed management	National Conference on Resource for soil Security and Jalshakti :, February 3-5, 2020 at ICAR-IISWC Research		2020	

		practices	Centre, Datia (M.P.)			
3	Gupta Varsha, **Sasode Deep Singh,** Joshi Ekta, Kasana B.S., Singh Y.K. and Bhaduaria V.P.S.	Weed management in sweet corn in maize based non-chemical cropping system.	ISWS Biennial Conference, 5-7 Feb. 2020 at ICAR- Central Coastal Agricultural Research Institute, Old Goa		2020	
4	Rawat, G.S., **Sharma, Janmejay** and Sasode Rajni	Seed Yield of clusterbean of as influenced by tillage and nutrient management practices.	National Seminar on Strategies for Soil Health Management Achievements & Researchable Issues March, 02-03, 2019.		2019	
5	**Sharma, Janmejay**, Tomar, S.S., Singh Ajay	Effect of weed control and nutrient management practices on NPK uptake by weed and crop in wheat.	National Seminar on Strategies for Soil Helth Management Achievements & Researchable Issues March,02-03, 2019.		2019	
6	Bharat lal, Bhaduaria n.s., **Tomar s.p.s.** and devendra vishvkarma	Seasonal incidence of sucking insect pests in brinjal and their natural in gird region of Madhya Pradesh, India.	GIASE- 2019	260	2019	**International**
7	**Dr. Shashi S. Yadav, Dr. Priyadarshani A. Khambalkar and Dr. S. K. Trivedi**	**Improve the livelihood of farmers of Madhya Pradesh via good quality fodder production**	**Symposium on "Physiological approaches to address environmental challenges for increasing animal productivity and farmer`s income" (18-19 February, 2020**	**136**	2019	**National**
8	**Jaya Rathore**	**Genetic Manipulation through induced mutation for high praline and high gum content**	MPCST, 34th MP. Young Scientist Congress, Bhopal	**09**	2019	**National**

9	**SushmaTiwari**	Morpho-physiological and molecular Assessment for foliar disease and oleic acid content using gene based SSR markers in groundnut (*Arachishypogea* L.)	**Plant Genomics**	**41**	2019,June 13-14, 2019	**International at Berlin Germany**
10	**Sushma Tiwari,** R S Tomar and M K Tripathi	Characterization and development of superior minor millets varieties for climate resilient adaptation	global conference on our biodiversity, our food and our health	Page 278	21 and 22 May 2019.	National botanical survey of India, Prayagraj (UP) during
11	Madhurjit Singh Rathore, **Sushma Tiwari,** M K Tripathi, Neha Gupta, S K Pooniya, Sunil Yadav and R S Sikarwar	Screening of groundnut genotype for early leaf spots and correlation with chlorophyll content	Recent Advances in Biotechnology and Nano biotechnology (Bionano-2020)	Page 26	25th February 2020	National Conferenceheld at Amity University, , Gwalior.
12	Mohan Lal Choudhary, M K Tripathi, **Sushma Tiwari**	Screening of Blast Disease in Pearl Millet (*Pennisetumglaucum* L.)	Recent Advances in Biotechnology and Nano biotechnology (Bionano-2020)	Page 27	25th February 2020	National Conference held at Gwalior.
13	Sajjan Kumar Pooniya, Sunil Yadav, Madhurjeet Singh Rathore, M K Tripathi, R S Sikarwar and **Sushma Tiwari**	Screening of Groundnut Germplasm for Early Leaf Spot Disease under Kharif field conditions	Recent Advances in Biotechnology and Nano biotechnology (Bionano-2020)	Page 31	25th February 2020	National Conference held at Gwalior.
14	Sunil Yadav, **Sushma Tiwari**, Neha Gupta, M K Tripathi, S K Pooniya, Madhurjit Singh Rathore and R S Sikarwar.	Biochemical estimations of groundnut germplasms for sugar, chlorophyll and carotenoid content	Recent Advances in Biotechnology and Nano biotechnology (Bionano-2020)	Page 33	25th February 2020	National Conference held at Gwalior.
15	Shivani Rana, Neha Gupta, M K Tripathi and **Sushma Tiwari**	Biochemical analysis of different Millet varieties for nutritional improvement	Recent Advances in Biotechnology and Nano biotechnology (Bionano-2020)	Page 33	25th February 2020	National Conference held at, Gwalior.

16	Kirad, K.S.,Barche, S and Gathiye,G.	Doubling the farmer's income byadopting the suitable tomato-cucurbit polyculture on the raised bed with drip system in the tribal dominating areas under Dhar district of Madhya Pradesh	22nd Agricultural Scientists & Farmers Congress (22-23 Feb,2020) on PHT and Management for Empowering the Rural Society and Employment Generation published in organized by Bioved Res. Institute of Agric. Tech & Sci. Prayagraj, U.P	-	2020	National
17	Gupta, A., Upadhyay, D and Barche,S	Standardization ofrecipe and preparation of mixed vegetable pickle	, published in 22nd Agricultural Scientists & Farmers Congress (22-23 Feb,2020) on PHT and Management for Empowering the Rural Society and Employment Generation 22-23 Feb,2020 Souvenir & Abstracts	29	2020	National
18	Gour, S.,Patel, S and Barche, S	Standardization of different ingredients in spinach juice recipe	SAME	98	2020	National
19	Jitendra Patidar	Effect of early-post-emergence herbicides against weeds in soybean in Madhya Pradesh.	35th M. P. Young Scientist Congress. Souvenir	5	2020	National
20	Jitendra Patidar, M.L. Kewat and Shobha Sondhia	Residue concentration, persistence and dissipation of fomesafen in soybean crop and soil.	Indian Society of Weed Science Biennial Conference on *"Weed Management for Enhancing Farmers' Income and*	97	2020	National

			Food Security". Proceedings			
21	Kunika Silodiya and Jitendra Patidar	Mitigation and management of herbicide residue in soil – A review	Indian Society of Weed Science Biennial Conference on *"Weed Management for Enhancing Farmers' Income and Food Security"*. Proceedings	265	2020	National
22	M.P. Sahu, M.L. Kewat, J.K. Sharma, A.K. Jha, Jitendra Patidar and L. Badole	Effect of weed control practices and crop mulch against weeds in chickpea.	Indian Society of Weed Science Biennial Conference on *"Weed Management for Enhancing Farmers' Income and Food Security"*. Proceedings	185	2020	National

23. Singh S. B. and Patel R. P. 2019. Management of chilli insect pests by using different doses ofEmamectin Benzoate3.7% + Difenthiuron 46.3% WP. International conference on Global Research Initiatives for Sustainable Agriculture & Allied Sciences(GRISAAS-2019) during 20-22 October, 2019 at ICAR-National Academy Of Agricultural Research Management, Hyderabad, Telangana (India).
24. Patel R. P; Singh S. B; Kanpure, R. N. and Patidar, B. K. 2019. Effect of abiotic factors on occurrence of fruit rot disease on ambebahar guava(*Psidiumguajava* L) caused by PhytophthoranicotianaeVarParasitica (Dastur) Waterhouse. International conference on *Global Research Initiatives for Sustainable Agriculture & Allied Sciences* (GRISAAS-2019) during 20-22 October, 2019 at ICAR-National Academy Of Agricultural Research Management, Hyderabad, Telangana (India).
25. Kanpure, R. N; Patel R. P; Singh O. P; Bhandari, J; Kacholi, B; and Patidar, D. K. 2019. Influence of foliar nutrition of Urea, Borex and Zinc Sulphate on growth yield and quality of guava (*Psidiumguajava* L) CV. Rewa-72. International conference on *Global Research Initiatives for Sustainable Agriculture & Allied Sciences* (GRISAAS-2019) during 20-22 October, 2019 at ICAR-National Academy Of Agricultural Research Management, Hyderabad, Telangana (India).
26. Kushwah, L.; Sharma, R.K.; Kushwah, S.S. and Singh, O.P. (2019). Influence of organic manures, inorganic fertilizers and their combinations on growth and yield of radish (Raphanussativus L.). Abstract in National seminar on doubling

income through sustainable and holistic agriculture (DISHA) held at YSP Uni. of Hort. and Forestry, Solan (HP) INDIA from 05-07 June, 2019.

27. Priyamvada Sonkar, Shailendra K. Dwivedi and Raju Dohre. 2019. Impact of post-harvest treatments on shelf life and quality of guava (*Psidiumguajava L.*) cv. Allahabad Safeda. National seminar on Biochemical and Molecular Biology Intervention for Nutritional Security and Food Safety at NAU, Navsari, Gujrat: 203.
28. Shailendra K Dwivedi. 2019. Production and assessment of anthocyanins precipitated at different pH values. National seminar on Biochemical and Molecular Biology Intervention for Nutritional Security and Food Safety at NAU, Navsari, Gujrat. 265.
29. Khan, K. A.; Katiyar S.K. and Nema P.K. 2019. Drying Kinetics, Colour Characterization and Water Activity of TinosporaCordifolia Drying. 10th Asia-Pacific Drying Conference at Vadodara, Gujarat from 14-17 December 2019.
30. Choudhary, Deepak and Singh, Om. 2019. Storage studies of blended ready-to-serve (RTS) beverages prepared by aonla pulp and aloe vera gel. National Seminar on Doubling income through sustainable and holistic agriculture, during 05-07 June, 2019 at Y.S. Parmar University of Horticulture and Forestry, Solan, H.P., India.:169.

14.3 BooK:

S.No	Author(s)	Book Name	Year	ISBN No.
1	Joshi Ekta, Vyas Abhay Kumar and Sasode Deep Singh	Nutrient omissions studies in maize-wheat cropping system of India	2020	978-620-0-44022-8
2	Singh Neelam and Joshi Ekta	Nutrient management in kharif groundnut	2020	978-3-659-52632-9
3	Dr. Reeti Singh, Dr. Ajay Kumar,Dr. Rajni Singh Sasode, Dr. Pragati Saini, Dr. R.K. Pandya, Mr. Ashish Bobade, Dr. Jagdish Kumar Patidar and Dr. Radha Gupta	Handbook of Fungi pp-170 (Second proof reading stage)	2020	NEW INDIA PUBLISHING AGENCY New Delhi-110 034
4	M.K. Kureel, D.S. Mandloi, Dr. K.V. Singh and Dr. R. Lekhi	Post Harvest Management and Value Addition of Fruits and Vegetables	2020	978-81-7622-399-7
5	**Phundan Singh, Mridula Billore and Sushma Tiwari**	**Molecular Biology and Plant Biotechnology**	2020	**978-93-89719-36-9 (PB)**
6	Dr. Gopala and Dr. RK Singh	Diseases of field and horticultural crops and their management	2020	978-93-89996-31-9
7	Dr. S.B. singh, Dr. A.K. Badaya and Dr. S.N. Upadhayay	Toxicology of Insecticides	2019-20	978-81-7622-459-8

8. KhursheedAlam Khan, Megh R. Goyal and Abhimannyu A. Kalne. 2020. Processing of Fruits and Vegetables: From Farm to Fork. Published by AAP/CRC press, Taylor and Francis Group, USA. Hard Book ISBN: 9781771887083, E-Book ISBN: 9780429505775.
9. Dr. Nitin Soni. Processing and value addition of non-alcoholic beverages and Spices (RVSKVV Pub. No 104/2019).
10. R. P. Patel, R. N. Kanpure and A. Haldhar (2019). Mushroom Utpadan, Prasanskaranevamvipnan (Under ni pa Publication)
11. Chary, G.R., Dixit, S., Surve, S.P., Sharma, S.K., Padmalatha, Y, **Ranade, D.H**., Yadav, M.S., Singh, S., Midha, L.K., Mariraju, H., Ramana, D.B.V., Mishra, P.K., Venkateshwarlu, B. and Vittal, K.P.R. (2009). Operational Research in Rainfed Agroecosystem: Redefining a new vision through action research. AICRPDA, Central Research Institute for Dryland Agriculture, Hyderabad

12. Ranade D.H., Mujalde Santosh, Swarup Indu, Bhagat, D.V. and Girothia, O.P. (2019). Shushka kheti ki vagyanik padhdhati. Publisher Biotech books, New Delhi ISBN no. 978-81-7622-441-3.

13. Ranade D.H., Mujalde Santosh, Swarup Indu, Bhagat, D.V. and Girothia, O.P. (2019). Natural resource management in dryland agriculture. Publisher Biotech books, New Delhi ISBN no. 978-81-7622-442-0.

14. Ranade D.H., Jadav, M.L., Swarup Indu, Girothia, O.P., Bhagat, D.V., Singh Akhilesh and Choudhary Sharad (2020). Rainwater management in rainfed areas. Publisher Biotech books, New Delhi ISBN no. 978-81-7622-458-1.

15. Ranade D.H., Jadav, M.L., Swarup Indu, Girothia, O.P., Bhagat, D.V., Choudhary, S.K. and Upadhyaya, Ashish (2020). Apvahit versha jal akatrikaran v sanchit jal ka upyog. Publisher Biotech books, New Delhi ISBN no. 978-81-7622-464-2.

14.4 Popular Articles:-

1 दुबे राजीव, दुबे डी.पी., तिवारी, डी.के., सिंह, ओ.पी. एवं कचौली बसंत (2019) बरसीम उत्पादन की उन्नत सस्य तकनीकी, कृशक चेतना, वर्श 08, अंक 06, जबलपूर, जनवरी–फरवरी (2019).

2 षोभाराम अंजनावे, डॉ, प्रियंवदा सोनकर एवं डॉ. असंत कचौली (2019) कटहल की व्यावसायिक खेती मध्य भारत कृशक भारती, ग्वालियर, फरवरी, 2019 पेजः 13

3 ओम सिंह एवं अंकित पाण्डेय फर्टिगेषन (उर्बर सिंचाई): बागवानी फसलों में टपक सिंचाई के साथ उर्वरक प्रयोग RNI No.UPHIN/2013/56443 बगवानीः उत्तर प्रदेष डेवलपमेन्ट फाउण्डेषन 4/15 डालीबाग, लखनऊ, उत्तर प्रदेष 46–50

4 राजीव दुबे, डी.पी. दुबे, बसंत कचौली, आर.पी. पटेल (2019) बरसीम की खेती। कृषक चेतना जनवरी–फरवरीए पेज 52

5 ओम सिंह, ऋचा सिंह, प्रतिक्षा सिंह (2019). औशधीय पौधे – औशधीय उपयोग, पोस्ट–हार्वेस्ट प्रबंधन और मुल्य संवर्धन, 20 मई 2019

6 विनय कुमार गौतम, डॉ. के.के. यादव एवं डॉ. राजीव दुबे (2020) मृदा स्वास्थ कार्ड बनाने में सुदूर संवेदन एवं भौगोलिक सूचना तंत्र की भूमिका। राजस्थान खेती प्रताप, जनवरी 2020, पेज नंबर 17–18.

7 डॉ. राजीव दुबे, डॉ. ओ.पी. सिंह, विनय कुमार गौतम एवं डॉ. के.के. यादव (2019). लहसुन उत्पादन की उन्नत सस्य तकनीकी, कृशक चेतना, सितंबर–अक्टूबर 2019, पेज नंबर 55.

8 डॉ. राजीव दुबे, डॉ. आर. एस. चुडावत, एवं डॉ. दीप सिंह सासोडे (2020). मसूर की फसल में रोग एवं कीट नियंत्रण. कृशक चेतना, जनवरी–फरवरी 2020, पेज नंबर 23

9 डॉ. जी.एस. चुण्डावत , डॉ एस. पी. त्रिपाठी , डॉ एस.बी.सिंह एवं डॉ आर.पी.पटेल (2019). प्रमुख जैव कीट–व्याधिनाशक एवं उसकी प्रयोगविधि कृशक वंदना जुलाई 2019 पेज नं. 12।

10 डॉ. जी.एस. चुण्डावत एवं डॉ एस.बी.सिंह (2019). दीमक एवं उसका नियंत्रण, मध्य भारत कृशक भारती , जुलाई 2019 पेज नं. 32

11 डॉ. जी.एस. चुण्डावत , डॉ एस. पी. त्रिपाठी , डॉ एस.बी.सिंह एवं डॉ आर.पी. पटेल (2019). प्रमुख जैव कीट–व्याधिनाशक एवं उसकी प्रयोगविधि कृशक वंदना जुलाई 2019 पेज नं. 12।

12 ओम सिंह, ऋचा सिंह, प्रतिक्षा सिंह (2019). औशधीय पौधे – औशधीय उपयोग, पोस्ट–हार्वेस्ट प्रबंधन और मुल्य संवर्धन

14.6 Book Chapter:

S.No	Author (s)	Title	Book Name	Page No.	Year	ISBN No.
1	Jaya Rathore, pramodkumar and R.S.Sikarwar	Natural Resource management in term of crop germplasms in India	Natural Resource management and sustainable food production	102-107	2020	978-81-888-05-327
2	Radha Gupta, Sushma Tiwari, M.K. Tripathi and Sajjan Kumar Pooniya (2020).	Bioinformatics and Its Applications in Crop Improvement	Recent Trends in Molecular Biology and Biotechnology. *Integrated Publications*	129-151	2020	ISBN: 978-81-945148-7-9; E-Book ISBN: 978-81-945148-8-6
3.	Vinod Kumar Sahu, Yogendra Singh, Sushma Tiwari and Akanksha Tiwari	Potential of Bioethanol as Future Fuel.	Advances in Biological Sciences and Biotechnology (Volume - 1) *Integrated Publications*	-	2020	Book in press ABSB-01-10 accepted on09-04-2020
4.	Pardeep Kumar R. K. Singh	Biological Control of postharvest diseases in vegetables	The Vegetable Pathosystem: Ecology, Diseaese	-	2019	978-177188-776-2.

			Mechanism and management Apple Academic Press CRC Press Taylor and francis group			
5.	Gopala, RK Singh, Kishore P Panzade	Recent insight into detection and management of phytoplasma dieases	Innovative approaches in diagnosis and management of crop diseases	-	-	-
6.	Sachin Kumar Jain, Kamal Khiladi, Mukesh Dongre	Detection and Management Approaches of Bakanae (Foot Rot) Disease in Rice.	Innovative approaches in diagnosis and management of crop diseases	-	-	-
7.	Kumawat N., Kumar R., Khandkar U.R., Yadav R.K., Dotaniya M.L., Mishra J.S. and Hans H.	Silicon (Si) and Zinc (Zn) Solubilizing Microbes: Role in Sustainable Agriculture. Biofertilizers for sustainable Agriculture and Environment.	Biofertilizers for Sustainable Agriculture and Environment, Soil Biology 55, pp.109-135.	-	2019	https://doi.org/10.1007/978-3-030-18933-4_6
8.	Kumar R., Kumawat N., Saurabh K., Hans H., Mishra J.S., Khandkar U.R., Meena R.S. and Bohra J.S.	Conservation Agriculture: Perspectives on Soil and Environmental Management in Indo-Gangetic Plains of South Asia.	Sustainable Management of Soil and Environment Sustainable Management of Soil and Environment. pp 123-168.	-	2019	https://doi.org/10.1007/978-981-13-8832-3
9.	Kumar R., Kumawat N., Saurabh K. and Mishra J.S.	Diversification of Agriculture for mitigating food and nutritional security.	Crop Diversification for Resilience in Agriculture and Doubling Farmers Income. ICAR –Indian Agricultural Research Institute	-	2019	-

			(IARI) Pusa, New Delhi, pp. 210			
10.	Saurabh S., Kumar R., Mishra J.S., Hans H., Kumawat N., Meena R.S., Rao K.K., Kumar M., Dubey A.K. and Dotaniya, M.L.	Carbon and Nitrogen Mineralizatio n Dynamics: A Perspective in Rice-Wheat Cropping System	Carbon and Nitrogen Cycling in Soil, pp, 463-498.	-	2020	https://doi.org/10.1007/978-981-13-7264-3_14
11.	Kumar R., Saurabh K., Mishra J.S., Kumawat N., Hans H. and Bal Krishna		Sustaining Productivity through Integrated Use of Microbes in Agriculture.	-	2019	(Accepted in Springer)

12. PushpendraKoli, B. H. Choudhury, Om Singh (2019) Name of Compendium: Significance of Bioactive Ingredients and Supplements in Health Foods. Feed Additives for Livestock. In compendium total no. of page-139 Chapter-page from 62-71.
13. Sharma, S.; Khan, K.A.; Sehrawat, R. Single cell proteins: Role in food security in Food Security: Impact of Climate Change and Technology, Ed. Sahrawat, R., Xiao, H.-W., Jangam, S.V., Mujumdar, A.S. 2019, pp. 73-88. Available online: https://arunmujumdar.com/ebooks/ **Food Security: Impact of Climate Change and Technology** – Edited by R. Sehrawat, H.-W. Xiao, S.V. Jangam and A.S. Mujumdar
14. Misra, A. K., Yadav S.B., Mishra S. K. and Tripathi M. K. Impact of Meteorological Variables and Climate Change on Plant Diseases In K. Pradeep, Tiwari, A.K., Kamle, M., Abbas, Z. and Singh, P. (Eds) "Plant Pathogens-Detection and Management for Sustainable Agriculture"(PP.313-327) Publisher: Apple Academic Press Inc. 1265 Goldenrod Circle NE, Palm Bay, Florida 32905, USA (ISBN: 978-0-42905-721-2).

Action Taken of Feed Back Received from various stakeholders 2019-20

- While the appointment
- process for regular faculty is underway, interim management measures have been implemented, including the appointment of contractual teachers to address staffing gaps.
- Subject Matter Specialists from KVKs have been engaged to support in the meantime.
- Educational tours have been organized for outgoing undergraduate students.
- Exposure visits are being integrated into the National Agricultural Higher Education Project, funded by the World Bank, through a competitive process.
- Infrastructure updates are being supported using ICAR development grants and other financial resources.
- Instructions for bio-fencing have been issued as part of the University's "Go Green" policy.
- Budgetary allocations are being adjusted to address urgent safety concerns and worsening situations.
- QR code-based Fire Eye Scanner technology has been implemented for answer books.
- A Green Graduate Certificate program has been launched to enhance environmental awareness among RVSKVV students.
- Programs on women's sensitization and legal literacy are conducted to address relevant issues.
- First-aid facilities in dispensary units have been strengthened, with male and female doctors appointed to all colleges.
- Knowledge transfer is reinforced through expert guest lectures and alumni engagement for all learners.