



RPCAU-ANNUAL REPORT 2023-24



Dr. Rajendra Prasad Central Agricultural University
Pusa, Samastipur, Bihar - 848 125



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(April, 2023-March, 2024)

2023-24



Dr. Rajendra Prasad Central Agricultural University
Pusa, Samastipur, Bihar - 848 125

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Contents

Sl. No.	Chapter	Page No.
	Foreword	i-ii
	Executive Summary	iii-iv
1.	About the University	1-5
1.1	Heritage of Pusa	1
1.2	University's Vision, Mission & Mandate	2
1.3	Organogram	3
1.4	Organizational Structure	4
1.5	Constituent Colleges	4-5
2.	Academic and Students Welfare Activities	6-16
2.1	Admission of students in various degree programme	6
2.2	New Courses Inducted	6
2.3	Student Performance in Various Competitive Examinations	6
2.4	Second Deeksharambh	7
2.5	Activities under Directorate of Education	7-9
2.6	Academic Training/Workshop/Webinar /Seminar/Brain-Storming Sessions Organized	9-13
2.7	Academic Competitions Organized Among Students	13
2.8	Educational Tour	13-14
2.9	Sports Activities	14-15
2.10	Cultural Activities	15
2.11	Student's Achievements	15-16
2.12	NSS Activities	16
3.	Research Achievements	17-39
3.1	Students Research Achievements	17-25
3.2	Faculty Research Achievements	25-39
4.	Extension Activities	40-45
4.1	Kisan Mela-2024	40
4.2	Pashudhan Kalyan Mela	40-41
4.3	Mahila Kisan Mela	41
4.4	Capacity Development/Training Programme conducted by KVKs	41-42
4.5	Overall Extension Activities	42
4.6	Extension Activities under Scheduled Caste Sub Plan	42-43
4.7	Activities under NICRA Project	43-44
4.8	CRA (Climate Resilient Agriculture)	44
4.9	Mass Communication	45
4.10	Capacity Building Programme	45
4.11	Extension Activities	45
5.	Entrepreneurship Development Programme	46-47
6.	University Publication	48-55
6.1	University Publication at Glance	48
6.2	Research Papers	48-55





7.	Awards, Honours and Recognitions	56-58
7.1	Awards and Honours Received by Faculties	56
7.2	Awards and Honours Received by Students	56-58
8.	Human Resource Development	59-69
8.1	Foreign Visit by Faculties	59-60
8.2	Trainings/Workshop/Conference Organized by Departments/Colleges/Faculty Members	60-63
8.3	Participation of Faculties in Training	64
8.4	Participation of Faculties in Conference/Symposia/Seminar	64-69
9.	MoU Signed/Collaboration with Other Institute During 2023-24	70
10.	Research Projects Running under RPCAU, Pusa	71-76
10.1	Externally Funded Projects	71-73
10.2	University Funded Research Projects	73-75
10.3	All India Coordinated Research Projects	76
11.	National/International Day Celebrated	77-78
11.1	Yoga Day	77
11.2	Visitors	77-78
12.	Infrastructure Development	79-81
12.1	Central Facilities and Updation	79-81
12.2	Other Infrastructure Created	81
13.	Our Proud Moments	82-83
13.1	National and International Visitors	84
14.	RPCAU in Media	85-86
15.	Financial Overview	87
	Appendix-I	
	Deans/Directors/Unit Heads of Constituent Colleges of RPCAU, Pusa	88
	Appendix-II	
	Board of Management of RPCAU, Pusa	89-90
	Appendix-III	
	Academic Council of RPCAU, Pusa	91
	Appendix-IV	
	Research Council of RPCAU, Pusa	92
	Appendix-V	
	Extension Education Council of RPCAU, Pusa	92
	Appendix-VI	
	Finance Committee of RPCAU, Pusa	93
	Appendix-VII	
	List of Abbreviations	94-95





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डॉ० पुन्यव्रत सुविमलेन्दु पाण्डेय

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FOREWORD

I am pleased to present the Annual Report for the year 2023-24 of Dr. Rajendra Prasad Central Agricultural University, Pusa - an Institution of National Importance. This year has been marked by significant achievements and milestones across our core areas of academics, research, extension, and institutional development.

A major highlight was the successful organization of our second Deeksharambh program, an innovative month-long foundation course for newly admitted undergraduate students. This unique initiative, aligned with the vision of the National Education Policy 2020, aims to provide a holistic orientation to university life and foster all-round development of our students. **The university's academic programs continued to evolve, with the introduction of a B.Sc. Agriculture (Hons.) program in Natural Farming.** Our commitment to empowering rural communities was evident in initiatives like the 'Namo Drone Didi' program, which trained women in drone piloting for agricultural applications.

We made notable strides in our research endeavors, particularly in crop improvement and intellectual property. I'm proud to report that seven crop varieties developed by our university were released by the State Variety Release Committee (SVRC). Additionally we also made notable strides in the area of intellectual property. I'm proud to report that the university was granted three new

patents this year, A solar powered fish preservation and transportation cart (Patent No. 472593), Mushroom biscuits and preparation thereof (Patent No. 518386) and an energy dense nutritive food with balanced nutritional composition and process for preparation. These patents underscore our commitment to developing innovative, practical solutions for the agricultural sector. Our 14th and 15th Research Council meetings saw the review of ongoing projects and approval of new research programs, including the release of new crop varieties. The university's dedication to cutting-edge agricultural research was further demonstrated through the organization of various national seminars, workshops and conferences on topics ranging from natural farming to geographical indications in honey.

Our extension activities reached new heights with the successful organization of the "Atmanirbhar Krishi Sah Bagbani Vistar Evam Pashudhan Kalyan Mela-2024" and the three-day Kisan Mela-2024 on the theme "From Food Security to Nutritional Security". These events provided valuable platforms for knowledge exchange between farmers, scientists, and policymakers.

I am particularly proud of our institution's improved ranking, **placing 33rd among agricultural universities in the NIRF 2023 rankings.** This recognition reflects the dedication and hard work of our faculty, staff, and students.



As we move forward, we remain committed to our mission of excellence in agricultural education, research, and extension. I express my sincere gratitude to the Hon'ble President of India, Her Excellency Madam Droupadi Murmu Ji, Visitor of University, Shri Shivraj Singh Chouhan Ji Hon'ble Minister of Agriculture and Farmers' Welfare, Shri. Narendra Singh Tomar Ji, Ex-Hon'ble Minister of Agriculture and Farmers' Welfare, Government of India, Shri Arjun Munda Ji, Ex- Hon'ble Minister of Agriculture and Farmers' Welfare.

Shri Ramnath Thakur Ji, Hon'ble Minister of State for Agriculture & Farmers' Welfare, Government of India, Shri Bhagirath Chaudhary Ji, Hon'ble Minister of State for Agriculture & Farmers' Welfare, Government of India, Shri. Kailash Choudhary Ji, Ex- Hon'ble Minister

of State for Agriculture & Farmers' Welfare, Government of India, and Mrs. Sobha Karandlaje Ji, Ex Hon'ble Agriculture and Farmers Welfare, Government of India, and Dr. P. L. Gautam, Hon'ble Chancellor of the University for their unflinching support and guidance. I am highly thankful to Dr. Himanshu Pathak, Secretary, DARE, Ministry of Agriculture & Farmers' Welfare, Government of India for his encouragement and support. I compliment all Deans, Directors, Registrar, Heads of departments, Pls of projects, heads of KVKs, Scientists/ Teachers, and other administrative, technical, and supporting staff of the University for providing valuable information for the report. I also congratulate the University Publication Division for the timely preparation and publication of the Annual Report 2023-24.

Dr. P. S. Pandey
Hon'ble Vice-Chancellor



EXECUTIVE SUMMARY

Dr. Rajendra Prasad Central Agricultural University, Pusa - An institution of national importance has made all-round holistic achievements as depicted in the forthcoming pages of this Annual Report.

In the academic year 2023-24, RPCAU welcomed 541 new students across various programs, demonstrating a continued commitment to academic excellence and growth. Notably, the university has pioneered the introduction of a four-year undergraduate programme, B.Sc. (Hons) in Natural Farming, under the umbrella of PGCA. This programme, with an intake capacity of 20 students, has seen the enrollment of 15 students in its inaugural year. This innovative programme aims to equip students with the knowledge and skills necessary for sustainable agricultural practices, aligning with modern environmental and economic needs.

RPCAU's dedication to fostering academic excellence is further highlighted by the remarkable achievements of its students. A total of 140 students successfully cleared various prestigious examinations, including GATE, NET, JRF, SRF, and IIT-JAM. These accomplishments reflect the high standards of education and the supportive academic environment at RPCAU, preparing students for successful careers and further studies.

RPCAU continues to be a hub of innovative research with a total of 33 All India Coordinated Research Projects (AICRPs), 15 Government of India funded projects, 6 Government of Bihar funded projects, 8 externally funded projects, and 46 university-funded projects currently in progress. These projects cover a wide range of agricultural research areas, contributing significantly to the advancement of knowledge and technology in the

sector. In 2023-24, the university released seven new crop varieties, including: Chickpea: Rajendra Chana-2, Rajendra Chana-3, Lentil: Rajendra Mashoor-1, Maize: Shaktiman-6 (QPMMH-27), Mustard: Rajendra Suflam-1 (RAURD-18-1), Elephant Foot Yam: Rajendra Jimikand-1, Rajendra Kanda-1.

These new varieties are expected to enhance productivity and resilience in different agro-climatic conditions. Additionally, RPCAU developed three new technologies and was awarded two patents during the year, underscoring its role as a leader in agricultural innovation.

On Extension front, of RPCAU has been actively involved in enhancing the knowledge and skills of the farming community. Through its Krishi Vigyan Kendras (KVKs), the university organized 1,745 training programmes for farmers, focusing on modern agricultural practices, sustainable farming, and innovative technologies. These training programmes have been instrumental in empowering farmers with practical knowledge and skills to improve their productivity and livelihoods.

In addition to training programmes, RPCAU conducted 38 kisan melas, which served as platforms for farmers to learn about the latest agricultural advancements, interact with experts, and exchange ideas. The university also conducted 09 On-Farm Trials (OFTs) with 23 participants, and 78 Front Line Demonstrations (FLDs) benefiting 1,015 farmers. These initiatives have played a crucial role in demonstrating the effectiveness of new technologies and practices in real-world conditions, encouraging their adoption by the farming community.

RPCAU has also been proactive in providing advisory services to farmers. A total of 419 mobile





agro-advisories were issued, benefiting 6,251 farmers. These advisories covered a range of topics, including crop management, pest control, weather forecasts, and market trends, helping farmers make informed decisions and optimize their agricultural practices.

The commitment to excellence at RPCAU is evident from the recognition received by its faculty and students. In the academic year 2023-24, a total of 15 different awards were conferred upon various members of the university. These awards reflect the

high standards of teaching, research, and service upheld by the university community, and underscore RPCAU's role as a leader in agricultural education and innovation.

This all speaks of our untiring efforts in making this university a hub of scientific and academic innovations of national importance and shaping agricultural road map to make a significant, visible and impactful contribution towards achieving the goal of making country a developed nation by 2047.





1. ABOUT THE UNIVERSITY

1.1 Heritage of Pusa

The history of Pusa is age-old, which has the roots in the Darbhanga Raj of Tirhut Estate wherein 18th century after the victories of the British East India Company in the Battle of Plassey (1757) and the Battle of Buxar (1764) followed by the Treaty of Allahabad (1765), the imperial government acquired the U-shaped land of Pusa near the right bank of the Burhi Gandak River in 1796. Later on East India Company established a stud farm at Poosah (Pusa), led by Lieutenant Major Frazer (Superintendent, 1793-1808) to breed cavalry horses. This endeavour continued until 1874 but was closed due to an epidemic of gland disease. The Bengal government owned a sprawling estate at Pusa, where it had earlier run a model farm from 1875 to 1876. It was subsequently leased out to the British tobacco firms for experiments on tobacco culture from 1877 to 1897 to meet the requirements of UK cigarette factories.

Pusa is a place of pilgrimage for agricultural researchers and academicians in India because it is the place where organized agricultural research and education began in pre-independence India on April 1, 1905, when it was established as the "Imperial Agricultural Research Institute (IARI)". Initially, the "Phipps Laboratory" was constructed after generous donation of £30,000 in 1903 to the Agricultural Research Institute (ARI) by the Mr. Henry Phipps, an American philanthropist. Further, a grant of £110,000 by the colonial government resulted in the development of different infrastructural facilities, including the "Navlakha Building". In 1911, the name of ARI was changed to the "Imperial Institute of Agricultural Research," and in 1919, it was renamed "Imperial Agricultural Research Institute (IARI)." However, a devastating earthquake in January 15, 1934, led to the institute's relocation to Delhi on July 29, 1936, and it acquired its current name, "Indian Agricultural Research Institute (IARI)," after the independence of India in 1947. Since then, this institute has been continuously in the service of India and has made many significant achievements in agriculture, making India a food surplus and nutritionally secure country.



Imperial Agricultural Research Institute, Pusa (Bihar)



Scientists at work in a laboratory at the Agricultural Research Institute, Pusa, Bihar

Hence, unlike general belief that IARI, Pusa Institute in New Delhi is the real Pusa, Pusa at Samastipur, Bihar is the real Pusa wherein 1923, 1st post graduate programme in agricultural education was started and today it's a centenary year of that wonderful prestigious initiation. Since, 1794 Pusa has been epicentre of agricultural and animal husbandry related economic activities in one form or other that can be traced back in many historical documents of that period. Therefore, it can be safely concluded that name of Pusa is not based on the name of Philanthropist Mr. Phipps from United State of America (USA) which is otherwise general perception and belief but it is not true. In fact, historically Pusa was existing long before the generous contribution made by the Henry Phipps of USA and can be found into the "Rigvedas 10th sloka devoted to deity Pooshan" "पूषा गा अन्वेतु नः पूषा रक्षत्वर्वतः। पूषा वाजं सनोतु नः ॥५॥sukt 6.54.5." and also in the 16th sloka of "Eshavaashopnishad" which is one of the reputed embodiment of holy knowledge book.



1.2. University's Vision, Mission & Mandate

Dr. Rajendra Prasad Central Agricultural University, Pusa was established on 7th October, 2016. In its archive, the university owes legacy to state agriculture university, Rajendra Agricultural University, Pusa established in 1970 and earlier to that Agricultural Research Institute and college, Pusa established in 1905. The university extends its jurisdiction and responsibility in the fields of teaching, research and extension in context of agriculture and allied sciences to the whole country with special reference to the State of Bihar. The academic set up of the university comprises of 08 Colleges viz. Tirhut College of Agriculture, PG College of Agriculture, College of Agricultural Engineering, College of Community Science, College of Basic Sciences and Humanities, College of Fisheries and Pt. Deen Dayal Upadhyay College of Horticulture and Forestry, School of Agri Business & Rural Management with work force of 228 scientists. University has network of eight multidisciplinary research centers/institutes and three regional research centres, in addition to six Sugarcane Testing centers attached with six sugar mills. The extension set up of the university comprises of 16 Krishi Vigyan Kendras and Agricultural Technology Information Centre (ATIC) which looks after the transfer of technology activities of the university.

Vision

Advancing professional competency for pursuing excellence in education, research and entrepreneurship in relation to agriculture and allied sectors with ethical values to meet the regional, national and global needs and offering specialized services to the farmers for decent livelihood.

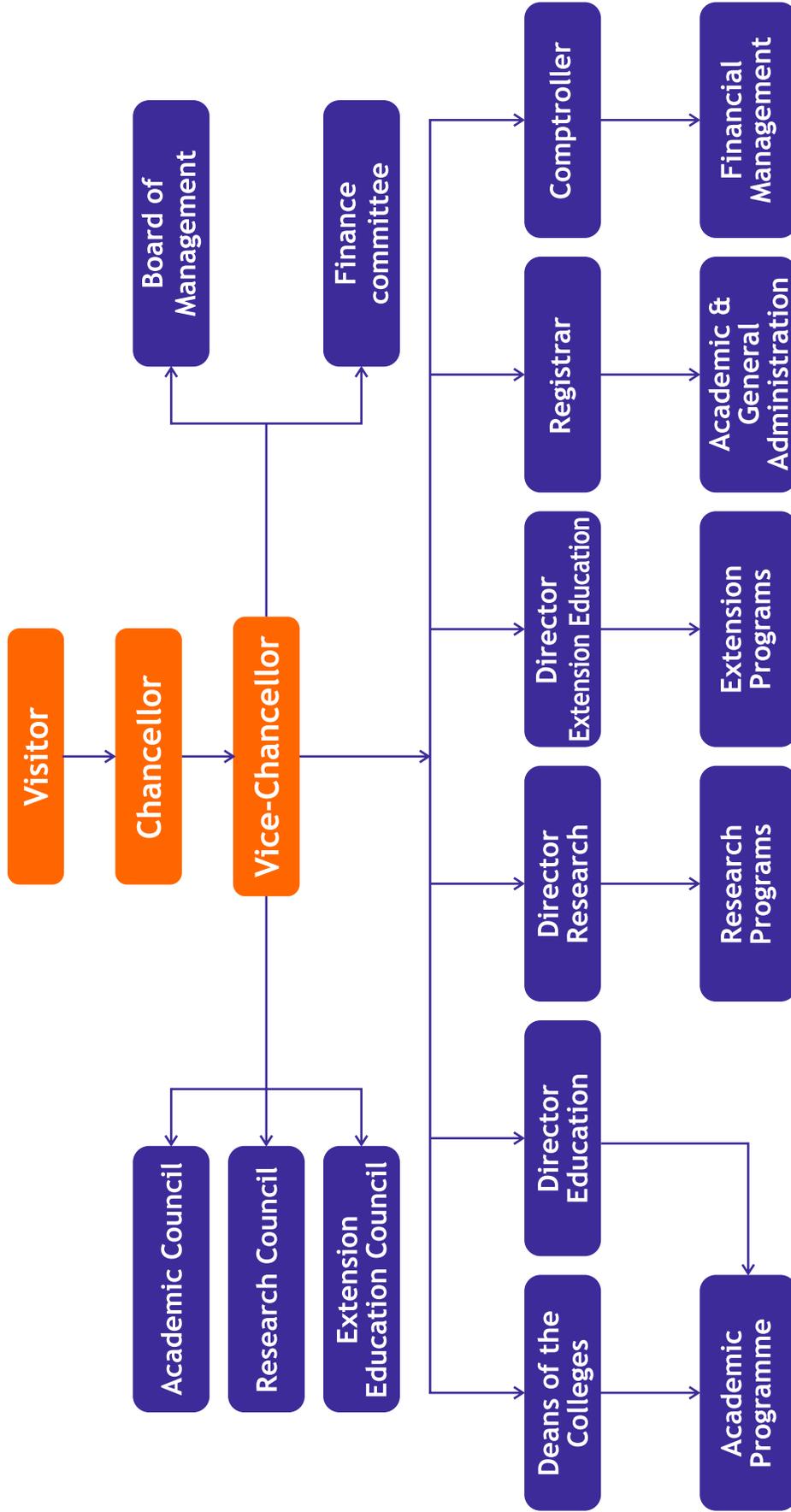
Mission

- Promoting high quality learning environment and creation of integrated approach that develops an appreciation and understanding of the environmental and socio-economic significance of soil-plant-animal-people interface.
- Shaping agricultural stakeholders into self-sustaining mode through innovation centric education, cutting edge research, entrepreneurship/start up skill development and dissemination of appropriate agricultural technology.
- Nurturing national/global needs of achieving sustainable food production and safety while mitigating pressure on agricultural land through advance interventions of research and development.

Mandate

- To provide education in different branches of agriculture and allied sciences.
- To undertake basic, strategic and applied research for developing technologies to enhance productivity and quality of agricultural and animal produce.
- To undertake 'Lab to Land' approach for dissemination of scientific information to farmers.
- To help the state government in supplying breeder seeds for production and multiplication of foundation and certified seeds.
- To provide consultancy services and expertise in the agricultural research and development to the industries, NGOs and others.

1.3. Organogram





1.4. Organizational Structure

Statutory Authorities and officer of the University

The Board of Management, Academic Council, Research Council, Extension Education Council, Finance Committee, Board of Studies and other such authorities as prescribed by the statute are the statutory authority of the university. The statutory officers /authority of the university are the Chancellor, Vice-Chancellor, Director Education, Director Research, Director Extension Education, Deans of the Colleges, Registrar, Comptroller and University Librarian.

University Administration

Visitor : Smt. Droupadi Murmu, Hon’ble President of India, Chancellor : Prof. P.L. Gautam, Vice Chancellor : Dr. P. S. Pandey, Director Education : Dr. U.K. Behera, Director Research : Dr. A.K. Singh, Director Extension Education : Dr. M.S. Kundu, Director Students Welfare : Dr. Ranjan Laik, Registrar : Dr. Mritunjay Kumar, Comptroller : Dr. P.K. Jha and University Librarian : Dr. Rakesh Mani Sharma. The Vice-Chancellor is the principal executive and academic head of the University and ex-officio Chairman of Board of Management, Finance Committee and Academic Council. Board of Management, Finance Committee and Academic Council are the apex bodies, which take decisions on Administrative, Financial and Academic matters.

1.5 Constituent Colleges



Tirhut College of Agriculture, Dholi

Year of Establishment : 1960

Programme offered : B. Sc. (Ag.)

Department : Genetics & Plant Breeding, Agronomy, Soil Science, Horticulture, Entomology, Plant Pathology, Extension Education, Agril. Statistics, Agril. Engineering, Agril Economics.

Providing under graduate students agricultural education for tackling the problems of agriculture and disseminating agricultural knowledge/ technologies.



Post Graduate College of Agriculture

Year of Establishment: 1970

Programme offered:B.Sc. (Hons.) Natural Farming, M.Sc. (Ag.) & Ph.D

Department : Agricultural Economics, Agronomy, Entomology, Extension Education, Forestry, Horticulture, Plant Breeding & Genetics, Plant Pathology & Nematology, Seed science and technology, Soil Science.

To impart education in different branches of agriculture and allied fields and to undertake basic, strategic and applied research for developing technologies to enhance productivity and quality of agricultural and animal produce and helping state government in supplying breeder seeds towards production and multiplication of foundation and certified seeds.



College of Basic Sciences & Humanities

Year of Establishment : 1981

Programme offered : B. Tech., M.Sc. & Ph. D

Department : Agricultural Biotechnology & Molecular Biology, Microbiology, Botany, Plant Physiology & Biochemistry, Basic Science & Language.

To strengthen the teaching and research programme in different disciplines of Basic Sciences and humanities and train graduate and post-graduates students in modern biology with particular reference to Agriculture Biotechnology. Also serve as a repository of national and international scientific information on various aspects of agricultural and animal production.



College of Community Science

Year of Establishment : 1982

Programme offered : B. Sc., M. Sc. & Ph.D

Department : Foods & Nutrition, Family Resource Management, Textile and Apparel Designing, Human Development and Family Studies, Home Science Extension & Communication Management.

To impart quality education at UG & PG level with emphasis on for Rural Awareness Work Experience and Job Training in Foods & Nutrition, Home Science Extension and Communication Management including Seminar and Dissertation / Thesis at Post Graduate level Programmes.



College of Agricultural Engineering & Technology

Year of Establishment : 1983

Programme offered : B. Tech., M. Tech., Ph. D

Department : Farm Machinery and Power Engineering, Soil and Water Engineering, Processing and Food Engineering, Food Technology, Irrigation and Drainage Engineering.

To impart new knowledge among agricultural engineering graduates by engaging in rigor academic curriculum, innovative research and industrial training and produce exemplary researchers and educators through quality education and cutting-edge research in postgraduate programmes. Also to identify the regional and national researchable issues for achieving sustainable food production by undertaking collaborative projects with academia and industry.



College of Fisheries, Dholi

Year of Establishment : 1986

Programme offered : B. F. Sc., M. F. Sc., Ph. D

Department : Aquaculture, Fisheries Resource Management, Aquatic Environment Management, Aquatic Animal Health Management, Fish Processing Technology, Fisheries Engineering, Fisheries Extension, Economics & Statistics.

To develop innovative course materials, lecturers and assignments and also invite various experts regularly as visiting faculty from industries and academic institutions to pace the students knowledge with latest developments in the field of fisheries and aquaculture besides imparting quality education in the said domain.



Pt. Deen Dayal Upadhyay College of Horticulture & Forestry

Year of Establishment : 2018

Programme offered : B. Sc. (Hons.) Horticulture & Forestry

To impart quality education in forestry and horticulture & to undertake basic, strategic and applied research for developing new forestry based technology. To enhance productivity and quality produce on farms, marginal lands, degraded and waste land from tree based systems under different agro-climatic zones of Bihar. Empowering students excel in various national and international level examinations.



School of Agribusiness & Rural Management

Year of Establishment : 2020

Programme offered : MBA (ABM&RM)

Creating professionally trained agri-business and rural managers with an appropriate ethos and values with problem-solving skill sets to efficiently contribute for all the stakeholders involved in agribusiness and rural development sector.



2. ACADEMIC AND STUDENT WELFARE ACTIVITIES

2.1. Admission of students in various degree programme during 2023-24

Degree Programme	Male	Female	Total
UG	172	142	314
PG	114	87	201
Ph.D.	17	09	26
Total			541

Dr. Rajendra Prasad Central Agricultural University (RPCAU), Pusa has enrolled 541 students across undergraduate (UG), postgraduate (PG), and PhD programmes. This diverse intake reflects the university's commitment to academic excellence and inclusivity. Among the admitted students, a notable 238 are female, marking a positive stride towards gender parity and empowerment in agricultural education. This surge in female enrollment underscores RPCAU's dedication to fostering a conducive learning environment for all aspiring scholars. The students of RPCAU are having wide diversity and are representing 27 states of India.

2.2. New Courses Inducted

Admission of first batch of UG students in B.Sc. (Hons.) Natural farming: RPCAU has pioneered in introduction of four years Undergraduate Programme *i.e.* B.Sc. (Hons.) Natural Farming under the umbrella of Post Graduate College of Agriculture with the intake capacity of 20 students in current academic session of 2023-24. At present 15 students have been enrolled. Hon'ble Vice-Chancellor addressed the orientation programme of newly admitted students on 09-01-2024.



2.3 Student Performance in Various Competitive Examinations

Sr. No.	Name of Examination	Name of Colleges							Total
		PDUCH&F	CBS&H	TCA	CoF	C.C.S	CAET	PGCA	
1	ICAR-JRF	10	-	30	5	-	-	-	45
2	ICAR-SRF	-	2	-	1	-	-	8	11
3	DST-Inspire	-	-	-	-	-	-	1	1
4	UGC JRF	-	-	-	1	-	-	-	1
5	CSIR	-	1	-	-	-	-	-	1
6	GATE	-	36	2	-	3	13	-	54
7	PM Fellowship	-	-	-	-	-	01	-	1
8	GAT-B	-	15	-	-	-	-	-	15
9	IIT-JAM	-	2	1	-	-	-	-	3
10	TOEF (Montana State University, USA)	-	1	-	-	-	-	-	1
11	Others	-	-	3	3	-	-	16	22
	Total:	10	57	36	10	3	14	25	155

PDUCH&F: Pandit Deen Dayal Upadhyay College of Horticulture & Forestry, Piprakothi; CBS&H: College of Basic Sciences & Humanities, Pusa; TCA: Tirhut College of Agriculture, Dholi; CoF: College of Fisheries, Dholi; C.C.S: College of Community Science, Pusa; CAET: College of Agricultural Engineering and Technology, Pusa; PGCA: Post Graduate College of Agriculture, Pusa

2.4. Second Deeksharambh

Dr. Rajendra Prasad Central Agricultural University has conceptualized and initiated an innovative Programme “Deeksharambh” last year for newly admitted undergraduate students. The 1st Deeksharambh program was organized during 7th March 2023 to 3rd April 2023. Likewise, for the undergraduate students admitted during 2023-24, 2nd Deeksharambh programme was inaugurated on 29.12.2023 under the Chairmanship of Hon’ble Vice Chancellor Dr P.S. Pandey in presence of chief guest Justice Sandeep Kumar, Hon’ble Judge, Patna High Court. This one-month-long programme was designed to orient the students with several activities like Yoga, Skill, Personality Development, Arts and Crafts, Music, Literary Activities, Drama & Theatre and sports etc. with the ultimate aim of grooming them for holistic development.



The Valedictory function “PRADAKSHINA Samaroh” was held on 28th Jan, 2024 and was graced by Hon'ble Vice Chancellor, Dr. P. S Pandey, and Dr Ram Avtaar, Founder Chairman Prem Sukh International Charitable Trust, New Delhi graced the occasion as the Chief Guest. The foundation course was attended by 317 students. The students performer from each Activity Clubs was awarded with appreciation certificates. The productive output of students in arts and crafts club was also displayed in the Gallery and was highly appreciated by Hon'ble Vice Chancellor. Several acts, dance forms, music, poetry and skits were performed by

RPCAU, Pusa, Bihar

the students and the House was mesmerized with their performances. A Pledge led by Dr. M. Kumar, Registrar and Convenor was taken by all students. Hon'ble Vice Chancellor concluded the session with his holy blessings to the students for a new beginning with positive outlook and commitment to move forward.

2.5 Activities under Directorate of Education

The Directorate of Education at Dr. Rajendra Prasad Central Agricultural University (RPCAU) has achieved outstanding results in its academic programs. In the academic year 2022-23, 220 students passed out of the postgraduate program, and 20 students passed out of the Ph.D program. They have conducted research in the important area of agriculture, fishery sciences, animal sciences, community sciences, and Agricultural Engineering covering about 28 M.Sc. and 16 P.D. Programmes. The students and faculty have worked in the focused areas of research by taking into considerations of SDGs national and regrant priorities.

2.5.1 PM SHRI Programme : Directorate of Education has successfully implemented the PM SHRI Internship Development Program. PM SHRI scheme is a the Govt. of India programme under NEP-2020 for a multidisciplinary exposure and promote entrepreneurial skill to the students. The programme was launched on March 30, 2023 and the programme was designed to benefit 350 students of PM SHRI Jawahar Navodaya Vidyalaya, Birauli, Samastipur. The program covers 11 modules, including mushroom production technology, integrated farming systems, and hi-tech agriculture and aimed to motivate, attract, and re-orient students towards bio-entrepreneurship.





2.5.2 Accreditation of Colleges : Furthermore, the Directorate has played a pivotal role in the successful accreditation of previously non-accredited colleges, ensuring they adhere to the stringent standards of quality education and academic excellence. The strategic enhancement and comprehensive expansion of the university's IT infrastructure have enabled seamless communication, effective collaboration, and dynamic knowledge sharing. These advancements have significantly contributed to the institution's overall growth and holistic development. Additionally, the university has proudly secured accreditation for five prestigious undergraduate colleges of University, alongside all postgraduate and Ph.D. programs, underscoring our unwavering commitment to academic excellence and innovation.

2.5.3 Achievements of the NAHEP : The NAHEP (National Agricultural Higher Education Project), formulated by the Indian Council of Agricultural Research (ICAR), is a crucial initiative running across higher education government institutions. The RPCAU operated the project under the Directorate of Education with titled “Automation of University Activities and Digitization of Documents”, focusing on the establishment of e-Office, IUMS, and other systems, significantly impacting the development of the university's education and administration systems. The initiative targeted the automation of various functions, including document/file management, academic and administrative processes, general filing, and accounting. Specific areas such as seed production management, cattle farm management, and research management were also addressed. The project's major achievements are outlined below:

1. **Digitization of Documents:** Comprehensive digitization of office records, primarily files, was completed under this initiative. Over 50 lakh pages have been scanned, and the digitized files are now integrated into the eFile (eOffice) System. A secure copy of the scanned documents has been retained for safekeeping.
2. **Academic Management:** All academic processes, from student admissions to degree awards, have been fully transitioned to an online system. This has enabled faster and error-free publication of semester results and

timely declaration of final results, allowing students to pursue higher studies or secure employment opportunities promptly.

3. **Human Resource Management (HRM):** The Integrated University Management System (IUMS) now manages the salary and pension payment system. Employees can access detailed salary breakdowns online. HRM processes such as transfers and promotions have also been digitized.

2.5.4 Placement

Five students of B.Sc. Agriculture have been selected as Fodder Development Officer in COMFED, Patna and one student as Development Apprenticeship in PRADAN, Noida during campus recruitment drive of the university.

Three students of B.Sc. Agriculture have been selected in IFFCO KISAN as Sales Officer Trainee during campus recruitment drive of university. Dean, TCA Dholi congratulated and wishing them all the best for future career

Campus placement of undergraduate and post graduate students: During February 2024, the placement cell invited a total of 06 companies for campus placement. In which M/s Mother Dairy, New Delhi, Jeevika, Patna, Pradan, Noida, Satya Micro Capital, New Delhi, Rallis India Pvt. Ltd. and TAFE, Chennai are included. These companies have selected a total of 27 students from different college of the university. The students who got placements included 05 from B. Tech. (Agricultural Engineering), 03 from B.Sc. Agriculture, 02 from B.F.Sc. (Fisheries), 14 from M.B.A. (Agri-Business) and 03 from M.B.A. (Rural Management) students of RPCAU students in Yara Fertilizers,



Gurugram: In the month of March 2024, two students from MBA (Agribusiness), one student from B.Sc. Agriculture and One student from M.Sc. Genetics & Plant Breeding have been selected as sales executive by Yara Fertilizer Pvt. Ltd. Gurugram, Haryana

School of Agribusiness and Rural Management (SAB&RM), RPCAU, Pusa recorded 100 % placement of MBA (Agribusiness Management) and MBA (Rural management) students in the year 2023-24.



2.5.5 Official Language (Rajbhasha) Cell

The University organized Hindi Awareness Month from September 1st to 30th September 2023 under the guidance of the Hon'ble Vice Chancellor, RPCAU, Pusa. As part of this initiative, on September 1st 2023, an appeal was issued by the Hon'ble Vice Chancellor to promote the widespread use of Hindi for the national interest. Various programs to encourage Hindi, including debates, essay competitions, general knowledge competitions, art competitions, administrative staff Hindi comment writing competitions, technical article competitions among teachers/scientists, and local primary, middle, and high school students' art competitions, debates, and essay competitions were organized.



Additionally, various departments and colleges showcased their significant contributions to the

promotion of Hindi. A poetry symposium was also organized in which renowned poets from the country participated, along with students who demonstrated their talent. On September 30th, in the closing ceremony, the Hon'ble Vice Chancellor unveiled and felicitated the first issue of the student magazine "Pusa Suramya," a half-yearly student magazine, managed and compiled by students under the guidance of the university's Literary Club. Various competition winners were also awarded at the closing ceremony.

2.6 Academic Training/ Workshop/ Seminar / Brain-Storming Sessions Organized

2.6.1 Seminars Organized at Krishi Vigyan Kendra, Piprakothi

An International Conference on “Advanced Agricultural Technologies For Self Reliant Farmers And Developed India” was organised concomitantly with the Kisan Mela on dated 11th February 2024, which was flamboyantly applauded with participation of 407 participants from all over the country through hybrid mode. This international conference was well-endowed with presence of lead speakers from abroad. The following participants from abroad/international organization delivered



the lead lecture in the conference — Dr. Sudhanshu Singh, Director, IRRI-Soth East Asian Research Centre, Varanasi, Dr. B. P. Yadav, Senior Scientist,



Agriculture Research Centre, Nepal, Dr. Anthony Fullford, Senior Scientist, Soil Science, IRRI-South East Asian Research Centre, Varanasi and Dr. Rave Yahaya, Senior Scientist Farm Mechanization, IRRI- South East Asian Research Centre, Varanasi.

2.6.2 PDUCH&F, Piprakothe, Motihari Organized a seminar on the topic “Forest Resources of Bihar: Bio-Ecological and Socio-Economic Perspective” on 27-05-2023. The resource person gave a brief overview of different forest resources of Bihar and industries associated with Non-Timber Forest Products.



2.6.3 Hands-on Training on Remote Sensing and GIS was organized by CAET, Pusa. The two-days event was to educate on the application of ArcGIS Pro in Land and Water Management and was organized from 30th June to 1st July 2023. Hon'ble Vice Chancellor inaugurated the programme. Dr VM Chowdhary, Group Director, NRSC, ISRO, Hyderabad was key speaker in the session. Mr Bidhan Nanda, GIS trainer CSS Geospatial, Kolkata acted as the resource person. More than 80 faculty members and students participated in the program.



2.6.4 Corporate Dialogue series was started in the month of June for the students of SAB&RM to create an interaction with corporate experts in the field of Agribusiness and Rural Management. Several ‘Corporate Dialogue series’ was organized virtually to engage the interactions of students with

corporate experts.



2.6.5 A Sensitization Workshop on Virtual Reality Modules for Students was organized during 05-07, July 2023 at CAET, Pusa. More than 36 students of different colleges of the university participated in the programme. The students practically experienced different modules developed by ICAR and other institutions.



2.6.6 Industry-Academia Meet CAET, RPCAU organized an Industry-Academia Meet on the theme, 'Policies for Boosting Farm Mechanization and Development of Precision Machinery' in joint collaboration with AMMA (Bihar chapter) and ISAE (Bihar chapter) on 26th August 2023. The event was presided by Hon'ble Vice-Chancellor, RPCAU and overall 15 leading manufacturers from Bihar attended this event.



2.6.7 The Sensitization Workshop on Prevention of Sexual Harassment (PoSH) and the Role of the Internal Complaint Committee (ICC) organized by Team ICC of Dr. Rajendra Prasad Central Agricultural University, Pusa was a resounding

success. It played a crucial role in fostering a campus environment free from sexual harassment, promoting awareness, and educating students of the university about their rights and responsibilities.



2.6.8 Week-long awareness campaign on Mission LiFE was organized through Centre for Advanced Studies on Climate Change, RPCAU, Pusa from 22nd to 28th May, 2023 for “Mission LiFE (Lifestyle for Environment)” with theme “Climate Resilient and Smart Agriculture” patronized by Honorable Vice-Chancellor, RPCAU, Pusa. Events took place through all these seven days such as, farmers’ scientists interaction, national seminar, NGO-FPO Workshop, scientists’ lectures, exposure visit of farmers, speech competitions and educational escort for school students, Swachhata Abhiyaan & a multi-stakeholder workshop on millets were the most important amongst those making the programme an immense success.



2.6.9 RPCAU Pusa organized Litchi Show-2023 and Diversity Fair in collaboration with ICAR-NRCL, Muzaffarpur Department of Horticulture of PG College of Agriculture has organised a one-day Litchi Show and Diversity Fair on May 24, 2023, in collaboration with ICAR-National Research Centre on Litchi, Muzaffarpur to showcase the varietal diversity and strengthen the litchi growers

RPCAU, Pusa, Bihar

technologically.



2.6.10 Brainstorming session organized: On the occasion of World Environment Day, a brainstorming session on the importance of Renewable Energy in Agricultural Engineering Education and Research was organized at CAET, RPCAU Pusa in a hybrid mode. Dr K. C. Pandey, former PC, AICRP on RE, CIAE Bhopal; Dr SS Kapdi, Prof. and Head, Dept. of Bioenergy, AAU, Anand; Prof Atul Mahod, Head, Dept. AgrilEngg., BSKKV, Dapoli; Dr PM Chauhan, Head Dept. of Renewable Energy, JAU, Junagarh and Dr Yogendra Kr Yadav, Professor and Head Renewable Energy, CAE, CCSHAU, Hissar delivered their talks and shared experiences about the development of Renewable Energy.



2.6.11 Parthenium Awareness Campaign and Brainstorming Session Organized Department of Agronomy, PGCA, Pusa, in collaboration with the Center for Advanced Studies on Climate Change, RPCAU, jointly organized Parthenium Awareness Campaign on August 22, 2023, during "Parthenium Awareness Week." The uprooting programme of Parthenium weeds on the campus was done. The Brainstorming Session was organized on “Parthenium Biology and Management” under the chairmanship of Dean, PGCA.



2.6.12 The 31st Annual Conference of Agricultural Economics Research Association (AERA): The 31st Annual Conference of AERA on "Innovations in Agriculture for Sustainable Food Systems and Farmers' Income" was held during 7th to 9th December 2023 at RPCAU, Pusa. Dr. P.S. Pandey, Hon'ble Vice-Chancellor inaugurated the conference in the gracious presence of Dr. Prabhu Pingali, Conference President & Director, Tata-Cornell Institute at Cornell University, New York, USA, Dr. Anjani Kumar, Senior Research Fellow, International Food Policy Research Institute (IFPRI), Dr. K.M. Singh, Organizing Secretary & Dean, PGCA, Dr. D.K. Sinha, Professor & Head, Department of Agricultural Economics and other dignitaries. More than 150 participants from 19 states of the country participated. In the Conference, there were 12 sessions, 112 research papers, and two special sessions on climate resilient agriculture, sponsored by the government of Bihar and Agriculture Transformation in Bihar by the International Food Policy Research Institute (IFPRI).



2.6.13 RPCAU Organized the ICSSR, New Delhi sponsored two-week Capacity Building Programme (CBP) The Department of Agricultural Extension Education & Department of Agricultural Economics, PGCA organized ICSSR Sponsored Two Week Capacity Building Programme on 'Understanding Project Management Techniques from Social Science Research Perspective'. A total of 25 participants from across the country attended

the programme.



2.6.14 Drone pilot training successfully completed for the 9th and 10th batch. The 9th and 10th batch of Drone Pilot Training at CAET, RPCAU, Pusa was successfully completed on 10th and 20th January 2024. Total 81 pilots have been trained so far from the RPTO, CAET, RPCAU, Pusa. Out of 81, 35 women are trained, named as Drone Didi under the Namu Drone Didi scheme of the Govt of India.



2.6.15 ICAR sponsored short course: PGCA, RPCAU organized 10 days ICAR sponsored short course on "Crop diversification and utilization of crop waste to achieve climate resilient agriculture and improvement in farmers' income in fragile agri eco-system" was conducted during 16-25th January 2024. A total number of 16 participants/scientists from different universities/states participated in this training. This training has covered all aspects of crop diversification and agro waste utilization.



2.6.16 21-days' ICAR Sponsored winter school: PGCA, RPCAU, Pusa organised 21-days' ICAR-sponsored winter school entitled as 'Epigenetic regulation as drivers of insecticide resistance and resilience to climate change in agricultural pests' was organised by the Department of Entomology,

PG College of Agriculture from the 29th January to 18th February 2024.



2.6.17 SERB DST sponsored research training programme: Department of AB&MB, CBS&H organized SERB DST sponsored one day research training programme on the topic “Gene expression analysis using real time PCR (qRT-PCR) approach” for the faculties and Ph.D. scholars of RPCAU and nearby institutes on 8th January 2024.



2.6.18 One day training on the topic, “Nematode problems in crops, fruits, vegetables, spices, flowers and their management through eco friendly methods” under AICRP on Nematodes Training was organized by Post Graduate College of Agriculture on 17th February 2024. A total of 110 participants consisting of 100 female and 10 male participants have attended the training programme.

2.7 Academic Competitions Organised Among Students

2.7.1 A poster making Intra-college competition on the subject “Climate - Resilient Aquaculture” was organized on the occasion of 5th June, 2023 (World Environment Day) wherein the students participated enthusiastically.



2.7.2 Intra College Model Making Competition and Exhibition:

The intra college model making competition and exhibition on the theme “Nanobiotechnological Interventions for Food to Nutritional Security” was organized among the students of B. Tech. Biotechnology, College of Basic Sciences and Humanities on 20th January 2024. The best models were selected for exhibition during RPCAU Kisan Mela-2024



2.8 Educational Tours

2.8.1 PDUCH&F, Piprakothe, Motihari organized six-days educational tour for the students of 8th semester, B.Sc.(Hons.) Horticulture of Batch-2019-23 from 14-04-2023 to 19-04-23. During this educational tour the students got opportunity to visit various academic and research institutes like NDUAT, Faizabad, Ayodhya, CISH, NBRI, CIMAP, Lucknow.



2.8.2 All India Educational Tour for the 5th semester students of TCA, Dholi was successfully organised from 19-27 April, 2023 TCA, Dholi flagged-off the trip. During educational tour, students visited GBPUA&T, Pantnagar, IISWC (Indian Institute of Soil and Water Conservation) & Forest Research Institute, Dehradun and NASC (National Agriculture Science complex) at, New Delhi.



2.8.3 All India Educational Tour for the 8th semester students of TCA, Dholi was successfully



organised from 22-26 May, 2023. During educational tour, students visited and interacted with renowned scientists at IAS, BHU; IIVR, Varanasi; IISS and NBAIM, Mau.



2.8.4 Study Tour-cum-Exposure Visit, the students of CoF-Dholi, VI Semester (batch 2020-24), IV Semester (batch 2021-25) and I Semester (batch 2022-26) made a visit to Baba Matsaya Farm, Matlupur, Muzaffarpur for practical experiment on-farm fish breeding, spawning etc. on 06.07.2023 and 07.07.2023 and 11.07.2023 respectively.



2.8.5 A study tour-cum-industry visit was arranged for forty-six (46) third-year B.F.Sc. students (Batch 2020-24) from the College of Fisheries, Dholi on 14th July 2023. The visit took place at Eravat Feeds Pvt. Ltd., Nadaul, Patna, Bihar.



2.8.6 Study Tour cum Exposure Visit: The 7th semester B. Tech. Biotechnology students from the College of Basic Sciences and Humanities under Student Ready Program visited the Banana Research Centre (BRC), Goraul, which is a research centre under Dr. Rajendra Prasad Central Agricultural University on 22nd December 2023.

Different research activities, banana cultivation methods, and banana micropropagation were presented to the students. The tour also gave the students the chance to practice and receive hands-on training in banana micropropagation.



2.9 Sports Activities

2.9.1 Intra college sports tournament: On the occasion of College Foundation Day (18th August, 2023), TCA-Dholi organized Inter semester Volleyball (Boys) and Table Tennis (Boys & Girls) tournament during 12th to 15th August 2023 in which 6th semester students were the winner of volleyball & Table Tennis tournament and 4th semester students were the runner-up of the tournament.



2.9.2 Inter college games & sports competition: During the 2023-24 Dikshaarambh programme, the Volleyball (Boys) and Athletic competition (Boys & Girls) was organised between TCA and COF, Dholi



2.9.3 Inter College Volleyball Tournament was organized during the first week of May in which a total 6 colleges of RPCAU have participated. The winner was awarded with cash prize of Rs. 2500 and Runner-up got Rs.1500. CAET, RPCAU, Pusa was

the winner of the tournament, where as TCA, Dholi was the runner-up.



2.10 Cultural Activities

2.10.1 Cultural & Literary activities during University Foundation day: RPCAU, Pusa conducted a gala cultural programme on the occasion of 54th Foundation Day of the university (3rd December 2023) at RPCAU, Pusa. On the occasion, Hon'ble Vice-Chancellor welcomed the Hon'ble Chancellor, Dr. P. L. Gautam and other invited dignitaries. The colorful events viz., Mime, Skit, Group Song and Group Dance were performed by the university students. The guests appreciated the performances of the students.



2.10.2 A cultural activities during Annual Conference of Agricultural Research Association: cultural activities of the RPCAU students were organized on the occasion of 31st Annual Conference of Agricultural Research Association “Innovative in Agriculture for Sustainable Food Production & Farmers Income” from 7th to 9th December 2023.



2.10.3 Cultural activities during Kisan Mela-2024: Different cultural activities namely folk
RPCAU, Pusa, Bihar

songs, dances etc was performed by the students of RPCAU during the occasion of RPCAU Kisan Mela 2024 which was held on 24-25 February 2024



2.10.4 Cultural activities during Pradakshina Samaroh 2023-24: Several forms of cultural activities were presented by the newly admitted undergraduate students of RPCAU during the occasion of Pradakshina Samaroh 2023-24 held on 28th January 2024.



2.11 Students' Achievements

- Madhu D.M., M.Sc. (Ag.) Agricultural Economics got Silver Medal as Best Poster Presentation Award on the occasion of 2nd International Conference on Advancement of Science and Technology for Environment (ICASTESP-2023) during 6th to 7th January 2023 organized by the Society for Technology, Environment, Science & People
- Mr. Shashank DU, Ph.D, Entomology, Department of Entomology, Post Graduate College of Agriculture got Global Young Scientist Award in (GABELS- 2024)
- Pavin A K, MBA student of School of Agribusiness & Rural Management, RPCAU, pusa got 3rd Position in Business Model Competition under EUREKA (Asia's Largest B-Model Competition).
- Sangita Rath, MBA student of School of Agribusiness & Rural Management, RPCAU got 3rd Position in Business Model Competition under EUREKA (Asia's Largest B-Model Competition).



- Rajan Kumar, MBA student of School of Agribusiness & Rural Management, RPCAU got 1st Prize in the Ideation challenge under Startup Bihar Policy, Govt. of Bihar.
- Mr. Gandhi Rajan S. received best oral presentation award for the paper “Life cycle estimation of Steinernema abbasii on fall armyworm” during the National Symposium on "Crop Health Management: Safeguarding Crops through Diagnostics and Innovations." Held on 29th to 30th September 2023 at ICAR-Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora-263 601, Uttarakhand
- Ms. Palukuru Usha received best oral presentation award for the paper “Pathogenicity of *Rotylenchulus reniformis* on tuberoses” during the National Symposium on "Crop Health Management: Safeguarding Crops through Diagnostics and Innovations." held on 29th to 30th September 2023 at ICAR-Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora-263 601, Uttarakhand
- Eleven students of department of Horticulture participated and won the 1st, 2nd and 3rd prizes, respectively in Bhagwani Mahotsav Quiz Competition-2024 held on 16th to 18th February 2024 organized by Directorate of Horticulture, Govt. of Bihar.
- Ms. Kashvi Kajal, Bachelor of Fisheries Science (B.F.Sc.), Batch 2019-23 has been awarded with a prestigious fellowship “Erasmus Mundus Joint Master in Aquaculture, Environment and Society (EMJM ACES-STAR)” for the year 2023-25. She will be receiving her Master’s degree jointly from UHI-SAMS, Oban (Scotland, UK), University of Crete (Greece) and University of Nantes (France).
- Students of E-Cell, College of Agricultural Engineering and Technology, RPCAU Pusa has secured 2nd position with Rs 70000/- cash in all India E-Summit contest organised under National Entrepreneurship Challenge (NEC) at IIT, Mumbai from 2nd to 4th February 2024. 900 colleges from entire country participated in the Advance Track Contest. CAET Pusa got



direct entry in Advance Track contest on the basis of last year's best performance in Basic Track Contest. 1500 colleges participated in both Basic and Advance Track contest this year. Dean, CAET celebrated the extraordinary performance at the college and appreciated this remarkable achievement of E-Cell with CAET students, faculty and staff.



2.12 NSS Activities

National Service Scheme (NSS) has been functioning in six colleges viz. Trihut College of Agriculture (TCA) Dholi; College of Fisheries (CoF), Dholi; College of Basic Science and Humanities (CBS&H), Pusa; College of Agriculture Engineering and technology (CAET), Pusa; College of community Science (CCS), Pusa; to prepare students to render the community services and make them responsible citizens of India. All the NSS volunteer were actively engaged during the celebration of different national and international important days such as Republic Day, Independence Day, Swachh Bharat Mission, Yoga Day, World Environment Day, Azadi Ka Amrit Mahotsav, Nasha Mukta Bharat Abhiyaan, POSHAN Abhiyan and others. During the International Yoga Day 21 June 2023, the NSS volunteer and staffs of the university participated in the Yoga programme.





3. RESEARCH ACHIEVEMENTS

RPCAU, Pusa as an institution of National Importance has been enormously contributing towards the fulfillment of national priorities and focusing its research activities on broad theme areas of agricultural research such as Climate Resilient Agriculture, Digital Agriculture (Sensor technologies, IoT, Drone Application in Agriculture and Drone Engineering), Secondary Agriculture, Natural farming, Food & Nutrition, Horticulture, Data-Sciences & AI-driven approaches, Mushroom research, Gene Editing, Speed Breeding etc.

Its research is primarily focused on the thrust areas and bottlenecks of agriculture in order to maintain the sustainability. The research activities are amalgamation of innovation, resourcefulness and farsightedness. The research work in RPCAU, Pusa progresses in two ways: through students' thesis/dissertation and through scientists'/ faculty members' research accomplishing through various externally and University sponsored projects.

3.1. Students' Research Achievements Natural Resource Management

3.1.1. Agronomy

Nutrient management

➤ **Optimization of nano-fertilizer application in transplanted rice:** Foliar application of nano-urea at 4 ml/L of water during active tillering and panicle initiation can improve the use efficiency of nitrogen in transplanted rice. It was also found that the foliar application of nano-N and nano-Zn can replace 25% recommended N through urea.

➤ **Application of nano-urea in maize:** The application of 75% RDN + nano urea two sprays @1250 ml/ha at 25-30 DAS and 40-45 DAS gave higher growth and yield of maize which was at par with RDN. Nano nitrogen with 75% RDN resulted in better nitrogen use efficiency (30%) as well as better recovery efficiency (37.50%) in comparison to plots treated with RDN.

3.1.2. Soil Science

Soil health management

➤ Soil bacteria mediated Zn-solubilization for

improved yield of turmeric. The application of 100 % Zn gave higher growth, yield, curcumin content, and maximum nutrient uptake in turmeric, which was at par with 50% Zn along with bacterial isolates.

Integrated nutrient management

➤ Effects of NPK, FYM, and Zn application on the transformation of Zn, biological properties, and nutrient availability under rice-wheat cropping systems were studied in calcareous soil. Positive and significant correlations were observed among yield, nutrient uptake, and available zinc content. The order of dominance of different zinc fractions in the soil was: Residual-Zn > Organically bound-Zn > Zn bound to crystalline oxide > Zn bound to amorphous oxide > Complexed-Zn > Water soluble plus exchangeable-Zn.

Micro and secondary nutrients

➤ In a study of sequential fractionation of sulphur in soil under rice-based cropping system as influenced by long-term application of organics and inorganics it was found that all the sulphur fractions- distilled water-soluble S, sulphate S, inorganically bound S, organically bound S, residual S, and total S remained in dynamic equilibrium in soil. Organically bound S contributed the most to total S.

Nano fertilizer application

➤ Effect of nano urea was studied on soil nitrogen status, uptake, yield and juice quality of sugarcane in calcareous soil of Bihar. The application of 1% nano urea at tillering and grand growth stage along with 75% RDN may be used for sugarcane production in the calcareous soil of Bihar.

➤ Nano Zn formulations were applied on rice cultivars under salt affected soils. This study underscored the potential benefits of Zn supplementation, particularly the application of Nano Zn @ 50 ppm, in improving growth, yield, nutrient uptake, and physiological responses of rice cultivars in salt-affected calcareous soil.

Carbon Sequestration

➤ In a study on Biomass Production, carbon accumulation, and litter decomposition under plantations of different poplar clones, it was found



that poplar clone G-48 exhibited superior carbon storage with the highest total carbon stock (0.287 q/tree), AGB (0.246 q/tree), and rate (1.957 Mg/ha/year). It outperformed S-2 by 59.79% in carbon stock, making G-48 a standout choice for significant carbon storage and CO₂ mitigation, as evident from its high sequestration rates.

3.1.3. Forestry

Studies on variation in carbon storage, soil nutrient availability and yield of turmeric under different spacings of *Bombax ceiba* L. plantations:

The 7-year-old semal (*Bombax ceiba*) plantation with 5m × 4 m (500 trees/ha) and 5m × 2m (1000 trees/ha) spacing accumulated the maximum biomass and carbon storage and sequestered more carbon per unit area. Thus, these two spacings are suggested for ensuring higher CO₂ mitigation.

Studies on performance of rabi crops under different cropping systems in *Eucalyptus tereticornis* based Agroforestry System: The investigation was conducted in three-year-old Eucalyptus plantations intercropped with four cropping systems viz., Moong-Wheat, Moong-Mustard, Urd-Wheat, and Cowpea-Berseem. The overall growth of the trees followed this sequence: Moong-Mustard > Cowpea-Berseem > Moong-wheat > Urd-Wheat. The yield of the intercrops wheat, mustard, and berseem under all the cropping systems significantly decreased except for mustard showing a 7.13 to 9.42% reduction.

Studies on assessment of carbon stock and utilization pattern of Biomass from different Tree Based Systems in Bihar: Investigation was carried out in Pusa Block, to understand the agroforestry practices and identify the different tree-based systems and utility patterns of farm hold tree resources by the local population. Six prominent tree-based systems were recorded, viz. (1) Semul + Broad Bean + Rice; (2) Mango + Wheat + Rice; (3) Mahogany + Lemon + Mustard + Turmeric; (4) Litchi + Wheat + Turmeric; (5) Mahogany + Mausmi + Broad Bean + Maize; and (6) African Mahogany+ Wheat+ Rice. Litchi-based systems performed well in volume, biomass, and carbon stock accumulation, while all systems improved the

physico-chemical and biological properties of soil.



Mahogany + Lemon



Litchi based agri-horticultural system

Crop Improvement

3.1.4. Plant Breeding

Genetical analysis and validation of SSR markers for grain micronutrient content in bread wheat (*Triticum aestivum* L.): Significant associations were observed with the wheat grain iron content of six primers in cross I (HD 2967 X RG 4) and four primers in cross II (HD 2967 X RG 3), among the 15 primers used in the study.

Estimation of SSR-based genetic diversity and subsequent formation of heterotic blocks in quality protein maize: The heterotic pattern did not correlate with genetic distance estimated using molecular markers. By analyzing microsatellite markers-based genetic similarity as well as divergent matrix-based SCA effects of yield data, a comparative analysis of heterotic groups revealed that inbred lines like G2 and G4, G3, G5, and G7 belong to the same heterotic group in all cases in maize.

Stability analysis of rice genotypes under boro condition:

The analysis of sixteen traits across four environments showed genotypes that perform better as compared to Gautam (C) are promising for cold tolerance, the genotype G21 was found superior for length of root at the seedling stage, sterility percentage, test weight, SPAD value, proline content and grain yield (g/plant) in rice.

Characterization and stability analysis of transplanted finger millet using morpho-physiological traits in summer: Genotypes RAU-FM-83 and RAU-FM-Gopalganj-2009-5 which had high vigour index also had higher values for days to 50% flowering. RAU-FM-Sheohar-2009-14 which had high seedling length and RAU-FM-82 which had high speed of germination showed higher mean performance for plant height. RAU-FM-100 also had high speed of germination as well as showed a better mean performance for days to 50% flowering and days to maturity.

Genetic assessment of yield and yield attributing traits in mechanical harvesting chickpea (*Cicer arietinum* L.) genotypes for rice fallow: On basis of diversity utilizing tocher clustering method, the forty-three genotypes were grouped into five clusters. As the intercluster distance between cluster V&III is the highest, so crossing between genotypes of these two clusters (GL 19046 from cluster V) and (HC 20-12 from cluster III) will be rewarding to increase the yield in chickpea grown under rice fallow condition.

Characterization and stability analysis of proso millet germplasm using morpho-physiological traits in summer: The genotypes BR-7, TNAU-164 and TNAU-202 were identified for stable performance in terms of yield. According to this study, Proso millet performed better in the summer season than in *kharif* season.

Assessment of trait variability for yield attributes in lentil: Considering mean performance, lentil genotypes viz., TCADL-81, TCADL-30, TCADL-44, TCADL-89, TCADL-115, TCADL-161 were found significantly superior over best check Pusa Ageti with respect to both grain yield / plant and number of pods / plants. Whereas for fusarium wilt resistance, out of 191 genotypes screened, a total of 35 genotypes were observed as highly resistant.

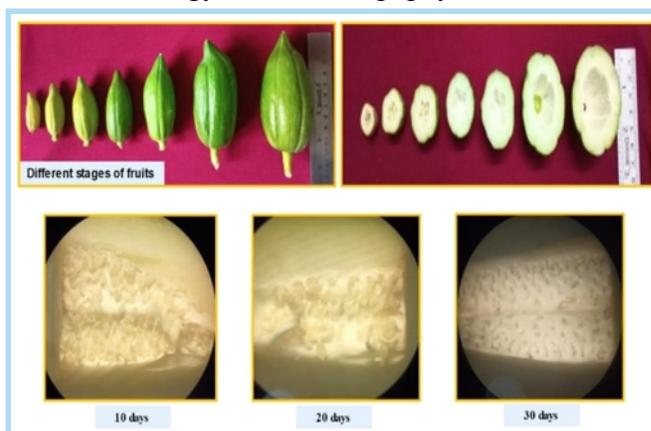
3.1.5. Seed Science and Technologies

The experiment on “Effect of Seed Treatment with Nanoparticles on Planting Value and Storability Parameters of Maize (*Zea mays* L.) Seed” showed that seeds treated with ZnO nanoparticles had the highest germination, seedling length, vigor index-I, field emergence, final plant establishment, plant height & seeds per cob.

Horticulture

3.1.6. Fruit Crops

Studies on reproductive parameters of papaya: Four papaya cultivars such as F1-Red Lady, Arka Prabhat, Ranchi Local, and TNAU Papaya Co-8 were evaluated for their reproductive parameters. The earliest anthesis was observed in the male flowers of TNAU Papaya Co-8 at 17.54 hours, while the latest was observed at 21.43 hours in Carpelloid Pentandria flowers of Arka Prabhat. The differences among the pollen parameters such as pollen quantity, pollen germination, pollen viability, pollen size, etc. of different reproductive phenotypes in dioecious and gynodioecious papaya varieties were recorded. Post-fertilization ovule degeneration was observed as 17.94 to 18.11% in dioecious and 16.38% to 26.04% for gynodioecious papaya cultivars. Likewise, the dioecious cultivars took around 77.80 to 80.60 days, whereas the gynodioecious papaya cultivars took around 75.60 to 87.40 days for viable seed setting in papaya. These findings offered comprehensive insights into the temporal dynamics in reproductive parameters of dioecious and gynodioecious papaya.



In-vitro regeneration studies in Strawberry: The study was undertaken for strawberry cv. Winter Dawn. The runner tips were found as the better explant for strawberry. For shoot



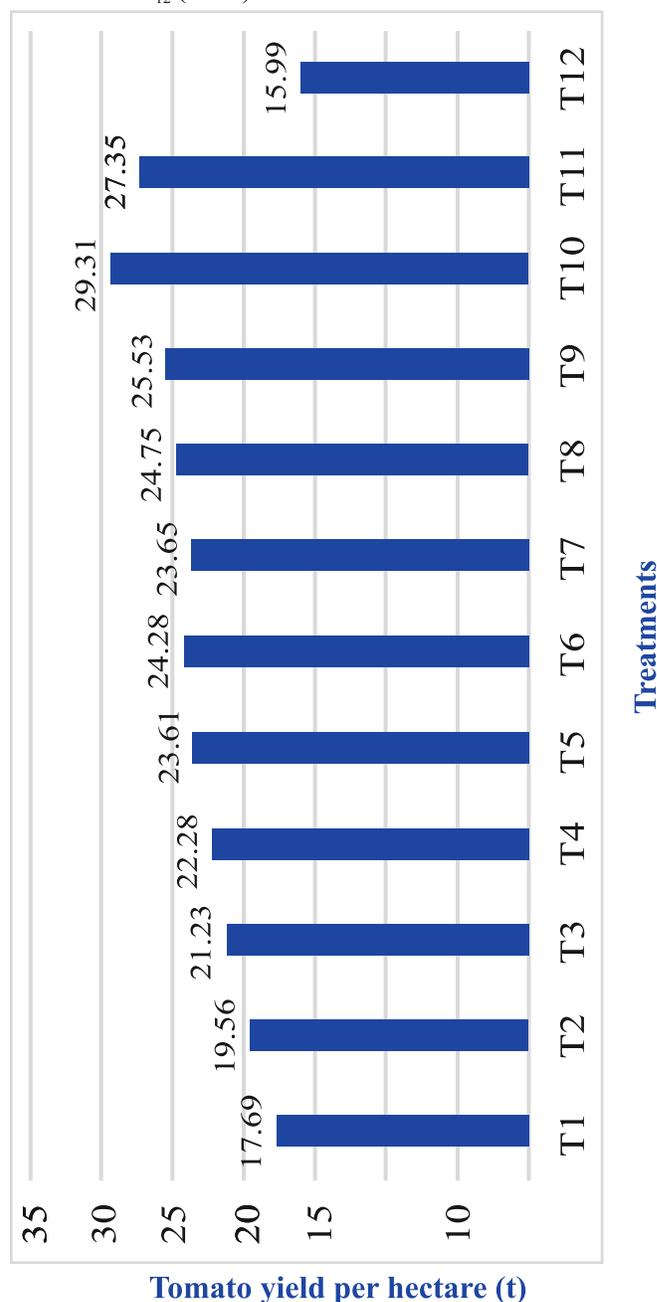
regeneration, BAP @ 1.5 mg/l and Kinetin @0.6 mg/l exhibited superiority. The MS Medium enriched with NAA @ 0.5mg/l was observed preferable for root regeneration.

Evaluation of mango (*Mangifera indica* L.) genotypes for nutritional potential of kernel: The existence of high variability in the proximate composition of selected 30 mango genotypes was observed. Among the 30 genotypes, ‘Dashehari’, ‘Jawahar’, ‘Sabri’, ‘Sipiya’, ‘Krishna Bhog’ and ‘Sukul’ exhibited the high level of proximate composition. Interestingly, in context of biochemical content indigenous genotypes such as ‘Sabri’, ‘Zardalu’, ‘Jawahar’ and ‘Malda’ exhibited superiority among the selected genotypes. In the context of minerals, ‘Amrapali’, ‘Malda’, ‘Sukul’ and ‘Zardalu’ possess high amount of the studied minerals. In context to product making, the genotypes such as ‘Krishna Bhog’, ‘Zardalu’, ‘Amrapali’ and ‘Jawahar’ exhibited the highest suitability for pancake formation incorporated with black rice flour in terms of proximate and minerals content. The black rice flour pan cake exhibited the highest sensory score in terms of taste and flavour, however, among the selected genotypes ‘Sipiya’, ‘Malda’, ‘Langra’ and ‘Jawahar’ with 10% MKF incorporated with 90 % BRF was found to be the best in nutrients availability as well as sensory score acceptability.

Post-harvest quality evaluation of banana cultivars: The study revealed existence of high variability in biochemical attributes of selected 30 banana cultivars. Among the cultivars, “Grand Naine”, “Malbhog”, “Serimanthi”, “Nepali Chinia”, “Yangambi km” and “Alpan” exhibited the higher level of studied biochemical attributes. In context to powder making, the banana culinary cultivars such as “Popoulo”, “Kothia”, “B.B Batisa”, “Kunnan” and “P.B Batisa” exhibited the highest suitability for banana flour. With respect to taste and aroma, the cultivars “Malbhog”, “Serimanthi”, “Nepali-Chinia”, “Rasthali” and “Alpan” are preferable. The cultivars such as “Malbhog”, “Rasthali”, “Grand Naine” and “Kavur Bontha” exhibited good shelf life. The screened genotypes for fresh eating at peak ripening stage bear practical utility in terms of nutritional quality for consumers and fresh fruit industry.

3.1.7. Vegetable Crops

Effect of growth regulators and micro-nutrients on growth, yield and quality of tomato (*Solanum lycopersicum* L.): Maximum yield per hectare was recorded with treatment T₁₀ (GA3 at 50 ppm + ZnSO₄ at 0.5%), resulted in yield per hectare (29.31 t) which was found statically at par with treatment T₁₁ (GA3 at 50 ppm + Micro. Mix. at 0.5%) i.e. 27.35 t whereas minimum fruit yield per plant (15.99 t) was recorded with T₁₂ (untreated control). The highest B:C ratio was obtained in treatment T₁₀ (2.65), while the lowest value was recorded in treatment T₁₂ (1.28).



Plant protection

3.1.8. Plant Pathology

Fruits

➤ The study aimed to isolate microflora from the rhizosphere of papaya plants to evaluate their antagonistic potential against *Fusarium solani*. Among 38 isolates obtained, seven were selected for their promising antagonistic potential, showing the following percent inhibition: RB-13 (79.59%), RB-15 (80.70%), RB-24 (83.95%), RB-32 (86.48%), RB-25 (89.30%), RB-29 (91.00%), and RB-34 (93.85%). Biochemical characterisation analysis showed RB-32 positive for the catalase test, NH₃ production, and siderophore production, with none producing HCN. Further screening of isolates exhibiting more than 85% inhibition identified RB-25, RB-29, RB-32, and RB-34 as *Bacillus cereus* (Bacterium te30A), *Bacillus subtilis*, *Alcaligenes sp.*, and *Bacillus velezensis*, respectively. These bacterial biocontrol agents were isolated from the papaya rhizosphere and tested against *Fusarium solani* for the first time.

In vitro evaluation of ten new-generation fungicides at various concentrations (50, 100, 150, 250, and 500 ppm) against *Fusarium solani* revealed Metalaxyl + Mancozeb to be the most effective at 100 ppm with 93.41% inhibition, followed by Tebuconazole at 91.18%. Fosetyl-Al at 100 ppm was the least effective, with an inhibition percentage of 25.92%.

3.1.9. Entomology

➤ An experiment was conducted on field efficacy and residue dynamics of combi formulation of hexythiazox + diafenthiuron in chilli against yellow mite, *Polyphagotarsonemus latus* (Banks). Hexythiazox 3.5 % + Diafenthiuron 42 % WDG @ 295.75 g a.i. /ha was observed to be more effective in controlling chilli yellow mite than standard check Ethion 50% EC.

3.1.10. Nematology

➤ Efficacy of different leaf extracts, marigold (*Tagetes erecta*), periwinkle (*Catharanthus roseus*), bael (*Aegles marmelos*), bhang (*Cannabis sativa*), neem (*Azadirachta indica*), carrot grass (*Parthenium hysterophorus*) and giant milkweed (*Calotropis gigantea*) against the egg hatching inhibition and larval mortality of *Meloidogyne incognita* in tomato (*Solanum lycopersicon* L.), were tested and was found that maximum egg hatching inhibition (%) and maximum larval mortality (%) was observed in *Tagetes erecta* (7.25 % and 9.24 %) followed by *Azadirachta indica* (6.68 % and 8.88 %).

Social Sciences

3.1.11. Agricultural Economics

Production and marketing

Post-harvest losses

➤ The post-harvest losses of paddy at farmers' level were high in Samastipur, Bihar as compared to Paschim Medinipur, West Bengal due to manual harvesting and lack of storage structure.

Secondary agriculture

➤ Approximately 53% of MSMEs were high performers in the Bengaluru district of Karnataka and the reasons behind the success were access to capital, innovation, and resource mobilization. Government support has a positive and significant effect on performance.

➤ Most of the bamboo artisans belong to scheduled castes in the Mayurbhanj and Dhanbad districts of Odisha and Jharkhand, respectively. The bamboo products are more profitable in Mayurbhanj than in Dhanbad due to marketing and technical advantages.

3.1.12. Agricultural engineering

PG and Ph.D. Students have significantly contributed to research projects under Farm Machinery and Power Engineering, Process and Food Engineering, and Soil and Water Conservation Engineering. Their work includes the development of innovative farm equipment to enhance mechanization, improving the efficiency and sustainability of food processing techniques, and devising advanced methods for soil and water conservation.

➤ **Development of manual vegetable transplanter.** The two-row manual vegetable transplanter was developed in CAET for small and marginal farmers for mechanical transplanting of vegetable seedlings. The average theoretical field capacity of transplanter was observed 0.027 ha/h and effective field capacity of transplanter was 0.023ha/h and field efficiency 85.18%. The cost of transplanting was 2680.82 Rs/ha, less than half the cost of manual transplanting.

➤ **Performance evaluation of developed watermelon decorticator.**

A watermelon seed decorticator unit has been designed and fabricated. The unit is a multipurpose





unit which can decorticate watermelon seeds and other fruit seeds, rice flaking, etc. The capacity is 20kg/h watermelon seeds. The seed decortication is done by abrasive force rotating disc wall and rotating rolls, adjustable clearance between the disc wall and rolls mill and varied angular speed for getting the best shelling efficiency. Trial was made for rice flaking and maize flaking and around 80-84 % flaking efficiency was obtained.



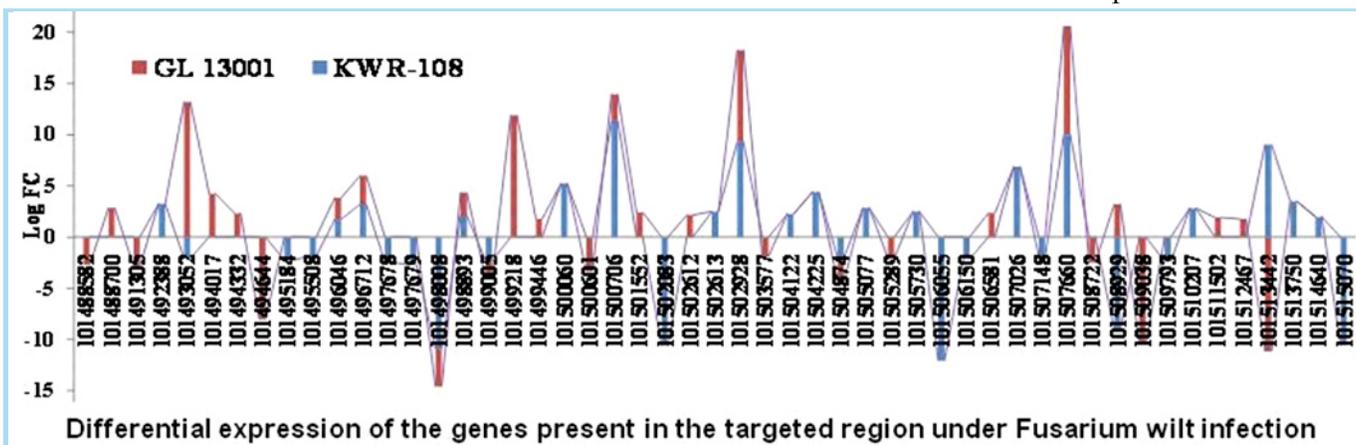
Basic Sciences

3.1.13. Molecular Biology & Biotechnology

- Screening methodology for identification of waterlogging tolerant genotypes of foxtail millet has been developed. It is found that water logging at early seedling stage causes morpho-physiological changes in the foxtail millet which is manifested at later growth stages. The water logging stress responsive adaptations in the form of aerenchyma and adventitious roots formations are observed and genes of ERF family and RBOHB family may play key role in water logging adaptations in the plant.
- A genomic region in chickpea chromosome 2 flanked by TA59 and TR19 markers significantly associated with Fusarium wilt resistance was explored. A total of 225 genes were identified to be present in the targeted region among which 51 was found to be showing differential expression under

Fusarium wilt. Marker trait association analysis revealed markers specific to candidate genes like LOC101502928 (WRKY transcription factor 55) and LOC101488582 (CBL interacting serine/threonine-protein kinase 2-like) significant association with disease resistance and could be more useful in developing robust resistance mechanism in chickpea plants against Fusarium wilt disease.

- Six Meta-QTL regions for heat tolerance in chickpea were identified. Meta-QTLs identified on CaLG01 and CaLG06 harbor QTLs for important traits, number of filled pods, heat tolerance, seed yield per plant, biological yield per plant, etc. In addition, key genes identified in Meta-QTL regions like Pollen receptor-like kinase 3 (CaPRK3), Flowering promoting factor 1 (CaPPF1), Flowering Locus C (CaFLC), Heat stress transcription factor A-5 (CaHsfA5) and Pollen-specific leucine-rich repeat extensins (CaLRXs) play an important role in regulating the flowering time, pollen germination and growth.
- 70 transporter genes for Cd and 44 transporter genes for Ca were identified in cultivated rice using the Insilco approach, out of which 27 transporters were found as co-transporters for Ca and Cd. Transporter genes may be edited to restrict the Cd uptake without intercalating the pathway of Ca uptake in rice.
- Two major QTLs (Fe_1:26.9-27.3 and Fe_1:33-35) for Fe and two major QTLs (Zn_1:20.9-25.4 and Zn_1:25.4-28.4) for Zn in rice using meta-QTL analysis approaches. Genomic region 25-28 Mb on Chromosome 1 is mostly likely associated with Fe and Zn uptake in rice. The

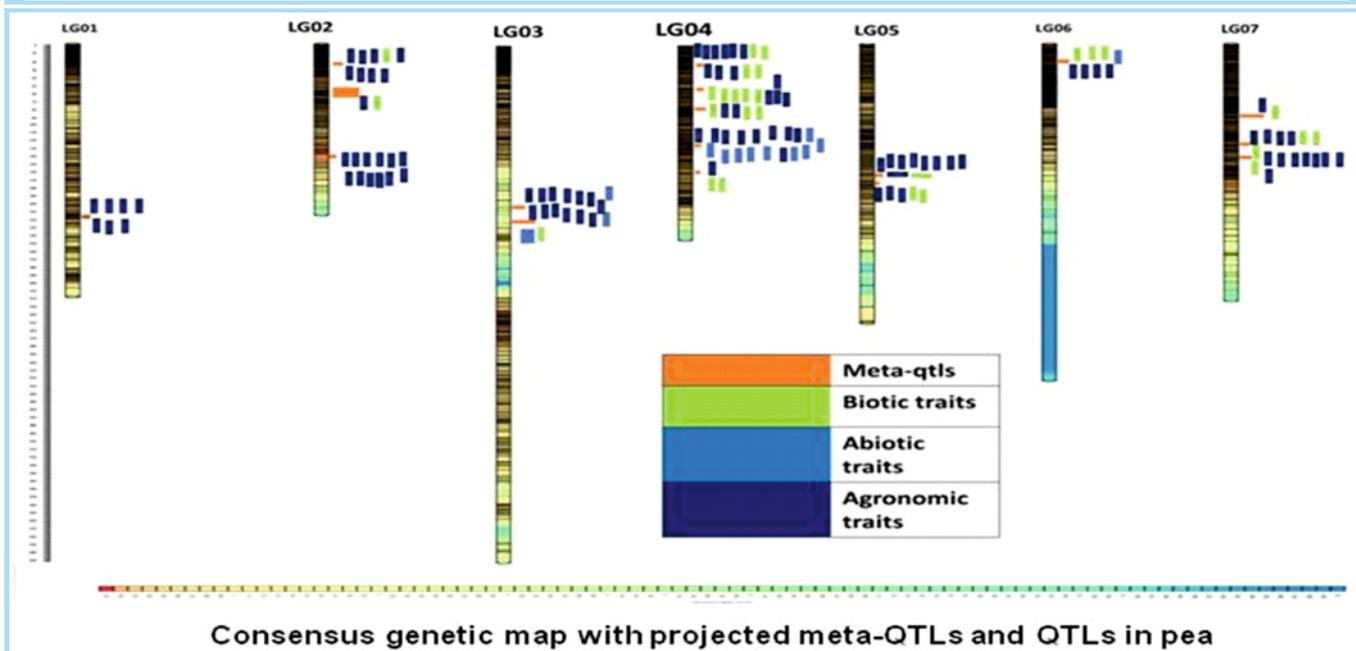
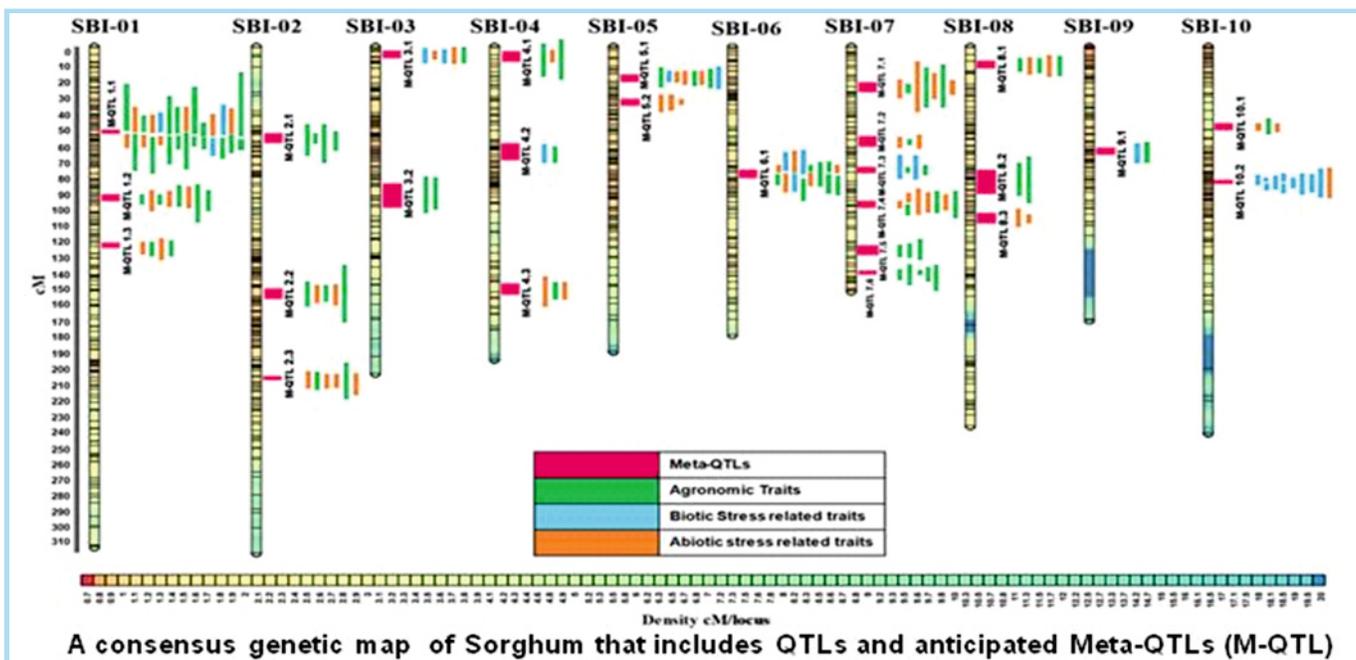


identified region may be used as the region for gene isolation and characterization using biotechnical tools to enhance the Fe and Zn in rice or the mapped region may be introduced using MABC and MARS approaches. Marker trait associated based studies using wild rice accession identified 17 markers to be linked with Zn content in rice grain.

➤ A high-density genetic map comprising of 1,257 markers spanning a distance of 2,214.77 cM along with 26 Meta-QTLs in sorghum was constructed deploying 235 QTLs responsible for

biotic stresses (sorghum shoot fly and ergot disease), abiotic stresses (drought and salinity), yield and other agronomic traits reported earlier.

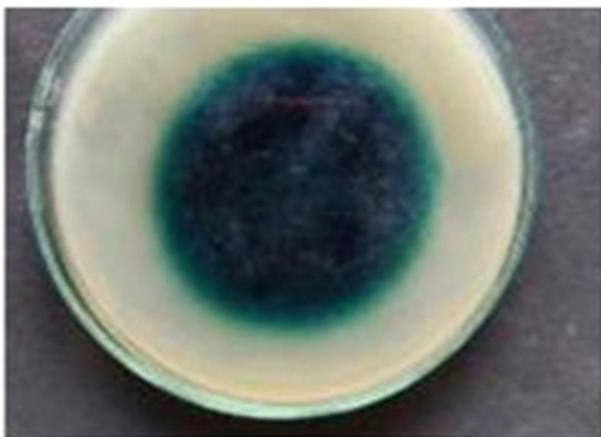
➤ In pea, a high density genetic map was constructed and identified 17 Meta-QTLs with confidence intervals reduced by 4.41-fold compared to the original QTLs. These findings provide ground breaking insights into the genetic mechanisms underlying responses to biotic and abiotic stresses, as well as yield and agronomic traits.



3.1.14. Microbiology

- A potential bacterial consortium has been developed consisting of three plant growth promoting bacterial strains, namely BS3 (*Bacillus*), PS5 (*Pseudomonas*), and RZL3 (*Rhizobium*) for enhancing plant growth, mitigating disease severity on lentil crop and evaluated as bio-control agent against Fusarium wilt of Lentil.
- A novel consortia of endophytic bacteria was developed as biocontrol agent against the red rot pathogen (*Colletotrichum falcatum*) and found 50-75 % reduction in disease incidence in Co-0238 (Susceptible variety for red rot) when consortia was evaluated along with Carbendazim fungicide as compared to control.
- Novel Bacteria (*Bacillus rugosus*, *Bacillus cereus*, *Bacillus paramycooides*) and fungi *Rhizopus delemar*, *Aspergillus fumigatus* and *Penicillium citrinum*) isolated from different environmental niches showed >60% weight loss of plastic after six months of incubation under laboratory conditions.

Isolate showing polymer degradation activity



3.1.15. Botany, Plant Physiology & Biochemistry

- Iron Oxide Nanoparticles were tested for alleviation of arsenic mediated phytotoxicity in rice under various arsenic and iron oxide treatments. Results indicated that iron oxide nanoparticles positively influenced seed germination, morphological, physiological, and biochemical parameters, suggesting their potential to mitigate

arsenic-induced phytotoxicity in rice.



Effect of different concentration of iron oxide nanoparticles treatments on rice genotype under normal and arsenic stress condition

- Essential oils were successfully extracted from the waste-leaves of turmeric of different varieties and characterised for their biological activities and found to have a very good antioxidant activities. Their antimicrobial activities against *Bipolaris oryzae*, *Xanthomonas oryzae*, *Alternaria brassicola* and *Xanthomonas campestris* was evaluated. These essential oils also exhibited phytotoxicity, insecticidal effects, inhibiting germination of seeds in various tested plants. Transcriptomic analysis of differentially expressed gene at different growth stage of turmeric has also been accomplished in both varieties of Rajendra Sonali and Narendra Haldi.



3.1.16. Fisheries

- A study was undertaken up on plant based aesthetic - oregano essential oil (OEO) in Labeo rohita fish and observed that the best OEO dose for short term fish handlings like blood collection, orphometric measures of fish is 20 µL/L in rohu fingerlings. While, the best OEO dose for



Euthanasia/Peaceful killing is 100 $\mu\text{L/L}$ which required for dissection purpose to collect tissue samples and other analysis. For long period transportation (up to 10 hrs.) a dose of 10 $\mu\text{L/L}$ showed less degradation of water quality parameters and less stress without any significant post transportation mortality.

- Supplementation of Non-starch polysaccharidases (NSPase) (Cellulase : Xylanase : Arabinoxylanase : Glucanase :: 1:1:1:1 w/w) at 0.1% enhanced the inclusion level of rice DDGS up to 30% and replace total fish meal in the diet of *Anabas testudineus* without compromising the nutrient utilization, growth performance, and health status and ultimately shall reduce the final feed cost.
- Study on dietary administration of Water-soluble leaf extract of coral jasmine @ 0.5% promoted growth, countered stress and increased immune responses of *L. rohita* fingerlings.

3.1.17. Community Sciences

The research conducted on “Quality Evaluation on different value-added products of Indian Gooseberry (Amla)”. Nutri-bars made from amla and ragi were evaluated and found to be rich in calcium. The amla and ragi based nutria-bar developed under the study showed a nutritional profile which is highly beneficial for lactating women. All the developed products from amla like amla candy, nutria-bar and herbal jam showed good vitamin C content.

A study on “Development and Evaluation of Millet Based Zinc Enriched Nutri Bar” was carried out. In this study two types of zinc enriched nutri bars were developed using sugar and honey as the sweetening agent, two treatments under each sugar based and honey based were developed. The overall acceptability for all the developed nutri bars ranged from 7.96 ± 0.54 to 8.33 ± 0.66 . Among all the treatment, the treatment with 20:20:10:10:5 ratio of foxtail millet flour, barnyard millet flour, sesame seeds, pumpkin seeds and cashew nuts was found to be the most highly acceptable with the highest overall acceptability score (8.33 ± 0.66). The same treatment was also found to be the most nutritionally superior zinc enriched nutri bar with the highest content of ash ($1.82 \pm 0.12\text{g}$), crude fibre ($3.26 \pm 0.14\text{g}$), fat ($20.63 \pm 0.17\text{g}$), crude protein ($10.32 \pm$

0.33g), energy ($476 \pm 1.43\text{kcal}$), iron ($2.74 \pm 0.04\text{mg}$) and zinc ($4.54 \pm 0.02\text{mg}$). The zinc enriched nutri bars also showed a good zinc bio-availability as their phytate.

The topic-Value addition of Bhagalpuri Khadi jackets through Manjusha painting of Bihar for Revival: Like Mithila painting, Manjush art can be a source of income for the rural youth. The study revealed that 85% respondents liked Khadi Garments for personal wear and 52% respondents liked Manjusha painting on apparel for their personal wear and 48% respondents informed that the Khadi Jackets with Manjusha Painting were attractive.

Impact assessment of Beekeeping Training Programmes conducted by RPCAU Pusa.

The present study was conducted in Samastipur district of Bihar, found to be positively and significantly related to the respondents' knowledge gain. Age, caste, education, and land holding size were found to have no significant relation with the gain in knowledge regarding Beekeeping training programmes.

3.2. Faculty Research Achievements Natural Resource Management

3.2.1. Agronomy

Standardizing the sowing methods and weed management practices for dry and wet DSR in Bihar: The suitable package of practices including crop establishment and weed management for dry and wet direct-seeded rice (DSR) for the north Bihar region was explored in the three-year research trial and recommended in the AICRP rice annual group meeting. Mechanical line sowing and drum seeder sowing were found to be the best establishment methods for dry and wet DSR, respectively. In the case of weed management in DSR, the pre-emergence herbicide application (pendimethalin @1000 ml/ha during 2 DAS) followed by the application of post-emergence herbicide, bispyribac sodium at 25 g/ha + pyrazosulfuron ethyl @10 g/ha during 20 DAS showed promising results on weed management which was at par with the labour as well as energy-intensive manual weeding.

Optimizing the package of practices for maize: The raised bed method of maize sowing was



found best sowing method for the *kharif* maize. Green seeker-based nutrient management was found to be the best nutrient management for rice-maize and maize-wheat cropping systems. The residue incorporation + spray of microbial consortium (Pusa decomposer) had proved its superiority along with 100% RDF of NPK. For effective and efficient control of broad-spectrum weed in *kharif* maize, the application of atrazine at 500 g/ha fb mesotrione + atrazine at 300 g/ha at 25-30 DAS was found to be the best.



Mechanical line sown dry DSR



Drum seeder sown wet DSR

Studies on organic source of nutrient on green forage yield and quality of rice bean-oat under irrigated situation: Under North Bihar, application of 50% RDN through FYM + 50% RDN through vermicompost is recommended for obtaining higher green fodder in rice bean-oat cropping sequence under irrigated situation. This technology produced 650.0 q ha⁻¹ green fodder yield, 133.2 q ha⁻¹ dry matter yield and 16.4 q ha⁻¹ crude protein yield with respective increments of 11.1, 24.5 and 26.2% over application of recommended dose of nitrogen through inorganic fertilizer with net monetary returns of Rs. 50325 ha⁻¹ and B: C ratio of

1.73. Also, brought about 25.5, 11.7, 40.1 and 10.3% increment in soil organic carbon, available N, P and K, respectively over initial levels after four years of experimentation whereas application of recommended dose of nitrogen through inorganic fertilizer led to decline in soil fertility.

Plant growth regulators for enhancing forage yield and quality of maize-oat cropping system: Under North Bihar, application of mepiquat chloride at 300 ppm at 30 days after sowing to forage maize during *Kharif* season is recommended. It has the potential to produce 413.4 q green fodder, 79.9 q dry fodder and 6.2 CP yields ha⁻¹. It resulted in a net monetary returns of Rs. 41000 ha⁻¹ with B:C ratio of 2.32. The relative advantage in green fodder, dry fodder and CP yields was 21.9, 27.2 and 44.2%, respectively over control (spray of water).

Application of salicylic acid at 100 ppm at 30 days after sowing to forage oat during *Rabi* season is recommended. It has the potential to produce 389.4 q green fodder, 93.6 q dry fodder and 9.5 CP yields ha⁻¹. It resulted in a net monetary returns of Rs. 40000 ha⁻¹ with B:C ratio of 2.26. The relative advantage in green fodder, dry fodder and CP yields was 18.8, 24.5 and 41.5%, respectively over control (spray of water)

3.2.2. Soil Science

Effect of boron nutrition on juice, jaggery quality and sugarcane productivity in calcareous soil of Bihar: Residual effects of B applied @ 2 kg/ha in plant crop was also noticed on yield attributes, ratoon cane yield, and uptake of nutrients. Juice quality parameters (brix, pol), and juice extraction (%) improved due to direct and residual B.

Long term experiment on crop residue and Zn application: A linear-plateau regression model revealed that Zn application at 10 kg/ha increased soil active carbon and soil respiration by 35% and 53%, respectively, with required crop residue levels at 73.73% and 90.28%. ACE protein increased by 9.6% with Zn application at 5 kg/ha, with a required crop residue level of 91.06%. The highest values of soil available nutrients and grain yield of rice were observed with 100% residue incorporation and 10 kg/ha Zn application. Thus, applying 10 kg/ha Zn along with 100% crop residue incorporation significantly improves soil biological properties and soil organic carbon levels in calcareous soil under a rice-wheat cropping system.

3.2.3. Forestry

Eight genotypes of *Dalbergia sissoo* were evaluated and PS-20 was observed to be superior registering the maximum height (10.3 m), diameter at breast height (16.9 cm), and volume (0.091 m³) closely followed by PS-52, PAUL#5 & PAUL#1 genotype.

Eighteen clones of poplar (*Populus deltoides*) were evaluated among which G-48 was found significantly superior followed by PP 9-J1 for volume. The litterfall (3.79 Mg ha⁻¹) and nutrient return (45.6 kg/ha N, 6.03 kg/ha P, and 20.66 kg/ha K) were also highest with G-48 plantation followed by PP9-J1.

The height of the bamboo sapling for the plantation was recommended to be more than 2.75 m. During flood, the entire dhab area remains submerged with a water stagnation of 0.70 to 2.75 m over the month. The lower Biomass Accumulation Ratio (BAR, 2.46 – 3.41) of bamboo plantations reflected greater production efficiency.



Crop Improvement

3.2.4. Plant Breeding

Release of Rajendra Genhu 4, an improved variety of wheat.



Rajendra Genhu-4

Release of Rajendra Madura-1, an improved variety of Finger Millets.



Rajendra Madua-1

G.I. Tagging of Marcha Dhan and aromatic traditional rice variety indigenous to West Champaran.

Saktiman-6 variety of QPM was recommended for release during 15th Research Council Meeting (Rabi): The variety Saktiman-6 is a QPM (Quality Protein Maize) grown in *khari* season. It appropriate sowing time is 1st fortnight of July having medium plant height. The QPM variety grain colour is yellow with maturity period 85-90 days and it has potential yield 70-75 q/ha. The protein content 9.87% , tryptophan 0.81% and lysine 5.52%.



Rajendra Channa 2 variety of Redgram:

The variety Rajendra Channa 2 is a bold seeded newly variety with average yield potential 2200-2500 kg/ha. Its maturity period is 110-115 days. The protein content is 18.95%. Rajendra Channa 2 variety is moderate to resistant against wilt.





3.2.5. Seed Science & Technologies

Seed priming with 20% liquid *Pseudomonas fluorescens* in combination with nutrient management with 125 kg Neem + 1250 kg Vermicompost per ha or 12.5 tons FYM per ha + 50 kg Urea + 50 kg SSP and 50 kg MOP per ha + Top dressing urea at 3-4 weeks after transplanting + 2% Borax spray at flowering) leads to a significant increase in field emergence, seed yield, overall seed quality, and net monetary returns in Proso millet.



The following technologies were recommended for release by the ICAR-AICRP on Seed (Crops) in collaboration with RPCAU, Pusa in 2023-24.

- (i) Reaffirming the validity period of seed certification in field crops: The validity periods of certified seeds of field crops (as per the IMSCS regulations), the validity periods for different crops were worked out as detailed below, and measures in reference to correspondence to appropriate authorities for consideration are being pursued in this regard.
 - a. Barley: 17 months of Germination >85%
 - b. Oat: 11 months of Germination >85%
 - c. Lentil: 10 months of Germination >75%
- (ii) Mitigation of terminal heat stress for better seed yield and quality in field crops. In wheat, foliar spray with Salicylic acid @ 800 ppm at vegetative and anthesis stage attributed for a successful mitigation to terminal heat stress.

Horticulture

3.2.6. Fruit Crops

Seventy-four banana accessions of different genomic groups are being maintained in the banana germplasm block of RPCAU, Pusa. Superior land races of yellow-skinned native bananas with higher bunch weight and superior fruit quality are being collected and characterised. Taxonomical characterisation of the newly collected genotype 'Majhaulia Collection, ABB' has been completed. The mature fruits have a distinct flavour and the volatile profiles of ripe fruits of banana 'Majhaulia Collection, ABB' have been taken up by GC-MS and it was compared with that of the China. Compounds like Isopentyl alcohol (Banana oil), Ethaneperoxoic

acid, Tridecanol, and Tetradecanoic acid are distinctly found in 'Majhaulia Collection, ABB' but are absent in 'China, ABB'.

Volatiles/ Compounds	'Majhaulia Collection, ABB' Content (in %)	'China Collection, ABB' Content (in %)
Hexadecanol	12.48	6.86
Benzene	13.80	12.25
Ethylacetophenone	10.41	11.94
Phenol	7.07	2.37
Ethylene	6.91	1.35
Cycloheptasiloxane	6.77	1.13
Ethanone	6.81	14.04
Amyl nitrite	2.31	3.14
Benzenepropanoic acid	2.14	2.41
Hexanol	1.81	2.94
Butanoic acid, butyl ester	1.65	1.14
Hexanoic acid	1.33	5.70
Isopentyl alcohol (Banana oil)	7.11	0.00
Ethaneperoxoic acid	16.28	0.00
Tridecanol	1.84	0.00
Tetradecanoic acid	1.28	0.00
Phthalic acid	0.00	28.87
Heptadecanone	0.00	1.50
Acetamide	0.00	4.37

The evaluation of local ABB banana clones (*Nepali China*, *Tepri*, *Nemopore* and *Simra*) with check (Kanthali, ABB) was conducted. Among the ABB clones evaluated, the clone 'Nemopore, ABB' was recorded either with maximum value or at par with the maximum value for various growth and yield attributes such as plant height, plant girth, number of leaves, leaf length and leaf width. This was reported statistically at par with the check 'Kanthali, ABB'.



Two banana cv. 'Kaveri Kanchan (NCR-17), AAB' and 'Kaveri Vamana (TBM-09), AAA' were recommended by ICAR-AICRP on Fruits for cultivation in Bihar. The former one is a hybrid banana developed by taking Nendran as a female parent and that can be consumed as a dessert type banana with an increase in carotene content. The later one, 'TBM-09, AAA' is a cavendish type of banana having extreme dwarf stature which does not require stacking. This is recommended for cultivation of terrace and cyclone affected zones.

Three varieties of Avocado, namely, Arka Supreme, Arka Coorg Ravi and TKD-1 were introduced for evaluation in RPCAU, Pusa under the ICAR-AICRP on Fruits project. Plants from all the three varieties have been planted in September 2023 with a spacing of 6m x 6m in a replicated trial. The growth phenology along with the yield and quality attributes will be recorded and studied.

3.2.7. Vegetable Crops

Garlic variety Rajendra Lahsun -1 developed by the Department of Horticulture has been notified by the SVRC in 2023 for cultivation in Bihar. This variety has a yield of 8-10 tonnes/ha and moderately resistant to purple blotch, Stemphylium blight and thrips.



Rajendra Lahsun-1

3.2.8. Tuber Crops

Development of Elephant foot Yam (EFY) improved breeding lines through Polycrossing: The Polycrossed seedlings of EFY have been raised to produce Clonal generation- VI (CG-6), where, altogether 04 polycrossed progenies were developed in which, out of the total, single plants selected on the basis of phenology and corm yield individual
RPCAU, Pusa, Bihar

plants were obtained more than 1.5Kg.



The Tuber Varieties released through SVRC for Bihar (2023-24): Rajendra Arvi-2, tuber variety has been identified and released through SVRC for state of Bihar in 2023. The average yield potential is 16-18 t/ha which recorded 16.66% higher yield over national checks variety viz., Muktakeshi and also found 11.84% higher yield over local check RA-1. It is an intermediate duration variety with a duration of 180–200 days. It contains low calcium oxalate i.e., 17.56 mg/100g, high in dry matter about 25-30% and rich in starch content (18-20 %). This variety is suitable for consumption in the form of leaf, petiole, corm and cormel as vegetables. It bears tolerance to leaf blight.

Rajendra Sakarkand-7: This variety is released through SVRC for state of Bihar in 2023. It is high yielding variety contains average yield of 20-25 t/ha, recorded 25.24 % higher yield over national check variety i.e., Kishan and 39.14 % higher tuber yield over local check Cross-4. Intermediate duration, maturing between 110-120 days. The variety has high dry matter (25-30%) and rich in starch content 10-12%. This variety is tolerant against sweet potato weevil (*Cylasformicarius*).

Rajendra Mishrikand-3: This variety is released through SVRC in the year 2023 and recommended for cultivation in Bihar. Its average yield potential is 36.9 t/ha, estimated 25.55% than the national check variety i.e., Rajendra Mishrikand-1. It bears intermediate duration and maturing period is in between 120–130 days. It contains medium fiber (7.0%), high in dry matter (16.2%), starch content 4.4% and contains 3.4 percentage sugars. It is suitable for raw consumption. This variety is tolerance against spotted pod borer (*Marucavitrata*).

Varieties identified for state release through AGM of Tuber Crops

Rajendra Jimikand-1: Selection from the germplasm collection of Dholi (Bihar) performed





better in Bihar and recommended for state release through 23rd Annual Group Meeting of AICRP on Tuber Crops. High yielding with an average yield of 45.6 t/ha, estimated 13.96 % higher yield over national check variety Gajendra. Intermediate duration, maturing between 210–230 days. Less acid (Calcium oxalate (mg 100g⁻¹): 18.62), and high in dry matter as 24.5 % . Moderately resistant to Collar rot (*Sclerotium rolfsii*). It has a long keeping quality (more than 30 days).

Rajendra Kanda-1: The variety developed through selection from the local collection of Dholi, RPCAU (Bihar) performed better in terms of yield and Identified for release through 23rd Annual Group Meeting of AICRP on Tuber Crops. Its average yield potential is 32-35 t/ha, recorded 30.11% higher yield than the national check variety i.e. IGB-5. It is Intermediate duration, takes 170–180 days. The variety contains low in calcium oxalate i.e., 37.14 mg/100g, high in dry matter: 20-25% and rich in starch content 15-20 %. It is suitable to take in the form of leaf, petiole and corm purposes. It bears moderately resistant to leaf blight has a long (>30days) keeping quality.



High density plant population in Elephant Foot Yam: The High Density plant population experiment conducted (single row) at 75 X 45 cm along with green manuring (Dhaincha) in Elephant Foot Yam found significant higher yield than normal planting. The corn yield recorded 77.9-110.5 percent higher than normal practices and income generated 68.7-84.4 percent more as compared to normal planting (90 X 90cm) and also support in soil health in terms of physico-chemical and nutrient status.

Plant protection

3.2.9. Plant Pathology

Fusarium wilt disease appeared in banana plantations of the Koshi belt of Bihar (Purnea, Katihar, Navgachhiya, Madhepura, and Kisanganj) with 5-48% incidence. It affected cultivars Robusta,

Basrai, and Grand Naine. Samples were collected, and a detailed study was conducted at the Fruit Pathology laboratory at RPCAU, Pusa. For pathogenicity confirmation, tissue culture banana plants (cv. Grand Naine) were inoculated with *Fusarium oxysporum* f.sp. *cubense*, and symptoms were observed within 14-16 days. The fungus was successfully reisolated, and a molecular confirmation using six specific primers revealed 100% sequence similarity with *Fusarium oxysporum* f.sp. *cubense* Tropical Race 4 (TR4). During the reporting period.

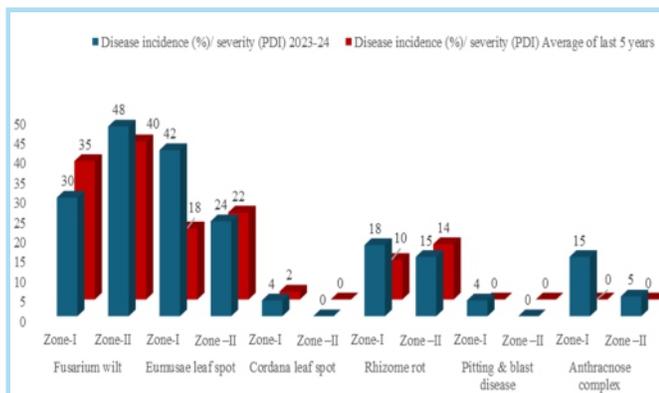
Banana Bunchy Top Virus (BBTV) was a major problem, with incidences of 4-18% and 4-10% in Zone-I and Zone-II, respectively. BBTV affects the entire state, irrespective of banana varieties, with Dwarf Cavendish varieties being more susceptible than tall ones. The third occurrence of anthracnose complex disease was observed in Zone-I and Zone-II of Bihar in July-August 2023, with incidences of 5-16% and 0-5%, respectively. Pitting & blast disease of banana was observed for the first time in Sitamadhi district of Bihar, with an incidence of less than 4%.



Anthracnose Complex in Banana

The Eumusae leaf spot disease (Sigatoka) in the agro-climatic conditions of Bihar was first observed on 24th July 2023, with a Percent Disease Intensity (PDI) of 2%. The disease severity, its progression, and various weather parameters, such as average temperature, average humidity, total rainfall, and average leaf wetness, were documented. The disease rapidly progressed during August and September, especially when the crops were 9 months old and in the flowering and fruiting

stages, reaching its peak i.e., 40 PDI on 2nd October 2023.



Disease observation on trap crop: Date of sowing had marked effect on the development of Brown Spot disease of rice. Sugandha (Susceptible variety) was sequentially sown on three dates- early (D/S- 15.06.2023, D/T-11.07.2023), normal (D/S- 30.06.2023, D/T-25.07.2023) and late (D/S- 15.07.2023, D/T-12.08.2023). Brown spot disease severity recorded lowest (12%) in normal sown crop and (17.5%) in early sown crop, whereas the Brown spot disease severity was recorded highest (37%) in late sown crop.

Evaluation of fungicide against location specific disease: Seven fungicides were tested against Brown leaf Spot disease of rice caused by *Drechslera oryzae* in field condition. The lowest disease severity recorded in Azoxystrobin 5.1% + Tebuconazole 9.1% + Prochloraz 18.2% EC (11.25% PDI) followed by Picoxystrobin 7.05% + Propiconazole 11.7% SC, (14.25% PDI), Azoxystrobin 14% + Epoxiconazole 9% SC (16% PDI), Kasugamycin 5% + Copper oxychloride 45% WP (16.5% PDI), Tebuconazole 50% + Trifloxystrobin 25% w/w WG (17.25% PDI), Fenoxanil 5% + Isoprothiolane 30% EC (21.25% PDI), Mancozeb 50% + Thiophanate methyl 25% WG (23% PDI) as compare to control (29% PDI).

Medicinal, aromatic plants and betel vine: Technology developed for the management of foliar (*Alternaria* leaf spot) and soil borne diseases (*Macrophomina phaseolina*) of sweet basil was approved in 31st Annual Group Meet of AICRP MAP&B held at ANDUAT, Ayodhya. Soil treatment with FYM @10t/ha enriched with talc-based formulations of *Trichoderma harzianum* along with the *Pseudomonas fluorescence* @ 2% each at the time of planting. First Foliar application

Pseudomonas fluorescence @ 2% at the onset of disease followed by two spray of neem oil @ 0.3% at 15 days interval reduced the foliar disease 81.4% and dry root rot by 9.65 per cent. Leaf yield increased by 13.25 % and herbage yield by 4.92 percent with cost benefit ratio of 1.74.

Microbial consortia for management of Banana Fusarium wilt caused by FoC TR4: Total 09 biocontrol agents (05-fungal- *Trichoderma asperellum* strains and 04-bacterial- *Bacillus subtilis*, *B. velezensis* strains) were isolated from banana ecosystems of Zone 1 and Zone 2 of Bihar and were selected based on their promising antagonistic potential (>65% inhibition) against *Fusarium oxysporum* f.sp. cubense Tropical race 4. All the bacterial and fungal BCAs were tested were combined in consortial combinations in 1:1 ratio and 24 such combinations were evaluated under in-planta conditions in glass house. Results revealed that lowest percent disease incidence (PDI) depending on disease score was 0 and highest plant vigour index (PVI) was 5070 for treatment B. *velezensis* strain1 (E1) + *T. asperellum* (F2) as compared to negative check.

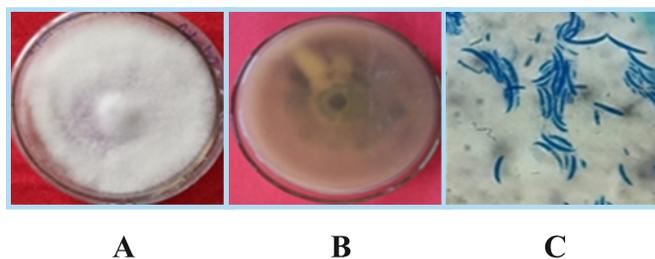


Plate 1 A. *Fusarium oxysporum* f.sp. cubense Tropical race 4 (A) Front side of the Petri plate (B) Back side of the Petri plate (C) Microscopic view (100X)

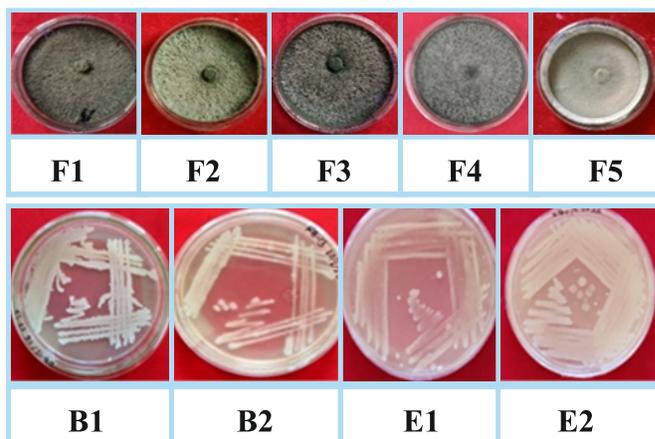


Plate 2 The fungal and bacterial BCAs against FoC Tr4



Plate 3. Effect of consortial combinations and BCAs treatments on appearance of external and internal symptoms in banana plantlets under glasshouse conditions

3.2.10. Entomology

Wheat Entomology

Forty two culturable bacterial associates were extracted from aphids collected from wheat and mustard crops, and 26 of them were molecularly identified through 16S rRNA gene amplification and phylogenetic analysis. The identified bacterial isolates were of 11 genera, grouped under seven families of four different orders of the phyla Bacillota (Firmicutes) and Pseudomonata (Proteobacteria). The study suggests that applying entomopathogens can alter the load of culturable bacterial associates in aphids, and the isolated bacterial associates did not inhibit the mycelial growth of the entomopathogens. This study also suggests species richness and diversity of bacterial communities associated with 5 different aphid species. Results showed that host plant may influence the composition of the bacterial community within the insects.



(a) (b) (c) (d) (e)

Aphid species utilized for the isolation of culturable bacterial endosymbionts

- (a) *Rhopalosiphum maidis*;
- (b) *Rhopalosiphum padi*;
- (c) *Sitobion avenae*;
- (d) *Schizaphis graminum*;
- (e) *Lipaphis erysimi pseudobrassicae*

Honey bees and pollinators

Domiciliation of *Xylocopa fenestrata*: For the 10 nests sampled of *X. fenestrata*, the nests were built on the top of bamboo parts of the plants on a Mean (\pm SD) 164.83 \pm 16.43 cm above the soil

surface. The average nest length, nest diameter, nest entrance and girth of bamboo top were 21.78 \pm 1.84 cm, 1.77 \pm 0.19 cm, 1.58 \pm 0.26 cm, and 2.62 \pm 0.55 respectively. The mean number of galleries, number of cells per gallery and cells length was 2.00, 3.30, and 19.08 \pm 2.12 mm, respectively. In carpenter bee (*Xylocopa fenestrata*), the acceptance percent for nesting varied from an extent of 70 to 80 per cent having a mean value of 77.50%. The studies indicate the possibility and utilization of carpenter bees for pollination by providing suitable habitat like bamboo top in the targeted crop.



Bee disease management by non-chemical methods:

Efficacy of various treatments on *Galleria mellonella* infestation on raised combs under storage conditions after 30 days of treatment. Sulphur fumigation @ 5g/comb was found most effective with significantly low comb damage (12.50 per cent) by *G. mellonella* was observed as compared to control (47.50 per cent comb damage) followed by 21.00 per cent in Neem oil Extract @ 3%. Neem leaf powder @ 20 g/ Comb per cent was found least effective with 36.25 per cent comb damage followed by Neem Seed Kernel Extract @ 5.0 per cent (25.36 per cent comb damage). Similar trends were recorded after 60 and 90 days of treatment.



3.2.11. Nematology

During the *Kharif* 2023, four blocks (Pandauly, Madhubani, Jhanjaurpur and Ghoghardiha) of Madhubani district, two blocks (Morwa and Pusa) of Samastipur district and horticultural polyhouses of the university were surveyed for the nematode population in seasonal crops and fruit trees from five villages of each block. The crops, paddy, pigeonpea, mungbean, urdbean, okra, pointed gourd, citrus, ridge gourd, bitter gourd, bottle gourd, pumpkin, sponge gourd, banana, brinjal, cucumber, field pea,



lentil, tomato, chilli, were found infected with root knot nematodes, *Meloidogyne species* (40-80 %), root rot nematode (*Hirschmaniella oryzae*) in paddy (50 %) and reniform nematodes (*Rotylenchulus reniformis*) (60-80 %). Other important nematodes found, were, *Pratylenchus spp.*, *Hoplolaimus spp.*, *Tylenchorhynchus spp.*, *Aphelenchus spp.*, *Aphelenchoides spp.*, *Criconeematids* etc.

Eight germplasms of tomato and okra, were screened against root knot nematodes, *Meloidogyne incognita*. Among the eight germplasms of tomato, four germplasm named, TR-TOM-49, TR-TOM-53, TR-TOM-52 and TR-TOM-62 were found moderately resistant. Three germplasm, TR-TOM-46, TR-TOM-35 and TR-TOM-51 were found susceptible while TR-TOM-61 was found highly susceptible. Among eight (08) germplasm of okra, screened against root knot nematodes, *Meloidogyne incognita*, six germplasm named, TR-BH-39, TR-BH-40, TR-BH-45, TR-BH-46, USM-5017 and USM-5017 (A) were found moderately resistant.

Social Sciences

3.2.12. Agricultural Economics

Women in agriculture

The study undertaken revealed that, the status of women related to education, health, and work participation is worse when compared with men in Bihar. The women of Samastipur district are involved in different activities of agriculture and dairy while the main occupation of women in Begusarai district is dairy. In Samastipur district, the participation is women dominated in sowing, transplanting, weeding, dehusking, and cleaning under crop production. While in Begusarai, there is equal participation of men and women in each activity of crop production.

Agricultural development

The infrastructure and agricultural development index were constructed by using principal component analysis (PCA) for 38 districts of Bihar with the help of secondary data. The result indicates Jehanabad (0.435) and Kishanganj (0.193) were the best and worst performing districts with respect to infrastructure. Purnea (0.667) and Madhubani (0.227) were the best and worst in terms of agricultural development.

Land use planning

The study was conducted to develop a farm plan for Kusiari village in the Samastipur district.

The results indicated that 20% of the total cultivable area is under fruit orchards, which means the optimum plan can be developed only for the remaining 80% of the area. The majority of the farmers (92%) of the village are of the marginal category, no large farmers are there in the village.

3.2.13. Extension Education

Impact of Bihar Krishi Road Map on livelihood promotion of the farmers and extent of linkage among collaborative departments

The research was conducted in 4 Agro-climatic zones of Bihar encompassing the total sample size of 800 respondents i.e. 400 beneficiary and 400 non-beneficiary farmers from each of the district. From each zone one district was randomly selected thus in toto 4 districts from each zones. To ascertain awareness level of farmers vis-à-vis Bihar Krishi Road Map in the study area (n=800) it was revealed that only 192 respondents (24%) were potentially aware of the road map. The two-phase Agriculture Roadmap (2012–17 and 2017–22) encompassed six goals based on that Comprehensive/inclusive Rural Livelihood Security Index (CRLSI) Pentagon was made i.e. Food (91.98), Nutritional (74.23), Economic (81.25), Social (59.92) & Environmental Security (49.56). CRLSI indicated that overall Livelihood Security was less than half way mark and beneficiary Livelihood Security (BLS) was significantly and positively different than non-beneficiary Livelihood Security (NBLs).

Impact assessment of RPCAU technologies for income and employment generation

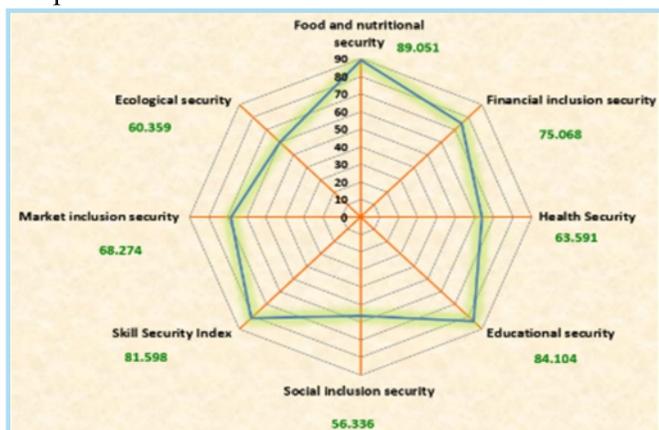
The farmers and migrant workers returned after COVID pandemic from East Champaran, Samastipur, Madhubani, Muzaffarpur, and Vaishali districts were imparted trainings on mushroom production. Information collected from 400 nos. of trainees were recorded to assess the impact. Online trainings were evaluated using Kirkpatrick's Four Level Training Evaluation Model. Out of 12 modules taught and evaluated, mushroom production and processing, crop management, harvesting, packaging, preparation of low cost and chemical free substrate - compost production (Oyster, Milky, Shiitake, and Hericium), spent mushroom utilization, cultivation of paddy straw mushroom (Theory and Practical) were found to be



significantly contributing to change in behaviour and income of farmers.

Standardization of techniques for livelihood analysis and women empowerment in different agro-ecological zones

Standardized Octa-dimensional Farm Women Sustainable Livelihood Security Index (FWSLSI): FWSLSI was developed as the mandate of Programme 2: Standardization of Techniques for Livelihood Analysis and Women Empowerment in Different Agro-Ecological Zones under AICRP-WIA. Food and nutritional security Index (FNS) had maximum weightage of 89.051 while social inclusion security Index (SIS) had the least weightage of 56.336. The developed index performed well in all 8 steps of the standardization procedure, and it can precisely measure Farm Women's Sustainable Livelihood Security status at the pan-India level.



FWSLSI

3.2.14. Agricultural Engineering

Faculty members have made significant research achievements in Farm Machinery and Power Engineering, Process and Food Engineering, and Soil and Water Conservation Engineering. They have developed advanced agricultural machinery that improves efficiency and reduces labor costs, innovated food processing techniques that enhance product quality and shelf life, and pioneered soil and water conservation methods that promote sustainable farming.

Some of the major topics of research in the given period

Roaster-cum-Boiler

Performance evaluation done, and minor modification done in the unit for holding the cob.

A roaster-cum-boiler was developed operated on liquefied Petroleum Gas (LPG) as fuel source. The developed unit can roast 30 maize and can boil around 28 maize in an hour.

Salient features

- Integrates both roasting and boiling of corn cobs operations simultaneously
- Portable and low cost
- Prevent heat exposure to the street vendor involved in corn roasting
- The average heat utilization factor in full load condition was 0.254.
- An average thermal efficiency of 61.88% was obtained for the unit. The mean roasting efficiency of the developed corn cob roaster cum boiler was determined to be 95.07 per cent.
- Total cost of the functional prototype is Rs 10000.00



Value added products from Kadam fruit.

Value added products from Kadam fruit/ Parameters of Kadam jam optimized and standardized.

Four value added products from Kadamba developed and standardized

Dehydrated powder of pulp (protocols developed): 10 kg of raw fruit resulted in 2.14 kg of dehydrated powder. The cost for production of 500 g of Kadam powder (excluding the packaging cost) is Rs 120.00. The pulp can be rehydrated and mixed with ingredients for production of various value added products such as sauce, jam, leather, etc.

Jam and Jelly (parameters optimized and process standardized): Ingredients: Dehydrated Kadam powder (50 g), Sugar (475 g), Corn flour (50g), Pectin (10g), water (250 g). 1.0 kg of Jam/jelly was prepared from 70 g of dehydrated kadam powder used, Cost: Rs 125/Kg

Kadam leather: Ingredients: Dehydrated Kadam powder (50g), Sugar (400 g), Corn flour (40g), Pectin (20g), Citric acid (5g), water (250 g); 1 kg of leather was prepared from 95 g of dehydrated kadamba powder, Cost: Rs 160/Kg

Protocols/ standardization of process technology for storage of Kadamba fruit pulp: KMS treated samples and pasteurized sample in ambient condition showed fungal growth after 48 days, Same result was obtained for 0.25 and 0.50% KMS treated sample which has fungal growth after 42 and 56 days.



Kadam leather/bar

Kadam jam



Kadam dehydrated powder Kadam pulp Kadam chutney

Planning and Development of Water Positive Zone for sustainable Aquifer Management : The concept of a Water Positive zone entails a region where the extraction of groundwater is balanced by both natural and artificial replenishment methods. This process involves evaluating the volume of groundwater extracted through pumping and its utilization in domestic, industrial, and agricultural sectors. This assessment also incorporates the calculation of natural groundwater replenishment and subsequently determining the deficit or over-exploitation situation. Once this data is obtained, addressing the deficit involves a three- pronged approach. Firstly, enhancing efficiency in each sector to curtail water usage; secondly, substituting the consumption of groundwater with treated and purified recycled wastewater; and finally, employing artificial recharge techniques. Overall,

the concept of water positive zone underlines the need for identification of factors responsible for over exploitation of groundwater and integrated approach for sustainable groundwater management.

Design and development of self-propelled semi-automatic vegetable transplanter. A single-row self-propelled semi-automatic vegetable transplanter with a rotating cup-type metering mechanism was design and developed in department of FMPE, CAET. The study involves designing the metering mechanism, fabricating the transplanter, and evaluating its performance and economic feasibility. Key metrics, such as field capacity, transplanting rate, and survival percentage, were measured during field trials on Chilli and Brinjal crops. Results showed the transplanter achieved field efficiency (43.61% to 55.55%) and actual field capacity (AFC) 0.02 ha/h. Transplanting rates ranged from 920 to 1680 plants per hour, significantly reducing labor requirements. Cost analysis confirmed the transplanter's economic benefits. The developed vegetable transplanter offers improved performance, efficiency, and cost savings, making it a promising tool for sustainable vegetable cultivation.



Design and development of self-propelled lentil harvester. The self-propelled lentil harvester is an effective innovation for modernizing lentil farming. Its design not only boosts productivity but also minimizes labor requirements and enhances harvest quality with minimal losses. The machine's adaptability to different field conditions and its ease of use make it a practical solution for mechanized harvesting. With further development, it has the potential to become a vital tool for lentil farmers, contributing significantly to the mechanization and efficiency of agricultural operations in regions where lentils are a key crop.



Lentil harvester



Design and development of battery-operated small weeder. A battery-operated dry land weeder is developed for spaced crop especially vegetable and flowers. The effective field capacity was found 0.016 to 0.018 ha/h with adjustable depth of operation of 2-4 cm. The weeding efficiency was observed between 69 to 81 % depending upon the depth of operation chosen and types of weed. The battery duration was estimated of minimum 2 h up to 3 h. The operating speed and pull force requirement is well within the comfortable range of human beings.

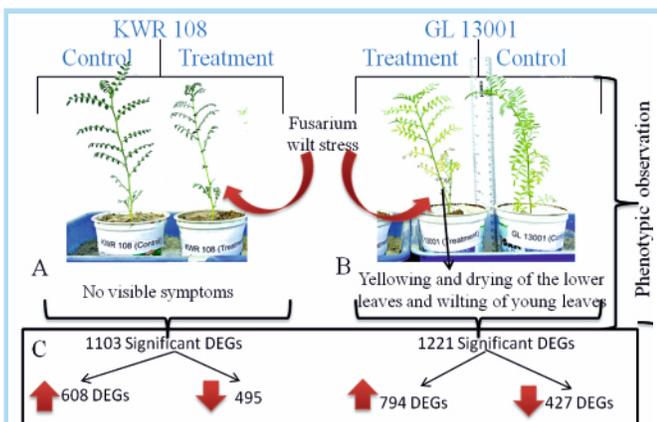


Small weeder

Basic Sciences

3.2.15. Molecular Biology and Biotechnology

RNA sequencing based shoot transcriptome data of two contrasting chickpea genotypes namely KWR108 (Fusarium wilt resistant) and GL13001 (Fusarium wilt susceptible) has been generated and submitted to INDA-CA (IBDC) and SRA database of NCBI and subsequently the respective accession numbers were obtained.



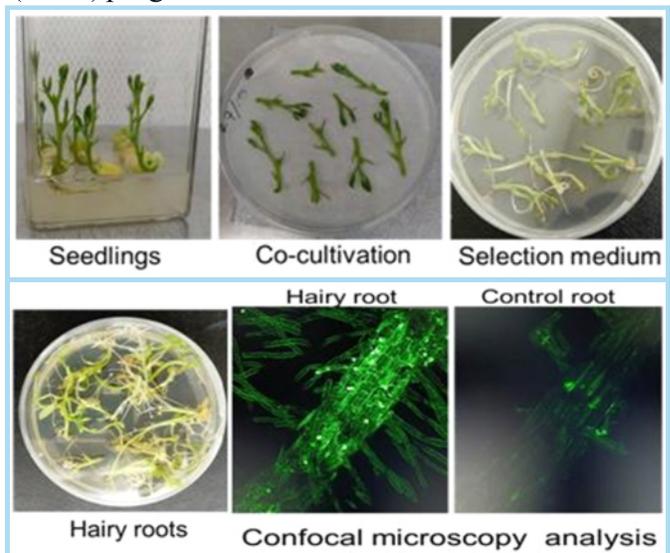
A total of 108 SNPs specific to 20 potential novel candidate genes were found have significant association with Fusarium wilt resistance (In terms of disease incidence % [DI%]) in diverse set of 244 chickpea genotypes as revealed by marker trait association study. SNP s The simple linear regression (R²) value calculated for each of the

significantly associated SNPs showed that 47.9 % variation in DI % is explained by SNP: Ca1_13679550 located in LOC101488673 (ERF Family: putative dehydration-responsive element-binding protein 2H), likewise 32.81 % by SNP: Ca4_32214383 located in LOC101501496 (Calmodulin-like protein 11), etc.

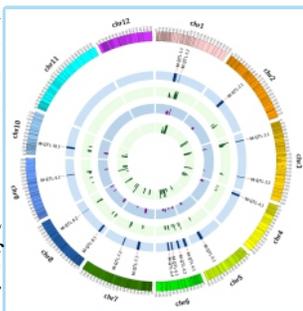
Ch 2	Marker/Gene ID (Chromosomal Location)	SNPs having significant association with DI%
	TA59 (23029043..23029285)	
	LOC101498008 (24097460..24103223)	Ca2_24097757**
	LOC101494644 (25149145..25169300)	Ca2_25163062*; Ca2_25166118**
	LOC101500706 (26650260..26680634)	Ca2_26651223 **; Ca2_26672698; Ca2_26678076
	LOC101505289 (27028801..27034118.)	Ca2_27029215**
	TR19 (27187236..27187435)	

Wild rice accession for the Indo-Gangetic plain region has been characterized for the diversity and population structure. Rice germplasm were phenotyped for the minerals; Cu, Fe, Mn, and Zn content in rice grain using ICP-MS and genotyping data was 50 K SNP. Two major QTLs positions were identified for the Fe over chromosome 1 at 22.6 Mb and 40.8 Mb. While, a common QTL position for Cu and Zn was mapped over chromosome 1 at 22.9 Mb, and 6 QTLs for Mn were observed over chromosome number 1 (11.3 Mb), 3 (10.8, 11.4 and 25.5 Mb), and 6 (30 Mb).

Developed CRISPR/Cas9 mediated gene editing in grass pea (Lathyrus sativa) in collaboration with John Innes Centre, Norwich, UK under SERB-International Research Experience (SIRE) programme.



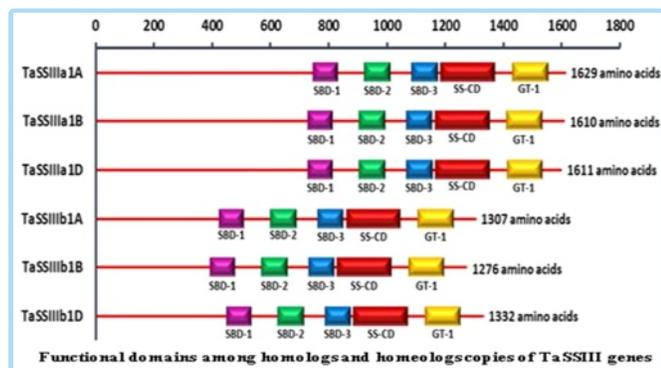
A total of 17 stable MQTLs on 10 linkage groups across different genetic backgrounds of rice have been identified. On average, the CI of the reported MQTLs was decreased by 4.53 times when compared to the original QTLs. Further, 5,238 genes in the MQTL regions were identified, of which 48 genes code for heavy metal-containing domains, transporter family proteins (Arsenic reductase, multidrug resistance proteins and ABC transporter etc.) and several potential novel putative candidate genes for heavy metal stress tolerance.



Nine genotypes of little millet namely WV-115, WV-119, WV-121, WV-142, WV-145, WV-155, WV-168, WV-179, WV-199 were identified as promising genotypes for Bihar region. Out of these genotypes WV-199, WV-119, WV-145, WV-142 were found to contain high iron and zinc. The research provides fundamental information for further biofortification programmes in little millet.



Comprehensively analyses the potential role of starch synthase III (TaSS III) gene in heat stress tolerance of wheat. The analysis revealed existence of two copies differentially expressed under heat stress



3.2.16. Microbiology

Developed a liquid biofertilizer formulation of Rhizobium enriched with PVP and cost-effective natural additives like cassava starch that offers a cost-effective and sustainable approach to agriculture, reducing dependence on chemical fertilizers

Attempts have been made at replacing the commercial media by household wastes i.e (Moringa leaves, Pumpkin Seeds, Banana Peel, Beet Peel, Palak root and stalk, Sugarcane bagasses) based on their nutrient contents. The initial analysis revealed the potential use of household wastes as it contains large amount of valuable nutrients and could be used as alternative nutrient source to design liquid media-based formulation.

3.2.17. Botany, Plant Physiology and Biochemistry

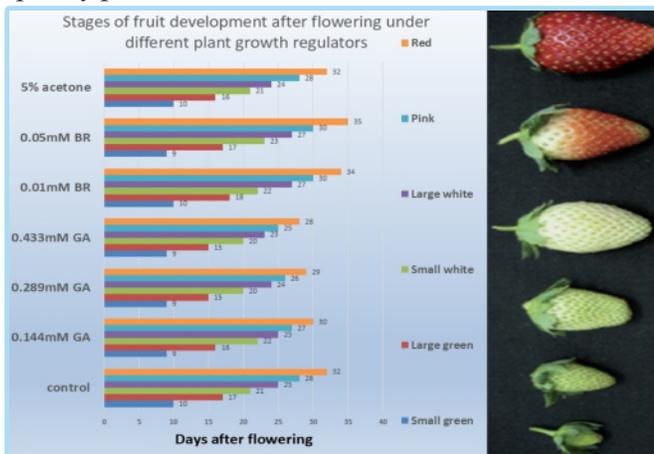
For the production of medicinal honey, six species of medicinal plants were identified as promising for bee foraging, i.e. *Tecoma stans* (Yellow trumpet bush), *Ocimum Basilicum* (sweet basil), *Moringa oleifera* (moringa), *Cascabela thevetia* (Kaner), *Mimosa pudica* (Lajwanti) and *Matricaria chamomilla* (chamomilla). Bee Visitation calendar prepared for geographical location of Pusa.



The method of Gibberellic acid (GA) and Brassinosteroid (BR) application in Strawberry for enhancing the yield, carotenoid and protein content while delaying the ripening process has been developed. The Application of GA and BR at 0.144mM and 0.01mM respectively were found to be significantly enhancing the yield and other

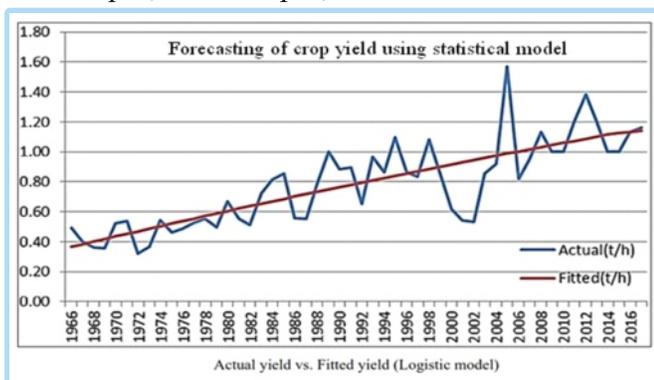


quality parameters of Strawberries.

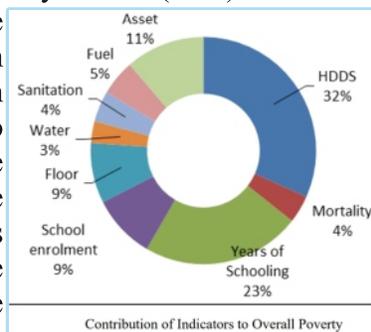


3.2.18. Statistics and Computer Application

Significant research on forecasting and modeling of different crops through statistical models and machine learning models. Assessed the food diversity & food security of Agricultural household in three districts of North Bihar Samastipur, Muzaffarpur, Vaishali.



Identified the multi-dimensional poverty among migrants during COVID-19 in rural households of Samastipur district, Bihar, India. Multidimensional poverty index (MPI) has been constructed for the poverty stricken migrant population during COVID-19 to understand the deprivations they are facing along various dimensions. All the participants of the survey are MPI poor as they suffered deprivation in at least a third of the indicators. The deprivation in nutrition is the most



important factor contributing towards overall poverty. Education is the next important contributing factor followed by the indicator asset under living standard dimension.

3.2.19. Fishery Sciences

Co-culture system of Singhi (*Heteropneustes fossilis*) and Kawai (*Anabas testudineus*) in a specific species ratio of S25:K75 (25% singhi and 75% kawai) has better productivity than that in monoculture system of individual species, resulting to the extra profitable which provides shortest payback period.

Under the National Surveillance Programme for Aquatic Animal Diseases Phase II – Sub Project No. – 28, funded by the Pradhan Mantri Matsya Sampada Yojana, Government of India, baseline information was collected from fish farms across the Muzaffarpur, Samastipur, and Darbhanga districts. Monthly active surveillance for *Aphanomyces invadens* was conducted at 14 farms during the winter, with no cases detected. Statewide passive surveillance, including samples brought by farmers, phone calls, WhatsApp groups, and the use of the mobile app "ReportFishDisease," as well as routine farm visits, reported a total of 98 disease cases, primarily related to ectoparasitic infestations. To promote the use of the mobile app "Report Fish Disease," 12 awareness programs were organized, with eleven held at COF, Dholi, and one at KVK, Sukhet.

3.2.20. Community Sciences

A detailed note about the significant research contributions (theme-wise) made by the students during the period is presented in subsequent section.

In AICRP on Women in Agriculture (Programme-3) "Community-based technological interventions for food, nutrition, livelihood securities & entrepreneurship development for farm women" component a survey work has been carried out in 500 household of two blocks i.e., Bandra and Saraiya of Muzaffarpur district. The findings revealed that the farm women were showed their interest for entrepreneurship development. The respondents should be encouraged for non-farm and off-farm income so that they can enhance their income. It was found that their perception is very positive for entrepreneurial development but they do not have adequate knowledge and skill to start their own enterprise. Most of the farm women are agreed



that they do not have sufficient knowledge related to financial, banking and legal procedure for establishment of an enterprise. After all the observation it was found that 72.4% farm women have expectation that they can enhance their income after establishment of an enterprise.

Under AICRP for Women in Agriculture the programme entitled “Assessment, refinement and popularization of gender friendly technologies and skill enhancement of farm women”, data regarding use of different women friendly technologies from 800 farm women of Samastipur and Muzaffarpur district were collected to understand the needs, gender role and challenges in various field operation in agriculture and allied sector. There was also assessment, refinement and development of women friendly tools which were ergonomically designed for minimizing drudgery. Under this traditional sickle, naveen sickle and okra plucker were assessed and there is need for improvement in traditional sickle and cotton gloves for okra plucking.

Under the Centre of Excellence on Millets and Value Chain Project (CoEMVC) under 4th Krishi Road Map, Govt. of Bihar project the development and standardization of ready to eat traditional food product is going on. In this regard, development and standardization of ready to eat traditional product i.e. bajra pedakiya was made. In these products rice flour and refined flour were being replaced with and bajra flour. Their organoleptic analysis was carried out and its nutritional analysis was going on.

Several value added millets-based products like ragi laddu, ragi murku, ragi ribbon, cheena anarsa, ragi biscuit, sweet, ragi biscuit, namkeen, multigrain biscuit, bajra lai, instant kauni dhokla mix, instant idli mix, multi grain flour, malted ragi flour, ragi flour etc. were developed and displayed during the farmers fair, exhibition, field day etc. The main purpose to display these products is to raise awareness among farmers and farm women about the significance of incorporating millets into their diets and daily lives.

NABARD sponsored project entitled Enhancing Income of Farmers through Value Chain Development of Millets in Samastipur district in Bihar is initiated. As per the objective of the project base line survey of 150, FPO members has been conducted. Focused group discussion were conducted among FPO members regarding value chain management of millets to enhance their income.

3.2.21. School of Agribusiness and Rural Management

Performance Analysis of Farmer Producer Organization (FPO) in Bihar : FPOs from 13 districts of Bihar were studied with the objective of assessment of FPO performance, factors affecting their success, impact on the household economy, digital readiness, and challenges faced. The study revealed that majority of the FPOs were low to medium performers. The reason for low performance were related to governance issues for example lack of well-qualified CEOs and Accountant, non-utilization of potential technologies, inability to expand capital base & lack of an effective business plan etc. The strategies for enhancing their performance are better governance structure by deploying qualified professionals, competitive salaries, effective business planning, incubation facility for FPOs, awareness and waving on digitization, supply chain & market linkages that will help FPOs to expand their capital base by earning better revenues.

In this project, we developed a performance index for FPOs. Though this index, this involves 38 variables and 6 parameters. The study covered data from 50 FPOs and 500 member and 500 nonmember farmers summing up to 1000 farmers were selected. Farmers and CEOs were also trained on improving the performance of FPOs and effective business planning under workshop mode.

Impact of Pradhan Mantri Fasal Bima Yojana : In the project entitled “Impact of Pradhan Mantri Fasal Bima Yojana” for socio-economic development of farmers. A study was conducted in Bihar and Maharashtra to analyze the crop insurance adoption behavior and farmer’s perception of both loanee & non-loanee farmers, the socio-economic impact of the insurance schemes and constraints. It was found that in Maharashtra, Pradhan Mantri Fasal Bima Yojana has significant impact on the livelihood security (economic, social, ecological etc. parameters), while for Bihar Rajya Fasal Sahyata Yojana, farmer’s even though had a positive perception, they believed that Pradhan Mantri Fasal Bima Yojana too shall co-exist in the state (Bihar), on existing scheme (BRFSY) has not brought any significant changes to their livelihood security. It was suggested that for better functioning/implementation, active participation of gram panchayats shall be considered.



4. EXTENSION ACTIVITIES

4.1. Kisan Mela

Dr. Rajendra Prasad Central Agricultural University, Pusa successfully organized three days Kisan Mela with a theme “Moving towards Nutritional Security from Food Security” during 24 – 26th February 2024 in a grand manner. It was inaugurated by the Chief Guest Hon'ble Deputy CM and Agriculture Minister, Govt. of Bihar Shri Vijay Kumar Sinha, Special Guest Mr. Ramnath Thakur, Hon'ble Member of the Parliament, Rajya Sabha, Hon'ble Vice-Chancellor of RPCAU, Pusa, Dr. P. S. Pandey and Mr. Sudhansu Sekhar Das, Manager, PNB, Zonal office, Patna.



Four ICAR institutes from the State of Orissa, M.P., U.P., and Bihar along with private organizations participated and displayed their technologies to educate the farmers, youths and school children. One hundred eighty (180) Stalls were established by the organizer to accommodate all these institutions.

Hon'ble Deputy CM and Agriculture Minister, Sri Vijay Kumar Sinha, Hon'ble Vice Chancellor, RPCAU, Pusa along with other dignitaries have released the Extension bulletin, (Product Catalogue of Banana Product), Aadhunik Kisan and Souvenirs.

Dr. Dinesh Chandra Rai, Hon'ble Vice-Chancellor, B. R. Ambedkar University, Muzaffarpur was the Chief Guest in the valedictory Session. After his arrival, he was taken to the thematic Stall by the Hon'ble Vice Chancellor to see the different material displayed in the stall. By seeing the natural farming model and value added

product of millets, he profusely appreciated the initiative of the University. He also visited the Horticultural show and Mushroom Stall and appreciated about great achievement of University in the field of Mushroom Cultivation. According to him our nation are self- sufficient in food grain production and able to export to another country, also our agricultural research should be based on the theme of Kisan Mela i.e., moving towards nutritional security from food security and we have to work accordingly. The students of the university and the students of the Jawahar Navodaya Vidyalaya, Birauli, Samastipur perform the different cultural activities for the entertainment of the participants.

4.2. Atma Nirbhar Krishi Sah Bagwani Vistar Evam Pashudhan Kalyan Mela-2024

"Atma nirbhar Krishi sah Bagwani Vistar evam Pashudhan Kalyan Mela-2024 was successfully conducted by Krishi Vigyan Kendra, Piprakothi from 10-12th February 2024. This auspicious mela was graced by the presence of honorable dignitaries from various parts of the country alongside glaring the participation of prominent ICAR institutes, other agricultural universities, line departments of government machinery, FPOs, SHGs, agripreneurs, extension workers, development officers, agro-industry personnel and thousands of farmers. Around 6500 farmers participated in the mela. The three days "Atma nirbhar Krishi sah Bagwani Vistar evam Pashudhan Kalyan Mela-2024" was inaugurated virtually by Shri Radha Mohan Singh, Hon'ble Member of Parliament, Motihari and Ex Minister of Agriculture and Farmers Welfare and with gracious presence Dr Neelam Patel, Senior Advisor(Agriculture),NITI Aayog, Hon'ble Vice Chancellor, RPCAU, Pusa, Dr P S Pandey, Dr Lal Babu Gupta, Deputy Mayor, Motihari, Shri Ganesh Paswan, DPM, Jeevika, Director of Extension Education, Dr M S Kundu and Directors and Deans, ofRPCAU, Pusa.

Second day of "Atma nirbhar krishi sah Bagwani Vistar evam Pashudhan Kalyan Mela -2024" was successfully commenced in gracious presence of Shri Radha Mohan Singh, Hon'ble MP, Motihari and Ex Minister of Agriculture and Farmers Welfare,

Dr. Neelam Patel, Senior Advisor Agriculture NITI Aayog, Dr Sudhanshu Singh, Director IRRI-SARC, Hon'ble Vice Chancellor, RPCAU, Dr. P. S. Pandey, Dr. M. S. Kundu, DEE, RPCAU, Pusa, Dr. B. P. Yadav, Senior Scientist, Agriculture Research Centre, Nepal, Dr. Anup Das, Director ICAR-RCER, Dr. Bikash Das, Director, NRC, Litchi, Dr. Anthony Fullford, Senior Scientist, Soil Science, IRRI, Dr. Rave Yahaya, Senior Scientist Farm Mechanization, IRRI and Assistant Director Horticulture, Motihari.



The third day of "Atma nirbhar krishi sah Bagwani Vistar evam Pashu dhan Kalyan Mela-2024" was successfully commenced with theme Pashupalak Kisan Sammelan which was graced with presence of Chief Guest Shri Surya Pratap Sahi, Hon'ble Agriculture Minister, Uttar Pradesh, Shri Radha Mohan Singh, Hon'ble MP Motihari and Ex Minister of Agriculture and Farmers Welfare, Hon'ble Vice-chancellor, NDUAT, Ayodhya, Dr. Bijendra Singh, Hon'ble Vice-chancellor, RPCAU, Pusa, Dr. P. S. Pandey, Shri Manish Bandlish, MD, Mother Dairy, and other dignitaries.

Figure 4.1 Glimpse of Inaugural Session of Kisan Mela (A) RPCAU Kisan Mela 2024 (B) Atma Nirbhar Krishi Sah Bagwani Vistar Evam Pashudhan Kalyan Mela-2024

4.3. Mahila Kisan Mela Turki, Muzaffarpur

Krishi Vigyan Kendra, Turki, Muzaffarpur organized Mahila Kisan Mela on 18.03.2024. The Kisan Mela was graced by Dr. P.S. Pandey Hon'ble Vice Chancellor, RPCAU Pusa, and other Deans and Directors as eminent guests. In this Kisan Mela 3064 women participated from all blocks of Muzaffarpur district. Hon'ble Vice Chancellor addressed the women farmers. In this Kisan Mela progressive farmers and farm women received Best Progressive farmers' award by Chief Guest.

Apart from above mentioned three kisan mela, the KVKs of RPCAU have organized several kisan mela each with different themes and objectives during the year 2023-24.



4.4. Capacity Development/Training Programme conducted by KVKs during 2023-24

The sixteen KVKs of RPCAU Pusa were actively engaged in organizing several training programmes such as training programmes for Farm Women and farmers, Extension Personnel, Members of NGOs and input dealers and skill teaching trainings for rural youths and farmers. A total 1745 trainings programmes were organized during the year 2023-24



and detail is depicted in Figure 4.3

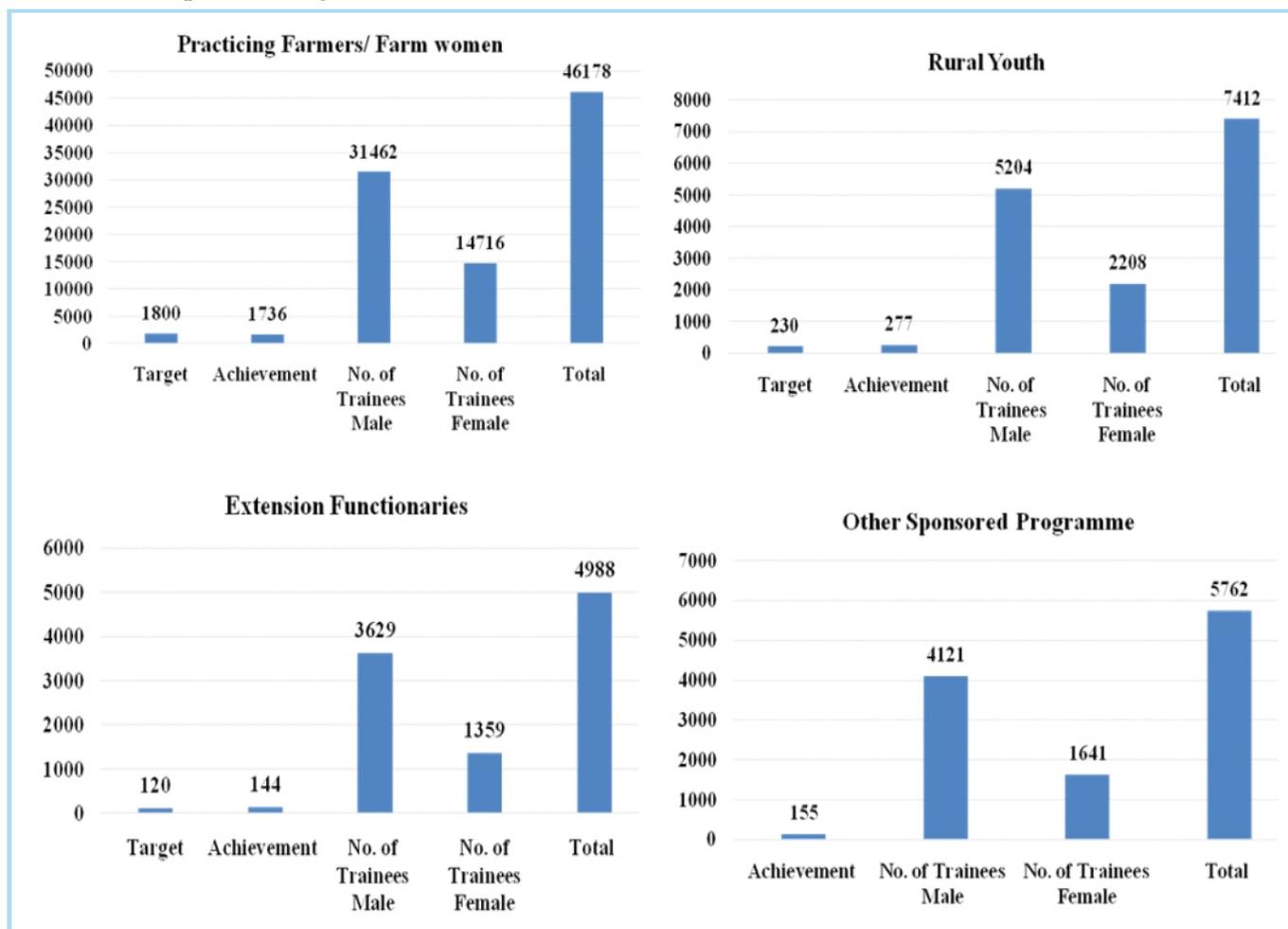


Figure 4.1 Capacity Development/ Training Programmes organized by Krishi Vigyan Kendra's of RPCAU, Pusa during the year 2023-24

4.5. Overall Extension Activities organized during 2023-24

Apart from organizing trainings, OFTs and FLDs, the KVKs under Directorate of extension Education, RPCAU Pusa as well as different other unites of the University have also organized several different types of extension activities during the year 2023-24 which directly benefitted more than 2.9 lakhs of participants including farmers and extension officials. These programmes namely, Kisan Mela, Kisan Choupal, Group Meetings, Soil and Animal health camp, film shows field day were mainly organized to create awareness among the farming communities regarding new technologies, new crop varieties, to understand issues faced by the farmers *etc.*

4.6. Extension Activities under Scheduled Caste Sub Plan (SCSP)

Training and Demonstration Activities: A total of 155 trainings were conducted with 3793 participants. On-Farm Trials (OFT) and Frontline Demonstrations (FLD): A total of 09 OFTs were conducted with 23 participants. A total of 78 FLDs with 1015 beneficiaries. Mobile Agro-Advisory to Farmers: 419 Number of advisories were provided benefitting 6251. Other Activities: farmers of some district under SCSP plan were engaged in activities such as seed production (2.44 ha), planting material production (0.01 lakh), Production of fingerlings (0.015 lakh) and 1477 participants in extension activities. Testing of Soil, Water, Plant, Manures Samples: A total of 143 samples were tested across all districts.

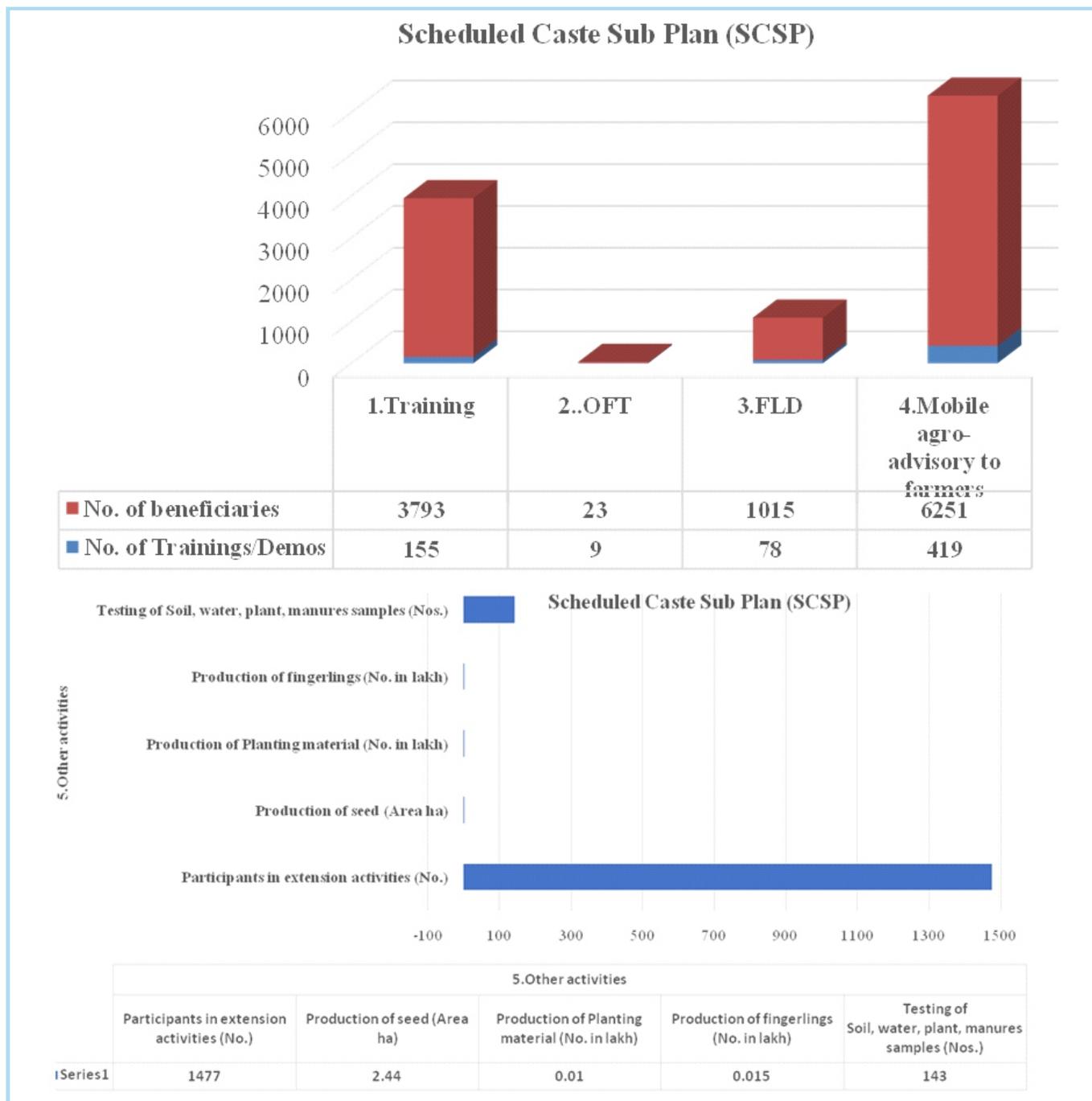


Figure 4.2 Details of activities organized under Scheduled Caste Sub Plan (SCSP) during 2023-24

4.7. Activities under NICRA project during 2023-24

Several activities were conducted under the National Initiative on Climate Resilient Agriculture (NICRA) project at different KVKs of RPCAU, Pusa particularly in the area of Natural Resource Management: Zero Tillage Wheat intervention covering 2 hectares and benefiting 10 farmers. Crop Management/Production: Crop Management / Production with area (314.91 hectares) with various

interventions. A total of 658 farmers were benefitted from this interventions across the three districts. Livestock and Fisheries: Backyard poultry interventions, providing 3488 chicks benefitting 52 families. Establishment of Azolla units covering 20 cows. 20,000 Fish (Monosex tilapia) were provided to 20 families. Distribution of Aqua zeolite (to improve water quality) and Warriar (to control

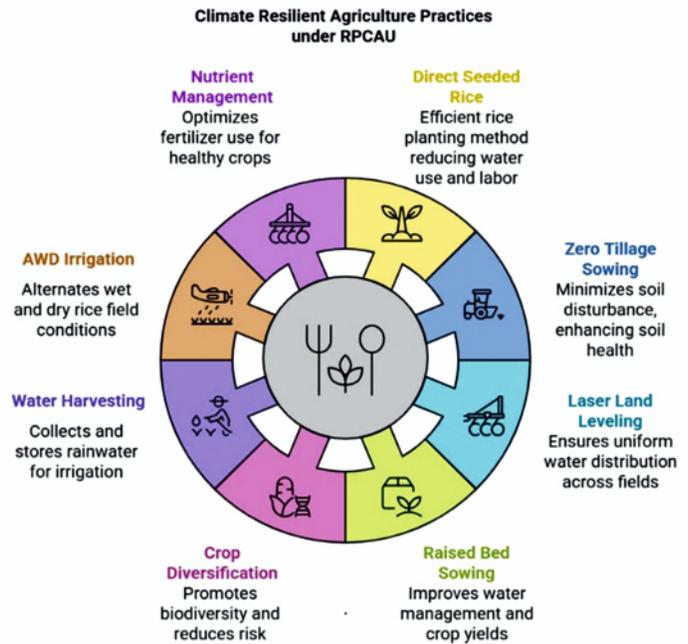


inhibit bacterial and parasitic disease of fish covering 0.6 ha and benefitting 2 farmers. Institutional Interventions: Darbhanga district established a Village Climate Resilient Management Center (VCRMC) at Jogiara,

benefitting 25 farmers. Capacity Building: A total of 32 Capacity Building training were conducted benefitting 833 farmers across various thematic areas. Extension Activities: A total of 45 Extension Activities were conducted benefitting 557 farmers.

4.8. Climate Resilient Agriculture (CRA) Program

Climate Resilient Agriculture (CRA) Program is one of the most futuristic projects works in collaboration with the Govt. of Bihar and RPCAU, Pusa. RPCAU, Pusa leads the implementation and on-farm demonstration of climate resilient agricultural practices across thirteen districts of Bihar through this program. During the year 2023-24, climate-resilient agricultural practices were implemented across 595 acres during Kharif, 623 acres during Rabi, and 250 acres in the Summer season. Additionally, laser land leveling was carried out on 100 acres in each CRA district. The key climate resilient interventions included zero tillage for wheat and mung bean, direct-seeded rice along with laser land leveling and advanced water management techniques. Capacity building programs of the stakeholder was a mandate of the CRA Program for the year 2023-24. A total of 546 capacity building and awareness programs were conducted across nine districts during the year. In these programs, 24,520 male and 7,073 female stakeholders participated, leading to a total of 31,593 trainees received training and support to reshape their farm practices according to the climate resilience initiatives. Overall, these efforts have contributed to enhanced crop productivity, resource efficiency, and climate resilience, fostering sustainable agriculture and rural development in the targeted CRA districts.





4.9. Mass Communication effort during 2023-24

Mass Media	Number
Press Notes	23
Radio talks	5
TV programmes/talks	16
TV phone in live	04
Popular articles	89
Leaflets/Pamphlets/Booklets	29

4.10. Capacity Building Programmes during 2023-24

Capacity building programmes organized (in numbers) during the period	
Training programmes to Extension personnel	134
Training programmes to Farmers and farm women	1517
Training programmes to NGOs and input agencies	178
Method demonstrations	780
Skill training programmes	5
Rythu sadassus	0
Group discussions	566
Field days	272

4.11. Extension Activities during 2023-24

Nature of Extension Activity	No. of activities	Farmer's	Extension Officials	Total
Field Day	103	4151	77	4228
Kisan Mela	38	71892	123	72015
Kisan Choupal	51	3870	18	3888
Exhibition	67	23570	34	23604
Film Show	59	1579	11	1590
Method Demonstrations	102	4370	8	4378
Group meetings	352	7689	4	7693
Advisory services	112	3486	16	3502
Farmers visit to KVK	208	19360	45	9405
Diagnostic visits	110	4690	33	4723
Exposure Visits	44	1760	0	1760
Ex-trainees Sammelan	0	0	0	0
Soil Health Camp	16	5678	47	5725
Animal Health Camp	19	3945	10	3955
Soil test campaigns	0	00	0	0
Self Help Group Conveners meetings	21	679	0	679
Live telecast of Flagship pogrammes	37	6780	34	6814
Total	1339	163499	460	153959

5. ENTREPRENEURSHIP DEVELOPMENT PROGRAMME

- Indian Council of Agricultural Research (ICAR) sponsored Training on the theme “Crop Diversification & Utilization of Crop waste to Achieve Climate Resilient Agriculture and Improvement on Farmer’s Income in Fragile Agri-Ecosystem” of Dr. Rajendra Prasad Central Agricultural University Pusa during 16-25 January 2024. Besides, Around 50 number of similar skill development trainings were organized by RPCAU, Pusa with the objective to enhance skill in the area of Agriculture and allied subjects establish rural bio-entrepreneurship.
- Imparting knowledge and skills to the farmers are stepping stone for adopting the new technologies in their field. During the year 2023-24, the KVKs conducted 1339 no. of training programmes for practicing farmers and farm women, rural youth, in service candidates as well as sponsored training.

Capacity Development Programme organized by the KVKs

	Target	Achievement	No. of Beneficiaries		Total No of Beneficiaries
			Male	Female	
Practicing Farmers/Farm Women	1636	1517	35210	12736	49463
Rural Youth	291	227	5823	2607	8657
In service Training	152	125	5439	1556	7120
Sponsor Training	100	91	4022	1070	5283
Total	2179	1960	50494	17969	70523

- Empowering women with Secondary Agriculture: Secondary agriculture was tried in one of the KVK by making “Achar (Pickle)” by using mango and other agricultural produce. Smt. Rajkumari Devi undergone training at KVK Saraiya the area of Pickle making later she formed self-help group with 300 women for preparation of Pickles product there by could sustain their livelihood by using this technique. This has also appeared in the “Pradhan Mantri “Maan Ki Baat Programme”.



- The KVKs used the pseudo stems of banana for extracting fibres which is being used for different products. At present five farmers have developed banana fibre extraction units and are able to establish rural bio-entrepreneurship.



- Mushroom is another secondary agriculture which is created euphoria among the farmers mostly women farmers. They are producing the Mushroom, as a result Bihar became the highest producer of Mushroom in the country. The women farmers are making different value added products from the Mushroom.



Entrepreneur:

• Sabya Devi, a women farmer of East Champaran district was trained in the Food Processing Unit of KVK Piprakothi of RPCAU, Pusa under ARYA programme of ICAR. During the initial phase, critical inputs such as Potato Peeler Machine, Potato Slicer Machine and potato variety Kufri Chipsona were provided by the KVK Piprakothi. With the help of technical assistance of KVK, Piprakothi, she prepared different types of potato and banana chips along with ladoos. With the intervention of the KVK of RPCAU through the ARYA programme of ICAR, she earned an annual net income of Rs 1,14,240/-.



• Sri Kushal, from Karanpur village of Bochhaha block in Muzaffarpur owes 12.5 ha of land and grows field crops such as rice, millets, wheat, lentil, arhar and chickpea, horticultural crops such as banana, mango, litchi, pomegranate, citrus, ber and he also maintains a nursery and organic seed production, along with owning 5 milch cows. With the scientific and technical assistance of KVK, Turki of RPCAU, Pusa he adopted Integrated Farming System (IFS) model. With the KVK intervention, he has been able to practice agriculture with modern techniques such as the use of balanced fertilizer, weed and water management and integrated pest and disease management. He has integrated millets along with other crops and processing of millets making different value-added products like ladoo, baddi, millets flour, millets biscuits and papad. This has arcaded rural bio-entrepreneurship resulting on round the year income for the farmer.





6. UNIVERSITY PUBLICATION

6.1. University Publication at Glance

During the report period University has made notable progress in publishing its research out-put. A total of 648 publications have been brought out and presented here below.

Research Paper (Total)	361
Research Paper (with International impact factor or NAAS rating 6 and above).	121
Popular Articles	133
Books	13
Book Chapter	94
Abstracts in symposia/conference	75
Extension Literature/Technical Bulletin/ Policy Paper	30
Leaflets/ Pamphlets	29

However, research papers having importance & most of NAAS ratings 6 and above are mentioned below.

6.2. Research Paper

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7. AWARDS HONOURS AND RECOGNITIONS

7.1. Awards and Honours Received by Faculty

- Dr. Abdus Sattar received Fellow of the Association of Agro meteorologists (FAAM) award at BHU, Varanasi by Association of Agro meteorologists Anand Agriculture University, Anand, Gujrat
- Dr. Krishna Mohan Kumar received Best oral presentation award in International Conference on “Advanced Agricultural Technologies for Self Reliant Farmers and Developed India” at KVK, Piprakothi organized by KVK, IRRI, ICAR.
- Dr. Kumari Anjani Assistant professor received Young Scientist Award organized by Society for Advancement in Agricultural Technology and Development (SAATD), Bageshwer Uttrakhand.
- Dr. Kumari Anjani Assistant professor received Women Scientist Award on 2023 by Hindustan Agricultural Research Welfare Society and IIMTU, Meerut. Organized by Gujarat Natural Farming and Science University, Anand, Gujrat.
- Dr. Bishun Deo Prasad, Associate Professor, Department of Agricultural Biotechnology and Molecular Biology, CBS&H, Pusa received SERB-INTERNATIONAL RESEARCH EXPERIENCE (SIRE) award by DST, New Delhi selected for the prestigious to undertake high-end research in the field of gene editing at John Innes Centre(JIC), Norwich, UK and, a leading international centre of excellence in plant science for the year 2023-2024.
- Dr. S.K. Sahoo ,Professor, Entomology Conferred with ESI Senior Entomologist Award for the year 2022 by the Entomological Society of India(ESI), New Delhi

- Dr. S.K. Sahoo, Professor, Entomology Elected the Life Fellow of Entomological Society of India, New Delhi.
- Dr. Biswajit Pramanick received Dr. P.S. Deshmukh Young Agronomist Award on 22 November ,2023 Indian Society of Agronomy, New Delhi

7.2. Awards / Honours received by Students

- Mr. Sahil, College of Fisheries received best poster presentation award on the occasion of conference on “Transforming Rural Property to Prosperity through Sustainable Fisheries (TRPSF-2023, organized by College of Fisheries, Kishanganj, Bihar during 19th – 21st July 2023.
- Mr. Gandhi Rajan S. received best oral presentation award for the paper “Life cycle estimation of Steinernema abbasi on fall armyworm” during the National Symposium on "Crop Health Management: Safeguarding Crops through Diagnostics and Innovations." Held on 29th to 30th September 2023 at ICAR-Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora-263 601, Uttarakhand
- Ms. Palukuru Usha received best oral presentation award for the paper “Pathogenicity of Rotylenchulus reniformis on tuberoses” during the National Symposium on "Crop Health Management: Safeguarding Crops through Diagnostics and Innovations." held on 29th to 30th September 2023 at ICAR-Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora-263 601, Uttarakhand
- Ms. Aditi Banik received Best Oral Presentation Award for the paper entitled



- “Total Replacement of Soybean Meal by Rice DDGS & Lysine Supplementation” on the occasion of conference on “Transforming Rural Property to Prosperity through Sustainable Fisheries (TRPSF-2023, organized by College of Fisheries, Kishanganj, Bihar during 19th – 21st July 2023.
- Mr. Biswajit Malik, M.Sc. Department of Extension Education Awarded Best Master Thesis Award-2023 on the occasion of 5th International Conference on Climate Change and Its Impact (CCI 2023) held during 9th to 11th June 2023, organized by Agricultural & Environmental Technology Development Society, U.K., India.
 - Ms. Sakshi Pundir, M.Sc. Department of Extension Education awarded Most Impactful Article Award for “Apple Revolution in the Non-Traditional Tropical Areas of HP, India by Vigyan Varta-An International E-Magazine for Science Enthusiasts (E-ISSN: 2582-9467) in the month of February 2024
 - Ms. Kashvi Kajal, Bachelor of Fisheries Science (B.F.Sc.), Batch 2019-23 has been awarded with a prestigious fellowship “Erasmus Mundus Joint Master in Aquaculture, Environment and Society (EMJM ACES-STAR)” for the year 2023-25. She will be receiving her Master's degree jointly from UHI-SAMS, Oban (Scotland, UK), University of Crete (Greece) and University of Nantes (France).
- ICAR-JRF/SRF, CSIR-JRF, GATE**
- Ms. Priyanka Choudhary, Department of Soil Science, RPCAU, Pusa qualified and awarded UGC-JRF
 - Ms. Manisha Kumari and Mr. Avijit Roy, Department of Genetics & Plant Breeding, RPCAU, Pusa, qualified and awarded ICAR-JRF
 - Mr. Kanshouwa Modunshi Maring, Department of Genetics & Plant Breeding, RPCAU, Pusa, qualified and awarded CSIR-JRF
 - Mr. Vishwajeet, Mr. Abhishek B M and Mr. Katta Subramanya Sai Teja, Department of Entomology, RPCAU, Pusa, qualified and awarded UGC-Fellowship
 - Mr. Jalaj Singh, Mr. Sateesh Maurya, Mr. Seetendra Kumar, Ms. Simran Swaraj, Mr. Shrestha Das, Mr. Prabhat Gehlot, Ms. Surbhi Kumari and Mr. Arijit Garai, M.Sc. Students, Department of Agronomy, qualified and awarded ICAR-JRF
 - Ms. Megha, Mr. Sandeep Kumar, Ms. Sheetal Negi, Ms. Shagufta Naaz, Mr. Arun Kumar Maurya, Mr. Chonjonbam Mohit Singh, Mr. Akash Sharma, Mr. Bora Santhosh, Ms. Pritishmita Swargiary, Mr. Jyotikiran Gouda and Mr. Banoth Shivakumar, M.Sc. Students, Department of Agronomy, qualified and awarded ICAR-NTS
 - Mr. Morajdhwaj Chandravanshi, Ph.D. Department of Agronomy, qualified and awarded ICAR-SRF
 - Mr. Poiba Ravi Prasad, Ph.D. Department of Agricultural Economics received UGC-NFST Fellowship from Ministry of Tribal Affairs, Govt. of India
 - Ms. S. Sangeeta Kumari, Ph.D. Department of Agricultural Economics received UGC-NFSC Fellowship from Ministry of Social Justice & Empowerment, Govt. of India
 - Mr. Avinash Singh, M.Sc. Department of Genetics & Plant Breeding received PM-YASASVI fellowship from Department of Social Justice & Empowerment, Govt. of India
 - Ms. Rashmi Banoriya, Ph.D. Department of Genetics & Plant Breeding received UGC-NFSC Fellowship from Ministry of Social



Justice & Empowerment, Govt. of India

- Mr. Lavkush Singh, Ms. Shivani Tiwari, Mr. Lanngamla Marchang, Mr. Manoj Punasiya and Mr. Shyam Singh, M.Sc. Department of Horticulture, RPCAU, Pusa, qualified and awarded ICAR-NTS
- Ms. Hange Megha Ramesh, M.Sc. Department of Plant Pathology and Nematology, RPCAU, Pusa, qualified and awarded ICAR-NTS
- Mr. Dinesh Choudhary, M.Sc. Department of Seed Science & Technology, RPCAU, Pusa, qualified and awarded CSIR JRF
- Ms. Aanchal Kachhap, Ms. Saumya Ranjan Behera, Ms. Kiran Kumari and Mr. Anup Barman, M.Sc. Department of Soil Science, RPCAU, qualified and awarded ICAR-PG Scholarship
- Ms. Jayshree Murmu and Mr. Babu Lal Raigar, Ph.D. Department of Soil Science, RPCAU, qualified and awarded ICAR-SRF
- Mr. Jidan Ali Mallick, Ms. Meenu Choudhary, Mr. Pratik Nandi, Ms. Pragnya Bhargabi Uttarasili, Mr. Luv Patidar, Ms. Sneha Sen, Mr. Ramdayal Chaudhary, Mr. Raghav Goyal, Ms. Vidisha Vidya, Mr. Mahipal Kantwa, Mr. Mohit Bairwa, Mr. Sushil Kumar, Ms. Nisha Kumari, Mr. Sachin Yadav, Ms. Routhu Jahnavi, Ms. Madhu Krishna D, Mr. Ramjas Meena, Mr. Manish Yogi and Mr. Aditya Choudhary, M.Sc. Ph.D. Department of Soil Science, RPCAU, qualified and awarded ICAR-NTS
- Mr. Himanshu Shekhar, Ms. Shivani Kumari, Mr. Shreshth Gupta, Ms. Shivani, Ms. Aditi Kumari, Ms. Sangeeta Kumari, Ms. Kumari Tejaswini, Ms. Riya Raj, Ms. Sana Tarannum, Ms. Anchal, Mr. Himanshu Kumar Meena, Ms. Shaurya Singh, Mr. Kshitiz, Mr. Aakash Sahu, Ms. Pooja Yadav, Mr. Aryajyoti Das, Mr. Mrinal Sarkar and Ms. Sarvani Gupta, B. Tech. Biotechnology, College of Basic Sciences & Humanities qualified Graduate Aptitude Test In Engineering (GATE-2023) and got admission in different prestigious institutions like IIT Kharagpur, IIT Allahabad, IIT BHU, IIT Dhanbad, IIT Guwahati, IIT Mandi etc.
- Ms. Ishita Isha, B. Tech. Biotechnology qualified GATE 2023 and TOEF and got admission in Montana State University, Bozeman, Montana, USA (M.S- Plant Sciences)



8. HUMAN RESOURCE DEVELOPMENT

8.1. Foreign Visit by the Faculties

International Visits by RPCAU Faculty and Scientists: In line with the university's commitment to enhancing its academic and research capabilities, several faculty members and scientists from RPCAU participated in international exposure programs and training sessions during the reporting period. These visits were aimed at enhancing expertise in key areas such as agrifood systems, wheat improvement, soil health, and disease surveillance. The scholars visited renowned research centres, including CIMMYT in Mexico, Ethiopia, and Turkey, John Innes Centre in the UK, and Mount Makulu Research Station in Zambia, to engage in training courses, international exposure visits, and collaborative research efforts. These global collaborations have contributed to the professional growth of the university's faculty and are expected to further strengthen RPCAU's research, teaching, and extension education capabilities.

The following faculty members and scientists from Dr. Rajendra Prasad Central Agricultural University (RPCAU) visited overseas laboratories and institutions for advanced studies and training during the reporting period:

Faculties/Scientists Visited Overseas Laboratories for Advanced Studies

S. No.	Name of the Person	Country Visited	Purpose of visit	Duration
1.	Dr. Ratnesh Kumar Jha Professor	CIMMYT Mexico	Innovation in Agrifood System through Hub-Model	16 to 28 Oct., 2023
2.	Dr. Abdus Sattar Associate Professor	CIMMYT Mexico	Innovation in Agrifood System through Hub-Model	16 to 28 Oct., 2023
3.	Dr. Satish Kumar Singh Professor	CIMMYT Mexico	Innovation in Agrifood System through Hub-Model	20 to 28 Oct., 2023
4.	Dr. Shankar Jha Associate Professor	CIMMYT Mexico	Innovation in Agrifood System through Hub-Model	24 to 28 Oct., 2023
5.	Dr. S.P. Singh Associate Professor	CIMMYT Mexico	Innovation in Agrifood System through Hub-Model	24 to 28 Oct., 2023
6.	Dr. Ravindra Kumar Tiwari Sr. Scientist & Head, KVK Birauli	CIMMYT Mexico	Innovation in Agrifood System through Hub-Model	24 to 28 Oct., 2023
7.	Dr. Moti Lal Meena Sr. Scientist & Head, KVK Turki	CIMMYT Mexico	Innovation in Agrifood System through Hub-Model	24 to 28 Oct., 2023
8.	Dr. Arvind Kumar Singh Scientist & Head, KVK Piprakothi	CIMMYT Mexico	Innovation in Agrifood System through Hub-Model	24 to 28 Oct., 2023
9.	Dr. Satish Kumar Singh Professor	CIMMYT Mexico	Wheat Improvement Course 2024	26 Feb. to 27 Mar., 2024



10.	Dr. Anupama Kumari Associate Professor	CIMMYT Ethiopia	International Experience sharing Exposure visit	1 to 7 Nov., 2023
11.	Dr. Manoranjan Kumar Assistant Professor	CIMMYT Ethiopia	International Experience sharing Exposure visit	1 to 7 Nov, 2023
12.	Dr. C.K. Jha Associate Professor	CIMMYT Ethiopia	International Experience sharing Exposure visit	1 to 7 Nov, 2023
13.	Dr. Bishun Deo Prasad Associate Professor	John Innes Centro Norwich, UK	Generating zero-toxin lines of grass pea gene editing	15 Sep. 2023 to 29 Feb. 202
14.	Dr. Dinesh Rai Associate Professor	Mount Makulu Research Station, Chilanga, Lusaka, Zambia	Disease Screening and Surveillance of wheat blast	4 to 15 March, 2024

8.2. Trainings/Workshop/Conference Organized by Departments/Colleges/Faculty Members

Name of the Training	Dates/on which held	No. of trainees	Funding Source
31 st National Conference of Agricultural Economics Research Association (India) (AERA, India)	6 -9 th December, 2023	78	RPCAU & AERA, India
ICAR-sponsored short course on 'On Crop diversification, and utilization of crop waste to achieve climate-resilient agriculture and improvement in farmer's income in fragile agri-ecosystem'	16 -25 th January, 2024	17	ICAR and Department of Agronomy
PM Shree Internship Development Programme for the students of JNV, Birauli (Module 02: Integrated Farming System)	30 th March, 2024	100	JNV, Birauli under PM Shree Scheme
Week-long Awareness Campaign on Mission LiFE (Lifestyle for Environment) on theme "Climate Resilient and Smart Agriculture"	22 nd -28 th April, 2023	200	CRA Programme
Winter School "Epigenetic regulations as drivers of insecticide resistance and resilience to climate change in agricultural pests"	29 th January - 18 th February, 2024	15	ICAR



Name of the Training	Dates/on which held	No. of trainees	Funding Source
Understanding Project Management Techniques from Social Science Research Perspective (CBP)	04 th -15 th January, 2024	20	ICSSR, New Delhi
Collaborative Online Training Programme on “Value Chain Extension”	13 th -15 th June, 2023	120	MANAGE, Hyderabad
Collaborative Online Training Programme on “Women Entrepreneurship”	16 th -18 th August, 2023	105	MANAGE, Hyderabad
Team Building and Leadership Development”	18 th -20 th December, 2023	50	BAMETI, Patna
Agri-Nutrition Model Village Development	18 th -20 th February, 2024	25	AICRP-WIA
Enhancing the digital literacy of farm women to promote Livelihood Security and women empowerment	18 th - 20 th March 2024	35	AICRP, Bhubaneswar
Agripreneurship: Opportunities & Current Challenges	20 th - 21 st , November 2023	200	AFTEFS and VITAL BIOTECH
Training on the topic, “Nematode problems in crops, fruits, vegetables, spices, flowers and their management through eco-friendly methods”	17 th February, 2024	110	ICAR (AICRP on Nematodes)
Seed processing, and seed production technique of crops at Directorate of seed, Dholi	19 th -21 st April, 2023	25	Bihar government
One-day training program under SC-SP sub plan	20 th September, 2023.	150	AICRP on PHET at Ladaura
One day training cum awareness program on Primary Processing, Value addition & Storage	24 th – 26 th February, 2024	150	AICRP on PHET at CAET, Pusa
Brain Storming on “Importance of Renewable Energy in Agricultural Engineering Education and Research” at the occasion of World Environment Day	5 th June, 2023	100	CAET, RPCAU, Pusa.
Industry-Academia Meet on "Policies For Boosting Farm Mechanization and Development of Precision Machineries”	28 th August, 2023	150	CAET, RPCAU Pusa in collaboration with Agricultural Machinery Manufacturers Association and ISAE-Bihar chapter.



Name of the Training	Dates/on which held	No. of trainees	Funding Source
Virtual inauguration ceremony of hundred “5G Use Case Labs” approved by Deptt. of Telecommunication, MoC under the flagship program of GoI Program inaugurated by Hon'ble Prime Minister.	27 th October, 2023	250	CAET, RPCAU, Pusa.
Sensitization Workshop on Introduction to Virtual Reality	5-7th July 2023; 23 rd -25 th Aug 2023; 29 th Nov-01 st Dec2023; 15 th -19 th Jan 2024	168	CAET, RPCAU, Pusa.
Drone pilot Training at RPTO (CAET), Pusa	2023-24	Total trained drone pilots -213 through 28 batches (33 Namo drone Didi & 86 Security Constables/Sis)	Participants from Bihar, Uttar Pradesh and Jharkhand
30 days training program on “Repair and Maintenance of Farm Machinery” (04 trainings)	2023- 2024	25 trainees in each training course	Deptt of FMPE, CAET, RPCAU, Pusa.
One day research training programme on “Gene Expression analysis using real time PCR (qRT-PCR) approach”	8 th January 2024.	30	SERB-DST, Govt. of India nad RPCAU, Pusa
Development Dialogue on “Sustainable Agriculture for Nutrition Security in Bihar”	31 st October, 2023	All Faculty members of RPCAU, Pusa	UNICEF
Awareness programme on Cancer Management in Bihar-Present perspective and future direction”	5 th December, 2023	All Faculty members of CCS	Dr. Eesha Sinha Memorial
Awareness campaign on “Voice of Youth Platform” on for Viksit Bharat@2047	18 th December 2023	Students of RPCAU, Pusa	RPCAU, Pusa
Scientific Beekeeping and Value addition of honey Products	12 th -17 th March, 2024.	80	National Bee Board



Name of the Training	Dates/on which held	No. of trainees	Funding Source
National Seminar on Development and Promotion of Geographical Indications in Honey	20 th March, 2024	150+	National Bee Board
3-day Outreach Programme on 'Starting the Startups'	24-26 February 2024	>1000 visitors including farmers, start-ups, students, and Govt. officials, Faculty members of the University and women entrepreneurs	Startup Cell Project, Govt. of Bihar
A step of University towards Climate Resilient Agriculture: An Annual Review'	26th September 2023	More than 200	CRA Project, RPCAU
Startup Outreach Programme	27th April 2023	More than 500	RPCAU
Blended Learning Platform	15 th -16 th December, 2023	More than 50	RPCAU
Workshop on "Statistical Tools Using R-Programme"	18 th -20 th Aug, 2023	45	RPCAU, Pusa
Agro-Industrial Attachment of B.Sc. (Hons.) Agriculture VII semester student	3 rd - 23 rd January, 2024	21	Tirhut College of Agriculture, Dholi, RPCAU, Pusa
Improved cultivation, Processing and value addition of sugarcane under Schedule Caste Sub Plan (SCSP) of AICRP on Sugarcane.	6 th -10 th February, 2024	30	ICAR-IISR, Lucknow
Improved cultivation, Processing and value addition of sugarcane under Schedule Caste Sub Plan (SCSP) of AICRP on Sugarcane	27 th -31 st March, 2024	30	ICAR-IISR, Lucknow
Improved cultivation, Processing and value addition of sugarcane under Schedule Caste Sub Plan (SCSP) of AICRP on Sugarcane	22 nd , 23 rd , 28 th and 30 th March, 2024	100	ICAR-IISR, Lucknow





8.3. Participation of faculties in Training

- Dr. Aman Jaiswal, Assistant Professor participated in SERB-DST sponsored one day research training programme on “Gene Expression analysis using real time PCR (qRT-PCR) approach” organized at CBSH, RPCAU on 8th January 2024
- Dr. Geeta Kumari, Associate Professor participated in SERB-DST sponsored one day research training programme on “Gene Expression analysis using real time PCR (qRT-PCR) approach” organized at CBSH, RPCAU on 8th January 2024
- Dr. Hemlata Singh, Assistant Professor participated in SERB-DST sponsored one day research training programme on “Gene Expression analysis using real time PCR (qRT-PCR) approach” organized at CBSH, RPCAU on 8th January 2024
- Dr. Jyotsnarani participated, Assistant Professor in SERB-DST sponsored one day research training programme on “Gene Expression analysis using real time PCR (qRT-PCR) approach” organized at CBSH, RPCAU on 8th January 2024
- Dr. M. S. Sai Reddy attended ICAR sponsored Winter School on “Recent Advances in Molecular Diagnostics of Insect Species including invasive and their natural enemies” at ICAR-National Bureau of Agricultural Insect Resources, Bengaluru from 18th January to 7th February, 2024.
- Dr. M. S. Sai Reddy, Assistant Professor participated in DST-SERB sponsored one day research training programme on Gene expression analysis using Real Time PCR (qPCR) approach organized by CBSH, RPCAU, Pusa on 8th January, 2024.
- Dr. Roshni Agnihotri attended ICAR sponsored winter school on Epigenetic regulations as drivers of insecticide resistance and resilience to climate change in agricultural pests from 29th January -18th February, 2024 at RPCAU, Pusa.
- Dr. Roshni Agnihotri attended onsite training programme on blended learning platform from 15th -16th December, 2023.

- Dr. Roshni Agnihotri participated and delivered guest lectures on “Status and prospects of cut greens and fillers for export and the ferns-less exploited pteridophytes under NAHEP sponsored training programme on sill development through cut greens, fillers and interior-scaping by indoor plants in floristry during 13th and 14th October 2023 at RCA, MPUAT Udaipur.
- Dr. Roshni Agnihotri participated in DST-SERB sponsored one-day research training programme “Gene expression analysis using Real Time PCR Approach” on 8th January, 2024.
- Dr. Satish Kumar Singh, Professor attended an international training Innovation in Agri-Food System through Hub Model CIMMYT, Mexico during 19-27 October 2023.
- Dr. Satish Kumar Singh, Professor attended an international training on Wheat Improvement Course- 2024 CIMMYT, Mexico during 26th February – 27th March, 2024.
- Dr. Sudhir Paswan, Associate Professor participated as master trainer 02 days training on “Onsite Training Program on Blended Learning Platform” during 15th December- 16th December, 2023 at RPCAU, Pusa.

8.4. Participation of Faculties in Conferences /Symposia/Seminar

- D. K. Roy, Professor participated and presented research paper entitled “Production Potential and Economics of Integrated Weed Control Measures in Ginger.” In Global conference on Precision Horticulture for Improved Livelihood, Nutrition and Environmental Services at Jain Irrigation System Limited (JISL), Jalgaon, Maharashtra during 28th -31st May, 2023 organized by ASM Foundation, New Delhi & Jain Irrigation System Limited (JISL), Jalgaon, Maharashtra in collaboration with Planto Krishitantra, CHAI & Dhanuka Agritech.
- Dr. Ajeet Kumar, Assistant Professor-cum-Scientist attended Improved Cultivation, processing and value addition of sugarcane- for progressive farmers of scheduled caste category under Schedule Caste Sub Plan (SCSP) of All India Coordinated Research Project on Sugarcane during 06th -10th February, 2024



- Dr. Aman Jaiswal, Assistant Professor attended workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa from 18-20 August 2023.
- Dr. Amrendra Kumar, Associate Professor, attended Workshop on “Impact of Climate Change on Soil Health: Issues and improvement strategies” organized by BAMEITI, Patna on 5th February, 2024
- Dr. Bineeta Satpathy, Associate Professor attended 31st Annual AERA Conference on Innovations in Agriculture for Sustainable Food Systems and Farmers' Income organized by Department of Agricultural Economics, RPCAU and Agricultural Economics Research Association (India) on 7th -9th December, 2023.
- Dr. Bineeta Satpathy, Associate Professor, International Conference on “Neuro perspectives in farmer’s decision architecture” (Virtual Mode) organized by Department of Economics & Dept of Journalism and Mass Communication, CU Odisha during 28th -29th December, 2023.
- Dr. Biswajit Pramanick participated and delivered an oral presentation in the XXII Biennial National Symposium of Indian Society of Agronomy held at ICAR-CCARI, Ela, Goa during 22nd –24th November, 2023.
- Dr. Biswajit Pramanick participated in 58th Annual Group Meeting of Rice (Virtual mode) organized by ICAR-IIRR, Hyderabad during 4th –5th May, 2023.
- Dr. Biswajit Pramanick participated workshop on ‘Impact of climate change on soil health: issues and improvement strategies’ held at BAMEITI, Patna, Bihar on 5th February, 2024.
- Dr. D. K. Das, Professor participated in the Annual Group Meeting held during 16th-18th October 2023 and presented the research achievements of AICRP on Agroforestry at PJTSAU, Hyderabad (Telangana).
- Dr. D. K. Sinha, Professor attended 31st Annual AERA Conference on Innovations in Agriculture for Sustainable Food Systems and Farmers' Income organized by Department of Agricultural Economics, RPCAU and Agricultural Economics Research Association (India) on 7th -9th December, 2023.
- Dr. Dharm Nath Kamat, Associate Professor-cum-Sr. Scientist attended improved cultivation, Processing and value addition of sugarcane under Schedule Caste Sub Plan (SCSP) of AICRP on Sugarcane organized by ICAR-IISR, Lucknow during 6th -10th February, 2024 and 27th -31st March, 2024.
- Dr. Geeta Kumari, Assistant Professor attended workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa from 18-20 August 2023.
- Dr. Hemlata Singh, Assistant Professor attended workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa from 18-20 August 2023.
- Dr. Jyostnarni, Assistant Professor attended workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa from 18-20 August 2023.
- Dr. K. M. Singh, Professor attended 31st Annual AERA Conference on Innovations in Agriculture for Sustainable Food Systems and Farmers' Income organized by Department of Agricultural Economics, RPCAU and Agricultural Economics Research Association (India) on 7th -9th December, 2023.
- Dr. K.L. Bhutia, Assistant Professor attended workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa from 18th -20th August 2023.
- Dr. K.L. Bhutia, Assistant Professor has participated and presented the progress report of the DST-SERB funded project on the occasion of 7th Group Monitoring cum Workshop of SERB-DST Programme from 12-13th May, 2023 at University of Hyderabad.
- Dr. Lalita Rana, Assistant Professor attended International Conference on Advanced Agricultural Technologies for Self-Reliant Farmers and Developed India organized at RPCAU, Pusa on 11th February, 2024
- Dr. Lalita Rana, Assistant Professor attended Ist International Agriculture Conference on “Natural & Organic Farming: In Context to Bhartiya Agriculture” organized by Hindustan Agriculture Research Welfare Society, U.P. during 24th -26th December, 2023.



- Dr. M. S. Sai Reddy, Assistant participated in a National Seminar on the development and promotion of geographical indications in Honey organized by SABRM, RPCAU, Pusa on 20th March, 2024
- Dr. M. S. Sai Reddy, Assistant Professor (Entomology) participated in 3 days workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa on 18th-20th August 2023.
- Dr. Mahesh Kumar, Associate Professor attended 31st Annual Conference AERA, India organized by RPCAU, Pusa at AERA, New Delhi from 7th-9th December, 2023
- Dr. Mahesh Kumar, Associate Professor attended 74th Annual Conference of Indian Society of Agricultural Statistics (ISAS) New Delhi at NAU, Navsari, Gujrat from 2nd -4th February, 2024
- Dr. Mahesh Kumar, Associate Professor attended Workshop on “Fundamentals of Input-Output Analysis and Social Accounting Matrix based Multiplier Modeling organized by IFPRI at RPCAU, Pusa on 6th December, 2023
- Dr. Manoj Kumar, Associate Professor participated in 3rd National Conference on “Livelihood and Food Security through agriculture and Applied Sciences (LFSAAS-2023)” organised by Society for Agriculture Innovation and Development Ranchi (SAID) at Dr. Shyama Prasad Mukherjee University, Ranchi, during 5th November, 2023.
- Dr. Manoj Kumar, Associate Professor participated in 5th International Conference “Global Insights on Research and Development in Agriculture, Horticulture and Allied Sciences” organized by Just Agriculture Education Group & AEEFWS, Chandigarh at G. H. Raison University, Saikheda (MP), during 5th -7th October, 2023.
- Dr. Manoj Kumar, Associate Professor participated in the 31st Annual Group Meeting of the AICRP on Medicinal & Aromatic Plants and Betelvine, organized at NDUAT, Kumarganj, Ayodhya (U.P.) during 7th -9th February, 2024.
- Dr. Md. Abbas Ahmad, Associate Professor participated and presented a paper (oral) entitled “Effect of Planting Dates and Methods Associated with Weather Parameters on Incidence of Rice Stem Borer and Leaf Folder in Bihar at International Conference “Natural Resource Management for Sustainable Crop Production: A Tool to Combat over Climate Changes” held at School of Agriculture, ITM University Gwalior (M.P.), on 12th -13th May, 2023.
- Dr. Md. Minnatullah, Associate Professor-cum-Sr. Scientist attended improved cultivation, Processing and value addition of sugarcane under Schedule Caste Sub Plan (SCSP) of AICRP on Sugarcane organized by ICAR-IISR, Lucknow during 6th -10th February, 2024 and 27th -31st March, 2024.
- Dr. Md. Minnatullah, Associate Professor-cum-Sr. Scientist attended Scheduled Caste Sub-Plan Programme organized by ICAR-IISR, Lucknow on 22nd March, 23rd March, 28th March and 30th March, 2024.
- Dr. Md. Minnatullah, Associate Professor-cum-Sr. Scientist attended Mukhyamantri Ganna Vikas Karyakram organized by ICAR-IISR, Lucknow on 3rd January, 3rd February, 15th February and 28th February, 2024.
- Dr. Nagendra Kumar, Associate Professor As a resource person to delivered a lecture on Beekeeping value chain during workshop organized by jeevika and Dabur on Honey Bee production, packaging and marketing on 15.03.2024 at Vaishali.
- Dr. Nagendra Kumar, Associate Professor attended 5th International Conference on “Climate Change and Its Impact (CCI 2023)” that will be jointly organized by Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST-K) Srinagar, J&K., India; Agricultural & Environmental Technology Development Society (AETDS), U.S. Nagar, Uttarakhand, India; University of Agricultural Sciences, Raichur, Karnataka, India; Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani M.S., India and Mid-West University, Sukhet, Nepal at Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST-Kashmir) Srinagar, J&K., India during 9th -11th, 2023 (virtual mode).
- Dr. Nagendra Kumar, Associate Professor attended National Seminar on Development and Promotions of Geographical Indications in Honey on 20th March, 2024.



- Dr. Nagendra Kumar, Associate Professor attended National Symposium on “Floriculture Nurtures Pollinators: Flower Crops for Healthy Pollinators and Value-Added Bee Products” scheduled during 23rd -24th June, 2023 organized by ICAR- Directorate of Floriculture Research, Pune (virtual mode).
- Dr. Nagendra Kumar, Associate Professor attended Workshop on "Technological Intervention & Innovations in the Honey/ Beekeeping Sector" on 12th April, 2023 (virtual mode).
- Dr. Nagendra Kumar, Associate Professor attended Workshop on Honey at Bihar Bagwani Mahotsav 2024 organized by Directorate of Horticulture, Patna from 16th -18th February, 2024 at Gandhi Maidan, Patna.
- Dr. Nagendra Kumar, Associate Professor participated in 21 days winter school from 29th January – 18th February, 2024 on Epigenetic regulation as drivers of insecticide resistance and resilience to climate change in agriculture pests at Department of Entomology, PGCA, RPCAU, Pusa.
- Dr. Nagendra Kumar, Associate Professor, attended 31st National Conference of Agricultural Economics Research Association (India) (AERA, India) from 6th -9th December, 2023 at RPCAU, Pusa.
- Dr. Nagendra Kumar, Associate Professor, attended 3rd International Conference on Bee Pollination and Conservation (Hybrid) on 19th May, 2023.
- Dr. Nagendra Kumar, Associate Professor, attended workshop on "Research visibility, Open Access, Repositories and Plagiarism" being organized in physical mode by the University Library for PG, PhD scholars and faculties on 20th June, 2023 in Vidyapathi Sabhagar, RPCAU, Pusa.
- Dr. Nagendra Kumar, Associate Professor, Filariasis Eradication orientation Workshop" program organised by the Health Department in collaboration with WHO on 23rd September, 2023 at Vidyapati Sabhagar, Pusa.
- Dr. Neeraj, Assistant Professor cum Scientist, Participation with oral presentation in “Natural Farming-Climate resilient, Sustainable, Ecofriendly and Self reliant “International Conference on Advanced Agricultural Technologies for Self-Reliant Farmers and Developed India at KVK, Piprakothi, E. Champaran, Bihar on 11th February, 2024 sponsored by RPCAU in collaboration with IRRI, BISA, and ICAR-ATARI, Patna.
- Dr. Nidhi, Associate Professor attended workshop on “Fundamentals of Input-Output Analysis and Social Accounting Matrix based Multiplier Modelling organized by IFPRI at RPCAU on 6th December, 2023
- Dr. Nishi Keshari, Associate Professor participated and presented a research paper “The efficacy of organic amendments for the management of Meloidogyne incognita infecting gladiolus under protected cultivation in National Symposium at BHU, Varanasi, Uttar Pradesh during 8th -9th December, 2023.
- Dr. Nishi Keshari, Associate Professor participated in 16th Annual Review Meeting of AICRP (Nematodes) virtually and presented the research highlights of AICRP (Nematodes) organized by IARI, New Delhi during 12th -13th September, 2023
- Dr. R. S. Singh attended Brainstorming Meeting on Elephant Foot Yam for Empowering Stakeholders : Challenges and Strategies By CTCRI, Kerala (Online) on 13th February, 2024.
- Dr. Rajeev Kumar, Assistant Professor attended workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa from 18-20 August 2023.
- Dr. Ranjan Laik Professor participated to deliver a lecture on ‘Importance of Soil data and Soil Health’ in “Impact of Climate change on Soil health: issues and improvement strategies” under Sustainable Agriculture on 5th February, 2024 organized by BAMETI.
- Dr. Ranjan Laik, Professor, presented Invitation by Co-Chair, World economic forum 2018 and Founder/Chair, Mann Deshi foundation to visit Mann Deshi foundation, Satara, Maharashtra from 7th -10th July, 2023.
- Dr. Ranjan Laik, Professor, presented invitation from Naandi foundation, Hyderabad to explore the possibilities of creating a comprehensive soil



- and compost testing facilities and signing MoU on 19th April 2023.
- Dr. Roshni Agnihotri attended Brain storming session on “Gender mainstreaming and women empowerment on 30th October, 2023 organized by CCS, RPCAU, Pusa.
 - Dr. Roshni Agnihotri participated and delivered progress report for the Pusa Center in XXXIII AGM of AICRP on Floriculture at AAU, Kahikuchi, Assam from 23rd-25th January, 2024.
 - Dr. Roshni Agnihotri participated in three days workshop on Statistical tools using R programme from 18th-20th August 2023 organized by CBSH, RPCAU, Pusa.
 - Dr. S. K. Singh, Professor, attended and delivered a keynote lecture on “Disease Management in Natural Farming: Opportunities and Challenges” in International Conference on Next Generation Preparing for Food Security and Environmental Sustainability organized by Assam Agricultural University, Jorhat, Assam during 22nd -24th November, 2023.
 - Dr. S. K. Singh, Professor, attended and delivered a keynote lecture on “Holistic Plant Health Management in Natural Farming” in ISMPP 3rd Asian Congress on Plant Pathology: Plant and Health Management for a Better Tomorrow, held at Sardar Krushinagar, Gujarat during from 7th -10th February, 2024
 - Dr. S. P. Lal, Assistant Professor attended 31st Annual AERA Conference on Innovations in Agriculture for Sustainable Food Systems and Farmers' Income organized by Department of Agricultural Economics, RPCAU and Agricultural Economics Research Association (India) on 7th -9th December, 2023.
 - Dr. S. P. Lal, Assistant Professor attended workshop on "Fundamentals of Input-output Analysis and Social Accounting Matrix Based Multiplier Modelling"(Virtual Mode). Organized by International Food Policy Research Institute (IFPRI), New Delhi and Dr. Rajendra Prasad Central Agricultural University, Pusa, Bihar on 6th December, 2023.
 - Dr. S. P. Lal, Assistant Professor, International Conference Climate Change and Its Impact (CCI-2023) organized by (Virtual Mode) (SKUAST-K), Srinagar, J&K., AETDS during 9th -11th June, 2023.
 - Dr. S. P. Lal, Assistant Professor, International Conference on “Advance Agriculture Technologies for Self-Reliant Farmers a Development India” Organized by KVK Piprakothi, East Champaran on 11th February, 2024.
 - Dr. S. S. Prasad, Associate Professor attended seminar on “Impact of Climate change on Soil health: issues and improvement strategies” under Sustainable Agriculture on 05th February, 2024 organised by BAMETI, Patna.
 - Dr. S.N. Suman, Associate Professor attended Annual Review Meeting of Climate Resilient Agriculture organized by Centre for Advance Studies on Climate Change at RPCAU, Pusa on 26th September, 2023.
 - Dr. S.N. Suman, Associate Professor, attended National Seminar on Climate Smart Practices for Agricultural Sustainability and Enhanced Farmers Income organized by Centre for Advance Studies on Climate Change at RPCAU, Pusa on 23rd May, 2023.
 - Dr. S.N. Suman, Associate Professor, attended virtually in Global Symposium on Soils and water Organized in hybrid format by Food and Agriculture Organization of the United Nations during 2nd -5th October, 2023.
 - Dr. Sanjay Kumar, Assistant Professor participated and presented research paper in hybrid mode 1st International Conference and webinar on "Decarbonizing Agriculture" held at Mangalore, Karnataka during 25th -27th November, 2023.
 - Dr. Sarita Kumari, Assistant Professor attended workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa from 18th -20th August 2023.
 - Dr. Satish Kumar Singh, Professor attended an International Conference and delivered a lead lecture Advanced Agricultural Technologies for Self-Reliant Farmers and Developed India KVK, Piprakothi, East Champaran, RPCAU, Pusa on 11th February, 2024.
 - Dr. Satish Kumar Singh, Professor attended an International Symposium on as panelist Nutritious Wheat- Mainstreaming grain Zn in



- CIMMYT wheat. CIMMYT, Mexico on 13th March, 2024.
- Dr. Satya Prakash, Associate Professor attended 31st Annual AERA Conference on Innovations in Agriculture for Sustainable Food Systems and Farmers' Income organized by Department of Agricultural Economics, RPCAU and Agricultural Economics Research Association (India) on 7th -9th December, 2023.
 - Dr. Satya Prakash, Associate Professor, International Conference on “Advance Agriculture Technologies for Self-Reliant Farmers and Development India” organized by KVK Piprakothi, East Champaran on 11th February, 2024.
 - Dr. Shankar Jha, Associate Professor participated in ceremony of 100th episode of Man Ki Baat at Vigyan Bhawan, New Delhi during 26th -29th, April, 2023 and in the live telecast of 100th episode of Man Ki Batt on 30th April, 2023 at Rajbhawan, Patna.
 - Dr. Shankar Jha, Associate Professor, attended “International Course: Innovation in Agri-food System through the Hub Model” at CIMMYT, Mexico during 22nd -27th October, 2023.
 - Dr. Sudhir Paswan, Associate Professor presented Research Paper(online) at 74th Annual Conference of Indian Society of Agricultural Statistics(ISAS) New Delhi at NAU, Navsari, Gujrat from 2nd -4th February, 2024
 - Dr. Sunil Kumar, Associate Professor attended Workshop on “Impact of Climate Change on Soil Health: Issues and improvement strategies” organized by BAMETI, Patna on 5th Feb, 2024.
 - Dr. Teikur Majaw, Assistant Professor attended workshop on Statistical Tools Using R Programme organized by CBSH, RPCAU, Pusa from 18th -20th August, 2023.
 - Dr. Tulika Kumari, Assistant Professor, attended 31st Annual AERA Conference on Innovations in Agriculture for Sustainable Food Systems and Farmers' Income organized by Department of Agricultural Economics, RPCAU and Agricultural Economics Research Association (India) on 7th -9th December, 2023.
 - Dr. Udit Kumar, Associate Professor (Horticulture) Participated and delivered oral presented paper on “Effect of plant growth regulators and micronutrients on growth, yield and quality of tomato (*Solanum Lycopersicum* L.)” in an ISVS Golden Jubilee National Seminar on Technological Innovations in Vegetable Production under changing climate regime, during 24-26 February, 2024 at ANDUA&T, Ayodhya.
 - Dr. Udit Kumar, Associate Professor participated and delivered oral presented paper on “Influence of planting dates and variety on growth and yield of cowpea (*Vigna unguiculata* (L.) walp)” for North Bihar” in an International Conference on Advanced Agricultural Technologies for Self-Reliant Farmers and Developed India, during 11th February, 2024 at KVK, Piprakothi, East Champaran, RPCAU, Pusa.





9. MoU SIGNED BETWEEN RPCAU, PUSA AND OTHER ORGANIZATIONS 2023-2024

S. No.	MoU Signed between	Date of execution.	Signed by
1.	MoU between Kaushalya Foundation & RPCAU, Pusa.	13.04.2023	Director, Extension Education. RPCAU, Pusa.
2.	Quadripartite agreement among Centre for Start-up Facilitation, RPCAU, Pusa, KVK, Vaishali, Khadi Institution, Ashanurup Lok Seva Sansthan, Patna, Diwan Farmer Producer Organization, Self-Supporting Co-operative Society Ltd., Vaishali.	08.05.2023	Director, Centre for Start-up Facilitation, RPCAU, Pusa.
3.	MoU between RPCAU, Pusa and ICAR-Central Institute of Post-Harvest Engineering and Technology, Ludhiana, Punjab, India.	26.07.2023	Dean, CAET, RPCAU, Pusa.
4.	MoU between RPCAU, Pusa and The People Research on India's Consumer Economy (PRICE), New Delhi.	19.08.2023	Registrar, RPCAU, Pusa.
5.	MoU between RPCAU, Pusa and M/s Kisan Engineering Works, Bela, Muzaffarpur.	12.09.2023	Director Research, RPCAU, Pusa.
6.	MoU between Bihar Startup Fund Trust (BSFT) and RPCAU, Pusa	04.10.2023	Project Director Statrtup, RPCAU, Pusa.
7.	MoU between Centre for Start-up Facilitation-RPCAU, Pusa and Rajendra Pusa Mushroom Farmer Producer Company Ltd., Vill- Machhahi, PS-Sakra, Distt.- Muzaffarpur.	13.02.2024	Project Director Statrtup, RPCAU, Pusa.
8.	MoU between MoU between Centre for Start-up Facilitation-RPCAU, Pusa and RUDR Enterprise, H.No.-18, Bhim Nagar, Gurugram, Haryana- 122 001	13.02.2024	Project Director Statrt up, RPCAU, Pusa.
9.	MoU between RPCAU, Pusa and Central Public Works Department, Muzaffarpur, Bihar.	16.03.2024	Registrar, RPCAU, Pusa.
10.	Dr. Rajendra Prasad Central Agricultural University, Pusa, Samastipur and PM Shri Jawahar Novodaya Vidyalaya, Birauli	29-03-2024	Director Education, RPCAU, Pusa.



10. RESEARCH PROJECTS RUNNING UNDER RPCAU, PUSA

10.1 Externally Funded Projects (01.04.2023-31.03.2024)

Sl. No.	Name of Project	Name of PI	Total Budget
International (04)			
1.	Biofortification of Wheat	Dr. Satish Kr. Singh	Rs. 5,51,872
2.	Project on Biofortification of Rice (Harvest Plus)	Dr. Nilanjay	Rs. 7,55,491
3.	Promotion of Early Childhood Nutrition and Development in Aspirational Districts of Bihar	Dr. Usha Singh	Rs., 65,59,000
4.	Accelerated Genetic Gains in Rice-AGGRi Alliance	Dr. Rajesh Kumar	Rs. 12,00,000
Government of India (21)			
5.	National Innovation on climate Resilient Agriculture (NICRA)	Dr. Abdus Sattar	Rs. 6,30,000
6.	Gramin Krishi Mausam Seva (GKMS)	Dr. Abdus Sattar	Rs. 16,16,831
7.	Effect of bee pollination on oilseeds and horticultural crops	Dr. Neeraj Kumar	Rs. 21,18,000
8.	Evaluation of medicinal plants for honey production round the year in Bihar.	Dr. Nagendra Kumar	Rs. 9,57,000
9.	Bio-tech Kisan Hub	Dr. Roshni Agnihotri	Rs. 2,44,00,000
10.	4 th Bihar Krishi Roadmap: Centre of Excellence in Millets and value Chain	Dr. Sweta Mishra	Rs. 7,60,00,000
11.	Development of Heat Tolerant, High Yielding and Climate Resilient Wheat Cultivars by Utilizing Genomics, Molecular and Physiological Information and Resources	Dr. Rajeev Kumar	130.77346
12.	Shoot transcriptome based understanding of molecular mechanism for Fusarium with resistance in Checkpea	Dr. K.L. Bhutia,	Rs. 45,96,407
13.	Deciphering the regulatory mechanism of essential oil biosynthesis in Curcuma longa	Dr. Teikur Majaw,	Rs. 27,59,372
14.	Setting up of aquatic Animal Health Laboratory	Dr. Shivendra Kumar	Rs, 1,20,00,000
15.	National surveillance Programme for Aquatic Animal Disease- Phase 2	Dr. R. K. Brahamchari	Rs. 47,71,000
16.	Automation of University Activities and Digitization	Dr. S. K. Jain	Rs. 5,50,00,000
17.	Precision farming Development Centre (PFDC)	Dr. Sanjay Kumar Nirala	Rs. 46,20,000
18.	ICCIC, RGM (Indigenous cattle Conservation & Improvement Centre)	Dr. R K Asthana	Rs. 6,64,00,000
19.	CoEIB, RGM (Centre of Excellence on Indigenous Breed)	Dr. Pramod Kumar	Rs. 33,80,00,000



20.	Strengthening of Mushroom Production Technology in SC Community of Bihar	Dr. Sudha Nandni	Rs. 90,00,000
21.	Uplifting Tribal Culture and Promoting Sustainable Livelihoods in Bihar: An Integrated Development Model	Dr. Mohit Sharma	Rs 60,00,000
22.	Prospering Litchi Honey Development through Geographical Indications in Bihar	Dr. Mohit Sharma	Rs. 70,20,000
23.	Introgression of QTL(s) for increasing grain Dimethylarsenic acid (DMA) concentration in mega varieties of rice	Dr. B. D. Prasad	Rs. 26,58,856
24.	New Collaborative DA&FW-funded project Building lentil growing community resilience by the development of climate-smart lentil varieties through farmers' participatory interventions	Dr. Ravi Kant	Rs. 13,39,000
25.	Enhancing income of farmers through value Chain Development of Millets in Samastipur district of Bihar	Dr. Neelam Kumari	Rs. 16,08,000
Govt. of Bihar (09)			
26.	Climate Resilient Agriculture Programme 1	Dr. Ratnesh Kumar Jha	Rs. 12,13,50,000
27.	Climate Resilient Agriculture Programme 2	Dr. Ratnesh Kumar Jha	Rs. 62,95,92,400
28.	Genetic upgradation of fodder crops and development of Fodder crop varieties suitable for Bihar	Dr. Nilanjay	Rs. 4,20,00,000
29.	4th Bihar Krishi Roadmap: Establishment of hi-tech protected cultivation system set up for vegetables and flowers for development of SoP	Dr. Roshni Agnihotri	Rs. 50,00,000
30.	NHM Small Plant Nursery	Dr. Udit Kumar	Rs. 2,25,00,000
31.	Monitoring and advisory services for Sugarcane (MASS)	Dr. C. K. Jha	Rs. 24,46,000
32.	Motivation and training for participatory Hybrid Paddy Seed production in Bihar.	Dr. Ravi Kant	Rs. 3,50,50,000
33.	River Ranching Project	Dr. Shivendra Kumar	Rs. 1,09,35,000
34.	Farm Machinery Testing Centre	Er. Shailesh Kumar	Rs. 2,34,09,000
Other Sponsored Projects (07)			
35.	Comparative assessment of ALDOR, Rice Wheat cropping	Dr. S P Singh	Rs. 24,84,000
36.	Comparative assessment of ALDOR, Maize	Dr. S P Singh	Rs. 24,84,000
37.	Enhancing Biomass of Silage Maize through irrigation method, Nitrogen management and phenotyping in middle Gangetic plains	Dr. Mritunajaya Kumar	Rs. 6,75,000



38.	Exploring the efficiency of Potassium silicate in rice-wheat cropping sequence under organic farming system	Dr. Biswajit Pramanick	Rs. 5,50,000
39.	Enveloping Biofortified Nutri Mix Products targeted to Address Acute Malnutrition in Bihar	Dr. Usha Singh	Rs. 6,82,000
40.	Establishing Nutri-enterprises among JEEVIKA groups	Dr. Usha Singh	Rs. 28,16,000
41.	Assessment study on Effect of Muzaffarpur Thermal Power Station on Crop, Litchi and Ground Water quality of surrounding area	Dr. C. Mukhim	Rs. 9,87,000

10.2 University Funded Research Projects (01.04.2023-31.03.2024)

Sl. No.	Name of Project	Name of PI	Duration	Year of Start	Total Budget (Rs. in lakh)
PGCA					
1.	Development and Evaluation of model based integrated farming system zero budget Natural Farming and Organic Farming	Dr. Devendra Singh Professor & Head, Deptt. of Agronomy, PGCA	04 Years	2021	35.78
2.	Elucidating soil water dynamics & root growth under different land configuration & crop intensification.	Dr. Mukesh Kumar, Assoc. Professor, Deptt. of Agronomy,	03 Years	2020	11.70
3.	Development of promising consortia of biological control agents (fungal and bacterial) for management of <i>Fusarium oxysporum</i> f. sp. cubense Race TR4 causing Fusarium wilt of banana.	Dr. Meenakshi Dwivedi, Asstt. Prof., Deptt. of Plant Pathology, PGCA	03 Years	2021	8.0
4.	Exploring the Natural Farming for sustainable crop production, soil health improvement and livelihood security of the farmers.	Dr. Shankar Jha, Assoc. Professor, Deptt. of Soil Science, PGCA	03 Years	2022	6.70
5.	Evaluation of performance of finger millet genotypes in Summer under assured irrigation	Dr. Shweta Mishra, Prof., Deptt. of GPB, PGCA	03 Year	2021	8.50
6.	Collection Characterization and evaluation of Indigenous Papaya genotype.	Dr. A. K Panda, Asstt. Prof., Deptt. of Horticulture, PGCA	04 Years	2020	2.94
7.	Introduction to permaculture in dhab area for sustainable livelihood.	Dr. Rajesh Kumar Meena, Asstt. Prof., Deptt. of Forestry, PGCA	05 Years	2019	31.50



8.	Evaluation of Bamboo plantation in riverside land for improved production processing and utilization for better livelihood of bihar farmers.	Dr. D. K. Das, Professor, Deptt. of Forestry, PGCA	05 Years	2019	148.37
9.	Impact assessment of technology developed by RPCAU, Pusa for income and employment generation	Dr. Binita Satpathy Assoc. Prof. (Ag. Extn.)	02 Years	2021	2.5
10.	Optimizing Farm Plant through Linier programming model for Kusiari village of Samastipur district	Mrs. Tulika Kumari Asstt. Prof., Deptt. of Ag. Economics, PGCA	03 Years.	2021	2.60
CAET					
11.	Planning and Development of Water positive zone for sustainable Aquifer management	Dr. Ravish Chandra, Assoc. Professor, CAET	03 Years	2020	22.10
12.	Development of refrigerated vegetable cart for small vegetable venders.	Dr. S. K. Patel, Prof. CAET	02 Years	2021	3.0
13.	Design and Development of Self-Propelled Automated Vegetable Transplanter	Er. Jaya Sinha, Deptt. of FM & PW, CAET,	03 Years	2021	5.0
CBSH					
14.	Morpho-molecular evaluation for high yielding stress resilient wheat vis-à-vis agro-ecology of Bihar	Dr. Rajeev Kumar, Assoc. Prof., AB&MB, CBS&H	03 Years	2021	12.0
15.	Formulation of inexpensive media for mass production of microbial inoculants to improve soil health and pulse productivity.	Dr. Geeta Kumari, Asstt. Prof., Deptt. of Microbiology, CBS&H	02 Year	2021	4.20
16.	Development of white-grained finger millet (ragi) (<i>Eleusinecoracana</i> L.) with enhanced nutrient content through induced mutations.	Dr. Bishun Deo Prasad, Assoc. Prof., Deptt. of AB&MB, CBS&H,	03 Year	2021	7.0
17.	Development of early breeding lines and identification of candidate genes for earliness in lentil using genetics and genomics approaches	Dr. Vinay Kumar Sharma Prof., Deptt. of AB&MB, CBS&H,	03 Year	2021	6.75
18.	Bio-stimulants mediated mitigation of abiotic stress in Chickpea.	Dr. (Ms.) Kavita, Asstt. Prof., Plant Physiology, CBS&H,	02 Year	2021	4.80



CCSc.					
19.	Holistic Banana product bi-product utilization scheme for North Bihar	Dr. Sangita Deo, Project Director, Advance Centre of Research on Wealth from Waste,	03 Years	2021	14.22
PDUCH&F					
20.	Collection, characterization and evaluation of Ivy gourd and spine gourd.	Dr. (Mrs.) Pramila, Assoc. Prof. Horticulture, PDUCH&F	06 Year	2021	7.00
SABRM					
21.	Understanding the bottlenecks and effects of nudging in crop residue management: Evidence from randomized control trial.	Dr. Ram Datt. Assoc. Prof., SABRM	02 Years	2021	1.0
22.	Performance Analysis of Farmer Producer Organizations in Bihar.	Dr. Ritambhara Singh, Assoc. Prof. SABRM,	03 Years	2021	5.0
23.	A Behavioural Approach for Analysing Agricultural Investment Decision Making in north Bihar.	Ms. Rashmi Sinha, Asstt. Prof., SA&RM	02 Year	2021	1.80
24.	Entrepreneurial Climate in Academia: Challenges, Enablers and Framework for its Development in Selected Agricultural Institutions of India	Dr. S.K. Sameer, Assoc. Prof., SAB&RM	02 Year	2023	1.50
CoF					
25.	Bio-Floc Technology Exploring Production Optimization of High value fish and their economic viability	Dr. Shivendra Kumar Professor, COF, Dholi	02 Years	2021	7.30
SRI					
26.	Enhancing productivity, economic security and employment generation through sugarcane-based crop and product diversification for making a farmers self-reliant	Dr. A. K. Singh Director, SRI	04 Years	2021	7.0
27.	Developing Sugarcane based integrated Farming System Models for Small Farm holders of North central and north eastern zone.	Dr. A. K. Singh, Director, SRI	04 Years	2021	10.0



10.3. List of All India Coordinated Research Projects

Sl. No.	Name of the project	Year of Start
1.	Rice	1973
2.	Maize	1971
3.	Small Millet	2002
4.	Quality Seed Production	1971
5.	Seed Technology Research	1992
6.	Fruits	1980
7.	Vegetable Crops	2009
8.	Floriculture	2009
9.	Pigeonpea	1971
10.	Chickpea	1971
11.	MULLaRP	1971
12.	Rapeseed & Mustard	1971
13.	Forage Crops & Utilization	2014
14.	Potato	1973
15.	Tuber Crops (Other than Potato)	1968
16.	Spices	1983
17.	Sugarcane	1971
18.	Agro Forestry	1985
19.	Medicinal & Aromatic Plants and Betelvine	1988
20.	Honeybee & Pollinators	1987
21.	Soil Testing Response Correlation (STCR)	1988
22.	Micro & Secondary Nutrients & Pollutant Elements in Soils & Plants (MNS)	1986
23.	Mushroom	2009
24.	Agro meteorology	1993
25.	Irrigation Water Management	1980
26.	Farm Implements & Machinery	1997
27.	Post Harvest Technology	1986
28.	Soil Biodiversity-Biofertilizer	2004
29.	Nematodes in Agriculture	2018
30.	Women in Agriculture	2018
31.	Wheat	2006
32.	Linseed	2003
33.	Sunflower	2018

11. NATIONAL/INTERNATIONAL DAY CELEBRATED

RPCAU celebrated the Constitution Day on November 26, 2023. Dr. P.S. Pandey, the Hon'ble Vice-Chancellor presided over the event and emphasized on the importance of this day. This event saw the august gathering of around 240 participants including students, staff and faculty members. Students performances in various activities like elocution, poster making *etc.* were recognized and awarded.



11.1. Yoga Day

International Day of Yoga-2023 was celebrated on 21st June in the University campus. The events were organized by the Directorate of Student Welfare and coordinated by Dr. Rajeev Kumar, Associate Professor, ABMB, CBS&H, and the Yoga Coordinator. The program was organized in two sessions. The morning practical session on Yoga was conducted for students, staff, and faculties members of the University. The session was led by the Yoga expert Swami Rakesh from the Art of Living. The Hon'ble Vice Chancellor was the chief guest of the event. The 2nd session was on discourse of Yoga and certificate distribution organized at Vidyapati Sabhagar from 11 AM onwards. This session was chaired by the Hon'ble Vice-chancellor. He appreciated the Daily yoga activities carried out at Pusa and Dholi campuses. Two lectures were delivered during the session. The first presentation was delivered by Dr. Rajeev Kumar, Associate Professor AB&MB, CBS&H, on "Relevance of Yoga for Students." Another presentation on "Yoga in Disease/Physiological Disorder Management" was delivered by Dr. Rajeev Kumar Srivastava from TCA Dholi. The students who sincerely and actively participated in the daily yoga sessions were awarded with certificates and mementos by the Hon'ble Vice-chancellor. The session ended with the Vote of

Thanks by Dr. Jyostnarani Pradhan, Organizing secretary.



11.2. VISITORS

Visit of Eminent Scientist to CAET Dr. Bangali Baboo, Ex-National Director, NAIP and Dr. KK Sathpathi, Ex Director, NINFET interacted with CAET Pusa's faculty and students on 20 April 2023 and shared their experiences and stressed on the emerging areas -geotextile, IoT & AI and agri waste management.

Two eminent scientists in the field of Agronomy, Dr. Jay G. Varshney former Director, ICAR-Directorate of Weed Research, Jabalpur, and Dr. Ram Pyare, Professor, Agronomy and Director of Students' Welfare, C.S. Azad University and Technology, Kanpur visited the department of agronomy on 27th April 2023. They interacted with the scientists as well as students of the department and motivated them with their huge experience in agronomic research and education.

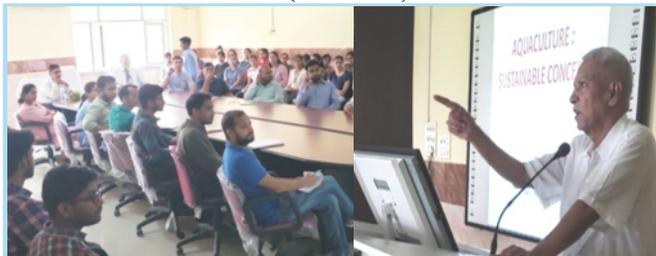
The eminent scientists also visited the farming system project of the department and gave some valuable suggestions regarding the research aspects of farming systems, natural farming, and organic farming.



Dr. Dilip Kumar, Former Vice-chancellor & Director ICAR-CIFE, Mumbai & FAO consultant and Dr. S.C.Rai, Former Dean, CoF, visited College



of Fisheries, Dholi, interacted with students. Dr. Dilip Kumar also delivered lecture on “Aquaculture: Sustainable Concern” (Photo- 2).



Former ADG (Horticulture), Dr. B K Pandey and Dr. VK Barnawal, National Professor, Plant Pathology visited PG College of Agriculture and addressed the faculty members and research scholars. Hon’ble Vice Chancellor chaired the meeting arranged for addressing the faculty members research scholar and the dignitaries. Dean and faculty members of the college were present on this event. Prof. VK Barnawal delivered a lecture on the discovery of a new disease namely, ‘Stunting Disease of Rice’ which has recently been reported in the parts of north and north-western India.

DDG-ICAR (Agri. Engineering) interacted with students and faculty of CAET: Dr. S. N. Jha, DDG-ICAR (Agri Engg.) addressed the faculty and students of the College of Agricultural Engineering and Technology, RPCAU, Pusa, on 21 March 2024 and discussed about the scopes and opportunities in agricultural engineering.



Union Minister, Ministry of Rural Development Sadhvi Niranjan Jyoti, visited the college premises with Sri. Radhamohan Singh, MP, Motihari and Sri. Pramod Kumar, MLA, Motihari along with other local representatives and farmers on 28-06-2023. Dr. Krishna kumar , Dean, PDUCHF welcomed all the guests with a shawl and bouquet. During this visit the minister along with

other dignitaries paid homage to the statue of Pandit Deendayal Upadhyay in the college premises. She interacted with all the students and faculty member

The Hon’ble Vice Chancellor, respected members of the Board of Management, and the Director of Extension Education (DEE) visited various demonstration units at KVK, Piprakothi on September 8, 2023. These units included the food processing unit, vegetable and fruit nursery, bamboo processing and exhibition unit, IFS (Integrated Farming System), and vermicompost unit. The dignitaries appreciated the efforts of the KVK, Piprakothi team and offered valuable suggestions for further improvement.

Director, ICAR-DMAPR, Anand (Gujrat), Dr. Manish Das, Director, ICAR- Directorate of Medicinal and Aromatic Plant Research, Boriavi, Anand and PC, ICAR-AICRP on Medicinal and Aromatic Plants visited Herbal Garden and experimental field of ICAR-AICRP, MAP, RPCAU, Pusa on 28, November, 2023. He reviewed the progress of Crop improvement and Crop protection trials being conducted at the Pusa centre. As a token of memory, he planted a Chandan (Santalum album) plant in the Herbal Garden.

Delegates from CIMMYT, Mexico visited RPCAU, Pusa, Dr. Velu Govindan, Wheat Breeder, CIMMYT and Dr. Keith Gardner, Geneticist, CIMMYT, Mexico visited wheat experimental plots of RPCAU, Pusa. The visitors interacted with the researchers and student research scholars engaged in wheat research programme of the University. The visitors discussed the ongoing wheat research programme and possible avenues of collaborative research between CIMMYT and the University in presence of the Dean, PG College of Agriculture, RPCAU, Pusa.

12. INFRASTRUCTURE DEVELOPMENT

12.1. Central Facilities and Updation

E-Governance Cell

In the reporting year E-Governance Cell at RPCAU demonstrated significant achievements in digital infrastructure management. They conducted regular maintenance on computer systems, 300 notices uploaded on the university website and managed an intranet with 348 updates. Over a thousand technical complaints were resolved, and user traffic was monitored through Unified Threat Management. Content publication included more than 480 items on digital notice boards. The cell established email and internet accounts for all students and new staff, installed 85 copies of antivirus, and introduced 38 Access Points, 14 Switches, 565 M Fiber Cabling, and 1100 M Cat6 Cabling. They implemented a CCTV surveillance system with 23 cameras and 6 NVRs. Furthermore, the E-Governance Cell organized various online meetings and webinars for different university departments, showcasing their commitment to digital connectivity and security.



Publication Division

The division has published 85 publications such as Aadhunik Kisan Diary, Coffee Table Books, Annual Reports, University e-Newsletter, Aadhunik Kisan Magazine, Kisan Mela Souvenir, Leaflets, Folders, Technical Bulletins, Practical Manual, Training Manual and Reports *etc.* besides it has printed 1 lakh pages of different academic and administrative documents. Besides 50 TV Talk & Interviews were released. 300 News items related with Farmers Advisories were published in different news paper totalling 1050 news in print media.

University Dispensary

The university has a modest facility of dispensary catering to health-related issues of

students and faculties through its OPD facility.



University Library

The University Library system comprised of the collection and services of the main campus library at Pusa and 09 constituent college libraries at Pusa, Dholi and Piprakothi campuses. All branch libraries are connected to the central library through cloud-hosted Koha ILMS and mobile applications. Though, constituent college libraries cater to the local information needs of students and faculties but are heavily dependent on the central library at the main campus, Pusa for satisfying their needs of information/ knowledge required for excellence in academics/ research and extension.



The University library was established in the year 1978 at Tirhut College of Agriculture, Dholi, later, shifted to the present building at RPCAU Pusa in 1981. Since then, library is providing the best possible learning resources and services by facilitating a diverse range of scientific journals, databases, research, and statistical tools, *etc.* to the scientific and user's community of the University to



achieve the excellence in academics, research, and extension in line with university mandate with vision of empowering RPCAU's research and learning community with enriching collections, innovative services and state-of-art technologies strengthened by strategic partnership with National and International Library Networks.

The brief description of achievement made during the reported period is as under-



- **Foot Fall:** The total footfalls recorded in library during the reporting year is 51266 with average monthly footfall of 4272.
- **Collection Use:** A total of 8273 documents circulated (4177 issued and 4096 returned) among students & faculties to support the academic /research activities. Besides, 106 article requests were fulfilled under e-DDR facility of CeRA.
- **Digital Accessibility:** Provided accessibility to more than 2500 e-journals across multiple disciplines through CeRA@J-Gate platform, 100+ Indian Journals through IndianJournals.com platform besides more than 1100 e-books. Also, a Competitive Database of more than 7 Lakh Questions were subscribed and access extended for preparation of various competitive examinations such as GATE, NET, ARS, ASRB, etc. The Online Public Access Catalogue (OPAC) depicting complete collection of learning resources made Web PAC for anytime/anywhere access and use.
- **User Empowerment:** Under users empowerment/Outreach programme "Remotlog" a mobile app application software subscribed to provide off campus access to students/ faculties.
- **Faculty database (IRINS) for RPCAU:** The University Library successfully implemented the Indian Research Information Network System (IRINS) instance database for Dr. Rajendra Prasad Central Agricultural University (RPCAU). Helped

the faculties to create 170 researchers profile detailing their academic qualifications, publications, projects, and other scholarly activities. This provides seamless integration with existing databases and institutional repositories, ensuring up-to-date information and led to improved visibility and accessibility of the university's research outputs, facilitating greater academic collaboration and recognition.

- **Collection Development and Technical Processing:** A total of 843 printed books purchased, 1765 books classified, 23765 books record catalogued in Koha from 14 Accession Registers and 2600 scientific journals Print + online have been subscribed to enrich learning resources.

- **Institutional Repository:** Library has developed an open-source Institutional Repository IR@RPCAU for preserving and uploading the institutional publications and literatures for greater visibility and use of intellectual output of the university and 823 research documents (578 research articles and 245 other documents viz. lab manuals, technical bulletins, folders, leaflets, Annual Reports, Newsletters and rare documents etc.) were uploaded.

- **Digitization:** Under digitization program a total of 43990 pages of 302 theses of MSc. and 500 historical documents including rare and fragile materials were digitized and 81 theses (MSc 35 and PhD. 46) were uploaded in Krishikosh.

- **Antiplagiarism Tool@ Turnitin PDS:** While catering Research Support Services of the university, library also acts as the Nodal point for providing Turnitin Anti-Plagiarism Software based services to its faculty members and scholars to check the extent of similarity and also to reduce it. More than 210 Plagiarism Check were conducted at Central Library for thesis and research papers and their Plagiarism Check Reports were generated and provided to scholars and researchers.

- **Investment in Learning Resources & Savings:** A sum of Rs 48.17 Lakh was spent on enriching learning resources/service (6.43 lakh on Journals, 22.25 lakhs on printed books, and 19.49 Lakh on databases and educational software) and library has generated revenue of Rs 7.95 Lakh (6.62 lakhs Library discount and 1.33 Lakh on account of providing various library services.)

- **Academics and Training:** University Library also offered PG and PhD level compulsory courses

in Library and Information Services, Research and Publication Ethics including Plagiarism besides organized various training programs for students, researchers, and faculty members.

Digital Learning Resources Photograph @ University Library



University GYM

The University Gymnasium at RPCAU Pusa provides a dynamic space for students to prioritize their physical well-being. Established to promote fitness and health, it offers state-of-the-art equipments such as Treadmill, various types of Bench press, Functional Trainer Gym Machine, Ellipticals, Exercise Bike, Kettlebells, Dumbbells, Leg Curl machine, Preacher Curl Bench, Pec deck machine, Lat Pulldown machine, Shoulder Press machine, Weight Bars, Chest Press Machine, Chest Fly Machine, Overhead Press Machine, Abdominal Bench, Leg Press Machine, Barbells and Olympic Barbells, Upright Exercise Bike, Smith Machine, Pull Up Bar and diverse workout options. The facility encourages a holistic approach to student development, fostering a healthy lifestyle within the academic environment.



University Placement Cell

The university has a very good facility of placement cell that works under close coordination of different colleges of the university and industry. It also conducts soft skill, personality development and communication skill programmes for students to make them employable in the industries of different

agriculture and allied fields.



12.2. Other Infrastructure Created

- A new administrative building was inaugurated at Krishi Vigyan Kendra Madhopur and the foundation stone of a Rural Technological Development Center was laid to cater the training and educational needs.
- Several infrastructural development projects like road construction, brickwork, and drainage system improvements were initiated at KVK Jale, Darbhanga.
- KVK, Begusarai developed a Dairy unit of 4000 sq. ft.; Poultry unit of 1000 sq. ft.; Goatery unit of 200 sq. ft. and administrative buildings and farmers' hostels.
- KVK Piprakothi has taken strong strides in the development of a Sprinkler and Drip irrigation system, the Renovation of Mushroom production, Mushroom spawn production, the Reshaping of the pond, the Formation of the sokhta pits, and the formation of connecting roads under the IFS.
- **Opening of Krishi Mandapam :** Inaugural function of opening of Krishi Mandapam and unveiling of idol of Balaram (God of Agriculture and prosperity) was auspiciously organized at KVK Piprakothi in gracious presence of Hon'ble MP, Motihari and Ex Minister of Agriculture and Farmers Welfare Shri Radha Mohan Singh sir and other respected dignitaries.





13. OUR PROUD MOMENTS

Certificate of Excellence: AICRP on Mushroom Awarded with Certificate of Excellence for outstanding contribution under AICRP on Mushrooms during Silver Jubilee- XVth Annual Group Workshop held at SKUAS&T, Srinagar from 15-16 June, 2023.



Ranked in top 10 general universities RPCAU, Pusa ranked 10th in the India Today MDRA Survey 2023 among the general universities.



Mr. Vikas Kumar Rai, Assistant Professor, Department of Soil Science, TCA, Dholi has been selected for the prestigious Netaji Subhash ICAR International Fellowship 2022-23 for pursuing Ph.D at Michigan State University, USA.



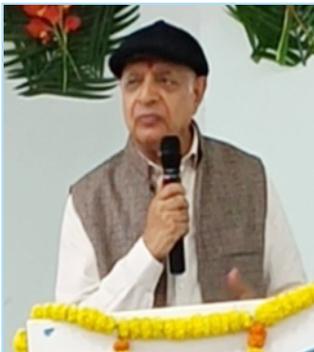
'Marcha Dhaan' of West Champaran (Bihar) got the status of Geographical Indication (GI) tag with facilitation of RPCAU to Marcha Dhan Utpadak Pragatisheel Samuh of West Champaran (Bihar).



RPCAU got patent for Nutritive Food Composition and Process for Preparation entitled, 'Energy Dense Nutritive Food having Balanced Nutritional Composition and Process for Preparation'.



Hon'ble Chancellor Dr. P. L. Gautam, RPCAU, Pusa, Samastipur visited the constituent colleges of the University in his two week long stays at RPCAU, Pusa and have a very fruitful discussion with the faculty, staff and students.



RPCAU, Pusa received a patent for an invention entitled 'A SOLAR POWERED FISH PRESERVATION AND TRANSPORTATION CART'.

पेटेंट कार्यालय, भारत सरकार | The Patent Office, Government Of India
पेटेंट प्रमाण पत्र | Patent Certificate
 (पेटेंट नियमवली का नियम 74) | (Rule 74 of The Patents Rules)

पेटेंट सं. / Patent No. : 472593
 आवेदन सं. / Application No. : 202031044858
 फाइल करने की तारीख / Date of Filing : 15/10/2020
 पेटेंटी / Patentee : Dr. RAJENDRA PRASAD CENTRAL AGRICULTURAL UNIVERSITY

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित A SOLAR POWERED FISH PRESERVATION AND TRANSPORTATION CART नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख अक्टूबर 2020 के पंद्रहवें दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदान किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled A SOLAR POWERED FISH PRESERVATION AND TRANSPORTATION CART as disclosed in the above mentioned application for the term of 20 years from the 15th day of October 2020 in accordance with the provisions of the Patents Act, 1970.

सुनने की तारीख : 23/11/2023
 Date of Grant : 23/11/2023

नियम - इस पेटेंट के नवीकरण के लिए बीस, चार से एक वर्ष का प्रारंभ है, अक्टूबर 2022 के पंद्रहवें दिन से और उसके पश्चात प्रत्येक वर्ष से जो भी दिन पर पड़े।
 Note - The fees for renewal of this patent, if it is to be maintained, will fall / has fallen due on 15th day of October 2022 and on the same day in every year thereafter.

Ms. Depika Korram, M.F.Sc. Student (Batch 2020-21) secured Third Rank (ST category) in the examination of ICAR-AIEEE (Ph.D.)- 2023.



Dr. Shankar Jha, Associate Professor, Department of Soil Science, PGCA attended national celebration and parade of 75th Republic Day on 26th January, 2024 at Kartavya Path, New Delhi.

Dr. Asish Panda, Asstt. Prof. (Horticulture) was awarded with Best Experiment Award of ICAR-AICRP on Fruits for leading and monitoring the MLT papaya trial being conducted in 11 centres across the country.

Kisan Mela 2024 successfully organized on “Moving towards Nutritional Security from Food Security” during 24 to 26 February 2024



Postharvest Horticulture Laboratory, TCA Dholi has now been registered with FSSAI having Certificate No. : 20424331000106

Registration Certificate
 Government of Bihar
 Department of Health and Family Welfare
 Food Safety and Standards Authority of India
 Registration Certificate under FSS Act, 2006

वर्गीकरण संख्या / Registration Number: 20424331000106
 Detail(s) of Food Item

[Note: Only standardised food products are allowed to be manufactured as per the list available on FoSCo5.]

Sl. No	Name of the food category
1	01 - Dairy products and analogues, excluding products of food category 2.0
2	02 - Fats and oils, and fat emulsions
3	03 - Edible oils, including sherbet and sorbet
4	04 - Fruits and vegetables (including mushrooms and fungi, roots and tubers, fresh pulses and legumes, and also vera), seasonings, and nuts and seeds
5	05 - Confectionery
6	06 - Cereals and cereal products, derived from cereal grains, from roots and tubers, pulses, legumes and pith or soft core of palm tree, excluding bakery wares of food category 7.0
7	07 - Bakery products
8	11 - Sweeteners, including honey
9	12 - Salts, spices, soups, sauces, salads and protein products
10	13 - Foodstuffs intended for particular nutritional uses
11	14 - Beverages, excluding dairy products
12	15 - Ready-to-eat savouries
13	16 - Prepared Foods
14	18- Indian Sweets and Indian Snacks & Savouries products
15	99 - Substances added to food

FSSAI
 Food Safety and Standards Authority of India

FSSAI Certified Postharvest Horticulture Laboratory TCA, RPCAU



13.1. National/International Visitors

Dr. S.N. Meera, Director, ATARI, Hyderabad, visited during 4-5th January, 2024
Dr. A. R. Pathak, Former Vice Chancellor, NAU , Gujarat visited during 15-17th January, 2024
Dr. Bikash Das, Director , ICAR-NRC Litchi, Muzaffarpur, Bihar, visited during 15-17th January, 2024
Dr. K.G. Mandal, Director, MGIFRI, Piprakothi, Motihari, visited on 16th January, 2024
Dr. Ram Avtar Singh, Yogic Guru, Founder Chairman of P SFCT, New Delhi visited on 28th January, 2024
Shri Surya Pratap Shahi, Minister of Agriculture & Research Govt. of Uttar Pradesh , visited on 12-02-2024.
Dr. Bijendra Singh, Vice Chancellor, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya, Uttar Pradesh, visited on 12-02-2024.
Dr. Nilam Patel, Advisor (Agri.), NITI Ayog, Govt. of India , visited on 12-02-2024.
Dr. R.R. Singh, Director Extension Education, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya, Uttar Pradesh , visited on 12-02-2024.
Shri Vijay Kumar Sinha, Deputy Chief Minister and Agriculture Minister, Bihar , visited on 24-02-2024.
Shri Ramnath Thakur, Member of Parliament, Rajyasabha , visited on 24-02-2024
Mr. Sudhansu Sekhar Das, Zonal Manager, Punjab National Bank , visited on 24-02-2024
Md. Abid Siddqui, Circle Head, Punjab National Bank , visited on 24-02-2024
Smt. Padmshri. Rajkumari Devi (Kisan Chachi), visited on 24-02-2024
Shri Maheshwar Hajari, Deputy Speaker, Bihar Legislative Assembly , visited on 25-02-2024
Mr. Rakesh Kumar, Senior Superintendent of Police, Muzaffarpur , visited on 25-02-2024
Prof. Dinesh Chandra Rai, Vice-Chancellor, BRABU, Muzaffarpur , visited on 26-02-2024
Dr. R. K. Jat, Centre Head, Borlaug Institute of South Asia, Pusa , visited on 26-02-2024
Dr. S.N. Jha, DDG-ICAR (Agril Engg), visited on 22-03-2024
Dr. Gopal ji Trivedi, former VC, RAU, Pusa, visited on 22-03-2024

14. RPCAU IN MEDIA

कार्यक्रम - कृषि अनुसंधान की भूमिका, चावलरहित और सूकरों के विकास पर एक विभिन्न जगहों पर कार्यक्रम का आयोजन

सटीक व सकारात्मक कृषि अनुसंधान के आधार पर ही किसान और देश का विकास संभव : वीसी

कृषि अनुसंधान का प्रसारण कार्यक्रम का आयोजन

कृषि अनुसंधान का प्रसारण कार्यक्रम का आयोजन

कृषि अभियंत्रण कॉलेज में पीएम ने रिमोट से किया 5-जी लैब का उद्घाटन, बोले 21वीं सदी में टेक्नोलॉजी के प्रत्येक कदम से ही हम आगे बढ़ पायेंगे

कृषि अभियंत्रण कॉलेज में पीएम ने रिमोट से किया 5-जी लैब का उद्घाटन

कृषि अभियंत्रण कॉलेज में पीएम ने रिमोट से किया 5-जी लैब का उद्घाटन

स्वस्थ जीवन को दिनचर्या में शामिल करें योग : वीसी

स्वस्थ जीवन को दिनचर्या में शामिल करें योग

स्वस्थ जीवन को दिनचर्या में शामिल करें योग

तीसरी बार मिला सर्टिफिकेट ऑफ एक्सीलेंस सम्मान

तीसरी बार मिला सर्टिफिकेट ऑफ एक्सीलेंस सम्मान

तीसरी बार मिला सर्टिफिकेट ऑफ एक्सीलेंस सम्मान

स्वस्थ जीवन को दिनचर्या में शामिल करें योग : वीसी

स्वस्थ जीवन को दिनचर्या में शामिल करें योग

स्वस्थ जीवन को दिनचर्या में शामिल करें योग

कार्यक्रम - कृषि विधि पत्र और से केंद्रीय विद्यापीठों के परिसर में किसान-विद्यार्थी सम्मेलन का आयोजन

पूसा कृषि विधि तेजी से प्रगति करेगा, इसका फायदा बिहार और देश के किसानों को भी होगा : राज्यपाल

पूसा कृषि विधि तेजी से प्रगति करेगा

पूसा कृषि विधि तेजी से प्रगति करेगा

कार्यक्रम - डॉ. राजेन्द्र प्रसाद केन्द्रीय कृषि विधि पूसा का 5-वर्षीय स्थापना दिवस समारोह, निम्नलिखित विधि की उपस्थिति व वैज्ञानिकों को अनुसंधान, शिक्षा व प्रसार के क्षेत्र में बेहतर कार्य करने की जरूरत : कुलपति

कार्यक्रम - डॉ. राजेन्द्र प्रसाद केन्द्रीय कृषि विधि पूसा का 5-वर्षीय स्थापना दिवस समारोह

कार्यक्रम - डॉ. राजेन्द्र प्रसाद केन्द्रीय कृषि विधि पूसा का 5-वर्षीय स्थापना दिवस समारोह

Major feat: 10 patents awarded to RPCAU teachers, scientists

Major feat: 10 patents awarded to RPCAU teachers, scientists

Major feat: 10 patents awarded to RPCAU teachers, scientists

कार्यक्रम - पहले बार कृषि विधि पूसा का कार्यक्रम क्षेत्रों में वैज्ञानिकों को नए-नए तकनीकों के लिए इंटरनेट कोर्स शुरू

नई तकनीक और प्राकृतिक खेती से देश में कृषि के क्षेत्र में आया क्रान्तिकारी परिवर्तन : कुलपति

नई तकनीक और प्राकृतिक खेती से देश में कृषि के क्षेत्र में आया क्रान्तिकारी परिवर्तन

नई तकनीक और प्राकृतिक खेती से देश में कृषि के क्षेत्र में आया क्रान्तिकारी परिवर्तन

प्रदर्शनी - उत्तमव्यु अनुसंधान कृषि की दिशा में विविध के बढ़ते क्रम विज्ञान पर कार्यक्रम पूसा शिक्षा व अनुसंधान की जनी, विविध को नई ऊंचाइयों पर पहुंचाने का करें काम : वीसी

प्रदर्शनी - उत्तमव्यु अनुसंधान कृषि की दिशा में विविध के बढ़ते क्रम विज्ञान पर कार्यक्रम

प्रदर्शनी - उत्तमव्यु अनुसंधान कृषि की दिशा में विविध के बढ़ते क्रम विज्ञान पर कार्यक्रम

कार्यक्रम - निरुद्ध कृषि महाविद्यालय दोली का 62वां स्थापना दिवस समारोह मनाया गया छात्रों को गौरवशाली इतिहास से प्रेरणा लेकर लक्ष्य की प्राप्ति को जूट जाना चाहिए : वीसी

निरुद्ध कृषि महाविद्यालय दोली का 62वां स्थापना दिवस समारोह मनाया गया

निरुद्ध कृषि महाविद्यालय दोली का 62वां स्थापना दिवस समारोह मनाया गया

कार्यक्रम - शहद व अन्य उत्पादों के शुद्ध संयोजन विज्ञान पर किसानों को 6 दिवसीय परिचय

दूध व मछली की तरह मधु उत्पादन के क्षेत्र में भी क्रान्ति लाने की जरूरत : वीसी

दूध व मछली की तरह मधु उत्पादन के क्षेत्र में भी क्रान्ति लाने की जरूरत

दूध व मछली की तरह मधु उत्पादन के क्षेत्र में भी क्रान्ति लाने की जरूरत

आयोजन - तीन दिनों तक विभिन्न प्रकार के सांस्कृतिक कार्यक्रम का हुआ आयोजन प्रतियोगिता से छात्रों की प्रतिभा में आता है निखार : कुलपति

आयोजन - तीन दिनों तक विभिन्न प्रकार के सांस्कृतिक कार्यक्रम का हुआ आयोजन

आयोजन - तीन दिनों तक विभिन्न प्रकार के सांस्कृतिक कार्यक्रम का हुआ आयोजन

माइक्रो इरिगेशन व ड्रोन तकनीक की आरंभ होगी पढ़ाई : कुलपति

माइक्रो इरिगेशन व ड्रोन तकनीक की आरंभ होगी पढ़ाई

माइक्रो इरिगेशन व ड्रोन तकनीक की आरंभ होगी पढ़ाई

वर्चुअल रियलिटी लैब का शुभारंभ

वर्चुअल रियलिटी लैब का शुभारंभ

वर्चुअल रियलिटी लैब का शुभारंभ

डॉ. राजेन्द्र प्रसाद केन्द्रीय कृषि विधि में दो विदेशीय बेनेफिट लर्निंग पर परिषदाध्यक्ष

भारत के सपने को साकार करने में आईटी की भूमिका अहम: कुलपति

भारत के सपने को साकार करने में आईटी की भूमिका अहम: कुलपति

भारत के सपने को साकार करने में आईटी की भूमिका अहम: कुलपति

लीची महोत्सव के माध्यम से पहुंचेगा देश-विदेश में कुलपति का संदेश

लीची महोत्सव के माध्यम से पहुंचेगा देश-विदेश में कुलपति का संदेश

लीची महोत्सव के माध्यम से पहुंचेगा देश-विदेश में कुलपति का संदेश

आयोजन - डॉ. राजेन्द्र प्रसाद केन्द्रीय कृषि विधि परिसर में कार्यक्रम नयी तकनीक अपनाकर मछली पालन को सफल बनाने की जरूरत : कुलपति

आयोजन - डॉ. राजेन्द्र प्रसाद केन्द्रीय कृषि विधि परिसर में कार्यक्रम

आयोजन - डॉ. राजेन्द्र प्रसाद केन्द्रीय कृषि विधि परिसर में कार्यक्रम



कृषि विवि में सात दिवसीय प्रशिक्षण की शुरुआत शरीर में पाये जाने वाले सोडियम को संतुलित करता है मशरूम

प्रशिक्षण, पुनः डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि, पटना के अध्यक्ष प्रो. अशोक कुमार ने सात दिवसीय प्रशिक्षण की शुरुआत में कहा कि सोडियम को संतुलित करने के लिए मशरूम का उपयोग करना चाहिए।



प्रशिक्षण में भाग लेती डॉ. वि. प्रमिला

छात्र-छात्राओं के शत प्रतिशत प्लेसमेंट को लेकर बधाई समारोह छात्र-छात्राओं के सहयोग से ही विवि देश में होगा अबल : वीसी

अध्यक्ष प्रो. अशोक कुमार ने छात्र-छात्राओं के शत प्रतिशत प्लेसमेंट को लेकर बधाई समारोह का आयोजन किया।



अध्यक्ष प्रो. अशोक कुमार के नेतृत्व में छात्र-छात्राओं के शत प्रतिशत प्लेसमेंट को लेकर बधाई समारोह का आयोजन किया।

4 women receive certificates on completing drone pilot training

Drone pilot training completion ceremony at RKVY, Patna. Four women received certificates for completing the training.



Drone pilot training completion ceremony at RKVY, Patna. Four women received certificates for completing the training.

हिंदी को अपना कर समाज व देश का हो सकता है विकास

हिंदी को अपना कर समाज व देश का हो सकता है विकास। प्रो. अशोक कुमार ने कहा कि हिंदी को अपना कर समाज व देश का हो सकता है विकास।



प्रो. अशोक कुमार ने कहा कि हिंदी को अपना कर समाज व देश का हो सकता है विकास।

भारत ऋषि एवं कृषि का देश, यहां की हिंदी भाषा विविधता में एकता का है परिचायक : कुलपति

भारत ऋषि एवं कृषि का देश, यहां की हिंदी भाषा विविधता में एकता का है परिचायक। कुलपति प्रो. अशोक कुमार ने कहा कि भारत ऋषि एवं कृषि का देश, यहां की हिंदी भाषा विविधता में एकता का है परिचायक।



कुलपति प्रो. अशोक कुमार ने कहा कि भारत ऋषि एवं कृषि का देश, यहां की हिंदी भाषा विविधता में एकता का है परिचायक।

तेज प्रगति के लिए प्रयास करेंगे: डॉ पांडेय

तेज प्रगति के लिए प्रयास करेंगे: डॉ. पांडेय। डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि, पटना के अध्यक्ष डॉ. राजेश प्रसाद ने कहा कि तेज प्रगति के लिए प्रयास करेंगे: डॉ. पांडेय।



डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि, पटना के अध्यक्ष डॉ. राजेश प्रसाद ने कहा कि तेज प्रगति के लिए प्रयास करेंगे: डॉ. पांडेय।

कृषि विविपालया पुसा परिसर स्थित विद्यापति सभागार में दो दिनी बैठक शुरू ब्राजील के बाद गन्ना उत्पादन में दूसरा सबसे बड़ा देश भारत : वीसी

कृषि विविपालया पुसा परिसर स्थित विद्यापति सभागार में दो दिनी बैठक शुरू। ब्राजील के बाद गन्ना उत्पादन में दूसरा सबसे बड़ा देश भारत: वीसी।



कृषि विविपालया पुसा परिसर स्थित विद्यापति सभागार में दो दिनी बैठक शुरू।

कार्यक्रम - अनुसंधान परियोजना पर लीकनेट वार्तालाप का प्रयोग व जीव विविधता प्रशिक्षण से प्राप्त ज्ञान का प्रयोग कृषि में जलवायु परिवर्तन की समस्याओं से निपटने में करें: कुलपति

कार्यक्रम - अनुसंधान परियोजना पर लीकनेट वार्तालाप का प्रयोग व जीव विविधता प्रशिक्षण से प्राप्त ज्ञान का प्रयोग कृषि में जलवायु परिवर्तन की समस्याओं से निपटने में करें: कुलपति।



कुलपति प्रो. अशोक कुमार ने कहा कि अनुसंधान परियोजना पर लीकनेट वार्तालाप का प्रयोग व जीव विविधता प्रशिक्षण से प्राप्त ज्ञान का प्रयोग कृषि में जलवायु परिवर्तन की समस्याओं से निपटने में करें: कुलपति।

केन्द्रीय कृषि विवि को मल्टीकॉप सीडर व खाद्य पदार्थ बाल शक्ति को मिला पेटेंट किसानों को समस्या नहीं हो, इसके लिए वैज्ञानिक हैं तत्पर: कुलपति

केन्द्रीय कृषि विवि को मल्टीकॉप सीडर व खाद्य पदार्थ बाल शक्ति को मिला पेटेंट। किसानों को समस्या नहीं हो, इसके लिए वैज्ञानिक हैं तत्पर: कुलपति।



कुलपति प्रो. अशोक कुमार ने कहा कि केन्द्रीय कृषि विवि को मल्टीकॉप सीडर व खाद्य पदार्थ बाल शक्ति को मिला पेटेंट।

कार्यक्रम - डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में कार्ययोजना किसानों की आमदनी बढ़ाने के लिए वित्तीय और तकनीकी सहायता प्रदान कर रहा नार्बार्ड : वीसी

कार्यक्रम - डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में कार्ययोजना किसानों की आमदनी बढ़ाने के लिए वित्तीय और तकनीकी सहायता प्रदान कर रहा नार्बार्ड: वीसी।



डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में कार्ययोजना किसानों की आमदनी बढ़ाने के लिए वित्तीय और तकनीकी सहायता प्रदान कर रहा नार्बार्ड: वीसी।

कार्यक्रम - उपखेती के माता केंद्रीय कृषि विवि पुसा का एक सार, बचतव्यय की तर्कों में प्रवेश किसानों के सहयोग से इलाके में अब हो रही जलवायु अनुकूल खेती: कुलपति

कार्यक्रम - उपखेती के माता केंद्रीय कृषि विवि पुसा का एक सार, बचतव्यय की तर्कों में प्रवेश। किसानों के सहयोग से इलाके में अब हो रही जलवायु अनुकूल खेती: कुलपति।



कुलपति प्रो. अशोक कुमार ने कहा कि उपखेती के माता केंद्रीय कृषि विवि पुसा का एक सार, बचतव्यय की तर्कों में प्रवेश।

कृषि विवि स्थित विद्यापति सभागार में संविधान दिवस पर कार्यक्रम सभी के सहयोग से हासिल होगा विकसित भारत का लक्ष्य: कुलपति

कृषि विवि स्थित विद्यापति सभागार में संविधान दिवस पर कार्यक्रम। सभी के सहयोग से हासिल होगा विकसित भारत का लक्ष्य: कुलपति।



कुलपति प्रो. अशोक कुमार ने कहा कि कृषि विवि स्थित विद्यापति सभागार में संविधान दिवस पर कार्यक्रम।

कार्यक्रम - डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में 15वीं अनुसंधान परियोजना की लीकनेट वार्तालाप किसानों को अधिक आय उपलब्ध करा सकें: वीसी

कार्यक्रम - डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में 15वीं अनुसंधान परियोजना की लीकनेट वार्तालाप। किसानों को अधिक आय उपलब्ध करा सकें: वीसी।



कुलपति प्रो. अशोक कुमार ने कहा कि डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में 15वीं अनुसंधान परियोजना की लीकनेट वार्तालाप।

राष्ट्रीय स्तर पर मशरूम उत्पादन के क्षेत्र में बिहार का प्रथम स्थान: डॉ पीएस पांडेय

राष्ट्रीय स्तर पर मशरूम उत्पादन के क्षेत्र में बिहार का प्रथम स्थान: डॉ. पीएस पांडेय।



डॉ. पीएस पांडेय ने कहा कि राष्ट्रीय स्तर पर मशरूम उत्पादन के क्षेत्र में बिहार का प्रथम स्थान।

नशामुक्त भारत बनाने में प्रचारक का काम कर सकते हैं छात्र-छात्राएं: वीसी

नशामुक्त भारत बनाने में प्रचारक का काम कर सकते हैं छात्र-छात्राएं: वीसी।



वीसी प्रो. अशोक कुमार ने कहा कि नशामुक्त भारत बनाने में प्रचारक का काम कर सकते हैं छात्र-छात्राएं।

कृषि विवि को सौर ऊर्जा से संचालित आधुनिक टेला गाड़ी और कम लागत वाली डिजाइन को मिला पेटेंट कुलपति ने कक्षा - पिछले एक वर्ष में विद्युतविद्यालय को 10 पेटेंट मिलना गौरव की बात है

कृषि विवि को सौर ऊर्जा से संचालित आधुनिक टेला गाड़ी और कम लागत वाली डिजाइन को मिला पेटेंट। कुलपति ने कक्षा - पिछले एक वर्ष में विद्युतविद्यालय को 10 पेटेंट मिलना गौरव की बात है।



कुलपति प्रो. अशोक कुमार ने कहा कि कृषि विवि को सौर ऊर्जा से संचालित आधुनिक टेला गाड़ी और कम लागत वाली डिजाइन को मिला पेटेंट।

कुलपति व कुलाधिपति ने की राष्ट्रपति मुर्मू से मुलाकात

कुलपति प्रो. अशोक कुमार व कुलाधिपति ने राष्ट्रपति द्रौपदी मुर्मू से मुलाकात की।



कुलपति प्रो. अशोक कुमार व कुलाधिपति ने राष्ट्रपति द्रौपदी मुर्मू से मुलाकात की।

कार्यक्रम - डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में राष्ट्रीय मधुसूचि बर्द की ओर से अनुसंधान भगवान बुद्ध की ज्ञानस्थली बिहार ने मधु कांति लाने के लिए बढ़ा दिया है अपना कदम : वीसी

कार्यक्रम - डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में राष्ट्रीय मधुसूचि बर्द की ओर से अनुसंधान भगवान बुद्ध की ज्ञानस्थली बिहार ने मधु कांति लाने के लिए बढ़ा दिया है अपना कदम: वीसी।



कुलपति प्रो. अशोक कुमार ने कहा कि डॉ. राजेश प्रसाद केन्द्रिय कृषि विवि पुसा के विद्यापति सभागार में राष्ट्रीय मधुसूचि बर्द की ओर से अनुसंधान भगवान बुद्ध की ज्ञानस्थली बिहार ने मधु कांति लाने के लिए बढ़ा दिया है अपना कदम: वीसी।

15. FINANCIAL OVERVIEW-2023-24

(₹ in Crore)

Sl. No.	Particulars	DARE (GOI)	ICAR	GOI	State Govt.	University Receipt	Total
1.	Grant-in-Aid Salary	177.44					177.44
2.	Grant-in-Aid General	20.00					20.00
3.	Grant-in-Aid Capital	53.67					53.67
4.	ICAR-AICRP (General)		2.60				2.60
5.	ICAR Education Division		2.78				2.78
6.	Other/Misc. (Including ICAR KVK KVK project, NAHEP OTHER Testing fee, foregone money other fellow)		32.94	4.80	82.55	23.80	144.09
	Total.	251.11	38.32	4.80	82.55	23.80	400.58

**Deans/Directors/Unit Heads of Constituent Colleges of RPCAU, Pusa**

Tirhut College of Agriculture Dholi, Muzaffarpur	Dean	Dr. P. P. Singh
PG College of Agriculture Pusa, Samastipur	Dean	Dr. Mayank Rai
College of Agricultural Engineering & Technology Pusa, Samastipur	Dean	Dr. Ambrish Kumar
Pt. DDU College of Horticulture & Forestry Piprakothi, West Champaran	Dean	Dr. Krishna Kumar
College of Fisheries, Dholi, Muzaffarpur	Dean	Dr. P. P. Srivastava
College of Community Science Pusa, Samastipur	Dean	Dr. (Mrs.) Usha Singh
College of Basic Sciences & Humanities Pusa, Samastipur	Dean	Dr. Amresh Chandra
Directorate of Education Pusa, Samastipur	Director	Dr. U. K. Behera
Directorate of Research, Pusa, Samastipur	Director	Dr. A. K. Singh
Directorate of Extension Education Pusa, Samastipur	Director	Dr. M. S. Kundu
School of Agribusiness & Rural Management Pusa, Samastipur	Director	Dr. P. S. Pandey
Sugarcane Research Institute, Pusa, Samastipur	Director	Dr. A. K. Singh
Directorate of Building and Infrastructure Pusa, Samastipur	Director	Dr. S. K. Jain
Directorate of Plant and Facilities Pusa, Samastipur	Director	Dr. R. S. Verma
Directorate of Students Welfare Pusa, Samastipur	Director	Dr. Ranjan Laik
Directorate of Seed, Pusa, Samastipur	Director	Dr. D.K. Rai
University Library, Pusa, Samastipur	University Librarian	Dr. R. M. Sharma
Directorate of Planning, Pusa, Samastipur	Officer Incharge	Dr. S. K. Sameer



Board of Management of RPCAU, Pusa*

Sl. No.	Members	Status	Address
1	Vice-Chancellor	Chairman	Dr. Punyavrat Suvimalendu Pandey Vice Chancellor RPCAU, Pusa, Samastipur, Bihar
2	Three Secretaries, from amongst the Secretaries-in-charge of the Departments of Agriculture or Animal Husbandry, Fishery and Horticulture of the State of Bihar to be nominated by the Visitor by rotation	Member	Secretary (Agriculture) Govt. of Bihar New Secretariat, Vikash Bhawan, Patna-800 015, Bihar
			Secretary, Animal Husbandry & Fisheries, Govt. of Bihar, New Secretariat, Vikash Bhawan, Patna-800 015, Bihar
			Secretary, Forest, Environment & Climate Change, Govt. of Bihar, Sichai Bhawan Secretariat, Patna-800 015, Bihar
3	Three eminent Scientists to be nominated by the Visitor	Member	Dr. Nawal Kishore Choudhary Former Chairman (Agronomy) Village-Srirampur Ayodhya, Post-Waini, Samastipur-848 131, Bihar
			Dr. Devendra Narayan Singh Assoc. Director Research, Zonal Research Station, Palamu, PO-Chianki, Distt.-Palamu-822 133 Jharkhand
			Dr. Jagshoran, Former Director 2126, Shyam Vihar, South Civil Lines Circular Road, Muzaffarnagar-251 001 (UP)
4	One distinguished person representing Agro-based industries or a manufacturer having a special knowledge in agricultural development to be nominated by the Visitor	Member	Shri Jayanti Lall Jain Former General Manage C/O-Dr. Jitendra Jain, Himalaya Society, B-406, Sector-5 Vasundhara Land Mark- Opposite Dilli Bazaar, Ghaziabad-201 012 (U.P.)

* As on 31-03-2023



5	Deputy Director General (Education) representing the Indian Council of Agricultural Research	Member	Dr. R.C. Agrawal Deputy Director General (Education), Indian Council of Agricultural Research, Krishi Anusandhan Bhawan-II, Pusa, New Delhi-110 012
6	One Dean of College and one Director to be nominated by the Vice-Chancellor on rotational basis	Member	Dr. Mayank Rai Dean, PGCA, RPCAU, Pusa
		Member	Dr. A.K. Singh Director Research RPCAU, Pusa
7	Two Persons representing farmers to be Nominated by the Vice-Chancellor	Member	Shree Jai Krishna Jha Village-Ram Chandrapur District : Samastipur Bihar-848127
		Member	Shri Bhuneshwar Prasad Village-Raghunathpur District-Buxar, Bihar-802134
8	One women social worker representing woman social organization to be Nominated by the Vice-Chancellor	Member	Smt. Mamta Rana Village-Shankarpur, Sahaspur Dehradun, Utrakhand-248197
9	An Advisor (Agriculture), NITI Aayog	Member	Dr. Neelam Patel Advisor (Agriculture) NITI Aayog, Govt. of India
10	One distinguished authority on natural resource or environment management to be nominated by the Visitor	Member	Dr. Kiran Bala Singh Associate Professor (Botany) C/o Shri Jayant Kumar Singh At+Po-Muktapur, Distt. Samastipur-848102, Bihar
11	Two persons not below the rank of Joint Secretary representing respectively the departments of Government of India dealing with the Agriculture and Animal Husbandry to be nominated by the concerned Secretary of the Government of India	Member	Dr. O. P. Choudhary Joint Secretary (NLM) Department of Animal Husbandry & Dairying Govt. of India, Chanderlok Building, Jan Path, New Delhi-110 001 Agriculture Commissioner DAC&FW, Govt. of India, Krishi Bhawan, New Delhi-110 001
12	Nominee of the Secretary representing the Department of Agricultural Research & Education, Government of India	Member	Shri Sanjay Garg, IAS Additional Secretary (DARE) & Secretary, ICAR, Krishi Bhawan, New Delhi-110 001
13	Registrar of the University	Secretary	Dr. Mritunjay Kumar Registrar, RPCAU, Pusa



Academic Council of RPCAU, Pusa

In accordance with the provisions contained in Dr. Rajendra Prasad Central Agricultural University Act-2016 and as per clause- 14 (1) of the Statutes, the constitution of the Academic Council of Dr. Rajendra Prasad Central Agricultural University is as follows:-

1.	Dr. P.S. Pandey, Vice-Chancellor, RPCAU, Pusa	Chairman
2.	All the Deans of the Constituent Colleges.	
	PG College of Agriculture	Member
	Dean, CBS&H	Member
	Dean, College of Comm. Science	Member
	Dean, CAET, Pusa	Member
	Dean, TCA, Dholi	Member
	Dean, COF, Dholi	Member
	Dean, PDUCH&F, Piprakothi	Member
3.	Director of Education	Member
4.	Director of Research	Member
5.	Director of Extension Education	Member
6.	Dr. K. Veeranjanyulu, Librarian	Member
7.	Two eminent Scientists from outside the university nominated by the Vice-Chancellor	
	Dr. Prakash Shastri, Former Dean, Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya, Race Course Road, Gwalior (M.P.)	Member
	Dr. R.K. Jain, Former Dean, ICAR-IARI, New Delhi, Flat No.53, IGH-12 Near Guru Harkrishna Nagar, Paschim Vihar, New Delhi-110087	Member
8.	Seven HODs nominated by the Vice-Chancellor	
	Head, Entomology	Member
	Head, Deptt. of Horticulture, PGCA, Pusa	Member
	Head, Deptt. of Processing & Food Engineering, CAET, Pusa	Member
	Head, Deptt. of Resource Management & Consumer Science, CCS, Pusa	Member
	Head, Deptt. of BSL, SMCA, CBS&H, Pusa	Member
	Head, Deptt. of Fisheries Resource Management, CoF, Dholi	Member
	Coordinator, SAB&RM, Pusa	Member
9.	The Registrar of the University	Ex-officio Secretary

* As on 31-03-2023

**Research Council of RPCAU, Pusa****Appendix-IV**

In accordance with the provisions contained in Dr. Rajendra Prasad Central Agricultural University Act-2016 and as per clause- 43 (2) of the Statutes, the constitution of the **Research Council** of Dr. Rajendra Prasad Central Agricultural University is as follows:-

1	Vice-Chancellor	Chairman
2	Director of Education	Member
3	Director of Extension Education	Member
4	All the Deans of the Colleges	Member
5	Nominee of the State Government not below the rank of Director	Member
6	All Coordinators of the research Teams of the University	Member
7	Eminent Agricultural Scientists nominated by the Vice-Chancellor Dr. M.B. Chetti, Former Vice Chancellor, University of Agricultural Sciences, Dharwad, Karnatka. Dr. A.R. Pathak, Former Vice Chancellor, Navsari Agricultural University, Gujrat.	Member
8	Director of Research	Member Secretary

Extension Education Council of RPCAU, Pusa**Appendix-V**

In accordance with the provisions contained in Dr. Rajendra Prasad Central Agricultural University Act-2016 and as per clause- 44(2) of the Statutes, the constitution of the Extension Education Council of Dr. Rajendra Prasad Central Agricultural University is as follows:-

1.	Vice-Chancellor, RPCAU, Pusa	Chairman
2.	Director of Research, RPCAU, Pusa	Member
3.	Director of Education, RPCAU, Pusa	Member
4.	All Deans of the Colleges of the University	Member
5.	Director Horticulture, Govt. of Bihar, (Nominee of the State Government)	Member
6.	Two farmer's representative and one woman social worker nominated by the Vice Chancellor Shri Jai Krishna Jha, Vivek Vihar Colony, Mohanpur Road, Samastipur, Bihar Shri Durga Prasad Singh, Village:Belwatia, East Champaran, Bihar Smt. Manorma Devi, Village : Lalganj, Vaishali, Bihar	Member
7.	Two eminent scientists nominated by the Vice-Chancellor Dr. G. P. Pali –Head, Agronomy, IGKV, Raipur-492012 Dr. P. R. Singh- Retd. Principal Scientist, IISR-Lucknow, Rasmi Khund, Sharda Nagar, Lucknow -226002	Member
8.	Director Extension Education, RPCAU, Pusa	Member Secretary

* As on 31-03-2023

RPCAU, Pusa, Bihar



Finance Committee of RPCAU, Pusa

In accordance with the provisions contained in Dr. Rajendra Prasad Central Agricultural University Act-2016 and as per clause- 17(1) of the Statutes, the constitution of the Finance Committee of Dr. Rajendra Prasad Central Agricultural University, Pusa (Samastipur), Bihar is as follows:-

1.	Vice-Chancellor, RPCAU, Pusa	Chairman
2.	Financial Advisor, DARE or his nominee not below the rank of Deputy Secretary, New Delhi	Member
3.	Shri U. S. Pandey Deputy Secretary (Budget), DARE, Ministry of Agriculture & Farmers Welfare, Govt. of India, Krishi Bhawan, New Delhi	Member
4.	Shri Umesh Kumar Saxena Senior Finance & Account Officer ICAR-IIVR, Varanasi	Member
5.	Dr. Naresh Chandra Principal Scientist Economics ICAR, RCER, Patna	Member
6.	Agriculture Commissioner DAC&FW, GOI, Krishi Bhawan, New Delhi	Member
7.	Shri S.R. Khuntia Retd. CFAO, ICAR-NRRI, Cuttack	Member
8.	Dr. G.P. Sharma Director (Finance), ICAR, Krishi Bhawan, New Delhi	Member
9.	Comptroller, RPCAU, Pusa	Member Secretary

* As on 31-03-2023



**List of abbreviations**

Abbreviation	Full Form
AICRP	All India Coordinated Research Project
B.F.Sc.	Bachelor of Fisheries Science
BISA	Borlaug Institute of South Asia
CAET	College of Agriculture Engineering and Technology
CASCC	Centre of Advance Studies on Climate Change
CBSH	College of Basic Science and Humanities
CCS	College of Community Science
CFLD	Cluster Front Line Demonstrations
COF	College of Fisheries
CRA	Climate Resilient Agriculture
CVRC	Central Variety Release Committee
DARE	Department of Agricultural Research and Education
DDG	Deputy Director General
DG	Director General
DSW	Director Student Welfare
E-Cell	Entrepreneurship Cell
FLD	Front Line Demonstration
FPO	Farmers Producers Organization
GATE	Graduate Aptitude Test in Engineering
GOI	Government of India
HP	Horse Power
ICAR	Indian Council of Agricultural Research
ICC	Internal Complaint Committee
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
ISAE	Indian Society of Agricultural Engineering
JRF	Junior Research Fellow
KVK	Krishi Vigyan Kendra
LNMU	Lalit Narayan Mithila University
MoU	Memorandum of Understanding



MP	Madhya Pradesh
NAAS	National Academy of Agricultural Sciences
NAHEP	National Agricultural Higher Education Project
NEC	National Entrepreneurship Challenge
NEP	National Education Policy
NET	National Eligibility Test
NIDM	National Institute of Disaster Management
OFT	On Farm Trail
PDUCHF	Pandit Deen Dayal Upadhyay College of Horticulture and Forestry
PG	Post Graduate
PGCA	Post Graduate College of Agriculture
Ph.D.	Doctor of Philosophy
QRT	Quinquennial Review Team
RA	Research Associate
RPCAU	Dr. Rajendra Prasad Central Agricultural University
SRF	Senior Research Fellow
SVRC	State Variety Release Committee
TCA	Tirhut College of Agriculture
UG	Under Graduate
UP	Uttar Pradesh



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