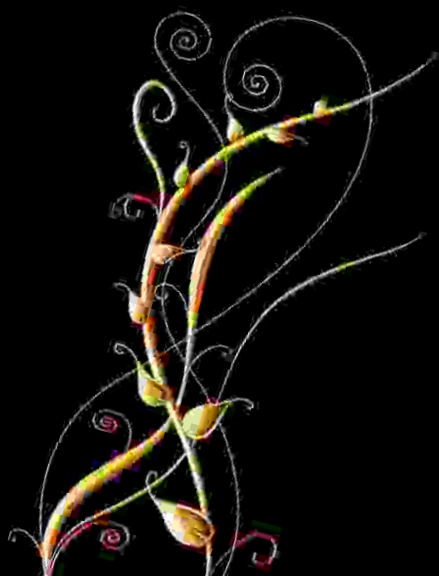




Sowing Success, Growing Futures and Harvesting Unforgettable Memories



BAU YEAR BOOK
2023



Sowing Success, Growing Futures, and Harvesting Unforgettable Memories

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2023



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Sowing Success, Growing Futures, and Harvesting Unforgettable Memories

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Bihar Agricultural University, Sabour



Dr D R Singh

Vice Chancellor

Foreword

As we reflect upon the vibrant tapestry of achievements and milestones that define the year gone by, it is my distinct honor and privilege to introduce the Bihar Agricultural University Yearbook for 2023. This compilation stands as a testament to the unwavering spirit of excellence, innovation, and community engagement that characterizes our esteemed institution, benefiting farmers, students, the state department of agriculture, agri-entrepreneurs, rural youth, farm women, and all other stakeholders.

"The Return of Leadership" signifies not only a personal journey but also the collective dedication of our faculty, students, and stakeholders in shaping the narrative of success for Bihar Agricultural University. This yearbook serves as a chronicle of our shared triumphs, a celebration of academic pursuits, and a witness to our commitment to advancing agriculture and related fields.

Breaking Records takes on a whole new meaning as we applaud the eighty-two students who achieved a significant milestone by cracking the NET examination for the first time at our university. It is a reflection of our commitment for fostering academic brilliance and providing a platform for our students to excel. I extend my sincere gratitude to the Agriculture Minister for acknowledging the commendable efforts of our teachers in developing a plethora of courses under the ICAR-NAHEP Programme. This collaborative effort reinforces our commitment to staying at the forefront of agricultural education and research.

Our innovative approach to education, as showcased in the unique Radio Revisions for Students and the initiative to bring the library to farmers' doorsteps, reflects our dedication to holistic learning and community service. These initiatives exemplify our mission to bridge the gap between academia and practical agricultural wisdom.

The Alumni Meet at our university serves as a reminder of the lasting impact our institution has on the trajectory of agricultural development. As we inaugurate the College of Forestry & Environmental Sciences, we embark on a journey to enhance the greenery of our state, contributing to the preservation of our environment and natural resources.



The year 2023 witnessed the initiation of groundbreaking projects, including the extensive recruitment of diverse scientists from different states of India. The first-ever Alternative Dispute Resolution Systems received overwhelming response, underscoring our commitment to innovation, sustainability, and address the evolving needs of our stakeholders. This Yearbook is a tribute to the collaborative spirit that defines Bihar Agricultural University. It encapsulates the innovative thinking, tireless efforts, and commitment to excellence that permeates every aspect of our institution. The University's commitment to talent development is evident through nationwide scientist training via CAFT at our ICT center, establishing Bihar Agricultural University as a hub for knowledge exchange. The Community Radio Station is a milestone in innovation and community engagement, serving as a powerful tool for disseminating agricultural wisdom and fostering collaboration.

"Jal Jeevan Hariyali" embodies our visionary approach to climate-resilient agriculture, aiming to lead in sustainable practices. The DBT-Funded Mega Project "Biotech KISAN Hub" empowers farmers in aspirational districts through biotechnology, contributing to economic growth. Research, Extension and Seed Council meetings have established a scientific platform for exchanging findings, reinforcing our commitment to advancing agricultural research. The enriched work of our scientists reflect our intellectual prowess, and contributes to our reputation. As we turn the pages of this Yearbook, let us not only celebrate our achievements but also draw inspiration from the journey that lies ahead. I express my heartfelt gratitude to every member of the BAU community for their dedication and hard work. With pride and anticipation for the future,



(D R Singh)



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संदेश

सर्वप्रथम में, बिहार कृषि विश्वविद्यालय, सबौर को वर्ष 2023 के दौरान की गई गतिविधियों के संकलन से युक्त एक वार्षिक पुस्तिका जारी करने के लिए बधाई देता हूं। शिक्षा जगत के माध्यम से की गई यात्रा विकास, खोज और परिवर्तन में से एक है, और इनमें से प्रत्येक में विश्वविद्यालय ने अपना जीवंत योगदान दिया है। कृषि क्षेत्र में, जहां नवाचार और टिकाऊ प्रथाएं महत्वपूर्ण भूमिका निभाती हैं, शिक्षण और अनुसंधान के प्रति आपका समर्पण सराहनीय रहा है। कृषि परिदृश्य विकसित हो रहा है, और आपके प्रयासों ने भविष्य के लिए मंच तैयार किया है जहां हमारी प्रथाएं पर्यावरण के साथ सामंजस्य स्थापित करेंगी, खाद्य सुरक्षा सुनिश्चित करेंगी और पारिस्थितिकी संतुलन को बढ़ावा देंगी। भारतीय कृषि अनुसंधान परिषद के महानिदेशक के रूप में, मैंने हमारे शैक्षणिक समुदाय में सन्निहित प्रतिबद्धता को महसूस किया है। अनुसंधान उपलब्धियाँ, अत्याधुनिक प्रौद्योगिकियों का अनुप्रयोग, और समुदाय के साथ बिहार कृषि विश्वविद्यालय, सबौर की सहभागिता उत्कृष्टता की उस भावना का उदाहरण है जिसे हम अपने स्नातकों में पैदा करने का प्रयास करते हैं।

यह याद रखना महत्वपूर्ण है कि यहां ज्ञान के जो बीज बोए गए हैं, वे आने वाले वर्षों में भी फल देते रहेंगे। चाहे कोई अनुसंधान, खेती, नीति निर्धारण या किसी अन्य क्षेत्र में अपना कैरियर बनाना चाहे, वह ईमानदारी, नवाचार और टिकाऊ कृषि के प्रति प्रतिबद्धता के मूल्यों को अपने साथ रखें। मुझे विश्वास है कि इस विश्वविद्यालय के प्रत्येक सदस्य ने नेतृत्व क्षमता विकसित करने और रूपांतरण करने में अपना सार्थक योगदान दिया है। जैसे-जैसे बिहार कृषि विश्वविद्यालय, सबौर की गतिविधियों का प्रचार-प्रसार होगा तब ऐसे में यह उल्लेख करना उचित होगा कि विद्वान और वैज्ञानिक सकारात्मक परिवर्तन के राजदूत होते हैं। मैं भविष्य के जीवंत प्रयासों की कामना करता हूं जो खेतों की तरह ही फलदायी हों।

विश्वविद्यालय की पूरी टीम को बधाई, और आने वाले वर्षों में आपकी निरंतर सफलताओं के प्रति मेरी हार्दिक शुभकामनाएं।


(हिमांशु पाठक)

7 फरवरी, 2024
नई दिल्ली



From the Editors' Desk

As we turn the pages of this inaugural edition of the Bihar Agricultural University Yearbook for the year 2023, we embark on this journey through the pages of our University's accomplishments. We invite you to explore further into the colourful pictures of achievements that defines our institution. For the first time, we proudly present a comprehensive compilation that encapsulates the spirit of Bihar Agricultural University's persistent excellence in academics, research and extension services. This Yearbook is a tribute to the dedication, innovation and collective effort of the entire university community. Within these pages, you will find an abundance of successful stories and achievements that highlight our commitment on advancing knowledge in agricultural practices. From innovative research projects to influential outreach efforts, every aspect of our University's diverse mission is clearly depicted our commitment to the farming community.

One of the hallmarks of this Yearbook is its inclusivity, encompassing a wide array of achievements across various domains. Whether it is the awards our respected teachers have received, the recognition our scientists have earned for their innovative work as patent or the sharing of knowledge through our top publications in well respected journals, each area encourages us to strive for more in the future. Moreover, this Yearbook is not just a collection of awards, it is a depiction of the events and activities that have made campus life so vibrant. Whether it is an exciting sports matches, cultural celebrations, educational field trips or scholarly gatherings, each event showcased here symbolizes the energetic essence of our University. As we reflect on the past year's accomplishments, we also look forward to the future with optimism and determination. The Bihar Agricultural University Yearbook 2023 serves as more than just a memorial publication, it is a proof that we are really committed to keep getting better in agricultural education, research and extension.

We extend our heartfelt gratitude to all those who have contributed to the making of this Yearbook, whether through their achievements, their support or their dedication to the ideals of Bihar Agricultural University. May this publication serve as an inspiration for future generations to continue the pursuit of knowledge, innovation and excellence in agriculture and beyond.

Editors

Chandan Kumar Panda

Nintu Mandal

Abhijeet Ghatak

V Shajeeda Banu



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The Return of Leadership: Vice Chancellor Resumes Position with Renewed Pride for the University



Dr Duniya Ram Singh, the esteemed academician and administrator, assumed the role of Vice Chancellor at Bihar Agricultural University, Sabour, marking a new chapter in his illustrious career. Prior to this, he served as the Vice-Chancellor of the Chandra Shekhar Azad University of Agriculture and Technology (CSAUA&T), Kanpur, where he accomplished the monumental feat of transforming

it into the first NAAC-accredited State Agricultural University in the country. Dr Singh's journey in academia began as an Assistant Professor at Hyderabad's Acharya NG Ranga Agricultural University, now known as Professor Jayashankar Telangana State Agricultural University. Over the years, he ascended through various roles, including Senior Scientist, Principal Scientist, Head of the Division, and Acting Director at the ICAR-Central Island Agricultural Research Institute, Port Blair. With an impressive academic portfolio, Dr Singh boasts 233 research papers in national and international journals, 19 books, 43 bulletins, and 8 policy papers. His scholarly contributions have earned him recognition, with 32 awards from national-level societies, states, and international bodies. Notably, his publications are widely cited across multiple disciplines.

During his tenure at CSAUA&T, Kanpur, Dr Singh's transformative leadership resulted in three patents, eight varieties released from CVRC, and eight varieties released from SVRC. Under his dynamic guidance, the concept of a malnutrition-eradicated village took shape, culminating in the development of India's first bio-fortified village, Anupur in Kanpur Dehat. This groundbreaking initiative garnered attention from state and national policymakers. Dr Singh's proactive response to the Covid-19 pandemic showcased his leadership prowess, as he organized the first successful three-day national webinar from May 5 to 7, 2020. This commendable effort received appreciation from the Hon'ble Prime Minister of India. His commitment to environmental sustainability is evident in his initiative to plant 60,000 plantlets on campus, earning accolades and awards



from various institutions. Dr Singh's commitment to student welfare is reflected in the CSAUA&T Central Library remaining open 24/7 and the establishment of a Unique Student Placement Cell and Career Counseling Cell with state-of-the-art facilities.

Dr Singh's impact extends beyond agriculture; during the 2004 Tsunami, he played a pivotal role in identifying and commercializing the under utilized plant, Noni (*Morinda citrifolia*). Four varieties of Noni were released for the first time globally, making Noni the third commercial crop in Andaman & Nicobar after coconut and arecanut. He has got feather on his cap by making the record of orchid in Andaman & Nicobar in the prestigious Limca Book of Records. Moreover, his contributions to orchid research at the ICAR-National Research Centre for Orchids are noteworthy. Dr Singh developed a standardized tissue culture protocol for dragon fruits, introduced three orchid varieties (Namo, Sardar, and Deendayal), and checked the biopiracy of orchids in the northeastern states. Dr DR Singh's legacy includes reducing India's dependency on foreign countries for orchids and conducting two convocation ceremonies in a day, a unique accomplishment for a Vice-Chancellor. His multifaceted contributions make him an exemplary figure in academia, research, and agricultural development. As an eminent leader of innovation and excellence, Dr Singh continues to inspire and leave an indelible mark on the landscape of agricultural education and research in India.

After joining the University, he made a courtesy visit to the then Hon'ble Chancellor-cum-Governor Shri Phagu Chauhan on January 17, 2023, at Raj Bhawan, Patna. In the course of his visit, he apprised the Chancellor about ongoing activities and recent decisions taken at the University level. The VC also briefed the Chancellor about preparations being made by the University for the Fourth Agriculture Road Map. The Hon'ble Chancellor stressed that the accreditation of the university by ICAR and NAAC should be prioritized. The Vice-Chancellor briefed His Excellency on various activities of the University and apprised him of long-pending issues that needed to be resolved for the development of the University.





Following the appointment of the esteemed Vice-Chancellor, a significant event unfolded on February 7, 2023

as the Hon'ble Chief Minister of Bihar, Shri Nitish Kumar, inaugurated the newly constructed Forestry College in Munger. Nestled along the banks of the majestic river Ganga, the college spans a sprawling 44 acre plot of land. During the inauguration ceremony, the Hon'ble Chief Minister remarked



that Munger holds a special place in mythology, enveloped by bountiful natural resources. The decision to establish a Forestry College in Munger was rooted in this recognition. He emphasized that Munger's geographical features, including hills and lush forests, create an ideal haven for wildlife. The river Ganga, coursing through the region, not only sustains wildlife but also replenishes the natural habitat. The Forestry College in Munger, strategically positioned amidst nature's bounty, is poised to play a pivotal role in fostering education, research, and conservation in the field of forestry. The inaugural group of students has enrolled in the forestry program.

Hon'ble Agriculture Minister of Bihar, Sri Kumar Sarvjeet, visited BAU Sabour on February 12, 2023. In course of his visit to University the minister observed different activities being undertaken by University in field of research, education and extension including skill development. Hon'ble Vice-Chancellor, Dr. DR Singh briefed minister about various measures being taken by University for comprehensive academic improvement apart from



ensuring latest developments in field of agriculture could reach to farmers. Hon'ble Minister visited different units of the university viz. Tissue Culture Laboratory, Biofertilizer Laboratory, Nanotechnology Laboratory and Media Centre in the



university headquarters, and Climate Resilient Agriculture initiatives at KVK Sabour.

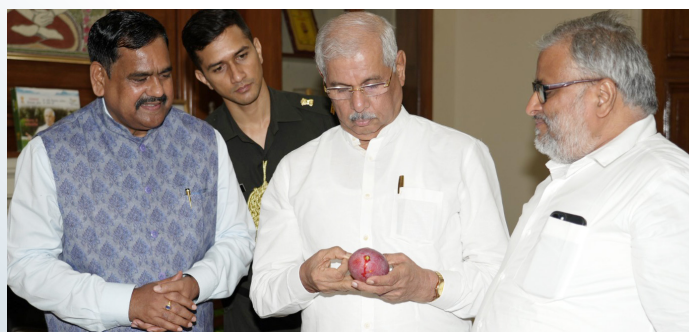
The Vice-Chancellor Graced final review meeting of the Australian Centre for International Agricultural Research (ACIAR) sponsored research project entitled

“Understanding Farm Household Management Decision making for Increased Productivity in the Eastern Gangetic Plains or Farmer Behaviour Insights Project (FBIP)” in which scientists from Uttar Banga



Krishi Viswavidyalaya (UBKV), West Bengal, India; Rajshahi University (RU), Bangladesh; RDRS, Bangladesh; Nepal Agricultural Research Council (NARC), Nepal; The University of Western Australia (UWA), Australia; Australian Centre for International Agricultural Research (ACIAR), Australia; University of New England (UNE), Australia; Texas A&M University, USA; Rajendra Prasad Central Agricultural University (RPCAU), and our own Bihar Agricultural University, Sabour.

Dr DR Singh, Hon'ble Vice-Chancellor paid courtesy visit to Shri Rajendra Vishwanath Arlekar, His Excellency Governor of Bihar-cum-Chancellor of BAU at Raj Bhawan. The Hon'ble VC appraised by His Excellency about various activities of the university. Diverse varieties of mangoes cultivated in Bihar were also shown to His Excellency. Hon'ble Chancellor expressed his satisfaction about the progress of the university.



Hon'ble Minister,
Department of

Agriculture, Government of Bihar, Sri Kumar Sarvjeet in his maiden visit to Dr Kalam Agricultural College, Kishanganj inaugurated a state level malnutrition eradication drive. The programme was also attended by Director Agriculture,



Sri Alok Ranjan Ghosh, Director Horticulture, Sri Abhishek Kumar, Hon'ble Vice-Chancellor of BAU, Dr DR Singh and Hon'ble Vice-Chancellor Bihar Animal Sciences University (BASU), Dr Rameshwar Singh, and Member of Parliament, Dr Javed Azad.



A workshop-cum-training programme on “Cultivation of Millets in Changing Climate Scenario” was organized by KVK Manpur, Gaya under Climate Resilient Programme. The programme was inaugurated by Hon'ble Minister of Agriculture, Bihar, Sri Kumar Sarvjeet and Chaired by Hon'ble Vice-Chancellor, BAU Sabour, Dr DR Singh.



It was the moment of great pleasure and proud for state's agriculture when first time in the history four farmers and two farmer communities of Bihar led by BAU Sabour conferred prestigious 'Plant Genome Saviour Awards' by the Hon'ble President of India, Smt. Draupadi Murmu in 'International Convention on Farmers' Rights' held at NASC Complex, ICAR, New Delhi during September 12-15 in gracious presence of the representatives of more than 125 countries were participating from each and every corner of the world. The awards are given by the Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA), New Delhi, a statutory body of the Ministry of Agriculture, Cooperation and Farmers' Welfare, Govt. of India for conservation and expansion of important plant varieties. Hon'ble President along with Hon'ble Agriculture minister Shri Narendra Singh



Tomar, Hon'ble Agriculture Minister of State, Shri Kailash Chaudhary; DG-ICAR and Secretary, DARE, Dr Himanshu Pathak; Ex-DG of ICAR, Dr RS Paroda; President PPV&FRA, Dr Trilochan Mohapatra, presented awards to the farmers. All the top agriculturists, scientists, farmer leaders and activists from all over the India were present. The programme was organized jointly by the Ministry of Agriculture, GOI and the ITPGRFA (International Treaty on Plant Genetic Resources for Food and Agriculture). Hon'ble Vice-Chancellor, Dr DR Singh was present on the occasion to encourage farmers.

The Hon'ble Agriculture Minister interacted directly with the farmers through video conferencing in the programme "Kisano Ki Baat, Krishi Mantri Ke Saath" Hon'ble Minister, Shri Kumar Sarvjeet ensured the farmers to have an interaction





with them on the second Friday of every month.

Dr US Gautam, DDG-Agriculture Extension, ICAR New Delhi, and Dr Anjani Kumar, Director-ATARI, Zone IV Patna, had a visit to KVK Rohtas. Their visit encompassed a critical observation of various demonstration units existing at KVK, which included indigenous dairy, poultry, goatery, fish pond, Azolla, polyhouse, shadenet, spawn and mushroom production, vermicompost unit and hydroponics model for urban agriculture along with valuable suggestions.



Dr DR Singh, made a courtesy call upon the Hon'ble Chancellor, BAU Sabour, and Governor, Bihar, Shri Rajendra Vishwanath Arlekar and greeted him on the occasion of Constitution Day, November 26.

Bihar Agricultural University, Sabour, Bhagalpur and Assam Agricultural University, Jorhat, entered in to a

non-financial MoU on November 6, 2023 at the 10th Indian Horticulture Congress-2023 held at College of Veterinary Science Campus, Assam Agricultural University, Khanapar, Guwahati. The MoU was signed by Dr DR



Singh, the Vice-Chancellor, BAU Sabour and Dr Bidyut C Deka, the Vice-Chancellor, AAU Jorhat in the presence of Shri Atul Bora, Hon'ble Minister Agriculture, Horticulture and Food Processing, Animal Husbandry and Veterinary.



A high-level meeting took place at the Secretary's office in the Department of Agriculture, Government of Bihar, chaired by Mr Kumar Sarvjeet, the Hon'ble Agriculture Minister of Bihar. The meeting was graced by the presence of Mr Sanjay Kumar Agrawal (IAS),



the Secretary; Dr DR Singh, the Hon'ble Vice-Chancellor of BAU Sabour, Dr Alok Ranjan Ghosh (IAS), the Agriculture Director, Mr Abhishek Kumar (IFS), the Director of Horticulture, and various officers from the Department of Agriculture. The attendees also included the Director of Extension Education, Comptroller, Director, Works and Plant, Principals from different colleges, and nominated scientists from various colleges of the university. Dr DR Singh commenced the meeting with a welcoming note, expressing gratitude to the Hon'ble Agriculture Minister for his consistent attention, monitoring, and support for the university. The Agriculture Minister stressed the importance of connecting students with farmers through regular field visits. He also encouraged frequent interactions between students and industry representatives to boost their confidence in starting their ventures after completing their degrees. Mr Agrawal, the Secretary, and Director of Agriculture echoed the Minister's sentiments. Dr RK Sohane, DEE presented the university's progress report. Key decisions made during the meeting included scaling up the agri-clinic program, expanding the number of crops under the Geographical Indication (GI) tag, expediting the production of tissue culture Malbhog Banana, initiating a Memorandum of Understanding (MoU) between IIM Gaya and the university, conducting a survey on farmers' demand for





seeds, and sending the list of successful trainees in farm mechanization to the Department of Agriculture. Dr T Chattopadhyay and Dr CK Panda, scientists from the university, presented proposals on Agriculture Students Securing Industrial/ Start-up Training (ASSIST) and a model for promoting Katarni Rice marketing. For the first time university has developed its Citizen Charter and it was great moment for the university, when it was presented to Hon'ble Chancellor, BAU Sabour, and Governor, Bihar, Shri Rajendra Vishwanath Arlekar by Dr DR Singh. The Memorandum of Understanding (MoU) signed between Bihar Agricultural University, Sabour, and the ICAR-Indian Institute of Oilseeds Research (IIOR) in Hyderabad marks a significant collaboration aimed at promoting oilseed crops in Bihar. This partnership is part of the broader Agriculture Roadmap initiative under the terms of the agreement; Dr AK Mathur, Director, IIOR explained that IIOR will collaborate with BAU in various aspects such as research, teaching, and training related to oilseed crops in the state of Bihar. This collaboration is expected to contribute to the advancement of knowledge and practices in the cultivation of oilseeds ultimately benefiting the agricultural sector in Bihar. The MoU signing ceremony took place in the presence of the Hon'ble Vice-Chancellor of BAU, Dr DR Singh. Director of Research, Dr AK Singh of BAU signed the agreement on behalf of the University.





Work is Worship – Work with Smile: The Vice-Chancellor Sparks Inspiration in Minds

In the tapestry of life, there exists a thread that binds our aspirations, accomplishments, and purposes together—a thread woven with the timeless principle that "Work is Worship." This profound ideology transcends the barriers of culture, creed, and time, echoing the belief that our labour, dedication, and commitment to our endeavours reflect a form of reverence and devotion akin to worship. The phrase "Work is Worship" encapsulates the profound essence of how we approach our daily tasks, careers, and ambitions. It suggests that our attitude towards work should mirror the dedication, sincerity, and respect we hold for acts of devotion and spirituality. This principle extends far beyond the confines of a mere profession; it touches the core of our being, guiding us to imbue our work with passion, integrity, purpose, and a sense of should delve deeper into the layers of this profound philosophy. Let us explore how the idea of work with worship isn't just a platitude, but a guiding principle that shapes our attitudes, actions, and ultimately, our lives. Dr. DR. Singh, upon joining BAU Sabour in the capacity of Vice-Chancellor, addressed the BAU family and evoked that work is not merely an action or a task; it is an embodiment of dedication, discipline, and determination. It is a pursuit that transcends the mundane and holds profound significance in shaping our lives and the world around us. He added, "I stand before you to emphasize the timeless adage that Work is Worship."



When we utter the phrase "Work is Worship" it isn't a simplistic comparison between the physical act of working and the act of religious devotion. Instead, it encapsulates the essence of commitment, passion, and reverence for what we do in our daily lives. Just as worship demands our unwavering focus, dedication, and respect, work too warrants the same level of commitment and diligence. Each one of us is bestowed with unique talents, skills, and opportunities. It is through the labour of our hands and the dedication of our minds that we transform these



gifts into meaningful contributions. Whether we are artists, scientists, educators, entrepreneurs, or individuals in any other field, our commitment to our work reflects our respect for the gifts we've been given and our responsibility to utilize them for the greater good.

In our quest for success, it's crucial to maintain a balance between our professional and personal lives. True devotion to work doesn't mean sacrificing our health, relationships, or well-being. It's about recognizing the importance of harmony between our responsibilities and our personal growth, allowing ourselves the necessary time for rest and rejuvenation. Let us remember that the most fulfilling achievements stem not only from the pursuit of wealth or recognition but from the love and passion we infuse into our work. Whether we're crafting a piece of art, solving a scientific puzzle, nurturing young minds, or contributing to any other field, let us approach our tasks with reverence and dedication.

Finally, we should embrace the idea that work is worship—a sacred undertaking that demands our best efforts, devotion, and commitment. Let us find meaning and fulfilment in our daily endeavours, knowing that through our dedication, we not only shape our destinies but also contribute to the betterment of the world.

Further, the Vice-Chancellor flown with the philosophy for working with a smile goes beyond the physical act of smiling; it embodies a positive and enthusiastic approach to tasks, interactions, and challenges in the workplace. Infusing a smile into our work environment creates an atmosphere of warmth, collaboration, and productivity. It signifies more than just happiness—it reflects a mindset that fosters teamwork, resilience, and a willingness to embrace opportunities. When we work with a smile, we not only uplift our own spirits but also inspire those around us. It's about bringing an optimistic attitude to our responsibilities, regardless of the circumstances. This mindset encourages creativity, problem-solving, and a proactive approach to overcome obstacles. Moreover, working with a smile doesn't imply disregarding difficulties or complexities. Instead, it involves facing challenges with a positive outlook, viewing them as opportunities for growth and learning. It's about maintaining composure, finding solutions, and persevering through tough situations while maintaining a cheerful disposition.

Dr Singh drew attention and stated that embracing our work with a smile can transform our daily experiences. Each one of us contributes to the vibrant energy of our workplace. Let's approach our tasks with enthusiasm, support each other, and create a positive environment where collaboration and creativity thrive. As we guide our teams, let's lead by example. Encouraging a culture where working with a smile is valued helps foster productivity, resilience, and employee well-being. Our positive leadership can inspire and motivate others, creating a ripple effect



throughout the university. Infusing our work with a smile isn't just about facial expressions—it's a mindset that influences our collective experience. It's about finding joy in our tasks, supporting each other, and maintaining a positive outlook even in challenging times. Together, let's create a workplace where enthusiasm and dedication thrive.

The Hon'ble Vice-Chancellor while addressing his welcome programme said that the office of the Vice-Chancellor will be open for the personnel of every stratum. He went on to say that our vision will be "Work is Worship, Work with a Smile". We will ensure that every employee has a smile on his face. He further stressed that any farmer or visitor entering the university premises should be greeted with a smile.



Radio Revision Bridging the Knowledge Gap: University's Innovative Exam Eve Broadcast



The Radio Revision, a distinctive program introduced for the first time in India, began at the headquarters of Bihar Agricultural University, Sabour. The inauguration ceremony was officiated by Kumar Sarvjeet, Agriculture Minister of the Government of Bihar, in the esteemed presence of Dr DR Singh, Vice Chancellor of Bihar Agricultural University.

In the ever-evolving landscape of education, university has taken a giant stride towards enhancing the performance of graduate students of agriculture with a groundbreaking initiative. This pioneering program revolves around a one-hour summary broadcast of the syllabus taught on the evening before examinations, airing at 8:00 PM. This innovative approach has been adopted during both mid-term and end-term examinations, with broadcasts facilitated through the university's Community Radio Station- 90.8 FM Green.

The program not only leverages traditional radio broadcasting but also embraces modern technology, ensuring accessibility for a wider audience. The broadcast can be tuned into live on CRS 90.8 FM Green, as well as through the internet on the university's website. Furthermore, the initiative is accessible via an Android App dedicated to the program and on the popular online radio platform, Radio Garden. This groundbreaking initiative serves as a strategic response to the challenges faced by students during examination periods. Recognizing the stress and anxiety that students often experience in the lead-up to exams, University's forward-thinking approach aims to provide a last-minute revision opportunity in a convenient and accessible manner.

The one-hour summary broadcast covers key aspects of the syllabus, acting as a concise refresher for students. This not only aids in reinforcing important concepts but also helps in prioritizing crucial information, thereby enhancing



overall retention. The program's timing, strategically placed on the evening before examinations, allows students to benefit from the revision at a time when it can make a significant impact on their performance.

The use of CRS 90.8 FM Green as the primary broadcasting medium brings an element of familiarity and convenience, especially for those students who are already accustomed to tuning into the university's radio station. The inclusion of internet platforms, such as the university's website, Android App, and Radio Garden, ensures that students can access the broadcast from the comfort of their own spaces, using devices that are readily available to them. The Android App, in particular, serves as a portable tool for students, allowing them to listen to the broadcast even when they are on the move.

Radio Garden, being a popular online radio platform, opens up the possibility for a global audience. The students from any part of the world can now listen the 'Radio Revision' programme of Bihar Agricultural University. By blending traditional radio with modern technology, the university has not only embraced innovation but has also ensured that this valuable resource is accessible to a diverse and widespread student community. This initiative stands as a testament to the university's commitment to academic excellence and student well-being.



"With the introduction of the Radio Revision, we embark on a transformative journey in agricultural education. This initiative aligns with our commitment to provide holistic learning experiences for our students. The integration of radio broadcasts into our academic landscape ensures accessibility and enriches the educational journey of aspiring agriculturists. As Vice Chancellor, I am confident that this innovative approach will empower our students to excel in their studies and contribute significantly to the advancement of agriculture."

Dr DR Singh, Vice Chancellor





National Recognition of BAU Scientists for Preparation of E-Learning Modules

In recent years, the agricultural sector has witnessed a paradigm shift towards digitalization and the incorporation of cutting-edge technologies. In line with this transformation, the Indian Council of Agricultural Research (ICAR), New Delhi introduced the National Agricultural Higher Education Project (NAHEP) to enhance the quality of agricultural education and research in the country. Under the NAHEP initiative, Calls 2 and 3 have been pivotal in fostering advancements in e-learning methodologies. Bihar Agricultural University, situated in the agriculturally rich state of Bihar, has been at the forefront of agricultural research and education. The university's scientists have made substantial contributions to the development of e-learning course materials under ICAR NAHEP Call-2 and Call-3. The contributions of BAU scientists have been recognized in the field of agricultural education and these honours not only highlight the individual achievements of the scientists but also bring national acclaim to the institution. The recognition serves as a testament to the dedication and excellence exhibited by BAU in the realm of e-learning in agriculture. The Indian Council of Agricultural Research (ICAR) has initiated the National Agricultural Higher Education Project (NAHEP) to attract talents in the country and strengthen higher agricultural education. This project is financially supported on a 50:50 basis by the World Bank and the Government of India. Under this project, applications were invited from agricultural scientists across the country to develop all undergraduate and postgraduate programs. ***In this process, ICAR-NAHEP selected 17 scientists from Bihar Agricultural University, Sabour, to create or revise 31 courses. Out of these, 13 courses are at the undergraduate level, and 18 courses are at the post-graduate level.*** As a result of the tireless efforts and dedication of scientists, today all the courses are available to students, both nationally and internationally, through the ICAR e-learning portal. The e-learning portal is a comprehensive platform that systematically provides ample resources for delivering the best digital education in the field of agriculture. Learning resources can be accessed anytime, anywhere, allowing self-paced learning to begin. After the prevalence of online education post the COVID pandemic, its use has grown on a wide scale, becoming an integral part of the current education system.



"I am very pleased that scientists at BAU contribute immensely to the creation of enriched e-learning study materials for students. These materials have worldwide implications for academicians and students."

*Shri Kumar Sarvjeet, Agriculture Minister,
Bihar Government*



"In the digital age, students yearn for learning through computers and tablets, embracing online resources. Traditional classrooms are transforming, with tech integration fostering active, collaborative learning. Students transcend being mere consumers; they become creators, navigating a tech-rich landscape for 21st-century success. This e-learning course presents a significant opportunity for students."

Dr DR Singh, Vice-Chancellor



Embarking on a Journey to Enhance State Greenery

The Initiative Amplified with the Inauguration of the Forestry College



In the heartland of India, where the Ganges weaves through fertile plains and history echoes in ancient temples, Bihar stands as a testament to resilience and cultural richness. Now, against the backdrop of this historically significant state, a new chapter unfolds. The inauguration of Bihar's Forestry College (College of Forestry and Environmental Sciences, Munger) emerges as a guiding light of hope, amplifying the initiative to enhance the state's greenery. This monumental project, steered by the steadfast commitment of Chief Minister Nitish Kumar, marks a pivotal stride in Bihar's dedication to environmental conservation and sustainable development. Bihar's landscape is diverse and ecologically rich, but it requires vigilant care and thoughtful management. Currently, the total documented forest area of the state is 6,877 square kilometres, or 7.30% of the total land area of Bihar which should be 33%. Bihar, like many regions globally, grapples with environmental challenges ranging from deforestation to climate change and biodiversity loss. In this context, the Forestry College signifies more than just an educational institution; it becomes a crucible for nurturing the guardians of Bihar's green heritage. The curriculum is crafted not just to educate, but to empower. Graduates will be equipped with the knowledge and skills necessary to address the unique environmental issues that Bihar confronts. They will serve as the driving force behind afforestation initiatives, wildlife conservation efforts, and the implementation of sustainable resource management practices.

On the momentous day of February 7, 2023, Chief Minister Nitish Kumar, a stalwart advocate for environmental causes, inaugurated the College of Forestry and Environmental Sciences, Munger. This establishment, the second of its kind in the country and the maiden for Bihar, stands as a beacon signalling the state's commitment to nurturing a generation devoted to preserving our green heritage. Affiliated with Bihar Agricultural University Sabour, Bhagalpur, Munger Forestry



College is more than an institution; it is a testament to Bihar's dedication to comprehensive education. The college, spread across 96 acres near the Ganga bridge, is a symbol of Bihar's profound commitment to the environment, with a staggering investment of Rs. 231 crore 83 lakh 32 thousand in its construction. Chief Minister Nitish Kumar, the architect of this visionary project, laid the foundation stone on December 25, 2019, underscoring his foresight into the critical role of environmental education. The college, poised to become fully functional later this month, is a marvel in construction, completed at the cost of Rs. 105 crore by the Building Construction Department (BCD).

The facilities within the college, including classrooms, laboratories, accommodation for teachers, and student hostels, have been meticulously designed to foster an environment conducive to learning. One of the most remarkable features of Munger Forestry College is its earthquake-resistant and eco-friendly infrastructure. This forward-thinking approach ensures not only the safety of its occupants but also aligns with the college's mission to minimize energy wastage. It's a testament to Bihar's commitment to harmonize modernity with sustainability, a theme that resonates throughout the college campus. The impact of this initiative extends beyond the borders of Munger, promising a transformative experience for students keen on forestry and its diverse branches. With the college offering advanced courses such as, bachelor's degrees in forestry, as well as certificate and diploma courses in environmental sciences, students will no longer need to traverse state lines for quality education in these fields. The significance of this development becomes even more apparent considering that, until now, aspiring forestry students had to journey to other states for their studies. Munger Forestry College is set to eliminate this need, bringing high-quality education to the doorstep of those eager to contribute to the state's environmental conservation efforts.

Beyond academic pursuits, Munger Forestry College aligns itself with the state government's ambitious Jal-Jeevan-Hariyali mission. By integrating this mission into its curriculum, the college not only educates but also empowers its students to actively participate in the government's environmental initiatives. It's a holistic approach to education that goes beyond textbooks, fostering a sense of responsibility and stewardship for the environment. As we stand at the cusp of this transformative journey, this Forestry College emerges as a beacon of hope for Bihar and a model for other states to emulate. Chief Minister Nitish Kumar's vision, now materialized in bricks and mortar, promises a greener, more sustainable future for the state and, by extension, the entire nation.

The inauguration of this college isn't just the commencement of academic activities; it's the planting of seeds that will grow into a forest of knowledge, fostering a



generation dedicated to the well-being of our planet. This institution is not merely a college; it's a catalyst for change, a catalyst that will reverberate through Bihar's landscapes, cultivating a future where nature and education coexist harmoniously. The forestry college also becomes a source of inspiration for future generations. As students witness the impact of afforestation efforts, the restoration of degraded ecosystems, and the resurgence of wildlife, they are instilled with a profound sense of environmental stewardship. By engaging with local communities, the institution aims to empower individuals with the knowledge and tools needed to contribute actively to the green movement, creating a ripple effect that spreads far beyond the college walls. The Forestry College's impact will not be confined just to its campus; it aims to resonate it through Bihar's fields, villages, and towns. Through tree plantation drives, ecological restoration projects, and awareness campaigns, the college will emerge as an integral part of Bihar's journey toward a greener, more sustainable future. The college becomes a symbol of hope and a testament to the positive change that dedicated individuals can bring about. In conclusion, the inauguration of a forestry college in Bihar is a transformative step towards enhancing the greenery of the state. As the college sets sail on its journey, it carries the hopes and dreams of a state eager to embrace a greener revolution. Beyond the academic realm, this institution will become a catalyst for change, influencing policies, engaging communities, and shaping the next generation of environmental leaders.



"The opening of forestry college at Munger is now being discussed even in other countries. Many students will now study specialised courses related to forestry on the campus. The college has been constructed so magnificently that people from other places will come here to see its campus and buildings."

Shri Nitish Kumar, CM Govt. of Bihar



Historic Achievement: Vice-Chancellor Pioneers Extensive Recruitment of Diverse Scientists

Bihar Agricultural University, Sabour, established on August 5th, 2010, is a fundamental and strategic institution supporting over 500 researchers and educators in imparting education at the graduate and postgraduate levels, conducting basic, strategic, applied, and adaptive research activities, ensuring the effective transfer of technologies, and capacity of farmers and extension personnel. The university has 10 Academic Units and 12 research units spread across 3 agro-ecological zones of Bihar. The university has 22 Extension Units (Krishi Vigyan Kendras) encompassing twenty five districts of Bihar. The Recruitment Cell of BAU, Sabour, a unit of the Directorate of Administration, has an important role in planning, organizing, coordinating, evaluating, and monitoring the recruitment process. The cell assists in the direct recruitment of deans, directors, scientists, and non-teaching staff for the university, as well as conducting interviews for both teaching as well as non-teaching posts under the chairmanship of the Honorable Vice-Chancellor. The Recruitment Cell has advertised notification of eight different vacancies, the process for which started in April 2023. Out of which the process of seven categories, successfully completed, and the last one has time line to submit the online application in the process. Recently, BAU made history for the recruitment of more than 240 Agricultural Scientists from a diverse group across the country those are skilled in analyzing farming methods and food production techniques to improve safety and crop yield. As an agricultural scientist, one may carry out various research dealing with crops, animals, and plants, deriving solutions for rural and farm workers. Engaging people from a variety of genders, backgrounds, areas of expertise, religions, cultures, and other variables to participate in science is important for addressing inequities and increasing the size of the scientifically trained workforce. Scientific progress relies on problem-solving and collaboration. Groups composed of people with diverse experiences and areas of expertise tend to be more creative and innovative. We wholeheartedly appreciate the efforts of the Honorable Vice-Chancellor, who is keen to develop Bihar as a center for excellence in research and extension in agriculture. He has already started the process and developed links with other institutions for capacity building and infrastructure development at the University. With the objective of forming groups composed of people with diverse experiences and expertise, scientists at BAU tend to be more creative and forward-looking towards the solutions to different problems in our state.



Innovative Triumphs for Scientists with National and International Patents

A patent entitled “A Multi-Nutrient Nanoclay Polymer Composite (MNCPC) and Process for Synthesis of the Same” having Patent No 424225 has been granted by the Patent Office, Govt of India on 6th March 2023 for 20 years from the 9th July 2020 in accordance with provisions of the Patent Act, 1970. MNCPC is site specific customized fertilizer where percentage (%) of N, P, K and Zn can be varied depending on crops. MNCPC can reduce Fertilizer requirement upto 40% as compared to conventional fertilizers (Urea, DAP, MOP and $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$). A unique product (NSP) was developed for which the university got patent (451589 Date of grant: 14.09.2023) from the Patent office, govt of India. The title of patent is “A Superabsorbent Polymer (NSP) and process for preparing the same” with application number 202031020785 filed on 18.05.2020. This patent has been granted the term of 20 years from the 18th day of May 2020 in accordance with the provisions of the Patents Act, 1970. Indian grade rock phosphate was utilized for synthesis of novel partially acidulated nano rock phosphate fertilizer. A patent entitled “A Process for Formulating Partially Acidulated Nano-Phosphorus

INTELLECTUAL PROPERTY INDIA
GOVERNMENT OF INDIA
THE PATENT OFFICE
PATENT CERTIFICATE
(Rule 74 of The Patents Rules)

क्रमांक : 033123511
SL No :

पेटेंट सं. / Patent No. : 424225
अवेदन सं. / Application No. : 202031029190
फाइल करने की तारीख / Date of Filing : 09/07/2020
पेटेंटर / Patentee : BIHAR AGRICULTURAL UNIVERSITY

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में प्रकाशित A MULTI-NUTRIENT NANOCLAY POLYMER COMPOSITE (MNCPC) AND PROCESS FOR SYNTHESIS OF THE SAME नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख 09/07/2020 के नीचे दिये गये विवरण की अवधि के लिए पेटेंट अंगुष्ठ किया गया है।
It is hereby certified that a patent has been granted to the patentee for an invention entitled A MULTI-NUTRIENT NANOCLAY POLYMER COMPOSITE (MNCPC) AND PROCESS FOR SYNTHESIS OF THE SAME as disclosed in the above mentioned application for the term of 20 years from the 9th day of July 2020 in accordance with the provisions of the Patents Act, 1970.

INTELLECTUAL PROPERTY INDIA
DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

अंग्रेजी की तारीख : 06/03/2023
Date of Grant :

नोट : इस पेटेंट के संरक्षण के लिए बीमार, बीमार को बनाया गया है, 09/07/2020 के नीचे दिये गये और उसके बाद उसके वर्ष में जारी किया गया है।
Note : The term for renewal of this patent, it is to be maintained will fall / has fallen due on 9th day of July 2022 and on the same day in every year thereafter.

INTELLECTUAL PROPERTY INDIA
GOVERNMENT OF INDIA
THE PATENT OFFICE, Government Of India
PATENT CERTIFICATE
(Rule 74 of The Patents Rules)

क्रमांक : 033126715
SL No :

पेटेंट सं. / Patent No. : 451589
अवेदन सं. / Application No. : 202031020785
फाइल करने की तारीख / Date of Filing : 18/05/2020
पेटेंटर / Patentee : BIHAR AGRICULTURAL UNIVERSITY

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में प्रकाशित A SUPERABSORBENT POLYMER (NSP) AND PROCESS FOR PREPARING THE SAME नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख 14/09/2023 के नीचे दिये गये विवरण की अवधि के लिए पेटेंट अंगुष्ठ किया गया है।
It is hereby certified that a patent has been granted to the patentee for an invention entitled A SUPERABSORBENT POLYMER (NSP) AND PROCESS FOR PREPARING THE SAME as disclosed in the above mentioned application for the term of 20 years from the 18th day of May 2020 in accordance with the provisions of the Patents Act, 1970.

INTELLECTUAL PROPERTY INDIA
DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

अंग्रेजी की तारीख : 14/09/2023
Date of Grant :

नोट : इस पेटेंट के संरक्षण के लिए बीमार, बीमार को बनाया गया है, 18/05/2020 के नीचे दिये गये और उसके बाद उसके वर्ष में जारी किया गया है।
Note : The term for renewal of this patent, it is to be maintained will fall / has fallen due on 18th day of May 2022 and on the same day in every year thereafter.



Fertilizer" having Patent No 436189 on 28th June 2023 has been granted from the Patent office, Govt of India. The product reported 33% and 50% use efficiency when applied in solid and liquid form respectively.

Bihar Agricultural University, Sabour has achieved a significant milestone by securing its first international patent from Germany. This utility patent, titled *"A System for Enhancing the Post-Harvest Quality of Bananas using Synthesized Carbon Quantum Dots (Utility Model No. 20 2023 104 654)"*, is a remarkable feat. In this work, carbon quantum dots were synthesized from banana peels, employing an eco-friendly green synthesis method. These newly developed carbon quantum dots have proven to be highly effective in preserving and enhancing the post-harvest quality of bananas during storage. Under normal conditions, 3.0% carbon dot treated fruits can be stored for up to 8 days.

The second international patent entitled *"System for performing green synthesis and characterization of carbon quantum dots obtained from mango peels"* has been registered in Germany with no. 202023104782. This technology revolves around the use of mango peel-based carbon dots to assist in the preservation of fresh mangoes during storage. Fruits treated with carbon quantum dots (CQDs) exhibited an extended marketability period, with those treated at a concentration of 3.0% showing the longest shelf life of 12 days.

The Neera i.e. sap from palmyrah palm collection has been a challenge for several years to use it for further processing either as a fresh drink or in different value added products. A unique neera collection box has now been designed by the BAU Sabour. The design of the box has been patented in India (Titled: *Container for hygienic collection of palmyrah sap*; Design No. 397957-001 dated 21.12.2023, The Patent Office, GoI) and Germany (Titled: Device for

 Federal Republic of Germany 

Certificate

about the Registration of the
Utility model number 20 2023 104 782

Designation:
System for performing green synthesis and characterization of carbon
quantum dots obtained from mango peels

IPC:
C01B 32/15

Owner:
Aftab, Md. Ahmar, Bhagalpur, Bihar, IN
Ahmad, Mohammad Feza, Bhagalpur, Bihar, IN
Bihar Agricultural University, Bhagalpur, Bihar, IN
Ghatik, Abhijeet, Varanasi, Uttar Pradesh, IN
Homa, Fozia, Dhanbad, Jharkhand, IN
Mir, Hidayatullah, Sopor, Jammu and Kashmir, IN
Siddiqui, Mohammed Wasim, Chhindwara, Madhya Pradesh, IN
Singh, Duniya Ram, Mirzapur, Uttar Pradesh, IN
Zahid, Anam, Gaya, Bihar, IN

Date of Registration

22.08.2023

Day of Entry

12.09.2023

The President of the German Patent and Trademark Office



Eva Schewior

München, 15.09.2023



Die Voraussetzungen der Schutzfähigkeit werden bei der Eintragung eines Gebrauchsmusters nicht geprüft.
Den aktuellen Rechtsstand und Schutzumfang entnehmen Sie bitte dem GPM-Register unter www.gpmr.de.



hygieninc and safe collection of plamyrah sap; Design No. 6324389 dated 06.11.2023, The Intellectual Property Office, UK). This unique box is used to collect the neera directly from the plants and has potential to preserve the neera fresh up to several hours allowing its transportation to processing units.



"As Vice Chancellor, I'm thrilled to announce our university's success in securing multiple patents. This achievement reflects our commitment to pioneering research and underscores our dedication to advancing knowledge. Congratulations to our brilliant researchers and faculty for this remarkable accomplishment."

Dr D R Singh, Vice Chancellor



"I'm thrilled by our recent patents—a testament to our commitment to revolutionize agriculture. These innovations aren't just breakthroughs; they're seeds of progress, promising sustainable solutions and prosperity for our hardworking farmers."

Dr A K Singh, Director Research





Malnutrition Eradication Model of Bihar Agricultural University, Sabour, Charts a Course for a New Direction for the Nation



The introduction of the "Malnutrition Eradication Model" by Dr DR Singh, the esteemed Vice Chancellor of Bihar Agricultural University, marks a significant step in minimizing malnutrition among the rural population of Bihar, ushering in a new era in addressing this critical issue. Led by Dr DR Singh, the Vice Chancellor of Bihar Agricultural University, the initiative focuses on showcasing the nutri-garden model and providing nutritional education to farmers, farm women, and youths. Currently active in 28 villages of Bihar led by concerned Krishi Vigyan Kendra of the districts. Promoting a balanced diet rich in vitamins, minerals, and proteins, the model aims to address malnutrition in nutri-sensitive villages. A baseline survey evaluates the health status of women and children in selected villages based on parameters like age, height, weight, and hemoglobin levels. The program emphasizes creating habits of nutritious food consumption by introducing nutri-gardens in schools and Anganwadi centers. Mushroom and millet inclusion further enhances nutritional benefits. Training covers topics like nutri-garden establishment, mushroom and millet benefits, product development, and nutritious meal preparation. The initiative strives to make nutrient-rich foods a part of daily diets and addresses the importance of cleanliness, sanitation, and vermi-compost use in nutri-gardens. The Senior Scientist and Head/Subject Matter Specialist (Home Science) serve as the nodal officer for the Malnutrition Eradication Model/Campaign in KVKs (Araria, Arwal, Aurangabad, Banka, Bhagalpur, Bhojpur, Amas (Gaya), Manpur (Gaya), Jehanabad, Katihar, Khagaria, Kishanganj, Lakhisarai, Madhepura, Munger, Nalanda, Patna,



Purnea, Rohtas, Saharsa, Sheikhpura, Supaul), overseeing the initiative. In the adopted village, demonstrations of nutri-gardens and bio-fortified rice varieties occur, complemented by monthly training and skill development sessions for farmers and farm women. Subject Matter Specialists in Horticulture, Agronomy, Soil Science, and other areas provide necessary technical advice as required for the model. The program adheres to ICAR guidelines during implementation.

Nutri-kits containing a mix of green leafy vegetables, seasonal vegetables, and tuber crops (e.g., radish, carrot/beetroot, knol khol) are distributed free of cost to farmers, farm women, and rural youths to encourage the adoption of a nutri-rich diet. Additionally, people receive planting materials for year-round yielding fruits such as papaya, banana, and guava. The program collaborates with district medical staff to conduct health check-ups for selected farmers/clients at the program's start and after one year of adopting nutritious foods to assess the impact on health profiles. Mid-term evaluation takes place after 6 months to gauge the intervention's effectiveness.

Remarkable achievements of the model include-

In the fiscal year 2023-24 (April to October 2023), a total of 188 awareness programs were organized, benefiting 14,269 individuals, including farmers and women. Additionally, 156 training sessions were conducted to enhance the technical aspects of establishing nutri-gardens, focusing on capacity building and skill development for farmers and rural women. Health camps were also organized in adopted villages, where health check-ups for 3,220 pregnant and lactating women and children were carried out with the assistance of local doctors and medical practitioners. Furthermore, over 14,000 pieces of extension literature, such as leaflets, pamphlets, and folders, were distributed among farmers, women, adolescents, and others.

Way Forward

The commitment of BAU, Sabour for malnutrition eradication is clearly envisaged by way of its efforts like free distribution of planting materials of seasonal fruits and vegetables as well of provision of technical support regarding nutri-gardens, free of cost. People of the selected villages are adopting nutri-gardens with great enthusiasm. Thus, it is clear that the programme is running successfully and is being accepted by the rural folk positively. Undoubtedly, this model will charts a new direction in the way of nutrition enhancement of the people and hence for malnutrition eradication from the country.

Packaging Initiative Leads to Giant Leap for Marketing of Bihar GI Products



The Geographical Indications (GIs) have emerged as a significant intellectual property rights issue in the Indian context. In Bihar the GI status has been obtained for Katarni Rice, Zardalu Mango, Shahi Litchi, Magahi Paan (beetle leave) and Mithila Makhana. The GI tag promotes the reputation and creates brands for the product. However, the realization of commercial benefits in terms of increased demand and better prices largely remained unachieved. In line with Hon'ble Prime Minister's call for 'Vocal for Local' and 'Atmanirbhar Bharat', the Centre, through Agricultural and Processed Food Export Development Authority (APEDA) has been facilitating trial shipments into new markets worldwide for products. The university has facilitated successful registration of five agro-produce with Geographical Indications (GIs) including Zardalu Mango, Shahi Litchi, Magahi Paan, Katarni Rice and Mithila Makhana.

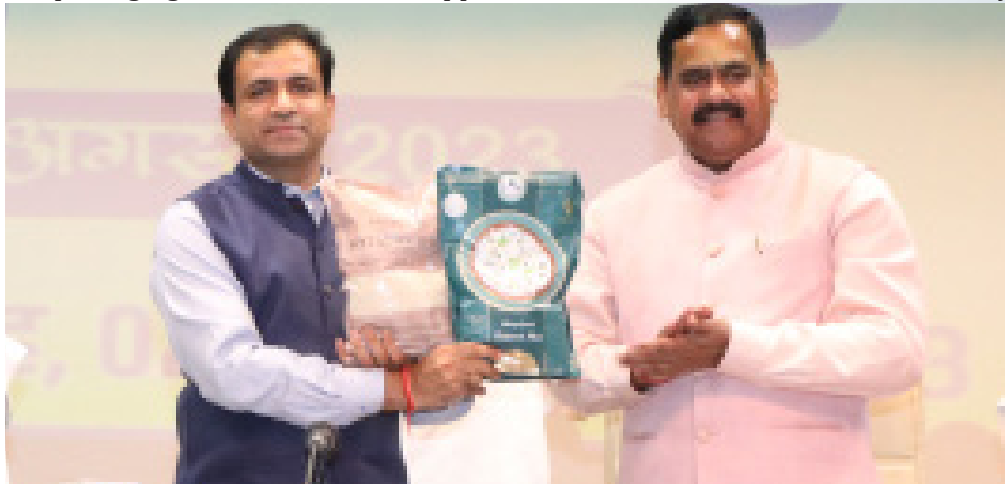
The workshop was attended by mango farmers and representatives of Bhagalpuri Zardalu growers association. Representatives from various growers associations who have received GI of their products like Katarni rice, Maghai pan, Sahi lithci and Makhana participated in the workshop. Dr Tanweer Alam, Director, Indian Institute of Packaging, New Delhi during his address emphasis on PPP (primary processing and packaging) model of packaging. He stressed more on the importance of 'On-farm packaging' rather than packaging in away center. He also suggested Govt. should give subsidy on sustainable and good quality packaging materials certified by IIP, New Delhi. The Hon'ble Vice-Chancellor requested the Director of IIP, New Delhi to develop specific packing boxes specifically for Zardalu mango by the upcoming May 15-20th for its transportation as gift box to



the Hon'ble Chancellors of all the states of the country. He also informed the house that all the letter heads, files and envelopes used under BAU Sabour to be printed with logo of GI products for their effective promotion.

Subsequently, the university has developed packaging materials for the two GI products, viz. Zardalu Mango and Katarni rice for its branding.

The packaging initiative in Bihar for GI products, it's likely that the focus is on creating attractive and informative packaging that highlights the unique qualities of the products. This could include using traditional art, symbols, or cultural elements that represent the region. Additionally, providing information about the origin, production methods, and the cultural significance of the products on the packaging can add value and appeal to consumers. Such initiatives not only





contribute to the visual appeal of the products but also play a crucial role in differentiating them in the market. Effective packaging can help attract consumers, build brand identity and communicate the story behind the products, ultimately leading to increased sales and market recognition.

The perishable nature of Litchi and problems associated with marketing in distant markets even-though there is high demand. Therefore there is a need for cold chains and proper packaging and transport of litchi through Krishi Udan Programme is very much essential. Hence, packaging plays a crucial role in preserving the authenticity and quality of GI products. It helps maintain the unique characteristics and traditional methods associated with products from a specific geographical region. Well-designed packaging helps differentiate Bihar's GI products from others in the market. It can showcase the unique features, cultural aspects, and traditional methods associated with the products, creating a distinct brand identity. Adhering to packaging standards and regulations is essential for GI products. Proper labelling and packaging can ensure that products meet legal requirements, boosting consumer confidence and trust in the authenticity of the goods, packaging initiatives may involve collaborations with designers, artists, and marketing professionals. Such partnerships can bring fresh perspectives and creativity to the packaging, contributing to the overall marketing strategy. In the modern era, integrating digital elements like QR codes on packaging can provide consumers with more information about the product, its origin, and the cultural significance. This enhances the overall consumer experience and engagement.



“Combining quality packaging with a compelling narrative about the product's geographical origin and cultural significance can create a strong marketing strategy for GI products.”

Dr D R Singh, Vice Chancellor



We express our gratitude to the university for crafting effective packaging and branding for Katarni Rice. We are confident that this initiative will boost farmers' income significantly.

Members of Katarni Grower Association



Ideas to Optimize the Outcome of PM-Pranam Scheme for Farmers

Honorable Vice Chancellor Dr DR Singh has attended Workshop on “Strategy for Promotion of Alternative Nutrition to reduce dependence on Chemical Fertilizers for Soil health and Sustainability” on 08th July, 2023 which was chaired by Dr Mansukh Mandaviya (Union Minister for Chemicals and Fertilizers) organized by NITI aayog.

Several initiatives are proposed to optimize the outcome of the PM Program for Restoration, Awareness generation, Nourishment, and Amelioration of Mother Earth (PMPARANAM). Programme for assistance for marketing of organic manure and other derivatives, by-products from GOBARDhan plants. Introduction of Sulphur coated urea is also proposed as discuss below:

A. Soil test based nutrient application

The first major initiative emphasizes soil test-based nutrient application, aiming to provide accurate assessments of soil fertility for optimized fertilizer recommendations. To achieve this, real-time soil testing should be universally accessible, and organic manures and biofertilizers should be included in soil health cards. Additionally, fertilizer subsidies can be linked to soil testing, and the establishment of soil testing laboratories can be promoted under the PM Mudra Yojna, involving the private sector and educated youth for operationalization and maintenance.

B. Scientific composting of organic wastes

Scientific composting of organic wastes, aiming to realize the full potential of organic wastes by properly composting them for agricultural use. The promotion of enriched vermicomposting production technology, incentivizing bundled dairy farms with biogas and vermicomposting units, and providing subsidies or soft loans to FPOs or cooperative units are proposed to achieve this goal.

C. Use of bio fertilizers in tandem with all other nutrient sources

Highlights the use of biofertilizers in tandem with other nutrient sources to reduce the application of chemical fertilizers, this involves promoting the development and adoption of multistrained biofertilizers with location-specific strains and establishing biofertilizer production units under the PM Mudra Yojna to involve the private sector and provide employment opportunities for local youth.

D. Using efficient fertilizer formulations such as nano-fertilizers



and coated urea.

The synthesis and use of nano-fertilizers can be a good replacement for traditional fertilizers in agriculture. Scientists from Bihar Agricultural University have developed two patented nano-fertilizers that can reduce the need for conventional fertilizers.

- A Multi-Nutrient Nanoclay Polymer Composite (MNCPC) and Process for Synthesis: The MNCPC is a rhizosphere-controlled release formulation (RCF). It reduces fertilizer requirement by 40%.
- A process for formulating partially acidulated nano-phosphorus fertilizer: The alternative strategy to utilize the indigenous low grade rock phosphate. It has high phosphorus recovery rates of 20-25% and 48-50% under soil and foliar application respectively.

Various commercially available nano fertilizers and coated urea are more efficient than traditional fertilizers. Sulfur-coated urea (SCU) is a controlled release fertilizer made by coating urea granules with elemental sulfur. SCU granules have three types of coatings: a basic coating of molten sulfur, a wax sealant to protect the coating, and a conditioner layer. The release of nitrogen from SCU is controlled by the thickness and quality of the coating. Some SCU granules may be damaged and release nitrogen immediately, while others are perfectly coated and release nitrogen slowly. Nano formulations and coated fertilizers can optimize the outcome of proposed schemes. Evaluation of coated urea and reduced dose recommendation is necessary to reduce chemical fertilizer use. The benefits of nano fertilizer formulations should be demonstrated before wider adoption.

E. Promoting nutrient scheduling and efficient application methods

Efficiency in fertilizer use can be improved by using the right source, dose, method, and time. To maximize benefits from new schemes, certain options should be promoted. These options include nitrogen scheduling using LCC, SPAD meter and Green Seeker, educating farmers about efficient application techniques, and indicating suitable methods in soil health cards.

F. Establishing ATICs and sale counters of biofertilizers / organic manures in all STLs

It suggests establishing Agricultural Technology Information Centers (ATICs) and sale counters of biofertilizers/organic manures in all soil testing laboratories to provide various farm-related services under a single roof, making the laboratories economically viable.

A comprehensive set of initiatives to optimize the PM-PRANAM scheme for farmers, emphasizing soil test-based nutrient application, scientific composting of organic wastes, the use of biofertilizers, efficient fertilizer formulations, and



promoting nutrient scheduling and efficient application methods are explored. These initiatives aim to enhance agricultural productivity, reduce chemical fertilizer usage, and promote sustainable farming practices for the benefit of farmers and the environment.



Girls' School Adoption Demonstrates Commitment to Empowering Underprivileged Section of Society



Under the vision of Hon'ble Vice-Chancellor, Dr DR Singh, Bihar Agricultural University created milestones of hospitality in grooming young students of adopted school Kasturba Gandhi Balika Vidyalaya at Sabour. The school has been adopted with the aim for development of Nutri-garden and awareness about the agricultural education amongst the students. Also, it aimed to provide a platform for the girl students overall development and to empower them towards self reliance at any level of competency.

Bihar state is well known for its primitive based of agricultural activities which however; at present days unfortunately people are turning away from this, leaving future of agriculture in vain. Understanding the importance of agriculture and to revive its sustainability in the state and amongst the people, Bihar Agriculture University is taking one more step ahead by adopting this school to inculcate the beautiful tradition of agriculture in young minds through different activities related to agricultural education imparting in different phases from time to time. BAU is supporting in overall development of school infrastructure like upgradation of classrooms, renovation and painting of school walls, high holding the fencing of schoolboundary, display photo-frames of renowned personalities with motivational quotes etc. University has also provided several sport items both indoor and outdoor games, stationary items in the motto to strengthen their health physically and mentally. Time to time awareness programme have also been organized on nationally celebrated occasions and events like world



environment day, Gandhi Jayanti, Teacher's Day etc. Special awareness programme on malnutrition has been organised at school to promote health is wealth with an idea to reduce the rise the developing chronic diseases and to prevent malnutrition through healthful diets.

In light to the above stated, university has also taken several initiative programs on nutritional garden, roof top garden etc. whereby the students of adopted school are involved for their hands on training from this young age.

Besides, BAU has wholeheartedly working to provide the students an overall platform to boost and show off their talents by making them participate in every events observed by the university namely, cultural events, sports events, literary events, convocations and so on. And now, at the present time starting from date of this school adoption we are glad to witnessed the drastic development amongst the students. The confidence level in them is gracefully enhanced as depicted in their performances and presentations. Their performances have gotten an exposure opportunity to visit and performed at district level in front of Hon'ble District Magistrate, Government of Bihar and the students are also being appreciated with rewards for the same.

It is privileged to receive testimonials from the teachers and students of Kasturba Gandhi Balika Vidyalaya, Sabour about the milestones they have achieved in this short period of time after the school get adopted by the university. They undoubtedly share the joy of change amongst the students and also stated the approaches of any parents to school for their kids enrolments. The school warden, Ms Priyanka has proudly mentioned about the students' attendance strength at present as compared from earlier before the school get adopted. She also stated how children have become so responsible about everything; in their studies and from taking care of themselves to handling any situations that come before them. The school family owed BAU Hon'ble Vice-Chancellor Dr DR Singh and extended their gratitude to Madam VC Mrs Pratibha Singh for her visits to the school and warmth encouraging gesture to the young students.



Pioneering Green Auditing: University Takes the Lead for the First Time



Green auditing is known as environmental auditing or sustainability auditing. It is a systematic process used by the organizations to evaluate and assess their environmental performance, compliance with environmental regulations, and overall impact on the environment. Green auditing in universities involves assessing and enhancing sustainability practices within the institutions. It encompasses various aspects such as energy consumption, waste management, carbon footprint, and overall environmental impact. Here are some initiatives that universities often undertake as part of pioneering green auditing:

Energy Efficiency Measures: Implementing energy-saving technologies, utilizing renewable energy sources, optimizing heating/cooling systems, and upgrading infrastructure to reduce overall energy consumption.

Waste Management: Establishing recycling programs, reducing single-use plastics, composting organic waste, and promoting a circular economy approach within the campus.

Carbon Footprint Reduction: Encouraging sustainable transportation options, offsetting carbon emissions, and setting targets to reduce greenhouse gas emissions.

Curriculum Integration: Introducing sustainability-focused courses, research projects, and incorporating environmental awareness into various disciplines to educate and engage students.

Green Infrastructure Development: Creating green spaces, installing green roofs, utilizing rainwater harvesting, and promoting biodiversity within the campus.



Community Engagement: Collaborating with local communities, initiating outreach programs, and encouraging sustainability practices beyond the campus boundaries.

Reporting and Transparency: Regularly monitoring and reporting sustainability progress, thereby fostering accountability and transparency within the university.

Policy Development: Formulating and implementing sustainable policies and strategies that guide the institution towards eco-friendly practices.

By taking the lead in green auditing and implementing sustainable practices, universities can significantly contribute to environmental conservation, inspire students and staff to adopt a sustainable lifestyle, and demonstrate the feasibility and benefits of a greener future. University has already taken pioneering steps in this area, aiming to become more environmentally responsible and setting an example for others to follow. Green auditing initiatives encompass a wide range of efforts aimed at assessing, improving, and promoting sustainable practices within organizations. These initiatives vary in scope and can be tailored to specific institutions, or areas of focus. University is already working in climate resilient agricultural practices under CRA programme to reduce carbon footprint from the system. University has gone through the global guidelines for claiming carbon credit and the technical process involved in baseline data collection, monitoring and survey. At very recent past university has organised a brainstorming workshop on 'Exploring the Potential of Carbon Credits in Agriculture and Allied Sectors' on October 30, 2023 to explore the opportunities and challenges involved in the potential of carbon credits in agriculture and its allied industries. The workshop briefed about the importance of shifting of towards sustainable and climate-resilient practices and how agriculture acts as both source and sink for carbon-di-oxide emission. The good agricultural practices can help in adaptation



and mitigation of climate change. The integration of nature-based solution and traditional knowledge is the only option for mitigating climate change. The carbon credit will not only add to the financial benefits of the farmers but also encourage other farmers in the state as well as outside state to take up CRA practices. The university is going to consider the process of carbon credit generation through CRA practices in Bihar. The initiative of Bihar Agricultural University for crediting carbon for Bihar would be a model for other states and organizations in future. The process of conducting a green audit by reducing carbon footprint involves good agricultural practices, regenerative agriculture, and nature-based solution for lowering greenhouse gas emission and Agro-forestry and large-scale orchard plantation for claiming carbon credit.

These green auditing initiatives help the organization to measure their environmental impact, identify areas for improvement, and implement sustainable practices. They play a crucial role in enhancing corporate responsibility, reducing ecological footprints, and contributing to a more sustainable future.



"From energy efficiency and waste management to carbon footprint reduction, our commitment extends to climate-resilient agriculture. We recently explored Carbon Credits, aiming to set a model for others. Through these initiatives, we advance sustainability, contributing to a more responsible and eco-friendly future."

Dr D R Singh, Vice Chancellor



"The systematic evaluation of sustainability practices demonstrates a commitment to responsible resource management. From enhancing energy efficiency to exploring carbon credits, these initiatives set a commendable precedent for institutions aiming to contribute meaningfully to a greener, more resilient future."

Dr A K Sah, Dean (Agriculture)





University Units with ISO 9001:2015 Certificate Demonstration of Commitment to Excellence

In the pursuit of excellence, Bihar Agricultural University, Sabour has consistently demonstrated its commitment to maintaining high standards across various units. Notably, the recent accolades received by four units in July 2023 further underscore the university's dedication to excellence and adherence to ISO 9001:2015 standards. The accredited ISO 9001:2015 certifications were bestowed upon four pivotal units of BAU, namely:



CERTIFICATE



This is to certify that the
QUALITY MANAGEMENT SYSTEMS

of

**BIHAR AGRICULTURAL UNIVERSITY, SABOUR,
PLANT TISSUE CULTURE LAB**

BAC, Sabour- 813210, Bhagalpur Bihar, India

has been assessed and found to be in conformance to the requirements of

ISO 9001:2015

This certificate is valid for the following activity:

Research, Development, Marketing & Sales of Tissue Culture Plants

Certificate No.: IQ-23070804
Date of initial Registration
Date of this Certificate
Certificate Expiry
Recertification Due

08-07-2023
08-07-2023
07-07-2024*
07-07-2026

Auth Sign

Auth Sign

*Registration is subject to the system being continually maintained to the above standard under regular surveillance.
To check the certification validity please visit- <https://www.iafcertsearch.org/> or www.isplcert.com
contact at- isplcert@gmail.com



Indraprastha SystemCert Pvt. Ltd.

Accredited by EGAC, A Member of International Accreditation Forum
For updated information of Certification, visit- www.isplcert.com, or E Mail- info@isplcert.com, isplcert@gmail.com
201, Jaina Tower-3, A-1, Janak Puri, New Delhi-110058, India, Ph +91 9990 477 631



Plant Tissue Culture Lab: Renowned for its innovative practices and adherence to stringent quality standards in plant tissue culture, this lab stands out for its commitment to precision and excellence in cultivating plants through advanced tissue culture techniques.



CERTIFICATE



This is to certify that the
QUALITY MANAGEMENT SYSTEMS
of

**BIHAR AGRICULTURAL UNIVERSITY, SABOUR,
HORTICULTURE GARDEN UNIT**
BAC, Sabour- 813210, Bhagalpur, Bihar, India

has been assessed and found to be in conformance to the requirements of

ISO 9001:2015

This certificate is valid for the following activity:

Research, Development, Marketing and Sales of Saplings

Certificate No.: IQ-23070803

Date of initial Registration

08-07-2023

Date of this Certificate

08-07-2023

Certificate Expiry

07-07-2024*

Recertification Due

07-07-2026

[Signature]

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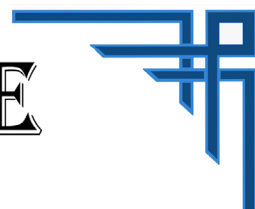
Accredited by EGAC, A Member of International Accreditation Forum



Horticulture Garden Unit: Known for its meticulous upkeep and innovative horticultural practices, this unit at BAU has been acknowledged for its consistent efforts in maintaining high-quality horticultural specimens and fostering sustainable cultivation practices.



CERTIFICATE



This is to certify that the
QUALITY MANAGEMENT SYSTEMS
of

**BIHAR AGRICULTURAL UNIVERSITY, SABOUR,
BIO-FERTILIZER LAB**

BAC, Sabour- 813210, Bhagalpur, Bihar, India

has been assessed and found to be in conformance to the requirements of

ISO 9001:2015

This certificate is valid for the following activity:

Research, Development, Marketing & Sales of Bio- Fertilizer

Certificate No.: IQ-23070802

Date of initial Registration

08-07-2023

Date of this Certificate

08-07-2023

Certificate Expiry

07-07-2024*

Recertification Due

07-07-2026

Signature

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contact at- isplcert@gmail.com



Indraprastha SystemCert Pvt. Ltd.

Accredited by EGAC, A Member of International Accreditation Forum



Bio-Fertilizer Lab: The certification awarded to the Bio-Fertilizer Lab is a testament to its ground-breaking work in producing liquid bio-fertilizers with an extended shelf life. This unique proposition has positioned the lab as a leader in the field, ensuring longer storage capabilities without compromising nutrient efficacy.



CERTIFICATE

This is to certify that the
QUALITY MANAGEMENT SYSTEMS
of

BIHAR AGRICULTURAL UNIVERSITY, SABOUR, VERMICOMPOST UNIT

BAC, Sabour- 813210, Bhagalpur, Bihar, India

has been assessed and found to be in conformance to the requirements of

ISO 9001:2015

This certificate is valid for the following activity:

Research, Development, Marketing & Sales of Vermicompost

Certificate No.: IQ-23070805

Date of initial Registration

08-07-2023

Date of this Certificate

08-07-2023

Certificate Expiry

07-07-2024*

Recertification Due

07-07-2026

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Indraprastha SystemCert Pvt. Ltd.

Accredited by EGAC, A Member of International Accreditation Forum



Vermi-Compost Unit: Recognized for its production of enriched vermi-compost boasting significantly higher nutrient content compared to conventional options, this unit's focus on excellence has earned it ISO 9001:2015 certification. Its commitment to delivering superior-quality vermi-compost aligns with the university's dedication to innovation and agricultural sustainability.



CERTIFICATE



This is to certify that the
QUALITY MANAGEMENT SYSTEMS
of

**BIHAR AGRICULTURAL UNIVERSITY,
(DIRECTORATE OF SEED & FARMS UNIT)**

Sabour- 813210, Bhagalpur, Bihar, India

has been assessed and found to be in conformance to the requirements of

ISO 9001:2015

This certificate is valid for the following activity:

Production & Marketing of Seeds

Certificate No.: IQ-23081604

Date of initial Registration 16-08-2023

Date of this Certificate 16-08-2023

Certificate Expiry 15-08-2024*

Recertification Due 15-08-2026

Signature

Auth Sign

*Registration is subject to the system being continually maintained to the above standard under regular surveillance.
To check the certification validity please visit- <https://www.iafcertsearch.org/> or www.isplcert.com
contact at- isplcert@gmail.com



Indraprastha SystemCert Pvt. Ltd.

Accredited by EGAC, A Member of International Accreditation Forum



Directorate of Seed and Farm: In August 2023, the Directorate of Seed and Farm at BAU secured ISO 9001:2015 certification in acknowledgment of its exceptional contributions to seed production and distribution. This recognition is a testament to the university's pivotal role in addressing seed-related challenges within the state, ensuring the production and dissemination of high-quality seeds to farmers.



BAU Media Center Bestowed with National Awards

Bihar Agriculture University (BAU) has added another feather to its cap as the university's Media Center and Community Radio Station continue to make significant strides in the realm of agricultural education and community engagement. The distinguished achievements of BAU's Media Center have been recently recognized with national awards, solidifying its position as a beacon of excellence.

The Media Center at BAU has been at the forefront of disseminating agricultural knowledge through innovative means. With a remarkable collection of over 500 plus videos encompassing package of practices and modern skills in agriculture and allied areas, the center has played a pivotal role in bridging the knowledge gap for farmers. The videos, totaling over 130 hours of content, cover essential cropping practices related to cereals, fruits, flowers, plantation crops, animal husbandry, and fisheries. Future plans include developing videos that span all aspects of agricultural development, from cultivation to processing and marketing. The diverse range of topics covered in the videos reflects the center's commitment to providing holistic agricultural education. From goat farming, poultry, and commercial cultivation of oyster mushrooms to Azolla cultivation, Integrated Farming Systems, and Strawberry cultivation in Bihar, BAU's Media Center ensures that farmers have access to a comprehensive knowledge base.

The impact of these educational efforts has been felt far and wide, thanks to the center's strategic use of online platforms. The videos, available on BAU's YouTube channel (<https://www.youtube.com/bausabour>), have garnered an impressive following, with over 0.431 million subscribers and more than 4.61 million views. The analytics reveal that the content is resonating particularly well with mobile users in India, with a significant viewership among the age group of 18-44.

In addition to its online success, BAU's Media Center has been instrumental in the production of award-winning films. "Water for Tomorrow," a featured film, has been screened by the UGC-Consortium for Educational Communication for award, showcasing the center's prowess in visual storytelling to address critical agricultural issues. The Community Radio Station (CRS) 90.8 FM Green, an integral part of BAU's communication initiatives, has been honored with the 8th and 9th National Community Radio Awards. This recognition was conferred by the Union Minister for Information and Broadcasting, Shri Anurag Thakur, during the inaugural session of the Regional Community Radio Sammelan (North) held at the Indian Institute of Mass Communication in New Delhi. The awards ceremony highlighted the pivotal role of community radio in providing a platform for local

voices to address issues related to health, nutrition, education, and agriculture. CRS 90.8 FM Green, under the Poshan Sankhala initiative, secured the third prize under thematic areas. This adds to the station's already impressive list of accolades, including national e-governance, national film festival award, and SKOCH awards.

BAU's commitment to community engagement is further underscored by its expansion of community radio with two new CRS stations sanctioned in KVK Gaya and Katihar. This strategic move demonstrates BAU's dedication to amplifying local voices and fostering community development through the power of radio.





Bihar Agricultural University, Sabour (Bhagalpur)



a film by Bihar Agricultural University, Sabour

WATER FOR TOMORROW

Community Action for Climate Smart Agriculture



Producer: DR. D.R. SINGH Director: DR. R.K. SOHANE

Associate Director: MR. MANISH KUMAR SINGH, Editor: MR. BRAJESH KUMAR TIWARI, Cinematographer: MR. SANDEEP KUMAR TIWARI

Drone Camera: MR. SHALIGRAM YADAV, Voice Over: DR. TIRTHARTHA CHATTOPADHYAYA, Sound: ANNU KUMARI



MANAGE Agri Film Festival - 2023

Hyderabad, Telangana

Award Winning Film

a film by Media Centre, Bihar Agricultural University, Sabour

PARIVARTAN



Producer: DR. D.R. SINGH, Director: DR. R.K. SOHANE

Research: DR. RAJESH KUMAR, Associate Director: MR. MANISH KUMAR SINGH, Editor: MR. BRAJESH KUMAR TIWARI

Cinematographer: MR. SANDEEP KUMAR TIWARI, Drone Camera: MR. SHALIGRAM YADAV, Voice Over: ANNU KUMARI





Councils Meeting at the University Established a Scientific Platform

Research Council Meeting



The inaugural session of the 25th RCM of Kharif-2023 started under the chairmanship of Dr DR Singh, Hon'ble Vice-Chancellor, Bihar Agricultural University, Sabour in the gracious presence of the invited experts: Dr Tapan J. Purakayastha, Professor, SSAC, IARI, New Delhi; Dr Devendra Singh, Professor & Head, Dr RPCAU, Pusa, Samastipur; and Dr SK Singh, Associate Director Research, Dr RPCAU, Pusa, Samastipur. Besides them, Dr Randhir Kumar, DAHO & RD (Animal Husbandry), Bhagalpur; Dr Shailendra Kumar, Director, Fishries, Dr Krishna Kanhaiya, Dist. Fisheries Officer, Bhagalpur; the progressive farmers of Munger, Saharsa and Rohtas Districts namely, Smt. Narmada Kumari, Shri Saket Ranjan and Shri Vijay Kumar respectively were also a part of the inaugural session.

Hon'ble Vice-Chancellor told that farmers' feedbacks are crucial for improvement in different areas and suggested that in RCM farmers from each zone should come and participate. He further suggested that drone application in agriculture is need to be standardized and for this agronomists and soil scientists are need to sit together and work on it. Crop advisory has a major role in agriculture and needs to be further refined by the joint efforts of specialists from agronomy, pathology, entomology and soil science., etc. He said collaboration on research activities should be made with the IARI, New Delhi, which will help in the upgradation of labs and equipment. New research programme should be started on millets, he further added.

The RCM released two varieties and three technologies for benefit of farming community of the state. Two rice varieties, Sabour Moti Dhan (IET28874-



BRR2107) and Sabour Sona Dhan (BRR2177-IET-30213) were also released by the Council. An efficient in vitro regeneration protocols for ornamental plants *Ficus lyrata* and *Sygonium* cultivars were also approved in the Research Council Meeting. Another technology involving seasonal forage and perennial grasses viz. Trishanker Grass (Tri- Specific Hybrid-TSH) + Perennial Sesbania/ Stylo Grass intercropped (strip intercropping) with Sorghum + Cowpea - Maize having potentiality of providing round the year green fodder to the dairy animals was released by the council. Meeting ended with vote of thanks by Dr Sailabala Dei, Deputy Director Research.

The inaugural session of the 26th RCM of Rabi- 2023 started under the chairmanship of Dr DR Singh, Hon'ble Vice-Chancellor, Bihar Agricultural University, Sabour on September 20, in the gracious presence of the invited experts: Dr Ram Chet Choudhary, Formerly Regional Director, ARI Patna and Dr Man Singh, Ex-Project Director, Water Technology Centre, IARI, New Delhi. Besides them, the progressive farmers of Katihar, Lakhisarai and Aurangabad Districts namely, Smt. Preeti Kumari, Shri Omkar Prasad Mahto and Shri Avinash Kumar respectively were also a part of the inaugural session. Afterward, Dr Anil Kumar Singh, Director Research, BAU, Sabour, welcomed the guests and presented the overall research activities going on at the University. Hon'ble Vice-Chancellor further expressed his concern to work on areas like rising pressure on natural resources and deterioration of their quality, shifting to more nutritious foods for addressing malnutrition, commercialization, and diversification, transformation from staple to nutritive value food. Thereafter, technical session started with the proceedings of the ZERAC meeting. At first, Dr SN Ray, Principal, BAC, Sabour, presented the proceeding of the ZERAC meeting from Zone- IIIA of Bihar.



The Zone-II proceedings of the ZERAC meeting were presented by Dr Arunima Kumari, ADR, RRS Agwanpur, Saharsha and Principal, MBAC Saharsha. Eventually, Dr Randhir Kumar, RD, ARI Patna presented the proceedings of the ZERAC meeting from Zone-III B and he was suggested to solve the problem of nematode with the help of experts working in nematology.

This Research Council Meeting recommended one rice variety Sabour Ayush Dhan and one wheat variety Sabour Gehun-4 for the farmers of Bihar. Technologies on management of post-harvest diseases of betel leaf and enhancing shelf life of leaf and Sabour Feed block: A compressed feed block for cattle to supplement the nutritional requirement of cattle were also released during the meeting. Dr Sailabala Dei, Deputy Director Research, proposed formal vote of thanks to the Chairman, Experts and all concerned.

Extension Education Council Meeting

The 24th Extension Education Council Meeting of Bihar Agricultural University started under the chairmanship of Dr DR Singh, Hon'ble Vice-Chancellor, BAU, Sabour. The council was graced by the presence of experts, Dr PK Singh, Agricultural Commissioner, Government of India, New Delhi; Dr NP Singh, Member (Official),



Commission for Agricultural Cost and Prices (CACP), New Delhi; Sri Shailendra Kumar, Deputy Director (Fisheries), Govt. of Bihar and Shri Vikas Kumar, Asst. Director (Horticulture), Bhagalpur. Dr RK Sohane, Director Extension Education, Dr RN Singh, Associate Director Extension Education, Dr A Mankar, Deputy Director Training and progressive farmers namely, Sri Shashibhushan Singh from Purnea; Smt. Anita Kumari from Nalanda, and Smt. Bandana Kumari from Banka and all Deans and Director & Registrar, Assoc. Dean-cum-Principal of colleges,



Senior Scientist and Head of different KVKs, and faculty members of the University were also attended the council enthusiastically along with other stakeholders. On this occasion, a digital fertility map for the district Supaul, Khagaria and Purnea was also released which will enable farmers with all soil-related information from the three districts.

Hon'ble Vice-Chancellor congratulated the awarded KVKs on over one crore revenue generation. Also, he expressed his satisfaction with the KVKs performing even more than the mandated responsibilities. He further informs the scientists and KVK workers to strengthen the advisory services for climate, crops, insect pests, and diseases and verify the impact of the advisory services. He directed the KVKs to use innovative tools such as ICT, farming groups, etc. to reach farmers effectively. Dr NP Singh, Member (Official), Commission for Agricultural Cost and Prices (CACP), New Delhi and eminent expert advised the scientists to bridge the yield gap of major crops such as Rice, Wheat, Maize, chickpea, and pigeon pea in Bihar. He explained that only 22% of the farmers have access to quality seeds and all the activities should be aligned with the national priorities and digitalization of activities is the need of the hour. Dr RK Sohane, DEE, BAU explained several initiatives like the waste-to-wealth model, custom hiring centers, community nursery business model, community health centre, RKVY funded popularization of dragon fruit in Bihar, creation of sustainable veterinary services, and video dissemination through SD cards, Kisan Gyan Rath and YouTube channel.

25th Extension Education Council Meeting of Bihar Agricultural University convened under the leadership of Dr DR Singh, the Hon'ble Vice-Chancellor of BAU, Sabour. Notably, this meeting was graced by the esteemed presence of Chief Guest Dr Anjani Kumar, Director of ICAR- ATARI Patna, as well as distinguished experts: Dr Dhum Singh, Former DEE, CSAU&T Kanpur; Dr DK Singh, Professor at WTC, IARI Pusa, New Delhi. During this significant event, the latest edition of the Krishak Sandesh magazine along with digital fertility maps for the Araria, Banka, Bhagalpur, Khagaria, Sheikhpura, and Supaul districts, as part of Climate Resilient Agriculture, were also introduced. The event was attended by key figures such as Dr RK Sohane, Director Extension Education, BAU Sabour; Dr RN Singh, Associate Director Extension Education, BAU Sabour; and progressive farmers, including Sri Anand Kumar Thakur from Muzaffarpur, Smt Binita Kumari from Banka, and Mr Sudhanshu Kumar from Patna.

Hon'ble Vice-Chancellor congratulated the KVKs on getting award for farmers at the national level under PPV&FRA and Saviour Genome Award for 02 FPO i.e. Litchi Farmers Growers Association and Bhagalpur Katarni Rice Growers Association. He urged the scientists to develop cropping system and pattern suited to small



landholders of the state. He further explained in detail the new initiatives from the university on the day of World Food Day. The first was the Sawaal Jawab program (Pryogshala Se Khet Tak) which will be started from 16th October to solve queries of farmers from the state by the scientists of the university on virtual mode.

Dr Dhum Singh, Former DEE, CSUA&T Kanpur shared different action points for the scientists for agricultural development such as bio-fortification, advances in tissue culture, etc. He asked to conduct study to find out the problems of cultivation and marketing of GI crops of Bihar and also develop bio-pesticides for makhana pest management and give proper advice to farmers in this regard. Dr AK Singh, Director Research, BAU, Sabour presented the technology ready for transfer to the farmers. He explained about the potential of newly released varieties such as Sabour Ayush Dhan, Sabour Feed block, and technology related to Sabour Magahi Paan. The thrust areas of the presentation of the KVK are district profiles, major achievements in terms of training organized, CFL, FLD, OFT conducted, different types of programme implemented and also success stories of the farmers.



Seed Production-cum-Cropping Programme Meeting

Quality seed is a key component in the cultivation of all crops. This is basic input on which performance of other agriculture inputs depends. The availability of seed at proper time, at proper place and at proper rate as well of well-established varieties is the backbone of Agricultural



Production. Keeping in view the importance of seed a meeting entitled 'Seed production cum cropping programme for Kharif 2023' was conducted on 24-25th May, 2023 under the chairmanship of Hon'ble Vice-Chancellor, Dr DR Singh to decide about quantum of production of seed in upcoming Kharif of recommended and popular varieties in the Bihar state. The meeting was attended by Director Research (DR), Director Extension Education (DoEE), Dean (Agriculture), Director Seed and Farms (DSF), Dean PGS, DSW, all Associate Dean cum Principal of colleges, Chairman of different departments, concerned crop breeder of BAU, Sabour, all Senior Scientist & Head and SMS of KVKs and I/Cs of RRSs, O/I of BAC Sabour farmand farm managers of colleges, KVKs, RRSS under BAU, Sabour. In the meeting centre wise the target for seed production for upcoming Kharif season 2023 along with planting material was discussed thoroughly and finalised and a production target of 7040.40 quintals seed of breeder, foundation, certified and truthful label seed of different varieties of paddy, urd, arhar, jute, sesamum, finger millet, cauliflower, maize and other propagating material like planting material, mushroom spawn, fish fingerlings, tissue culture raise plants and flower plants. The Rabi 2023 Seed Production-cum-Cropping Programme Meeting was chaired by Hon'ble Vice- Chancellor, Dr DR Singh and attended by the Director Extension Education (DEE), Director Research (DR), Director Seed and Farms (DSF), Dean PGS, all Associate Dean cum Principals of Colleges, Chairmen of different departments, concerned crop coordinators/ scientists/ faculty members of BAU Sabour. The Chairman and other dignitaries were formally welcomed to the gathering.

In his chairman's remarks, the Hon'ble Vice-Chancellor highlighted the following actionable items. A seed portal will be created as soon as possible so that farmers



can follow seed availability at any time and from any location. Seed will be made available to KVKs and farmers in time for Rabi-2023. The state government is working to make Bihar self-sufficient in terms of seed production and supply (Atmanirbhar Bihar). In light of this, a group comprised of the Director of Research, the Director of Extension Education, Seed Scientists, and the Senior Scientist-cum-Heads of all KVKs will be formed to develop a plan for this after conducting a SWOT analysis. It was advised that all seed production hubs produce at least 0.5 to 1 acre of organic seed production area. All centres were instructed to prevent delayed rabi crop sowing and to seed solely during the sowing window. The meeting concluded with a vote of gratitude from the Director of Seed and Farms to all dignitaries, participants, and supporting staff for a successful meeting.

Prioritizing Research Areas in Biotechnology Boost Agriculture Growth of Nation

Biotechnology has emerged as a transformative force in agriculture, presenting innovative solutions to address the challenges faced by farmers and contribute to the overall sustainability of the agricultural sector. A pivotal step in this ongoing revolution occurred on April 29th 2023, when the Bihar Agricultural University (BAU) Sabour organized a significant brainstorming session under the guidance of Dr DR Singh, the Hon'ble Vice-Chancellor. This session brought together experts, including Dr Ajit Kumar Shasany and Dr Arvind Kumar, to discuss and review ongoing biotechnological research activities, with a focus on enhancing crop productivity, nutritional content, and sustainability.



All India Biotech Student Meet at the University Create Influx Talent

The College of Agricultural Biotechnology at Bihar Agricultural University, Sabour, Bhagalpur, embarked on a transformative journey with the commencement of a two day All India Undergraduate Academic Convention in Biotechnology on August 25-26th, 2023.



Under the visionary leadership of University Vice Chancellor, Dr DR Singh, the event aimed to create a dynamic platform for collaboration between undergraduate students and experts across diverse fields of biotechnology. The convention sought to enlighten students about the myriad benefits and opportunities in biotechnology, extending beyond academia to startups and the broader professional landscape. Eminent scientists from various fields pertaining to biotechnology in the form of Dr Neeraja Prabhakar, Dr Ajit Kumar Shasany, Dr Arvind Kumar, Dr K Kathiravan, Dr Vinod Kumar Nigam, Dr Sandeep Panda and others embraced the convention with their insightful lectures, presentations and scientific interactions which were fruitful to the University students, research scholars and University officials as well.



A Milestone Achievement: 980 Students Awarded Degrees at the 7th Convocation



Convocation is a multifaceted milestone—a celebration of academic achievement, a reflection on personal growth, a showcase of institutional success, and a bridge between past and future. It is a moment frozen in time, etched in the memories of graduates as the day they crossed the threshold from students to alumni. This grand ceremony is more than just a formal gathering; it is a celebration of achievements, a reflection on the transformative journey that each student undertakes during their time at the university. The annual convocation ceremony at Bihar Agricultural University, Sabour, unfolded as a day of triumph, marking a significant milestone for 980 students who were awarded degrees at the seventh convocation held on April 11, 2023. This event, much anticipated over the past three years, emerged as a beacon of hope and optimism, overcoming the disruptions caused by the lingering Covid-19 pandemic. The university's main campus transformed into a vibrant spectacle adorned with natural flowers, colourful lights, and a palpable sense of excitement. The Seventh Convocation recognized the accomplishments of 980 students, comprising 603 males and 377 females. Among them, 688 received undergraduate degrees, 243 earned Master of Science degrees, and 49 attained Doctor of Philosophy degrees. This information, integral to the convocation proceedings, was efficiently disseminated to the students through the university's website, streamlining the confirmation process for attending the ceremony.

The ceremonial Robes and Pagdis, symbolic of academic achievement, were meticulously provided to students in the days leading up to the convocation. The



dignitaries, including members of the Senate, Board of Management, Academic Council, and faculty chairmen, donned convocation attire, creating a picturesque scene as they assembled for the grand academic procession. The ceremony commenced with the stirring rendition of the National Anthem by the university's students, setting a patriotic tone for the event. Welcoming the esteemed guests, the Hon'ble Vice-Chancellor initiated the proceedings, with the Governor of Bihar and Chancellor of the University, Sri Rajendra Vishwanath Arlekar, presiding over the convocation. The Agriculture Minister, Sri Kumar Sarvjeet, and Dr AK Singh, Deputy Director General of Horticulture Science, graced the occasion as the guest of honour and chief guest, respectively. Sri RL Chonghthu, Secretary to Bihar Governor was the special invitee for the function.

The unique Jal Arpan Ceremony, emphasizing water conservation and ecosystem balance, preceded the traditional lamp lighting, adding a distinctive touch to the convocation's commencement. In his welcome speech, The Hon'ble Vice-Chancellor of the University, Dr DR Singh expressed gratitude to the Chancellor, dignitaries, and attendees while highlighting the university's strides in teaching, research, and extension activities. The adoption of the New Education Policy and a commitment to developing cutting-edge infrastructure underscored the university's dedication to providing premium-quality research. The Vice-Chancellor's emphasis on annual scientific output and the recent achievements in agriculture and nano-fertilizers set a tone for the academic excellence celebrated during the convocation. The students, guided by the Hon'ble Governor of Bihar, recited an oath pledging honesty, discipline, dutifulness, and excellence in their studies and research. The presentation of gold medals, awarded for outstanding academic performance, added a prestigious touch to the ceremony. Nine gold medals were bestowed upon exceptional students, reflecting their dedication and hard work. Additionally, Best Teacher and Best Thesis awards were presented, recognizing the contributions of faculty members.

As the ceremony approached its conclusion, dignitaries, including Agriculture Minister Kumar Sarvjeet and Dr AK Singh, shared insightful perspectives on the university's accomplishments. The emphasis on research in agriculture, climate-smart practices, and the role of youth in nation-building reflected the holistic approach to education advocated by the university. In his presidential speech, the Governor conveyed that the convocation marked the end of "Disha" (direction) but not the end of "Siksha" (learning). Stressing the importance of lifelong learning, he urged students to uphold their values, work ethics, and humanity. The Governor encouraged them to become job providers, contributing to the soil and generating employment. He shared anecdotes to motivate the youth, emphasizing their role



as the foundation and future of the nation.

The convocation concluded with the presentation of mementos, including a millet-made portrait, to the Governor of Bihar. The symbolic portrayal highlighted agriculture's crucial role in environmental preservation and food security. The event concluded with a pledge of honour to the country through the singing of the national anthem. As graduates don their pagdis, the air is thick with a sense of accomplishment and anticipation for the future. It is a testament to the efficacy of the university, the dedication of faculty members, and the nurturing environment that fosters intellectual curiosity. The success of the graduating students reflects the university's commitment to excellence in education and its role in shaping the future leaders, thinkers, and innovators of society. It became a showcase of the university's collective achievements, a manifestation of the knowledge and values it imparts to its students. As the echoes of cheers and applause fade away, the significance of convocation continues to reverberate in the hearts and minds of all those who were part of this transformative journey within the university's embrace.

The seventh convocation of Bihar Agricultural University, Sabour, was a resounding success, bringing together students, faculty, and guests to celebrate the university's achievements. The event not only recognized academic accomplishments but also underscored the institution's commitment to community engagement, research, and innovation, setting a positive tone for the future endeavours of its graduates.



"As we celebrate the remarkable milestone of our 7th convocation, where 980 students are bestowed with degrees, we witness the culmination of years of hard work, dedication, and perseverance. This much anticipated event not only marks the academic achievements of our students but also symbolizes the collective aspirations and dreams for a brighter future. Congratulations to all graduates, may the journey ahead be filled with success, fulfillment and endless possibilities."

Dr Md Mizanul Haque, Registrar



Enriched Research Work of Scientists Published In Impact Factor Journals

Bihar Agricultural University (BAU) has firmly established itself as a leading force in the realm of agricultural research, earning widespread acclaim on the global stage for its pioneering contributions. The university's multifaceted departments have distinguished themselves by consistently producing high-impact research articles published in prestigious journals, thereby securing noteworthy National Academy of Agricultural Sciences (NAAS) ratings. This narrative of success is not confined to a single department but resonates across diverse academic disciplines, with each department playing an important role in propelling the frontiers of agricultural science to new heights.

The Department of Food Science and Technology has spearheaded research aimed at enhancing postharvest quality. One notable achievement is the publication of "Biotechnological Interventions in Reducing Losses of Tropical Fruits and Vegetables" published in *Current Opinion in Biotechnology* has garnered widespread acclaim, achieving an impressive NAAS score of 16.28. This research underscores the department's commitment to leveraging biotechnology for sustainable agriculture and reducing postharvest losses. In addition, the department's exploration of "Hydrogen Sulfide: Promising Applications for Postharvest Quality Improvement of Fruit and Vegetables" in the esteemed *Postharvest Biology and Technology* journal, securing a noteworthy NAAS score of 12.75. This pioneering work offers promising avenues for maintaining the quality of perishable produce, contributing significantly to the agricultural community.

The Department of Soil Science and Agricultural Chemistry has been at the forefront of understanding and enhancing soil health. The department's research on "Resistance and Resilience of Soil Biological Indicators: A Case Study with Multi-Walled Carbon Nanotube (MWCNT)" was accepted in *Pedosphere* with a commendable NAAS rating of 11.51. This study sheds light on the dynamic relationship between soil biological indicators and the innovative use of nanotechnology in agriculture.

Furthermore, the department's commitment to exploring the biochemical response of plants and soil to varying levels of nitrogen and Penoxsulam application in rice crops has been showcased in the *Journal of Soil Science and Plant Nutrition*, earning a commendable NAAS rating of 9.61. Other studies exploring changes in phosphorous fractions upon inoculation of *Pseudomonas* sp. and nano phosphorous application in wheat rhizosphere, and the synthesis,



characterization, and controlled release pattern of novel Fe-containing nanoclay polymer composites (Fe-NCPC) in different soils have also received commendable NAAS ratings of 7.58 and 9.50, respectively.

The Department of Plant Pathology has made significant strides in understanding and combating plant diseases. Their research on the population distribution of a specific pathogen in Bihar, India, published in *Bioengineering*, achieved a notable NAAS rating of 11.01. Another publication focusing on the molecular and morphological characterization of the pathogen causing Northern Corn Leaf Blight of maize earned a similar NAAS rating of 11.01. These studies underscore the department's commitment to safeguarding crops from the devastating impact of plant pathogens.

The Department of Agronomy has contributed significantly to sustainable farming practices. Research on "SPAD Chlorophyll Meter-Based Real-Time Nitrogen Management in Manure-Amended Lowland Rice" published in the *Journal of Soil Science and Plant Nutrition* earned a notable NAAS rating of 9.50. This study demonstrates the department's dedication to developing real-time nitrogen management strategies, promoting efficient resource utilization in agriculture.

The Department of Plant Breeding and Genetics has harnessed genetic potential to address challenges in crop breeding. Their research on "Marker-Assisted Stacking of *Ty3*, *Mi1.2*, and *Ph3* Resistance Alleles for Leaf Curl, Root Knot, and Late Blight Diseases in Tomato" published in *Physiology and Molecular Biology of Plants* achieved a commendable NAAS rating of 9.02. This study showcases the department's success in integrating molecular techniques for developing disease-resistant crop varieties. Additionally, their work on "Rapid Genotyping in Tomato by VPCR Using Agarose Gel-Resolvable InDel Markers" published in *3 Biotech* with a NAAS rating of 8.89 demonstrates the department's commitment to advancing genotyping techniques for accelerated crop improvement. The Department of Molecular Biology and Genetic Engineering has delved into the intricate mechanisms of genome packaging in RNA viruses infecting plants. Their research published in *Frontiers in Genetics* achieved an outstanding NAAS rate of 10.77. This study not only contributes to the fundamental understanding of plant virology but also holds implications for developing strategies to manage viral infections in crops.



Rojgar Mela Infusing Hope for Students with the Promise of Improved Placement Opportunities



In a significant step towards enhancing career opportunities for its graduate and postgraduate students, Bihar Agricultural University, Sabour, first time inaugurated Rojgar Mela-cum-Industry Institute Interface. The Rojgar Mela-cum-Industry Institute Interface, graced by the esteemed presence of Dr DR Singh, the Hon'ble Vice Chancellor of Bihar Agricultural University, Sabour, marked a significant leap towards enhancing career opportunities for its graduating and postgraduate students. The primary objective of the event was to establish a robust connection between the university's talented pool and leading entities such as companies, NGOs, and banks. The occasion witnessed not only physical but also virtual participation from renowned organizations, including Syngenta, Bayer Crop Science Ltd, Dhanuka Agritech Limited, Veticura Mankind (Division of Mankind Pharma Ltd), DHAN Vayalagam (Tank) Foundation, Shivashakti Agritec Limited, HDFC Bank, and AU Biotech. Seventy-four graduate students, fifty-one M Sc students, and five PhD students actively participated in the Rojgar Mela, offering a dynamic representation of the diverse academic programs within the university.

In his inaugural speech, Hon'ble Vice Chancellor Dr DR Singh expressed sincere gratitude to the participating companies, NGOs, and banks, acknowledging the hard work, sincerity, and readiness of the university's students to confront challenges head-on. Dr Singh encouraged participating companies to communicate their skill requirements, aligning them with the grooming needs of the students. He highlighted the students' excellence not only in academic pursuits but also in extracurricular activities across various domains. Dr. Rajesh Kumar, Director of



Students' Welfare, underscored the significance of excelling not only in securing a job but also in sustaining a successful career. Dr. S. N. Singh, Associate Dean cum Principal, provided valuable advice to students, emphasizing the virtue of obedience for career growth. Throughout the interface, students articulated their expectations, emphasizing a positive work culture, competitive payroll, and a women-friendly environment. In turn, participating organizations offered insights into their work areas, working atmosphere, salary structures, challenges, opportunities, and potential career growth. The successful organization of this event was attributed to the Placement Cell and Career Counselling Centre. Dr. Chandan Kumar Panda, Officer-in-Charge of the cell, served as the organizing secretary, with key associate scientists including Dr. Anil Paswan, Dr. Tamoghna Saha, Dr. Sanjay Sharma, and Dr. R. D. Ranjan playing instrumental roles in ensuring the event's success. Beyond its immediate impact on job placements, the Rojgar Mela-cum-Industry Institute Interface served as a catalytic platform for mutual understanding and collaboration between academia and industry. It set a precedent for future endeavors, emphasizing the paramount importance of fostering meaningful connections between students and prospective employers. This initiative not only contributes to the holistic development of the students but also augurs well for the continued growth and excellence of Bihar Agricultural University, Sabour.



Neeraj Bagoria, Student of BAU, Sabour Secures Admission in World's Reputed Agricultural University at Netherlands



Neeraj Bagoria (Reg.No. BAC/M/SSAC/596/2018-19), a student of M.Sc. (Soil Science) of the Department of Soil Science and Agricultural Chemistry, BAU Sabour secured admission in Wageningen University and Research, Netherlands. He has passed M.Sc. with a score 8.36 OGPA in the discipline of soil science and agricultural chemistry in 2020. His thesis research work entitled "Soil Fertility Mapping of Sabour Block of Bhagalpur District, Bihar using Remote Sensing and GIS Techniques" was completed under the supervision

of Mr BK Vimal, Asstt. Prof.-cum-Jr. Scientist, Department of Soil Science and Agricultural Chemistry, BAU, Sabour Mr. Neeraj Bagoria secured his Ph.D research programme for the session of 2022-23 at Vanhall Larenstein University of Applied Sciences, Velp, Netherlands earlier Wageningen University, Netherlands. He received several awards viz. National Talent Scholarship (2018-20), Certificate of Agribusiness Management from University of BOCCONI in 2023, and there are 2 peer reviewed research papers and 2 book chapters are published.

Dedicated Smart Classroom of International Standards for Students



In the Central Lecture Hall at BAU, Sabour, there are eight cutting-edge smart classrooms in operation. Each of these classrooms boasts contemporary amenities such as audio-visual presentation capabilities, high-speed internet access, and eco-friendly design features. Additionally, these classrooms are furnished with advanced tiered seating arrangements accommodating up to 150 students comfortably.

The inauguration of these advanced smart classrooms was officiated by Minister Shri Kumar Sarvajeet from the Ministry of Agriculture, Government of Bihar. During the event, the minister emphasized the significance of adopting cutting-edge tools and methodologies to elevate students' learning outcomes. He also expressed the government's commitment to investing in human development, stating, "Our students represent our future. By offering them quality education, we empower them to serve our state and country to their fullest potential. It's our responsibility as a welfare state."

Mr. Vivek Kumar, the class representative for the 3rd semester of B.Sc. (Agriculture), shared the collective feedback regarding the utilization of smart classrooms for learning. He expressed the students' satisfaction with the comfortable seating arrangements and the use of presentation technology. Mr. Kumar noted that in the first year, classrooms would often become excessively dusty due to the traditional 'chalk and talk' teaching method, which was essential for certain courses. However, this method has now been replaced by a digital pen and board approach. This shift has significantly enhanced the learning experience, allowing professors to employ multi-color digital drawings, in-situ figure illustrations, and



various audio-visual presentations. The students are exceedingly pleased and extend their gratitude to the Dr D R Singh Vice Chancellor for orchestrating such uniquely equipped classrooms for their benefit.



“Education is the passport to the future, and smart classrooms are the gateway to its possibilities. Through the integration of audio-visual elements in smart classrooms, learning transcends the traditional boundaries of textbooks, enabling an immersive educational experience where sight and sound converge to enrich understanding”.

Dr DR Singh, Vice Chancellor



Hi-Tech Auditorium Dedicated for University

At Bihar Agricultural University, our recently inaugurated auditorium stands as a testament to cutting-edge technology and modern amenities. The structure, spanning across G+2 levels, meticulously caters to the diverse needs of our events and programs. On the ground floor, the main auditorium hall takes center stage with a seating capacity of 550, accompanied by a stage, green room, audio/video room, pantry store, VIP guest room, common washroom, office rooms, electrical room, cafeteria meeting, and a convenient lift for accessibility. Ascending to the first floor reveals artist rooms, a projector room, a lift, and an inviting terrace. The second floor embraces a balcony area with 185 seating options, ensuring a dynamic and inclusive environment. The state-of-the-art auditorium features an exceptional sound system, with Yamaha's latest technology serving as the backbone. This well-engineered sound system guarantees clear and powerful audio for every seat, managed effortlessly from the control panel through the latest digital sound mixer. The auditorium's stage lights, strategically designed, enhance the ambiance during cultural events, providing a visually captivating experience during performances. The auditorium boasts a magnificent BARCO projector utilizing laser technology for vivid visual presentations on a large screen. Spectators in the balcony enjoy separate 70-inch TVs on both sides, while front displays at the podiums digitally showcase speaker names and event banners. Stage monitors ensure that delegates seated at tables have a clear view





of the presented scenes. For seamless telecasts, three high-quality PTZ cameras capture and preserve recordings of all events, offering live streaming on social media platforms. Screens in the green room, reception, and guest rooms allow real-time viewing of all auditorium activities. At Bihar Agricultural University, we are committed to providing a technologically advanced and immersive experience in our newly constructed auditorium.





Sustainable Educational Reform Through Continuous Empowerment by CETL

The Centre of Excellence in Teaching and Learning (CETL) was established in the year 2011 at Bihar Agricultural University, Sabour, with a mission to elevate the standards of teaching and learning at the university. It envisions a dynamic approach to education by organizing various online and offline workshops, seminars, and training programs, targeting students, research scholars, and educators. Focused on multidisciplinary aspects, CETL aims to instill innovation, collaboration, and experimentation in teaching practices, particularly in the realm of agricultural sciences.

CETL's activities are meticulously designed to cater to different segments of the academic spectrum. For undergraduate (UG) students, the centre offers diverse programs ranging from time management and interview preparation workshops to specialized sessions on soft skills and aptitude enhancement. Moreover, the centre emphasizes the significance of effective communication in science and equips students with the skill to pitch their research in a concise timeframe. Workshops on thesis writing, report writing, and design thinking are also part of the comprehensive curriculum, aiming to foster critical thinking and creativity among undergraduate students.

Postgraduate (PG) research scholars, being pivotal contributors to the academic landscape, benefit from specialized workshops on academic paper writing, statistical analysis, and research methodology. These programs are designed to hone the research skills of scholars, ensuring the production of high-quality and impactful academic endeavours. Additionally, talks from external experts provide valuable insights into various areas of expertise, enriching the learning experience for PG research scholars and faculty.

In line with the globalized nature of education, CETL acknowledges the importance of exposure to international/ global perspectives. The centre provides insights into the scope of agriculture education abroad, opening up new horizons for students and educators alike in countries like USA and Canada. The initiative is aimed at broadening the understanding of agriculture by incorporating global perspectives and practices.

The vision of CETL is characterized by its renewed energy and expanded vision in the current times. The centre aspires to equip students and teachers at Bihar Agricultural University with the necessary skills, knowledge, and attitudes essential for success in their professional domains. By focusing on contemporary



academic programs, CETL ensures that the skills imparted are not only relevant but also aligned with the evolving demands of the professional landscape. The centre is committed to providing a holistic educational experience that extends beyond traditional academic boundaries.

Teacher education is a crucial yet often overlooked aspect of the education system. Recognizing this, CETL is dedicated to strengthening teachers, viewing them as key contributors to sustainable long-term reforms. Faculty members from various universities in India and abroad, including Bihar Agricultural University, are actively encouraged to collaborate with CETL. They can propose workshops or training programs related to multidisciplinary teaching and learning, creating a platform for knowledge exchange and fostering a culture of continuous improvement and growth. This open invitation reflects CETL's commitment to creating a collaborative and inclusive educational environment on a global platform.

The on-going activities of CETL are a testament to its dedication to continuous improvement in teaching and learning experiences. Regular workshops and training sessions cover a diverse range of topics, including the use of reference management software, academic writing skills, understanding research methodology, interview preparation, and design thinking tailored specifically for educators. These activities are designed to address the evolving needs of students, research scholars, and faculty members.

A glimpse into the workshops conducted by CETL unveils the breadth of its offerings. The workshop on Artificial Intelligence (AI) in Agriculture serves as a platform for exploring the intersection of technology and agriculture, aiming to harness the potential of AI for the betterment of the agricultural domain. Further, workshops on the global perspective in agriculture, highlighting opportunities for studying abroad and exposing participants to international practices in agriculture were also conducted by the centre. Workshops on specific open access tools like Zotero for reference management and SPSS for statistical analysis cater to the practical needs of students and researchers, providing them with essential skills for their academic pursuits.

The Workshop on Interviewing Essentials stands out as a step-by-step guide to success, helping participants prepare for interviews and enhance their communication skills. Beyond academic pursuits, CETL extends its reach into career-oriented activities with an outreach programme on Start-up as a key career option for students. This program aimed to broaden the horizons of students, encouraging them to consider entrepreneurship as a viable career path along with necessary support from the government.



Collaboration is a key theme in the activities of CETL. The collaborative training program on video production techniques with MANAGE, Hyderabad brought together participants to learn and apply video production skills. This collaborative approach reflects CETL's commitment to experiential learning and the idea that collaboration enhances the learning experiences for sustainable improvement. In the realm of on-going activities, the Workshop on Introduction to Statistical Package for Social Sciences (SPSS) signifies the centre's commitment to providing practical skills in statistical analysis—a vital component of research in academic disciplines. The Centre of Excellence in Teaching and Learning at Bihar Agricultural University, Sabour, evolves as a dynamic hub for the continuous improvement of teaching and learning experiences at the university. Through its multidisciplinary approach, focus on teacher education, and commitment to collaboration, CETL is shaping a future-ready generation of students, research scholars, and educators of the university and elsewhere. The on-going activities and workshops conducted by CETL showcase its adaptability and responsiveness to the evolving needs of the academic community, positioning it as a catalyst for positive change in the field of education and research.



Scientists Trained at International Research Institution



Bihar Agricultural University is actively engaging in collaborations with international research institutions to provide valuable insights into research and agricultural development in the state. This initiative aims to build an exceptional platform for university scientists, facilitating expansion and enhancement of quality agricultural research. As part of this endeavor, team members of scientists were supported to visit institutions such as the International Rice Research Institute (IRRI) in the Philippines and the International Maize and Wheat Improvement Center (CIMMYT) in Mexico under the supervision of the Climate Resilient Agriculture (CRA) program in Bihar.

Visit at IRRI, Phillippines

The eight-day learning cum exposure visit to IRRI, Philippines, led by Director of Research, Dr A K Singh, and Dr R K Sohane, Director of Extension and Education, aimed to provide an enriching learning experience for ten scientists. The team included Dr SP Singh, Dr Mankesh Kumar, Dr Shweta Sambhavi, Dr Suborna Roy Chaudhury, Dr Tamoghna Shah, Dr Dharmendra Kumar Verma, Dr Vinod Kumar, and Dr Mukesh Kumar. The objectives of the visit were to gain insights into IRRI's current and future research initiatives under the Climate Resilient Agriculture (CRA) program and understand the latest developments and emerging trends in rice research, especially in addressing challenges under changing climate conditions. The visit laid a strong foundation for long-term



collaboration and knowledge sharing, contributing to the development of climate-resilient agriculture in the region.

Visit at CIMMYT, Mexico



The international course-cum-training program on "Innovation in Agri-food Systems through the Hub Model" held at CIMMYT HQ in Texcoco, Mexico, from October 10 to October 27, 2023, was a significant endeavor for Bihar Agricultural University. The six-member team, comprising Dr Sanjay Kumar, Dr Sunil Kumar, Dr Sareeta Nahakpam, Dr Sweta Sinha, Dr Sudhir Kumar, and Dr Mithilesh Kumar Ray, aimed to understand and introduce the Hub Model to Bihar's local capacities. Throughout the program, the team delved into various Hub models at CIMMYT, engaging with experts and learning from progressive farmers. They discovered that these hubs play a crucial role in enhancing global food security by utilizing local resources. These hubs not only foster economic development among farmers but also improve labor and natural resource efficiency, thereby strengthening Agri-food system resilience. The insights gained from contrasting agro-ecological-based Agri-food systems and hub activities highlighted the potential to complement existing programs like CRA in Bihar. The similarities between food system innovation hubs and CRA structures offer opportunities to tackle present



challenges effectively. Moreover, these hubs can attract investments in resilient food systems through collaborations with corporations, impact investors, and government agencies. This can lead to supply chain innovations and the expansion of food companies into low- and middle-income countries.

Participants expressed keen interest in adopting the Hub Model in Bihar to enhance natural resource management, improve agricultural produce quality, and boost economic returns for farmers. Overall, this program has laid the groundwork for potential transformative changes in Bihar's agriculture sector.

Visit at ILRI, Ethiopia

The experience-sharing visit to the International Livestock Research Institute (ILRI) in Addis Ababa, Ethiopia, from November 1 to November 7, 2023, was a significant opportunity for the group of Agriculture Scientists to explore recent research and innovations in livestock and digital agriculture. The delegation, comprising 11 Agricultural Scientists from various institutions including Bihar Agricultural University, Sabour, Dr. Rajendra Prasad Central Agricultural University, Pusa, Samastipur, KVK Kaimur, KVK Buxur, and CIMMYT India, was led by Dr Anil Kumar Singh, Director of Research at BAU, Sabour, along with Dr Feza Ahmad, Dr Shambhu Prasad, and Kumari Rajani. The visit aimed to gain insights into ILRI's work, including the Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA), Integrated National Ag-data hub, climate information services, Agriculture Advisories, real-time forecasts, fodder and feed innovations, inclusive small ruminant innovations, and climate-smart landscapes. The sprawling campus of ILRI impressed with its state-of-the-art facilities and picturesque landscapes, reflecting a commitment to creating a harmonious space for learning.





ILRI's mission to enhance livestock's role in food security and poverty alleviation in Africa and Asia is evident through its global cooperation efforts, co-hosted by the governments of Kenya and Ethiopia. Moreover, the institute's dedication to cutting-edge research and digitalization of agriculture is demonstrated through collaborations with the Ethiopian government and private industries.

The visit to the International Livestock Research Institute (ILRI) provided a valuable opportunity for interaction with experts and gaining insights into both climatic and non-climatic challenges facing African agriculture. Discussions centered on ILRI's initiatives in climate-smart agriculture and climate education to address the climate crisis. Additionally, visits to Green Agro Solutions Pvt. Ltd. and the Ethiopian Meteorology Institute offered practical insights into digital platforms for smallholder farmers and weather/climate monitoring and forecasting, respectively.

Exploring Addis Ababa enriched the experience with its blend of history, culture, and modern development. Landmarks like the National Museum of Ethiopia, showcasing the famous fossil "Lucy," provided a deeper understanding of the region's rich heritage.

Overall, the visit unveiled avenues for enhancing Bihar's agriculture through digitalization, empowering smallholder farmers with technology and grassroots partnerships. Digital agriculture holds significant promise in Bihar, offering opportunities to boost productivity, manage resources better, and improve socioeconomic conditions for farmers. Efforts to enhance digital literacy among stakeholders will be crucial for leveraging digital platforms effectively.

This international exposure opportunity aims to foster competency among university scientists and encourage the application of acquired knowledge to drive research and agricultural development in Bihar. It emphasizes the importance of leveraging global expertise for positive transformation and innovation in the state's agriculture sector.



Scientists Nationwide from NARS Trained at the University's through CAFT in ICT Centre

Promoting innovation in agricultural technology and disseminating knowledge is vital for sector growth. The Indian Council of Agricultural Research (ICAR) prioritizes updating the skills of teachers, researchers, and extension specialists. Through Summer-Winter Schools (SWS) and short courses, along with the Centre for Advanced Faculty Training (CAFT), ICAR sponsors programs to address deficiencies in contemporary and future agriculture. Dr DR Singh, Hon'ble Vice Chancellor of Bihar Agricultural University, Sabour inaugurated ICAR sponsored 21 days CAFT training in gracious presence Dr Arvind Choubey, Director, IIIT, Bhagalpur and Dr R K Jat, Senior Agronomist, BISA, Pusa, Samastipur as guest of honour. On this occasion, all the Directors, Dean and Registrar of the university along with Chairmen of different departments and public relations officer, Dr Rajesh Kumar participated. This CAFT training programme started in 30th January and continued to 19th February. The Vice-Chancellor said that Bihar Agricultural University has been a pioneer among agricultural universities across the country in the field of agricultural extension through ICT. He directed the scientists to work through ICT to bring prosperity in the lives of small and marginal farmers. Dr Choubey told that IIIT, Bhagalpur in collaboration with BAU, Sabour is developing Mobile App for insect and disease management of major crops of Bihar, the uniqueness of this App is voice support to farmers. Dr RK Sohane welcomes all the guests and in welcome address he told that university is organizing CAFT training since 2018, and also informed to trained around 150 scientists, however the training was truncated during COVID pandemic. This particular CAFT course is specially designed to provide specialized learning to the scientists working in agricultural universities and ICAR institutions on smart farming solutions, market linkages, venture planning, new technologies in agriculture, start-ups, leadership, and management aspects. The training program is attended by 28 participants from 11 states (Assam, Bihar, Haryana, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Telangana, and Uttar Pradesh) across India. Dr Aditya Sinha and Dr CK Panda, Assistant Professor, Department of Extension Education are the Course Coordinators of the CAFT program. The chief guest of valedictory programme was Dr VB Patel, ADG (Horticulture), ICAR, New Delhi. The programme was chaired by Dr DR Singh, Hon'ble Vice-Chancellor of the University. Dr VB Patel highly appreciated the activities of the university and he also told that the ICAR considered that BAU, CAFT centre is one of the best in the country. He also hoped that the participants will apply the knowledge for the



farming communities. Hon'ble Vice-Chancellor, Dr DR Singh congratulated all the participants for successfully completing the training programme. He also told that the university will contact the participant regularly for updating them on use of ICT in Agriculture. He also advised the participants to give a brief presentation before their authority whatever they learnt from this training. He also told the trainees to use the ICT enable tools for the technology transfer for the farmers and also develop capacity of the students of their institutions. Dr RK Sohane course director and Director of Extension Education in his speech told that scientists of the university and also guest resources persons from India and abroad delivered lectures in this training programme. Certificates were distributed among the participants. Participants gave their feedback and highly appreciated the university for the fooding, lodging and logistic support.



“Advancing agricultural innovation through ICT is vital for sectoral growth. ICAR's CAFT training equips scientists with smart farming and leadership skills. BAU's ICT excellence underscores the application of knowledge for farmers' welfare.”
Dr VB Patel, ADG (Horticulture), ICAR, New Delhi



various other subjects. This holistic approach acknowledges the diverse interests and aspirations of the farming community, fostering a culture of continuous learning and personal development. The open and free access model ensures that all members of the farming community, regardless of their economic background, can benefit from the resources available in the library. This democratization of knowledge aligns with university's commitment to making education and information accessible to all. The Farmers' Library serves as a community focal point, promoting social interaction and knowledge exchange among farmers. It encourages a collaborative learning environment where farmers can share their experiences and learn from one another. The library's physical presence at the community center reinforces its role as a communal space, strengthening the bonds within the farming community. The establishment of the Farmers' Library by the university in Banka signifies a remarkable step towards empowering the farming community with knowledge and information. By addressing a broad spectrum of topics, the library goes beyond traditional agricultural boundaries, reflecting a holistic understanding of the needs of the rural population. This initiative stands as a beacon of progress, embodying the university's dedication to the welfare and development of the farming community in Bihar.



"Cultivating knowledge at the Farmers' Library in Banka isn't confined to agriculture fields alone. It's a transformative initiative fostering financial acumen, health awareness, and continuous learning. Our commitment is to sow the seeds of education, breaking down economic barriers for the agricultural community."

Dr D R Singh, Vice Chancellor



"The Farmers' Library is more than just an agricultural repository; it's a hub of inclusive learning, spanning literature, art, and diverse agricultural subjects."

Dr R K Sohane, DEE



University Branded Product Experiences Surging Demand

The Bihar Agricultural University has pioneered the development of several unique and noteworthy products, including honey production, makhana cultivation, mushroom cultivation, a biofertilizer unit, and banana saplings produced from the plant tissue culture laboratory.

Honey Production: Renowned in the region, BAU-branded honey stands out for its exceptional taste, keeping quality, nutritional benefits, reasonable pricing, and health advantages. Experiencing a surge in demand, the honey production unit successfully produces 10 to 15 quintals of honey annually for the past 11 years. The demand is largely attributed to the strong branding of BAU honey. The university's apiculture unit conducts regular training programs to educate beekeepers on the latest practices, research, and advancements, fostering improved honey production. It is recommended to invest in attractive and informative packaging, differentiating BAU honey in the market, and develop a robust brand identity to cultivate customer loyalty.

Makhana Production: Bihar is a major Makhana producer in the country, and BAU has played a pivotal role by developing the Sabour Makhana 1 variety and obtaining a Geographical Indication (GI) for Makhana, namely Mithila Makhana. To meet the increasing demand, strategies include expanding cultivation areas, optimizing planting techniques, ensuring a reliable supply chain, and exploring diverse Makhana varieties to cater to consumer preferences. The university has established a strong brand identity for Makhana products. Effective marketing strategies are essential to create awareness, emphasizing the unique qualities and health benefits of Makhana. Strengthening distribution networks by collaborating with distributors, retailers, and online platforms is crucial. Obtaining relevant certifications for quality, organic, or sustainable practices can build consumer trust and open up new markets.

Biofertilizers: In response to environmental concerns, BAU Sabour has actively embraced biological sustainability. Scientists have developed three biofertilizers—Sabour Rhizo, Sabour Phosphobacterin, and Sabour Nitro Fix—and one biopesticide, Sabour Trichoderma-1, effective in managing soil-borne fungal diseases, especially at higher temperatures. This initiative reflects BAU's commitment to sustainable agricultural practices, contributing to both environmental conservation and enhanced crop yields.

The surge in demand for Agriculture University-branded products can be



attributed to several factors, reflecting the evolving trends in consumer behavior, such as the brand trust and credibility associated with University, perceived as a trusted and credible institution in the field of agriculture, leading consumers to trust products carrying the university's branding, and the potential quality assurance perceived in products associated with the university, as it is known for its research and development in agricultural practices, making consumers believe that these products have been developed or endorsed based on sound scientific principles. Overall, the surge in demand for university-branded products reflects a broader trend of consumers seeking meaningful connections and experiences in their choice of merchandise. The combination of brand loyalty, community building, and the evolving landscape of education contributes to the popularity and increased demand for these products.





Sawal Jawab: Sorting Farmers' Queries from the University Studio



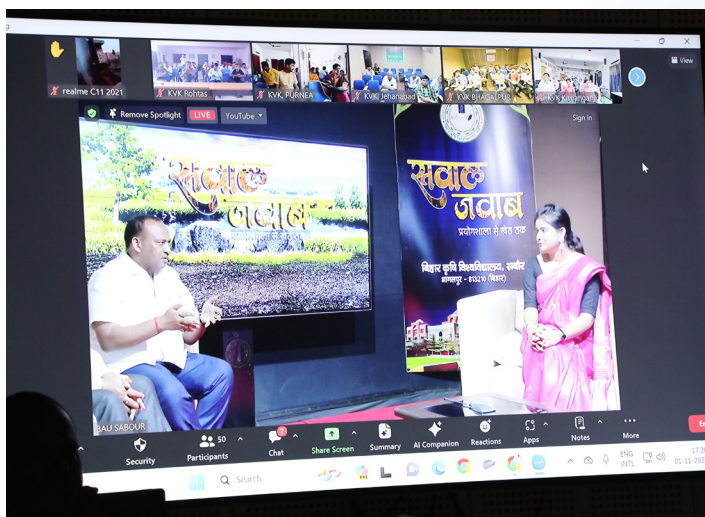
The inception of the concept of Sawal Jawab is a brainchild of Dr DR Singh, Vice Chancellor of the University. Sawal Jawab (from laboratory to field) is a forum where the farmers have a live one to one session with a team of experts pertaining to any problem related to farming under the sun. Under the direction of the honorable Vice Chancellor, this excellent programme of Sawal Jawab has been conceived by the media centre, under Directorate of Extension Education. This programme is being telecast live on You Tube channel bausabour on first Saturday of every month at 03.30 to 04.30 pm. Sawal Jawab (from laboratory to field) will prove to be a tryst with destiny as not only the farmers of the state but farmers from entire country will be able to connect with our agriculture scientists. In this programme, a schedule is to prepared on the subject related to agriculture a month in advance and the subject will be discusses in detail (talk show) with the scientist. Apart from this, questions related to the problems of the farmers will also be asked. Farmers can also ask their questions through chat or comment, which will be answered during programme itself. This programme will help the farmers/extension worker to learn farming techniques at home, understand and share the developments in farming more closely and will also help the farmers, extension worker to expand and explore his skill, potential and knowledge.

Hon'ble Agriculture Minister, Government of Bihar, Shri Kumar Sarvjeet inaugurated the Sawal Jawab programme dedicated to farmers at Bihar Agricultural University, Sabour. Farmers from all over the state joined this programme through



the university's YouTube channel and video conferencing. It is enthusing to reveal that above 1k farmers joined this programme and participated in this very interactive programme and also requested the topics in which they wanted expert's advice through their chat and comment. This programme will continue to answer farmers' questions on the first Saturday of every month. While replying to the farmers in today's program on the theme of crop residue management, the Hon'ble Agriculture Minister emphasized on the importance of smelting the crop residue instead of burning them. He also discussed the ill effects of crop residue burning and made the farmers aware of the fact that punitive action will be taken by the government for those farmers who will continue burning crop residues. At the same time, Hon'ble Vice-Chancellor of the university, Dr DR Singh under whose guidance this programme has been launched emphasized on the importance of transfer of technology from laboratory to the field and this programme will act as a link with the same objective. Sawal Jawab will prove as a robust ICT based extension tool, through which scientific knowledge and advisory can be delivered at the right time to the farmers standing at the last mile.

This innovative idea of Sawal Jawab will provide information on various issues like package of practices of various field crops, vegetable crops, ornamentals, medicinal plants, soil health, organic farming, livestock & poultry farming enabling the far-flung farmers to make right decision about irrigation, livestock management and various plant protection measures to be taken at right time to optimize their resources and get maximum yield.



Community Radio Station: Medium to Reaching the Un-reached



Bihar Agricultural University launched its first Community Radio Station at Krishi Vigyan Kendra in Barh, Patna, on May 17, 2011, broadcasting on the 91.2 FM radio band. The station delivers tailored content covering agriculture, health, hygiene, food security, livelihoods, and social issues to meet the specific interests and needs of the local audience. Operating in the local dialect for better comprehension, it broadcasts two hours of programming daily, including segments like Krishak Manch, Mahila Jagat, Lok Rang, and Bal Manch.

These community radio stations serve as effective platforms for exchanging crucial agricultural information, weather updates, market trends, and best practices. They also facilitate direct interaction between farmers and agricultural experts, promoting the timely dissemination of expert guidance and advice. With a focus on localized content and





language, these stations ensure accessibility and relevance to the rural population. Adding another feather to its cap, Bihar Agricultural University established the Community Radio station "90.8 FM Green" at its Sabour Campus in August 2019. This initiative is a crucial part of BAU Sabour's broader ICT-based Extension Model, aimed at enhancing outreach and knowledge dissemination. With around three lakh listeners, including two lakhs via radio frequency and one lakh through mobile applications and digital platforms, CRS Green broadcasts prime-time programs in Hindi and Angika, covering agricultural advice, youth careers, and health over 12 hours. Winning the National Community Radio Award in 2023 was a significant milestone for 90.8 FM Green, recognized for its focus on farming knowledge, educational quality, and community enrichment through nutrition guidance. The "Radio Revision" program, initiated on March 20, 2023, aims to boost students' academic performance and improve access to agricultural education. Conceived by Dr DR Singh, the Hon'ble Vice-Chancellor, this innovative initiative serves as a valuable resource for undergraduate students, aiding in exam preparation and overall academic achievement. In the broader extension approach, community radio stations have been pivotal, leveraging information and communication technology to connect agricultural experts, extension services, and rural communities. The inauguration of the third station, "Third Buds," at KVK Manpur Gaya on September 30, 2023, operating at 89.6 MHz, aims to provide swift information to farmers and promote a positive community environment. Inauguration of Community Radio Station at KVK, Manpur, Gaya.

The inauguration of the Community Radio Station at KVK Manpur, Gaya marks a significant step in enhancing rural development and empowerment. Broadcasting agriculture-related content, weather updates, market prices, and folk songs for

four hours daily in Hindi and Magahi, the station contributes to agricultural knowledge dissemination and community enrichment. This integration of community radio stations into the broader ICT-based Extension Model underscores their crucial role in supporting sustainable agriculture, education, and socio-economic development. Plans to establish additional stations at KVK Katihar further demonstrate the commitment to creating a positive impact across different segments of society, harnessing the power of the airwaves to drive grassroots-level change.



JAL JEEVAN HARIYALI: A Visionary Approach to Climate Resilient Agriculture



JAL-JEEVAN-HARIYALI Mission (JJHM) is an ambitious multi stakeholder programme with the objective of climate sustenance, conservation and rejuvenation of water bodies and to keep water pollution free, maintaining level of Ground water, ensuring adequate water availability, climate resilient agriculture, energy conservation etc. and promoting climate awareness among the masses. The JAL-JEEVAN-HARIYALI Mission is being implemented in coordination with various departments and the rural development department has been designated as the nodal department. This has been established to kick off time bound and mission mode accelerated implementation of 11 target interventions that involves identification and rejuvenation of all public conventional water storage structures, construction of check dams and other water harvesting structures in small rivers / drains and water storage in the hilly area, Creation of new water sources and taking/delivering of water from the surplus river area to water deficit areas, construction of rain water harvesting structures in the buildings, creation of nurseries and dense plantation of trees, Promoting the usage of alternative cropping, drip irrigation, organic farming and other new techniques along with the Promotion of the usage of solar energy and encouraging conservation of energy. JAL-JEEVAN-HARIYALI Mission offers a great opportunity to citizen of India to recommit and strive to our path towards more sustainable future, as promised by its logo: Water, Life and Greenery, only then will be Prosperity. For targeted and time bound delivery and monitoring of specific outcomes. The JJH Mission components were carefully designed to maintain the ecological balance.



Agriculture is one of the highly sensitive and vulnerable sectors to climate change. Events such as floods and drought, as well as long-term changes in climatic conditions such as rainfall and temperature can lead to reductions in yields and shifts in cropping patterns in the region. Besides affecting crops and cropping patterns, climate change also has potential to alter insect population dynamics. This could result in the emergence of new pests, the transformation of minor crop pests into major ones. Due to climate change, small and marginal farmers will be particularly affected by declining yield trends, the emergence of new pests and diseases, as well as the reduction in resource efficiency. As a result of climate change, small and marginal farmers will be particularly affected. It is well known that the large majority of farmers in India, particularly in Bihar are small and marginal. It is estimated that more than 84% of the farmers in the Bihar operate small and marginal holdings. Further, the state exhibits large diversity in climate change vulnerability. For instance, the southern part of the state is largely dependent on rainfed farming with limited water availability and occurrence of frequent droughts. In contrast, the northern part of the state is a water excess region and experiences flood and excessive moisture conditions after the receding of floods. In order to mitigate the impact of climate change on agriculture, it is necessary to develop a longterm strategy. Keeping this need in mind, the Bihar government has decided to promote climate resilient agriculture in the state. Climate-resilient agriculture is a multi-pronged approach to transforming and reorienting agricultural development under the new realisms of climate change. It may be defined as “agriculture that sustainably increases productivity, enhances resilience (adaptation), reduces/removes GHGs (mitigation) where possible, and enhances national food security and development goals”. Climate resilient agriculture aims at transforming the current systems and has a wider perspective of developing eco-friendly sustainable food production systems.

The Climate Resilient Agriculture Program is a Government of Bihar funded collaborative project. CRA in Bihar was conceptualized in 2016 after Shri Nitish Kumar, the Hon’ble Chief Minister of Bihar, visited the Borlaug Institute for South Asia (BISA), Pusa, Samastipur. The project is being implemented in network mode since 2019 by the Bihar Agricultural University (BAU), Sabour; Dr. Rajendra Prasad Central Agricultural University (Dr RPCAU), Pusa Samastipur; ICAR-Research Complex for Eastern Region (ICAR-RCER), Patna and Borlaug Institute for South Asia (BISA), Pusa. After realizing the benefits of the project in the eight districts of the state on a pilot basis, the project was upscaled in all the 38 districts of Bihar during 2020 for 5 years. In each district, climate resilient technologies were



demonstrated in five villages. The project was implemented in 38 districts by Krishi Vigyan Kendra with a goal to develop and introduce evidence-based response strategies for addressing the principal national food security and development goals". Climate resilient agriculture aims at transforming the current systems and has a wider perspective of developing eco-friendly sustainable food production systems. This program think about new futuristic cropping system (crop cycle) relevant to needs of resource poor farmers that can address climatic risks is being developed, validated, and deployed through a community-led approach to make farming relevant, remunerative, and stable.

One of the uniqueness of this project lies in cropping system-based management that increases cropping intensity, climate resilience, productivity and profitability which attracts attention at national and international level. As part of the capacity building component of the project, about 2.0 lakh farmers have been trained and made aware of CRA technologies. This has been done through technical trainings and travelling seminars. The project is regularly monitored through a steering committee, chaired by the Secretary, Agriculture, Govt of Bihar. CIMMYT, IRRI and CIP are the international knowledge partners who provide support in capacity development to strengthen the CRA Program.



Alleviating Judicial Burden Through Alternative Dispute Resolution Systems



In India, Alternative Dispute Resolution (ADR) refers to methods or processes of resolving disputes outside of traditional courtroom litigation. The ADR system provides parties involved in a dispute with alternatives that are more flexible, cost-effective, and time-efficient compared to the formal judicial process. The primary methods of ADR in India include mediation, arbitration, conciliation, and negotiation.

- ❖ **Mediation:** Mediation involves a neutral third party, the mediator, who assists the disputing parties in reaching a mutually acceptable resolution.
- ❖ **Arbitration:** Arbitration is a more formal process where parties agree to submit their dispute to one or more arbitrators. These arbitrators, acting as private judges, review evidence, hear arguments, and render a decision, which is binding on the parties.
- ❖ **Conciliation:** Similar to mediation, conciliation involves a neutral third party, the conciliator, who assists in resolving disputes. However, in conciliation, the conciliator plays a more active role by suggesting solutions and proposing settlement terms.
- ❖ **Negotiation:** Negotiation is the simplest form of ADR where parties directly engage with each other to discuss the issues and attempt to reach a settlement. It's an informal and voluntary process where the parties try to find a mutually acceptable solution without involving a third party.

The Indian legal system recognizes the importance of ADR methods and encourages their use to ease the burden on courts, reduce backlog, and provide more accessible and quicker dispute resolution mechanisms. Bihar Agricultural



University, Sabour hosted first of its kind "Alternative Dispute Resolution Camp" among all state universities, led by Dr DR Singh, the Hon'ble Vice-Chancellor of the university. A specialized committee chose 15 cases, and 11 people came forward to present their issues. Each petitioner got a fair chance to share their concerns during the session. After listening to all sides, the committee discussed the cases thoroughly. Following these discussions, nine petitioners agreed to settle matters outside of the High Court in Patna. They willingly provided consent letters, showing their readiness to withdraw their pending cases.

This event marked a significant step for BAU, showcasing its commitment to resolving disputes amicably and avoiding prolonged legal battles. Key points regarding the ADR system in BAU:

Focus on Mediation: Emphasizes mediation as a primary ADR method, encouraging dialogue and compromise for conflict resolution

Reduction of Case Load: Aims to reduce the burden on the court system by resolving grievances and disputes among employees outside formal legal proceedings.

This commendable effort is expected to serve as a milestone in alleviating the burden of pending legal cases on the university. Moreover, this endeavour highlights the positive vision of the Hon'ble Vice-Chancellor fostering a harmonious atmosphere among office bearers. This significant endeavour is expected to serve as a milestone by reducing the backlog of pending legal cases burdening the university. Additionally, it exemplifies the Hon'ble Vice-Chancellor's positive foresight, emphasizing the creation of a harmonious atmosphere among office bearers and commitment to fostering a cohesive and collaborative environment within the administrative body.

The University's Vice Chancellor's Dynamic Leadership Leaves a Significant Impact on Bihar Krishi Roadmap Inaugurated by the President of India



The university played a crucial role as a key partner in the development of the Bihar Krishi Roadmap, which was officially unveiled by the President of India. Under the adept leadership of Dr DR Singh, the esteemed Vice-Chancellor of the university, the assigned component of the roadmap was meticulously crafted. The road map will further pave the way for tackling key challenges like low yields and antiquated techniques, envisioning a future of sustainable prosperity for Bihar's agriculture. Vice-Chancellor, has demonstrated exceptional leadership by actively engaging with stakeholders, from farmers to policymakers, ensuring diverse perspectives shape the roadmap. This inclusive approach integrates practical insights from those directly involved in agriculture, enhancing its effectiveness and relevance.

The Vice-Chancellor's dedication to stakeholder engagement has cultivated a sense of shared responsibility for the Krishi Road Map's success. Regular farmer consultations ensure the roadmap is both ambitious and practical. Embracing technology is central to the strategy, with a focus on precision agriculture, drone monitoring, and data analytics for informed decision-making, aligning with modern practices. Their commitment to research and innovation is evident,



fostering a culture of inquiry at BAU, Sabour. The roadmap integrates cutting-edge advancements in crop science and sustainable agriculture, demonstrating a commitment to staying ahead in agricultural knowledge.

The Krishi Road Map 2024 underscores environmental sustainability with a focus on organic farming, water conservation, and biodiversity preservation. This emphasis not only addresses immediate concerns but also fosters a resilient agricultural ecosystem. Recognizing the significance of human capital, the roadmap integrates capacity-building initiatives such as training programs and workshops to empower farmers with necessary skills. This holistic approach ensures effective communication and implementation of the roadmap's benefits at the grassroots level. Robust monitoring and evaluation mechanisms ensure its effectiveness, with regular progress assessments and adaptive management strategies. Tangible impacts include increased adoption of new practices, improved yields, and a shift towards sustainable agriculture. The Krishi Road Map 2024 serves as a catalyst for positive change, transforming agricultural practices in the region with its practical approach and policy support. By integrating technology, prioritizing research, and engaging stakeholders, Vice Chancellor has positioned BAU Sabour as a leader in agricultural development. The roadmap's tangible impact is evident, with positive changes across the agricultural landscape. As the journey continues, his commitment to improvement and adaptability will be crucial for navigating agriculture's complex dynamics, ensuring a prosperous future for Bihar. The Bihar Krishi Roadmap isn't just a plan; it's a transformative journey for improving agriculture for all in Bihar.

The Alumni Meet at the University Unveils Numerous Prospective Developments



Established in 2019, the Bihar Agricultural University Alumni Association Sabour (BAUAAS), aims to promote interaction and networking among its alumni and strengthen the image of BAU, Sabour at national & international level. The alumni of BAU, Sabour, after completing their education at the institute, reached new heights, be it as academicians, researchers, entrepreneurs, social cause champions, bureaucrats etc. After achieving the desired success in their fields, it's time that our alumni realize the notion of giving back to the Alma mater, through their experience and wisdom. Alumni of BAU Sabour are working at different positions in different govt and private organizations like govt administration, Agriculture department, banking sectors, police administrations and different agricultural institutes and NGOs as well.

Bihar agricultural university organised the 2nd Alumni Meet from 23-24th April, 2023 under the guidance and supervision of our honourable Vice Chancellor Dr DR Singh. The aim to organize the alumni meet is to rejuvenate strengthen the bonds between former students and the present generation students. The occasion has been able to rope in the ex-students, present students, guardians and teachers into one cord of affection. Over 300 alumni participated in the event and were emotional after reaching their *Alma mater* after many decades and they



felt immense pleasure to meet and address the students and eminent alumni on the auspicious occasion of Alumni Meet. The alumni were thrilled to be back in the campus again and refresh old memories to see the college, class room, hostel, library, canteen, Horticulture garden and form new relationship and interact with new students. This Alumni Meet enabled the alumni to notice the changes and developments happened in the college campus then and now. This college is one of the oldest agriculture colleges of British time and if we talk about today, our graduates and postgraduate have widely spread throughout the globe, showing their excellence and outstanding performances. The alumni experts provided their expertise to the University students and faculty in offline or online mode.

During 2nd alumni meet General Election was organised and elected members has been notified for the constitution of Executive Council of the association. On this occasion, a web portal for alumni was also inaugurated by Vice-Chancellor Dr Singh. At the Alumni Conference, an evening cultural programme was organised in which the alumnus, the present students of the university and the children of the campus participated and off course the alumnus dominated the cultural evening. The spirit of paying back to Alma mater is taking pace and many other groups are converging steadily to provide different distinct handholding to their mother institution. It is owning the *Alma mater* to realign the connect with noble intentions and to support the institute in all possible ways including advisory, counselling, mobilising resources, providing hand-holding to the present generation in all possible manner. By instilling a sense of pride, camaraderie, and responsibility among its members, the association aims to significantly contribute to the ongoing success of BAU, Sabour, creating a legacy that inspires future generations.

Our Alumni provided the support to institution by facilitating the institutes, students whenever they need. We feel honour by their participation as guest lecture or key note speaker in different seminar and symposia to motivate and encourage the students by convincing their journey from BAC, Sabour to present position.

One of our Alumni, Dr Rewti Raman Singh Ex, Professor, Horticulture BAU, Sabour delivered lecture in technical session and participated in Valedictory function and prize distribution ceremony of the two days “Mango Diversity Show, 2023” which was organised by the Department of Horticulture (Fruit & Fruit Technology), BAU, Sabour on 12-13 June, 2023. Shri SP Sharma, Deputy director, Agronomy (Rtd.), Govt. of Bihar and alumni Shri Guna Nand Gami, Alumni, BAU, Sabour and General Manager, Union Bank of India graced the different sessions of Environment protection and Awareness week organised in the university from 5th – 11th June, 2023. Two water coolers have also been provided from Union



Bank of India to the Girls Hostel of BAU, Sabour. Such fruitful events are needed across the colleges of the university to create strong and formal alumni networks.



Unveiling Students' Growing Passion for Cultural Programme, Sports & Games

Bihar Agricultural University has organised various cultural programme, sports and Games events on regular basis. The university has embarked on a commendable amalgamation of sports enthusiast and cultural passion of the students by organising those events. Recognizing the need for a holistic approach to student development, these events seek to cultivate physical and mental fitness, leadership, and a sense of community among students from various colleges affiliated with the University. Encouraging students to participate in sports, and games,



cultural competition can offer healthy competitive nature, skill development, teamwork, and a sense of camaraderie among the students. Discovering and fostering students' increasing enthusiasm for cultural programs,

sports, and games can greatly contribute to their holistic development and overall well-being. As the sports & cultural meet becomes a recurring fixture, Bihar Agricultural University envisions a vibrant campus atmosphere, enhancing the student's experience and solidifying the role of sports and recreation in the university's ethos for years to come. University trained the students to participate in Inter-



University National Youth Festival- Agri-Unifest as well as Inter-University Sports Tournament to reinforce core organizational values and team morale among them. So, those sports & cultural meets are nowadays becoming the integral part of their student's life for building up of cultural habits, sportsman spirit and for



growing up the good ethics and confidence level in their personal life.

In the Year 2023, Honorable Vice Chancellor, Dr. DR Singh inaugurated the Annual Inter-college Sports and Cultural Meet as the chief

guest, he appreciated the kind of initiative taken to organize the events under the leadership of Director Students' welfare Dr Feza Ahmed. There were in total 14 events of cultural events besides 14 events of sports. The cultural events namely rangoli, painting, clay modeling, cartooning, skit, mono acting, group dance, solo song, Group song, Patriotic song etc. apart from various the sports events like volleyball, kabaddi, badminton, table tennis, basketball and athletics i.e. 100m run, 400m run, relay race, jump (long), throw (short-put), javelins were conducted. More than 480 students have participated in the three days' function. In the beginning of the programme, the team managers along with their students of respective colleges performed in the Rally and March-Past ceremony for representing their colleges. All the events were successfully conducted with the help respective event manager for different session under the direct supervision of Director Students' Welfare, BAU, Sabour. Winners were declared immediately after the corresponding events are over by the respected jury member and the prizes were handed out by our chief guests during the closing ceremony.

All India Inter University Cultural Meet -2023

All India Inter University Cultural Meet 2023 was organised and hosted by Bihar Agricultural University, Sabour which took place on 25th August 2023 at BAU, Sabour. Students from total eight (8) institutions e.g. i) Sanjay Gandhi Institute of Dairy Technology, Patna ii) College of Agricultural Engineering Ara, Bhojpur iii) Madan Bharti Agriculture College, Sahara iv) DKAC, Kishanganj v) IGKV, Raipur, Chattishgarh, vi) College of Agricultural Biotechnology, Sabour, Bihar, vii) Bihar Agricultural College, Sabour Viii) Bihar Agricultural University, Sabour participated in various group events like Dance, Song, Drama, Mime etc and solo events such as Dance, Song, Mono Acting etc. Students from under graduate and



post graduate degree programme actively participated in this cultural program-cum-competition.

Sports Activities

University uninterruptedly organises various outdoor as well as Indoor Games



activities for the students throughout the year. Incorporate a robust physical exercise though games and sports in their extracurricular activities that not only focuses on skill development but also educates students on the importance of physical fitness, teamwork, and sportsmanship. The events like badminton, table tennis, basketball, volleyball, high jump, long jump, run, javelin throw are regularly practiced and performed by the students. At Bihar Agricultural University the Games & Sports Society plays an important role in the conduction of various activities that leads to overall development of students and also encourages their participation in various programmes at National Level.

The meet was organised by Bihar Agricultural University. A total of four Indoor events were organised namely, badminton, table tennis, chess and carrom. Different games has been conducted at semi final and final level wise to nominate the winner team and 1st, 2nd runner up team.



University is continuously



assisting the students' growing passion for games and sports, promoting physical



fitness, teamwork, and a lifelong appreciation for healthy activities. As the sports & cultural meet becomes a recurring fixture, Bihar Agricultural University envisions a vibrant campus atmosphere, enhancing the student's experience and solidifying the role of sports and recreation in the university's ethos for years to come. University permits the students to participate in Inter-University National Youth Festival- Agri-Unifest as well as Inter-University Sports Tournament to reinforce core organizational values and team morale among them. So, those sports & cultural meets are nowadays becoming the integral part of their student's life for building up of cultural habits, sportsman spirit and for growing up the good ethics and confidence level in their personal life.



DBT Funded Mega Project 'Biotech Kisan Hub' Foster Economic Growth Among Farmers of Aspirational Districts



Bihar Agricultural University, Sabour received Biotech KISHAN Hub Project from Department of Biotechnology Ministry of Science and Technology Government of India in initial phase in the year 2018 for popularising Grass pea (*Lathyrus sativus*) cultivation in Tal area of Bihar (Patna, Lakhisarai) and Gaya. After reviewing the performance of the Biotech KISHN Hub Project at BAU, Sabour, the Department of Biotechnology is pleased to expand its activity in six aspirational districts -Araria, Aurangabad, Banka, Katihar, Khagaria and Purnea and for promotion, production and marketing of activities-enterprises-Beekeeping, Tissue Culture Banana, Goatry, Makhana, Mushroom cultivation. A total of Rs. 88.39 lakh and Rs. 288 Lakh was sanction in two phases respectively. The project was implemented by Directorate of Extension Education, BAU, Sabour through its KVKs located in aforesaid districts. Noteworthy accomplishments of the project include the successful demonstration of Tissue Culture Banana (G-9) on 100 acres of farmers' land and Sabour Makhana 1 on 150 hectares of farmers' fields. The project has actively promoted scientific goat farming among 300 farm families. Additionally, it has showcased scientific beekeeping in 30 households and mushroom cultivation in 125 households. Farmers have been provided with essential inputs such as seeds, suckers, fertilizers, goats, feed, vaccines, plant protection materials, mushroom spawn, and other relevant items. The introduction of Tissue Culture Banana (G-9) has resulted in a significant reduction in Panama wilt disease at the



farmers' field level. Market linkages with private companies like Mithila Makhana & Organic Satwa have been established for the better marketing of makhana. The yield of makhana has increased by 53.31%, with an average net profit of Rs. 3,00,217/ha. The project has also focused on goat farming, with attention given to farm women. The mortality rate of goats has decreased, and farmers are obtaining better prices. Goat farmers are adopting practices such as using UMBB block, green fodder, and regular vaccination and deworming, resulting in a B:C ratio of 4.47:1. Scientific mushroom cultivation has gained popularity among farm women, and market linkages have been created with local hotels and markets. Farmers have diversified into producing value-added products like mushroom biscuits, mushroom powder, mushroom pickle, mushroom dry soup, and mushroom pizza. Honey produced by farmers is processed in the university honey processing unit and sold in the market with the project's branding. The B:C ratio of beekeeping is 2.46:1. The project has facilitated the establishment of nine Farmer Producer Organizations and thirty-four Self Help Groups. Eighty-two return migrant laborers have been effectively connected with the project. Seventy training programs have been conducted for farmers, and sixty-five interfaces have been organized among scientists, industry representatives, and farmers to enhance the marketing of produce. The project has garnered attention from local newspapers and the State Department of Agriculture, leading to the scaling up of makhana and mushroom cultivation among other farmers. The Hub Facilitator of the project is Dr. R K Sohane, DEE BAU Sabour and Dr Chandan Kumar Panda is Principal Investigator.





BAU Sabour has Developed Bold Seeded Cleistogamous Pigeonpea Line BRA 303-1

Maintaining genetic purity in pigeonpea has long been a challenge due to its outcrossing nature, recognized by breeders since 1908. Natural cross-pollination by flying insects causes significant intra-row variability, complicating trait maintenance in cultivars, breeding lines, and germplasm. Despite a century of efforts, a permanent, economically viable solution remains elusive. Breeders have used physical isolations or insect-proof nets, but



these may not be sustainable. Recently, success came with developing pigeonpea lines featuring floral modification (cleistogamous flowers) promoting selfing over outcrossing, though this was linked to shriveled seed shape. In 2013, a Pigeonpea breeder at Bihar Agricultural University began breeding for a pigeonpea plant with cleistogamous flowers and bold seed traits. Crosses were made between a cleistogamous pigeonpea line and an African line, resulting in the development of BRA-303-1. This line exhibits cleistogamy and bold seed size (Seed index 15-16 g.). BRA-303-1's delayed flower opening promotes selfing, ensuring genetic stability. Overcoming the previous limitation of shriveled seed shape, BRA-303-1's combination of cleistogamy and bold seed size is a notable achievement, offering potential advantages in yield and crop performance. The development of BRA-303-1 marks a significant advancement in tackling a century-old challenge in pigeonpea breeding, highlighting the persistence and innovation of plant breeders in finding genetic solutions to complex issues. BRA-303-1 holds promise as a valuable resource for pigeonpea cultivation, offering a genetically pure and economically viable option for seed production. Continued research and breeding efforts, coupled with modern biotechnological tools, can further improve pigeonpea cultivars, addressing challenges related to genetic purity and seed production while enhancing desirable traits.

SABAGRIs Under Directorate of Research Boosts Up Start-ups

SABAGRIs was established in 2019 by Bihar Agricultural University, Sabour, with the aim of catalyzing innovation and driving economic growth by supporting early-stage startups. In the year 2023, SABAGRIs incubated 18 startups across various domains of agriculture and allied fields, including food processing, Agri-tech, agricultural inputs, agricultural supply chain, fisheries, millets, poultry, precision farming, and others. Additionally, it also provided funding to 11 startups, amounting to a total funding value of Rupees 211 lakhs.

SABAGRIs, as a forward-thinking incubator, collaborates with various stakeholders



in the startup ecosystem to foster sustainable and positive impact. Taking this initiative to the next level, the Department of Industries, Government of Bihar, has approved the establishment of an E-Cell to nurture the startup ecosystem in Bhagalpur district. A formal Memorandum of Understanding (MoU) was signed between the Bihar Startup Fund Trust (BSFT), the Department of Industries, Government of Bihar, and Bihar Agricultural University, Sabour. The MoU was signed by Dr. Anil Kumar Singh, Director of Research at BAU, Sabour, and Shri Pankaj Dixit, Director of the Department of Industries, Government of Bihar, in the esteemed presence of the Secretary, DPIIT, Shri Rajesh Kumar Singh, IAS; Development Commissioner.

In this connection SABAGRIs has signed another MoU with a Chandragupt Institute of Management – Business Incubation & Innovation Foundation (CIMP-BIIF), Patna. This MoU will boost necessary infrastructure & resources for startups; capacity building - by workshops, diploma & certificate courses, research program,



specialized training session, MDP, EDP, and FDP; resource pool creation to cater to the diverse need of startups; ease of access to funding for startups; providing required technical support; facilitate networking opportunity; and managing IPR effectively for startups.

SABAGRIs is not only working in Bihar and neighbouring state to boost the socio-economic status but also leaving its footprint in away from its geography



by representing in different prestigious events. Two of our Incubated startups (Stepupify Labs Private Limited & OG Hemp Private Limited) have been selected to participate in G-20 Agri Conference held at Hyderabad.

SABAGRIs have participated in Innovation challenge 2023 at Gyan Bhawan Patna. The event was witnessed by more than 200 startups, and innovators; from across PAN India and 17 Incubators from Bihar state.

SABAGRIs, BAU, Sabour have been awarded with Gold on the occasion of



Valedictory programme of CCS-NIAM, Jaipur by Honourable Union Minister of Agriculture Shri Narendra Singh Tomar for promoting Agri-startups and empowering women in Bihar and neighbouring state in the gracious presence of Dr. Vinaylaxmi Nandedla, DG, NIAM; Colonel Rajyavardhan Rathore; Shri Kailash Choudhary, Minister of State MoA&FW, New Delhi; and Dr. Ramesh Mittal, Director, CCS-NIAM.







Establishment of Biocontrol Laboratory

Insect pests represent formidable obstacles, significantly limiting crop yields. The consequential aesthetic damage inflicted by these pests further diminishes the economic value of crops, particularly impacting fruits, vegetables, and ornamental plants. Traditionally, farmers have resorted to the widespread use of chemical pesticides to address pest-related challenges. However, this approach has proven to be detrimental, leading to adverse effects on various environmental aspects such as soil quality, air, water, crop produce, and the population of natural enemies that play a crucial role in pest control. Notably, Bihar Agricultural University (BAU) has been at the forefront of championing sustainable pest management strategies since its inception. Recognizing the need for environmentally friendly and economically viable plant protection methods, BAU has taken a significant step by establishing a state-of-the-art biocontrol laboratory at the Department of Entomology, Bihar Agricultural College, BAU, Sabour, Bhagalpur. This cutting-edge biocontrol laboratory is specifically designed to cater to the needs of small and marginal farmers in Bihar. Its primary objective is to supply a diverse range of biocontrol agents and biopesticides, offering an alternative to the conventional reliance on chemical pesticides. Beyond this, the laboratory serves as an exemplary training center, imparting knowledge on mass production methodologies for various beneficial organisms, including insect predators, parasitoids, entomopathogens, and biofungicides. Envisioned as a potential center of excellence in the state of Bihar, this biocontrol facility holds the promise of becoming a hub for the large-scale manufacturing of biocontrol agents. The benefits extend beyond mere pest control, offering small and marginal farmers a more effective and sustainable means of managing crop pests. By enhancing the presence of natural enemies in the field, this laboratory represents a crucial stride towards environmentally conscious and economically feasible agriculture in Bihar.



"The state-of-the-art biocontrol laboratory offers sustainable alternatives for small farmers. Envisioned as a center of excellence, it pioneers large-scale manufacturing of biocontrol agents, advancing effective and environmentally conscious crop pest management."

Dr DR Singh, Hon'ble Vice Chancellor



Photo Gallery





















































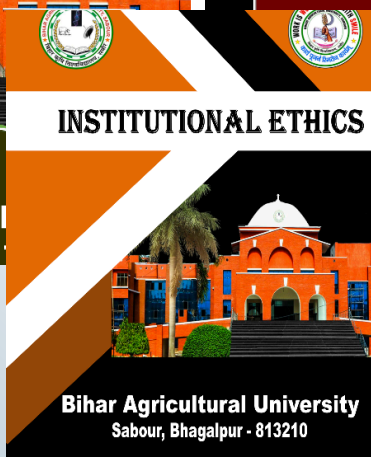
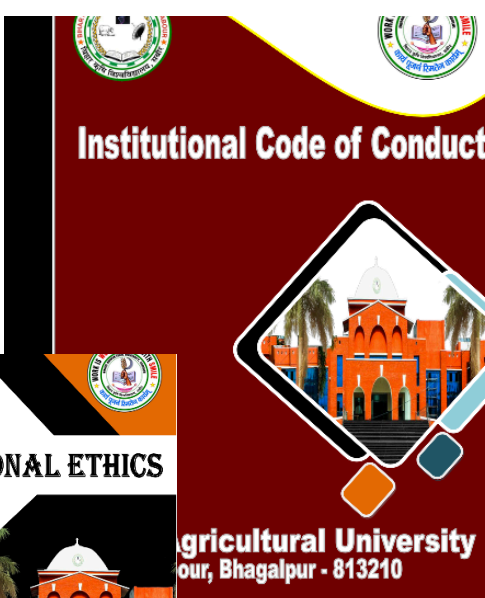
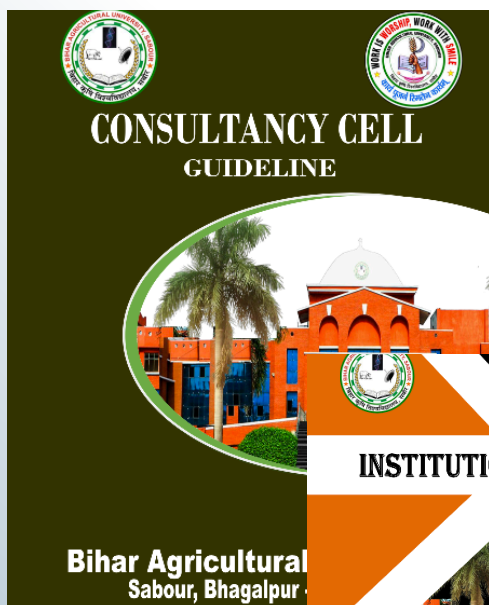
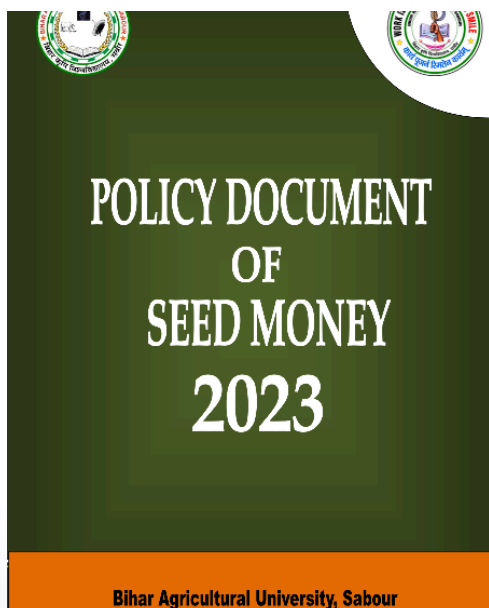






Eminent scientists delivered lectures





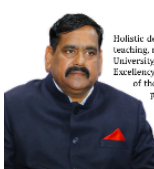


e-News Letter



From the Desk of the Vice-Chancellor

Holistic development of farming community is the outcome of pragmatic interpretation of teaching, research, extension and training by the agricultural university. Bihar Agricultural University, Sabour is committed for these, since its establishment. The VC met with His Excellency Governor of Bihar-as-Chancellor, BAU and briefed him about various activities of the university/scientist headed SARRS-SDT funded and SRRS-BAD funded research projects. President and Vice-Chancellor, Bihar Agricultural University, Sabour, Bihar, India, Programme, Academic Council Meeting, Republic Day celebration, Annual Meet of BAC Sabour, QRT visit on maize and several training programmes have been organized. The university will work on the theme/line **‘Work is Worship and Worship with Smiles’**. I call upon all the teachers, scientists, students and staff of the University to join the noble endeavour, dedication and support for accelerated development of the university.



Dear Friends

We are presenting before you the 235th issue of the e-Newsletter. This issue consists of information on Research, Education, Extension and Training program conducted and organized by the University during the month of January. Kindly share important investigation and observations for making Happening at BAU more meaningful and popular among the readers. Your inputs for the e-Newsletter must reach us at least one day in advance from the date of issue. If you want it to circulate it to other colleagues, kindly provide their email address to us, so that they may get the Happening at BAU.

Focus of the University

- ◆ BAU Welcomes Its New Vice-Chancellor
- ◆ ICAR Sponsored CAFT Programme
- ◆ Scientists Earn SERB-DST & BRNS-DAE Funded Projects
- ◆ Ms Chandni Cracked ARS Examination
- ◆ BAU Organised Seminars and Workshop on Climate Change and INM



From the Desk of the Vice-Chancellor

Holistic development of farming community is the outcome of pragmatic contemplation of teaching research, extension and training by the agricultural university. Bihar Agricultural University, Sabour is committed for these, since its establishment. Hon'ble CM Inaugurates Forestry College of Bihar Agricultural University, Hon'ble CM chaired in Kisan Samagam for finalization of fourth agricultural road map. Regional Farmers Fair, Senior officers meeting and several national seminars and training programme have been organized for benefit of stakeholders. The university will work on the theme line "Work is Worship; Work with smile". Each and every student, faculty, staff, students and staff of the University to put upon their endeavour, dedication and support for accelerated development of the university.



Dear Friends,

We are presenting before you the 236th issue of the e-Newsletter. This issue consists of information on Research, Education, Extension and Training program conducted and organized by the University during the month of January. Kindly share important investigation and observations for making Happening at BAU more meaningful and popular among the readers. Your inputs for the e-Newsletter must reach us at least one day in advance from the date of issue. If you want it to circulate it to other colleagues, kindly provide their email address to us, so that they may get the Happening at BAU.

Focus of the University

- ◆ Hon'ble CM Inaugurates Forestry College
- ◆ Hon'ble Agriculture Minister, Bihar Visited BAU
- ◆ The Vice-Chancellor Reunites in an Introductory Meeting
- ◆ Sabour Agri Incubators of BAU Received Gold Prize
- ◆ University Completes CFT Programme Successfully



From the Desk of the Vice-Chancellor

The holistic development of the farming community is the outcome of the pragmatic extrapolation of teaching, research, extension and training by the agricultural university. Bihar Agricultural University, Sabour has been committed to these since its establishment. The university secures its first patent on a nutrient manufacturing process. Unique initiatives such as Radio Kevsion and Farmers' Library have been taken to address the needs of the farming community. The extension and upgradation of the farming community, Several national seminars and training programmes have been organised for the benefit of stakeholders. The university will work under the theme "Work is Worship and Work with Smile" call upon all the teachers, scientists, students and staff of the university to put their individual dedication and support for the accelerated development of the university.



Dear Friends

We are presenting before you the 237th issue of the e-Newsletter. This issue consists of information on Research, Education, Extension and Training program conducted and organized by the University during the month of March. Kindly share important investigation and observations for making Happening at BAU more meaningful and popular among the readers. Your inputs for the e-Newsletter must reach us at least one day in advance from the date of issue. If you want it to circulate it to other colleagues, kindly provide their email address to us, so that they may get the Happening at BAU.

Focus of the University

- ◆ VC Greets the Chancellor of BAU
- ◆ The University Secures its First Patent
- ◆ The University Bagged with First Prize on Bihar Diwas
- ◆ Intra-college Games Organised
- ◆ VC Inaugurates Farmers' Library



From the Desk of the Vice-Chancellor

The holistic development of the farm community is the outcome of the pragmatic extrapolation of teaching, research, extension and training by the agricultural university. Bihar Agricultural University, Sabour has been committed to these since its establishment. University celebrated its 7th convocation ceremony, in which the Government conferred 1000 B.A. and B.Sc. Agriculture degrees. The university conferred 1000 B.A. and B.Sc. Agriculture degrees to the students. Brainstorming session on reviewing research activities and redesigning research priorities in biotechnology, workshop on "Quality Production, Packaging and Branding of Bhagapuri Zardalu", the 2nd BAI Alumni Meet and Rajgarh Mela have been successfully organized. University adopted "Yodyajna". The university will work under the theme "Wise is Worship and Work with Smile". I call upon all the staff and students of the university to put their endeavour, dedication and support for the accelerated development of the university.



Dear Friends,

We are presenting before you the 239th issue of the e-Newsletter. This issue consists of information on Research Education, Extension and Training program conducted and organized by the University during the month of April. Kindly share important investigation and observations for making Happening at BAU more meaningful and popular among the readers. Your inputs for the e-Newsletter must reach us at least one day in advance from the date of issue. If you want it to circulate it to other colleagues, kindly provide their email address to us, so that they may get the Happening at BAU.

-Team Happening

Focus of the University

- ◆ 7th Convocation Ceremony
- ◆ 2nd BAU Alumni Meet
- ◆ Kasturba Gandhi Balika Vidyalaya Adopted
- ◆ Workshop on "Quality Production, Packaging and Branding Bhagalpuri Zardalu"
- ◆ BAU Rojgar Mela Organized



Happening at BAU

Issue 243 Education | Research | Extension | Training September, 2023

From the Desk of the Vice-Chancellor

The university will work under the theme

"Work is Worship Work with Smile"

The holistic development of the farming community is the outcome of the pragmatic extrapolation of teaching, research, extension and training by the agricultural university. Bihar Agricultural University, Sabour has been committed to these since its establishment. The University organized Research, Extension and Seed Councils whereupon it releases two varieties and two technologies. The university also proud upon getting its third patent on Superabsorbent Polymer. It is also to note that a CBS has been established at KVK Gaya which was inaugurated by the Hon'ble Agriculture Minister of this state. The university will work under the theme "Work is Worship Work with Smile". The Vice-Chancellor calls upon all the teachers, scientists, students and staff of the university to put forth their endeavour, dedication and support for the accelerated development of the university.



Dear Friends,

We are presenting before you the 243rd issue of the e-Newsletter. This issue consists of information on Research, Education, Extension and Training program conducted and organized by the University during the month of September. Kindly share important investigation and observations for making Happening at BAU more meaningful and popular among the readers. Your inputs for the e-Newsletter must reach us at least one day in advance from the date of issue. If you want it to circulate it in other colleges, kindly provide their email address to us, so that they may get the Happening at BAU.

- Team Happening

Focus of the University

- Bihar Farmers Conferred with "Plant Genome Saviour Awards"
- University Pious on its 13th Patent
- Research, Extension and Seed Councils Organised University Released Two Varieties and Technologies
- Community Radio Station Established at KVK Gaya
- Workshop on statistical analysis and biocoded learning

Happening at BAU

Issue 244 Education | Research | Extension | Training October, 2023



From the Desk of the Vice-Chancellor

The holistic development of the farming community is the outcome of the pragmatic extrapolation of teaching, research, extension and training by the agricultural university. Bihar Agricultural University, Sabour has been committed to these since its establishment. The University presented Jarda mango sapling to the President of India, ten scientists visited IRRI Philippines, important decisions taken in the Senior Officers' Meeting, it is a proud moment for the university for bagging first international patent, DDC Agriculture extension visited KVKs of BAU and a film of the university named "Water for Tomorrow" has been selected for screening at national level. The Agriculture Minister of India associated with farmers for addressing farming issues. The university will work under the theme "Work is Worship, Work with Smile". The Vice-Chancellor calls upon all the teachers, scientists, students and staff of the university to put forth their endeavour, dedication and support for the accelerated development of the university.

Dear Friends,

We are presenting before you the 244th issue of the e-Newsletter. This issue consists of information on Research, Education, Extension and Training program conducted and organized by the University during the month of October. Kindly share important investigation and observations for making Happening at BAU more meaningful and popular among the readers. Your inputs for the e-Newsletter must reach us at least one day in advance from the date of issue. If you want it to circulate it to other colleges, kindly provide their email address to us, so that they may get the Happening at BAU.

- Team Happening

Focus of the University

- University Presented Jarda Mango Sapling for Rashtriya Kisan Mela
- IRRI Researchers Exchanged Experiences for BAU Scientists
- Senior Officers' Meeting
- Agriculture Minister Interacts with Farmers
- BAU Bagged an International Patent
- DDC-Agriculture Extension Visited KVKs

www.youtube.com/bausabour

Happening at BAU

Issue 245 Education | Research | Extension | Training November, 2023



From the Desk of the Vice-Chancellor

The holistic development of the farming community is the outcome of the pragmatic extrapolation of teaching, research, extension and training by the agricultural university. Bihar Agricultural University, Sabour has been committed to these since its establishment. The Vice-Chancellor address a courtesy meet with the Governor-cum-Chancellor, Shri Rajendra Vishwanath Acharya, and elaborate the progress of the university. An international course cum training programme on "Transition in Agro-Job Systems through the Hub Model", CIMMYT HQ, Texcoco, Mexico and International Livestock Research Institute (ILRI) in Addis Ababa, Ethiopia by group of scientists were conducted. MoU Signed between BAU, Sabour and AARI, Jorhat, Assam for cooperation in Horticulture and Plantation crops like Tea during 10th Indian Horticulture Congress-2023. Two days national workshop on "Bihar Farmer, Agripreneur, Start-up, Industry and Investors Meet 2023 on Nutri-Cereals" was successfully organised. The university will work under the theme "Work is Worship and Work with Smile". The Vice-Chancellor calls upon all the teachers, scientists, students and staff of the university to put forth their endeavour, dedication and support for the accelerated.

Dear Friends,

We are presenting before you the 245th issue of the e-Newsletter. This issue consists of information on Research, Education, Extension and Training program conducted and organized by the University during the month of November. Kindly share important investigation and observations for making Happening at BAU more meaningful and popular among the readers. Your inputs for the e-Newsletter must reach us at least one day in advance from the date of issue. If you want it to circulate it to other colleges, kindly provide their email address to us, so that they may get the Happening at BAU.

- Team Happening

Focus of the University

- VCs Courtesy Meet with Hon'ble Chancellor
- University Signed MoU with AARI Jorhat for Horticulture and Plantation Crops
- Agriculture Minister Reviewed the Activities of the University
- BAU Glorifies with Its Second German Patent
- BAU Scientist Visited CIMMYT & ILRI
- Unlocking the Potential of Nutri-Cereals

www.youtube.com/bausabour

Happening at BAU

Issue 246 Education | Research | Extension | Training December, 2023



From the Desk of the Vice-Chancellor

The holistic development of the farming community is the outcome of the pragmatic extrapolation of teaching, research, extension and training by the agricultural university. Bihar Agricultural University, Sabour has been committed to these since its establishment. The Vice-Chancellor address a courtesy meet with the Governor-cum-Chancellor, Shri Rajendra Vishwanath Acharya, and elaborate the progress of the university. Generic MoU exchanged between BAU, Sabour and Kansas State University and MoU between BAU and ICAR-Indian Institute of Oilseeds Research, Hyderabad Signed. University Successfully Completed Inter-college Sports and Cultural Meet 2023. World Soil Day was celebrated at various unit of the university involving teachers, students and farmers. Germplasm of early maturing wheat has been identified whereas bholi seeded chitraganona pigeonpea line has also been identified by researchers. The university will work under the theme "Work is Worship and Work with Smile". The Vice-Chancellor calls upon all the teachers, scientists, students and staff of the university to put forth their endeavour, dedication and support for the accelerated.

Dear Friends,

We are presenting before you the 246th issue of the e-Newsletter. This issue consists of information on Research, Education, Extension and Training program conducted and organized by the University during the month of December. Kindly share important investigation and observations for making Happening at BAU more meaningful and popular among the readers. Your inputs for the e-Newsletter must reach us at least one day in advance from the date of issue. If you want it to circulate it to other colleges, kindly provide their email address to us, so that they may get the Happening at BAU.

- Team Happening

Focus of the University

- MoU between BAU and ICAR-Indian Institute of Oilseeds Research
- Sports and Cultural Meet 2023
- BAU Represents in "Viksit Bharat@2047"
- Germplasm of Early Maturing Wheat Identified at the University
- World Soil Day Celebration at University

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अनारकली, बिहार की पवित्र संको में मुजफ्फर की कुलपति डॉ. डीआर सिंह को अल्पकाल में वैधानिक सभाकार समिति को 20वीं बैठक दे। इसमें कुलपति ने कृषि विभाग केन्द्र के कार्यों को समझाने की साथ ही प्रतिस्पर्धात्मक के वैधानिकों, कृषि से प्रेरितता व बेरोजगार युवाओं स्वरोजगार हेतु आला मुर्दा व तैयारी कार्यक्रम करने का सु दिष्ट। इस दौरान प्रगतिशील कि अमित चौधरी ने बीज व की उपकरणभूत में देश लोग की कमी, इस पर कुलपति ने जिला परिषदकारी को इस संबंध में



नई बात, संवाददाता।

सबौर। बिहार कृषि विश्वविद्यालय में 25वीं शोध परिषद की दो दिवसीय बैठक कुलपति डॉक्टर डीआर सिंह की अध्यक्षता में बुधवार को आयोजित की गई। शोध के प्रारंभ में बीएयू के डॉक्टर चौके सिंह ने विश्वविद्यालय में चल रहे प्रमुख शोध गतिविधियों की विस्तृत जानकारी दी। उन्होंने बताया कि विभिन्न



कार्यक्रम का उद्घाटन करते कुलपति डॉ. डीआर सिंह व अन्य।

विकास एवं विपणन शामिल हैं।

भारत सरकार से नौने उर्वरक पर प्रथम पेटेंट मिलना बहुत बड़ी उपलब्धि है।

गया है। कुलपति अमरेश कुमार

हूए डोन तकनीक के मानक तय करने की जरूरत बताई। इसके साथ ही उन्होंने प्राकृतिक खेती को वैज्ञानिक तरीके से अपनाने के लिए वैज्ञानिक डाटाबेस तैयार करने की बात कही। कुलपति ने बताया कि बिहार सरकार विश्वविद्यालय प्रतिवर्ष 5 करोड़ की धन राशि आवंटित करेगी। शोध परिषद की बैठक में मुख्य अतिथि के तौर पर डाक्टर देवेंद्र सिंह, प्रो

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भागल
मृदा
खिल
से मुला
परिसर
खाना
को लेभ
ने कहा
चिड़िब

किसानों को कृषि तकनीक से लैस किया जाये: कृषि आयुक्त



सबौर कृषि दिग्गि में आयोजित कार्यक्रम में वीसी व विशेषज्ञ।

□ बीएयू सबौर में 24वीं प्रसार शिक्षा परिषद की हुई बैठक करीब संवाददाता, भागलपुर

देश के ब्याज की मांग को देखते हुए किसानों को कृषि तकनीक से लैस किये जाने की आवश्यकता है। किसान कृषि तकनीकों से लैस होंगे, तो किसान उन्नत किसान के रूप में को उभरू पायेंगे।

24वीं में शुरू करने के कृषि कर्मी, उन्होंने केंद्र अच्छा तरह और अ

बिहार कृषि विश्वविद्यालय के एनसीसी छात्र छात्राओं का प्रशिक्षण संपन्न



ज उत को

मकका उत्पादन वाले जिले में एघेनॉल प्लांट लगाने के लिए सुझाव मेजाने को कहा कृषि आयुक्त ने मकका उत्पादन वाले जिलों में एघेनॉल प्लांट लगाने का सुझाव भेजने को कहा।

बीएयू सबौर में एकीकृत प्रोजेक्ट पर कृषि वैज्ञानिकों ने की विस्तृत समीक्षा अर्थशास्त्र का किसी भी कृषि तकनीकी के अंगीकार में बड़ा योगदान: डॉ. फेरैला

राष्ट्रपति डॉ. डी आर सिंह ने केवीके ने चल रहे बीज उत्पादन कार्यक्रमों को बाहिकी से देखा

स्टूडेंट्स विद्यालय की छात्राओं में कृषि ज्ञान अंकुरित कर रहा बीएयू

प्रभात खबर

भागलपुर, 18/05/2023 (गुरुवार) 12:00 बजे

आज की खबरें

प्रधानमंत्री नरेंद्र मोदी का जिला दौरा

बीज उत्पादन कार्यक्रम में भाग लेने वाले

कृषि विभाग के अधिकारियों का

कृषि विभाग के अधिकारियों का

कृषि विभाग के अधिकारियों का

भागलपुर की तरह 20 जिलों में फैलेगी जर्दालू आम की खुशबू

कृषि विभाग के अधिकारियों का

कृषि विभाग के अधिकारियों का

कृषि विभाग के अधिकारियों का

विभिन्न फसलों के 7500 किटल बीज उत्पादन कार्यक्रमों को बाहिकी से देखा

कृषि विभाग के अधिकारियों का

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स्टूडेंट्स विद्यालय की छात्राओं में कृषि ज्ञान अंकुरित कर रहा बीएयू

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कृषि विभाग के अधिकारियों का

कृषि विभाग के अधिकारियों का



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