



# 2023

**Volume: 02**

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## Content

- ❖ Technologies Evaluated
- ❖ Event Organized and Visit
- ❖ Publications/Awards/Invited Lectures
- ❖ Extension Education Activities

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## From the Vice-Chancellor Desk



I am delighted to present the university e-newsletter for the last quarter of 2023. We witnessed several impactful and remarkable events in the previous quarter at the university, which reflects our commitment and unwavering dedication. In India, diversification has occurred across and within the crop, livestock, forestry, and fishery sectors. Within agriculture, the share of output and employment in the non-crop sectors, i.e., animal husbandry, forestry, and fisheries, has been gradually increasing. India has the largest livestock resources in the world, which contribute 16% of the income of small farm households, compared to an average of 14% for all rural households. Livestock production also provides a livelihood for two-thirds of the rural population. It also employs about 8.8% of the population in India. Livestock income has become an important secondary source of income for rural families and has assumed an important role in achieving the goal of doubling farmers' income.

Dairying in the Bundelkhand region is central to providing livelihood security and coping mechanisms to mitigate risks for resource-poor farmers. The economy of the Bundelkhand region is primarily rural, and the prevailing conditions suggest the need to make agriculture, including livestock and fisheries, more remunerative. The region has several small and large water bodies, providing better fisheries and aquaculture prospects. All these water bodies are rich in fish fauna. Two colleges, viz., the College of Fisheries and the College of Veterinary and Animal Sciences at the Datia campus, were inaugurated on October 5, 2023, by the Government of India in Noner village, Datia district, Madhya Pradesh, under the jurisdiction of RLBCAU, Jhansi, and marked a significant milestone in the academic and developmental landscape of the Bundelkhand region. Enhancing livelihood security and promoting horticulture by harnessing the potential of horticulture crops, RLBCAU laid the foundation stone of the College of Horticulture at Morena (MP).

At RLBCAU, we celebrate every occasion with our students, farmers, faculty, etc., organizing several training pieces, invited lectures, and farmer fairs. The university participates with national and local bodies in district-level workshops and seminars. The university organized a seminar, training, and demonstrations in commemoration of the International Year of Millets. Research and innovations are pivotal in advancing knowledge and technology; we could make MoUs with national and international institutes and receive externally funded projects to achieve the university's goals.

During my visit to Murdoch University, Perth, Australia, we had fruitful discussions on paving the way for the capacity development of students and faculty in the diverse and upcoming areas, the best of the facilities, and offering unique opportunities to collaborate in education and research.

**Vice-Chancellor**



## ❖ Evaluation of castor hybrids for Bundelkhand region

Although castor agriculture has long been practiced in the Bundelkhand region, the number of castor growing areas has significantly decreased due to increased irrigation capabilities, creating space for high-yielding kharif crop varieties and hybrids. We started looking for high-yielding hybrids and corresponding crop production technologies in 2022, considering the significance and demand of castor cultivation in Bundelkhand. Three hybrids were planted for initial evaluation in the crop cafeteria, and these hybrids were found promising. The five best hybrids obtained by RLBCAU during the 2023 kharif were GCH-7, GCH-8, DCH-519, ICH-5, and ICH-66. These hybrids were produced on flatbed and ridge furrow systems on July 14, 2022, in accordance with a standard package of practices. The performances of these hybrids presented great potential for castor promotion in the Bundelkhand region (Artika Singh).



## ❖ Agronomic evaluation of promising rapeseed-mustard entries

The most important factor in producing mustard is the variety and dosage of fertilizer applied. An agronomic experiment was carried out in split plot design on October 28, 2023, using a standard package of practices to evaluate promising entries of mustard under optimal fertilizer management. Six mustard entries (NPJ 253, DRMR 2018-25, RGN 73 (LR), Maya (ZC), Kranti (NC), and Basanti (WRR C)) were planted in the main plot, and fertilizer doses of 100%, 125%, and 150% NPK applied in subplots (Artika Singh).

## ❖ Optimization of mineral nutrient management for higher productivity

Nutrients play an important role in crop growth and productivity. Macro and micronutrients have significant roles, but a decrease in these nutrients reduces yield drastically. Thus, to evaluate the best dose of nutrients (NPK, sulfur, zinc, and boron) and the effects of them and organic manure on soil and crop health, an experiment was laid out in a split-plot design on November 3, 2023, in

which major nutrients were in main plots and micronutrients and organic manures were in sub-plots with standard mustard crop production technology (Artika Singh).

## ❖ Effect of nano-fertilizers on yield and quality of rapeseed-mustard

To observe and conclude the real impact of newly released nano-urea and nano-DAP, an experiment is conducted in which the RDF dose of NP is reduced by 25% and is subsidized by nano-urea and DAP in a split-plot design. The crop was sown on October 27, 2023, with standard POPs. (Artika Singh).



## ❖ Breeding of common carp *Cyprinus carpio*

The College of Fisheries has completed the breeding program of Common Carp (*Cyprinus carpio*) in the hapa module in the pond from October 16–19, 2023, at the university campus. This innovative approach is targeted to enhance our understanding and application of induced breeding in aquaculture, specifically targeting the sustainability and efficacy of fish farming practices in the Bundelkhand region. Five pairs of brooders were selected for the breeding process, ensuring a diverse and healthy genetic pool. After hormonal induction, the brooders were transferred to hapa nets (2 m x 1.5 m x 1.0 m) and placed in a pond already stuck inside. Then, the brooders released the eggs and milt in hapa, allowing for in-situ fertilization. The fertilized eggs remained in the hapas, where they were incubated under natural pond conditions, ensuring an optimal environment for embryonic development. Upon hatching, the larvae were reared in the same hapas, with careful monitoring and management of their diet, growth, and health. This program's success will help distribute quality seed to fish farmers in the Bundelkhand region.



## ❖ Inauguration of college of fisheries and college of veterinary and animal science

The College of Fisheries, College of Veterinary and Animal Science RLBCAU, Jhansi, was inaugurated on October 5, 2023, by the Government of India in Noner village, Datia district, Madhya Pradesh, under the aegis of Rani Lakshmi Bai Central Agricultural University, Jhansi, and marked a significant milestone in the academic and developmental landscape of the Bundelkhand region. To meet the national as well as ever growing population of Bundelkhand region for animal products, concerted efforts in terms of better health, feed and fodder availability and proper breeding management are required to exploit this sector maximally. Efforts are to be made to conserve and perpetuate our valuable indigenous germplasm, which are adaptable to adverse climatic conditions and resistant to various endemic diseases. With this background, the college of veterinary & animal sciences has been established in Datia in Madhya Pradesh. This newly established institution began admitting graduate-level students in the 2023–2024 academic sessions following an all-India competitive examination conducted by the ICAR. The college proudly welcomed students from six different states of India, showcasing its national reach and appeal.



The diverse backgrounds of these students promise a rich educational environment and a broad exchange of perspectives. The Hon'ble Vice Chancellor of the University, Ashok Kumar Singh, and Bijay Kumar Behera, Dean of the College of Fisheries, announced plans for further expansion. The college will also open its doors to postgraduate students from the next academic session, significantly enhancing its educational offerings. The primary objective of establishing the CoF is to augment fish production in Bundelkhand, thereby improving the region's economic condition. Recognizing the unique taste and nationwide popularity of fish from this region, the college is poised to advance in multiple directions, including research, teaching, fish seed production, hatchery technology, and

holistic fish farming. A focus will be on developing commercially important fish species like Indian major carp, foreign major carp, and other local varieties. This initiative will be pivotal in boosting the region's aquaculture profile. The college has initiated training programs and field-level demonstrations for scientific fish farming in Uttar Pradesh and Madhya Pradesh. These programs are designed to assist local fish farmers and contribute to the regional development of fish farming practices. As the Fisheries College embarks on its journey, it is set to play a transformative role in the fisheries sector of Bundelkhand and India.



## ❖ All India educational tour of B. Sc. (Ag.) students

The 33 (14 girls and 19 boys) students of the VII semester, College of Agriculture, RLBCAU, visited various ICAR institutes and universities as per the course curriculum. This tour was 15 days long, from December 11–26, 2023. It included visits to well-established laboratories and processing units at ICAR-IIMR, ICAR-IIRR, ICAR-IIOR, and ICAR-CRIDA, Hyderabad; the University of Agricultural Sciences; ICAR-IIHR; and NBAIR Bengaluru. Students also visited TNAU and Coimbatore and learned about various technologies developed at the university. Then, students visited ICAR-IISWC in Ooty, Tamil Nadu (Saurabh Singh, Gunjan Guleria and Pushendra Niranjana).



### ❖ Visit to Central Ayurvedic Research Institute, Jhansi

Students of B.Sc. Horticulture and B.Sc. Forestry, 3rd year students were taken for an educational visit to the Central Ayurvedic Research Institute, Jhansi, on November 8, 2023. The students and faculty members were warmly welcomed by the Director of the Institute, Dr. Ch. Venkata Narashimhaji. The students got the opportunity to interact with experts from different fields at the institute. The students were taught the steps required for selecting plant specimens for preparing medicines, followed by explaining how various machines work at different phages. Overall, students could learn and explore the possibilities of Ayurveda in modern times (**Rakesh Kumar, Y. Bijilaxmi Devi and Vinod Kumar**).



### ❖ National milk day celebration

National Milk Day was celebrated on November 26, 2023, to mark the birth anniversary of Dr. Verghese Kurien, the father of the white revolution in India. On this occasion, an essay writing competition on the theme "Milk is a Complete Food" was organized at the university. Awareness about the importance of milk was also organized among children and women in villages to provide essential nutrients. A sensitization program on the importance of milk for children's health and mental development was also organized at Govt: the Primary School in Parvati village, Jhansi. The dairy products were also distributed among the students (**Gaurav Kumar, Amit Singh Vishen, Pramod Kumar Soni, V. P. Singh**).

### ❖ Celebration of world fisheries day

The College of Fisheries, RLBCAU, Jhansi, commemorated World Fisheries Day with great enthusiasm and a series of informative events, underscoring its commitment to the sustainable development of the fisheries sector on November 21, 2023. Esteemed experts and faculty members led insightful discussions focusing on the latest advancements and challenges in fisheries. The celebration commenced with an inaugural address by Dr. B. K. Behera, Dean of the College of Fisheries, who emphasized the vital role of fisheries in global food security and the economic prosperity of communities dependent on fishing.



Shri Gulab Singh Raikwar from Jhansi district and Shri Biren Raikwar from Shivpuri district were honored for their exemplary contributions to fish farming in the Bundelkhand region. Quiz and poster competitions were also held, where Mr. Suman Kumar, Ms. Adiba Fatima, and Mr. Rakesh Kumar Samal were selected as the top performers. In contrast, Mr. Abhishek Mohanty, Ms. Shivani Nayak, and Mr. Ashish Kumar Rana took the top three prizes in the poster competition.

### ❖ Farmers day celebration

The birth anniversary of former PM Shri Chaudhary Charan Singh was celebrated as Farmers Day with special guests JD-Research of ICAR, New Delhi, Dr. C Vishwanathan, and innovative farmer Man Singh. In the presidential address, Vice Chancellor Dr. Ashok Kumar Singh said that farmers are the core of the Indian economy and the present and future of it. He assured me that the university would welcome any farmer needing knowledge and skill assistance. Twelve progressive farmers were also honored for their outstanding performances in different FLD schemes run by the university. Gulab Singh, Ramdayal, Hariom Dubey, Dhabkar, Radhakrishna Mishra, Deendayal Kushwaha Sanyer, Jagmohan Ahirwar, KK Yadav, Rameshwar Kushwaha, Ramsahay, Ripudaman Singh Yadav, and Shobharam Parihar were honored. On this occasion, sprayers, fish feed, honey boxes, etc., were given. Many farmers shared their experiences on the stage, and farmer KK Yadav mesmerized everyone by reciting Bundeli poetry (**Shridhar Patil, Ashutosh Sharma, Sanjeev Kumar, Ashish Gupta, Shivendra Singh**).

### ❖ World food day

The World Food Day is commemorated annually on October 16th to draw attention to the global issue of inadequate access to a nutritious diet, affecting millions of people. RLBCAU, organized the World Food Day on October 16, 2023, with the theme "Water is life, water is food, no one is left behind." The program commenced by the inauguration of food exhibition by the Vice Chancellor of the University, Hon'ble Dr. Ashok Kumar Singh and the ribbon-cutting ceremony jointly along with Dr. Amresh Chandra, Director,

ICAR- IGFRI, Jhansi. Additionally, self-help groups and farmer producer organizations has also showcased Bundelkhand-based food items. The Department of Post-Harvest Technology introduced 'Functional Flour' made from moringa, mushroom, millets (Ragi, Bajra), ajwain, and wheat, named 'Functional Flour'. This flour, intended for commercial production by Manupra Foods Pvt. Ltd., Jhansi and it is a valuable product for diabetic patients, providing flour, protein, fiber, vitamin B12, vitamin D, and essential minerals. Its consumption is beneficial for the development of strong muscles and healthy bones in children. The program was coordinated by Dr. Ghanshyam Abrol, Dr. Ashwani Kumar, and Dr. Sukanya Mishra, under the guidance of Dr. Anil Kumar. At last, during the event, prizes and certificates were distributed to the participants by the distinguished guests.



❖ **Rani Lakshmi Bai birth anniversary**

On the 188th birth anniversary of Rani Lakshmi Bai, university organized “Fasal Utsava” by holding the National Seminar on "Research and Development Strategies for Sustainable Production of Pulses, Oilseeds and Grains for Food Security in Central India".



It was inaugurated by Honorable MP Jhansi Lalitpur Shri Anurag Sharma Ji along with the dignified presence of other dignitaries viz. Chancellor Dr. Punjab Singh and Vice Chancellor Dr. Ashok Kumar Singh, Dr. R. C. Aggarwal,

Deputy Director General of Education, Dr. P. Das, former Deputy Director General of Extension Education ICAR, Padma Shri Awardee Dr. Arvind Kumar, former Vice Chancellor Rani Laxmibai Central Agricultural University by jointly lighting the lamp. Several scientist and special guests from various institutions joined the event. On this occasion, the Chancellor of the University and all the guests garlanded the statue of Queen Lakshmi Bai and remembered her valour and courage for fighting against British rule during first war of freedom struggle.

❖ **Swachhata Hi Sewa (SHS): special campaign 3.0**

Swachhta Abhiyan, also known as the Clean India Mission, is a nationwide campaign in India that aims to promote cleanliness and hygiene among the citizens. The campaign is an integral part of the Swachh Bharat Mission initiated by the Government of India. On October 1, 2023, a Swachhta Abhiyan event was organized at RLBCAU in Jhansi from September 25, 2023 to November 06, 2023 to promote cleanliness, hygiene, and environmental sustainability on the university campus. The Swachhta Abhiyan event at RLBCAU was a collaborative effort involving students, faculty, staff, and local volunteers under the guidance of Dr. Anil Kumar, Director Education. Several activities and initiatives were undertaken like cleanliness drive at Pahuj Dam, Jhansi, display of banners for spreading awareness, Hon’ble Vice Chancellor administered swachhta pledge to all the staff, students and farm workers/laborers and pledge on single use plastic ban, SHRAMDAN (Ek Din Ek Ghanta) etc to achieve the campaign's objectives.



❖ **PG second year students completed their one-week residential training program**

The second-year postgraduate students of College of Agriculture and College of Horticulture & Forestry from various departments have successfully concluded a transformative one-week residential training program at distinguished institutes/research centers across India during November and December 2023. Facilitated by the Directorate of Education in coordination with the Deans of the respective colleges, this aimed to provide these students

with practical insights and hands-on experience in the diverse field of agricultural research. This year our PG students visited ICAR-Central Research Institute for Dryland Agriculture, Hyderabad, National Institute of Plant Health Management (NIPHM), Hyderabad, IRRI South Asia Regional Center (IRRI-SARC), Varanasi, Central Horticultural Experiment Station (ICAR-CIAH), Vejalpur and Forest College and Research Institute, Tamilnadu Agricultural University, Mettupalayam. The program focused to encompass workshops, interactive sessions, and field visits, exposed the students to cutting-edge research methodologies and technological advancements. The successful completion of this program signifies a commendable stride towards equipping the next generation of agricultural professionals with the skills and knowledge necessary to make meaningful contributions to the field. This not only contributed to the practical knowledge of the participants but also strengthened ties between RLBCAU, Jhansi and prominent agricultural research centers.



❖ **Abroad visit**

Hon'ble Vice Chancellor Prof A K Singh and Director of Research Dr. S K Chaturvedi, RLBCAU, Jhansi, visited Murdoch University, Perth, Australia. During their visit, discussions were held on paving the way for capacity development of students in the diverse and upcoming areas.



He also visited University of Western Australia during 27 to 29 November 2023 and had interaction with University Academics including Pro Vice Chancellor, Professor

Kadambot Siddique. Also visited farm, laboratory and campus facilities. About a 100 years old university has best of the facilities and offers unique opportunities to have collaborative work in the fields of education and research.



❖ **PhD student avails the opportunity in frontier of seed sector in Germany and the Netherlands**

Ms. Dhanapati Keerthana, a PhD student in Dept. of Genetics & Plant Breeding, explored an exposure visit to Germany and the Netherlands from November 28th to December 7th, 2023 under Indo-German Bilateral Cooperation on Seed Sector Development. This enriching experience was facilitated by the University and Ministry of Agriculture and Farmer's Welfare as part of commitment to provide students the global exposure for fostering international collaborations. During her visit, Ms. Keerthana had the opportunity to immerse herself in the advanced agricultural practices of both nations, gaining firsthand insights into cutting-edge research and innovations in the agricultural sector. The exposure visits also allowed her to interact with leading experts and attend specialized workshops, thereby broadening her academic horizons. Ms. Keerthana's journey serves as a testament to the university's outlook to nurture its students for gaining the knowledge and expertise in specific domain areas.



**Farm Advisory Published (Oct-Dec, 2023)**

सलाह	□□□□
अधिक उत्पादन के लिए करें मसूर की बुवाई	डॉ. मनोज कुमार सिंह, डॉ. अंशुमान सिंह
अगोती मटर की खेती कर किसान लें अधिक लाभ	डॉ. मनोज कुमार सिंह
वैज्ञानिक विधि से करें सरसों की बुवाई	डॉ. राकेश चौधरी
कीटनाशी दवाओं के छिड़काव में किसान बरतें सावधानियां	डॉ. संदीप उपाध्याय, डॉ. सुशील कुमार सिंह
गेहूँ के अच्छे उत्पादन के लिए समय पर करें बुवाई.	डॉ. रूमाना खान
अच्छी गुणवत्ता के बीज की करें बुवाई	डॉ. मनोज कुमार सिंह
चने में अधिक उत्पादन के लिए करें उन्नत प्रजातियों का उपयोग	डॉ. अंशुमान सिंह, डॉ. मीनाक्षी आर्य
कम पानी में फायदेमंद है अलसी की खेती	डॉ. संदीप उपाध्याय, डॉ. सुशील कुमार
गेहूँ की देर से पकने वाली किस्मों की करें बुवाई	डॉ. अनिल कुमार राय, डॉ. योगेश्वर सिंह सिंह
अगर नहीं बढ़ी ठंड तो कमजोर रह जाएगा मटर और चने का दाना	डॉ. गुंजन गुलेरिया, डॉ. अंशुमान सिंह
अब ड्रोन पायलट बनेंगे किसान, खेत पर करेंगे कीटनाशक और खाद का छिड़काव	डॉ. प्रशांत जाम्भुलकर, डॉ. आशुतोष शर्मा
बदलते मौसम में रोग और कीटों से बचाएं फसलें	डॉ. अनिल कुमार राय, डॉ. योगेश्वर सिंह
देसी टमाटर में रंगत खोने का एब, पंजाब छुहारा भरेगा किसानों की जेब	डॉ. आशुतोष सिंह
15 नवम्बर तक बुवाई करने वाले करें यूरिया का इस्तेमाल	डॉ. अमित कुमार सिंह, डॉ. शिवेन्द्र सिंह
बुंदेलखंड की गर्मी में भी रहेगा कूल-कूल खिला गेंदा फूल	डॉ. गौरव शर्मा
नीम कदंब छांव में करें हल्दी अदरक की खेती	डॉ. मनमोहन डोबरियाल
टेरेस गार्डन के लिए छत पर वाटर प्रूफिंग कराएं	डॉ. गौरव शर्मा
चने की खुटाई एवं समय से सिंचाई कर किसान बढ़ाएं उपज	डॉ. मनोज कुमार सिंह, डॉ. अनिल कुमार राय
कटहल को रोग से बचाएं	डॉ. गोबिंद विश्वकर्मा, डॉ. गौरव शर्मा
गेहूँ में करें खरपतवार प्रबंधन	डॉ. अनिल कुमार राय, डॉ. योगेश्वर सिंह
फसलों में पाला लगने का खतरा बढ़ा	डॉ. मनोज कुमार

Radio Talk	Date	Speaker
Prakritik Sanshadhano ka Krishi me Mahatva	10th Oct	Umesh Pankaj
Bhartiya kisan diwas ke uplakshya me krishak sanghosthi	23rd Dec	Sanjeev Kumar
Bhartiya kisan diwas ke uplakshya me krishak sanghosthi	23rd Dec	Arpit Suryawanshi
Role of microorganisms in Organic Farming	3rd Dec	Y. Bijilaxmi Devi
Integrated Management of Agricultural Wastes	9th Nov	Anusuiya Panda

**Award**

- ❖ Bharat Kranti Award during 21 days online training cum-workshop program on ‘Green Revolution: A journey from Mexico to Bharat’ (24<sup>th</sup> Sept to 14<sup>th</sup> Oct 2023) jointly organized by HARWS, IIMT University, Shri Krishna University, Sardar Patel University and ICAR-IISR (**Yumnam Bijilaxmi Devi**).
- ❖ Awarded as Best Oral presentation on “Exploration of the efficient autochthonous drought tolerant bio-inoculant for drought prone Bundelkhand region” in 64<sup>th</sup> -International Annual Conference of Association of Microbiologists of India (AMI) held on 01 to 03, December 2023 (**Umesh Pankaj**).

**Lecture delivered**

- ❖ Lecture on the topic ‘Green revolution and Soil Health’ during 21 days online training –cum-workshop program on ‘Green Revolution: A journey from Mexico to Bharat’ (24<sup>th</sup> Sept to 14<sup>th</sup> Oct 2023) jointly organized by HARWS, IIMT University, Shri Krishna University, Sardar Patel University and ICAR-IISR (**Yumnam Bijilaxmi Devi**).

**Conference/Seminar**

- ❖ Participation in International Conference on “One Health One World” during 28-29 December 2023 at RVSKVV, Gwalior. Funded under NAHEP Project (**Sandeep Upadhyay, Anil Kumar Rai, Sundar Pal**).
- ❖ Organizing secretary of 1<sup>st</sup> International Agriculture Conference on ‘Natural & Organic Farming in context to Bharatiya Agriculture as during 24<sup>th</sup> to 26<sup>th</sup> Dec 2023 (jointly organized by Gujarat Natural farming Science University, Anand IIMT University, Meerut and Hindustan Agricultural Research welfare Society). (**Yumnam Bijilaxmi Devi**).
- ❖ Resource person on the topic "Importance of millets, types important varieties and seed production techniques in the three days Millet festival (State level millet exhibition and workshop) organized by Govt. of UP during 27 to 29 October, 2023. (**Rumana Khan**).
- ❖ Participate as judge and guest speaker at PM Shri KV2 Jahnsi Cant. on "Millets for Health and Sustainable Climate" under Regional level Rajya Stariya Bal Vaigyanik Pradarshani, (RSBVP) 2023-24 From 9-10 December 2024. (**Rumana Khan**).

## ❖ Workshop on protected habitat management using Digital Image Processing & GIS

The "Protected Habitat Management using Digital Image Processing and GIS" workshop was organized from October 3 to 16, 2023, and aimed to equip participants with advanced tools and techniques for effectively conserving and managing protected habitats. Throughout the workshop, participants integrated Digital Image Processing (DIP) and Geographic Information Systems (GIS) to enhance their capabilities in monitoring, analyzing, and preserving critical ecosystems. Geospatial assessment supported by the Geographic Information System (GIS), Remote Sensing (RS), and Global Positioning System (GPS) caters to compelling techniques of mapping, monitoring, surveying, classification, characterization, and change detection of natural resources.

A total of 286 participants from the country filled out the form, of which 25 were shortlisted (all postgraduate and Ph.D. students). The entire event focused on protected habitat management using satellite data, including applications in forestry, climate change, etc. Forest visits in Orcha Wildlife Sanctuary were organized for the participants for practical aspects. On the day of the closing ceremony, a workshop certificate was given to the interns, and the best trainee award was also given. Feedback and the experiences of participants in the workshop were also shared. (Pavan Kumar, Garima Gupta, Pankaj Lavania, Manmohan Dobriyal)



❖ Under FLD wheat, seeds of about 21 quintals of wheat and durum wheat were distributed among 65 farmers of Bangra, Magarpur, and Mauranipur villages of Uttar Pradesh. Post-emergence herbicides (metsulfuron and sulfosulfuron) were given to 40 farmers in Bangra and Magarpur. Post-emergence herbicides can reduce weed infestations in farmers' fields. Three sprays of seaweed extract were also given to 40 farmers in Bangra and Magarpur. Seaweed extract can increase crop yields, provide nutritional benefits to crops, and give farmers a higher yield. One field day was also organized in Bangra Village with 50 farmers on December 8, 2023 (Gunjan Guleria, Shivendra Singh, Vishwanath Chauhan, Anita Puyam).



## ❖ Vegetable seeds distributed for area expansion under winter season

To enhance the area under winter vegetable crops in the Bundelkhand region, OPV and newly developed hybrid F<sub>1</sub> seeds of different vegetable crops were distributed to the farmers of Jhansi and Datia Districts. Under this, 30 FLDs of cabbage, 30 FLDs of cauliflower, 17 FLDs of Broccoli, 10 FLDs of Kale, 3 FLDs of lettuce, 10 FLDs of Vegetable Pea, and 20 FLDs of carrot were conducted under University funded FLD program. 15 FLDs of Potato were conducted under ICAR- CPCRI Modipuram Meerut ( Drs. Brij Bihari Sharma, Arjun Lal Ola, Saurabh Singh).



❖ Under the SCSP-Mustard plan, funded by ICAR-DRMR, Bharatpur 125 FLDs were conducted in the 2023–24 *rabi* season with 125 acres of area in 2 districts, i.e., Jhansi of Uttar Pradesh and Datia of Madhya Pradesh (Dhikoli, Baajana, and Durgapur). The technological interventions include seed (Giriraj), pendamethalin, urea, nano-urea, and nano-DAP during October 2023 (Artika Singh, Rakesh Choudhary, Vijay K. Mishra, Vaibhav Singh).





❖ **Front Line Demonstrations (FLD) on fisheries**

FLDs on fisheries programs to bolster mixed fish farming among local farmers have been started. This initiative is part of the Pradhan Mantri Matsya Sampada Yojana (PMMSY), a scheme launched by the GoI. In this FLD, 20 farmers from 7 villages were selected to distribute fish seeds and feed. This intervention will be instrumental in promoting scientific methods in fish farming. Each farmer received 10,000 high-quality fish seeds and 320 kg of feed, marking a substantial investment in the region's aquaculture potential. The seed was meant for a composite fish culture that contained Indian Major Carps (Catla, Rohu, and Mrigal) and Exotic Major Carps (Grass Carp, Silver Carp, and Common Carp) in an equal ratio. Shri Charan Singh Kushwaha helped fish farmers release the fish seeds on-site (**Bijay Kumar Behera, Neelesh Kumar, Partha Sarathi Tripathy, Ajaya Kumar Rout, Piyooash Babele, Satya Narayan Parida**).



❖ Under the SCSP-Quality Seed Project, five days of training from December 18<sup>th</sup> to December 22<sup>nd</sup>, 2023, was conducted on “Good Agricultural Practices and Seed Production Technology” among 30 farmers of Dhikoli village from Jhansi district. The inaugural session was graced by the Hon’ble VC, sir, and addressed the farmers. The farmers were given training in fields, and lectures were delivered (**Artika Singh, Rumana Khan**).



Training on Beekeeping: From October to December 2023, four training on beekeeping were organized. These trainings were a residential three days training program during 11-13<sup>th</sup> Oct, 31<sup>st</sup> Oct - 1<sup>st</sup> Nov, 6<sup>th</sup> Nov - 8<sup>th</sup> Nov, and 21<sup>st</sup> Dec - 23<sup>rd</sup> Dec 2023 at RLBCAU funded by Rashtriya Krishi Vikas Yojana Uttar Pradesh and under this training benefitted 177 farmers from around 53 villages of Jhansi, Lalitpur, Jalun, Mahoba, and Datia districts. The training emphasizes the Establishment of an ideal apiary, seasonal management of Honeybee colonies, different species of Honeybees and their economic importance, the production method of the queen bee, pests and diseases of honeybees and their management, the role of bee pollination in crop production, Beekeeping equipment, and their uses, method of artificial feeding, Bee poisoning, production of valuable products of bee hive, etc. (**Usha, Yogendra Kumar Mishra, Sundar Pal, Maimom Soniya Devi, V. K. Mishra, Hari Chand and D. B. Ahuja**).



❖ Training-cum-Demonstration on Bundeli Krishi Vipnan Mobile Application developed under “Integrated Platform for Agripreneur: A Force Multiplier Forum of Farmers-Consumers-Entrepreneur NABARD funded Project” was organized on October 30, 2023, at Vikas Bhavan, Lalitpur district, Uttar Pradesh.



Training was organized in the presence of Shri K K Pandey, Chief Development Officer, Lalitpur, Shri Arvind Nigam, DDM, Lalitpur, NABARD, and Shri Vasant Dubey, Deputy Director, Agriculture, Lalitpur. During this training, demonstration of Bundeli Krishi Vipnan Mobile

Application, training and registration among beneficiaries on BKV mobile application, issues and challenges of FPOs in Bundelkhand, registration of farmers for Mobile application (Sanjeev Kumar, Shailendra Kumar, Arpit Suryawanshi, Saurabh Gaur).

❖ Three-day training on the “advanced cultivation of aerobic paddy in the Bundelkhand Region” was organized from October 10 to October 12, 2023, under the FLD program on aerobic rice. Twenty-five farmers participated. During the training, Hon’ble Vice Chancellor A. K. Singh, S. S. Singh, and R. K. Singh gave words of wisdom to the farmers. A total of nine lectures were scheduled by the experts from different streams, followed by field visits. The farmers belonged to Imliya village and had experienced a lot of new management technologies related to aerobic rice. The field day was also observed in Imliya village on September 21, 2023, under the same FLD, where 35–40 farmers attended the program. (Gunjan Guleria, Y Bijlaxmi Devi, Prince Kumar and Alka Jain).



❖ **Three days day training programme on flower cultivation**

The Department of Floriculture and Landscaping conducted the on-campus training program on “Bundelkhand mein unit take dwara phoolon ki kheti” from November 7–9, 2023. In this training program, 20 farmers from the Datia district of MP and the Jhansi district of UP participated-the training program aimed to give technical know-how to farmers about flower cultivation for earning a higher income.



The farmers were trained in various aspects of flower cultivation, including nursery production, cultivation,

marketing, post-harvest handling, insect control, and disease control (Gaurav Sharma, Priyanka Sharma, Umesh Pankaj, Prince Kumar).

❖ A three-day farmers training-cum-field day program on Millets was organized on October 12, 13, and 16, 2023, covering 200 farmers. Training was organized at Dhawakar (Mauranipur), Magarpur (Jhansi), and Madavar villages (Lalitpur) on the 12th, 13th, and 16th of October, respectively. Training and discussion were held regarding cultivating pearl millet, sorghum, and minor millets.



❖ **First Three-day Fish Farmers Training on Fish Culture in Bundelkhand Region:** A three-day training program on fish culture in Bundelkhand Region was organized from November 21 to 23, 2023. This was the first training in fisheries organized by the university, and more than 25 farmers from various districts of the Bundelkhand region took part in this training program. The program featured insightful talks on integrated fish farming, bio-floc technology, fish feed management, soil and water quality management, fish hatchery operations, recirculatory aquaculture systems (RAS), central government schemes, etc. Various officials from the State Fisheries Departments of Uttar Pradesh and Madhya Pradesh graced the event. (B. K. Behera, Neelesh Kumar, Sanjeev Kumar, Partha Sarathi Tripathy, Piyoosh Babebe, Anusuiya Panda, Ashutosh Sharma, Ajaya Kumar Rout, Satya Narayan Parida and Charan Singh Kushwaha).

❖ **Three-day on-campus training program organized on composite fish culture**

CoF organized a three-day on-campus training program from December 21 to 23. Thirty-five farmers from Jhansi, Orai, Datia, Lalitpur, and other places participated in the training program. The training included practical aspects of fish maintenance, rearing, and methods to increase shelf life. The program also aimed to raise awareness about multipurpose fish farming methods and the concept of rainbow farming, symbolic of the fish revolution in Bundelkhand. The program featured insightful talks on recent techniques for integrated fish farming, bio-floc

technology, fish feed management, soil and water quality management, fish hatchery operations, semi-intensive fish farming, etc., related to composite fish culture. This initiative marks a significant step towards aquaculture advancement in Bundelkhand and sets a precedent for future educational endeavors in fisheries and integrated farming (Bijay Kumar Behera, Neelesh Kumar, Partha Sarathi Tripathy, Sanjeev Kumar, Piyooosh Babele, Ajay Kumar Rout, Satya Narayan Parida, Charan Singh Kushwaha and Abhishek Parashar).



❖ **Six-Days training on white button mushroom production**

Six days of residential training on white button mushroom production under the RKVY project on mushroom cultivation were organized by DoPP from October 3–8, 2023. Twenty-three farmers from the Jhansi, Lalitpur, Hamirpur, Jalaun, and Unnao districts participated in this training. The farmers were guided on the preparation of mushroom spawn, composting, casing soil preparation, spawning, crop room management, harvesting, and processing. Several lectures on the introduction and importance of mushrooms (nutritional and medicinal), the basics of compost preparation, spawn production and qualities of good spawn, diseases and insect pests of button mushrooms, value addition, and post-harvest technology for skill in mushroom production and marketing were delivered by guest speakers (Shubha Trivedi, Vaibhav Singh, and P. P. Jambhulkar).



❖ Under FLD, the Department of Floriculture and Landscaping organized a flower crop field day on November 4, 2023, at village Kakarua, district Datia of MP. On this field day, about 25 farmers participated. Farmers were trained in flower cultivation, management of soil health by using bio-fertilizers, and marketing of flower crops in local and distant markets (Priyanka Sharma, Umesh Pankaj, Prince Kumar).



❖ A farmer's training-cum-field day program was organized under FLDs Maize (ICAR-IIMR) at Digoda, Tikamgarh, and Orchha, M.P., on October 4 and 6, 2023. Around 90 farmers have joined the field day program. Quality seed production and breeding, disease and insect management, marketing, production, and micronutrient management in maize and its future benefits for other crops (Manoj Kumar Singh, Umesh Pankaj, Ashish Kumar Gupta and Yogendra Mishra).

❖ Under the scheme “Prime Minister School for Rising India (PM-Sri), around 104 students from Kendriya Vidhyalaya visited the Rani Lakshmi Bai Central Agricultural University campus on November 11, 2023. Various facilities, such as laboratories, flower, vegetable, and fruit cafeterias, apiary units, medicinal plant cafeterias, etc., were shown to the students. Anil Kumar, Director of Education, RLBCAU, Jhansi, also interacted with the students (Umesh Pankaj and Priyanshi Garg).



The university actively participated in the “Vikshit Bharat Sankalpatra” in different villages in Niwari District, Madhya Pradesh. Faculties from different subjects actively participated in the yatra, emphasizing the improved package of practices such as IPM, IDM, nutrient management, water management, the application of drone technology, honeybees, mushroom production, and relevant government schemes such as the Soil Health Card, PMKSY, etc. (Arpit Suryavanshi, Aman Dabrak, Amit Vishen, Sundar Pal, Rajeev Nandan, Nilesh Kumar, V.K. Mishra, Sandeep Upadhayay, Govind Vishwakarma, Pramod Soni, Pankaj Lawania, Prince Kumar, Ashwani Kumar and Umesh Pankaj)

❖ Front Line Demonstrations on chickpea, lentil, and field pea are being conducted under the SCSP Project, funded by the ICAR-Education Division, and the SCSP scheme, funded by ICAR-IIPR, ICAR-IASRI, and AICRP-Rabi Pulses (ICAR-IIPR). Quality seed of high-yielding, disease-tolerant varieties of different crops, viz., chickpea (BG 3062, IPC 2006-7), lentil (L 4727), and field pea (IPFD 10-12, IPFD 2014-2), was distributed for 1 acre and 1 ha area to the farmers of different villages in Jhansi, Niwari, and Lalitpur districts (Anshuman Singh, Meenakshi Arya, Ashutosh Sharma, Yogendra Mishra, M.K. Singh, Kuleshwar Prasad Sahu, Vishwanath, Shiv Vendra Singh, Anil Kumar Rai, Ashish Gupta, Arpit Suryavanshi).



❖ A five-day farmers' training and field day program funded by RLBCAU, Jhansi, was conducted on October 28th, 30th, and 31st, 2023, in Mohanpura, Magarpur (Jhansi), Imliya (Lalitpur), Gursarai (Jhansi), and Talbehat (Lalitpur), respectively, on the production of pulse crops.



On each day of the training and field day, around 40 farmers participated, and the different aspects of pulse production related to the use of quality seed, measures to prevent disease and insect damage, agronomic practices, weed control, seed processing, value addition, and different farmer schemes were discussed (Anshuman Singh, Meenakshi Arya).

❖ **Exhibition**

District Level Rabi Kisan Ghosthi-cum-Exhibition (Tilhan Kisan Mela) was organized at RLBCAU, Jhansi on 20th October 2023 where local FPOs showcased their farm products. This was accompanied by *kisan ghosthi* where farmers received answers of their farm queries from the experts of the university. This included discussion on value addition, citrus fruits, mustard crop management, soil management, animal protection during winters etc. Farmers also visited different technology cafeteria of the university.



❖ The university participated in a two-day district-level workshop and Millets Road Show (October 4-5, 2023) on the occasion of the International Year of Millets 2023, organized by DDA, Jhansi, at the Pd. Deen Dayal Auditorium, Jhansi (Rumana Khan, Sanjeev Kumar, Ashwini Kumar).

