



ANNUAL REPORT BCKV

2023-24



ANNUAL REPORT 2023 - 24



Bidhan Chandra Krishi Viswavidyalaya

Mohanpur, Dist.-Nadia, West Bengal, India, PIN-741252

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Vice Chancellor,
Bidhan Chandra KrishiViswavidyalaya
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MANDATE

- To provide facilities for the study of agriculture, both basic and applied sciences relating to terrestrial and aquatic crops and animal production, forestry, including farm forestry, home economics, agricultural engineering and technology, horticulture, marketing and processing, land use and management, soil and water management and all matters collected therewith and incidental thereto.
- To conduct researches in these sciences and undertake the educational and extension programmes in agriculture among the rural clientele base, keeping in view the requirements of the state.
- To provide appropriate technical and consultative support to the state government towards its implementation of agricultural development programme.

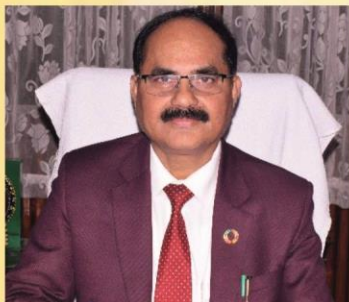
MISSION

- The mission of Bidhan Chandra Krishi Viswavidyalaya is to bring about qualitative and quantitative changes in the life of farmers and other relevant stakeholders through human resource development, technological advancement and dissemination of technologies related to agriculture and allied activities.

GOALS

- To provide contemporary quality education in the areas of agriculture and allied fields.
- To create opportunities for basic applied and adaptive research so as to offer proper solution to the emerging problems in agriculture and development of relevant technology befitting the needs of the farmers and other stake-holders.
- To foster technology transfer to the farming community and different agricultural organizations through various extension education and outreach programme for bringing about equitable targeted growth in all spheres of rural economic activities.

PREFACE



It is my privilege to present the *Annual Report 2023–2024* of **Bidhan Chandra Krishi Viswavidyalaya (BCKV)**. Although I assumed charge as Vice Chancellor on *19th December 2024*, after the conclusion of this reporting period, it is both an honour and a responsibility to bring forth this comprehensive account of the University's academic, research, and extension accomplishments during the year under review.

The achievements highlighted in this report are a reflection of the collective commitment of our faculty, scientists, students, and staff across the Colleges, Regional Research Stations, Sub-Stations, and Krishi Vigyan Kendras. Their dedicated efforts enabled BCKV to sustain its legacy as a premier State Agricultural University (SAU) of West Bengal and a hub of excellence in agricultural education, research, and extension.

During the year, the University recorded significant academic progress across its three faculties—Agriculture, Horticulture, and Agricultural Engineering. Our students distinguished themselves at the national level, securing *25 JRF, 3 SRF, and 50 NET qualifications*, as well as prestigious fellowships under CSIR, UGC, and GATE. Many gained admissions into elite institutions such as IITs, IIMs, IISc, and international universities. The University's vibrant cultural and extracurricular environment was also reflected in the outstanding performance of our students at the National Youth Festival held at UAS-Dharwad, where they won *seven awards* and secured the *second overall position*.

In research, BCKV strengthened its stature through *238 NAAS-rated publications (26 with NAAS score above 10)*, along with *21 books and 53 book chapters*. Several crop varieties were released and registered, contributing significantly to agrobiodiversity and farming systems. The University actively engaged in *30 AICRP/AINP projects* and numerous externally funded programmes with support from esteemed agencies such as CYMMIT, ICARDA, ACIAR, Indo-German S&T, IMD, BRNS, ICAR-NAHEP, and other national and international partners.

The University's extension network—comprising the Farmers' Academy, *five Krishi Vigyan Kendras*, and *six Regional Research Stations*—remained pivotal in transferring innovations to farmers across diverse agro-ecological zones of West Bengal. Similarly, ICAR's Student READY programme was implemented with success, providing students immersive field experience and entrepreneurship exposure. Recognition of the Central Library with the *ICAR-CeRA Best Library Award for Eastern India* further reflects BCKV's dynamic and inclusive ethos.

I wish to place on record my sincere appreciation to the entire University community for their tireless contributions during this period. I also acknowledge the visionary leadership of my predecessor, under whose guidance many of these achievements were realized. I am confident that with the continued support of the Government of West Bengal, ICAR, collaborating institutions, and all stakeholders, BCKV will continue to scale new heights in serving the farming community and advancing agricultural science.

This Annual Report is not only a record of past accomplishments but also a source of inspiration as we collectively work towards innovation, empowerment, and the sustainable transformation of agriculture in West Bengal and beyond.

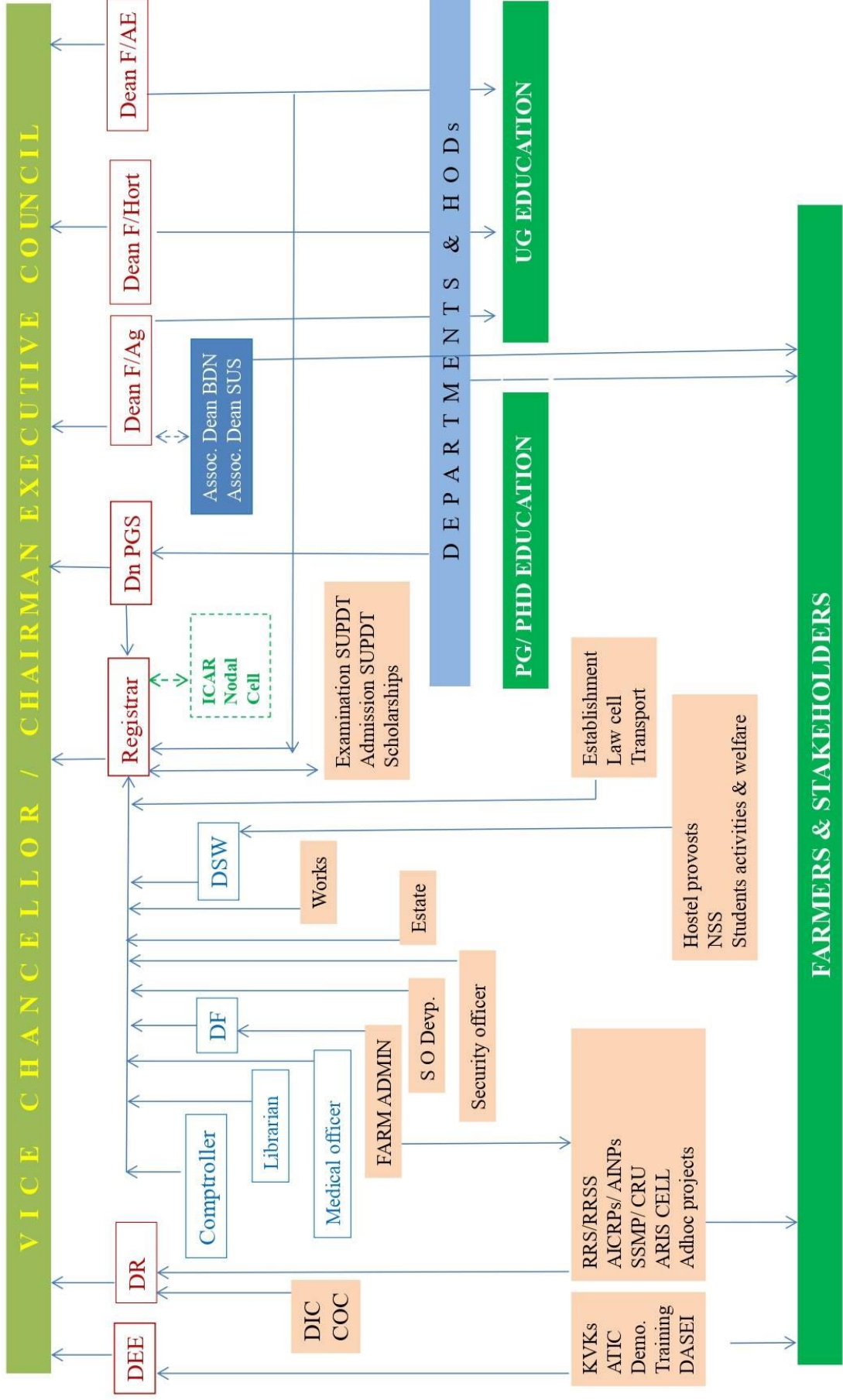
September, 2025
B.C.K.V., Mohanpur

A handwritten signature in blue ink, appearing to read 'Ashok K Patra'.

Ashok K Patra
Vice Chancellor

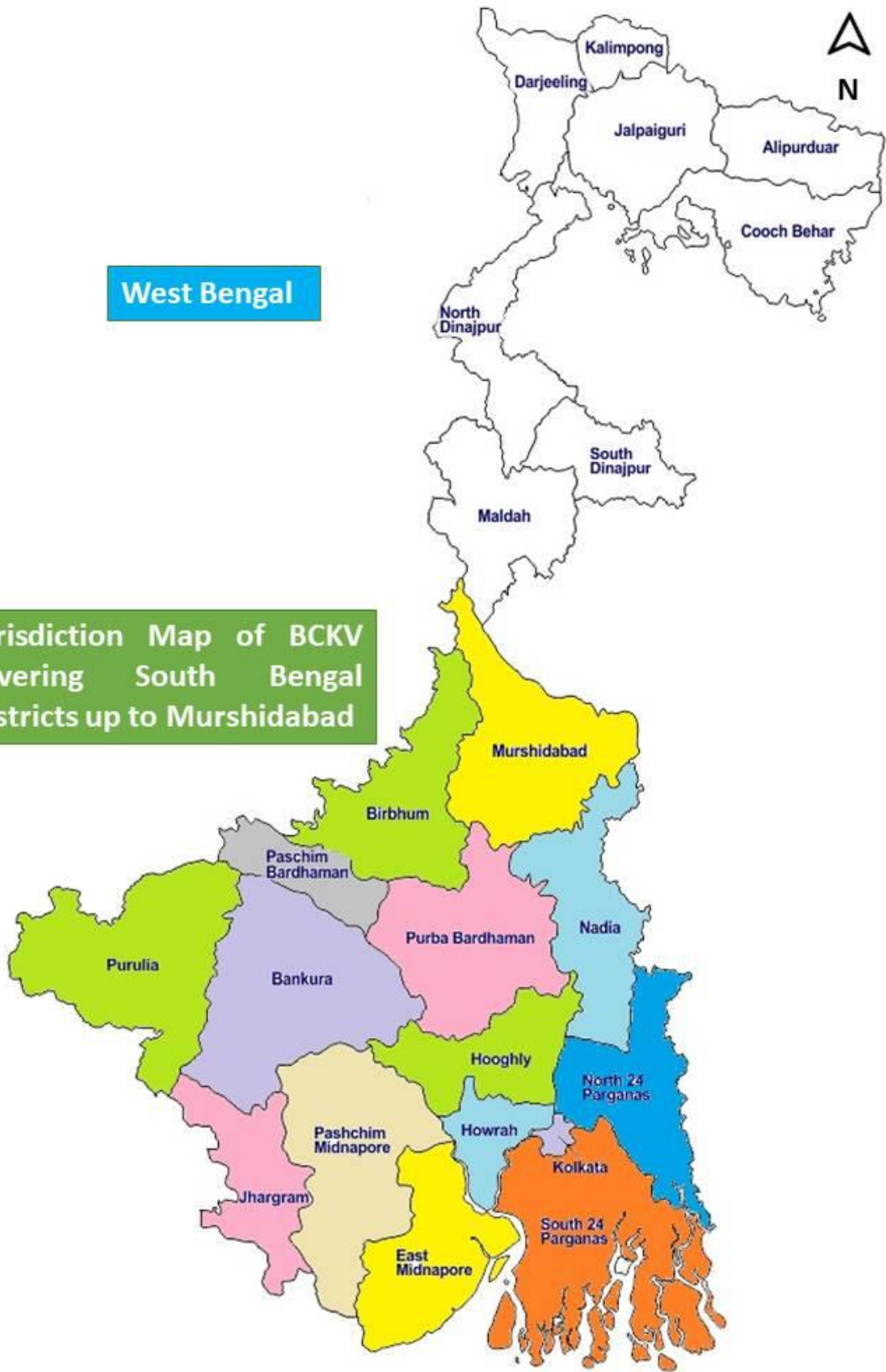
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West Bengal

Jurisdiction Map of BCKV covering South Bengal Districts up to Murshidabad



ABOUT THE VISWAVIDYALAYA

The Bidhan Chandra Krishi Viswavidyalaya (BCKV) with the headquarter at Mohanpur, Nadia was established in 1974, an offspring of erstwhile Faculty of Agriculture under Kalyani University and it completed five decades of journey in 2022. It championed the education and research in twenty five diverse disciplines spread across the faculties of Agriculture, Horticulture and Agriculture Engineering and offered graduates, post graduates and doctoral degree to the cause of the development, research and industry sectors and responded to the scale up of livelihood sectors of the state and the nation. The last decade saw the establishment of two new Colleges of Agriculture, at Bardhaman since 2014 and the other at Bankura since 2015 functioning successfully and adding to the glory of Viswavidyalaya. Regional Research Stations (RRS) and substations in and across Jhargram (Red & Laterite Zone), Kakdwip (Coastal Zone) and Gayespur (New Alluvial Zone) along with respective substations (RRSS) and five Krishi Vigyan Kendras (KVK) dotted in Nadia, Hoogly, Howrah, Purba Medinipur and Jhargarm cater to the research and extension needs of the agriculture predominant issues of South Bengal districts.

In recent past, the students have achieved commendable success in different national level competitive examinations including ICAR's JRF/SRF/NET. The student team achieved notable success at the national-level cultural meet. Girl students, their number and feats also speak volumes of the Viswavidyalya. The central library has rose up to the occasion for cause of education and research and has been awarded ICAR-CeRA Best Award for Eastern India.

The Viswavidyalaya partners the national needs through thirty AICRP/AINPs including voluntary centers apart from numerous adhoc projects sponsored by State, Central funding agencies and Industry backed ones. Other than its mandated activities, the BCKV provides technology support and advisories to the state government. Frontier area research was spearheaded with collaborations with IRRI, ICARDA, CYMMIT, ACIAR, BARC, IISER and IITs.

In all these endeavours and achievements the University is geared up to the cause of one hundred and thirty million small holder families to meet their demand towards a sustainable food and nutritional security and improving agricultural productivity and agro based industry possibilities in unmatched contributions.

FACULTY: AGRICULTURE

The Faculty of Agriculture consists of 16 departments: Agricultural Chemicals, Agricultural Economics, Agricultural Extension Education, Agricultural Meteorology and Agricultural Statistics, Agronomy, Biochemistry, Entomology, Genetics and Plant Breeding, Molecular Biology and Biotechnology, Plant Pathology, Plant Physiology, Seed Science and Technology, Soil Science, Soil and Water Conservation, and Animal Science. Over time, numerous high-quality laboratories have been established within the Faculty of Agriculture with financial assistance from various sources. Project funding and infrastructure also supplement student facilities, but recently, new funding has become very competitive and uncertain. In alignment with the recommendations of the Indian Council of Agricultural Research (ICAR), the undergraduate syllabus is periodically updated. However, to deliver these courses effectively, new facilities need to be developed, and existing facilities require repair, upgradation, and scaling up. Immediate resources are essential for achieving these goals.



Department: Agricultural Biochemistry

The department was established in 1998 through dissociation from the parent department of Agricultural Chemistry and Soil Science for keeping pace with teaching and research in the frontier areas of biochemistry as a fundamental component of agricultural science. The Department of Agricultural Biochemistry is catering courses in the under-graduate, post-graduate and doctoral levels, and produced students with illustrious careers despite faculty constraints.

Achievements

During the academic year 2023-24, the department made significant contributions as

- The department was attached to the programme on “GI of aromatic rice of West Bengal” through the RKVY Programme. The biochemical and molecular basis for the



mitigation of heat stress is being studied with emphasis as a new research area. Graduates passing out and those opting for the Masters are getting visibility and recognition in the national-level admission tests and are selected for doctoral and post-doctoral positions in reputed international universities.

- The Department is still fathoming and contributing to a better understanding of agricultural science with the available resources and tools in biochemistry.
- Students who opted for elective courses in this department secured admission to apex institutes of India: Somsubhra Goswami - IIT Kharagpur, Rachayita Das- IIT Indore, Shreya Das - ICAR JRF (Plant Biotechnology)- AIR -2 (SC).

Department: Agricultural Biotechnology

The Department of Agricultural Biotechnology was established in the academic session 2013-14.

Achievements

During the academic year 2023-24, the department made significant contributions as

- Two book chapters and six research papers published across different NAAS rating categories, including two in the highest rating score >10.
- The Faculty members are actively engaged in collaborations with reputed research institutes. In the academic year 2023-24, the department made significant contributions.
- The department has made notable research advancements, including the molecular characterization of vermicompost-derived IAA-releasing bacterial isolates and their role in enhancing banana root development.
- Another key achievement is the development of a rice transformation protocol that improves efficiency by incorporating pre-culture, washing, and pre-selection stages, minimizing Agrobacterium overgrowth.
- Apart from research and teaching, faculty members actively contribute to academic and professional circles. They have served as external expert members on Boards of Studies for M.Sc. and B.Sc. programs in Agricultural Biotechnology at institutions like Ramakrishna Mission Vivekananda Educational and Research Institute (RKMVERI), Visva-Bharati, Santiniketan; Kalyani University, Kalyani and MAKUT, Haringhata.
- Publications: Total papers published: 7

Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
1	1	3	2	7
Book	Book chapter	Bulletin	Popular article	
-	2	-	-	2



Department: Agricultural Chemicals

The discipline of Agricultural Chemicals has been in existence since the 1970s under the Department of Agricultural Chemistry & Soil Science, Faculty of Agriculture. The Department of Agricultural Chemicals was established in 2000 on the recommendation of the Government of West Bengal.

Achievements

During the academic year 2023-24, the department made significant contributions as

- ICAR Accredited UG, PG, and Ph.D. programs. The Department successfully offered courses in Agricultural Chemicals under UG, PG, and Ph.D. programs at the main campus in Mohanpur.
- In addition, the same teachers of this department have also extended their services to cater to the UG Programme in Agricultural Chemicals for two College of Agriculture campuses at Burdwan and Susunia.
- Student Performance: Three (3) Research Scholars Qualified in the National Eligibility Test (NET) Examination conducted by ASRB, ICAR in the discipline of Agricultural Chemicals, 2023.
- Student Placement: Students are either engaged in higher studies or well placed in different universities and institutions under Govt. and Non-Govt. sectors in various positions, such as Assistant Professor, Scientist, Food Safety Officer, Bank Officer, and Livelihood Specialist.
- Research Publications: Published 12 research papers in various journals of national and international repute during 2023-24 (NAAS rating: 7.5-10 = 7; >10 = 3).
- Revenue Generation: The Department successfully operated the Export Testing Laboratory and implemented several of sponsored research projects on pesticide residue analysis and generated revenue amounting to Rs. 11.9 lakhs for the University.
- Institutional Collaboration: The Department maintained collaboration with various Research Institutions, viz., Tea Research Association, Kolkata (Scientist: Dr. B. Kanrar) for doctoral research programme; and IIIT, Kalyani (Scientist: Dr. S. Pratihari) for research project.
- Selection Committee Expert: Prof. R. K. Kole, HOD for Assistant Professor (Agricultural Chemical), BAU; Dr. S. Roy for Research Officer, Young Professional-II and Project Fellow at Tocklai Tea Research Institute, Jorhat; and ICAR: CIFRI, Barrackpore.
- Expert Opinion: Provided by Dr. D. K. Hazra on two patent-related issues for NatcoPharma Ltd.
- Invited Speaker: Delivered by Dr. S. Roy in the “Analytical Workshop of Indian Pharmacological Society” at WBUAFS, Mohanpur; and Dr. D. K. Hazra at the Seminar on “Application of Nanotechnologies in Agriculture” at ATC, RKM Ashrama, Narendrapur.
- External Examiner: Dr. S. Roy for evaluation & Viva-Voce Examination of Ph.D. Thesis, Division of Agricultural Chemicals, ICAR: IARI, New Delhi; Dr. R. K. Kole



for evaluation of M.Sc. thesis, Division of Agricultural Chemicals, ICAR: IARI, New Delhi.

- Publications: Total papers published: 12

Research papers with NAAS Score during 2023					
Non-NAAS	< 5	5-7.5	7.5-10	> 10	Total
2	-	-	7	3	12
Book		Book chapter	Bulletin	Popular article	
-		-	-	-	



Department: Agricultural Chemistry and Soil Science

The Department of Agricultural Chemistry and Soil Science started its journey in 1964 at Kalyani University and merged with BCKV on September 1, 1974. At present, the Department offers 14 courses for the Master's degree and nine courses for the Ph.D. programme.

Achievements

During the academic year 2023-24, the department made significant contributions

- Maintaining the legacy of excellent teaching of the department, six undergraduate students with specialization in the field of Soil Science (Physical Science) qualified the JRF of ICAR in 2023, of which all of them hold All India Rank within 20, including the first two ranks. One Ph. D student received the UGC-NET-NFSC.



- Dr. Dibyendu Sarkar was awarded Fellow of the West Bengal Academy of Science and Technology 2023.
- The department organized 2 months Internship training on ‘Production Techniques of Biofertilizer’ in association with the SSMP project.
- Faculty Lecture by Dr. Binoy Sarkar, Senior Research Fellow, University of South Australia, celebrating World Soil Day on 05.12.2023.
- The department extends services to farmers through the ‘Farmers Service Centre for Soil Testing and Fertilizer Recommendation’ and a Mobile Soil Testing Laboratory funded by the RIDF project. Regular training in different soil test-based fertilizer recommendation campaign programs was conducted by STCR. The department, in association with different research projects, takes constant initiatives to formulate strategies for maintaining soil health. Some of the significant areas of research and findings are mentioned hereunder.
- Developed soil testing method for the estimation of phosphorus under organic production system, developed appropriate micro (Zn, B and Mo) and secondary (S) nutrients application protocols for maximizing yield and profitability of major crops grown in West Bengal, developed regional soil micronutrient management and bio-fortification strategies through ensemble machine learning based digital soil mapping.
- Development of digital soil micronutrient maps of southern West Bengal following multisource satellite data and ensemble machine learning based predictions at 30m×30m scale.
- A novel chromotropic acid-based color development method established for quick estimation of soil nitrate.
- Screening of different cultivars of commonly consumed food crops for their inheritability to accumulate Zn and Fe and to evaluate the variability present among their gene pools.
- Exploration of potential N-fixing strains of *Rhizobium*, *Azotobacter*, P solubilizing, and K-mobilizing strains of *Bacillus* and *Pseudomonas* to produce biofertilizers.
- Publications: Total papers published: 31.

Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
1	10	14	6	31
Book	Book chapter	Bulletin	Popular article	
1	6	-	-	7





Department: Agricultural Economics

The Department of Agricultural Economics is functioning as a full-fledged department since 1966 under Faculty of Agriculture at Kalyani University, and came under BCKV in 1974. The department is imparting quality teaching to meet the academic needs of the Undergraduate students of all the three faculties of our University. It has kept pace with the ever-changing needs of the academic situation of the country and also designed research programmes in the M.Sc. (Ag) and Ph. D. (Ag) levels, keeping in view the emerging agrarian crisis of the country in general, and the state in particular.

Achievements

During the academic year 2023-24, the department made significant contributions as

- Infrastructure development and resource utilization like online class room, seminar room, and well-furnished Head's chamber.
- Four Seminars were organized in collaboration with the Department of Agril Extension.
- Resource persons visited like Prof. Kaustav Mishra, (Business Management), New York State University, USA (BCKV Alumni); Prof. Debapriyo Sen, (Economics), Toronto University, Canada; Prof. Rajat Acharya, (Economics) Jadavpur University; Prof. Minati Sen, (Food and Nutrition), Calcutta University.
- Publications: Total papers published 31





Department: Agricultural Entomology

The Department of Agricultural Entomology was established in 1965 under the aegis of the Faculty of Agriculture at Kalyani University. The department offers several courses at the postgraduate level leading to M. Sc. (Ag.) and Ph. D. Degree. The thrust areas of teaching and research are broadly grouped under economic entomology, toxicology, nematology, and acarology.

Achievements

During the academic year 2023-24, the department made significant contributions as:

- Students' placements: 12 in public sector banks, agricultural sector private companies, Universities and NGOs.
- Students passed out with M. Sc. (18) and Ph.D. (6) degrees.
- M.Sc. Thesis Awards received by students: Sabyasachi Roy and Soumita Bera conferred by SBER, Tripura during the 3rd Bioscan and International Conference at Visva Bharati, Sriniketan.
- Externally funded projects: RKVY and Private company projects- Bayer, UPL, Corteva, and FMC.
- Fund mobilization is about Rs. 1 crore from different projects
- Agricultural extension programs are 21 by DAESI, ATC, ATMA, CADC, and KVK.
- Faculties participated in seminar/symposium/workshop: No. 33
- Awards/recognition received by faculties: Dr. Amitava Banerjee: **Best Krishi Shikshak Samman** conferred by Society of Biotic and Environmental Research during 3rd Biotic Science Congress, 2023; Dr. Shanowly Mondal (Ghosh): "**Prof. Kanchan Baral Best Young Scientist Award**" conferred during 3rd Biotic Science congress 2023 and International Conference on "Advancement in Plant Health Research-Retrospect & Prospect" at Visva Bharati, West Bengal.
Collaboration: UBKV, NDRF, and Air Force Station.
- Publications: Total papers published: 48



Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
11	32	4	1	48
Book	Book chapter	Bulletin	Popular article	
1	5	1	2	9



Department: Agricultural Extension

The Department of Agricultural Extension was established under the Faculty of Agriculture, Kalyani University, in 1962. In the year 1963, M. Sc. (Ag.) in Agricultural Extension was introduced. The Department offers courses at the graduate, postgraduate, and doctoral levels.

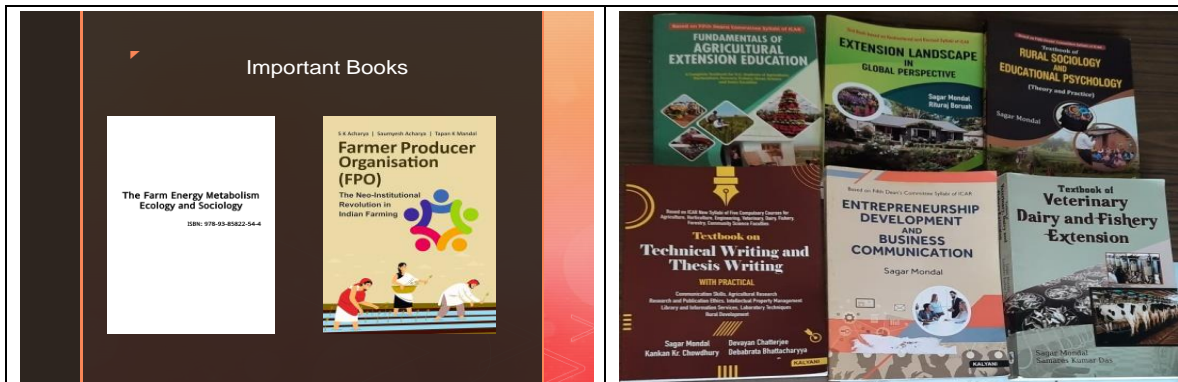
Achievements

During the academic year 2023-24, the department made significant contributions as

- *Students' achievement:* Indo-German DAAD Fellowship by Dr. Sneha Bera, Ph.D. Scholar; Dr. Riti Chatterjee: Visiting Scholar at Ohio State University, Ph.D. Scholar; Dr. Anwesha Mondal: Visiting Scholar at Cornell University, PhD Scholar.
- *Organized lectures:* Four invited lectures in a row by different eminent personalities of extension and allied subjects.
- *Publication:* Books published: 4; papers: 10.

Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
-	10	-	-	10
Book	Book chapter	Bulletin	Popular article	
4	-	-	-	4





Department: Agricultural Meteorology and Physics

The Indian Council of Agricultural Research sanctioned the AICRP on Agrometeorology to BCKV, which started in operation in 1983, and in the 1998-99 academic sessions, the PG programme was initiated to cater to these courses.

Achievements

During the academic year 2023-24, the department made significant contributions as

- Three of our PhD students joined as Assistant Professors. Professor at various University/Institute
- Three of our PhD students joined as Research Associate, Young professional and Agriculture Officer at different Govt. department/Institute
- Publications: Total 18 papers published.

Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
1	10	7	-	18
Book	Book chapter	Bulletin	Popular article	
-	4	-	3	7

Department: Agricultural Statistics

The Department of Agricultural Statistics started its journey in 1974. The department imparts teaching and research prospects for both UG and PG levels in Statistics, Mathematics, and Computer Science and Information Technology to all students across the three faculties. The Master's Degree Programme in Agricultural Statistics was started in 1984. The department has also had its own Ph.D. program since 1974.

Achievements

During the academic year 2023-24, the department made significant contributions

Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
	5	-	-	5
Book	Book chapter	Bulletin	Popular article	
-	-	-	-	



Department: Agronomy

The Department of Agronomy is the largest department under the Faculty of Agriculture and the university. It continued from the University of Kalyani to the newly established Bidhan Chandra Krishi Viswavidyalaya (BCKV) in 1974. The department offers courses in Agronomy at the undergraduate, postgraduate, and doctoral levels.

Achievements

During the academic year 2023-24, the department made significant contributions as

- *Students' achievements:* Students clearing in eligibility test in ASRB NET-3 (2023), SRF - 3; Selected in IBPS/RRB/PO: 12; Food Safety Officer: 7.
- *Collaborations and partnerships:* **CSIRO, Govt. of Australia, and IFAD-ICARDA.**
- GI Tag of Kalonunia, KI-5 Fodder Lathyrus.
- *Awards and recognition:* **Prof. S. B. Goswami** adorned the chair of the Vice Chancellor of BCKV and Dean F/Ag and organized the 22nd Convocation of BCKV; **Prof. P. Bandopdhyay** served as DEE, BCKV; **Prof. Goswami** was inducted in the prestigious PRT team of ICAR; Prof. **Mrityunjoy Ghosh** has bagged the CWSS Gold medal; **Dr. Kanu Murmu** has clinched on to a best oral presentation award.
- *Publications:* Total papers published 103 & others 43

Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
23	59	19	2	103
Book	Book chapter	Bulletin	Popular article	
2	16	10	15	43

Technologies & Outreach: Twenty-one technologies have been generated by the Agronomy Discipline scientists, mostly from the concluded research of AICRP/ AINPs out of which one on rice followed by relay zero-tilled chick pea have been communicated to the state. Farmers' meetings are routine for the projects, and more than 36 farmers' meetings were either organized, including those of TSP and outreach programs, or those invited by the KVK program, DESAI, and State Department. RRS scientists, along with those from sister colleges also contributed to CDAP planning under the leadership of NABARD.

Department: Animal Science

During the bifurcation of Bidhan Chandra Krishi Viswavidyalaya to establish a new university named West Bengal University of Animal and Fishery Sciences, the Department of Animal Science was created under the Faculty of Agriculture by Ordinance in 1995. This Department was established primarily to cater to teaching, research, and extension in Animal Husbandry in this Viswavidyalaya.

Achievements

During the academic year 2023-24, the department made significant contributions as:

- Facilities have been maintained in the Livestock Instructional Farm to produce Black Soldier Fly larvae which may be considered as one of the cheap sources of protein for



poultry and fish. A net house for adult flies, egg collection devices, a hatching unit, and a larval rearing unit were successfully developed.

After the initial setup of different facilities, eggs of Black Soldier fly were procured from a nearby private farm. The rapid development of different stages of larvae, pupae, adult fly, rapid multiplication to produce huge eggs and recurrent cycles were maintained to produce Black Soldier fly larvae for low-cost broiler production



Department: Genetics and Plant Breeding

Based on the recommendation of the ICAR-high power review team during the first accreditation of our university, bifurcated departments, Genetics and Plant Breeding, began its journey as a single department in 2012. The main goal of the M.Sc. (Ag) in Genetics and Plant Breeding is to train students for a variety of careers in the areas of Genetics and Plant Breeding.

Achievements

During the academic year 2023-24, the department made significant contributions as

- One CSIR-SRF and one CSIR-LS award have been conferred to scholars from this department.
- In the same year, 10 UG students received ICAR-JRF from the Plant Science section, of which 6 received JRF and 4 received NTS.
- A high-frequency tissue culture protocol was developed for stevia and seven indigenous potato genotypes, which were transferred to EBIII-Krishnanagar (Government of West Bengal).
- Collaboration: **ICARDA, FAO-IAEA, ICRISAT, IIT-Kharagpur, IISER, Kolkata, BARC, Mumbai.**
- *Research publications:*

Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
-	8	11	3	22
Book	Book chapter	Bulletin	Popular article	
-	5	-	-	5





Department: Plant Pathology

The Department of Plant Pathology is one of the oldest and full-fledged Departments under the aegis of Faculty of Agriculture under Kalyani University since 1965. It caters the courses leading to M.Sc. and Ph. D. (Ag.) in Plant Pathology degree since 1974 at BCKV.

Achievements

During the academic year 2023-24, the department made significant contributions as

- *Students achievements:* Placement of students -13 in got Govt. service, Private Universities, KVK. Mr Ujjal Sarkar and Ms Payel Adhikary received the best presentation award at the National Conference at OUAT, Bhubaneswar. Mr. Soumen Pati got best Oral Presentation Award in the IPS-NEZ Zonal Symposium at COA, CAU, Imphal; One student got NET and one student received UGC – SJSGC.
- *Awards and recognition:* Dr. J. Tarafdar was awarded Dr. T. S. Thind Distinguished Plant Pathologist. Dr. S. Debnath received best oral presentation award at the International Conference at Viswa Bharati.
- *Publications:* Total Paper published 58 & other publication 28.

Research papers with NAAS Score during 2023				Total
< 5	5-7.5	7.5-10	> 10	
7	35	13	3	58
Book	Book chapter	Bulletin	Popular article	
1	10	10	7	28



Department: Plant Physiology

The Department of Plant Physiology was started under the Faculty of Agriculture on 15th February 1999 consequent upon the quadri-partitioning of the erstwhile Department of Genetics and Plant Breeding. Since its inception, the Department has actively engaged in catering several advanced courses on Crop Physiology at the Ph.D. level in addition to the courses in the UG (both Agriculture and Horticulture Faculties) and Master's degree levels.

Achievements

During the academic year 2023-24, the department made significant contributions as

- The Department of Plant Physiology was started under the Faculty of Agriculture since 15th February 1999 consequent to the quadri-partitioning of erstwhile Department of Genetics and Plant Breeding.
- Since inception, the Department is actively engaged in catering several advanced courses on Crop Physiology at Ph.D. in addition to the courses in the UG (both Agriculture and Horticulture Faculties) and Master's degree levels.
- Publication: Research papers- 2, Book chapters 2.
- *Placement*: Two students appointed as Asst Professor in Agriculture Colleges.

Research papers with NAAS Score during 2023				
< 5	5-7.5	7.5-10	> 10	Total
-	1	1	-	2
Book	Book chapter	Bulletin	Popular article	
-	2	-	-	2



Department: Seed Science and Technology

The Department of Seed Science and Technology is a full-fledged department under the aegis of the Faculty of Agriculture. The Department of Seed Science and Technology was newly created from the Department of Genetics and Plant Breeding, which started functioning on February 06, 1999. This department successfully fulfilled the UG academic requirements of the College of Agriculture, Burdwan and Bankura.



Achievements

During the academic year 2023-24, the department made significant contributions as:

- *Seminars/workshops attended:* 2, Farmers training-5.
- *Publications:* Total paper published 20 & book 1.

Research papers with NAAS Score during 2023				Total
< 5	5-7.5	7.5-10	> 10	
7	11	1	1	20
Book	Book chapter	Bulletin	Popular article	
1	-	-	-	1



Department: Soil and Water Conservation

The Department of Soil and Water Conservation was established in 1996. The department caters to teaching programs at the UG, PG, and Ph.D. levels.

Achievements

During the academic year 2023-24, the department made significant contributions as

- The department caters to the teaching programme in UG, PG and Ph.D. level. Courses comprise watershed management, water resource planning, management of soil degradation, remote sensing and its application in soil and water conservation planning, biological aspects of soil conservation, etc.
- Evaluating jute agrotiles as soil conditioner for vegetable and fruit production, water use efficiency under Entisol and Inceptisol soil in India.



STUDENT READY PROGRAMMES

A. Rural and Agricultural Work Experience (RAWE)

As per the recommendation of the Fifth Deans' Committee of the Indian Council of Agricultural Research, the Rural Agricultural Work Experience (RAWE) programme was conducted at Bidhan Chandra KrishiViswavidyalaya (BCKV) in the seventh semester of B.Sc. (Hons.) in Agriculture during 2023-24. A total of 168 students from three campuses of BCKV (Mohanpur, Burdwan, and Susunia) participated in the RAWE course, a six-month village-based program from the middle of August 2023 to the middle of February 2024. The RAWE program was structured under three themes as-

Theme-I: Socio-economic and agro-ecosystem analysis of villages

Theme-II: Diagnostic analysis of insects, diseases, weeds, soil and water qualities

Theme-III: Studies on farming system analysis, crop weather, farm improvement plan and agro/rural enterprises

Following the four-week orientation programmes, the students were attached to KrishiVigyan Kendras at Gayeshpur and Hooghly (New Alluvial Zone), Regional Research Stations at Jhargram (Red and Lateritic Zone) and Kakdwip (Coastal Saline Zone), Regional Research Sub-Stations at Sekhampur and Raghunathpur (Red and Lateritic Zone) under BCKV and the three teaching campuses - Mohanpur, Burdwan, and Susunia for conducting field studies in eleven selected villages situated under these agro-climatic zones. Soil and water testing was conducted in the selected villages. The Participatory Rural Appraisal (PRA) method was followed by involving the local communities in the process of assessing their own situations, identifying problems and developing solutions. During the six-month RAWE exercise, the students developed a farm improvement plan for their respective villages through the PRA approach.

The performance of the students was evaluated in different phases based on each thematic area through presentations, discussions, and question-answering. The program ended with the submission of final reports by the students, following group discussions and a central viva examination conducted by external examiners. The arrangement and monitoring of the entire RAWE programme was done by a Central RAWE committee consisting of a RAWE Coordinator, RAWE Advisor, and other teacher members nominated by the Dean of the Faculty of Agriculture. For the academic session 2023-24 Prof. Dhananjaya Dutta, Department of Agronomy, was the Coordinator of the RAWE programme.





Farmer's Field visit



Crop studies with farmers



Farm household studies

Students-farmers interaction

Glimpses of RAWE activities 2023-24



B. Experiential Learning Programme (ELP)

As part of the undergraduate programme, students enrolled in the Experiential Learning Programme (ELP), an important component of the 'Student READY' flagship scheme of the Indian Council of Agricultural Research during the 8th semester, following the guidelines of the 5th Dean Committee, with the intention of developing manpower that can help make farming a profitable venture. ELP is an integrated learning system of skill and knowledge wherein students are trained for entrepreneurship development after completing their degree programme. The EL modules operate in the business or skill development mode. Experiential Learning Units (ELUs), in business mode, are based on the concept of 'Earning by learning' by sharing 50% of the profit with the students. The following ELP modules were offered by the Faculty of Agriculture, Mohanpur during 2023-24.

1. ELP 451: Commercial production of bioagents and botanical pesticides

The ELP 451 module on 'Commercial Production of Bio-agents and Botanical pesticides' was conducted in skill mode under the supervision of Prof. B. N. Panja, Department of Plant Pathology. Thirteen (13) students were trained under this ELP module. During this period, the students worked on the isolation and purification of bio-control agents (BCA) as well as the determination of their antagonistic potential. The students could develop knowledge in processing and extraction of plants for bioactive principles, development of Emulsifiable Concentrate (EC) and Talc based bio-formulation and quality control of EC, formulation. Through this ELP, the students were given a hands-on experience in the mass production of biofungicide *Trichoderma* spp. and production of botanical pesticide formulation from seeds of *Pachyrhizus erosus*.



Isolation of *Trichoderma* sp. from rhizospheric soil



Talc based bio-formulation development

2. ELP 453: Mushroom Cultivation

The ELP 453 module on Mushroom Cultivation was conducted in skill mode under the supervision of Dr. Rishu Sharma, Department of Plant Pathology. Thirty-five (35) students were trained using this ELP module. The students were trained in mushroom culture preparation, mushroom spawn preparation, and mushroom cultivation in mushroom house and marketing.





Mushroom culture preparation and mushroom cultivation

3. ELP 454: Soil, Plant and Water Testing

The ELP 454 module on Soil, Plant and Water Testing was conducted in skill mode under the supervision of Prof. H. Saha, Department of Agricultural Chemistry and Soil Sciences. Thirty-five (35) students were trained using the ELP module. The students were given hands-on experience in soil and water sampling from the field, preservation of samples, chemical analysis of soil, plants, and water, as well as preparation of reports. Students are exposed to the process of making soil health cards and recommendations made through these.

4. ELP 455: Commercial Bee Keeping

The ELP 455 module on Commercial Bee Keeping was conducted in commercial mode under the supervision of Prof. A. Pramanik, Department of Agricultural Entomology. Thirty-five (35) students were trained under this ELP module. The students were given hands-on experience in rearing honey bees, collecting honey, and managing honey bees during the off period, packaging, and marketing of honey. During the ELP, students sell their products in the local market. Besides that, the students were also exposed to hands-on experience in organic production technology of vegetables like Okra, baby corn

5. ELP 456: Organic Production

The ELP 456 module on Organic Production was conducted in skill mode under the supervision of Prof. M. Pramanik, Department of Agronomy. Twenty-two (22) students were trained using the ELP module. The students were divided into six batches, and each batch was entrusted with various tasks, such as i) vermin feed preparation, vermicompost preparation, processing, and marketing of vermicompost; ii) production technology of Jibamrit, Panchagabya, Amritpani, Bijamrita, Nimastra, liquid FYM, plant-based liquid manure, biodung compost, etc.; and iii) organic production technology of vegetables, such as okra and baby corn harvesting. The students also had the experience of marketing of Vermicompost and organically produced okra, cowpea and baby corn.

6. ELP 457: Commercial Sericulture

The ELP 457 module on Commercial Sericulture was conducted in skill mode under the supervision of Prof. A. K. Maiti, Department of Agricultural Entomology. The ELP module was conducted in skill mode. Thirty-five (35) students were trained under this ELP module. The students were given hands-on experience rearing silkworms on mulberry leaves in controlled environments. The students were also taught about the different steps of Cocoon Processing, Reeling, and Dyeing etc.



7. ELP 459: Biofertilizer production and marketing

The ELP 459 module on Biofertilizer Production and Marketing was conducted in skill mode under the supervision of Prof. S. C. Kole, Department of Agricultural Chemistry and Soil Sciences. The ELP module was conducted in skill mode in the Sample Survey and Mass Production (SSMP) Unit of the University. Thirty-five (35) students were trained under this ELP module. The students were given hands-on experience in the preparation of liquid culture media, sterilization of culture media for biofertilizer production, and mixing and packaging of biofertilizers of different species.



Preparation of liquid culture media



Sterilization of culture media



Mixing and packaging of biofertilizers



Sealing of biofertilizers in packets

Award/Recognition/ Fellowship of students

The students from the Faculty of Agriculture from all three campuses showed outstanding performance in the All India Entrance Examination for Admission [AIEEA] for securing admission to ICAR institutes and SAUs, with 39 students securing national ranks.

Table-1: Performance of students in AIEE, 2023-24

Name	Rank (Category)	Name	Rank (Category)
Agronomy		Plant Science	
1. Supriya Mandal	2 (SC)	21. Ananta Bag	3 (EWS-2)
2. Suchetan Chakraborty	97 (GEN)	22. Nayanika Guha	9 (GEN)
3. Rounak Debnath	127 (OBC-51)	23. Souvik Ghosh	15 (EWS-4)
Physical Science		24. Moitreyee Das	(SC-9)
4. Mainak Khan	1 (GEN)	25. Prasun Kumar Pati	33 (GEN)
5. Baby Mudi	(ST-1)	26. Shrabani Mandi	(ST-6)
6. Ananya Guin	2 (OBC-1)	27. Sohini Saha	(SC-26)
7. Aishita Sarkar	6 (GEN)	28. Deblina Pal	112 (EWS-25)
8. Sourin Das	7 (GEN)	29. Arpita Saha	241 (SC-10)
9. Raj Talukdar	9 (GEN)	Social Science	
10. Sudip Chakrabarti	17 (GEN)	30. Sohana Sultana	26 (GEN)
11. Anupama Pradhan	21 (GEN)	31. Arpita Halder	66 (GEN)
12. Sneha Roy	41 (GEN)	32. Arpita Roy	138 (SC-12)
13. Srijita Das	61 (GEN)	33. Pallabi Sing	(ST-21)
14. Abantika Goswami	66 (GEN)	Statistical Science	
15. Sk Taniya Rahaman	87 (GEN)	34. Debraj Mitra	33 (GEN)
16. Ayantika Goswami	92 (GEN)	35. Debjyoti Dutta	40 (GEN)
17. Suman Dey	117 (GEN)	Horticulture	
18. Riyanka Chattopadhyay	(EWS-16)	36. Arunavo Saha	10 (GEN)
Entomology		37. Lababya Samanta	19 (GEN)
19. Rik Halder	(SC-5)	38. Subhangi Basu	31 (GEN)
Plant Biotechnology		Ag. Engineering	
20. Shreya Das	(SC-2)	39. Nilay Dey	29 (GEN)

Table-2: List of Candidates admitted to reputed Institutes for higher studies in 2023-24

SN	Name	Subject	Institute	Fellowship
1.	Sourajit Dey	Agronomy	Kansas State University, USA	Graduate Research Assistantship
2.	Somdatta Achar	Agronomy	University of Nebraska-Lincoln	Graduate Research Assistantship



Cocurricular activities

College of Agriculture –Susunia got third position in a programme conducted by the “West Bengal State Student-Youth Science Fair 2023-24” committee held on February 8-9, 2024, Kolkata. The students of Bankura Campus displayed a model on “Innovative Approaches in Integrated Agriculture”.

Events/ Celebration of Days of National and University level Significance from January 2023 to December 2023

XXII Convocation Programme

The XXII Convocation Programme of Bidhan Chandra Krishi Viswavidyalaya was held on 19th May, 2023 to confer degree upon the students who have successfully completed the B.Sc. (Ag.) Hons., B.Tech., M.Sc./M.Tech. and Ph. D. degree programmes from Viswavidyalaya. A total of **2246** candidates, spanning five years (2019, 2020, 2021, 2022, and 2023), were awarded the degree. Additionally, **83 University Gold Medals, 35 Endowment Medals, 8 Book prizes, and 83 Merit certificates** were awarded to students for their outstanding performance in the undergraduate and postgraduate examinations. Dr. Himansu Pathak, Secretary, DARE, and Director General, Indian Council of Agricultural Research delivered the Convocation Address.

Bidhan Krishi Ratna was conferred to **Dr. Arnab Pain** for his tremendous contribution in the field of Human and Plant genomics. **Bidhan Krishi Udyogpati** conferred to **Dr. M. M. Dawn** for his pathbreaking role in development of Entrepreneurship in Agriculture sector. **Bidhan Krishak Siromoni** conferred to Sri. Dipak Mandal, an innovative farmer from Chakdaha, Nadia.



Golden Jubilee Celebration of University and **Foundation Day** Celebration on 1st September, 2023



Birth Centenary of Professor S. B. Chattopadhyay

The Birth Centenary of Professor Sudhangshu Bhusan Chattopadhyay, Founder Vice Chancellor of Bidhan Chandra Krishi Vioswavidyalay was celebrated on 01.11.2023 with lighting the lamp at BCKV Library by Swami Sadhyanadaji. The of Bronze Bust of Prof. S.B.Chattopadhyay was inaugurated in the Administrative Building in presence of Dr. Swarup Chakraborti, Former Vice Chancellor of Uttar banga Krishi Viswavidyalaya VC UBKV and Dr N.Trivedi, Former Director of Agriculture, Govt. of West Bengal and President of the Alumni association, BCKV.



SN	Events	Date
1.	Birthday Celebration of Netaji Subhas Chandra Bose	23 rd January, 2023
2.	Republic Day Celebration	26 th January, 2023
3.	2 nd Fruit Diversity Festival was organized by ICAR-AICRP on Fruits, Mohanpur Centre	7 th June, 2023
4.	Birthday Celebration of Dr. Bidhan Chandra Roy	1 st July, 2023
5.	Independence Day Celebration	15 th August, 2023
6.	Golden Jubilee University Foundation Day	1 st September, 2023
7.	Teachers' Day Celebration	5 th September, 2023
8.	World Soil Day	5th December, 2023

Details of visit/lectures delivered by Eminent Scientists

- **Prof. Tapas Kuamr Biswas**, PhD, FIOBB, MSSA Sr. Scientist, Australian National University Canberra (Australia) delivered a lecture on “From Waste water to Wealth water” on 15th March, 2023
- **Dr. Nilotpal Ghosh**, Dean, Faculty of Animal Sciences. WBUAFS, Belgachia as Guest of Honour at International Seminar conducted by WCSS on 30th September 2023
- **Dr. Arnab Pain**, Professor, King Abdulla University of Science and Technology, Jeddah, Saudi Arabia, and Alumnus, visited BCKV on 20.12.2023 to receive Bidhan Krishi Ratna from the Honorable VC at Mohanpur.
- **Dr. Binoy Sarkar**, University of South Australia delivered special lecture on “Tackling Climate Change, Food security and environmental quality with minerals and biochar” at BCKV on 22.12.2023



EXTENDED CAMPUS AT BARDHAMAN

College of Agriculture, Bardhaman

College of Agriculture, Bardhaman, as an extended campus of Bidhan Chandra Krishi Viswavidyalaya, was established in 2014 at Kalna Road, Burdwan, to fulfil the growing need for agricultural education and research. The college has developed good residential facilities with two Boys' Hostels, namely, *Bidhan Abaas* and *Vivek Abaas*, and one Girls' Hostel namely, *Maitree Abaas*. The campus has a farm unit of 50 acres comprising a Medicinal and Aromatic Garden, Seasonal Crop Museum, Banana Orchard, Field Practical unit, and Research Plots. The College has one Central Laboratory and five well-equipped laboratories in different departments, such as Plant Pathology, Agril. Entomology, Agricultural Chemistry and Soil Science including Biochemistry, as well as Agronomy and Horticulture, with all necessary equipment, instruments and appliances. laboratories are equipped with advanced instruments like Atomic Absorption Spectrophotometer (AAS), UV-vis Spectrophotometer, Plant Canopy Analyzer and nitrogen digestion distillation unit.



Achievements

- Seven students from COA, Burdwan Campus achieved success in AIEEA PG (ICAR entrance test) with good national rank, two students in BHU PG Entrance test and one student in Visva Bharati entrance test. Students passed out from this campus were admitted to reputed institutes such as IASRI, New Delhi, NIASM, Pune, NRRI, Cuttack, PAU, Ludhiana, RPCAU (Samastipur), BHU, Varanasi, and Visva Bharati.
- Dr. Sujit Hensh Secured 1st position in the poster presentation event at the International Conference on Agricultural Innovations for Sustainable Development Goals with Special Focus on Natural Farming, organized by the Crop and Weed Science Society from 30.09.2023 to 02.10.2023.



Student READY initiative

RURAL AND AGRICULTURAL WORK EXPERIENCE (RAWE)

The RAWE programme of the college was conducted by the Central Coordinating Cell with Dr. L. C. Patel as local coordinator. Under the RAWE programme the students were given exposure to field and village experience at Basatpur and Raipur villages of Burdwan II block and KVK-Nadia (Gayeshpur). The RAWE programme was conducted in three major theme areas namely, 'Socio-economic and agro-ecosystem analysis of villages' (Theme-I), 'Diagnostic analysis of insects, diseases, weeds, soil and water qualities' (Theme-II) and 'Studies on farming system analysis, crop weather, farm improvement plan and agro/rural enterprises' (Theme-III). The PRA method involves local communities in the process of assessing their own situations, identifying problems, and developing solutions. The performance of the students was evaluated phase-wise in each thematic area through presentation, discussion, and question-answering, followed by a central viva voce examination conducted by the RAWE Coordinating Cell.

EXPERIENTIAL LEARNING PROGRAMME (ELP)

As a part of curriculum, the two modules of ELP namely, a) Vermicomposting (Coordinator: Dr. Soumen Bera) and b) Mushroom production (Coordinators: Dr. Poly Saha & Dr. Sibsankar Das) were conducted at Bardhaman campus, both in Skill mode. During the programme, the students were trained to conduct field/market surveys for sourcing inputs, salability of products, and risk assessment. The students were trained for skill development in making production plans, quality control packaging, marketing, and maintaining accounts. The profits made through the ELPs are utilized for maintaining the set-up and purchasing inputs.

CO-CURRICULAR ACTIVITIES

National Service Scheme (NSS): The NSS unit of the campus was coordinated by Dr. Sibsankar Das. The students have participated in different developmental activities by organizing short duration camps in and outside campus on various themes like, Swachh Bharat Pakhwara, Awareness program on blood donation, Parthenium awareness, mosquito-borne diseases, and thalassemia awareness. Observation of significant days, such as National Youth Day, Birthday celebration of Dr. Bidhan Chandra Roy, International Day of Yoga, Independence Day, Republic Day, University Foundation Day, College Foundation Day, World Environment Day, etc. The students also organize Quiz, rangoli, debate, cultural, sports and essay writing competition under NSS programmes

Sports and cultural activities: The College provides facilities for indoor games such as carom, table tennis, and outdoor games such as cricket, football, volleyball, and badminton, as well as light gym instruments. The students also participated in the University Annual Sports organized at the Main Campus Mohanpur.





Swachh Bharat Pakhwara (NSS programme) at CoA, Burdwan, 2023



Independence Day Celebration at CoA, Burdwan, 2023



BCKV foundation day celebration at CoA, Burdwan, 2023

EXTENDED CAMPUS AT BANKURA

College of Agriculture, Bankura

College of Agriculture, Bankura, was established in 2015, with an intake capacity of 32 students in each batch. The campus is situated at Susunia in the district of Bankura (23.19⁰N and 86.57⁰E) in the Red and Lateritic Zone of West Bengal. The college is fully residential with one boys' hostel (*Boshi Sen Abash*), one girls' hostel (*Jhumur Abash*), a playground, and an Instructional Farm—all inside the college campus. The college has a well-maintained farm unit where different seasonal crops are grown as teaching resources for practical classes for students of different semesters. The College building has four classrooms, two examination halls, one seminar hall, one library room, and departmental laboratories equipped with advanced instruments such as a BOD incubator, laminar airflow cabinet, cooling centrifuge, C-H-N-S analyzer, Atomic Absorption Spectrophotometer, Nitrogen cum protein analyzer, UV-vis spectrophotometer etc.



Achievements

Twelve students from CoA, Bankura, successfully qualified for the AIEE of ICAR.

Student READY initiative

RURAL AND AGRICULTURAL WORK EXPERIENCE (RAWE)

The RAWE programme of the college was conducted by central Coordinating Cell with Dr. Sanjoy Shil and Dr. Anita Hansda as local coordinators. A total of 25 students of 7th semester have participated in the RAWE program during the 2023-24 academic years. The RAWE program was conducted Agaya village, Susunia Gram Panchayet and Beliarda village, Chhatna-1 Gram Panchayet, Chhatna Block, Bankura. During the RAWE programme, the students worked on three major theme areas namely, 'Socio-economic and agro-ecosystem analysis of villages' (Theme-I), 'Diagnostic analysis of insects, diseases, weeds, soil and water qualities' (Theme-II) and 'Studies on farming system analysis, crop weather, farm improvement plan and agro/rural enterprises' (Theme-III). The students also participated in a one-month exposure visit to KVK, Gayeshpur, Nadia. Students have developed their analytical, communication, observation, identification, and problem-solving skills while working in their



respective villages through the RAWE program. The performance of the students was evaluated phase wise on each thematic area through presentation, discussion and question-answering followed by a central viva voce examination conducted by the RAWE Coordinating Cell.



Glimpse of RAWE activities of CoA, Susunia, 2023-24

EXPERIENTIAL LEARNING PROGRAMME (ELP)

As part of the curriculum, the two modules of ELP, namely ELP-252: Commercial Seed Production (Coordinator: Dr. T. Biswas) and b) ELP-456: Organic Production (Coordinator: Dr. A. Hansda) were conducted at Bankura campus, both in skill mode. Under the Commercial seed production module, the students were trained to produce seeds of Amaranthus following improved methods, estimate the expenditures and profits, and analyze the existing market chain. Under the Organic production module, the students were given field-oriented hands-on training on the production of okra using organic inputs such as biofertilizers and FYM and following an organic approach for controlling pests and diseases.

Co-curricular activities

National Service Scheme (NSS): The NSS unit of the campus is coordinated by Dr. Mrinmoy Mondal. The students have participated in different developmental activities by organizing short duration camps on various themes in and outside the campus. As part of these activities, the students distributed books to poor students at the local primary school in Bishkadar village on Children's Day, conducted campus cleaning under Swachh Bharat Pakhwara, planted fruit trees, cleaned roadsides, and other activities. Students also organize special programs to celebrate significant days, such as National Youth Day, Birthday celebration of Dr. Bidhan Chandra Roy, International Day of Yoga, Independence Day, Republic Day, etc.





Glimpse of NSS activities

Sports and cultural activities: The College provides facilities for indoor games such as Table Tennis, Carrom, and outdoor games such as cricket, football, volleyball, badminton, etc. The students also took part in the University Annual Sports organized at Main Campus, BCKV, Mohanpur.



Games and sports activities of the students at College of Agriculture Bankura campus



Faculty of Horticulture

The Faculty of Horticulture was established in 1996 by the Government of West Bengal, following the upgradation of the former Department of Horticulture under the Faculty of Agriculture. It currently comprises five specialized departments: Fruit Science, Vegetable Science, Floriculture and Landscape Architecture, Plantation, Spices, Medicinal and Aromatic Crops, and Post-Harvest Technology. The faculty offers a four-year (eight-semester) B.Sc. (Hort.) Hons. program, a two-year (four-semester) M.Sc. (Hort.) degree, and a Ph.D. program with a minimum duration of six semesters and a maximum of ten semesters. Committed to academic excellence, the faculty regularly updates its curriculum in line with ICAR guidelines. The current undergraduate syllabus, aligned with the 6th Deans' Committee's recommendations, has been in effect since 2022.



Department: Fruit Science

The Department of Fruits and Orchard Management was formally established in 1996 following the upgradation of the erstwhile Department of Horticulture to a full-fledged Faculty of Horticulture comprising five distinct departments. The department conducts postgraduate and doctoral research primarily at the Horticulture Research Station, Mondouri, focusing on 20 fruit crops. The major thrust areas include germplasm conservation and utilization, and the standardization of production technologies. Research activities on fruit crops received significant momentum with the establishment of two centres under the All India Coordinated Research Project (AICRP) of the Indian Council of Agricultural Research (ICAR) on Tropical and Sub-Tropical Fruits. These two initiatives were subsequently merged into a unified project, the All India Coordinated Research Project on Fruits, which is currently operational at the Horticulture Research Station, Mondouri, the Regional Research Station, Gayeshpur, and the Banana Resource Centre, Mondouri.



Achievements

- SRF (without Fellowship): 01; JRF (without Fellowship): 02; NTS: 02
- 2nd Fruit Diversity Fair at BCKV, Mohanpur on June 8, 2023, on behalf of ICAR-AICRP on Fruits.
- Young Researcher Award: 01; Best Oral Presentation Award: 01
- Young Researcher Award :01; Bharat Peepal Ratna Award:01

Department: Vegetable Science

The establishment of the Department of Vegetable Science in 1996 under the Faculty of Horticulture marked a significant paradigm shift in the academic and research activities related to vegetable crops. The department has since developed a comprehensive infrastructure, including well-equipped laboratories, polyhouses, net houses, and field facilities, to support both education and research. Numerous research projects have been undertaken by the faculty members, contributing to advancements in vegetable science. The department's state-of-the-art protected structures and laboratory facilities are extensively utilized not only by its students but also by students from other departments of the university for various academic and research programs.

Achievements

- Developed trait specific varieties/hybrids
- Development of a shade net house (200 m²) for raising high-value vegetables
- Maintenance of different germplasm of tomato (60 nos.), brinjal (48 nos.), chilli (48 nos.), fava bean (50 nos.), sponge gourd (25 nos.)

Department: Floriculture and Landscape Architecture

Flowers are high-value crops used globally for social functions, essential oil production, dry flowers, foliage, and natural dye extraction. Their cultivation offers farmers higher income and better livelihood opportunities. In India, floriculture has gained significant attention over the past 15 years owing to rising per capita income and urbanization, which has driven the increased demand for ornamentals. The Department of Floriculture and Landscape Architecture was established in September 1996 from the former Department of Horticulture. Research (PG and Ph.D.) is conducted mainly at the Horticulture Research Station, Mondouri, focusing on crops such as gerbera, chrysanthemum, rose, marigold, tuberose, orchids, and foliage plants. The main thrust areas include germplasm conservation, evaluation, and standardization of production technologies under both open-field and protected conditions. Research activities were further strengthened by the establishment of the All India Coordinated Research Project on Floriculture at the HRS, Mondouri.

Achievements

- Delivered radiotalk:01
- Best oral paper: 01
- Best PhD Thesis Award:01



- In vitro pigment regeneration protocol development in rose
- Germplasm block in rose, lotus, clitoria and hibiscus

Department: Post harvest Technology

The Department of Post Harvest Management, formerly known as the Department of Post Harvest Technology, was established in 1996. In addition to offering Master's and Ph.D. degree programmes, the department has implemented research projects funded by agencies such as BARC, Agriculture Marketing (Govt. of West Bengal), RKVY (Govt. of India), and international institutes like ICARDA. The department is actively engaged in extension activities, particularly with rural women, promoting low-cost processing technologies and value addition for fruits, vegetables, and flowers. Technologies developed by the department have significantly contributed to enhancing postharvest management and rural livelihood opportunities.

Achievements

- Developed 2 technologies ready to transfer at Farmers field
- Conducted 3 training programme with the farmers
- Projects ongoing = 3
- Received "LETTER OF APPRECIATION" by Director, ICAR-Directorate of Floricultural Research for her valuable efforts and contribution made as a reviewer in XXX and XXXI Annual Group Meeting of AICRP on Floriculture and acted Lead Speaker; Best oral presentation award =2
- Research Excellence Award-2023 by Institute of Scholars (InSc) - ISO 9001:2015 certified & Registered under the Ministry of MSME & Corporate Affairs, Govt of India.

Department: Plantation, Spices, Medicinal and Aromatic crops

The Department of Spices and Plantation Crops was established in 1996 under the Faculty of Horticulture and was later renamed as the Department of Plantation, Spices, Medicinal, and Aromatic Crops. Its creation significantly advanced academic and research activities in these crop sectors, supported by the development of basic laboratory and field facilities. Several faculty members have successfully implemented various research projects, including three All India Coordinated Research Projects (AICRPs). The department's field and laboratory resources are actively utilized by its students as well as those from other departments for diverse academic programs.

Achievements

- Patents = 2 (one Indian and one German).
- Development of integrated disease management practices with minimum use of agrochemicals for the sustainable production of PSMA crops.
- Students have received satisfactory placements in the Assistant Director of Horticulture, Government of West Bengal, Banks, and NGOs.



Faculty of Agricultural Engineering

Faculty of Agricultural Engineering with B. Tech. (Agricultural Engineering) degree program started its journey in 1996 with four departments: Farm Machinery and Power, Soil and Water Engineering, Post Harvest Engineering, and Food Engineering. The degree program integrates engineering and agricultural science knowledge and skills to develop technology and/or processes to raise the production and productivity of agriculture and other farm produce through the efficient and sustainable utilization of natural resources. The specific activities include the efficient utilization of agricultural inputs through improved implements and machinery, ensuring timeliness in farming operations (mechanization), reducing drudgery in agriculture and improving the quality of farm produce (processing and value addition). Agricultural engineering education addresses issues relevant to the social and technological development of farmers. The goal of the Faculty of Agricultural Engineering is to educate students in the field of engineering to prepare them for careers in agricultural engineering, in which they will become leaders in the industry and profession and conduct quality research by applying engineering principles to solve problems in agricultural systems.



Students' Achievements

The B.Tech. (Agricultural Engineering) students qualified the following prestigious examinations to pursue higher studies in premier institutes of India with Fellowships.

1. GATE (Graduate Aptitude Test in Engineering) qualified = 12 students
2. ICAR-JRF (Junior Research Fellowship) qualified = 4 students
3. Jobs through BCKV placement = 2 students

Student READY Program

Students enrolled in B. Tech. (Agricultural Engineering) are sent for two in-plant training sessions to the recognized training institutes of India, each of one month, at the end of the 4th and 6th semesters, respectively. During the 7th semester, they carry out 10 weeks of off



campus internship/training in various government organizations. or private organizations. They also participated in 10 weeks of on-campus ELP programmes. The details of the institutes with which students are attached for training/internship are provided below.

B. Tech (Agril. Engg.) – 5th Semester

Course No. FAE- 351: In-plant Training-I

Group. Institute/Organization

- I Southern Region Farm Machinery & Testing Institute, Anantapur (A.P)
- II Central Farm Machinery Training & Testing Institute, Budni, M.P.

B. Tech (Agril. Engg.) – 7th Semester

Course No. FAE- 473 : In-plant Training-II

Group. Institute/Organization

- I Indian Institute of Soil & Water Conservation, Sunabeda, Odissa (ICAR Institute)
- II NINFET, Kolkata (ICAR Institute)

B. Tech (Agril. Engg.) – 7th Semester

Course No. FAE-471: Industrial Attachment/ Internship (Student READY for 10-Weeks off Campus)

Group. Institute/Organization

- I SPMU, WBADMIP, Ultadanga, Kolkata
- II Office of E.E., DPMU, Administrative Building, Barasat
- III Office of E.E., ITI Campus, Howrah
- IV Office of E.E., DPMU, Jalasampad Bhaban, Hooghly
- V GreenThink Venture Pvt. Ltd., Kolkata

B. Tech (Agril. Engg.) – 7th Semester

Course No. FAE-472: Experiential Learning (Student READY for 10-Weeks on Campus)

Group. ELP Modules

- I Maintenance and custom hiring of Farm Machineries & Equipment.
- II Design, fabrication and testing of farm machineries.
- III Drip fertigation to fruit crops for better yield and economy.
- IV Model Rice Based Agro-Processing units.

Department of Farm Machinery and Power

The mandate of the department is to improve the application of farm machinery and power systems in the field of agriculture to improve the efficiency of different inputs, reduce drudgery, and maintain the timeliness of farm operations to increase productivity. The department also engaged in research and extension activities for the effective implementation of much-needed farm mechanization in West Bengal and works in collaboration with



different departments of the Government of West Bengal. The academic activities include offering core courses related to farm power sources and farm implements to B. Tech., M. Tech. and Ph.D. programmes. The department also offers basic engineering courses such as workshop practices, engineering mechanics, computer-aided design and manufacturing, and renewable energy sources. The department also caters courses to the UG students of the Faculty of Agriculture and Horticulture.

The department is actively engaged in planning and implementing small and medium sized tools, implements and machinery for small and marginal farmers of West Bengal. The department is engaged to popularize appropriate implements for different farm operations starting from tillage to threshing. The department also envisages providing solutions for research and extension activities towards the effective implementation of custom hiring centers across West Bengal. The department is also looking forward to identifying priority areas in farm mechanization in collaboration with major stakeholders.



Farm Machinery Testing Laboratory



F.M.T.T.I Centre

Achievements

- The department catered training programs for five batches of DAESI (Diploma for Agricultural Extension Services to Input Dealers) candidates. Trainings were conducted at ATC Kalyani, ATC Fulia, KVK Gayeshpur and SFMTTI, Mohanpur.
- A power-tiller operated multicrop strip-till cum seed drill was developed by a research scholar.

Department of Food Engineering

The Department of Food Engineering covers wide range of areas like Thermodynamics, Transport Phenomena, Refrigeration, Air Conditioning and Cold Storage, Dairy and Food Processing, Food Plant Equipment Design, Food Packaging Technology etc. The Department is engaged in teaching, research and extension activities to create skilled human resources for rapidly growing food processing and cold chain sectors.

The main missions of the department are as follows:

- (i) To provide knowledge and skills for better preservation, processing and value addition to agro-products, with the aim of supporting the producers.
- (ii) To promote research and development for products and processes and ensure optimum energy usage, high levels of hygiene, and safety of processed food.



(iii) Application of “Internet of Things “(IoT) in storage and packaging of agricultural produce.



Indoor Refrigeration Unit



Outdoor Solar Thermal Unit

Achievements

- No. of Ph.D students awarded = 1
- No. of M.Tech students awarded = 2
- Process technology was developed for the preparation of Bottle Gourd Murabba using ultrasound-assisted Osmo-heat pump drying technique.

Department of Post Harvest Engineering

The department was established along with the Faculty of Agricultural Engineering in the year 1996. The mission of the department is to carry out three fold activities, *i.e.*, teaching, research and extension. The department is concerned with the technological and engineering aspects of processing and preservation of agricultural produce. The department undertakes courses related to the processing of agricultural products, related machines and technologies, and storage and management of produce. The department also offers courses in electrical, electronics, and instrumentation engineering. The degree of M.Tech. and Ph.D. in Post Harvest Engineering, and their courses are offered by the department apart from catering to the courses of undergraduate (B.Tech.) level.



Post Harvest Engineering Laboratory



Modern Rice Mill



Achievements:

- No. of M.Tech.students awarded = 7

Facilities Developed

- Reopening the mustard oil plant under the ICAR-Revolving Fund Project “Commercial use and technology transfer of small-scale agro-processing industries for cereals and spices”.
- Obtained FSSAI license for the mustard oil mill and paddy processing center.
- Faculty member of the department Served as an Expert for a Brainstorming session on “SMART Waste Management System and Case Study“at DSIR sponsored project entitled “Techno-commercially Optimized Waste Management System Based on SMART Trash Bin” under the Ministry of Science and Technology, Govt. of India, 17th January,2024

Department of Soil and Water Engineering

The Department of Soil and Water Engineering is mainly engaged in teaching undergraduate and postgraduate students (PhD). The UG program started in 1996 under the Faculty of Agricultural Engineering along with the degree program of Ph.D. (Soil and Water Engineering). M. Tech. degree programme (Soil and Water Engineering, SWE) was initiated in 2011.

The department covers a wide range of areas, including surveying and levelling, surface and groundwater hydrology, wells and pumps, irrigation and drainage, design of micro-irrigation systems, soil erosion and sediment transportation, soil and water conservation techniques etc.

The Department is engaged in teaching, research, and extension activities to create skilled human resources for the sustainable and efficient management of vulnerable natural resources, such as soil and water.

Research projects are assigned to final-year undergraduate and postgraduate students as a part of their academic research work to expose them to various real-world problems, make them more aware of the current research scenarios in this field, and involve them in a hands-on program for better practical experience and knowledge. The department has laboratory facilities to provide practical knowledge to the students on Surveying and Leveling, Soil Mechanics, Irrigation and Drainage Engineering, Hydrology and Fluid Mechanics.

The department is engaged in

- Conducting research and development of ground water and surface water management using remote sensing and GIS.
- Use of ANN in modeling and management of water resources.
- Design and development of micro-irrigation techniques for productive and sustainable management of water resources.
- Design and development of an IoT-based automated drip irrigation system.





Soil & Water Engineering Laboratory Drip Fertigation System

Achievements:

No. of Ph.D students awarded = 02



Directorate of Research

AINP on Agricultural Acarology

The project has been operational at BCKV since 1988. The major mandates are documentation of mite problems in horticultural crops, mass production, and utilization of predatory mites, gaining proficiency in the taxonomic identification of tarsonemid mites, investigating mite natural enemies, and standardizing the mass production of prey and predatory mites. The key observations are described below.

- Research on the population dynamics of the red spider mite of okra, garlic mite, and yellow mite of chilli has shown a strong relationship between the mite population's existence and the host phenology and the current weather.
- Standardized protocols for sustainable management of red spider mite in brinjal and grapes.
- Six new species of phytoseiid mites were described: (*Euseius arunachalensis* sp. nov., *E. bandispermathecae* sp. nov., *E. bomdilai* sp. nov., *Typhlodromus (Anthoseius) dahungensis* sp. nov., *Phytoseius dorsospinosus* sp. nov. and *P. leopardisimilis* sp. nov.).
- A training programme was conducted for ST farmers under the Tribal Sub-Plan (TSP) and critical inputs were distributed among the farmers.

AICRP on Agroforestry

The project has been running at the RRS, Jhargram, since 1983. The main goals are to identify plant species that work well with agroforestry systems, maximize the mix of tree crops, enhance the functionality of the most popular agroforestry systems in the region, and adjust existing technologies to boost productivity and sustainability. The following describes the notable accomplishments.

- Established seed orchard for six superior germplasm of *Gmelina arborea* and four of *Acacia auriculiformis*.
- Agroforestry models were developed for *Gmelina*-ber, *Neolamarckia cadambamango*, *Dysoxylum binectariferum*-mango, and *Melia dubia*-*Citrus sinensis* systems.
- Established agroforestry models on cashew-based (25 ha) and sweet lime-loombu (1 ha) systems.
- Organized many farmers' training programs under ATMA.



Agroforestry models developed by AICRP on Agroforestry



AICRP on Agro-meteorology

The AICRP on Agro-meteorology was founded in 1984–85. The project's main goals are to determine how weather affects pest and disease infestation of field crops, establish crop weather relationships for the state's main irrigated and rainfed crops in different agro-climatic regions, assess crop production potential in different agro-climatic regions, and assess crop microclimate management options to boost crop productivity and water use efficiency. The main results of the project are described below.

- Several districts showed a significant decline in annual rainfall over the past century, including Alipurduar, Dakshin Dinajpur, Murshidabad, and Nadia, whereas others, such as Darjeeling, Jhargram, and Kalimpong, showed a significant increase.
- Transplanting kharif rice on 20th July resulted in the highest grain yield, and the Nayanmani variety yielded the highest among the tested cultivars. A minimum temperature greater than 25°C during the entire growing period is crucial for higher rice yields. Rainfall above 212 mm and maximum temperature above 32°C during the panicle initiation to 50% flowering stage are also beneficial.
- Sowing of green gram on 27th February resulted in the highest yield, while late sowing (April 9th) led to the lowest yield but the highest biomass. Diurnal temperature variation and rainfall significantly influenced the green gram yield.
- The crop growth model was used to evaluate the possible climate change adaptation activities. Crop simulation using DSSAT suggests that climate change may accelerate rice maturity by 8-15 days by the end of the century in the Old and New Alluvial Zones and reduce biomass and yield. Sowing kharif rice in the first fortnight of July with 15–20 d old seedlings are recommended as a climate change adaptation strategy. A relationship was observed between rice stem borer attack and weather parameters. The stem borer attack increased when the difference between morning and afternoon relative humidity was > 30% and the difference between maximum and minimum temperature was approximately 10°C.
- Farmers can schedule irrigation, sowing, and pest management with the help of weather forecast-based advice bulletins, which are primarily created for six districts in West Bengal under the New Alluvial Zone of West Bengal. The CROP WEATHER OUTLOOK webpage is frequently updated with these announcements.



Field view and Input distribution by AICRP on Agrometeorology



AICRP on Chickpea

The project began operations at this institution in 2015. The main goals are to collect, evaluate, and conserve germplasm; develop and validate production technologies; and share such technologies through front-line demonstrations. The key findings are as follows:

- Enhanced chickpea productivity and resource-use efficiency in the rice-chickpea cropping system through conservation agricultural practices.
- Developed protocol for effective management of weeds in chickpeas with the application of oxyfluorfen 150 g a.i./ha and topramezone 20.6 g a. i. /ha at 21 days after sowing as pre- and post-emergence sprays, respectively.
- Observed Field days; conducted farmers' training and distributed inputs for FLD farmers.



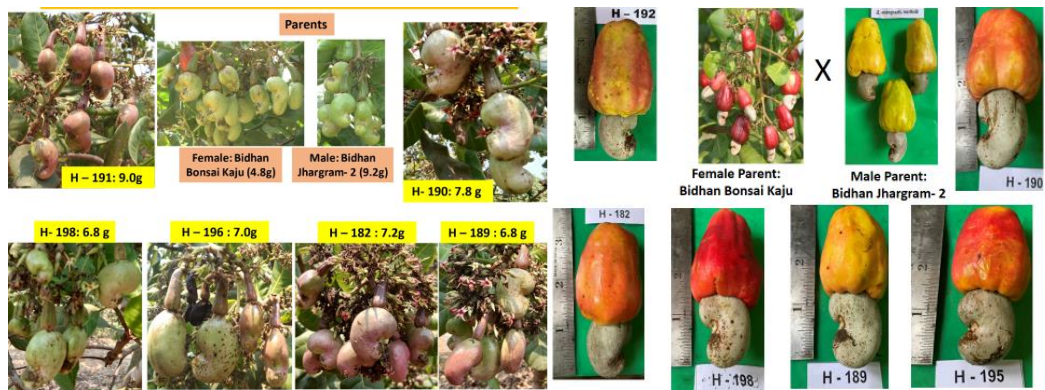
Input distribution and farmers' training conducted by AICRP on Chickpea

AICRP on Cashew

In 1984, the AICRP on cashew was started. The project's goals include collecting, selecting, conserving, and hybridizing germplasm; evaluating cultivars at numerous sites using different management approaches; and investigating biotic and abiotic stresses. The main conclusions are as follows.

- Six promising hybrids were identified from the cross combination of Bidhan Bonsai Kaju and Bidhan Jhargram – 2 with high yield, bold nut, high shelling percentage, and semi-dwarf characters.
- Standardized pruning technique for 16-year-old cashew plantation of BPP- 8 variety.
- Established 0.12 ha cashew orchard with 84 F₁ progenies from the cross combination of Bidhan Bonsai Kaju and H- 139.
- Organized many training programs for ST and ST farmers and distributed quality planting materials.





Hybrids developed by AICRP on Cashew



Input distribution and farmers' training conducted by AICRP on Cashew

AICRP on Fruits

The project began at the university in 2014. The main objectives are collecting, characterizing, and conserving germplasm in situ, evaluating and selecting suitable cultivars, standardizing root stocks, developing suitable agro-techniques, and developing plant protection modules for mango, banana, litchi, jackfruit, guava, papaya, and avocado. The salient outputs are summarized as follows:

- The centre maintains a wide array of germplasm of tropical and subtropical fruit crops as well as some underutilized fruit crops.
- The mango variety, 'Mallika' has been recommended for new alluvial zone by the ICAR.
- A new crop, avocado was introduced and accordingly three varieties recommended by ICAR-AICRP fruits were planted in the experimental field.
- Developed a farmers' training hall at Fruit Research Station, Mandouri and distributed 10,000 quality planting materials to the end users.
- The centre has developed protocols for effective management of banana leaf spot diseases, mango hopper and thrips.
- The centre has standardized quality production of litchi fruits by bagging
- Organized many training programs for SC and ST farmers on fruit crop productivity, protection, and value addition; conducted multiple FLDs; and provided farmers with essential inputs. Farmers were often consulted using WhatsApp, mobile devices, and other platforms.





Distribution of planting materials and imparted training to input dealers y AICRP on fruits

AICRP on Floriculture

The project was founded in 1977. The project's primary objectives are to preserve and assess genetic resources, breed novel cultivars, standardize agro-technological procedures, implement plant protection strategies, and develop value-added post-harvest technologies.

- About 300 chrysanthemum genotypes in various categories were maintained, along with 11 tropical orchids, 10 double and 22 single tuberose, 13 African and 5 French marigolds, 107 dahlia genotypes, and 32 hibiscus genotypes.
- Among the tested genotypes DFR Glad-1, DFR Glad-2, and Pratap Glad-3 of gladiolus; White Star, Yellow Star, Gulmohar, and BC-14 in the cut flower category of chrysanthemum; Nanaco, Maghi, Pooja, and DFR C-2 in the cut spray category of chrysanthemum; Bidhan Mallika and Bidhan Bishnupriya in the loose flower category of chrysanthemum; Among the varieties of different flowers tested White Anemone, Bidhan Manasi, Bidhan Chitra, and DFR C-4 of pot chrysanthemum; Bidhan Star (BRH-17) and Bidhan Pearl (BRH-18) and BRH-19 of double tuberose hybrids; and Bidhan Kali Gainda-1 of French marigold were found promising.
- The centre has suggested protocols that include a combination of recommended NPK doses of fertilizers along with biostimulants and micronutrient combinations for improved cut flower production of chrysanthemum (var. White Gem), loose flower production of tuberose (var. Prajwal), cut flower production of Gladiolus (var. American Beauty), cut flower production of chrysanthemum (var. White Gem), loose flower production of marigold (var. Bidhan Gold), and cut flower production in China aster (local cultivar).
- The centre has created procedures for prolonging the vase life of Areca palm, Cycas, and Dracaena leaves as well as lotus flowers. Protocols have also been devised for preparation of Incense sticks and Gulal.
- Several training sessions for farmers, input traders, and KPS have been conducted by the centre.





Field view of tuberose and chrysanthemum at research field of AICRP on floriculture

AICRP on Forage Crops and Utilization

The project was implemented at BCKV from 1971 to 1972. The project's objectives include identifying and defining underutilized or unknown plant species, producing rice bean and Coix nucleus and breeder seeds, assessing, preserving, and improving fodder germplasm, and developing a location-specific package of practices.

- The project established a 2000 m² "Golden Jubilee Forage Garden" and a rice bean germplasm block with 250 genotypes.
- The centre has developed protocols for organic nutrient management in the Ricebean–oat system under irrigated conditions.
- The centre has enhanced the productivity and quality of fodder maize through spraying of nano-urea and urea.
- As part of the TSP program, the centre has arranged numerous capacity building events and provided quality planting materials and other essential inputs to tribal farmers.

AICRP on Groundnut

The project began at RRS, Jhargram, in 1994. The project's goals include developing novel agricultural production technologies, evaluating, identifying, and hybridizing situation-specific short-duration cultivars and breeding lines that exhibit extraordinary yields, and developing resilience to biotic and abiotic challenges. The following is a summary of the major accomplishments of this study.

- To increase groundnut productivity, the project identified numerous Spanish and Virginia types of groundnuts suitable for cultivation in West Bengal.
- The centre also developed protocols for the effective use of phosphorus buildup strain seed inoculants, foliar nutrition, irrigation water, and weed management.
- The centre also conducted 50 Front Line Demonstrations (FLD) on groundnut cultivation, trained over 100 farmers, and distributed inputs under the Scheduled Caste Sub Plan (SCSP) and Tribal Sub Plan (TSP) programs.





Seed Production and Farmers' Training conducted by AICRP on Groundnut

AICRP on Integrated Farming Systems

Since 1990, the AICRP-IFS Project's main office has been located at the Central Research Farm in Gayeshpur, Kalyani. The on-station and on-farm portions of the project are presently functioning in the West Bengal districts of Bankura-1 and Chhatna Blocks and the New Alluvial Zone. The IFS model was created to find enterprises that are both economically and environmentally viable in the context of climate change; to budget resources from a systems perspective, paying particular attention to soil, water, nutrients, and energy; to assess low-carbon production modules within the system; and to find and assess secondary agriculture opportunities from a farming systems perspective to attract young people from rural areas. The following is a summary of the main conclusions:

- Synthesized IFS Model recorded a net return of Rs. 97510.30/- annually and generated employment of 329 man-days and 89 kg N, 47 kg P₂O₅ and 52 kg K₂O/year through recycling within the components; crop component recorded highest gross return (45.26%), while livestock unit registered highest net return (41.83%) from the Model; Inputs purchased from outside and inputs recycled within the system were 37.52% and 26.55%, respectively; while farm labour engaged accounted for 35.93% out of total cost of production. The biogas unit of 2 cubic meter capacity generated biogas equivalent to 115 kg LPG (8 domestic gas cylinders); Livestock contributes 68.6% GHGs emission followed by various cropping systems (17.7%), Amaranthus-Brinjal + coriander leaf-Bitter gourd sequestered highest C while Banana orchard sequestered lowest C
- Rice-Potato-Jute system was found to be better on the basis of yield and economics (B: C ratio 1.64) as compared to traditional Rice-Rice system; Dhaincha /Rice-French bean-Cowpea system was found to be better for maintaining soil health as well as for realizing higher yield and economic benefit (B:C ratio 2.47); Rice (bio-fortified)- Mustard-Greengram (T₅) was comparatively better (B:C ratio 2.44) in respect of family nutrition; Elephant Foot Yam- Brinjal + Coriander leaf system proved to be better system in respect of generating higher yield (REY 49047 kg/ha) and economic return (B:C ratio 3.42)
- In on-farm studies, the combination of NPKZn treatment produced the highest system grain yield, system cost of cultivation, system gross return, system net return, and system B:C ratio, as well as a significantly greater rice yield in both rabi and kharif seasons.



- The government has organized many capacity-building programs for SC farmers under the SCSP program and provided them with essential inputs based on their needs to increase farm output and revenue.



Different units of IFS model

AICRP on Irrigation Water Management

The project commenced at BCKV in 1982. A summary of the key findings is provided below.

- Micro-sprinkler irrigation (ET₀: 1.0) and STCR based fertilization in groundnut-green gram cropping sequence is recommended for higher yield, quality, water productivity and economics
- Imparted many training programs for farmers.

AINP on Jute and Allied Fibres

The project began operations at BCKV in 1974 with the goals of standardizing INM, IWM, and drought management practices, performing adaptation research, conserving, characterizing, and screening germplasm to increase fiber yield through breeding efforts, and conducting varietal evaluation trials. The main achievements are summarized as follows.

- Fifty germplasm lines were characterized and evaluated for both white and tossa jute. Seven lines under white jute (8-12 g/plant) and five lines (12-20 g/plant) under tossa jute were found promising compared to the checks.
- A total of 34 F₁s and 136 different segregating lines were evaluated for fiber yield, quality, and disease resistance.
- Four new entries were nominated for the national trial, and four new breeding lines were considered under the IVT trial.
- Standardized integrated weed control practices included hand weeding at 15-20 DAE and 35-40 DAE and mulching with rice straw @7.5T at 15-21 DAS to increase jute yield.
- Outreach programs were conducted involving 21 farmers covering a total area of 6.3 ha in Nadia. Six capacity-building programs for farmers were organized.





Demonstration plot of AINP on Jute and Allied Fibres

AICRP on Maize

Since 2015, the project has been operated at BCKV with the objectives of standardizing INM and IWM, conducting adaptation research, screening germplasm against biotic stresses, conducting varietal evaluation trials, and increasing maize production through breeding. The following is a summary of the main findings.

- Identified corn varieties (Baby corn -1; Pop corn- 1; Sweet corn -1; QPM - 1 and Normal maize – 10) suitable for West Bengal; Identified resistant entries for successful breeding programs against TLB (Normal maize – 33; Baby corn – 1; Pop corn – 2 and QPM – 3) and MLB (Normal maize – 47, Baby corn – 4; Pop corn – 8 and QPM – 4); screened a total of 1974 germplasm against BLSB and MLB under the Consortium Research Project on Agro-biodiversity, and some promising entries were identified.
- A new pathogen (*Fusarium equiseti*) was reported in maize from West Bengal with proper morphological and molecular identification, and a cultural accession number for this specific pathogen was obtained from NAIMCC. Gene bank accession numbers were obtained for the 50 fungal cultures. One protection technology was released through the AICRP system and entered into FLDs.
- Ecological intensification in maize-based cropping systems has increased maize yield by 36.70% over existing farmer practices; zero tillage practices in maize gave significantly higher yield and net return than conventional tillage practices.

Many outreach programmes were conducted, benefitting more than 500 farmers, organizing several capacity-building programmes, and providing critical inputs to farmers under the SCSP and TSP programmes.

AICRP on Medicinal and Aromatic Crops and Betel vine

The AICRP on betel vine started working at BCKV in 1984. Later, the project was combined with the AINP on medicinal and aromatic plants in the XIth plan. The project's goals include the collection, conservation, evaluation, and cataloging of germplasm; determining the condition of pests and diseases and establishing IPM modules; and producing commercially viable agricultural techniques. The key findings are as follows.

- The project has maintained 20 hybrids of betel vine and a large number of OP germplasms (Bangla type-38, Sanchi type-4, Kapoori type-11, and Meetha type-1).



- Standardized protocol for the integrated management of foliar diseases of Aloe vera
- When Madhunashini cuttings were treated with 250 ppm IBA solution and planted in October, they sprouted at the highest rate of 70%.
- Organized many training programs for farmers on betel vine cultivation.

AICRP on Micro- and Secondary-Nutrients and Pollutant Elements in Soils and Plants (Voluntary centre)

In 2009, this volunteer center was founded at BCKV. A fully functional laboratory was established at the BCKV main campus.

- Biofortification of Zn in soil (20 kg ZnSO₄.7H₂O) + foliar (0.5% ZnSO₄.7H₂O) application increased rice grain yield by 29% (vs. 22% with soil alone) and improved Zn-use efficiency from 0.53–2.83% (mean 0.90%) with soil application to 1.89–4.80% (mean 2.74%), tripling the efficiency. HYVs showed the highest yield efficiency, making this method effective for enhancing the Zn concentration across cultivars.
- Heavy metal accumulation in vegetable crops grown in soil developed from city garbage at Dhapa of Kolkata was assessed. Pb levels were found highest in Dhapa soils (113.7–578.3 ppm) and edible plant parts (11.9–43.7 mg kg⁻¹), while Ni, Cd, Cr, and Cu ranged from 27.63–380.11 ppm, 7.00–8.26 ppm, 222.04–540.81 ppm, and 132.02–364.28 ppm, respectively; however, all vegetable samples had Hazard Quotient (HQ) values below 1, indicating no significant health risk.
- Delineated fluoride contamination in soil, plants, and water from different sources in various districts of West Bengal revealed that fluoride levels were significantly higher in soil and plants than in water, with bio-concentration from soil to plants always exceeding 1, and contamination was more prevalent in the rabi season, exceeding permissible limits in groundwater (21.6% vs. 4.4% in kharif), soil (61.6% vs. 23.8%), and plants (97.2% vs. 74.8%), while groundwater fluoride concentration increased with depth.
- Delineated As status in soil, water, and plants revealed that As levels in groundwater exceeded the FAO limit (0.1 mg L⁻¹) in the Manikchak, Kaliachak III, II, and I blocks of Malda district, with elevated soil As in these areas, and a strong correlation was found between As in irrigation water and rice grain. HQ values > 1 in three Kaliachak blocks indicated potential health risks.
- Organized Farmers’ training on “Micronutrients and its importance in Agriculture” at Sushunia, Bankura, West Bengal under SCSP programme.



Developed a well-equipped laboratory and conducted farmers’ training by AICRP on Micro-nutrients



AICRP on MULLARP (Mungbean, Urdbean, Lentil, Lathyrus, Rajmash and Pea)

BCKV has operated this project since 2015. A summary of the main findings is provided below.

- Developed a well-equipped laboratory at Mohanpur campus.
- Maintained a wide array of germplasm and breeding lines of mung bean (247 nos.); urd bean (135 nos.); lentil 1400 (nos.) and lathyrus (296 nos.).
- The center submitted seven mung bean entries, five urd bean entries, eight lentil entries, and two grass pea entries for evaluation in national trials.
- One lentil entry (BCL-10145) and one urd bean entry (PBU 21-31) were promoted to the AVT-I stage in the NEPZ and NWPZ, respectively.
- The application of a post-emergence ready-mix of fomesafen 11.1% + fluzifop-p-butyl 11.1% @ 220 g a.i. ha⁻¹ on 20 DAS as post-emergence was found to be effective in controlling weeds and improving productivity and economic return. Post-emergence applications of propaquizafop 2.5% + imazethapyr 3.75% ME @125 g/ha at 15-20 DAS and Fomesafen + Fluzifop-p-butyl @220 g/ha had a significant effect on seed yield. Foliar spray of NPK (18:18:18) at 2% at flower initiation and pod initiation recorded maximum seed yield and economic returns.
- The biorational treatment comprising dusting with ashes of crop residues and fine sand @ (25 +5 kg/ha) was found to be effective in reducing the aphid population in Lathyrus.
- Organized many farmers' training programs for SC farmers.



Front Line demonstration and Training programmes organized by AICRP on MULLARP

AICRP on Nematodes in Agriculture

Since 1988, the project has been operating at BCKV. The following is a summary of the major accomplishments.

- The initial screening of 165 chickpea germplasms revealed that 13 germplasms were classified as resistant.
- Upon visiting different horticultural nurseries, 14-30% infestation of root knot nematodes in guava and 8–18% in pomegranate saplings were observed.
- Application of neem cake @ 2 tons /ha and pongamia cake @ 2 tons /ha proved effective in managing the root knot nematode in tomato nursery; Fluopyram 400SC @ 0.625 litres/ ha (0–10 days before sowing) was found effective in managing *Meloidogyne incognita* in cucumber; the interaction between soil application of Neem cake and seed treatment of *Bacillus subtilis* recorded significantly lowest FNP per 200 cc soil, RKI and highest yield in Bio-management of root-knot nematodes in green gram; nursery bed treatment with Biofor pf-2 @ 20 g/m² recorded significantly lowest root knot index (1.50) in soil; *Bacillus subtilis* @ 2.5 kg along with 2.5 tons of FYM/ha recorded lowest final nematode population (391.67/ 200 cc soil + 5 g root) and RKI (2.44) in brinjal.
- On July 7, 2023, ‘Nematode Awareness Day’ was organized, and input traders and farmers were trained.

AINP on Onion and Garlic (Voluntary Centre)

This volunteer center was established at BCKV in 2008.

- A few advanced breeding lines were found to be suitable during Kharif and late Kharif onion OP trial in the Gangetic plains of West Bengal: 'Bhima Red'
- For Rabi onion OP trials, RVA 22-12 (DOGR-1758), RVB 22-29 (RHROR-12), RVC 22-43 (Kansi No.1), and Rabi onion hybrid trial, RHA-22-55 (DOGR Hy-56), and RHB-22-57 (Orient F₁) were found promising.
- Some advanced breeding lines of Garlic GN 22-21 (DOGR-404), GN 22-27 (G-189) and GN 22-45 (Bhima Purple), were found to be suitable.



Field view of onion trials conducted by AINP on Onion and Garlic



AINP on Pesticide Residues

By completing the integrated core objectives (Monitoring and Risk Assessment, Method Development and Validation, Good Agricultural Practices (GAP) Promotion, Knowledge Dissemination and Policy Support, and Capacity Building), the project, which began operations at BCKV in 1984, fulfilled its mandate to ensure food safety and security by conducting thorough research on pesticide residues in food commodities, soil, and water. The following is a summary of the major accomplishments.

- Multilocation supervised sponsored field trials on two new or existing molecules of pesticides on crop-pesticide combinations were conducted. The Centre evaluated the residues/dissipation of Spinetoram 6% w/v (5.66% w/w) + Methoxyfenozide 30% w/v (28.3% w/w) in chickpeas. The pesticide residue data generated have been utilized for label claims, and safe waiting periods on the various pesticide-crop combinations have been approved by CIB&RC for their commercial use in the country and/or fixation of MRLs on various pesticide-commodity combinations by FSSAI.
- Under the central sector scheme, “Monitoring of Pesticide Residues at National Level” sponsored by the Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, this Centre collected approximately 675 samples of vegetables and fruits from retail outlets, APMC markets, organic outlets, and farm gates located in different parts of West Bengal and analyzed by Export Inspection Agency (EIA), Kolkata for the possible presence of various groups of pesticides such as organochlorine, organophosphorus, synthetic pyrethroids, carbamates, neonicotinoids, herbicides, fungicides, etc.

AICRP on Plantation Crops

The project began operations at BCKV in 1982 with the following goals: collection, conservation, and evaluation of location-specific germplasm and hybrids of coconut; creation of mother blocks and high-quality planting materials; and development of a cropping system based on coconuts that includes spices and other crops. The following is a summary of the main conclusions.

- Maintaining 30 exotic and indigenous coconut germplasm
Five crosses (Tall × Tall) were developed, and the evaluation of the developed crosses is ongoing.
- Established seed gardens for three released varieties from the centre.
- Five crosses (Dwarf × Dwarf) and 10 newly released varieties of coconut were evaluated.
- An appropriate variety for tender nuts was selected, and standardized agronomic schedules for the coconut-based cropping system model involving spice crops (ginger, turmeric, chilli, coriander, and black pepper) were developed.
- World Coconut Day was observed on September 2, 2023, and quality plant materials were distributed to farmers.





Promising variety Training and demonstration conducted by AICRP on plantation Crops

AICRP on Potato

The AICRP on potato at BCKV has been functioning since 1972. The salient achievements are summarized as follows.

- Nutritionally superior varieties, such as Kufri Neelkanth, Kufri Jamunia, Kufri Manik, and Kufri Uday, rich in minerals (zinc and iron) and having high contents of vitamins, carotenoids, and proteins etc. are being popularized among farmers.
- Foliar application of B has been found to be superior to soil B application. The maximum total potato tuber yield was obtained with the RDF of NPK + 0.1% boric acid as a foliar application three times at 40, 50, and 60 days after planting (DAP). In potato, three sprays of boron alone or in combination with zinc along with RDF had a significant effect on potato tuber yield. In the case of soil application, the application of RDF of NPK + 6.0 kg Zn per ha as a basal produced the maximum total tuber yield of Kufri Jyoti with a higher net return.
- Two foliar applications of zinc sulfate @2 g/L at 25 and 50 days after transplanting or soil application of zinc @2.5 kg/ha along with one foliar application of zinc sulphate @2 g/L at 50 days after transplanting has been recommended for a significant increase in zinc content in potato tubers.
- Participated in different Krishi Mela and farmers' training programs organized by KVKs, NGOs, GoWB, etc.



Nutritionally rich potato varieties



Field demonstration programmes conducted by AICRP on Potato



AICRP on Pulse Seed Hub

The project started functioning at BCKV in 2016 to increase the seed production of important pulse crops. The project has developed a godown and processing unit at the Teaching Farm, Mondouri, BCKV. The following quantity of seed materials was produced by the project during Rabi 2023.

Crop	Seed Class	Amount (kg)
Lentil	B-F	2146
	F-C	1310
Lathyrus	B-F	1869
	F-C	1035
Chickpea	B-F	91
	F-C	100
Fieldpea	B-F	180

AICRP on STCR (Soil Test Crop Response)

The project commenced at BCKV in 1994. The salient achievements are summarized below.

- A dedicated Soil and Water Testing laboratory under the AICRP on STCR is running, where farmers and researchers can test their samples for different parameters and avail soil test-based fertilizer recommendations at a university-fixed rate.
- Long-term cultivation of rice-mustard-sesame for 22 years with organic amendments, either in the form of farmyard manure (FYM), green manure, or biofertilizers, had a significantly positive effect on soil quality. The FYM treatment performed best for system productivity and sustainability. NPK-FYM treatment maintained the highest soil quality index (SQI). Total organic carbon, alkaline KMnO_4 oxidizable nitrogen, CaCl_2 extractable sulphur and amidase enzymatic activity were screened through PCA as the most sensitive ones in terms of equivalent rice yield
- Soil Test Based Target yield equation (STCR equation) was experimented and validated through FLD field trials on cauliflower crop (cv. Pawas). Nutrient requirement (NR), contribution from soil (CS), and fertilizer (CF) and Fertilizer Adjustment Equation for the targeted yield of cauliflower have been developed.
- The nitrogen-inclined fertilizer proportion often causes K mining in Indian soil, which has driven us to seek a balanced N-K fertilization protocol. Thus, 150 kg nitrogen per hectare and 110 kg K per hectare may be an efficient option for improving the yield and quality of capsicum.
- Developed regional soil micronutrient management and bio-fortification strategies through ensemble machine learning based digital soil mapping
- Development of digital soil micronutrient maps of southern West Bengal following multi-source satellite data and ensemble machine learning based predictions at 30m*30m scale.



- A novel chromotropic acid-based color development method was established for the rapid estimation of soil nitrate. The method utilized a 3D printed device integrated with the rear-end camera of a smartphone and a stand-alone application named SMART NP.
- Regularly impart training in different soil test-based fertilizer recommendation campaign programme like Jai Kishan Jai Vigyan Week/ village adoption programme/Swachcha Bharat Mission Scheme under Scheduled Caste farmers by in-house and on-farm training under SCSP project mandate activity of the AICRP scheme,
- Organized World Soil Day cum Seminar was held on 5th December, 2023, at the Regional Research Station, BCKV, Gayeshpur, by inviting 150 number of 11th -12th standard students from two high schools from Chakdah Block, Nadia, along with M. Sc. and Ph.D. students, and researchers of BCKV for an awareness campaign and poster presentation on soil health and soil quality, soil and water testing, environmental pollution from the agriculture sector, judicious manures, and fertilizer recommendation etc.



Field demonstration conducted by AICRP on STCR



Training programme conducted by AICRP on STCR

AICRP on Tuber Crops

The project was established at the BCKV in 1976. The project mandates the collection and conservation of tuber crop genetic resources, field evaluation of technology development, development of new varieties, and eco-friendly plant protection measures for growers. The salient findings are summarized as follows.

- The centre upgraded the laboratory facilities and constructed a poly green house and storehouse with the support provided by ICAR. The centre has developed facilities for advanced molecular biological and innovative research on the basic and fundamental aspects of root and tuber crops.



- A total of 415 germplasm samples of 15 different tuber crops were maintained in a field gene bank, and phenotypic and biochemical characterization of different germplasm was performed.
- High-yielding varieties of one each of orange-fleshed sweet potato and dasheen taro have been identified, and quality planting materials have been distributed to farmers.
- Different methods for preparing value-added products from tubers have been standardized.
- Many farmers' training programs on cultivation, crop protection, and value addition of tropical tuber crops, particularly for SC and women farmers, have been conducted.

AICRP on Vegetable Crops

The project began functioning at BCKV in 1975. The salient findings are summarized below.

- Collected, characterized, and maintained a large number of germplasm of different vegetable crops, such as teasle gourd (22 no.), pointed gourd (35 no.), tomato (60 no.), dolichos bean (27 no.), cowpea (22 no.), brinjal (45 no.), and chili (39 no.).
- The project has received 10 accession numbers of germplasm from NBPGR.
- By utilizing genetic resources, the project identified many trait-specific hybrids of different vegetable crops.
- The project has contributed four new entries of different vegetable crops for testing in national trials.
- Integrated management practices for bottle gourd disease include growing of two rows of maize as border crops and using agri silver mulch sheet, followed by seed treatment with carbendazim 12%+ mancozeb 63% @ 3 g/kg and drenching of captan 70 % + hexaconazole 5% WP @ 0.1% 15 days after germination, followed by spraying of tebuconazole 50% + trifloxystrobin 25% @1g/l + spray with (imidacloprid 17.8 SL @ 7.5 ml/ 15 L + Neem oil 0.2%) followed by Fosetyl-Al @ 0.1% followed by spraying of tebuconazole 50% + trifloxystrobin 25% @1g/L+ spray with (imidacloprid 17.8 SL @ 7.5 ml/ 15 L + Neem oil 0.2%) followed by Fosetyl-Al @ 0.1% at 10 days interval were found very effective for better management of bottle gourd disease (gummy stem blight), enhancement of fruit yield, and also from economic point of view. The pesticide residue levels of the best-treated chemicals were analyzed, and no pesticides were detected using the QuEChERS method by GC-MS.
- Integrated management practices for bitter melon disease include barrier crops with two rows of maize, mulching with silver plastic mulch, sticky yellow traps in each plot), rotational spraying of seaweed extract @ 0.2% at 10 days interval, and pyriproxifen @ 0.1% at 10 days interval. These practices have proven effective for better management of the bitter melon virus disease.
- Conducted many training programs for farmers and input dealers to disseminate the latest technologies on vegetable production. Field days were organized to familiarize farmers with the latest varieties/hybrids and new IPM technologies.



- The project has conducted two developmental programs: the Tribal Sub-Plan and the Schedule Caste Sub-plan. More than 500 tribal farmers and 250 SC farmers have been provided with critical inputs, including high-yielding varieties and hybrids of different vegetable crops. Farmers have been trained in the latest technologies for vegetable production, protection, and processing.



Standardization of IDM protocols of GSB of bottle gourd and training conducted by AICRP on Vegetable Crops

AICRP on Weed Management

The project has been underway at BCKV since 2016 with the objectives of determining the pattern of weed flora distribution under various cropping systems in the area, the impact of weed flora on the performance and health of different field and horticultural crops, the influence of herbicide molecules on the physicochemical properties of soil, and the creation of appropriate recommendations for weed management in crops and cropping systems.

- In dry direct-seeded rice application of Pendimethalin 1000 g/ha (30 EC) or 678 g/ha (38.7 CS) as PE fb bispyribac-sodium 25 g/ha + [(metsulfuron methyl + chlorimuron ethyl) (RM)] 4 g/ha (tank mix) as PoE (25-30 DAS) maintained the least weed density and biomass per square meter area, resulting in higher weed control efficiency, highest grains panicle⁻¹ and other yield attributes, grain, and straw yield.
- For weed management in Maize-chickpea cropping system, in chickpea, treatment combination receiving Atrazine + Topramezone (Tank mix) (750 + 25.2) g/ha as EPoE (15 DAS) alongwith Fluazifop-p-butyl + fomesafen (RM) 100 g/ha as PoE (20 DAS) fbHW at 40 DAS proved as best treatment combination recording the highest yield parameters, seed and stover yield alongwith highest net return and B:C
- In maize, early post-emergence application (15 DAS) of Atrazine + Topramezone as a tank mix (750 + 25.2 g ha⁻¹) was most effective, recording the lowest weed density and biomass and the highest weed control efficiency, grain yield, and straw yield.
- The OFR trial was conducted at farmers' fields on maize, where treatment comprising Topramezone+Atrazine (25.2+500 g/ha) EPoEfbIC + HW at 40DAS maintained its superiority with the highest control over weed density and biomass throughout the crop growth period.



- OFR trial on lentils was conducted at farmers' fields, where treatment receiving Pendimethalin 30EC 1000 g/ha PE at 3 DAS *fb* Quizalofop-ethyl 5EC 50 g/ha at 25 DAS was found best in weed management with minimum weed density and dry weight, resulting in higher yield and B:C.
- Organized many farmer training programs.



Field demonstration and Farmers' training programmes conducted by AICRP on Weed Management

AICRP on Wheat and Barley Improvement

The project started functioning at BCKV in 1972-73. The key achievements are summarized as follows.

- Evaluated 447 breeding lines of wheat through nurseries and utilized 123 lines for further breeding programs.
- Attempted 210 fresh crosses and developed 21 different combinations F_1 cross combinations of wheat.
- Ten entries were contributed to the IPPSN, and three entries (BCW 31, BCW 32, and BCW 35) were included in the National Initial Varietal Trials (NIVTs). Last year, two entries (BCW 28 and BCW 29) were promoted to AVT-I.
- Evaluated 2022 advanced breeding lines of wheat and barley for foliar leaf blight.
- The yield performance of variety PBW 826 was significantly higher and recorded to the tune of 48.27 and 54.93 q/ha under timely and late sown conditions, respectively.
- Organized many capacity-building programs for farmers and conducted FLDs in different wheat-growing districts of West Bengal.



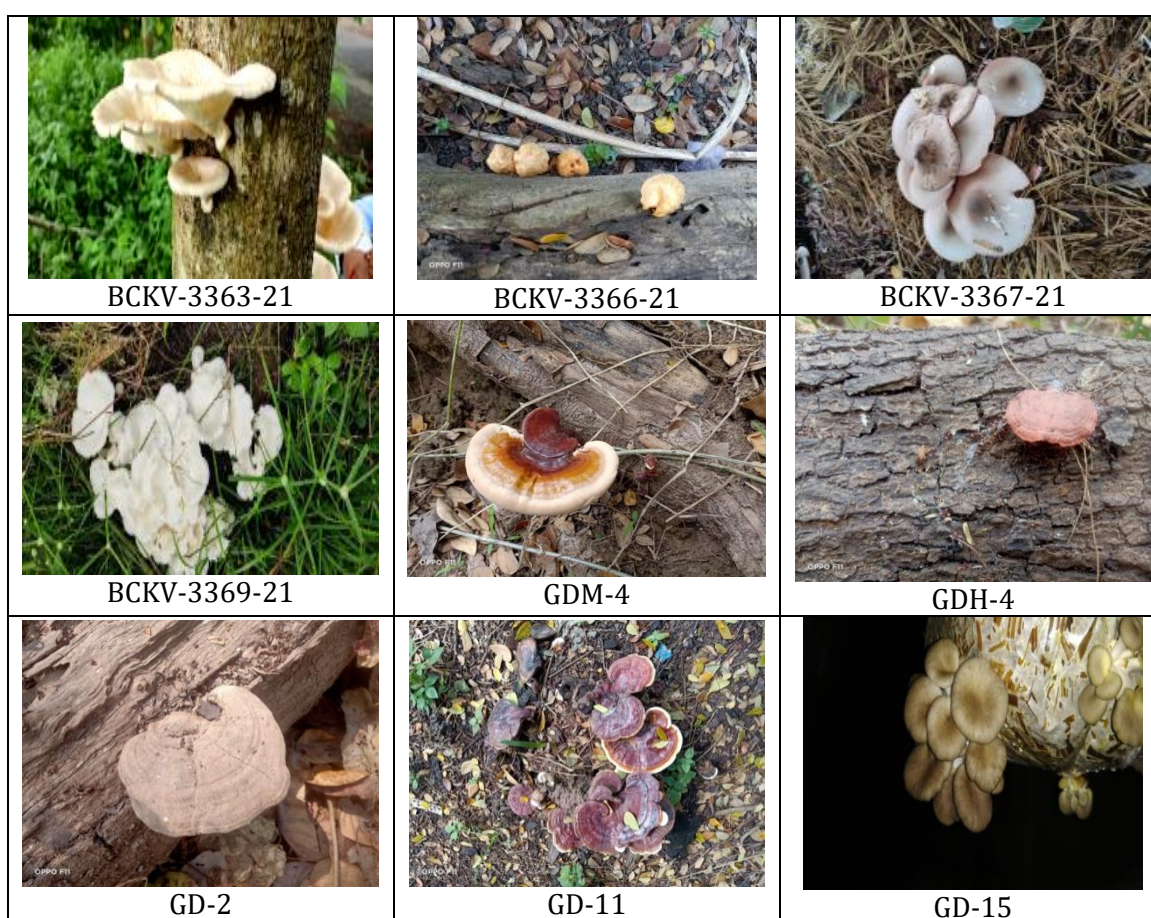
Field demonstration conducted by AICRP on Wheat and Barley improvement



AICRP on Mushroom (Voluntary Centre)

The AICRP on Mushroom was initiated at BCKV in 2015. The project has developed good laboratory facilities for commercial spawn production. The key findings are summarized as follows.

- A total of 14 specimens of gilled fungi and polypores were collected and tentatively identified as *Pleurotus ostreatus*, *Termitomyces microcarpus*, *Volvariella Volvacea*, *Calocybe indica*.and others were identified as *Psathyrella* spp., *Lentinus*, *Lepiota*, *Ganoderma lucidum*, *Ganoderma applanatum*, and *Ganoderma tusague*.
- We identified some promising oyster mushroom (*Pleurotus* sp.) varieties (PP-22-205 and PP-23-204) on paddy straw.
- Organized National Mushroom Day on 23rd December 2023.



Promising oyster mushroom varieties collected by AICRP on Mushroom

AICRP on Seed (Crops)

The major mandate of the project is quality seed production with the supply of paddy seeds to farmers.

- Quality seed production with the supply of seeds to farmers, mainly for paddy, pulses, and mustard seeds, was performed.
- For suitable implementation, Nucleus and Breeder seed production are also sustained to upgrade the seed system.



- To enhance the Varietal Replacement Ratio (VRR), various awareness programs were established.
- Providing care for the progression of Tribal and Scheduled-Caste communities through the TSP and SCSP programmes.

AICRP on Spices (Voluntary Centre)

This center has been functioning at BCKV since 2009 to identify suitable cultivars of different spices, develop improved technologies, and popularize spice cultivation in the state.

- Suitable turmeric-based intercropping systems were identified for higher yield and income.
- Some promising lines of coriander and fenugreek have been identified.
- Many training programs were conducted for SC farmers



Field demonstration conducted by AICRP on Spices

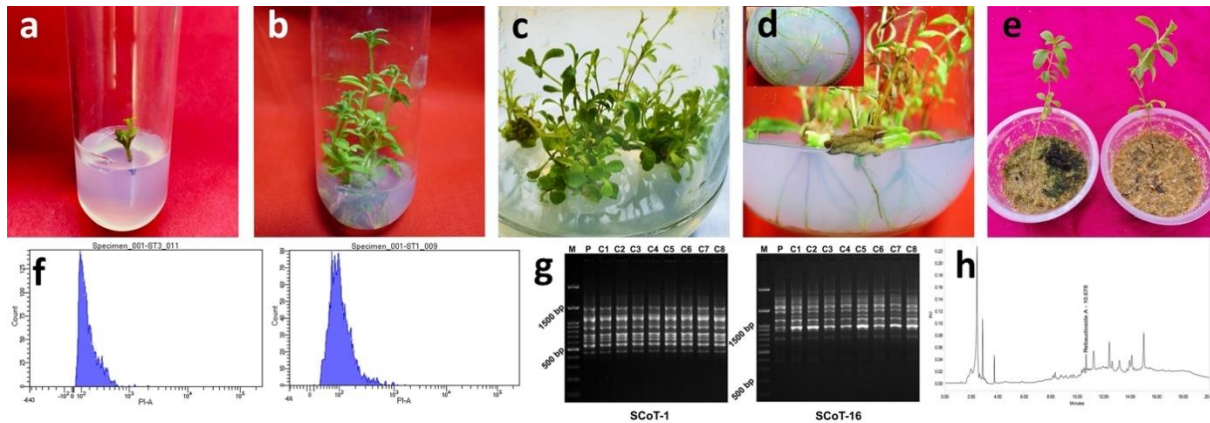
Crop Research Unit

The unit was established at BCKV in 1980 with the aims primarily on the development/collection of diverse germplasm of rice, lentil, medicinal plants, etc., around the country, their *in situ* and *in vitro* conservation, and utilization for the more significant benefit of the farmers of this state. The significant achievements are summarized below.

- Maintained diverse 482 rice and 279 lentil genotypes; developed and maintained six and one Recombinant Inbred Populations of rice and lentil, respectively, each comprising >180 individual homozygous lines; maintained *in vitro* cultures of banana (G9), potatoes (six cultivars), Stevia, Gerbera, Mentha.
- We identified a mis-splicing early flowering 3 (*elf3*) allele of lentil and its easy-to-use marker associated with seed-yield enhancement of lentil in more than a month delayed sowing (20th December sowing) in West Bengal, as observed in two consecutive years.
- The unit identified a novel QTL on chromosome 1 that controls panicle number and alleviates yield loss in rice, exclusively under shade. A nonfunctional *elf3*-carrying RILs revealed a higher yield and biomass with a slower absolute growth rate in delayed sowing (December 20) for two consecutive years in three locations, out yielding three popular high-yielding cultivars that carry functional *ELF3*.



- A high-frequency tissue culture protocol was developed for Stevia and seven indigenous potato genotypes. The protocols and tissue culture-generated virus-free indigenous potatoes were transferred to EBIII-Krishnanagar (GoWB) and are currently used for mass multiplication through apical tip cultures.
- A high-tillering rice mutant suitable for conservation agriculture was identified and characterized.



Development of fast-track protocols on Stevia mass propagation



Development of fast-track protocols on potato mass propagation

Comprehensive Scheme for studying Cost of Cultivation of Principal Crops in India

In this year a new Block Period (2023-26) was started in July 2023 along with 13 principal crops, namely, paddy, wheat, maize, jute, lentil, moong, black gram, gram, rapeseed and mustard, groundnut, sesamum, potato, and onion. As per the mandate, 125 new villages consisting of 60 new blocks/tehsils among 345 blocks of the State of West Bengal were selected through a statistical method (three-stage random sampling as recommended by the CACP). Likewise, the number of sample farmers has been increased to 720 for the Block Period and onward. Data on all the activities performed by farmers in respect of farming and off-farming have been submitted to the Ministry of Agri. & Farmers Welfare, GoI through FARMAP 2.0 online software for the 2023-24 MSP recommendation. During this period, crop dairy and crop calendars were distributed to all sample farmers.





Field inspection by Adviser (MSP Unit), Deputy Director and Assistant Director, Ministry of Agri. & Farmers Welfare, GoI

Survey, Selection & Mass Production of Nodule Bacteria

This unit regularly produces carrier-based and liquid quality biofertilizers of *Rhizobium*, *Azotobacter*, *Azospirillum*, and PSB as per indent. A sale proceed amount of Rs. 21,579/- (rupees twenty-one thousand five hundred and seventy nine) was generated during this year. The key achievements are summarized below.

- Season-wise survey, isolation, and efficiency testing of native strains of *Rhizobium*, *Azotobacter*, *Azospirillum*, P-solubilizing bacteria (PSB), and biocontrol agents such as *Trichoderma* were performed through laboratory and field experiments.
- A highly effective phosphate-solubilizing actinobacterial strain, JLGN7, was isolated from the red and laterite soils of West Bengal. The strain was identified as *Streptomyces* sp. (NCBI Accession No. ON398996). This strain demonstrated a solubilization capacity of 290.28 mg L⁻¹ of P from tri-calcium phosphate in Pikovskaya broth.
- Hands-on training under the Experiential Learning Programme (ELP) on ‘Biofertilizer Production and Marketing’ for undergraduate students was also conducted from March 2022 in this unit.
- Development of carrier sterilization chamber covering 2000 cft area, and storeroom of produced biofertilizers covering 1500 cft area.



Training and demonstration of mass production of nodule



Government Sponsored Projects

SL.NO.	Name of the project	Sponsoring Authority	Total cost (Rs.)	Name of PI
1.	Development & validation of molecular markers for novel alleles of candidate genes enhancing yield & low accumulation of arsenic from native rice germplasm. Niche Area,	ICAR GOI	107.09 lakh	Dr. Somnath Bhattacharyya, GPB, Crop Reserch Unit
2.	Creation of Seed Hubs for increasing indigenous production of pulses in India.	(ICAR)	60,00,000	Dr. Rajib Nath, Prof., Dept. of Agronomy
3.	FASAL (Forecasting Agricultural Output using Space Agrometeorology and land based Observations.	IMD. (GOI)	117.600 lakh	Dr. Asis Mukherjee, Asst. Prof, AICRP on Agrometeorology
4.	NICRA (National Initiative of Climate Resilient Agriculture (for XI plan)	ICAR	-	Dr. Saon Banerjee, Prof, Dept. of Ag. Meteorology & Physics.
5.	Gramin Krishi Mausam Sewa. (Mohanpur)	DST, GOI	142000	Dr. Lalu Das, Prof, Dept. of Ag. Meteorology & Physics, Mohanpur Centre
6.	Gramin Krishi Mausam Sewa (Kakdwip)	GOI	-	Dr. A.K. Senapati, Assoc. Prof. in Ag. Entomology, RRS Kakdwip
7.	Sustainable Production & Extraction of Lemon grass oil through introduction of mobile oil extraction unit modified as 'Sustainable Processing Extraction & Value addition of Lemon Grass in W.B.	MSME, Khadi & Village industries commission, GOI	1498000	Dr. Anupam Pariari
8.	Value added dry flower production in one step escalation for tribal & marginal women empowerment. WBDST, GOWB	WBDST, GOWB		Dr. Subhendu Sekhar Gantait, Asstt. Professor,
9.	Image capturing of pests/diseases in crop/Livestock for purposes of developing Artificial intelligence (AI) based mobile App	ICAR, NAHEP	1,85,000	Dr. Subrata Dutta
10.	Assesment of sustainability of multi-nutrient extraction for estimating available nutrients in soil under rice	GoWB	6,92,000	Dr. Sudeshna Mondal



SL.NO.	Name of the project	Sponsoring Authority	Total cost (Rs.)	Name of PI
11.	In vitro mutagenesis of Stevia for enhanced production of steviol glycosides.	BRNS, Govt.of India	59,85,000	Dr. Saikat Gantait, Asstt. Prof., Dept. of GPB
12.	A comprehensive Study to develop cost effective weed management strategy in rice (Oriza sativa) based cropping system for higher productivity at new alluvial Zone of West Bengal	DST, GoWB	12,50,000	Dr. Smritikana Sarkar
13.	Antioxidant, antimicrobial screening of wild edible mushrooms with additional nutritional attributes and popularization of Pleuroths Ostreatus in tribal villages of district Nadia.	DST, GoWB	15,35,000	Dr. Rishu Sharma, Asstt. Prof., Dept. of Plant Pathology
14.	Induced mutation of resistance to spot blotch of wheat caused by Bipolarises sorokiniana (Shoem).	BRNS, GoI	Rs. 3277100	Dr. Sunita Mahapatra
15.	Use of Fly ash in agriculture for sustainable crop production and environmental protection	NTPC	143.7503 lakhs.	Dr. Sidhu Murmu, Asstt. Prof in Agronomy
16.	Breeding for yield, earliness & quality traits in Indian mustard under heat stress condition of red & laterite zone of WB	DST, GoWB	4,91,400	Dr. Sujaya Dewanji, Asstt. Professor, Dept. of GPB
17.	SmartAgro-Robot Design for Improving Production of Rice Potato based Cropping System through Autonomous of Agricultural situation	DST, GOWB	2,40,000	Dr. Poly Saha, Asstt. Professor in Plant Pathology
18.	Consortium Research Project	ICAR	20,00,000	Dr. Arpita Das
19.	Hyperspectral reflectance & multi nutrient.. soil health in India	ICAR-NASF	15,92,083	Dr. Kallol Bhattacharyya
20.	Use of agro textiles as prospective mulching material...Red & laterite zone of WB	GoWB	241.54 lakh	Dr. Susanta Kr De
21.	Study of rice yield under low light intensity using genomic approach under the XII plan scheme Incentivizing Research in Agriculture	ICAR		Dr. Somnath Bhattacharyya, GPB, Crop Research Unit
22.	Building Lentil Growing. Climate smart lentil.	ICAR	12.89 lakh	Dr. Manabendra Roy



SL.NO.	Name of the project	Sponsoring Authority	Total cost (Rs.)	Name of PI
23.	Infrastructure upscaling of Commercial Apiculture Unit of BCKV for Scientific Honey Production & Marketing	Sufal Bangla, Dept. of Agril. Marketing, Govt. of WB.	130.94 lakh	Dr. Pranab Debnath, Asstt. Professor, Dept. of Agril. Entomology
24.	Capacity enhancement of Commercial Apiculture Unit of BCKV for Scientific Honey Production & Marketing	Sufal Bangla, Dept. of Agril. Marketing, Govt. of WB.	72.36 lakh	Dr. Pranab Debnath, Asstt. Professor, Dept. of Agril. Entomology
25.	Production, Marketing & Research for quality edible oils, cereals & spices. Setting up of facility centres of Pulse mill (Dal Mill in Krishi Bazars for pulse growing farmers of West Bengal Setting up of facility centres of Rice Mill in Krishi Bazars for rice growing farmers of West Bengal	Sufal Bangla, Dept. of Agril. Marketing, Govt. of WB.	207.55 lakh 271.82lakh 575.8725lakh	Dr. Souti Mukherjee, Professor, Dept. of Soil & Water Engg.
26.	Up-gradation of Market-linkage Network for Promotion of Aromatic and Special Rice of West Bengal	Sufal Bangla,	371.5 (BCKV 228.1 lakh)	Dr. Mrityunjoy Ghosh
27.	Comprehensive Scheme on Cost of Cultivation	GOI	-	Dr. P.K. Sahu
28.	Development of Advanced virus and other pathogens diagnostics and Testing Service program to the farmers and Entrepreneur for Plant Propagation Materials in West Bengal	RKVY	289.14 lakh	Dr. Jayanta Tarafdar
29.	Upgradation of Infrastructure facilities for quality seed production in different farms under BCKV to meet the need of farmers and good research work	RKVY	684.62128 lakh	Dr. Sudhibrata Mitra
30.	Post Harvest Processing of Marigold and other Flowers for Income Generation of the Farming community in West Bengal	RKVY	144.62165	Dr. Suhrrita Chakrabartty Das
31.	Development of a Mechanized Modern Farm for Promotion, Development and Dissemination of Improved Technologies	RKVY	161.16 lakh	Dr. Subrata Karmakar



SL.NO.	Name of the project	Sponsoring Authority	Total cost (Rs.)	Name of PI
32.	Utilization of Fallow Land Using Mulch (Jute Agro Textiles & Straw) and Unused Seepage Water for Enhancement of Groundnut and Maize Productivity in Red & Lateritic Zone of West Bengal: A Pilot Study	RKVY	69.46200 lakh	Dr. Susanta Kr. De
33.	Development of a soil, plant and water testing laboratory for sustaining soil health and agricultural productivity in the Red and Laterite Zone of West Bengal	RKVY	226.797 lakh	Dr. Susanta Kr. De
34.	Establishment of a state-of-art soil-water testing facility and service centre	RKVY	405.45 lakh	Dr. Kallol Bhattacharyya
35.	Empowerment of small and marginal farmers through floricultural technologies and flower waste management	RKVY	145.73 lakh	Dr. S.S. Gantait
36.	Fruit based cropping system for promotion food and nutritional security and sustainable livelihood of farming community in Paschimanchal districts of West Bengal.	RKVY	125.56 lakh	Dr. Mrinmoy Mondal
37.	Establishment of organic resource base for sustainable Agriculture through soil management under soil salinity stressed situation in coastal saline zone	RKVY	143.31 lakh	Dr. Debjani Kundu



International Project 23-24 onwards						
Sl. No.	Title	Funding Agency	Scientist	Year of start	Duration	Total Cost
1	Cropping systems intensifications in the salt-affected coastal zone of Bangladesh & W.B, ACIAR	Australian centre for Int. Agril. Res. (ACIAR)	Dr. Kaushik Brhmachari	18.05.16	5yrs	5276704
2	Identification and genetic analysis of lentil mutants for Stemphylium blight resistance with adoptive plasticity	International Atomic Energy Agency	Dr. Somnath Bahttacharya	17.04.20	5yrs	737398
3	Circular urban cultivation systems with re-usable textile growing substannces (Circultex) Indo-German	Indo-German Science & Technology Centre, Government of India	Dr. Sanjit Debnath	23.03.21	3yrs	7643055
4	Accelerating Genetic gains in Maize & Wheat Livelihoods (AAG) CIMMYT	CIMMYT	Dr. Anirban Maji	13.01.21	3yrs	\$ 30,000.00
5	Genetic improvement of lentil resistance..rice-fallow.. collar rot &lentil blight complex.. ICARDA	ICARDA	DR ARPITA DAS	11.03.2023	UPTO JUNE 25	\$ 20,000.00



REGIONAL RESEARCH STATION

Regional Research Station, Coastal Saline Zone, Kakdwip

Agromet advisory services related to weather forecasting, extreme weather events like cyclones, heat and cold waves, hailstorm and draught and mitigation for better crop production are provided to 1000 farmers of South 24 Parganas and Purba Medinipur districts through Whatsapp messages. Agromet observatory was also renovated in 2023-24 with installation of new agromet instruments under GKMS project at AMFU, Kakdwip. In this year, an amount of 250 kg and 65 kg seeds of Dudheswar and CR Dhan 203 variety of paddy, respectively, was produced and revenue generation was to the tune of Rs.162208.00 and the same has been submitted to the University. Through RIDF-XX Project local resources were mobilized for improving quality of life of rural people of Sundarban Delta. Several infrastructural facilities, like compost and vermicompost sheds were constructed under RKVY Cafeteria project in 2023-24. A ber orchard covering an area of 0.5 bigha was established in June 2023. The most popular ber cultivars namely “Bao Kul” was planted. One mixed fruit orchard and germplasm block of paddy were established.



Compost sheds under RKVY



Durbachati folk seed bank, Patharpratima



Infrastructure developed under RIDF- XX project



Renovation of Agromet observatory



Regional Research Station, Red Lateritic Zone, Jhargram

A number of training and exposure visits were conducted in RRS Jhargram in the year 2023-24 for different farming communities, NGOs, schools and college students. Need-based trials on different crops were conducted and shown to the farming community during various training and excursion trips. Evaluation of phosphate-solubilising bacteria on the growth and yield of groundnut was conducted. Application of Lime + NPK 100% + *Pseudomonas sp.* was found best for achieving maximum nutrient uptake and yield. *Pseudomonas sp.* was more effective in solubilising the unavailable form of P into a more soluble form and brought to the soil solution. Gummosis becomes quite problematic in Cashew plantations and management of cashew gummosis caused by *Botryosphaeria spp.* with fungicides had been done in farmers as well as in station trials. Removal of diseased bark followed by painting with thiophanate methyl @ 4g/L effectively controls this problem. The station celebrates International Year of Millets (IYM, 2023) and conducted two training programme in two blocks of Jhargram district. Special emphasis was given to the cultivation of millets, maize, french bean, marigold and groundnut, as these are very prominent crops in this region. Various training and demonstrations were conducted under the AICRP on Agroforestry and AICRP on Cashew, for the welfare of the farming community in this region.



Field level awareness programme on Plantation



Exposure visit on different nursery at RRS, BCKV, Jhargram campus



Celebration of University Foundation Day



Training on field level disease identification and remedial measures in pulses



Regional Research Station, New Alluvial Zone, Gayeshpur

The Regional Research Station, New Alluvial Zone, Gayeshpur, Nadia, West Bengal, was established in 1991 at the time of the implementation of the National Agricultural Research Project (NARP) for conducting location-specific need-based research in the New Alluvial Zone of West Bengal stretching from Uttar Dinajpur to North 24-Parganas and covering 8 districts of the State. The teachers of this station have taken up various research activities mainly with financial support from Ad-hoc R&D Projects (DST, GoWB; DST, GoI; DSIR, GoI; NABARD, RKVY, GoI and NTTM, GoI etc.), Private projects, etc. The significant achievements of such research activities are delineated as follows:

1. Actively engaged as Notified Breeder of BCKV for Breeder Seed production of Rice, Lentil, Lathyrus, Mustard and Chickpea as per DAC and State Indent.
2. Developed some advanced Breeding Lines of Blackgram Greengram and Mustard.
3. Low-cost production technique has been standardized for the culture of Pangas, Pacu and Vietnam koi in cemented tanks.
4. Standardized the method of pitcher pot irrigation to increase productivity on vegetable and fruits crop under alfisols soil of West Bengal.



Demonstration of low-cost compost production



Elephant foot yam seed production



Mulching of groundnut



Refiling of pitcherpot

Regional Research Sub-Station (Red & Laterite Zone), Sekhampur

In 2023-24, the RRSs, Sekhampur introduced polythene mulch for the cultivation of vegetables such as Bhindi, Patal, Chili, Brinjal, Tomato, and Bitter Gourd with a aim to conserve soil moisture considering the high ET of this zone. The centre pioneered the use of plant metabolites as residue-free solutions for insect management, effectively controlling sucking insects, loopers, mites, rice stem borers, and brown planthoppers (BPH). This eco-friendly approach reduced chemical pesticide dependence, promoting sustainable and safer agricultural practices. The PGPR performance and potential for disease management of five promising native Rhizobacteria, obtained from different regions of the red and lateritic zone, were assessed. Ber Cultivation and expansion of Bagda Kanthali Banana Cultivation in Birbhum are another achievements of the centre. The success of Bagda Kanthali has led to widespread expansion, significantly boosting yield, income, and making banana farming more profitable and sustainable in the region. The Dragon Fruit Cultivation was expanded in the region by this centre. Banana Germplasm Block was established along with Aonla Germplasm Block. In 2023-24, the mango orchard was expanded using in-situ grafting. Mango seeds were sown with 7m distance, and after one year, they were successfully grafted with Amrapalli scion, achieving high success and no plant mortality. This method ensured better survival and growth than direct transplanting.



Brinjal with poly mulch



Covering of cucumber crops with shade cloth



Moisture conservation through mulching



Moisture conservation through mulching



Regional Research Sub-Station (Red & Laterite Zone), Raghunathpur

A mango fruit orchard covering an area of 0.20 bigha was established in September, 2022. Amrapali mango fruit plants were planted at premises. A drumstick fruit orchard covering an area of 0.05 bigha was established in July, 2023. Local variety fruit plants were planted at that premises. The farm has already come out with standard agro-techniques for pyra cropping with lentil, lathyrus and mustard in rice-fallow system. These three crops are grown successfully on residual soil moisture after harvesting of *kharif* paddy. Evaluation of varietal performance of rice was carried out for different cultivars. RAWE (Rural Agricultural Work Experience) program for B.Sc (Hons.) Agriculture final year students was also carried out. Altogether 19 students came to RRSS (Red & Laterite Zone), BCKV, Raghunathpur, Purulia for the exposure visit to red & lateritic agriculture. It was consisted of on-campus and off-campus programmes. Effect of organic manures and chemical fertilizers on gram productivity and soil properties in the winter season was evaluated.



Evaluation of varietal performance of rice



RAWE (Rural Agricultural Work Experience) program



Evaluation of varietal performance of High Yielding Rice Varieties



Effect of organic manures and chemical fertilizers on gram productivity



Regional Research Sub-Station (New Alluvial Zone), Chakdah

Identification of sequence variations among pigmented and non-pigmented cultivars of rice was done in 2023-24. This study analyzed 11 rice genotypes from the Himalayan region and Eastern India with varying kernel and husk pigmentation to detect *Rc* and *Rd* gene variations. A 14-bp deletion and frameshift mutations in the *Rc* gene were identified in most black and white rice, while a premature stop codon in the *Rd* gene was detected in one white rice genotype, potentially obstructing anthocyanin and proanthocyanidin biosynthesis. A study evaluated 268 lentil genotypes for blight resistance, followed by multi-year, multi-location trials in Gangetic Alluvial and Red Lateritic zones. GGE biplot and BLUP analyses identified IC 559983 as an ideal genotype and TCADL 19-5 as a desirable, consistently resistant genotype for sustainable lentil production. Root dynamics study in rice-fallow lentil was also done. This study explored root trait variation in 24 lentil genotypes under different tillage practices, revealing significant genetic variability. It provided the first evidence of *LcTTM3* and *LcLAX5* involvement in root development, identifying 2011S 56234-1, ILL-10961, L-1112-19, and ILL-7978 as resilient candidates for rice-fallow cultivation. Diversity of major predators under different insecticide regimes in two important growth stages of rice in West Bengal was studied. Evaluation of newly evolved fungicides against leaf blast and neck blast disease was done.



Important insect predators and spider recorded at RRSS, Chakdah



DEAN STUDENTS WELFARE

East Zone Inter Univ. Cricket (Men)

Sl. No.	Name and Location	Date
1.	KIIT, Bhubandewar & Gangadhar Meher University, Sambalpur	14 th to 21 st February, 2024

Agri Unifest

Sl. No.	Name and Location	Date
1.	Nil	Nil

Annual Athletic Meet

Sl. No.	Name and Location	Date
1.	XLV Annual Athletic Meet 2023-24	29 th February, 2024

Agri-Meet : in Football (Men)

Sl. No.	Name and Location	Date
1.	Nil	Nil

Annual Cultural Programme

Sl. No.	Name and Location	Date
1.	Fresher's Welcome ceremony Nabarun – 2023	01.12.2023



Directorate of Extension Education at a Glance



The Directorate of Extension Education serves as the apex facilitating organ to take care of outreach to various clientele groups and other stakeholders across the South Bengal districts of the state through its various delivery units. Nine KVKs, including five KVKs under the direct administrative jurisdiction of the University, Agricultural Technology Information Centre (ATIC), and the Farmers' Academy Convention of Center (FACC), are the units for such technology dissemination.

Agricultural Technology Information Centre (ATIC)

ATIC at BCKV is equipped with a reception counter, exhibition/technology museum, touch screen kiosk, sales counter, and farmers' feedback monitoring system. Various services extended through offering the benefit of of technological supply/sale of farm organizing farmers' per the interests of 2023, a total of 6472 the ATIC. Total of books/technical among 2621 visitors. During 2023, nearly 883 kg of different technological inputs comprising a total value of seventy thousand rupees only were sold to different stakeholders.



ATIC range from diagnostic services, sale inputs among farmers, publications, and visits to various units as the farmers etc. In visits were recorded at 3886 numbers of bulletins were sold

Farmers Academy & Convention Centre (FACC)

The Farmers' Academy and Convention Centre (FACC), formerly Lake Hall, has emerged as a regional hub for agricultural education and outreach in Eastern India. It is a popular site for seminars, workshops, training programmes, symposia, and other social gatherings, offering a comprehensive area for educational institutions and organizations to organize various programmes under one roof. FACC continues to retain its reputation for excellence in transmission agriculture technology by conducting various training programs. FACC has modern amenities such as an air-conditioned auditorium with multimedia and internet access, as well as AC and non-AC rooms, a 100-seat dining hall, a 450-seat communal hall, and air-conditioned conference rooms.



Programmes conducted at FACC:

Sl. No.	Name of the Programme	Number
1.	Diploma in Agricultural Extension Services for Input Dealers (DAESI)	2
2.	Symposium/Conference /Workshop	2
3.	Exposure Visit	4
4.	Group Meeting / Review Meeting/Officers' Meeting	6
5.	Training Programme	3
6.	Reunion Programme	24

Revenue Generated by FACC in Financial Year 2023-24: Rs. 18.67 Lakh (approx.)

Recognition Received by the FACC:



FACC-BCKV being the top performing Nodal Training Institute of DAESI Programme in West Bengal, received the 1st prize for the academic year 2022-23

Technological Backstopping by Directorates of Extension Education (DEE, BCKV)

Research and Extension system interface Workshop / Capacity Building Programme Organized in 2023.

Sl No.	Title of the Training Programme	Duration	Participant
1	Contemporary Issues and Recommendations from Network Research in food crops for facilitating OFT proposals	19-20 Dec.,2023	29
2	Emerging crop management strategies in weather induced stresses	7-8 March, 2023.	26

Capacity Building Programs:

The Extension Education Directorate conducted various types of Capacity Building Programmes through KVKs and Farmer Training Centre (FACC) in 2023. Among the different training programmes, the majority were conducted for farmers and farm women (62.4%), followed by rural youth (6.9%) and extension personnel (30.7%).

Participants from different categories trained in 2023 through the Extension Directorate:

Clients group	HQ & FACC	Nadia KVK	Hooghly KVK	Howrah KVK	PurbaMedinipur KVK	Jhargram KVK	Total
Practicing Farmers	998	1900	4751	2501	5222	1638	17010
Rural Youths	0	284	384	1114	69	30	1881
Extension Functionaries	0	3083	1364	3061	796	46	8350
Total	998	5267	6499	6676	6087	1714	27241



NADIA KRISHI VIGYAN KENDRA

Nadia Krishi Vigyan Kendra is situated on the eastern side of West Bengal, with its headquarters in Krishnanagar, India. Geographically, the district lies at 23°47'N latitude and 88°56'E longitude in the new alluvial Gangetic plains of West Bengal. The blocks in the eastern part of the district are under the jurisdiction of the Nadia KVK.

In 2023, one of the burning issues regarding residue management of paddy after the Kharif season was addressed by Nadia KVK through their on-farm trial programme. After successful evaluation of the effect of different microbial consortia on crop residue management for paddy, the use of Pusa Decomposer and low-cost poly walking tunnel for additional off-season harvest of Pointed Gourd has been recommended. Nadia KVK also successfully standardized the process related to the preparation of compost from poultry litter. In this year, Mr. Saidul Islam, Programme Assistant of Nadia KVK, successfully achieved the Remote Pilot Certificate from the Director General of Civil Aviation, Government of India, of India for Agriculture Drone operations. Another grand success achieved during this year was driven by Mr. Nimai Mondal of Hanskhali, a farmer associated with Nadia KVK, who received the Genome Saviour Award for conserving folk varieties of rice under the PPV & FRA program.

During 2023, Nadia KVK organized 172 training programs involving 5267 participants, of whom almost 47% belong to the SC and ST communities. Nadia KVK conducted 167 extension activities with the participation of 6443 persons from various farming communities, of which more than 51% belong to the SC/ST community.

Technological intervention of KVKs through different approaches during 2023

Sl. No.	Activities	Magnitude
1.	Training (including skill training)	172 No./5267 participants
2.	On Farm Trial	08 No./57 participants
3.	Front Line Demonstration	108.1 ha/721 participants
4.	Other extension activities	167 Nos./6,443 participants
5.	Technological input Production at KVK farm	199.7 q
6.	Planting Material Produced	69,300 Nos.
7.	No. of soil health card issued	261 Nos.
8.	Media coverage	03 Nos.





HOOGLHY KRISHI VIGYAN KENDRA

The Hooghly KVK conducted various capacity-building programs in 2023. Among the different training programmes, the majority were conducted for farmers and farm women (73.1%), followed by rural youth (5.9%) and extension personnel (21%).

The Hooghly KVK is situated at its district headquarters, Chinsurah (Chuchura). The district is located at a latitude of 22°55' N and a longitude of 88°24' E, under New alluvial zone of Southern Bengal. The district occupies an area of 3,149 sq km.



During 2023, Hooghly KVK trained more than 100 rural youths in different blocks and helped them establish entrepreneurial units in poultry rearing, mushroom production, Vermicomposting and Vegetable seedling raising under the ARYA project and linked them with district lead banks for the submission of DPR. In addition, KVK provides market linkages for their produce.

During this time, the KVK actively participated in skill development training of more than



600 MGNREGA job card holders in association with the District Rural Development Cell, Hooghly Zilla Parishad, to upscale the economy and livelihood of the job card holders through small-scale entrepreneurship development in poultry farming and mushroom production.

In 2023, 178 training programs were conducted for 6,499 participants, of which approximately 52.7% belonged to the SC/ST community. Additionally, the Hooghly KVK organized 171 extension activities, reaching 45,682 beneficiaries, with approximately 42.1% from the SC/ST community.



Technological intervention of Hooghly KVK through different approaches during 2023

Sl. No.	Activities	Magnitude
1.	Training (including skill training)	189 No./ 6,499 participants
2.	On Farm Trial	9 No./ 74 participants
3.	Front Line Demonstration	86.4 ha/612 participants
4.	Other extension activities	171 Nos./7,742 participants
5.	Technological input Production at KVK farm	94.7 q
6.	Planting Material Produced	1,13,300 Nos.
7.	No. of soil health card issued	332 Nos.
8.	Media coverage	10 Nos.



HOWRAH KRISHI VIGYAN KENDRA

Howrah KrishiVigyan Kendra got sanctioned by Indian Council of Agricultural Research (ICAR) in the year 2005 under the administrative control of Bidhan Chandra Krishi Viswavidyalaya (BCKV). This KVK is situated at Jagatballavpur, Howrah under the New Alluvial Agro-climatic zone of West Bengal.



Technological intervention of Howrah KVK through different approaches during 2023

Sl. No.	Activities	Magnitude
1.	On Farm Trial	8 No.
2.	Front Line Demonstration	20 Nos. 68.27 ha/ 612 participants
3.	Other extension activities (Field Day, Advisory service, Diagnostic visits, KisanMela, Scientific visit to farmers field etc.)	390 Nos./23088 participants
4.	Technological input Production at KVK farm	56 q
5.	Planting Material Produced	5400 Nos.
6.	No. of soil health card issued	-
7.	Media coverage	25 Nos.



FARMERS OUT REACH PROGRAMME:

Activities	Nos.	Kg/no.	Participants details		
			Male	Female	Total
Other Extension Activities (Kisan Mela, Field day, Advisory service, field visit, Soil health camp, Swachhata activities, Rally, Exposure visit etc.)	390		5885	1657	23088
Drone Demonstration	2		90	22	112
Skill training programme for MGNREGA job card holders under project UNNATI	5		79	61	140
5 days skill development training	7		95	125	220
SCSP Programme (Distribution of seed, Poultry feed, Duckling, chick, Power sprayer, Spade etc.)	10	1650 kg seed & feed 6030 nos. inputs	354	811	1175
Out scaling of Natural Farming through KVKs	29		486	449	935
Total			6989	3125	25670

FARM ACTIVITIES:

Activities	Number / Quantity (q)
Seed Production (Paddy var. Swarna Sub-1, Radhuni Pagol, Gobindobhog, Bidhan Suruchi)	38.7
Planting Material Production (Exotic varieties, coconut & dragon fruit)	10000
Production of Organic inputs (Vermicompost)	18.5

SALIENT ACTIVITIES/ACHIEVEMENTS:

1. Howrah KVK has received GI authorization certificate on Gobindhobog during 2023-24.
2. During this year, Howrah KVK organized two DAESI courses with 80 participants.
3. Howrah KVK organized **Millet Mela** in its campus in collaboration with NYK.
4. Howrah KVK evaluated 10 numbers of FPO of Hooghly district as third party agency as nominated by SFAC, Department of Agriculture & Farmer Welfare, Government of India.
5. This year Howrah KVK has conducted tree plantation & distribution programme namely “Ek Ped Maa Ke Naam” to aware and mobilize different stake holders in this novel initiative



PURBA MEDINIPUR KRISHI VIGYAN KENDRA

Purba Medinipur District comprises of 4 Sub-Divisions namely Tamluk, Haldia, Contai, and Egra. The geographical area of the district is 430140 Ha. The Purba Medinipur District is geographically located between 21°36'35"N and 22°57'10"N latitude and 86°33"E and 88°12'40"E longitude. The district is surrounded by the Bay of Bengal and Balasore district of Orissa state in the South, Paschim Medinipur in its West, Howrah district in the North and South 24 Parganas in the east.



In 2023, the Purba Medinipur KVK conducted a program on the performance of different post-emergence herbicides for controlling weeds in Aman paddy. Triafamone 20% + ethoxysulfuron 10% WG @ 100 g/ha at 12 DAT had showed the best results in terms of yield and economic aspects of paddy. Technological intervention on OP varieties of brinjal (*Solanum melongena* L.) maintained by farmers of Purba Medinipur and OP cv. Muktakesi may be recommended for cultivation in Purba Medinipur. Another program was conducted on the effect of differences in the height of the shade net borj (betelvine growing structure) on the growth, yield, and quality of betel vine. The Kendra evaluated water-tolerant rice varieties at Purba Medinipur and recommended CR Dhan 409 for cultivation in water-logged or mid-low land situations in the Purba Medinipur district for higher yield and return. Different post-harvest treatments on seed quality of green gram in storage, study on effective management schedule of spray and root feeding application against *Eriophyid mite*, adoption of IPM technology for management of Coconut Rugose spiriling white fly, comparative study of the soil fertility status of different cropping systems in Nandakumar Block of Purba Medinipur District, aassessment of soil fertility status of different model established under Agro-Forestry and Value Chain Management for Doubling Farmers' Income in the New Alluvial Region of Purba Medinipur District was successfully arranged.



During 2023, it conducted 152 training programmes for 5222 participants, of which about 14% were from the SC/ST community. The KVK conducted 21 training programmes for extension personnel participation with 769 beneficiaries, of which around 14% were from the SC/ST community during 2023.



Technological intervention of KVKs through different approaches during 2023

Sl. No.	Activities	Magnitude
1.	On Farm Trial	11 No.
2.	Front Line Demonstration	39.5 ha& 132 units / 451 participants
3.	Other extension activities (Field Day, Advisory service, Diagnostic visits, KisanMela, Scientific visit to farmers field etc.)	1125 Nos./ 25,018 participants
4.	Technological input Production at KVK farm	15.84 q
5.	Planting Material Produced	95000 Nos.
6.	No. of soil health card issued	50 Nos.
7.	Media coverage	51 Nos.



JHARGRAM KRISHI VIGYAN KENDRA

The KVK is located at Kadamkanan, Jhargram (22.2721° N, 87.0035° E) in the Red and Lateritic Zone of West Bengal.

Technological intervention of KVKs through different approaches during 2023

Sl. No.	Activities	Magnitude
1.	On Farm Trial	6 Nos.
2.	Front Line Demonstration	17.9 ha/ 385 participants
3.	Other extension activities (Field Day, Advisory service, Diagnostic visits, KisanMela, Scientific visit to farmers field etc.)	498 Nos./3168 participants





Certificate course:

Diploma in Agricultural Extension Services for Input Dealers (*DAESI*)

The Extension Directorate has been implementing the Diploma in Agricultural Extension Services for Input Dealers (*DAESI*) course in collaboration with SAMETI and MANAGE. Five units under the directorate are implementing the course as Nodal Training Institute (NTI), namely, FACC, Hooghly KVK, Nadia KVK, Howrah KVK, and Purba Medinipur KVK.

The detail of the *DAESI* courses conducted upto 2023:

Name of the NTI	No of batch completed	Ongoing batch	Total Participants	Resource Generation (In Lakh)
FACC	10	2	480	96.00
Hooghly KVK	9	2	440	88.00
Nadia KVK	8	2	400	80.00
Howrah KVK	8	2	400	80.00
PurbaMedinipur KVK	4	2	240	48.00
Total	39	10	1960	392.00



Presently, there are 13 farms in different agro-climatic zones under this Directorate, with a total area of approximately 1257 acre. The farms are running with a vision to support the teaching, research, and production of quality seeds of different crops with different classes (breeder, foundation, and certified) with newly introduced variety projecting SRR at least 50% within the coming 3-4 years.

Production and Revenue

Production of seed in quintals

Year	Paddy	Pulse	Oilseed	Jute	Elephant foot yam	Turmeric	Sapling Production	Revenue Generation(Rs.)
2023-24	3060	150	12	1	50	75	12000	10124457



Crop cultivation at C-block Farm Kalyani



Crop Cultivation at Mondouri Farm



Crop Cultivation at Balindi Farm



Papaya production at D- Block Farm



Paddy cultivation at Chakdaha RRSS

Facility development

Mechanization has been well received in India as one of the important elements of agricultural modernization, enhancing agricultural productivity and consequently rural prosperity. Farm mechanization plays a vital role in increasing agricultural productivity and reducing the cost of cultivation. Quality seed production is a very important task for our institution to cater to the seed among farmers to increase their production and improve their livelihood. Seed-grader machines play a vital role in the production of quality seeds. In this regard, the state government has supported us by facilitating two (2) seed grader machines for different farms under the RKVY project, with a one-time assistance (OTA) amounting to Rs.15.3 lakhs. In addition, we have been able to purchase two tractors to facilitate the cultivation program from our own revenue generation. Solar light installation is another step towards eco-friendly agriculture.



Tractor working in the Farm



Solar light at Mondouri Farm



Under the RKVY project, an amount of Rs.6.84 crore has been sanctioned to develop different infrastructure in different farms, such as seed godowns, threshing floors, irrigation facilities, pucca roads, etc., with a view to producing more quality seeds. All work has been completed.



Godown developed under RKVY at Mondouri Farm

Fish is one of the most popular food items on the menu of almost 60% of Indians. Fish is the main ingredient in Bengali dishes. Market demand is always high for fish items. Considering the global demand, the total requirement becomes extremely high. The main source of fish is from the sea, but the global fish harvest from the sea is decreasing rapidly. Fish cultivation in sweet water is increasing, with a prominent future market. Considering this, we have converted another five acres of uncultivated lowland to water bodies for fish cultivation, which in turn will save biodiversity and act as a reservoir of water for agricultural irrigation purposes.



Pond developed at Balindi Research Complex





Pond developed at RRSS Chakdaha under MGNREGA

Fruit trees contribute to the environment in many ways, providing oxygen and improving air quality. Climate amelioration, conserving water, preserving soil, and supporting revenue generation by producing fruits. We have developed approximately 7 acres of mango, mosambi, jackfruit, cashew nut, coconut, areca nut, and litchi plantations on different farms of BCKV this year.



Orchard development in the Farm of BCKV



Mango at CRF Gayeshpur

To transfer the innovative technology to the farmers, we have conducted six hands-on training sessions for the farmers in different districts of West Bengal, two field days, and attended three Krishi Mela with stalls having different farm produce, seed displays, agriculture literature, etc. The stall from the Directorate of Farms stood First in the Krishi Mela, organized by BCKV.





First prize received being best stall at Krishi Mela of BCKV



Prize receiving moment

CENTRAL LIBRARY

The Central Library of Bidhan Chandra Krishi Viswavidyalaya holds a unique position by contributing to academic excellence and research competence in all segments of the university's academic structure. It is housed in a colossal four-storied eye-catching building on the Mohanpur campus. Being in the center of the campus, it is easily accessible from all corners of the university. This building has a carpet area of approximately 81,000 sq. ft.

The library caters to the study and information needs of students, faculty members, scientists, research scholars, extension personnel, officers, and other staff members of the university. The library also provides consultation facilities to outside scholars, teachers, and students of other universities, as well as ex-students of this university, as per the Library Rules.



Different Sections:

For smooth functioning of the library it is divided into nineteen inter-linked sections:

- ❖ Circulation & 'Book Bank'
- ❖ Reference & Reading
- ❖ Career Corner
- ❖ Acquisition & Processing
- ❖ Newspaper Zone
- ❖ CABI Access Zone
- ❖ Internet / e-resources Zone
- ❖ Bound Periodicals
- ❖ Report Section
- ❖ Current Periodicals
- ❖ Thesis and Dissertation
- ❖ Reprography Units
- ❖ Loose Journal Zone
- ❖ Old & Rare Books



- ❖ Conference Room
- ❖ Book Exhibition Arena
- ❖ Book Stack Unit
- ❖ Binding Section
- ❖ Special collection Section

Learning Resources:

Print resources:

The Central library has a rich collection of **80904** + Books, **1191** Journals Titles, 6191 Loose Journals & Periodicals and **25,043** Volumes of Bound Journals, **40** Popular Magazine **6489** Ph.D. & M. Sc. Thesis, more than **4402** Reports, 826 Non-Book Materials and many other reference materials.

Electronic resources:

The library is further enriched by its own subscription of e-books & databases and the vast collection of CeRA initiative of ICAR. The library is further enriched by its own subscription of e-books & databases and the vast collection of CeRA initiative of ICAR. The library is further enriched by its own subscription of e-books & databases and the vast collection of CeRA initiative of ICAR.

Most of the agriculture related e-journals and highly demanded e-books from selected publishers are available in CeRA. Users access these online resources through remote login ID and password. Using this online platform library patrons place demand to the other libraries under CeRA umbrella for journal articles. Through the 'Admin' link, the Librarian of concerned institution can access this module by providing the unique Username and Password to fulfill the requests received from other Institutes/Universities. This library also extends the same service to other institutions.

Facilities & Services:

Utilizing its vast collection of learning resources the central library provides following offline and online services through nineteen well defined sections:

- ❖ Reference and Referral
- ❖ Computerized Circulation
- ❖ Current Awareness
- ❖ Book Bank
- ❖ Wi-Fi Facilities
- ❖ Current and Bound Journals (Print)
- ❖ Thesis and Dissertation
- ❖ Similarity check for plagiarism detection
- ❖ Photocopy
- ❖ Audio-visual
- ❖ Internet surfing



- ❖ Inter-Library Loan
- ❖ Database Search
- ❖ Online Electronic books & journals.
- ❖ Document delivery service under CeRA

Library Extension Activities:

The Central Library does not remain confined to traditional library services only but takes the privilege of providing library extension services in various ways for the benefit of the user community. These are as follows:

- Library Orientation programmes - AV demonstrations are arranged every year for freshers as a part of the library orientation programme.
- DDR Services - To provide DDR services to students and research scholars of other ICAR institutions and SAUs are being done regularly through the CeRA platform.
- Theses Repository - Uploading of soft copies of theses is done regularly through the 'Krishikosh' platform of ICAR to make the institution's intellectual output visible globally and to increase the strength of the knowledge network of agricultural scientists.
- Plagiarism Detection - The mandatory checking of similarity for plagiarism detection of M.Sc. & Ph.D. theses have been done centrally to maintain the academic integrity and quality of research.
- LIS Course - Conducts a common credit course on 'Library and information services' for its students as per the ICAR mandate.



NSS ACTIVITIES DURING THE ACADEMIC YEAR OF 2023-24

REGULAR ACTIVITY:-

- **Republic Day:** On 26th January 2023, NSS-BCKV observed Republic Day on the three campuses of BCKV with full enthusiasm in association with all the divisions of the university. NSS volunteers and all other students participated in rally, flag hoisting, cleaning campuses, tree planting, etc. and the celebration ended with a beautiful cultural program.
- **Independence Day Celebration:** On 15th August 2023, NSS-BCKV observed Independence Day in all the three campuses, BCKV with full enthusiasm. The Honourable Vice Chancellor of BCKV hoisted the National Flag at the Mohanpur campus. The volunteers participated in a colourful rally, flag hoisting, cleaning campuses, tree planting, etc. The celebration ended with a beautiful cultural program in the presence of NSS officials, teachers, and other employees of BCKV in the Convocation Hall.
- **Birthday of Dr. Bidhan Chandra Roy:** Birthday of Dr. Bidhan Chandra Roy on 1st July 2023, was celebrated at BCKV, Mohanpur campus. Honourable Vice-Chancellor of BCKV presided over the function. The programme started with garlanding to the statue of Dr B. C. Roy followed by valuable speeches of different dignitaries present in the occasion. A cultural program, poster competition, and refreshments were also arranged.
- **BCKV Foundation Day:** On September 1, 2023, NSS-BCKV observed BCKV Foundation Day at all three 3 campuses of BCKV. NSS volunteers and all other students participated in the program, including a cultural program.
- **Swachh Bharat Pakhwada:** Like other years, NSS-BCKV observed Swachh Bharat Pakhwada during the period from 1st to 15th August 2023, with the active initiative and participation of all the departments and divisions of the university. NSS volunteers, along with teachers and officials, took an oath to keep the university and our country clean on 1st August and took the initiative to clean the university and adjoining areas regularly. Volunteers kept a keen eye and actively participated in cleaning the respective campuses, offices, classrooms, faculty buildings, farms, and hostel premises with the appeal of a 'Green Campus- Clean Campus.'
- **International Day of Yoga:** NSS-BCKV observed the International Day of Yoga on 21st June 2023 at the Mohanpur campus. The Honourable Vice Chancellor of BCKV inaugurated the camp. A Yoga trainer demonstrated some yogasana, pranayama, and free-hand exercises to NSS volunteers and described their usefulness. Approximately 300 volunteers attended the program.



- **Vanamahotsava:** One hundred saplings of different fruit and flower trees were planted by NSS Volunteers on June 5, 2023, in the presence of the Honorable Vice-Chancellor and other officials of BCKV on the eve of World Environment Day.
- **World AIDS Day:** A special camp was organized on 1st December 2023 at BCKV to raise awareness among students about HIV/AIDS. An expert on HIVS/ AIDS delivered a special lecture on this topic. A folk team associated with the Department of Health and Welfare, Govt. of West Bengal presented a short drama on this topic to make NSS volunteers aware of this deadly disease.
- **Swachhha Bharat Aviyaan:** NSS volunteers participated in a venture to keep clean their campus regularly under the supervision of NSS Officials during their NSS classes and holidays. A special drive was given on 15th December 2023 and 27th December 2023. On those days, they made a rally with relevant posters and slogan to develop consciousness among the local people, as a routine class volunteers started the cleaning venture from their classroom, laboratories etc. and then proceed to surrounding areas for dusting of bleaching powder, cleaning and vacating of stagnant water pots to control mosquitoes, cleaning of Parthenium weed etc.

Special Programme

- **Biti Banchao, Biti Padao:** A special programme & seminar was organised by the NSS-BCKV to save & educate girl child. Many resource persons & 350 volunteers attended the programme. A cultural programme was presented by the girl student volunteers.
- **Camp On First Aid:** One day camp was arranged on 12th June. 2023 at J. N. M. Hall, Mohanpur for the NSS volunteers with the guidance of Medical team of BCKV on first aid. DR K. Chatterjee, the medical officer of our university and his associates trained the volunteers the art of first aid. All the NSS officials were present in the camp.
- **Awareness Training on Controlling Fire:** At Mohanpur Campus, NSS Unit, BCKV organized an awareness programme on ‘How to Control Fire?’ on 12 July 2023 at their scheduled morning class. University Security Officer, as an expert, showed them how to use fire extinguisher and gave a wonderful demo to the NSS volunteers



TECHNOLOGY /PATENT /VARIETY DEVELOPED (2023-2024)

1. Effect of Organic Stimulants on Chrysanthemum

Biostimulants and biofertilizers positively influenced flower production in the chrysanthemum variety *White Jem*. The best results for cut flower production were achieved using 75% of the recommended NPK dose (100-150-100 kg/ha) combined with seaweed extract (IFFCO Sagarika @ 3 ml/litre of water), applied at 30, 60, and 90 days after planting. Additionally, 75% of the recommended NPK dose along with soil drenching of PSB, Azotobacter, and Azospirillum (@ 2 g/liter, 10 days after planting) was also found to be highly effective.

[Source: *Proceedings of the XXXI Annual Group Meeting of AICRP on Floriculture held during 18th to 20th January, 2023 in Workshop proceedings No. FNo.Hort.9-3/2023HS-II(E-255771), Page No. 43*].

2. Standardization of Silica Oxide dosage in Tuberose

For the tuberose variety *Prajwal*, using the recommended fertilizer dose (NPK: 200-200-200 kg/ha) along with silica oxide @ 75 kg/ha as basal and a foliar spray of 1% silica oxide at 25 and 50 days after planting yielded the highest loose flower production. Meanwhile, applying 2% silica oxide as a foliar spray with the same basal dose resulted in the highest bulb production.

[Source: *Proceedings of the XXXI Annual Group Meeting of AICRP on Floriculture held during 18th to 20th January, 2023 in Workshop Proceedings No. FNo.Hort.9-3/2023HS-II(E-255771), Page No.43*].

3. Standardization of Silica Oxide dosage in Gladiolus

In *Gladiolus* variety ‘American Beauty’, both basal and foliar applications of silica oxide enhanced cut flower production. Applying silica oxide @ 75 kg/ha as a basal dose along with the recommended NPK dose (200-100-200 kg/ha) proved optimal for cut flowers, while using 100 kg/ha silica oxide as a basal dose along with either 1% or 3% foliar spray significantly increased corm and cormel production.

[Source: *Proceedings of the XXXI Annual Group Meeting of AICRP on Floriculture held during 18th to 20th January, 2023 in Workshop Proceedings No. FNo.Hort.9-3/2023HS-II(E-255771), Page No.43*].

4. Influence of Pinching and Light on Pot Mum Production

In the chrysanthemum variety *Bidhan Chitra*, two-season observations indicated that planting in September combined with double pinching (first pinch two weeks after planting and second pinch two weeks after the first) resulted in the highest flower yield.

[Source: *Proceedings of the XXXI Annual Group Meeting of AICRP on Floriculture held during 18th to 20th January, 2023 in Workshop proceedings No. FNo.Hort.9-3/2023HS-II(E-255771), Page No.43*].



5. Enhancing Chrysanthemum Quality through Light Management

Chrysanthemum var. *White Jem* grown under a naturally ventilated polyhouse, all light treatments enhanced cut flower production. Notably, using white light for four hours from 6 PM to 10 PM significantly improved flower yield, whereas yellow light alone or in combination with white light also provided positive results.

[Source: Published in Proceedings of the XXXI Annual Group Meeting of AICRP on Floriculture held during 18 to 20 January, 2023 in Workshop proceedings No. FNo.Hort.9-3/2023HS-II(E-255771), Page No.43].

6. Optimizing Micronutrient doses for Chrysanthemum

Application of different micronutrients benefitting cut flower production of Chrysanthemum var. *White Jem*, with the best outcomes using the recommended NPK dose (100-150-100 kg/ha) along with soil application of Zn (2.5 kg/ha), Mn (2.5 kg/ha), B (1 kg/ha), and Fe (1.25 kg/ha), followed by foliar sprays of Zn EDTA, Mn EDTA, B, and Fe EDTA (@ 0.1%) at 30, 45, and 60 days after planting.

[Source: Proceedings of the XXXI Annual Group Meeting of AICRP on Floriculture held during 18th to 20th January, 2023 in Workshop proceedings No. FNo.Hort.9-3/2023HS-II(E-255771), Page No.43].

7. Optimizing Micronutrient doses for Marigold

In *Bidhan Gold* marigold, applying the recommended NPK dose (90-90-75 kg/ha) alongside soil application of Zn (5 kg/ha), Mn (5 kg/ha), B (2 kg/ha), and Fe (2.5 kg/ha), followed by foliar sprays of Zn-EDTA + Mn-EDTA + B + Fe-EDTA (@ 0.2% each) at 30, 45, and 60 days after planting yielded the highest loose flower production.

[Source: Published in Proceedings of the XXXI Annual Group Meeting of AICRP on Floriculture held from 18th to 20th January 2023 in Workshop Proceedings No. FNo.Hort.9-3/2023HS-II(E-255771), Page No.43].

8. Kaveri Kalki: High-Yielding Dwarf Banana

This variety was developed through multi-locational trials carried out in seven states, including West Bengal (BCKV), under the ICAR- All India Coordinated Research Project (Fruits). Kaveri Kalki is a “Kanthali type” dessert banana, belongs to Pisang Awak sub-group (Musa ABB). Compared with the traditional variety (Desi Kanthali), this variety has a higher yield (37.24 t/ha), early flowering, shorter crop duration (336.25 days), and dwarf stature (1.89 m). It is ideal for high-density planting, exhibits strong wind tolerance, and is suitable for cultivation in West Bengal.

[Source: Comprehensive Production Guide and Regional Technology Compendium for Banana, Copyright 2023 @ ICAR- AICRP, pages 47-49].

9. Popoulu: High-Yielding Dual-Purpose Plantain

“Popoulu” (AAB, Plantain), an introduced dual-purpose variety suitable for both dessert and processing uses, has emerged as a promising cultivar through multi-locational trials carried out in seven states, including West Bengal (BCKV) under ICAR-All India Coordinated



Research Project (Fruits) trials. With a dwarf stature (2.39 m), shorter crop duration (285.07 days), and impressive yield potential (33.00 t/ha), it outperforms traditional 'Nendran' plantain. This variety is especially suitable for banana chip processing industries, promoting both nutritional security and agro-industrial linkage.

[Source: *Comprehensive Production Guide and Regional Technology Compendium for Banana*, Copyright 2023 @ ICAR AICRP, Pages 44-46].

10. Low-Cost Farmer-Friendly Banana Propagation

A simplified and cost-effective propagation technique for banana has been standardized using apical dominance removal and hormonal activation of latent buds from healthy corms collected from healthy mother plants of the desirable banana variety. This technology ensures a plantlet multiplication rate of 17.26–22.15 per corm in just 3–4 months (three cycles/year); thus, this method is economical, costing as little as Rs. 5.57 per plant, compared to Rs. 10–15 for tissue-cultured plants. A small-scale model unit (36 m²) requires an investment of only Rs. 45,000 and can yield a net profit of Rs. 57,000 annually, thereby promoting rural entrepreneurship and employment in the area.

[Source: *Comprehensive Production Guide and Regional Technology Compendium for Banana*, Copyright 2023 @ ICAR- AICRP, pages 87-94].

11. Foliar Nutrition in Grass Pea

In West Bengal, using the recommended NPK dose (20-40-40 kg/ha) with foliar Panchagavya (@ 3%, 30 g/liter) at key stages (40 DAS, 65 DAS post-cutting, and 50% flowering) in *Lathyrus* maximized green forage, dry matter, and seed yield, while improving soil pH and organic carbon.

[Source: *Published in Workshop proceedings ICAR-IGFRI Annual report 2023-24*, Page No 213-215].

12. Enhancing Fodder Maize Productivity with Nano-Urea

In West Bengal, integrating the recommended NPK (20-40-40 kg/ha) with a foliar application of Panchagavya (3% or 30 g/liter) at 40 DAS, 65 DAS (post-cutting), and at 50% flowering significantly enhanced green forage, dry matter, and seed yield in *Lathyrus*. Additionally, this practice improved soil pH and organic carbon status—offering both productivity and sustainability benefits.

[Source: *Published in Workshop Proceedings (ICAR-IGFRI Annual report 2023-24*, Page No. 213–215)].

13. Promising Forage Lathyrus Entry KL-5

The forage *Lathyrus* entry KL-5, developed by BCKV, Kalyani, through single-plant selection, demonstrated significant superiority in green forage yield (GFY) and dry matter yield (DMY) over the national checks, Mahateora and Prateek. It also has a higher crude protein content, making it suitable for release in the Bundelkhand regions of Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Jharkhand, Bihar, West Bengal, and Assam.

[Source: *Published in Workshop Proceedings (National Group Meet – Rabi 2023 on 26-27 September 2023)*].



14. Integrated Farming System Model for West Bengal

The AICRP-IFS, BCKV, in collaboration with ICAR–Indian Institute of Farming Systems Research, developed and validated, an Integrated Farming System (IFS) model for West Bengal on 0.66 ha, integrating cropping systems (Rice–mustard–okra; Rice–maize + potato–greengram; Rice–lentil–sesame, 0.12 ha), kitchen garden (Amaranthus–brinjal + coriander leaf–bitter gourd; Baby corn–dolichos beans–bottle gourd, 0.03 ha), raised beds (EFY–brinjal–EFY; Ridge gourd–potato–pumpkin; Okra–bottle gourd–poi; EFY–marigold–EFY; Maize–brinjal–greengram), sunken beds (Rice–cum–fish culture: Aman rice + fish–fish–boro rice, 0.20 ha), fodder (Napier + fodder maize–Napier + oats–Napier + gama grass, 0.06 ha), horticulture (Banana + jackfruit, 0.045 ha; Guava, 0.045 ha; Betel nut and lemon boundary plantation, 0.113 ha), dairy (crossbred cows and calves, 0.052 ha), and goatery–fishery (Catla, Rohu, Grass carp, Mrigal, 0.09 ha), promoting resource recycling, stable income, and farm resilience.

[Source : *ICAR-NRM-IIFSR-Technology-2023-001 dated 16 July 2023*].

15. Baby Corn-based Intensive Cropping System

A continuous baby corn cultivation system involving FYM (15 t/ha/year) and full-dose fertilizers (150:60:40 NPK kg/ha) across both the kharif and rabi seasons has shown excellent potential in the new alluvial zones of West Bengal. The system supports enhanced productivity, profitability, and nutrient-use efficiency.

[Source: *Annual Report, AICRP on Maize, Kharif 2023*.]

16. Crop Residue Management in Maize Systems

Incorporating previous crop residue (rice straw @ 5t/ha) along with microbial consortia (easy crop residue decomposer) application significantly increased maize grain yield and net returns in the rice-maize cropping system. Applying 100% recommended doses of nitrogen and phosphorus with 50% doses of potassium achieved higher yields (19%) compared to conventional full-dose NPK applications (150:75:75 kg/ha), ensuring sustainable residue and nutrient management while improving farm profitability.

[Source: *Annual Report, AICRP on Maize, Kharif 2023*].

17. Nutrient Management in Rice-Maize Systems

Zero tillage combined with site-specific nutrient management guided by software-based fertilizer calculators (for specific crops in specific zones based on soil type and nutrient availability in soil) in rice-maize systems has significantly improved maize yields and net returns over conventional tillage systems. Furthermore, GreenSeeker (instrument, used to study greenness or chlorophyll content of leaves)-assisted nitrogen application optimized greenness and reduced fertilizer input costs, paving the way for precision agriculture adoption.

[Source: *Annual Report, AICRP on Maize, Kharif 2023*].



18. Efficacy of New Fungicides in Maize Disease Management

The combination fungicide **Azoxystrobin + Difenoconazole** (@ 0.10%) applied at 3 and 18 days after inoculation achieved the maximum disease control (50.4%) and 72.21% yield enhancement in maize.

[Source: Published in *Proceedings of 63rd Annual Maize Workshop (Year 2023 Kharif, Page No. Pathology 58)*].

19. Propagation of Madhunashini (*Gymnema sylvestre*)

At BCKV, treating Madhunashini cuttings with 250 ppm IBA in October resulted in a 70% sprouting success. This standardized propagation method offers a reliable and scalable way to expand the cultivation of this antidiabetic medicinal plant.

[Source: Published in *Proceedings, XXX Group Meeting of AICRP on Medicinal and Aromatic Plants & Betelvine (23-24 January 2023)*].

20. Integrated Disease Management in Vegetables

• IDM in Cucurbits

The use of border crop (two rows of maize as border crop), agri-silver mulch, seed treatment (Carbendazim 12% + Mancozeb 63% @ 3 g/kg), drenching (Captan 70% + Hexaconazole 5% WP @ 0.1% at 15 days after germination), and sequential fungicide and insecticide sprays (tebuconazole 50% + Trifloxystrobin 25% @ 1 g/L + spray with (imidacloprid 17.8SL @ 7.5 ml/ 15 L + Neem oil 0.2%) followed by fosetyl-al @ 0.1%, tebuconazole 50% + trifloxystrobin 25% @ 1 g/l + spray with (imidacloprid 17.8sl @ 7.5 ml/ 15l + neem oil 0.2%) and fosetyl-al @ 0.1% at 10 days interval) significantly reduced fungal (61.39%) and viral disease (53.03%) incidences in bottle gourd while increasing yields (57.18%).

[Published in *Proceedings of 41st Group Meeting (No. 41st/Year 2023, Page No. 87)*]

• IDM in Tomato

Combining soil amendment with lime (300 kg/ha), seed (@ 10 g/kg seed), and seedling treatment (seedling dip with *P. fluorescens* @ 1%), and soil drenching with *P. fluorescens* @ 1% thrice at 10 days interval starting from 20 days after transplanting effectively managed bacterial wilt incidence (77.63% reduction) in tomato.

[Source: Published in *Proceedings of 41st Group Meeting (No. 41st /Year 2023, Page No. 89)*].

• Virus Management in Bitter Gourd

A combination of barrier crops (two rows of closely spaced maize), mulching with black-silver plastic mulch, installation of yellow sticky traps, and sequential sprays using microbial consortia (Arka Microbial Consortia @ 5 ml/l), seaweed extract (sea weed extract @ 0.2%), and pyriproxyfen (@ 0.1%) at 10 days intervals significantly reduced mosaic disease severity (61.81%) and increased yield (51.23%) and ICBR ratio (6.96) in bitter gourd.

[Source: Published in *Proceedings of 41st Group Meeting (No. 41st /Year 2023, Page No. 89)*].

• Virus Management in Okra

Mulching with silver polythene, seed treatment (Thiomethoxam 30% FS @ 4g/kg of seed), and sequential sprays of insecticides (pyriproxyfen (5% EC) + fenpropathrin (15 % EC) @



1ml/l, Spiromesifen (22.9% SC) @ 1 ml/l, Buprofezin 25% SC @ 2 ml/l, and neem oil @ 3ml/l at 10 days interval) reduced yellow vein mosaic virus severity (85.50%) in okra, significantly increasing yield (73.97%) and economic returns.

[Source: Published in Proceedings of 41st Group Meeting (No.41st /Year 2023, Page No. 90].

21. Developed mono-phasic protocol of micropropagation of the indigenous small potato cultivar Badami alu

Rapid *in vitro* mass propagation protocols have been developed for the first time on the indigenous small potato cultivar Badami alu for its popularization and genetic improvements. The specialities of this cultivar are early maturity (95 days), small reniform-shaped and reddish-purple colored tubers, and high palatability. The uniqueness of the newly standardized micropropagation protocol is the use of low concentrations of plant growth regulators and simultaneous mono-phasic multiple shoot-root development instead of conventional bi-phasic, time-consuming micropropagation systems.

[Source: Published in Plant Cell Tissue and Organ Culture 2023, 155: 485-493]

22. Development of stevia mutant lines with higher steviol glycoside content using gamma irradiation

Using *in vitro* mutagenesis (optimized 18 Gy gamma-ray dose), mutant lines of Stevia (popular as “Candy leaf” or “Sweet leaf”) with 60% higher rebaudioside-A (natural non-caloric sweetener, which is highly water soluble and has higher sweetening property i.e., 240-folds sweeter than sucrose) have been developed along with their standardized high-frequency mass multiplication (via *in vitro* and *ex vitro* methods), and the mutant lines have recently been approved for a multilocation trial under AICRP on Medicinal and Aromatic Plants & Betelvine.

[Source: Published in South African Journal of Botany 2023, 159: 405-418; Plant Cell Tissue and Organ Culture 2024, 159: 34; Proceedings of 32nd Annual Group Meeting ICAR-AICRP on Medicinal and Aromatic Plants & Betelvine]

23. Development of protocol on high-frequency micropropagation and tetraploidization of gerbera hybrid

A *meta*-Topolin (novel cytokinin)-mediated high-frequency *in vitro* mass propagation protocol of a newly developed gerbera hybrid (BGC-2019-01) was optimized. The hybrid gerbera is undergoing a multilocation trial under the AICRP on Floriculture. In addition, using 0.1% anti-mitotic agent (colchicine) for 4 h, the tetraploid of this gerbera hybrid was developed with larger flowers and thicker and longer stalks.

[Source: Published in South African Journal of Botany 2023, 153:236–245; 3 Biotech 2023, 13:74].

Patent Granted during 2023-24

SL. NO.	Patent Title	Patent No.
1	Solar Assisted Seed Breeding Chamber	382186-001
2	Novel IoT-based inventory management system with radio-controlled	Nr 20 2023 102733

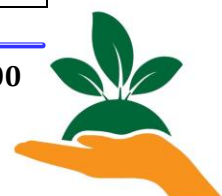




Fig. Kaveri Kalki: High-Yielding Dwarf Banana



Fig. Low-Cost Farmer-Friendly Banana Propagation



Fig. Popoulu: High-Yielding Dual-Purpose Plantain



Fig. Micropropagation of indigenous small potato cultivar *Badami alu* (Source: *PCTOC* 2023, 155: 485-493)



Fig. Stevia mutant lines with higher steviol glycoside content using gamma irradiation
(Source: *Gantait et al. 2025*)



Fig. High-frequency micropropagation and tetraploidization of gerbera hybrid (Source: *Mahanta & Gantait 2025*)

Facilities Developed during 2023-24

Sl. No.	Facility/Development	Location/Project	Details
1	Ber orchard (0.5 bigha)	RRS, BCKV, Kakdwip	The most popular ber cultivars namely “Bao Kul” was planted.
2	Installation of new agromet instruments	RRS, BCKV, Kakdwip	Under GKMS project
3	Fruit orchard (0.5 bigha)	RRS, BCKV, Kakdwip	Mixed fruit orchard including jackfruit, pomegranate, lemon and guava
4	Germplasm block	RRS, BCKV, Kakdwip	Paddy against salinity stress
5	Facility development	RRS, BCKV, Kakdwip	Improving Quality of Life of Rural People of Sundarban Delta Funded by RIDF-XX Project:
6	Drumstick orchard (0.05 bigha)	RRSS, BCKV, Raghunathpur	A drumstick plants
7	Fruit orchard	RRSS, BCKV, Raghunathpur	Local variety fruit plants
8	Banana Germplasm Block: 700 sqm.	RRSS, BCKV, Sekhampur	Regional banana cultivars, including ABB and AAB groups, preserving varieties like Kachkela, Kathali, Champa, Martaman, and seeded bananas
9	Mango Grafted Orchard: 1 Acre	RRSS, BCKV, Sekhampur	Amrapalli variety
10	Germplasm Block	Dept. Genet & Plant Breeding	Maintained diverse 557 Rice, 277 lathyrus, 40 cowpea, 400 chickpea, 114 urdbean, 230 mungbean, 200 mustard and 1479 Lentil genotypes
11	Germplasm block	Dept. Genet & Plant Breeding	Maintained in vitro cultures of banana (G9), potatoes (6 cultivars), Stevia, Gerbera, Mentha
12	Germplasm block	Dept. Genet & Plant Breeding	rice and Lentil, each comprising >180 individual homozygous lines.
13	Developed laboratory facilities	Dept. Genet & Plant Breeding	Purchased Soxhlet apparatus and ultra-sonicator for secondary metabolite extraction
14	Developed laboratory facilities	Dept. Genet & Plant Breeding	For different types of experiments.
15	Germ plasm block and garden	Department: Floriculture & Landscape Architecture	40 cultivars of Hybrid tea rose, 10 cultivars of Floribunda rose, 10 cultivars of hybrid Lotus,, germplasms of Clitoria and Hibiscus
16	Fruit Orchard: 2 ha	Department of Agril Entomology	Banana, Mango, Guava, Litchi
17	Germplasm block: 10000-20000 sq.m.	Department of Agril Entomology	Green gram, Black gram, Lentil, Lathyrus and Fieldpea depending



Sl. No.	Facility/Development	Location/Project	Details
18	Facility developed	Post Harvest Engineering	upon the crop season Facility for extraction of mustard oil under the ICAR-Revolving Fund
19	Infrastructure developed	Department-Fruit Science	fruit crop breeding and multiplication centre
20	Orchard developed: 2 bigha	Department-Fruit Science	Avocado
21	Germplasm block: 3 Bigha	Department-Fruit Science	Mango at Mondouri Farm.
22	Development of shade net house (200 m2);	Department of Vegetable Science	for raising high value vegetables
23	Germplasm blocks	Department of Vegetable Science	Maintenance of different germplasm of tomato (60 nos.), brinjal (48 nos.), chilli (48 nos.), fava bean (50 nos.), sponge gourd (25 nos.)
24	Germplasm block	Dept. Floriculture and Landscape Architecture	Collected and maintained germplasms of Clitoria and Hibiscus
25	Facility Centre	Department of Plant Pathology	DNA Fingerprinting Centre, approved by ICAR to provide service of DNA fingerprinting of the germplasm/cultivars/varieties of root and tuber crops
26	Laboratory facility	Department of Plant Pathology	Funded by RNARC, Mumbai, Trombay, GOI.
27	Two-storey building (Advanced virus and other pathogens diagnostic and Testing Service Centre)	Department of Plant Pathology	Funded by RKVY-RAFTAAR, GOI
28	Germplasm (1000 sqm area)	Department of Plant Pathology	500 germplasms
29	Germplasm blocks	Department of Plant Pathology	30 germplasm of aromatic and local rice to observe the resistance reaction against different diseases
30	Germplasm block	Department of Plant Pathology	Developed Tuber Crops Field Gene bank: Total 423 germplasms of root and tuber crops
31	Laboratory established	Department of Plant Pathology	Sponsored by CIMMYT, Mexico



Health Centre

The BCKV Health Centre provides free medical advices, free investigations and required medicines to the students of this University. Staff and their family members are benefited with free medical advice, investigations with nominal charges along with emergency medicine only.

FACILITIES AVAILABLE:

- 1) Consultancy /expertise opinion. Students, staff and their family members are directly seen and addressed by the university doctor, bckv, health centre.
- 2) Supply of available medicines to the students only.
- 3) Dressing of cuts, wounds, burns etc. Are done in properly Sterilised manner.
- 4) Kepping of patients under observation.
- 5) X-ray with reports.
- 6) Ecg with reports.
- 7) Baseline and advanced pathological – cum-biochemical
Tests like: (1) lipid profile
(2) thyroid hormones.
(3) uric acid.
(4) other hormonal assays.
- 8) 24 x 7 services of university ambulance.
- 9) Nebulisation facility.
- 10) Oxygen inhalation facility.
- 11) overall the unit is trying to touch life.

VARIOUS MEDICAL ACTIVITIES:

Bidhan Chandra Krishi Viswavidyalaya HEALTH CENTRE, a small OPD Unit, unique of its own, along with its staffs are serving the students and employees (including their dependents) of this University throughout the year.

The students who mostly reside in the hostel (except very few) are served with First-Aid & various other medical necessities with the available resources of this centre.

On an average of around 55 students are treated and advised in a week from this centre. Apart from that the students also get benefited by expertise opinion beyond office hour.

This unit is also well equipped with certain diagnostic tools and at the same time providing with some baseline investigations of Blood profile.

As previous years, this year also the Medical Unit has examined the new admissions of students in under graduate and post graduate levels.

In the year 2008, a number of modernize and advanced diagnostic equipments were purchased for this Health Centre namely “AUTO ANALYSER”, “COMPUTERISED ECG



MACHINE” & “X-RAY MACHINE” from Student Amenities Grant ICAR which are now functioning to meet the necessities of the patient. Apart from this in the year 2010 “HEMATOLOGICAL AUTO ANALYSER” and “ULTRA SONOGRAPHY MACHINE” was purchased to boost up the diagnostic facilities of this unit. The old X-Ray Machine was changed to Digital X-Ray machine which was purchased in the year 2016.



The Dispensing Counter of the BCKV Health Unit

Statistics about services in the year 2023

No. of patients seen per day 2023 (Calculated on average basis):

Students :

Patients	Working days	Monthly	Yearly
12	26	12 X 26 = 312	312 X 12 = 3744

Staff :

Patients	Working days	Monthly	Yearly
4	26	4 X 26 = 104	104 X 12 = 1248

Pathological Investigation :

Patients	Working days	Monthly	Yearly
2	26	2 X 26 = 52	52 X 12 = 624

X-Ray :

Patients	Working days	Monthly	Yearly
1	26	1 X 26 = 26	26 X 12 = 312

ECG :

Patients	Working days	Monthly	Yearly
1	26	1 X 26 = 26	26 X 12 = 312





ECG Unit of BCKV Health Centre



X-Ray Unit of BCKV Health Centre

The BCKV Health Centre provides free medical advices, free investigations and required medicines to the students of this University. Staff and their family members are benefited with free medical advice, investigations with nominal charges along with emergency medicine only.

FACILITIES AVAILABLE:

- 1) CONSULTANCY /EXPERTISE OPINION. Students, staff and their family members are directly seen and addressed by the University Doctor, BCKV, Health Centre.
- 2) SUPPLY OF AVAILABLE MEDICINES TO THE STUDENTS ONLY.
- 3) DRESSING OF CUTS, WOUNDS, BURNS Etc. ARE DONE IN PROPERLY STERILISED MANNER.
- 4) KEPPING OF PATIENTS UNDER OBSERVATION.
- 5) X-RAY WITH REPORTS.
- 6) ECG WITH REPORTS.



- 7) BASELINE AND ADVANCED PATHOLOGICAL – CUM-BIOCHEMICAL TESTS LIKE:
- (I) LIPID PROFILE
 - (II) THYROID HORMONES.
 - (III) URIC ACID.
 - (IV) OTHER HORMONAL ASSAYS.
- 8) 24 X 7 SERVICES OF UNIVERSITY AMBULANCE.
- 9) NEBULISATION FACILITY.
- 10) OXYGEN INHALATION FACILITY.
- 11) OVERALL, THE UNIT IS TRYING TO TOUCH LIFE.

VARIOUS MEDICAL ACTIVITIES:

Bidhan Chandra Krishi Viswavidyalaya HEALTH CENTRE, a small OPD Unit, unique of its own, along with its staffs are serving the students and employees (including their dependents) of this University throughout the year.

The students who mostly reside in the hostel (except very few) are served with First-Aid & various other medical necessities with the available resources of this centre.

On an average of around 60 students are treated and advised in a week from this centre. Apart from that the students also get benefited by expertise opinion beyond office hour.

This unit is also well equipped with certain diagnostic tools and at the same time providing with some baseline investigations of Blood profile.

As previous years, this year also the Medical Unit has examined the new admissions of students in under graduate and post graduate levels.

In the year 2008, a number of modernize and advanced diagnostic equipments were purchased for this Health Centre namely “AUTO ANALYSER”, “COMPUTERISED ECG MACHINE” & “X-RAY MACHINE” from Student Amenities Grant ICAR which are now functioning to meet the necessities of the patient. Apart from this in the year 2010 “HEMATOLOGICAL AUTO ANALYSER” and “ULTRA SONOGRAPHY MACHINE” was purchased to boost up the diagnostic facilities of this unit. The old X-Ray Machine was changed to Digital X-Ray machine which was purchased in the year 2016.



The Dispensing Counter of the BCKV Health Unit



Placement Cell Activities

Placement cell of the University is constituted by the Chairman (Senior professor) and the Secretary, Faculty Council of Agricultural Engineering as coordinator. Placement Cell regularly update the job positions in different sectors and the information is circulated in the university website as well as campus circulation. As per the advertisement of the Agrochemicals and other private companies/ NGOs and private sectors, the selection is done through interviews (offline and online) by the respective organizations.

Details of agencies/organisation where students got placement

SN	Name of the University/ College/ Faculty	Location & District	ICAR	CAU/SAU	Central Govt.	State Govt.	PDF/ Foreign	Pvt./Others
1.	Faculty of Agriculture	Mohanpur, Nadia	0	0	35	7	4	28
2.	Faculty of Horticulture	Mohanpur, Nadia	0	0	10	1	0	5
3.	Faculty of Agricultural Engineering,	Mohanpur, Nadia	0	0	3	2	0	4
Total			0	0	48	10	4	37



List of M.Sc. Thesis Submitted at BCKV 2023

Faculty of Agriculture

Agronomy			
Sl. No.	Name of the Students	Thesis title	Name of the Chairman
1	Suchismita Talapatra	Performance of <i>kharif</i> rice with integrated nutrient management under fly ash amended soil	Prof. P. Bandopadhyay
2	Satabdi Mandal	Evaluation on bio-efficacy of chemical herbicides on transplanted summer paddy	Prof. B.C.Patra
3	Mallika Koley	Evaluation of bio-efficacy of Bentazone 48% SL on soybean (<i>Glycine max</i> L. Merrill)	Prof. B.C.Patra
4	Poulami Bhowal	Effect of seedling age and row planting technique on aromatic rice (<i>cv. Kalonunia</i>) in lower Gangetic plains of West Bengal	Prof. M. Ghosh
5	Ankita Mal	Impact of nano urea on yield and quality enhancement of indigenous rice in coastal belt of West Bengal	Prof. K. Brahmachari
6	Nabanita Das	Effect of seaweed extracts on growth, yield and quality of indigenous rice in coastal belt of West Bengal	Prof.K. Brahmachari
7	Rohan Bera	Standardization of dosage and time of application of moringa leaf extract on grain yield of lentil (<i>Lens culinaris</i> L. Medik)	Prof.M. Pramanick
8	Munmun Nesha	Effect of Quinchlorac 35% SC on weed control efficiency, growth and yield of <i>boro</i> rice (<i>Oryza sativa</i> L.)	Prof. D. Dutta
9	Arnab Paul	Effect of nano and conventional DAP on growth, yield and economics of summer greengram (<i>Vigna radiata</i> L.)	Prof. D. Dutta
10	Sutapa Roy	Effect of nutrient management on growth and yield of late sown mung bean (<i>Vigna radiata</i> L.) during <i>pre-kharif</i> season	Asst.Prof. K. Jana
11	Sayanika Ghosh	Performance of arbuscular mycorrhizal fungi and phosphate solubilizing bacteria under varying levels of phosphorus on summer growing groundnut (<i>Arachis hypogaea</i> L.)	Prof. S. K.Gunri
12	Samapriya Saha	Growth and yield of sunflower as influenced by potassium nutrition under varying soil moisture regime	Prof. S. B. Goswami
13	Sambit Nasipuri	Effect of foliar application of nano-micronutrients on chickpea (<i>Cicer arietinum</i> L.) in new alluvial Zone of West Bengal	Asst.Prof. K. Murmu
14	Pratap Biswas	Response of aromatic rice (<i>cv. Gobindabhog</i>) to organic nutrient sources in Gangetic alluvial soil	Prof.S. K. Mukhapadhyay
15	Shalini Saha	Growth and yield of sunflower as influenced by foliar feeding of nano urea and zinc under varying NPK levels	Prof. S.B.Goswami
16	Anwesh Acharya	Effect of nano-urea on productivity and quality of dual-purpose oat (<i>Avena sativa</i> L.)	Asst.Prof. K. Murmu



17	Sayani Bhattacharya	Response of aromatic rice (<i>cv. Radhunipagal</i>) to organic manure, biofertilizer and nano urea in lower <i>gangetic</i> plains of West Bengal	Asst.Prof. S.Banerjee
18	Shreya Bhowmick	Effect of weed control methods on scented rice (<i>cv. Kataribhog</i>) in lower <i>gangetic</i> plains of West Bengal	Asst.Prof. S.Banerjee
19	Kalpak Mondal	Effect of varied levels of zinc on growth and yield of hybrid rice	Prof. S. Pal
20	Railina Ghosh	Effect of nano-nitrogen and nano-zinc on <i>rabi</i> maize under different mulch	Prof.. M. Ray
21	Priotosh Adhikary	Effect of post-emergence herbicides on late sown direct seeded herbicide-tolerant rice variety in new alluvial zone of West Bengal	Prof. M. Ray
22	Soumi Saha	Performance of hybrid rice (<i>oryza sativa</i> L.) Varieties during <i>kharif</i> season in new alluvial zone of West Bengal	Prof. S. Pal
23	Chandan De	Effect of nitrogen fertilization on growth, yield and nitrogen use efficiency of potato (<i>solanum tuberosum</i> L.) under lower gangetic plains of West Bengal	Asst.Prof. S. K. Das
24	Roniujjaman Shaikh	Impact of different weed management measures on growth and performance of oilseed sesame (<i>sesamum indicum</i> L.) sown during pre-monsoon season on gangetic alluvial soils in West Bengal	Prof. B. Mondal
25	Apratim Gupta	Evaluation of seed inoculation, post emergence herbicide mixes and foliar nutrition on black gram (<i>vigna mungo</i> L.) in the gangetic plains of West Bengal	Asst.Prof. S. Maji
26	Sandhya Mondal	Effect of seed inoculation, weed management and foliar nutrition on summer mungbean in lower Gangetic plains of West Bengal	Asst.Prof. S.Mondal
27	Sarbajoya Goswami	Performance of indigenous aromatic rice cultivars under organic management in new alluvial zone of West Bengal	Prof.S. K. Mukhapadhyay
28	Javed Akhtar	Study on nutrient enrichment in chickpea cultivars through foliar application of zinc and iron in new alluvial zone of west bengal	Asst.Prof. Md. Hedayetullah
29	Dikchha Tamang	Effect of different weed management practices on weed dynamics, growth and yield of <i>rabimaize</i>	Asst.Prof. S. Sarkar
30	Pushpendu Sardar	Efficacy of nano urea on <i>kharif</i> rice in new alluvial zone of West Bengal	Asst. S. Biswas
31	Jayita Munda	Integrated nutrient management in chickpea in new alluvial zone of West Bengal	Prof. C.K.Kundu
32	Saikat Biswas	Effect of different weed management practices on growth and yield of chickpea (<i>Cicer arietinum</i> L.) under new alluvial zone of West Bengal	Prof.C.K.Kundu

Agricultural Chemicals

1	Soumyadeep Mandal	Development of a modified QuEChERS method for micro-quantitative determination of Spinetoram + Methoxyfenozide residues in/on chickpea, tomato and cauliflower	Asst.Prof. R. Karmakar
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2	Reeshav Paul	Studies on the effect of flonicamid residues on enzymatic activities and microbial biomass in new alluvial soil of West Bengal	Prof. H. Banerjee
3	Sabyasachi Mandal	Development of advanced bio-formulation from <i>Eucalyptus globulus</i> plant extract for sustainable pest management	Asst.Prof. D. K. Hazra
4	Ramij Raja	Validation of a Multiresidue method for the investigation of pesticide residues in honey	Asst.Prof. S. Roy
5	Rakesh Mondal	Pesticidal property and formulation of <i>S. mukorossiseed</i> extract	Prof. R. K. Kole

Agricultural Chemistry and Soil Science

1	Praneswar Ghosh	Soil phosphorus storage capacity-an indicator for environmental risk assessment	Prof. S. K. Pal
2	Ajjul Hoque	Effect of herbicides on soil enzymes and microbial activity in new alluvial soil of West Bengal	Prof.T. Biswas
3	Nilkanta De	Yield of crops and rhizosphere ph as affected by form of nitrogen	Prof.A. Debnath
4	Krishnendu Bala	Distribution of available phosphorus, sulphur, silicon in different blocks of Bankura district.	Prof. H. Saha
5	Arpita Mondal	Distribution of available cationic micronutrients in different blocks of Bankura district	Prtof. H. Saha
6	Arnab Pal	Distribution of available calcium, magnesium and potassium in different blocks of Bankura district	Prof.S. K. Ghosh
7	Kazi Momenul Ahasan	Impact of coated urea on yield and nitrogen availability under different methods of rice cultivation	Prof.P. K. Mani
8	Sneheta Basak	Effect of soil phon extractable phosphorus fractions	Prof. A. Debnath
9	Rohit Kumar Choudhury	Effect of nitrogen and potassium on yield and quality of capsicum	Prof. K. Bhattacharyya
10	Oindrila Roy	Microbial dynamics and nutrient mobilization under integrated nutrient management of lentil	Prof. S. C. Kole
11	Nibedita Ray	Effect of micronutrients (Fe, Zn, Mo) and their interaction in growth, quality and nodulation in lentil (<i>Lens culinaris</i>)	Asst.Prof. S. Saha
12	Dikshita Das	Field water balance and actual evapotranspiration of different water regimes of wheat	Prof. P.K. Bandyopadhyay
13	Shaikh Sourav Ali	Effect of micronutrients (Fe, Zn, Mo) and their interaction in growth, quality and nodulation in mung bean (<i>Vigna radiata</i> L.)	Prof. G. C. Hazra
14	Dayasankar Kundu	Evaluation of available molybdenum status in Jalpaiguri district	Prof.G.C. Hazra
15	Soumyajit Mallick	Effect of graded doses of nano urea on yield and nitrogen use efficiency of frenchbean (<i>Phaseolus vulgaris</i> L.)	Asst.Prof. S. Murmu
16	Biplab	Effect of nano urea on distribution of nitrogen pools in inceptisols	Asst.Prof. S. Murmu
17	Rajdip Maiti	Computation of field water balance of groundnut under different moisture regimes	Prof.P.K.Bandyopadhyay



18	Suklal Murmu	Integrated fertilizer prescription for french bean (<i>Phaseolus vulgaris</i> L.) through targeted yield model on an inceptisol of West Bengal	Prof. K. Bhattacharyya
19	Indaniva Dutta	Effect of nitrogen and zinc interaction on yield and quality of aromatic rice (<i>Pusa Basmati 1121</i>)	Prof. K. Bhattacharyya
20	Abhijit Das	The impact of paper mill treated effluent irrigation on soil fertility, growth and nutrient uptake of summer rice in an inceptisol.	Prof. K. Bhattacharyya
21	Avinaba Maji	Microbial profile in aromatic rice rhizosphere	Prof. N. Saha
22	Arijit Ghosh	Retrieval of nitrogen content in soils under influence of various n-based management practices in rice based cropping system using hyper-spectral data and modelling	Prof.P. K. Mani

Agricultural Economics

1	Bipul Khamrai	An economic analysis of production and marketing of potato in Paschim Medinipur District of West Bengal	Prof.Md. H. Ali
2	Souradip Bose	A study on crop diversification in Uttar Dinajpur district of West Bengal	Prof. B. K.Bera
3	Anindita Haldar	Socio-economic impact of COVID-19 on small and marginal farm households in Nadia district of West Bengal	Prof. S.Chatterjee
4	Arijit Ghosh	An economic analysis of production and marketing of cabbage in Nadia district of West Bengal	Prof. Md. H. Ali
5	Asesh Saha	A comparative economic study on aman paddy cultivation in Nadia and Jalpaiguri districts of West Bengal	Prof. G.Dey
6	Ramanuj Das	A comparative study on economics of potato cultivation by contract and non-contract farmers in Hooghly district of West Bengal	Prof. B. K.Bera
7	Dhrubajyoti Roy	Economics of farm mechanisation in Paschim Medinipur district of West Bengal	Prof.A.K.Nandi
8	Animesh Roy	Production and marketing of jute in Jalpaiguri district of West Bengal	Prof. S.Mukhopadhyay
9	Snehasis Mazumder	A study on production and marketing of mustard in North 24 paraganas district of West Bengal	Prof. G.Dey

Agricultural Entomology

1	Shibnath Hansda	Carpenter bees: diversity and foraging behaviour	Prof. S. Jha
2	Arpan Chakraborty	Study on morphology & biology of <i>megaselia scalaris</i> (Loew), a parasitoid infesting <i>Apis mellifera</i> (Fabricius)	Asst.Prof. P. Debnath
3	Tanmay Modak	Management of root- knot nematode, <i>Meloidogyne</i> spp. in chilli through chemical nematicides	Asso.Prof. K. Roy
4	Palakshi Sarkar	Allelopathic effect of marigold on insect pest complex in brinjal ecosystem	Prof. A. K. Mukhopadhyay
5	Tanmay Saha	Studies on incidence pattern of major insect pests and their natural enemies of chilli crop with relation to abiotic factors in gangetic plains of west bengal	Asst.Prof. A. Sarkar
6	Soham Singha Roy	Study on biology of paracoccus marginatus (Williams &Granara de Willink) (<i>Pseudococcidae: hemiptera</i>)	Prof.A. K. Sahoo



7	Sandip Maiti	Studies on population dynamics of different insect pests infesting pigeon pea under field condition in lower gangetic plain	Asst.Prof. A. Sarkar
8	Ayontika Pal	Studies on taxonomy of eriophyoid mites (acari: eriophyodea) in the new alluvial zone of West Bengal, india	Asst.Prof. P. Debnath
9	Neha Mahato	Impact of crop morphology on the incidence of major insect pests infesting green gram	Asst.Prof. A. Banerjee
10	SK MD Ajaharuddin	Population dynamics of major insect pests of okra with special emphasis on chemical management of shoot and fruit borer	Prof. A.K. Maiti
11	Payel Kar	An attempt to explore the laelapid mites (acari: Mesostigmata) from North Bengal region of West Bengal	Prof. K. Karmakar
12	Arnab Layek	Bio-ecology and management of yellow mite, <i>polyphagotarsonemus latus</i> (banks) (acari:Tarsonemidae) in chilli crop under gangetic basin of West Bengal	Prof. K. Karmakar
13	Shubham Mondal	Studies on population dynamics of sucking pests infesting black gram [<i>vigna mungo</i> (L.) Hepper] vis-à-vis their ecofriendly management	Prof.A. Samanta
14	Sushovan Majhi	Studies on the susceptibility of different pulses infested by pulse beetle,(<i>Callosobruchus chinensis</i> L.) and its botanical management on red gram	Prof. S. M. Ghosh
15	Sanjib Ghosh	Development of pest management modules against pest complex of cabbage (<i>Brassicae oleracea</i> var. <i>capitata</i>)	Asso.Prof. S. K. Ghosh
16	Pragati Rani Ghosh	Study on pest complex of fennel	Prof. S. Chakraborti
17	Pritipriya Pal	Investigation on the morphology and biology of <i>coccidohystrix</i> sp.(pseudococcidae:hemiptera) infesting china rose	Prof. A. Pramanik
18	Olivia Chisim	Tegolophus indica (acari : Prostigmata) a pest of jackfruit in West Bengal	Asst.Prof. A. Kar

Agricultural Extension

1	Gargee Roy	Understanding the performance and behaviour of vegetable and fruit retailers in West Bengal	Prof. D. Basu
2	Nilotpal Nayak	Factors of tank productivity in red and laterite zone of west bengal with a focus on socio-economic and cultural dimensions	Prof. D. Basu
3	Shrestha Mitra	Understanding the organised retail system of fresh fruits and vegetables with focus on consumer perception in West Bengal	Prof. D. Basu
4	Avishek Roy	Understanding the start-up ecosystem in india with a focus to agriculture	Prof. D. Basu
5	Goutam Singha	Hierarchy of important mango varieties in malda district with reference to profitability and taste	Prof. S.Mondal
6	Mousumi Barman	Transforming agriculture in Cooch Behar: dynamics and impact	Prof. A. Biswas
7	Ritwick Mukhopadhyay	A comparative study on some parameters between two jute varieties in Murshidabad district	Prof. S.Mondal



8	Partha Saren	Climate change, uncertainty and agricultural dynamics: social, ecological and economical interpretation by farmers through mental modelling approach	Prof. S. K.Acharya
9	Biprajit Saha	Comparative study on the sale price of some selected horticultural crops in two unorganised markets of North 24 Parganas	Prof. S.Mondal
10	Jayatu Avinaba Panda	Status of betel vine cultivation in kakkdwip block of South 24 Parganas district	Prof. S.Mondal
11	Rajlakshmi Banerjee	Self help groups, women empowerment, entitlement and gender mainstreaming through rural enterprise setting and management	Prof. A. Biswas
12	Ruksona Khatun	Health, hygiene and nutrition of rural women: interpretation and inferences	Prof. A. Biswas
13	Chandramouli Das	A study on cool mat artisans with special emphasis on marketing and income generation	Prof. T. K. Mandal
14	Anik Kundu	Entrepreneurial communication of farmer producer organization (fpo) members: the process, impact and innovation	Prof. S. K.Acharya
15	Saikat Jana	Ecological resilience in agriculture and livelihood: the perceptual interpretation and empirical evidences	Prof. S. K.Acharya
16	Sumana Farhat	Cultivation of tobacco and its negative impact on environment	Prof. T. K. Mandal
17	Sarup Chettri	Application of mental modeling in assessing and delineating the social ecology of migration in Darjeeling	Prof. S. K.Acharya

Agricultural Meteorology and Physics

1	Sreya Sarkar	Mapping of surface water resources of the coastal blocks of indian sundarbans using optical remote sensing	Prof. M. K. Nanda
2	Soumik Banerjee	Impact of climate change on thermal environment of principal winter crops of new alluvial agroclimatic zone of West Bengal.	Prof. A.Saha
3	Suvam Mandal	Variation of photosynthetically active radiation (PAR) use efficiency in cowpea influenced by two different date of sowing environment.	Prof. S.Baerjee
4	Sagar Sarkar	Growth, yield and water use pattern of rainfed cow pea grown under different dates of sowing in new alluvial zone of West Bengal.	Asst.Prof. A. Mukherjee
5	Jayanta Kumar Mridha	Variation of PAR use efficiency of lady's finger governed by three different sowing environment	Prof. S. Baerjee
6	Sk Nayem	CMIP6 GCMs based past & future rainfall change scenarios over red & laterite zone of West Bengal.	Prof. L. das
7	Arnab Banik	Effect of dates of sowing on growth, yield, and water use pattern of rainfed okra in new alluvial zone of West Bengal	Asst.Prof. A. Mukherjee
8	Prakash Dey	Assessment of sustainable organic potato cultivation under changed microclimate in gangetic Bengal	Prof. G. Saha



Agricultural Statistics

1	Bankim Sarkar	A statistical account on mango growers of malda district, West Bengal	Prof. P. K. Sahu
2	Mrittika Das	A statistical account of potato production in india: its growth and trend	Prof. P. K. Sahu
3	Snigdha Roy	Robustness properties of proper and non- proper variance balanced block designs against missing observations	Prof. A. Majumder
4	Gourabanwita Banerjee	Incidence of drought in relation to rainfed rice production in some districts of West Bengal	Prof. A. Majumder
5	Bhawishya Pradhan	Fitting probability distribution of rainfall over agro-climatic zones of West Bengal	Prof. B. Bhattacharyya

Genetics and Plant Breeding

1	Monalisha Char	Development of protocol for <i>in vitro</i> mass propagation of potato cv. Badam, its acclimatization and genetic fidelity assessment	Asst.Prof. S. Gantait
2	Pradipta Biswas	Evaluation of some indigenous mungbean [<i>Vigna radiata</i> L. Wilczek) for yield and MYMIV resistance	Prof. P.K.Bhattacharyya
3	Soumik Dey	Evaluation of stable mutants of ricebean (<i>Vigna umbellata</i> (Thunb.) Ohwi and Ohashi) for the earliness and salinity tolerance	Prof. S. Sarkar
4	Sayak Sen	Genetic variability studies for yield and seed quality in mungbean (<i>Vigna radiata</i> L. Wilczek)	Prof. G. S. Mandal
5	Bipasha Adhikari	Screening of leaf blight tolerant lentil mutants and the analysis of a cysteine rich kinase (CRK) gene	Prof. S. Bhattacharya
6	Subhrata Bera	Morpho-biochemical characterization and analysis of BADH gene homolog in mungbean (<i>Vigna radiata</i> L. Wilczek).	Asst.Prof. A. Das
7	Priyanka Pal	Characterization and morpho-molecular analysis of some advanced breeding lines against spot blotch disease in wheat (<i>Triticum aestivum</i> L.)	Asst. Prof. Anirban Maji
8	Debanwita Ghosh	Genetic analysis for yield components in toria, yellow sarson and Indian mustard	Prof. P. K. Bhattacharyya
9	Souvik Das	Assessment of genetic variability and studies on morpho-physiological responses under simulated moisture stress condition in cowpea (<i>Vigna unguiculata</i> L. Walp.)	Prof. R. Sadhukhan

Plant Pathology

1	Joydeep Kumar Mahanta	Epidemiology and management of alternaria blight disease of marrigold	Prof.S. Dutta
2	Souvik Chhandogi	Detection and characterization of Rhynchosia yellow Mosaic virus in <i>Clitoria ternatea</i>	Prof. J. Tarafdar
3	Ananda Nath	Field evaluation of lentil germplasm for resistance to collar rot disease insighted by <i>sclerotium rolfsii</i> in lower Gangetic plain of West Bengal	Prof. S. K. Ray
4	Md Asfak Uddin Molla	Disease risk analysis of spot blotch of wheat under different dates of showing	Asst.Prof. S. Mahapatra
5	Arnab De	Identification of diseases of neel(<i>Indigofera tinctoria</i> L.), their causal agents and management using botanicals and bioagents	Prof. G. Mondal



6	Md Niharul Islam	Efficacy of <i>Trichoderma</i> isolates on soil borne disease pathogen of maize	Asst.Prof. S. Debnath
7	Arijit Adhikary	Characterization and management of leaf spot disease of turmeric (<i>Curcuma longa</i>) caused by <i>Colletotrichum curcumae</i>	Prof. A. Basu
8	Riti Pal	Eco-friendly approaches for management of black rot disease of cauliflower	Prof. S. Dutta
9	Ujjayini Roy	PGPR and plant extracts for disease management of Citrus canker	Prof. S. K. Ray
10	Suman Sing Laya	Standardization of cultivation method of <i>Pleurotus pulmonarius</i> in West Bengal	Asst.Prof.R.Sharma
11	Arpan Guha	Collar rot disease of lentil and its management	Asst.Prof. S. Murmu
12	Souvik Kora	Nutritional factors influencing occurrence and development of some selected fungal diseases of potato in West Bengal	Prof. A.Chakraborty
13	Arkaprava Adhikari	Studies on anthracnose disease of Anthurium caused by <i>Gloeosporium</i> sp	Prof. B. N. Panja
14	Obaidulla Khan	Studies on the rhizospheric microflora and affect of native <i>Trichoderma</i> spp. on <i>Fusarium oxysporum</i> f. sp. <i>cubense</i> causing wilt of banana	Prof. D. K. Misra

Plant Physiology

1	Md. Hamidul Islam	Effect of salinity stress on germination and seedling growth in mungbean [<i>Vigna radiata</i> L.Wilczek]	Prof. A.K. Pal
2	Sattwick Mukherjee	Studies on characterization of a set of newly bred cowpea lines and their response to foliar application of boron at pre-harvesting stage of the crop growth	Prof. S. Mondal
3	Bibekananda Maiti	Evaluation of a set of newly bred lines of cowpea and their response to foliar application of ethylene at pre-harvesting crop stage	Prof. S. Mondal

Seed Science and Technology

1	Srijan Samanta	Effect of pinching and foliar nutrition on growth, yield and seed quality parameters of rapeseed-mustard	Prof. A.Dutta
2	Poulamee Adhikary	Impact of gibberelic acid on seed yield and quality of sesame (<i>Sesamum indicum</i> L.)	Prof. A. Dutta
3	Swapnadip Dandabat	Seed invigoration treatment with hormonal priming for improvement of quality seed production in rice	Asst.Prof. S. K. Bordolui
4	Amit Paul	Influence of osmopriming in quality seed production of Rice (<i>Oryza sativa</i> L.)	Asst.Prof. S. K. Bordolui
5	Pappu Roy	Qualitative assessment of okra seed based on capsule position	Prof. Prabir Chakraborti

Faculty of Horticulture

Floriculture and Landscape

1	Prakriti Debnath	Water relations and bacterial growth in cut flower stems of tuberose (<i>Agave amica</i>)	Prof. S.S.Gantait
2	Niladri Sekhar Chakraborty	Performance studies of hybrid tea rose cv. Mohana in response to nano urea	Prof. M. Mitra Sarkar
3	Ankush Bhawal	Effect of seaweed extract on growth and flowering of tuberose (<i>Agave amica</i>) cv. Prajwal in the plains of West Bengal	Prof. A. K. Pal



Fruit Science

1	Aniket Sarkar	Effect of foliar nutrient application on reproductive attributes of sweet orange (<i>Citrus sinensis</i>) in different bahars	Prof. S. K. Sarkar
2	Soumita Murmu	Effect of number of functional leaves at flowering on yield and fruit quality of tissue culture banana plant cv. Grand Naine	Prof. S. K. Sarkar
3	Urmila Tudu	Evaluation of recently released hybrids of mango to access their performance in new alluvial zone of West Bengal	Prof. D. Majhi
4	Santanu Mandal	Effect of IBA and NAA concentration on stem cutting in tropical cherry (<i>Malpigia emerginata</i> L.) and phalsa (<i>Grewia asiatica</i> L.)	Prof. F. K. Bauri
5	Avilash Saha	Studies on top working of old, unproductive seedling originated mango trees with scions of six commercial mango varieties	Prof. S. Debnath
6	Supriyo Ghosal	Effect of nano urea on fruit quality of litchi cv. Bombai grown in new alluvial zone of West Bengal	Prof. P. Datta
7	Sk Md Mahmudul Hasan	Studies on the extent of rooting and shooting efficiency of detached cladode cutting in dragon fruit (<i>Hyaloceroscostariensis</i> Weber, Britton & Rose)	Prof. M. A. Hasan
8	Shweta Banik	Effect of foliar spray of urea and nano urea on yield and physico-chemical characters of fruits in guava (<i>Psidium guajava</i> L.)	Prof. S. Kundu
9	Ladup Lepcha	Studies on the effect of macro and micro nutrients in controlling granulation in citrus cv. Malta and Gamma irradiation effect of cladode cutting on the performance of dragon fruit (<i>Hyaloceroscostariensis</i>)	Prof. M. A. Hasan

Post Harvest Management

1	Lalita Mandi	Studies on post harvest behaviour of <i>Hibiscus rosa-sinensis</i> and subsequent preparation of value added edible products	Prof. S. Chakrabarty
2	Mahabub Miah	Processing of roselle (<i>Hibiscus sabdariffa</i> L.) calyces.	Prof. A.K. Banik

Plantation, Spices, Medicinal and Aromatics Crops

1	Jyotirmy Paul	Evaluation of physico-chemical properties of some chilli (<i>Capsicum annum</i> L.) landraces	Prof. J.K. Hore
2	Saptarshi Paul	Integrated nutrient management of geranium (<i>Pelargonium graveolens</i>)	Prof. A. Bandyopadhyay
3	Mandira Jana	Impact of different post harvest treatments on storability of betel leaves (<i>Piper betle</i> L.)	Prof. A. Pariari

Vegetable Science

1	Abujafar Oliyari Rahman	Mutagenic effects of varying gamma doses on morphological and yield traits in cowpea (<i>Vigna unguiculata</i> L. Walp.)	Prof. M.K. Pandit
2	Amitav Sarkar	Effect of sowing dates on growth and yield of cowpea	Prof. A. R. Mandal
3	Biswajit Chakraborty	Development of anthocyanin rich okra hybrids through heterosis breeding	Asst. Prof. C. Karak
4	Gayatri Chatterjee	Expression of flowering and fruiting behaviour in F1 and F2 generation of ridge gourd	Prof. P. Hazra



5	Koushik Jana	Studies on the performance of Kharif and Late Kharif Onion (<i>Allium cepa</i> L.) genotypes	Prof. U. Thapa
6	Mir Asemul Rahaman	Characterization and genetic divergence of brinjal genotypes	Prof. A. Chattopadhyay
7	Rishav Banerjee	Effect of intercropping on sustainable production and pest management of okra (<i>Abelmoschus esculentus</i> L. Moench] under maize border	Prof. P.Choudhuri
8	Sayani Das	Comparative genetic analysis of single cross and double cross hybrids of okra in respect to yield and BYVMV disease resistance	Prof. A.Chattopadhyay
9	Shuva Das	Effect of sowing dates on growth, yield and viral disease of okra	Prof.A.Chattopadhyay
10	Sourav Kundu	Growth and seed yield of onion (<i>Allium cepa</i> L.) cv. Sukhsagar as influenced by mulching and biostimulant	Prof. U.Thapa
11	Toney Barman	Yield components and genetic divergence in sponge gourd (<i>Luffa cylindrica</i> L.)	Prof. A.R.Mandal

Faculty of Agricultural Engineering

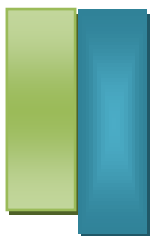
Farm Machinery and Power

1	Sabyasachi Murmu	Discrete element modelling (DEM) of seed and fertilizer metering device	Prof. S. Karmakar
2	Mostakin Hossain	Development of a power tiller operated disc plough	Prof. P. S. Chattopadhyay
3	Washim Sarkar	Development of a power tiller operated disc type bund former with bund shaper	Prof. P.S.Chattopadhyay
4	Md Sahanujjaman	Development of a vertical axis power weeder	Prof. P S Chattopadhyay
5	Utpal Maji	Study on power transmission characteristics of rotavator using PTO torque transducer	Pro.S. Karmakar
6	Daipayan Das	Design, development and testing of a cultivator for mini tractor (Mitsubishi)	Prof. P. S Chattopadhyay
7	Md Nawaj Sharif	Performance evaluation of mounted type primary tillage implements using 3-point hitch dynamometer	Prof. S. Karmakar
8	Arijit Ghosh	Study on power transmission characteristics of Rotary Tiller using torque transducer	Prof. S. Karmakar

Processing and Food Engineering

1	Chiranjit Rana	Microwave assisted drying of guava	Prof. S. Mukherjee
2	Debasis Soren	An internet of things(Iot)-based continuous monitoring system for fruit ripening chamber	Prof.B.Chakraborty
3	Diwas Darnal	Study on oarboiling of millets	Prof. S. Mukherjee
4	Joyita Mali	Estimation of design parameters for a low humidity refrigerated storage	Prof. M. K. Chourasia
5	Sahana Khatun	Study on rehydration characteristics of dehydrated green peas	Asst.Prof. A. Karmakar
6	Sandeep Yadav	Effect of temperature and concentration on rheological properties of red pepper puree	Asst. Prof. A. Karmakar
7	Subrata Mondal	A machine learning based approached for detection of plant disease	Prof. B. Chakraborty





8	Supradip Saha	Preparation and quality assessment of kiwi fruit (<i>Actinidia deliciosa</i>) powder	Prof. B.Chakraborty
9	Ujjwal Sarkar	Modeling of a modified atmospheric packaging system for fresh produce	Prof. P. K.Sahoo



List of Ph.D Thesis Submitted at BCKV, 2023

Faculty of Agriculture

AGRICULTURAL ENTOMOLOGY		
NAME OF THE STUDENT	THESIS TITLE	NAME OF THE CHAIRMAN
1 Mritunjoy Barman	Metagenomic analysis of bacteriome and elucidating the role of endosymbionts, heat shock protein (Hsps) and neo-nicotinoids resistant gene in whitefly, (<i>Bemisia tabaci</i>)	Prof. A.Samanta
2 Snigdha Samanta	Comparative study of small heat shock proteins (sHsps), insecticide resistant gene expression and assessment of different maize cultivars against newly invasive Fall Army worm, (<i>Spodoptera frugiperda</i> J. E. Smith)	Dr. A. Banerjee
3 Singam Sushmitha	Studies on Fall Army worm, <i>Spodoptera frugiperda</i> (J. E. Smith) (Lepidoptera: Noctuidae) and its bio-rational management in Gangetic alluvial zone of West Bengal	Dr. A. Pramanik
4 Bipradeb Talukder	Studies on the biology and ecology of arthropod fauna associated with some medicinal plants of family apocynaceae in West Bengal	Prof.B. K.Das
5 Huynh Thanh Loc	Life table parameters of <i>Consmolaelaps keni</i> Hafez, El-Brady & Nasr (Acari: Laelapidae) on different diets and identification of phytoseiid mites (Acari: Mesostigmata) from West Bengal	Prof. K. Karmakar
6 Priyankar Mondal	Taxonomy and diversity of <i>Tarsonemini canestrini</i> & <i>fanzago,1877</i> (acari:tarsonemidae) mites associated with economically important plants of west bengal.	Prof. K. Karmakar
7 Soumya Sarathi Kundu	Studies on intraguild and interguild relations of arthropods in brinjal ecosystem under gangetic new alluvial region.	Prof. A. K. Mukhopadhaya
8 Sharmila Biswas	Seasonal incidence of onion thrips (<i>Thrips tabaci</i> lind.) And their management.	Prof. P. P. Dhar
9 Meenambigai C	Exploration of host plant resistant and novel tritrophic interaction in chickpea (<i>Cicer arietinum</i> L.) Against gram pod borer, <i>helicoverpa armigera</i> (hubner).	Prof. A. Samanta
10 Sankarganesh E	Studies on rugose spiraling whitefly, <i>aleurodicus rugioperculatus martin</i> (hemiptera: aleyrodidae) with reference to host plants, natural enemies and its ecofriendly management.	Dr. K. Roy
SEED SCIENCE AND TECHNOLOGY		
1 Jayanta Mandal	Seed development archetype of <i>Lathyrus</i> genotypes (<i>L. sativus</i> L.) under new alluvial zone of West Bengal	Dr. P. Chakraborti
2 Antara Rakshit	Upgrading seed production potential of Jute through reformed cultural practices	Dr. P. Chakraborti



- 3 Pabitra Kumar Ghosh Comparative study of seed priming and micropot techniques on seed quality and yield of sunflower (*Helianthus annuus* L.). Prof. A. Dutta
- 4 Desetty J.M.S.Nk Sri Veda Seed development pattern, reproductive phenology, storage potential and response of bioprimer in some chilli genotypes. Dr. P. Chakraborti
- 5 Jui Ray Influence of seed priming and ga3 application on yield components and seed quality of tomato. Dr. S.K. Bordolui

PLANT PATHOLOGY

- 1 Suman Dutta Characterization and management of economically important fungal plant pathogens infecting orchids in West Bengal Prof. A. Basu
- 2 Pravesh Shivakoty Biology and epidemiology of early blight disease in organically managed Tomato Prof. A. Basu
- 3 Siddharth Singh Morpho-molecular characterization of Colletotrichum causing betelvine (*Piper betel* L.) leaf spot and its management through bioagents and botanicals Prof. G. Mondal
- 4 Debashis Rana Studies on Jackfruit (*Artocarpus heterophyllus* Lam.) diseases with special emphasis on wilt Prof. D. K. Mishra
- 5 Sunanda Chakraborty Characterization of spot blotch of wheat pathogen and defining their mechanism of resistance or susceptibility in wheat Dr. Sunita Mahapatra
- 6 Debanjana Debnath Epidemiological modelling and eco-friendly management of rice blast Dr. Sunita Mahapatra
- 7 Subhas Patar Evaluation of native rhizobacteria for abiotic stress and soil borne disease management of lentil and green gram under lateritic zone of west bengal. Dr. Raju Das
- 8 Sanjog Chhetri Variability of rust pathogen of maize and its management. Dr. S. Debnath
- 9 Swati Chakraborty In *silico* characterization of banana bunchy top virus and molecular insights to unravel the host-virus-vector interaction. Prof. J. Tarafder
- 10 Amrita Dasgupta Soil biotic and abiotic factors influencing plant diseases in rice based cropping system with different regimes of conservation agricultural practices. Prof. S. Dutta
- 11 Huma Nazneen Epidemiology and management of lentil diseases with special reference to collar rot disease in lower gangetic plains of west bengal. Dr. Raju das
- 12 Shikha Pathak Influence of edapho-climatic factors on survival and pathogenicity of *Ralstonia solanacearum* and the biochemical basis of resistance in brinjal against bacterial wilt. Dr. A. Roy Barman
- 13 Rayanoothala Pravallika Sree Effect of tillage, nutrient residue combinations on disease dynamics of charcoal rot (*Macrophomina phaseolina*) of mung bean (*Vigna radiata*). Dr. S. Mahapatra

PLANT PHYSIOLOGY

- 1 Sibumandi Improvisation of in vitro macro-propagation efficiency of banana corm through nutritional and hormonal interventions. Dr. S. Mandal



- 2 Kousik Atta Physiological upscaling of crop response of chickpea (*Cicer arietinum*L.) With hormonal and nutritional interventions. Dr. S. Mandal
- 3 Ananya Baidya Stress mitigation of late sown lentil (*Lens culinaris* Medik.) through hormonal and nutritional interventions. Dr. S. Mandal

AGRICULTURAL METEOROLOGY AND PHYSICS

- 1 Dibyashakti Priyadarshi Exploration on performance of medicinal plants in association with field crops under varied microclimatic conditions Prof. G. Saha
- 2 Trisha Manna Monitoring water stress of potato (*Solanum tuberosum*L.) Using microclimatic variables. Prof. M.K. Nanda

AGRICULTURAL CHEMISTRY & SOIL SCIENCE

- 1 Samrat Ghosh Assessing the role of organics in conversion of crop residue-carbon to soil organic carbon Prof. B. Mandal
- 2 Bishnuprasad Dash Stability of organic carbon in soils under conservation agriculture practices Prof. B. Mandal
- 3 Arnab Kundu Evaluation of physical attributes of soil under conservation agriculture with different cropping systems Prof. P. K. Bandyopadhyay
- 4 Agniva Mandal Impact of coated urea on yield and fractions of nitrogen and carbon in soils under rice-wheat cropping system Prof. P.K. Mani
- 5 Nibedan Halder Assessment of suitability of extractant for the estimation of potentially mineralisable nitrogen under organic production system in inceptisol Dr. N. Saha
- 6 Sayan Majumder Isolation and characterization of potassium mobilizing bacteria from soil for plant growth. Prof. S. Kole
- 7 Arnab Pari Integrated nutrient and water management for sunflower (*Helianthus annuus*L.) In an inceptisol. Prof. K. Bhattacharya
- 8 Prashanta Barman Effect of the continuing reaction between phosphate and soil on the availability of phosphorus to plants. Prof. A. Debnath
- 9 Gyanendra Kumar Profiling of arsenic in water, soil and vegetable crops in affected areas and its mitigation. Prof. G. C. Hazra

GENETICS AND PLANT BREEDING

- 1 Anirban Roy Identification and genetic analysis of Lentil (*Lens culinaris* Medik.) with adaptive plasticity for rice fallow Dr. P.K. Bhattacharya
- 2 Dibakar Das Identification of allele specific markers of low arsenic accumulating genes and their introgression in multiple photoperiod insensitive rice genotypes Prof. B. K. Senapati
- 3 Shayree Chatterjee Genetic analysis for root characters and yield of lentil (*Lens culinaris*Medik.) Under rice-fallow ecology. Dr. Arpita Das
- 4 Aditya Pratap Singh Screening and genetic analysis of reproductive heat tolerance and associated physiological traits in indian mustard (*Brassica juncea*L. Czern and Coss). Dr. S. Dewanjee



5	Anamika Das	In vitro mass propagation, polyploidization and elicitor-mediated enhancement of vincristine production in <i>Catharanthus roseus</i> (L.) G. Don.	Dr. Sutanu Sarkar
6	Shoumik Saha	Identification of rice genotypes with accelerating recovery from photoprotection and their genetic analysis.	Prof. Somnath Bhattacharaya
7	Samrat Laha	Breeding of tomato (<i>Solanum lycopersicum</i> L.) Tolerant to high temperature stress in gangetic-plans of west bengal.	Prof. Bijay Kumar Senapati
8	Arup Kumar Saha	Genetic analysis of rice under normal and water stress condition.	Dr. Sutanu Sarkar
9	Nimitha K	Genetics analysis on leaf area expansion and yield of rice under low light intensity.	Prof. Somnath Bhattacharaya
10	Moutushi Sarkar	Genetic analysis of days to flowering and selection of early maturing stable high yielding lines in lentil (<i>Lens culinaris</i> Medik.)	Prof. Subhra Mukherjee
11	Sanjoy Kumar Kundu	Genetic analysis of sheath blight disease [Rhizoctonia solani (Kuhn) {Teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk}] and grain yield in rice (<i>Oryza sativa</i> L.)	Prof. B. K. Senapati
12	Manish Mahanta	In vitro mass production and polyploidization enhance ornamental value of gerbera (<i>Gerbera jamesonii</i> Bolus ex Hooker f.)	Dr. Saikat Gaintait

AGRONOMY

1	Purabi Banerjee	Effect of Co, K and B on growth and productivity of Black gram [<i>Vigna mungo</i> (L.) Hepper] during spring-summer and autumn seasons	Prof. R. Nath
2	Bishal Mukherjee	Effect of sowing time, tillage and variety on lentil and chickpea after monsoon rice in new alluvial zone of West Bengal	Prof. R. Nath
3	Sanjib Kumar Nandi	Effect of crop establishment methods and varieties on growth and productivity of Lentil (<i>Lens culinaris</i>) under <i>kharif</i> rice-lentil sequence	Prof. S.B. Goswami
4	Madhusri Pramanik	Growth and yield of fieldpea under varying phosphorus doses and tillage methods grown after short and long duration <i>kharif</i> rice.	Dr. R. Nath
5	ARPITA NALIA	Effect of data of sowing and boron on growth, physiology and yield of field pea (<i>Pisum sativum</i> L.) Grown under residual soil moisture in new alluvial zone of west bengal.	Dr. R. Nath
6	Jagamohan Nayak	Impact assessment of crop establishment method nutrient application and residue management in hybrid rice on rice maize cropping system	Dr. H. Banerjee
7	Megha Sana	Impact of crop establishment methods, nutrient management and stubble height of hybrid rice-lentil cropping sequence.	Prof. S. Pal

AGRICULTURAL CHEMICALS

1	Mohd. Ali	Development of improved method for extraction of aleuritic acid from lac resin and evaluation of antioxidant property of its waste.	Dr. D. K. Hazra
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- 2 Vikas Kumar Mult-class pesticide analytical method standardization their monitoring and risk assesment Dr. S. Roy in fish.

AGRICULTURAL STATISTICS

- 1 Shogolesh Herojit Singh Measuring sustainability, instability and forecasting of major crops in India Prof. P. K. Sahu
- 2 Mriganka Saha Statistical analysis and modelling climate change impact on pulse cultivation in West Bengal Dr. (Mrs.) B. Bhattacharya
- 3 Abhijit Saha Constructional aspects with optimality properties of neighbour balanced block designs and block designs with nasted rows and columns. Prof. A. Majumder
- 4 Sathees Kumar K. Statistical modelling for volatile price series of selected vegetables and pulses in major indian urban markets. Prof. Banjul Bhattacharaya
- 5 Chiranjit Mazumder A study of multivariate garch and fractionally integrated garch models for agricultural price volatility. Prof. P.K. Sahu

AGRICULTURAL BIOTECHNOLOGY

- 1 Sayani Bandyopadhyay Elucidating the role of lignin pathway genes and enzymes in determining the fibre quality traits in tossa jute (*Corchorus olitorious* L.). Dr. N. Ali
- 2 Pratik Saha Development of genetic and genomic resources for downy midew resistance and low odap content in *Lathyrus sativus* L. Dr. N Ali

AGRICULTURAL ECONOMICS

- 1 Mridul Mondal A study on assessment of marketed and marketable surplus of major food grains of Nadia and East Bardhaman districts of West Bengal Prof. B. K. Bera
- 2 Subhadip Pal Economic study on irrigation and sustainable ground water resource management in West Bengal Prof. A. K. Nandi
- 3 Sutti Shrine Impact of contract farming on economics status of sugarcane farmers in the state of Andhra Pradesh. Prof. A. Maiti

AGRICULTURAL EXTENSION

- 1 Kabita Mondal Resilience and productivity of agriculture in different socio-ecology: the farmers' perception, status and interpretation Prof. S. K. Acharya
- 2 Debashis Majumder Yield, income and livelihood in selected farm enterprises: Estimation of socio-ecological compliances and conflicts Prof. S. K. Acharya
- 3 Mayuri Sing Sardar Targeting extension intervention for reducing agricultural hazards through application of geographic information system in Nadia district of West Bengal Prof. D. Basu
- 4 Suchandra Dutta Vulnerability and adaptive response of farming community to climate change in hilly and terai agro-climatic regions of West Bengal. Dr. T. K. Mandal

SOIL & WATER CONSERVATION

- 1 Pinakesh Das Studies on productivity and carbon sequestration in fruit based agroforestry systems under red and laterite zone of West Bengal Dr. S. Panda



- 2 Suren Murmu Studies and identification sustainable fruit-based Prof. P. K. Dhara
agroforestry model for red and laterite zone of West
Bengal

FACULTY-HORTICULTURE

NAME OF THE STUDENT	THESIS TITLE	NAME OF THE CHAIRMAN
VEGETABLE SCIENCE		
1 Sk. Masudul Islam	Genetic diversity and gene action for yield components and tolerance to BYVMV and OELCV diseases	Prof. A. Chattopadhyay
2 Asim Das	Characterization genetic variability, diversity and interrelationships in Ivy gourd (<i>Coccinia grandis</i> L. Voight.)	Prof. S.B. Chattopadhyay
3 Sourav Roy	Genetic variation, Character association and generation in okra	Dr.C.Karak
4 Debmala Mukherjee	Gene action for different characters in volving charry and purple tomato genotypes	Prof. A.R. Mandal
5 SOLANKI BAL	Genetic analysis for different yield components and resistance to leaf curl and anthracnose diseases in chilli (<i>Capsicum annuum</i> L.)	Dr.C.Karak
6 Sanjay Bairagi	Genetic analysis of yield components and assessment of field resistance to mosaic disease in brinjal (<i>Solanum melongena</i> L.)	Dr.P.Choudhuri
7 Ashish Ranjan	Studies on genetics variability in kharif onion (<i>Allium cepa</i> L.) genotypes for yield and storability attributing characters.	Prof. U.Thapa
8 Sudipta Ghosh	Effect of orthosilicic acid on growth, yield, and quality parameters with assessment of character association in tomato (<i>Solanum lycopersicum</i> L.)	Prof. M.K.Pandit
9 Satish Kumar	Metal toxicity assessment and mitigation in cabbage through varietal selection and organic ammendments	Prof. M.K. Pandit
10 Suman Nandi	Characterization of garlic (<i>Allium sativum</i> L.) Genotypes and their reaction to purple blotch disease	Prof. T.K. Maity
11 Manjunath K.V	Breeding approach to combine ty and ripening mutant genes for developing tomato leaf curl resistant genotypes with enhanced fruit quality and shelf life	Dr. Sibsankar Das

FLORICULTURE AND LANDSCAPE ARCHITECTURE

1 Heera Lal Atal	Performance studies of hybrid tea rose cultivar Minu Pearle in response to bending	Prof. M. Mitra (Sarkar)
2 Kunal Debborma	Effect of seaweed extract biostimulants on growth of <i>Aglaonema commutatum</i> and <i>Chlorophytum comosum</i> house plants	Dr.S.S.Gantait
3 Daripalli Srilakshmi	Characterization, evaluation and genetics variability studies in tuberose (<i>Polianthes tuberosa</i> L.) germplasm	Dr.S.S.Gantait
4 Aritra Sarkar	Studies on the eefect of ionizing radiation and	Dr. Jayoti Majumder



	packaging techniques on shelf life of african marigold (<i>Tagetes erecta</i> L.) Loose flowers	
5	Amit Lohar	Varietal evaluation of marigold (<i>Tagetes erecta</i> L.) and its utilization in fabric color Dr. Tapas Mandal
6	Kunal Adhikary	Effect of green synthesized nanomaterials on germination, growth and yield attributes of african marigold (<i>Tagetes erecta</i> L.) Dr. Tapas Mandal

FRUITS SCIENCE

1	Sayan Sau	Integrated nutrient management practices along with post- harvest radiation for quality fruits of guava (<i>Psidium guajava</i> L.) grown in new alluvial zone of West Bengal Prof. P. Datta
2	Arju Ali Khan	Studies on the phonological events in Litchi in different canopy direction. Prof. Md.A.Hasan
3	Mahabub Alm	Performance studies of hybrid tea rose cultivar Minu Pearle in response to bending. Prof. Md. A.Hasan
4	Tapas Sarkar	Technology for organic fruit production of mango cv. Himsagar grown in new alluvial zone of West Bengal Prof. Pallab Dutta

PLANTATION, SPICES, MEDICINAL & AROMATIC CROPS

1	Peddaveeri Pravalika Reddy	Impact of conservation agricultural practices agrecannt and onion based cropping system. Prof. A.Bandyopadhyay
2	Gorle Roja Ramani	Assessment of Genotypes, Impact of Seed Priming and Nutrient Management on Yield related traits of Black Cumin (<i>Nigella sativa</i> L.) Dr. D.K. Ghosh
3	Alemmona R. Jamir.	Evaluation of genotypes and response of organic nutrient sources on coriander (<i>Coriandrum sativum</i> L.) Prof. N.Chattopadhyay

FACULTY-AGRICULTURE ENGINEERING

SOIL AND WATER ENGINEERING

Sl. No.	NAME OF THE STUDENT	THESIS TITLE	NAME OF THE CHAIRMAN
1.	Nabanita Sarkar	Appropriation of various principles of drop application of water, banana	Dr. Alivia Chowdhary
2.	ANIKET BAISHYA	Improving water use Efficiency of tamato and cabbage under conservation agriculture throught micro irrigation.	Prof. Ranjit Kumar Biswas

FARM MACHINERY AND POWER

1.	Snehasish Bhunia	Design and Development of power tiller operated strip-till Seed Drill for conservation Agriculture.	Prof. Subrata Karmakar
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FOOD ENGINEERING

1.	Reema Kshetrimayum	Drying characteristics and quality attributes of conventional hot air-dried chayote (<i>Sechim edule sw.</i>) Dr. Manoj Kumar Chourasia
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Publication Summary

Research papers with NAAS Score during 2023					Total
> 10	7.5-10	5-7.5	< 5	Peer-reviewed journal (non-NAAS category)	
26	52	136	24	50	288
Book	Book chapter	(Technical bulletin/ Popular article/Booklet)			
21	53	29			103

Research Articles

Papers published in Journals with NAAS rating above 10: No. 26

- Bal, S.K., Sattar, A., Nidhi, Chandran, M.A., Subba Rao A.V.M., Manikandan, N., Banerjee, S., Choudhary, J.L., More, V.G., Singh, C. B., Sandhu, S.S. and Singh, V.K. (2023). Critical weather limits for paddy rice under diverse ecosystems of India. *Front. Plant Sci.*, **14**: 1226064. (NAAS 12.63).
- Thapa, M., Sadhukhan, R., Mukherjee, A. and Biswas, P.K. (2023). Effects of nZnS vs. nZnO and ZnCl₂ on mungbean [*Vigna radiata* (L.) R. Wilczek] plant and *Bradyrhizobium* symbiosis: A life cycle study. *NanoImpact*, **29**: 100440. (NAAS: 10.70)
- Nandi, R., Mukherjee, S., Bandyopadhyay, P.K., Saha, M., Singh, K.C., Ghatak, P., Kundu, A., Saha, S., Nath, R. and Chakraborti, P. (2023). Assessment and mitigation of soil water stress of rainfed lentil (*Lens culinaris* Medik) through sowing time, tillage and potassic fertilization. *Agricultural Water Management*, **277**: 108120. (NAAS: 12.61).
- Sengupta, S, Bhattacharyya, K., Mandal, J., Bhattacharya, P. and Chattopadhyay, A.P. (2023). Zinc and iron enrichment of vermicompost can reduce the arsenic load in rice grain: an investigation through pot and field experiments. *J. Clean. Prod.*, **419**: 138267. (NAAS: 15.70)
- Sengupta, S., Patra, S.K., Laha, A., Poddar, R., Bhattacharyya, K., Dey, P., and Mandal, J. (2023). Replacing conventional surface irrigation with micro-irrigation in vegetables can alleviate arsenic toxicity and improve water productivity. *Groundwater Sustain. Dev.*, **23**: 101012. (NAAS 11.71).
- Mandal, S., Karmakar, R., Ansary, I., Hazra, D.K., Poi, R., Mondal, G. and Bhattacharyya, S. (2023). Assessing residues of newly synthesized quinolone derivatives as antifungals for disease management and consumer safety in tomatoes. *Food Chemistry Advances*, **3**: 100532. (NAAS 14.5)
- Mukherjee, S., Basak, A., Chakraborty, A., Goswami, R., Ray, K., Ali, M.N., Santra, S., Hazra, A.K., Tripathi, S., Banerjee, H., Layek, J., Panwar, A.S., Ravisankar, N., Ansari, M.A. and Chatterjee, G. (2023). Revisiting the oldest manure of India,



- Kunapajala: Assessment of its animal waste recycling potential as a source of plant biostimulant. *Frontiers in Sustainable Food Systems*, **6**: 1073010. (NAAS: 10.70)
8. Mandal, J., Jain, V., Sengupta, S., Rahman, M.A., Bhattacharyya, K., Rahman, M.M. and Mondal, D. (2023). Determination of bioavailable arsenic threshold and validation of modeled permissible total arsenic in paddy soil using machine learning. *Environmental Geochemistry and Health*, **52**(2): 315–327. (NAAS: 10.90)
 9. Barrow, N.J., Debnath, A. and Sen, A. (2023). Investigating the dissolution of soil phosphate. *Plant and Soil*, **490**: 591-599. (NAAS:10.9)
 10. Barman, M., Samanta, S., Ahmed, B., Dey, S., Chakraborty, S., Deeksha, M.G., Dutta, S., Samanta, A., Tarafdar, J. and Roy, D. (2023). Transcription dynamics of heat-shock proteins (Hsps) and endosymbiont titres in response to thermal stress in whitefly, *Bemisia tabaci* (Asia-I). *Front. Physiol.*, **13**: 1097459. (NAAS: 10.76)
 11. Chandran, M.A.S., Banerjee, S., Mukherjee, A., Nanda, M.K., Venugopalan, V.K., Laing, A.M., Siddiqui, M.H. and Hossain, A. (2023). Coupling crop simulation modelling and multi-criteria decision aid for ranking the sustainability of cropping sequences. *Front. Sustain. Food Syst.*: 1208283. doi: (NAAS: 11.01)
 12. Das, R., Kumar, R., Sarkar, D., Das, S., Pradhan, A.K., Das, D., Srivastava, M., Sinha, A.K., Sahoo, S., Datta, S.P. and Mandal, B. (2023). Boron fractions and its availability in soils of the Indo-Gangetic plains. *Catena*, **222**: 106877. (NAAS 12.37)
 13. Dasgupta, S., Debnath, S., Das, A., Biswas, A., Weindorf, D.C., Li, B., Shukla, A.K., Das, S., Saha, S. and Chakraborty, S. (2023). Developing regional soil micronutrient management strategies through ensemble learning based digital soil mapping. *Geoderma*, **433**:116457. (NAAS: 13.42)
 14. Dhali, K., Daver, F., Cass, P., Field, M.R. and Adhikari, B. (2023) Development and characterisation of poly (butylene adipate-co-terephthalate)-silane modified cellulose nanocrystals composite materials and films. *J. Polym. Environ.*,**31**(10): 4506-4521. (NAAS:10.71)
 15. Ghorai, P.S., Biswas, S., Purakayastha, T.J., Ahmed, N., Das, T.K., Prasanna, R., Gawade, B.H., Bhattacharyya, K., Sinha, K., Singh, P. and Das, S. (2023). Indicators of soil quality and crop productivity assessment at a long-term experiment site in the lower Indo-Gangetic plains. *Soil Use Manag.*,**39**(1): 503-520. (NAAS:11.00)
 16. Kala, S., Agarwal, A., Kant, K., Mishra, B.K., Sogan, N., Kumar, N., Jawale, C.K., Hazra, D.K. and Kumar, J. (2023). An environmentally benign oil dispersion/phytoextract system for improved retention upon foliage and control of aphids in spice crops. *Journal of Cleaner Production*, **414**: 137449. (NAAS: 15.70).
 17. Laha, S., Subrahmanyeswari, T., Kamble, S.N., Singh, S., Bhattacharyya, S. and Gantait, S. (2023). Biogenic synthesis, characterization and application of silver nanoparticles as biostimulator for growth and rebaudioside-A production in genetically stable stevia (*Stevia rebaudiana* Bert.) under in vitro conditions. *Industrial Crops and Products*, **197**: 116520. (NAAS: 11.60)



18. Lavanya, V., Nayak, A., Dasgupta, S., Urkude, S., Dey, S., Biswas, A., Li, B., Weindorf, D.C. and Chakraborty, S. (2023). A smartphone-integrated imaging device for measuring nitrate and phosphate in soil and water samples. *Microchemical Journal*, **193**: 109042. (NAAS:11.10)
19. Kumar, V., Swain, H.S., Upadhyay, A., Ramteke, M.H., Sarkar, D.J., Roy, S. and Das, B.K. (2023). Bioaccumulation of potentially toxic elements in commercially important food fish species from lower Gangetic stretch: food security and human health risk assessment. *Biological Trace Element Research*, 202(3):1235-1248. DOI: 10.1007/s12011-023-03743-8..(NAAS 10.08).
20. Mujahid, M.H., Upadhyay, T.K., Upadhaye, V., Sharangi, A.B. and Saeed, M. (2023). Phytocompound identification of aqueous *Zingiber officinale* rhizome (ZOME) extract reveals antiproliferative and reactive oxygen species mediated apoptotic induction within cervical cancer cells: an *in vitro* and *in silico* approach. *Journal of Biomolecular Structure and Dynamics*, **42**(17): 8733–8760. (NAAS: 11.24)
21. Roy, A., Sahu, P.K., Das, C., Bhattacharyya, S., Raina, A. and Mondal, S. (2023). Conventional and new-breeding technologies for improving disease resistance in lentil (*Lens culinaris* L. Medik). *Frontiers in Plant Science*, **13**: 1001682.(NAAS:12.63)
22. Roy, C., He, X., Gahtyari, N.C., Mahapatra, S. and Singh, P.K. (2023). Managing spot blotch disease in wheat: Conventional to molecular aspects. *Frontiers in Plant Science*, **14**: 1098648. (NAAS:12.63)
23. Sarkar, R., Mukherjee, S., Pradhan, B., Chatterjee, G., Goswami, R., Ali, M.N. and Ray, S.S. (2023). Molecular characterization of vermicompost-derived IAA-releasing bacterial isolates and assessment of their impact on the root improvement of banana during primary hardening. *World Journal of Microbiology and Biotechnology*, **39**(21): 351. (NAAS:10.25)
24. Purkait, P.K., Majumder, S., Roy, S., Maitra, S., Das, G.C. and Ghosh Chaudhuri, M. (2023). Enhanced heterogeneous photocatalytic degradation of florasulam in aqueous media using green synthesized TiO₂ nanoparticle under UV light irradiation. *Inorganic Chemistry Communications*, **155**: 111017. (NAAS: 10.4)
25. Bhattacharya, U., Naskar, M.K., Venugopalan, V.K., Sarkar, S., Bandopadhyay, P., Maitra, S., Gaber, A., Alsuhaibani, A.M. and Hossain, A. (2023). Implications of minimum tillage and integrated nutrient management on yield and soil health of rice-lentil cropping system – being a resource conservation technology. *Front. Sust. Food Syst.*, **7**:1225986. (NAAS 11.01)
26. Bhattacharyya, S., Poi, R., Sen, M.B., Mandal, S., Hazra, D.K., and Karmakar, R. (2023). Efficient fabrication of pH-modified graphenenano-adsorbent for effective determination and monitoring of multi-class pesticide residues in market-fresh vegetables by GC-MS. *J. Food Comp. Anal.*, **118**: 105153. (NAAS: 11.08)



Papers published in Journals with NAAS rating 7.5-10: No. 52

1. Ali, M., Hazra, D.K., Mondal, G., Yengkhom, B.K., Karmakar, R. and Saha, S. (2023). Exploration of lac agro-industry biowaste as antioxidant and food preservative for their sustainable waste management. *Chem. Papers*, **77**(9), 4995-5005. (NAAS : 8.01).
2. Amir, A., Sharangi, A.B., Bal, S., Upadhyay, T.K., Khan, M.S., Ahmad, I., Alabdallah, N.M., Saeed, M. and Thapa, U. (2023). Genetic variability and diversity in red onion (*Allium cepa* L.) genotypes: Elucidating morpho-horticultural and quality perspectives. *Horticulturae*, **9**: 1005. (NAAS: 8.92)
3. Baishya, A., Chowdhury, A., Chakrabarty, R., Sengupta, S., Das, A., Panda, A., Bhadoriya, U.P.S. and Mandal, D. (2023). Spatiotemporal analysis and trend detection of groundwater levels using GIS techniques in Nadia district of West Bengal, India. *J. Geol. Soc. India*, **99**: 868–874. (NAAS: 7.47)
4. Bal, S., Sharangi, A.B., Upadhyay, T.K., Aljerwan, R.F., Altayyar, A.A., Kahrizi, D. and Ahmad, I. (2023). Quantum leap in the light of molecular elucidation of garlic genome. *Cell. Mol. Bio.*, **69**(3): 33-51. (NAAS: 7.7)
5. Banerjee, P., Kumari, V.V. and Nath, R. (2023). Response of autumn sown black gram as influenced by cobalt, potassium and boron nutrition under Indian subtropics. *J. Plant Nutr.*, **46**(19): 4573-4593. (NAAS :8.60)
6. Bhattacharyya, S., Poi, R., Sen, M.B., Hazra, D.K., Mandal, S., and Karmakar, R. (2023). Long-term profound investigation of Fenoxaprop-p-ethyl and indirect pesticide pollution in jute-cropped environmental ecosystem for dietary and ecological risk assessment. *Environ. Geochem. Health*, **45**(6): 3683-3698. (NAAS: 9.20)
7. Bose, S., Hazra, S., Hazra, P., Chattopadhyay, A., Maji, A., Basfore, S. and Karak, C. (2023). Characterization of gynoeocious-parthenocarpic and monoecious cucumber lines (*Cucumis sativus* L.) and regression modelling to obtain high yielding and functionally rich genotypes. *Hortic. Environ. Biotechnol.*, **65**(3): 465-476. (NAAS: 8.14)
8. Chakraborty, S., Mahapatra, S., Hooi, A., Alam, S.H., Kumar, S. and Kashyap, P.L. (2024). Insights into the influence of partial disease resistance components on host preference of *Bipolaris sorokiniana* in wheat. *J. Plant Pathol*, **106**(3): 1247-1258. (NAAS 8.2)
9. Char, M., Subrahmanyeswari, T., Bhattacharyya, S. and Gantait, S. (2023). *meta*-Topolin-induced *in vitro* propagation, field evaluation, flow cytometry and molecular marker-based genetic stability assessment of potato cv. Badami alu. *Plant Cell Tissue Organ Cult.*, **155**: 485-493. (NAAS: 9.00)
10. Das, S., Das, A., Idapuganti, R.G., Layek, J., Thakuria, D., Sarkar, D., Bhupen-chandra, I., Lal, R., Chowdhury, S., Babu, S. and Debbarma, K. (2023). Liming and micronutrient application improves soil properties and productivity of



- the groundnut-rapeseed cropping system in an acidic *Inceptisol* of India's eastern Himalayas. *Land Degrad. Dev.*, **34**: 3681-3699. (NAAS rating 9.60)
11. Das, T., Sen, A. and Mahapatra, S. (2023). Characterization of plant growth-promoting bacteria isolated from rhizosphere of lentil (*Lens culinaris* L.) grown in two different soil orders of eastern India. *Brazilian J. Microbiol.*, **54**(4): 3101-3111. NAAS. 8.2
 12. Debnath, S., Dey, A., Khanam, R., Saha, S., Sarkar, D., Saha, J.K., Coumar, M.V., Patra, B.C., Biswas, T., Ray, M., Radhika, M.S. and Mandal, B. (2023). Historical shifting in grain mineral density of landmark rice and wheat cultivars released over the past 50 years in India. *Sci. Rep.*, **13**: 21164. (NAAS : 9.80)
 13. Devi, N.M., Kundu, C.K., Ghosh, M., Bhattacharya, K., Banerjee, H. and Majumder, A. (2023). Arsenic acquisition pattern in different plant parts of aromatic rice cultivars. *Environ. Conserv. J.*, **24**(1): 238-242.
 14. Dutta, P., Hazra, P., Hazra, S., Maji, A. and Chattopadhyay, A.(2023).Genetic expression of reproductive and fruit quality traits in snap melon (*Cucumis melo* var. *momordica* L.). *Euphytica*, **219**(1): 15. (NAAS: 8.19)
 15. Gantait, S., Das, S., Mahanta, M. and Banerjee, M. (2023). Influence of *in vitro* culture age on morphology, antioxidant activities, reserpine production, and genetic fidelity in Indian snakeroot (*Rauvolfia serpentina* (L.) Benth. ex Kurz.). *South African J. Bot.*,**162**: 864-872. (NAAS: 9.10)
 16. Ghosh, A., Nalia, A., Reja, M.H., Mukherjee, S. and Nath, R. (2023). Zinc and iron foliar feeding on different lathyrus varieties influencing the biofortification, bio-availability and productivity. *J. Plant Nutr.*, **46**(14): 3325-3338.(NAAS 8.60)
 17. Goswami, R., Dutta, S., Misra, S., Dasgupta, S., Chakraborty, S., Mallick, K., Sinha, A., Singh, V.K., Oberthür, T., Cook, S. and Majumdar, K., 2023. Whither digital agriculture in India? *Crop & Pasture Sci.*, **74**(6): 586–596.(NASS: 7.8)
 18. Hazra, D.K., Mondal, P., Purkait, A., Mandal, S., Bhattacharyya, S., Karmakar, R., Roy, S., Banerjee, T. and Banerjee, H. (2023). Determination of quizalofop-p-ethyl in onion: residual dissipation pattern, weed control efficiency, and food safety assessment under field conditions. *Environ. Monitor. Assess.*,**195**: 1067. (NAAS: 8.9).
 19. Khanam, R., Hazra, G.C., Kulsum, P.G.P.S., Chatterjee, N., Thingujam, U. and Shukla, A.K. (2023). Arsenic cleanup goals in soil–water–rice–human continuum: interplay of amendments. *Journal of Soil Science and Plant Nutrition*, **23**(3): 4267–4278. (NAAS: 9.40).
 20. Kundu, R., Sarkar, A., Moinuddin, G., Jash, S., Poddar, R. and Dey, A. (2023). Response of groundnut to phosphorus and bio-organics in Alfisols of Red and Laterite zone of India. *Journal of Plant Nutrition*, **46**: 2016–2030.
 21. Kundu, R., Sarkar, A., Poddar, R., Jash, S., Moinuddin, G. and Sen, A. (2023). Bio-formulation in combination with inorganic fertilizer improves crop growth, productivity and economics of kharif groundnut (*Arachis hypogaea* L.) in Red and



- Laterite soils. *Archives of Agronomy and Soil Science*, **69**(15): 3438–3454. (NAAS: 8.40).
22. Lavanya, V., Nayak, A., Deb Roy, P., Dasgupta, S., Dey, S., Li, B., Weindorf, D.C. and Chakraborty, S. (2023). A smartphone-enabled imaging device for chromotropic acid-based measurement of nitrate in soil samples. *Sensors*, **23**(17): 7345. [NAAS: 8.80].
 23. Mahanta, M., Gantait, S., Mukherjee, E. and Bhattacharyya, S. (2023). *meta*-Topolin-induced mass propagation, acclimatization and cyto-genetic fidelity assessment of gerbera (*Gerbera jamesonii* Bolus ex Hooker f.). *South African Journal of Botany*, **153**: 236–245. (NAAS:9.11).
 24. Mahanta, M., Gantait, S., Sarkar, S., Sadhukhan, R. and Bhattacharyya, S. (2023). Colchicine-mediated *in vitro* autopolyploidization in gerbera hybrid. *3 Biotech*, **13**(3): 74.(NAAS: 8.89)
 25. Maji, R., Saha, S. and Pal, S.K. (2023). Influence of lime and organics on phosphorus sorption-desorption kinetics in red-lateritic soils of West Bengal. *Journal of Soils and Sediments*, pp.1–15. (NAAS: 9.54).
 26. Mal, S., Sarkar, D., Mandal, B., Basak, P., Kundu, R., Ghosh, D., Dutta, J., Deb, S. and Rahman, F.H. (2023). Determination of critical concentrations of boron in soils and leaves of tomato (*Lycopersicon esculentum* L.) using polynomial equation. *Journal of Soil Science and Plant Nutrition*, **23**: 4055–4065. (NAAS: 9.40)
 27. Mandal, S., Poi, R., Hazra, D.K., Ansary, I., Bhattacharyya, S. and Karmakar, R. (2023). Review of extraction and detection techniques for the analysis of pesticide residues in fruits to evaluate food safety and make legislative decisions: Challenges and anticipations. *Journal of Chromatography B*, **1215**: 123587. (NAAS: 8.80)
 28. Mascarenhas-Pereira, M.B.L., Nath, B.N., Neetu, S., Rebelo, R.A., Sebastian, T., Sarkar, A., Kazip, A., Ajeesh, M.S., Miriyala, P., Patil, J., Kocherla, M., Rao, B.R. and Parthiban, G. (2023). Modern sedimentation on the eastern continental shelf of India: Assessing the provenance and sediment dispersal pattern. *Marine Geology*. <https://doi.org/10.1016/j.margeo.2023.107126> (NAAS: 8.90)
 29. Mondal, P. and Karmakar, K. (2023). A new species of *Daidalotarsonemus* from Eastern India with redescription of *D. duolamella* Lin, Chen and Zhang, 1998 (Acari: Tarsonemidae) and keys to the Oriental species. *Biologia*, **78**: 129–140. (NAAS:7.65)
 30. Mukherjee, A., Huda, A.K.S. and Saha, S. (2023). Impact of climate change on future productivity and water use efficiency of wheat in eastern India. *Theoretical and Applied Climatology*, **152**(1–2): 421–434. (NAAS: 9.41)
 31. Mukherjee, B., Naskar, M.K., Nath, R., Atta, K., Kumari, V., Banerjee, P., Atamri, S., Patra, K., Lang, A.M., Shalicky, M. and Hossain, A. (2023). Growth, nodulation, yield, nitrogen uptake and economics of lentil as influenced by sowing time, tillage and management practices. *Frontiers in Sustainable Food Systems*, pp. 1–13. <https://doi.org/10.3389/fsufs.2023.1151111> (NAAS: 9.70)



32. Nandi, R., Mudi, D.K., Singh, K.C., Saha, M., Bandyopadhyay, P.K., Ghatak, P., Kundu, A., Saha, S., Nath, R. and Chakraborti, P. (2023). Partitioning of evapotranspiration and crop coefficients of lentil under conserved soil moisture conditions. *Journal of Soil Science and Plant Nutrition*, **24**(1): 435–450. (NAAS: 9.40)
33. Nandy, P., Das, S.K. and Tarafdar, J.C. (2023). Effect of integrated nutrient management and foliar spray of zinc nano-form on rice crop nutrition, productivity and soil properties in Inceptisols. *Journal of Soil Science and Plant Nutrition*, **23**: 540–555. (NAAS: 9.40)
34. Phonglosa, A., Bhattacharyya, K., Pari, A., Ray, K., Banerjee, H., Haldar, S., Sengupta, S., Bhattacharya, P. and Mandal, J. (2023). Assessment of the suitability of selected extractants for boron in some inceptisols of Eastern India under sunflower (*Helianthus annuus* L.). *Journal of Plant Nutrition*, **46**(17): 4340–4355. (NAAS: 7.6)
35. Poddar, R., Acharjee, P.U., Bhattacharyya, K. and Patra, S.K. (2023). Mitigation of arsenic in broccoli through consumptive use of groundwater and pond water as irrigation sources. *Archives of Agronomy and Soil Science*, **69**(5): 726–743. (NAAS: 8.30)
36. Ray, K., Barman, A.R., Sen, K., Dutta, S. and Ray, S.K. (2023). Molecular variability and host range of *Rhizoctonia solani* AG1 IA in rice vegetable based cropping systems in West Bengal, India. *Journal of Plant Pathology*, **105**: 283–294. (NAAS: 8.20).
37. Rayanoothala, P., Alam, S.H., Mahapatra, S. et al. (2023). Rhizosphere microorganisms for climate resilient and sustainable crop production. *Gesunde Pflanzen*, **75**: 2207–2225. (NAAS: 9.1)
38. Rayanoothala, P., Mahapatra, S., Das, S. et al. (2023). ISSR marker based genetic divergence study for charcoal rot disease resistance triggered by salicylic acid elicitor in mungbean (*Vigna radiata* (L.) Wilczek). *Tropical Plant Pathology*, **48**: 667–674. (NAAS: 8.5).
39. Roy, A., Reddy, M.H., Sarkar, M., Sagolsem, D., Murmu, S.K., Das, C., Roy, D., Ganguly, S., Nath, R., Bhattacharyya, P.K., Sarker, A. and Bhattacharyya, S. (2023). A mis-splicing early flowering 3 (elf3) allele of lentil is associated with yield enhancement under terminal heat stress. *Journal of Applied Genetics*, **64**: 265–273. (NAAS: 8.40).
40. Roy, D., Sau, S., Adhikary, S., Biswas, A., Biswas, S., Chakraborty, G. and Sarkar, P.K. (2023). Resistance risk assessment in diamondback moth, *Plutellaxylostella* (L.) to fluxametamide. *Crop Protection*, **163**: 106101. (NAAS:9.09).
41. Roy, P., Gorai, S., Hazra, S., Bhattacharya, S., Murmu, M., Ali, M.N. and Maji, A. (2024). Screening diverse wheat (*Triticum aestivum* L.) genotypes for spot blotch resistance. *Genetic Resources and Crop Evolution*, **71**(8): 4115–4130. (NAAS: 8.0).
42. Saha, S., Purkayastha, S., Nimitha, K., Ganguly, S., Das, S., Ganguly, S., Sinha Mahapatra, N., Bhattacharya, K., Das, D., Saha, A.K., Biswas, T., Bhattacharyya,



- P.K. and Bhattacharyya, S. (2023). Rice (*Oryza sativa*) alleviates photosynthesis and yield loss by limiting specific leaf weight under low light intensity. *Functional Plant Biology*, **50**(4): 267–276. (NAAS: 8.81).
43. Samanta, S., Barman, M., Thakur, H., Chakraborty, S., Upadhyaya, G., Roy, D., Banerjee, A., Samanta, A. and Tarafdar, J. (2023). Evidence of population expansion and insecticide resistance mechanism in invasive fall armyworm (*Spodoptera frugiperda*). *BMC Biotechnology*, **23**(1): 17. (NAAS: 9.50).
44. Sarkar, B., Saha, N., Mukherjee, S., Basak, J.S., Dutta, S., Dey, D. and Dey, P. (2023). Selection of an extraction method suitable for estimating potentially available phosphorus under the organic production system of new alluvial zone of the Lower Gangetic Plain of India. *Journal of Soil Science and Plant Nutrition*, **23**(2): 2404–2417. (NAAS: 9.90).
45. Sen, A., Sk Md Asif, Sarkar, A. and Saha, H. (2024). Sorption of sulfur in highly leached humid soils of north east India. *Communications in Soil Science and Plant Analysis*, **55**(10): 1539–1550. (MAAS: 7.80).
46. Singh, A.P., Dewanjee, S., Majhi, T. and Das, D. (2023). Phenotypic characterization of Indian mustard using agronomic and quality traits under semi-arid climate. *Ann. Appl. Biol.*, **184**(3): 365-373. (NAAS 8.75).
47. Soyel, S.K.A., Hazra, D.K., Ruidas, S., Mandal, S., Bhattacharyya, S., Poi, R., Karmakar, R., Mondal, G., Majumder, S. and Mondal, P. (2023). Simultaneous monitoring and decontamination of pesticide residues in phytomedicine-enriched betel leaf utilizing QuEChERS-GC-MS/MS technology to safeguard public health. *J. AOAC Int.*, **106**(5):1209-1219. (NAAS : 8.03).
48. Subrahmanyeswari, T., Gantait, S., Kamble, S.N., Singh, S. and Bhattacharyya, S. (2023). Radio-sensitivity assessment of in vitro tissues of stevia (*Stevia rebaudiana* Bert.) for induced mutagenesis. *Sugar Tech.*, **25**: 1520-1530. (NAAS: 7.90).
49. Subrahmanyeswari, T., Gantait, S., Kamble, S.N., Singh, S. and Bhattacharyya, S. (2023). *meta*-Topolin-induced regeneration and ameliorated rebaudioside- A production in genetically uniform candy-leaf plantlets (*Stevia rebaudiana* Bert.). *South African J. Bot.*, **159**: 405-418. (NAAS: 9.10)
50. Subrahmanyeswari, T., Laha, S., Kamble, S.N., Singh, S., Bhattacharyya, S., Gantait, S. (2023). Alginate-encapsulation of shoot tips and their regeneration for enhanced mass propagation and germplasm exchange of genetically stable *Stevia rebaudiana* Bert. *Sugar Tech.*, **25**: 542-551. (NAAS: 7.90).
51. Sutradhar, M. and Mandal, N. (2023). Reasons and riddance of *Agrobacterium tumefaciens* overgrowth in plant transformation. *Transgenic Res.*, **32**(1): 33-52. (NAAS: 8.79).
52. Thapa, A., Choudhuri, P., Golay, S. and Golay, S. (2023). Intercropping for nutrient retention, profitability, and quality bulb production of garlic (*Allium sativum* L.) under eastern Himalayan foothills region. *J. Plant Nutr.*, **46**(12): 2905-2911. (NAAS : 7.60)



Papers published in Journals with NAAS rating NAAS (5-7.5): No. 136

1. Ghosh, T., Maherukh, K., Chowni, S. and Pal, A.K. (2023). Influence of humic acid and vermicompost on vegetative and flowering performances of African marigold cv. Seracole in Indo-Gangetic plains of West Bengal. *Int. J. Plant Soil Sci.*, **34**(17): 68-75. NAAS-5.07
2. Vishwajith, K.P., Sahu, P.K., Srivastava, A.B. and Gautam, R. (2023). Modeling and forecasting of lentil. *Indian J. Agric. Biol. Appl. Stat.*, **2**(1): 25-44. (NAAS 7.5)
3. Sutradhar, S., Choudhury, A. and Bordolui S.K. (2023). Effects of seed invigoration treatments with bio-priming on germination, vigour and seedling growth in black gram (*Vigna mungo* L.). *Int. J. Plant Soil Sci.*, **35**(18): 740-746. (NAAS 5-7.5)
4. Sushmitha, S., Bagang, P., Sravani, B.L., Ravi, G. and Pramanik, A. (2023). Field evaluation of different IPM modules against fall armyworm, *Spodoptera frugiperda* (JE Smith) (Lepidoptera: Noctuidae) on maize. *J. Eco-friendly Agric.*, **18**(1): 151-155. (NAAS:5.23).
5. Subba, S., Choudhury, S., Chhetri, S., Meena, H. and Debnath, S. (2023). Floor management of banana orchard using banana biomat mulch and leguminous cover crop for sustainable production. *The Pharma Innov. J.*, **12**(1): 680-684. (NAAS 5.23)
6. Shil, S., Dewanjee, S., Kishore, P.S. and Rambabu, B. (2023). Morpho-physiological characterization of some indigenous rice (*Oryza sativa* L.) landraces for germplasm identification and evaluation towards drought stress under red and laterite soil in Bankura, West Bengal. *Pharma Innovation*, **12**(7): 850–855.
7. Shil, S., Rambabu, B., Kishore, P.S. and Dewanjee, S. (2023). TRIA-mediated physio-morphological and biochemical growth regulation in maize (*Zea mays* L.) under moisture deficit stress. *Biol. Forum – An Int. J.*, **15**(10): 813-819.
8. Shil, S., Dewanjee, S., Kishore, P.S. and Rambabu, B. (2023). Recent advances in understanding the morpho-physiological and biochemical mechanisms in plants towards drought stress. *Pharma Innovation*, **12**(6): 3901-3907. NAAS-2023: 5.23.
9. Saha, S., Banerjee, S. and Rahman, F.H. (2023). Assessing the impact of temperature and rainfall on mustard yield through Detrended Production Index. *Mausam*, **74**(4): 921–928. (NAAS: 6.70)
10. Saha, R., Mondal Ghosh, S., Gope, A., Lala, R.K. and Chakraborty, G. (2023). Seasonal incidence and effect of weather parameters on key insect pests in maize. *The Pharma Innovation*, **12**(11), 86–92. 5.23
11. Saha, P. and Rizal, S. (2023). Development of forecasting model for assessing disease risk and non-risk period in *Fusarium wilt* × *Bananapathosystem*. *Indian Journal of Ecology*, **50**(SI 5): 1757–1761. (NAAS:5.79)
12. Patsa, R., Jash, S., Dutta, S., Barman, A.R., Poduval, M. and Ray, S.K. (2023). *Pestalotiopsis* leaf spot: an important foliar disease in cashew nut seedling incited by *Pestalotiopsis oxyanthi* in West Bengal, India. *Indian Phytopathology*, <https://doi.org/10.1007/s42360-023-00641-w> (NAAS: 5.97).



13. Moinuddin, G. and Saren, B.K. (2023). Response of groundnut varieties to phosphorus management and its residual effect on succeeding baby corn. *Biological Forum*, **15**(4): 603–608. (NAAS: 5–7.5)
14. Moinuddin, G. and Saren, B.K. (2023). Response of groundnut varieties to phosphorus management in groundnut–baby corn cropping sequence. *International Journal of Bio-resource and Stress Management*, **14**(7): 961–968. (NAAS: 5–7.5)
15. Mondal Ghosh, S., Gope, A. and Chakraborty, G. (2023). Management of rice root-knot nematode, *Meloidogyne graminicola*, through bioagents. *Journal of Crop and Weed*, **19**(3): 111–115. (NAAS 5.46).
16. Mantry, S.K., Singh, A.P., Jana, K., Sarkar, S. and Bhattacharyya, S. (2023). Gamma ray induced mutagenesis in ricebean [*Vigna umbellata* (Thunb.) Ohwi and Ohashi] for improved forage related traits. *J. Crop and Weed*, **19**: 122–131. (NAAS: 5.26)
17. Mahata, D., Ghosh, M., Bhattacharya, A. and Banerjee, S. (2023). Effect of storage containers on nutritional quality of indigenous scented rice (cv. Gobindabhog). *International Journal of Plant and Soil Science*, **35**(20): 340–347. (NAAS: 5.07).
18. Mahato, T., Murmu, K., Sarkar, A., Maji, S. and Das, P. (2023). Yield intensification of spring mungbean (*Vignaradiata* L.) through exogenous foliar nutrition. *J. Crop and Weed*, **18**(3): 38-43. (NAAS: 5.28).
19. Maherukh, K., Adhikary, K., Rahaman, A. and Pal, A.K. (2023). Efficacy of seaweed and neemcake on growth and flowering attributes of tuberose (*Polianthes tuberosa* L.) in the plains of West Bengal. *Ecology, Environment and Conservation*, **29**: 13–17. (NAAS: 5.41).
20. Majee, A., Maji, S., Bhowmick, U.R., Mondal, S., Biswas, P., Mondal, A., Saharoy, A. and Paul, A. (2023). Effect of zinc nutrition on lathyrus (*Lathyrus sativus* L.) under varying sowing dates in the Gangetic Plains. *Legume Research*. <https://doi.org/10.18805/LR-5152> (NAAS: 6.80).
21. Acharya, S., Acharya, S. K., Mandal, T. K., Mohanty, B. K., and Haque, M. (2023). Information receiving behavior of farmers: The structural and functional analysis. *Indian J. Ext. Edu.*, **59**(3): 58-62. (NAAS:5.95)
22. Acharya, S., Acharya, S.K., Mandal, T.K., and Mohanty, B.K. (2023). Value generation through mobility and transshipment along the value chains: The farmer producer organisation (FPO) reality and ecosystem. *Journal of Community Mobilization and Sustainable Development*, **18**(1): 213-218. (NAAS:5.67)
23. Acharya, S., Acharya, S.K., Mandal, T.K., Mohanty, B.K. and Das, S. (2023). Economical communication and finance for evolving farmer producer organizations (FPOs): The hope and inevitability for a prosperous rural Odisha. *Int. J. Environ. Climate Chan.*, **13**(7): 236-244. (NAAS: 5.13).
24. Acharya, S., Acharya, S. K., & Mandal, T. K. (2023). Evolving entrepreneurial trajectory in Odisha through farmer producer organisations: A new farm economy. *Indian Research Journal Extension Education*, **23**(3): 104-109 (NAAS:5.22)



25. Acharya, S., Acharya, S.K., Mandal, T.K., Mohanty, B.K., Haque, M. (2023). Information receiving behaviour of farmers: The structural and functional analysis. *Indian J. Ext. Edu.*, **59**(3): 58-62. (NAAS: 5.95).
26. Aishwarya, V., Bhattacharyya, B., Nevashini, N. and Gowthaman, T. (2023). Forecasting of Area and Production of Onion and Tomato by Employing Exponential Smoothing Models. *The Pharma Innov. J.*, **12**(2): 1624-1628 (NAAS- 5.23)
27. Alam, S.H., Chakraborty, S., Hooi, A., Samanta, M. and Mahapatra, S. (2023). Morpho-molecular identification of *Lasiodiplodiatheobromae* causing leaf blight of Orchid in India. *Natl. Acad. Sci. Lett.*, **46**: 461-463. (NAAS. 7.1).
28. Asif, S. M., Sen, A., Biswas, P., Parvin, S.A., Sarkar, S. and Pal, S. (2023). Optimizing P and Zn levels for greengram growth: Insights into P-Zn interaction and rhizospheric soil pH. *J. Exp. Agric. Int.*, **45**(8): 151-161. (NAAS: 5.14)
29. Atal, H.L. and Mitra Sarkar, M. (2023). Effect of shoot bending at different time on production and quality of Hybrid Tea rose cultivar Minu Pearle. *International Journal of Plant and Soil Science*, **35**(18):978-988. (NAAS 5.07)
30. Atal, H.L. and Mitra Sarkar, M. (2023). Influence of shoot bending angles on performance of Hybrid Tea rose cultivar “Minu Pearle”. *Agriculture Association of Textile Chemical and Critical Reviews Journal*, **11**(2):190-194. (NAAS: 6.78)
31. Misra, A., Sarkar, A., Gope, A., Samanta, S. and Banerjee, S. (2023). Bio-efficacy of different new molecular insecticides against diamondback moth (*Plutellaxylostella* L.) infesting cabbage (*Brassica oleracea* var. *capitata*) in the Gangetic Plains of West Bengal. *Journal of Entomological Research*, **47**(Suppl.): 960–964. (NAAS: 5.63)
32. Shah, M.H., Mandal, B., Mukherjee, D and Kundu, S. (2023). Effect of weed management in transplanted rice under new alluvial zone of West Bengal. *Pharma Innovation*, **12**(8): 1834-1838. (NAAS 5.23)
33. Bag, A., Ghosh, M., Banerjee, S., De, S.K. and Bera, S. (2023). Effect of crop-establishment methods on growth, yield and economics of lathyrus (*Lathyrus sativus* L.) varieties in Vindhya Alluvial region of West Bengal. *Indian J. Agron.*, **68**(3): 335-337. (NAAS 5.55).
34. Meena Devi, N., Kundu, C.K., Ghosh, M., Bhattacharyya, K., Banerjee, H. and Majumder, A. (2023). Arsenic acquisition pattern in different parts of aromatic rice cultivars. *Environment Conservation Journal*, <https://doi.org/10.36953/ECJ.12932366>. (NAAS:5.66).
35. Bala, S.C. (2023). Bio-efficacy evaluation of ready-mix insecticide (Difenthiuron 30 + Pyriproxyfen 8% SE) against yellow mite, *Polyphagotarsonemus latus* (Banks) and whitefly, *Bemisiatabaci* (Gennadius) infesting in chilli in West Bengal. *Pharma Innovation*, **SP-12**(12): 521-524. (NAAS 5.23)
36. Bala, S.C. and Karmakar, K. (2023). Diversity of mite fauna associated with flower plants in West Bengal, India, *J. ent. Res.*, **46** (Suppl.): 1188-1193. (NAAS: 5.89)



37. Bandyopadhyay, P., Karmakar, K. and Halliday, B. (2023). Checklist of Indian mites in the family Laelapidae (Acari: Mesostigmata). *Zootaxa*, **5249**(4): 401-424. (NAAS:7.03)
38. Banerjee, A. and Pal, S. (2023). Evaluation of different integrated pest management modules against major pests of field pea. *J. Crop and Weed*, **19**(2): 89-96. (NAAS: 5.46)
39. Banerjee, H., Pahari, A., Banik, A., Nayak, J. and Alipatra, A. (2023). Varietal and fertilization effects on growth and yield of mustard under coastal agroecosystem. *J. Indian Soc. Coast. Agric. Res.*, **41**(1): 1-8. NAAS rating 5-7.5
40. Banerjee, H., Ray, K., Alipatra, A., Nayak, J., Pahari, A. and Banik, A. (2023). Crop selection and management strategies to combat weather related vagaries in coastal Bengal. *SATSA Mukhapatra – An. Tech. Issue*, **27**: 134-144. (NAAS 5-7.5)
41. Banerjee, A. and Ray, S. (2023). Efficacy of certain novel insecticides against insect pests of summer green gram [*Vigna radiata* (L.) Wilczek]. *Pestic. Res. J.*, **35**(2): 186-195.
42. Banerjee, A. and Samanta, S. (2023). Assessment of avoidable yield losses due to major pests of lentil in Eastern India. *J. Entomol. Res.*, **47**(4): 625-631.
43. Banerjee, P., Vishakumari, V. and Nath, R. (2023). Performance of spring-summer blackgram (*Vigna mungo*) with nutrient fortification under eastern Indian plains. *Indian J. Agric. Sci.*, **93**(4): 382-386. (NAAS 6.30).
44. Banerjee, S., Bhattacharjee, T., Maurya, P.K., Pramanik, S., Ghosh, T., Kundu, S., Parvin, N., Baul, D., Mallick, R.G., Ghosh, S. and Ghosh, D.K., Chattopadhyay, A. and Hazra, P. (2023). Breeding potential of sweet pepper genotypes involving different fruit colours and shapes using multivariate analysis. *Indian J. Ecol.*, **50**(5): 1425-1439. (NAAS:5.79).
45. Mondal, T., Chattopadhyay, S., Mandi, G., Alam, M., Bauri, F.K. and Kundu, S. (2023). Survey and selection of superior rose apple (*Syzygium jambos* L.) genotypes from West Bengal. *Environment and Ecology*, **41**(2B): 1247–1249. (NAAS 5.25).
46. Mondal, T., Sarkar, T., Alam, M., Sarkar, S.K., Rathod, K.H. and Bauri, F.K. (2023). Effect of foliar application of micronutrients on plant growth, yield and fruit quality of Thai guava (*Psidium guajava* L.). *Journal of Crop and Weed*, **19**(1): 88–94. (NAAS: 5.27)
47. Begam, A., Pramanick, M., Dutta, S., Ray, M. and Sengupta, K. (2023). Growth and yield responses of cowpea (*Vigna unguiculata* L.) as influenced by crop geometry and nutrient management practices. *Legume Res.*, **46**(9): 1184 - 1191. (NAAS 6.80).
48. Bera, A., Nath, R., Banerjee, P., Ghosh, A. and Reja, M.H. (2023). Evaluation of lentil genotypes in different sowing windows in the New Alluvial Zone of West Bengal. *Legume Res.*, **47**(6): 911-916. (NAAS 6.80)
49. Bhagyasri, G., Kundu, C.K. and Jana, K. (2023). Green forage productivity, crude protein yield, seed yield and production economics of dual purpose ricebean (*Vigna*



- umbellata*) as influenced by different organic sources of nitrogen. *Int. J. Bio-resour. Stress Manag.*, **14**(5): 750-755. (NAAS: 5.11)
50. Bhattacharya, S., Roy, S., Murmu, M., Gorai, S., Das, A., Banerjee J., and Gupta, S. (2023). Genotype × environment interaction for appraisal of iron and zinc rich stable genotypes in lentil (*Lens culinaris* Medik.). *Legume Res.* doi: 10.18805/LR-5205 (NAAS:6.8).
51. Biswas, A., Behera, S., Ziauddin. G. and Sau, S.K. (2023). Biodiversity of fresh water zooplankton of Moutore Reservoir, Purulia District, West Bengal. *J. Exp. Zool. India*, **26**(2): 1939. (NAAS 5.25).
52. Subba, S., Chhetri, S., Choudhury, S. and Debnath, S. (2023). Efficacy of floor management using banana biomat mulch and leguminous cover crop on yield and quality of guava cv. Sardar (L-49). *J. crop and Weed*, **19**(1): 73-77. (NAAS 5.27)
53. Biswas, B., Timsina, J., Garai, S., Mondal, M., Banerjee, H., Adhikary, S. and Kanthal, S. (2023). Weed control in transplanted rice with post-emergence herbicides and their effects on subsequent rapeseed in Eastern India. *Int. J. Pest Manag.*, **69**(1): 89-101. (NAAS 7.1).
54. Biswas, P., Ghosh, M., Pal, S., Bandopadhyay, P.K. and Saha, A. (2023). Effect of organic and inorganic nutrient sources on growth, yield and economics of aromatic rice (*Oryza sativa*) in Gangetic delta of West Bengal. *Indian J. Agron.*, **68**: 93-96. (NAAS: 5.21)
55. Biswas, S. and Karmakar, K. (2023). Descriptions of five new species of phytoseiid mites (Acari: Mesostigmata) from Andaman and Nicobar Islands. *Int. J. Acarol.*, **49**(1): 34-48. (NAAS: 7.21)
56. Chakraborti, S., Ghosh, P.R. and Sahoo, A.K. (2023). Fine tuning of farmers' plant protection practices to develop an alternative safer pest management system for cabbage. *J. ent. Res.*, **47**(3): 471-476. (NAAS: 5 – 7.5)
57. Chakraborty, R. and Chatterjee, S. (2023). An economic assessment of conservation agriculture in West Bengal. *J. Crop and Weed*, **19**(2): 216-222. (NAAS: 5.46)
58. Chakraborty, S., Dutta, S., Barman, M., Samanta, S., Sarkar, K.P., Poorvasandhya, R. and Tarafdar, J. (2023). Detection and in silico characterization of banana bunchy top virus in West Bengal, India: relevance to global genetic diversity and population structure. *Virus Disease*, **34**(1): 1-15. (NAAS: 5.95)
59. Chakraborty, S., Mahapatra, S., Hooi, A., Ali, N. and Satdive, R. (2023). Determination of median lethal (LD₅₀) and growth reduction (GR₅₀) dose of gamma irradiation for induced mutation in wheat. *Brazilian Arch. Biol. Technol.*, **66**: e23220294. (NAAS: 7.18)
60. Chatterjee, S., Das, A, Bhattacharya, S., Banerjee, J., Gupta, S., and Kumar, S. (2023). Identification of suitable genotypes of lentil (*Lens culinaris*) for improved adaptation to rice fallow areas of Gangetic Alluvial Zone. *Indian J. Agric Sci.*, **93**(8): 862-867. (NAAS: 6.30).



61. Choudhury, A., Bordolui, S.K. and Ray, J. (2023). Optimizing priming concentration and duration of PEG 6000 for improving seed germination and vigour in chickpea (*Cicer arietinum* L.). *Environ. Ecol.*, **43**(3C): 1953-1959. (NAAS 5-7.5).
62. Sarkar, J.D., Kundu, A. and Bandyopadhyay, P.K. (2023). The disparity in soil organic carbon concentrations under short-term conservation agriculture with rice-based cropping systems in a very fine-textured soil of lower Indo-Gangetic plain, West Bengal. *Journal of Crop and Weed*, **19**: 78–83. (NAAS: 5.27).
63. Saren, D., Murmu, S., De, S., Saha, A. and Soren, C. (2023). Efficacy of different fungicides and *Trichoderma* isolates against leaf blight disease of *Piper longum*, *Tylophora indica* and *Hibiscus subdariffa* under *in vitro*. *International Journal of Environment and Climate Change*, **13**(11): 3898–3904. (NAAS:5.13).
64. Sarkar, N.C., Mondal, K., Das, A., Mukherjee, A., Mandal, S., Ghosh, S. and Huda, S. (2023). Enhancing livelihoods in farming communities through super-resolution agromet advisories using advanced digital agriculture technologies. *Journal of Agrometeorology*, **25**(1): 68–78. (NAAS: 6.0).
65. Sarkar, D., Baishya, L.K., Meitei, C.B. and Zimik, L. (2023). Soil organic carbon pools in rice-growing Inceptisols of northeast India. *Communications in Soil Science and Plant Analysis*, **54**(10): 1415–1425. (NAAS: 7.30).
66. Dam, A. and Chatterjee, S. (2023). Technology assessment of pulses and oilseeds in eastern India over last decade. *J. Crop and Weed*, **19**(2): 223-238. (NAAS: 5.46).
67. Dam, A., Chatterjee, S. and Biswas, A. (2023). Productivity growth and sustainability of rice-wheat cropping system in Indo-Gangetic plains of India. *Agric. Econ. Res. Rev.*, **36**: 49-59. (NAAS: 5.84).
68. Dam, A., Chatterjee, S., Sarkar, D. and Kumar, P. (2023). Trends in production of pulses and oilseeds over last two decades in eastern India. *Econ. Aff.*, **68**(4): 2017-2023. (NAAS: 5.08).
69. Kundu, R., Poddar, R., Sen, A., Sarkar, A. and Ghosh, D. (2023). Effect of varietal selection and nutrient management on productivity, soil fertility and economics of summer groundnut (*Arachis hypogaea*). *Indian Journal of Agronomy*, **68**(4): 392–397. (NAAS:.5.55).
70. Das, B., Hazra, P., Chattopadhyay, A., Chakraborty, A.K., Hazra, S., Kardile, H.B., Maji, A. and Chakrabarti, S.K. (2023). Characterization of traditional small potato (*Solanum tuberosum* L.) cultivars for nutritional, quality traits and ploidy level. *Indian J. Genet. Plant Breed.*, **83**(3): 407-413. (NAAS: 7.34).
71. Das, P. and Choudhuri, P. (2023). Sustainable production of tomato (*Solanum lycopersicum* L.) through intercropping. *Indian J. Ecol.*, **50**(5):1678-1681.(NAAS :5.38)
72. Das, P., Mandal, B., Murmu, K. and Sarkar, A. (2023). Weed dynamics and productivity of transplanted aromatic rice as influenced by pre- and post-emergence herbicides in lower Gangetic alluvial zone. *Indian Journal of Weed Science*, **55**(2):157–161. (NAAS: 5.42)



73. Kapuria, A., Acharya, S. K., Acharya, S., Haque, M., & Sarkar, A. K. (2023). Air pollution from kolaghat thermal power emissions and its impact on public health in surrounding rural areas: The socio-ecological and economic interpretation, *Journal of Community Mobilization and Sustainable Development*, 18(2): 477-482 (NAAS:5.67)
74. Kapuria, A., Acharya, S. K. Haque, M., Acharya, S. Sarkar, Amrit ; Banerjee, Amrit et. al (2023). Fly Ash Emission from Kolaghat Thermal Power Plant and its Effect on Surrounding Agriculture: Application of Multivariate Analytical Techniques for Impact Analysis, *Journal of Community Mobilization and Sustainable Development*, 18(4), 1029-1035 (NAAS:5.67)
75. Das, P., Panda, S. and Dhara, P.K. (2023). Effect of fruit-based agroforestry systems on wood growth, fruit yield, intercropping performance and improvement in soil fertility of red and lateritic soils of Jhargram in West Bengal, India. *Indian J. Agrofor.*, **25**(2): 49-60. (NAAS: 5.19).
76. Das, R., Kumar, R., Kunal, G., Goldar, S., Dutta, S. and Jha, S. (2023). Detection of *Ascospaeraapis*, causing chalkbrood disease in the colonies of European honey bee, *Apis mellifera* in West Bengal. India. *Sociobiol.*, **70**(4): e9192. (NAAS: 6.86).
77. Das, S., Ray, M., Saha Roy, A. and Barat, S. (2024). Weed diversity and their management in major rice-based cropping systems in India. *Int. J. Bio-resour. Stress Manag.*, **15**(7): 1-9. (NAAS: 5.40).
78. Devi, M.S. Roy, K. and Yonzone, R. (2023). Influence of micro climatic variables on population dynamics of *Thrips tabaci* Lindeman on onion. *AMA* (ISSN: 00845841) **54**(02): 12105-12118. (NAAS: 6.30).
79. Dutta, P., Satpathi, C.R. and Debnath, P. (2023). Infestation of *Tribolium castaneum* Herbst (Tenebrionidae, Coleoptera) on dehusked split pulses in India. *J. ent. Res.*, **47**(Suppl): 996-1001. (NAAS: 5.63).
80. Dutta, S., Basu, A., Maji, P.K. and Bag. T.K. (2023). New leaf spot disease caused by *Alternaria burnsii* on Mokara orchid in India. *J. Mycopathol.*, **61**(4): 601-606. (NAAS rating 5.11).
81. Mazumder, D., Acharya, S.K., Haque, M. and Banerjee, A. (2023). Estimation of socio-ecological compliances and conflicts in terms of yield, income and livelihood in selected farm enterprises of West Bengal. *Journal of Community Mobilization and Sustainable Development*, **18**(1): 1–8. (NAAS: 5.67).
82. Elakkiya, N. and Bhattacharyya, B. (2023). Chen’s model to understand the invariant fuzzy time series model through maize production in India. *Int. J. Stat. Appl. Math.*, **8**(3): 54-57 (NAAS:5.13).
83. Entuni, C.J., Zulcaffle, T.M.A., Hong Ping, K., Sharangi, A.B., Upadhyay, T.K. and Saeed, M. (2023). Smart agricultural monitoring solution for chilli leaf diseases using a low-cost Kinect camera and an improved CNN algorithm. *JurnalTeknologi*, **85**(5): 93-102. (NAAS: 6.86).
84. Ghosh, M., Pyngrope, D.M., Das, S., Dasm B., Roy, K., Banerjee, S., Gorain, J., Sarkar, S., Ghose, T.K. (2023). Morpho-genetic characterization of black-husked



- small-grain aromatic rice landrace *Kalajira* of West Bengal. *Oryza*, **60**: 353-361. NAAS: 5.08
85. Ghosh, P., Choudhuri, P., Bairagi, S. and Manta, S. (2023). Sustainable production of bell pepper in West Bengal. *Indian J. Ecol.*, **50**(3): 695-699. (NAAS 5.38).
86. Ghosh, S.K. (2023). Efficacy of plant based formulation against yellow mite of chilli (*Polyphagotarsonemus latus* Banks). *Int. J. Trop. Insect Sci.*, **3**(2): 645-654. (NAAS: 7.02).
87. Namasharma, S., Pahari, A., Banik, A., Pal, S., Sana, M., Pal, S. and Banerjee, H. (2023). Impact of foliar-applied nano-urea on growth, productivity and profitability of hybrid rice (*Oryza sativa* L.). *Oryza*, **60**(3): 464–472. (NAAS: 5.03).
88. Munshi, R., Acharyya, P., Chattopadhyay, A., Mishra, P., Sahoo, B. and Chakraborty, L. (2023). Evaluation of okra genotypes under varying salinity levels. *Annals of Plant and Soil Research*, **25**(4): 512–523. (NAAS:5.22).
89. Munshi, R., Acharyya, P., Chattopadhyay, A., Mishra, P., Sahoo, B. and Chakraborty, L. (2023). Diversity analysis in okra (*Abelmoschus esculentus* (L.) Moench) genotypes under saline conditions. *Biological Forum – An International Journal*, **15**(6): 385–394. (NAAS: 5.11).
90. Mukhia, D.J., Karak, C. and Hazra, P. (2023). Implications of ripening inhibiting mutant gene (RIN) in different quantitative and qualitative characters of tomato. *International Journal of Bio-resource and Stress Management*, **14**(4): 562–567. (NAAS: 5.11).
91. Mandal, S., Gogoi, M., Deb, S., Datta, D., Sarkar, D., Roy, D., Sinha, A.K. and Choudhury, A. (2023). Surface soil moisture estimation during dry winter in the Terai region of eastern India: Use of Trapezoid Models based on Landsat 8 and Sentinel 2 Data. *Journal of the Indian Society of Soil Science*, **71**: 351–361. (NAAS: 5.34).
92. Hedayetullah, M., Akhtar, J., Kundu, C.K., Rajbanshi, B. and Murmu, K. (2023). Efficacy of selective and non-selective herbicide for broad-spectrum weed management in potato (*Solanum tuberosum* L.). *Pharma Innovation*, **12**(7): 2741-2746. (NAAS: 5.23).
93. Hooi, A., Mahapatra, S., Chakraborty, S., Mukherjee, D. and Maji, A. (2023). Disease scenario and virulence pattern of major wheat pathogens occurring in Indo-gangetic plains of West Bengal, India. *Indian J. Ecol.*, **50**(6): 2088-2095 (NAAS: 5.79).
94. Kumar, B.A. and Thapa, U. (2023). Performance of vegetable based cropping sequence under INM in protected conditions. *International Journal of Plant and Soil Science*, **35**(21): 555–568. (NAAS 5.07).
95. Jaybhave, P., Mukherjee, A. and Rede, G.D. (2023). Doubling farmer income through cultivating headed broccoli (*Brassica oleracea* var. *italica*) under different irrigation regimes and water-saving techniques. *International Journal of Environment and Climate Change*, **13**(9): 3163–3172. (NAAS: 5.16).



96. Kar, A., Borgohain, N., Balakrishnan, P. and Patil, P. (2023). Strategies to enhance marketable quality of banana (*Mussa spp.*) through managing banana leaf and fruit scarring beetle (*Basileptasubcostata* Jacoby) in Eastern and North Eastern India. *Journal of Entomological Research*, **47**(1): 48–53. (NAAS: 5.89).
97. Kar, A., Majhi, D., Chakraborti, K. and Misra, D. (2023). Species complex of leaf roller infesting litchi (*Litchi chinensis* Sonn.) in West Bengal with their seasonal incidence. *Indian Journal of Entomology*, **85**(4): 959–962. (NAAS: 5.59).
98. Karki, S., Ghosh, M., Chetri, B., Banerjee, S., Biswas, T., Bandyopadhyay, P. and Ghosh, S. (2023). Effect of organic nutrient management on yield, quality, nutrient uptake and economics of aromatic rice (*Oryza sativa*) in hill zone of West Bengal. *Indian Journal of Agronomy*, **68**(4): 434–438. (NAAS: 5.55).
99. Karki, S., Ghosh, M., Chetri, B., Ghimiray, T.S., Banerjee, S., Biswas, P. and Bag, A. (2023). Response of scented rice landraces of North Bengal under organic nutrient management in Darjeeling hills. *Oryza*, **60**(3): 500–506. (NAAS: 5.03).
100. Khalkho, R., Mondal, S., Haque, M. and Acharya, S.K. (2023). Factors driving jute to maize shift in Uttar Dinajpur, West Bengal. *Indian Journal of Extension Education*, **59**(4): 125–129. (NAAS: 5.95).
101. Kiran, G. and Mandal, R. (2023). Evaluation of bio-agents against *Rhizoctonia solani* of rice under *in vitro* conditions. *Biol. Forum – An Int. J.*, **15**(8): 35-40. (NAAS 5.11).
102. Konar, A. and Ali, M.H. (2024). Assessing habitat security among handloom enterprise households on Bankura district, West Bengal: A primary income source analysis. *International Journal of Agricultural Extension and Social Development*, **7**(2): 350–355. (NAAS: 5.04).
103. Kumar, S., Sunitha, S., Sreekumar, J., Mamatha, K., Das, B., Sengupta, S., Kamalkumaran, P.R., Thangamani, C., Mitra, S., Tarafdar, J., Patel, H.B., Nedunchezhiyan, M. and Srikanth, B. (2023). Weed management strategies in elephant foot yam (*Amorphophallus paeoniifolius*) under different agro environments in India. *Indian Journal of Agricultural Sciences*, **93**(12): 1314–1319. (NAAS: 6.40).
104. Kundu, A., Saha, S., Murmu, J., Sarkar, J.D. and Bandyopadhyay, P.K. (2023). Conservation agriculture practices influenced soil water retention parameters of Inceptisol of lower Gangetic plains. *Journal Crop and Weed*, **19**: 126–132. NAAS: 5.27.
105. Priyadarshani, P., Mohapatra, M.F., Seleiman, R., Mandal, R., Pramanik, K., Maity, T.K., Tarafdar, J., Das, S.P., Raj, C.A., Jena, C., Alenazi, M.M., Sow, S., Ranjan, S., Ahmad, A., Gitari, H. and Khan, N. (2023). Efficiency of RAPD and SSR markers in assessing genetic diversity in summer onion (*Allium cepa* L.) genotypes. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*, **51**(3): 13369, (NAAS: 6.4)
106. Pramanik, K., Meena, R.S., Barman, M., Layek, A. and Debnath, P. (2023). Relative abundance and effect of weather parameters on the prevalence of major



- insect pest complex of tomato in eastern Uttar Pradesh. *Journal of Entomological Research*, **47**(1): 88–93. (NAAS: 5.89)
107. Kundu, C.K., Anand, N.R., Banerjee, H., Devi, N.M., Gunri, S.K., Nayak, L., Mondal, G. and De, S.K. (2023). Growth and yield variation in chia (*Salvia hispanica*) caused by planting method and density. *Indian Journal of Agricultural Sciences*, **93**(9): 991–996. NAAS: 6.30.
 108. Sawarkar, A., Yumnam, S. and Mukherjee, S. (2023). Combining ability and heterosis for fibre yield, fibre quality and yield attributing traits in tossa jute (*Corchorus olitorius* L.) under normal and drought conditions. *Journal of Crop and Weed*, **19**(1): 173–185. (NAAS: 5.26)
 109. Sen Sarma, S., Goswami, S.B. and Murmu, K. (2023). Weed dynamics and productivity of zero-tilled mustard as influenced by integrated nutrient management under rice–mustard sequence. *Journal of Crop and Weed*, **19**(3): 56–61. (NAAS: 5.28)
 110. Sawarkar, A., Pradhan, A., Raman, R.B., Yumnam, S., Dutta, S. and Mukherjee, S. (2023). Identification of best combiners and heterotic crosses for seedling characters in jute (*Corchorus olitorius* L.) under normal and drought conditions. *Electronic Journal of Plant Breeding*, **14**(2): 530–539. NAAS:5.14
 111. Sathees Kumar, K., Gowthaman, T. and Bhattacharyya, B. (2023). Comparison of ARIMA and ANN for forecasting the annual rainfall of Nadia District, West Bengal, India. *Ecol. Environ. Conserv.*, **29**: 24–29. (NAAS: 5.41)
 112. Sathees Kumar, K., Gowthaman, T. and Bhattacharyya, B. (2023). Detecting air pollutants trends using Mann-Kendall Tests and Sen’s Slope Estimates. *Environ. Conserv. J.*, **24**(3): 157–166. (NAAS: 5.66)
 113. Poddar, R., Kundu, R., Bera, S. and Ghosh, D. (2023). Complex weed flora managing efficacy of herbicides in soybean and their effect on soil properties, microorganisms and productivity of succeeding mustard. *Indian Journal of Weed Science*, **55**(2): 181–186. (NAAS: 5.42)
 114. Swetha, S., Bala, S.C., Karmakar, K., Debnath, P. and Saha, G. (2023). Studies on population dynamics of hadda beetle (*H. vigintioctopunctata*) on brinjal in West Bengal. *J. ent. Res.*, **47**(3): 550-553. NAAS :6.52
 115. Kundu, C.K., Devi, N.M., Nayak, L., Banerjee, H., Das, S., Nandi, T. and Jha, S. (2023). Nutritional effect of zinc and boron on growth, yield and oil content of hybrid sunflower (*Helianthus annuus* L.). *Environment Conservation Journal*, **24**(3): 260–267. (NAAS: 5–7.5)
 116. Singh, L.J., Pariari, A., Banik, S., Singha, U., Challam, D.A., and Pariari, A. (2023). Quality evaluation of ginger (*Zingiber officinale* Rosc.) germplasms under New Alluvial Zone of West Bengal, India. *Int. J. Plant Soil Sci.*, **35**(13): 66-73. NAAS 5.07



117. Saha, B.N., Saha, S., Roy, P.D., Fatima, A., Sahoo, S.K., Solankey, S.S., Singh, H.K., Basak, P. and Basak, N. (2023). Scheduling of Zn and B fertilization for brinjal (*Solanum melongena* L.): Impact on yield, nutrient use efficiency, and fruit quality. *Communications in Soil Science and Plant Analysis*, **54**(18): 2551–2562. (NAAS: 7.30)
118. Rahman, K.A.M.M., Juraimi, A.S., Molla, M.R., Hatta, M.A.M., Sulaiman, Z., Sultana, S., Gaber, A., Biswas, B. and Hossain, A. (2023). Molecular characterization of sweet potato (*Ipomoea batatas* [L.] Lam) germplasm for desirable traits by using simple sequence repeats markers. *Biocell*, **47**: 227–237. (NAAS: 6.8).
119. Ray, J., Bordolui, S.K. and Murmu, K. (2023). Influence of seed priming and foliar application of GA₃ on fruit morphology and biochemical composition of tomato in Gangetic Alluvial Zone. *Theoretical Biology Forum*, **12**(2): 1–14. NAAS: 7.50.
120. Kundu, E. and Bordolui, S.K. (2023). Silver nanoparticles-mediated seed priming improves germination and physiological performance in carrot. *Biological Forum – An International Journal*, **15**(10): 1079–1085. (NAAS: 5–7.5)
121. Kundu, T., Acharya, S.K., Acharya, S., Haque, M., Sarkar, A.K. and Chakraborty, A. (2023). Localite information ecosystem and farm enterprise: Process and impact on agri-entrepreneurial growth. *Journal of Community Mobilization and Sustainable Development*, **18**(2): 1–6. (NAAS: 5.67)
122. Upasani, R.R., Barla, S. and Roy, K. (2023). Significance of living mulch for sustainable crop production- A review. *J. Crop and Weed*, **19**(3): 01-08. (NAAS: 5.46).
123. Vanlalhruaia, Chakraborty, S. and Mahapatra, S. (2023). Assessment of yield loss and avoidable yield loss due to southern leaf blight of maize and development of yield loss prediction model. *Indian Phytopathol.*, **76**(3): 793-801.(NAAS. 5.97).
124. Mukherjee, D., Mandal, A.R., Chatterjee, S., Sengupta, S., Islam, S.M., Kundu, S., Banerjee, S., Bairagi, S. and Chattopadhyay, A. (2023). Genetics of qualitative and quantitative traits in crosses involving cherry and purple tomato genotypes. *Crop Breeding and Applied Biotechnology*, **24**(1): e46302416. (NAAS: 7.30)
125. Patar, S., Ray, S.K., Borah, T.R., Roy Barman, A., Mondal, R. and Dutta, S. (2023). Seasonal occurrence of diseases on oyster mushroom (*Pleurotus* spp.) in new alluvial region of West Bengal. *Biological Forum – An International Journal*, **15**(8a): 541–548. (NAAS: 5.11)
126. Ray, S. and Banerjee, A. (2023). Incidence of leaf eating beetle *Podontiaquatuordecimpunctata* L. on greater hog plum (*Spondias dulcis* Forst.) in Gangetic plains of West Bengal. *Biological Forum – An International Journal*, **15**(1): 42–47.
127. Ray, S. and Banerjee, A. (2023). Invasion, population build-up and possible management strategy of rugose spiraling whitefly (*Aleurodicusrugioeperculatus*



- Martin) on minor fruit crops as well as on medicinal, aromatic, and ornamental plants in India – Current scenario. *International Journal of Minor Fruits, Medicinal and Aromatic Plants*, **9**(2): 32–41. NAAS: 5.10
128. Ray, S., Sharma, D. and Banerjee, A. (2023). Indian bay leaf (*Cinnamomum tamala*) – How to protect the tree spice from the ravages of insect pests and diseases. *Biological Forum – An International Journal*, **15**(1): 107–114.
129. Roy, D., Acharya, S.K., Haque, M., Banerjee, A., Sarkar, A.K. and Mandal, T.K. (2023). Migration attributes in adaptation and its correlates during pandemic: The socio-ecological interpretation. *Indian Journal of Extension Education*, **59**(1): 75–80. (NAAS: 5.95)
130. Sen, K., Dutta, S., Haider, S.K., Pati, B., Goldar, S., Patar, S., Kumar, R., Ray, S.K. and Barman, A.R. (2023). Influence of cropping sequences on soil suppressive/conduciveness against *Sclerotium rolfsii* in different agro-climatic zones of West Bengal, India. *Journal of Environmental Biology*, **44**: 753–764. (NAAS: 5.97)
131. Sen, K., Dutta, S., Halder, S.K., Pati, B., Goldar, S., Patar, S., Bharati, D.R.S., Patsa, R., Ghorai, A.K., Sarker, K., Kumar, R., Ray, K., Borah, T.R., Ray, S.K. and Barman, A.R. (2023). Influence of cropping sequences on soil suppressiveness/conduciveness against *Sclerotium rolfsii* in different agro-climatic zones of West Bengal, India. *Journal of Environmental Biology*, **44**(5): 753–764. NAAS rating: 6.70.
132. Roy, S., Mishra, B.K. and Roy, K. (2023). Evaluation of comparative parasitic efficiency and biology of hymenopteran egg parasitoids, *Trichogramma chilonis* and *T. japonicum* on *Corcyra cephalonica* and *Helicoverpa armigera*. *Journal of Environmental Biology*, **44**(4): 630–638. (NAAS: 6.70)
133. Roy, S., Mukherjee, D., Pramanik, S., Islam, S.M., Banerjee, S., Kundu, S., Ghosh, T., Ghosh, S., Maji, M., Mandal, A.K. and Chattopadhyay, A. (2023). Double cross hybrids could substantially supersede single cross hybrids for yield, fruit quality and tolerance to tomato leaf curl virus disease. *International Journal of Vegetable Science*, **29**(1): 40–57. (NAAS: 6.5)
134. Sen, R., Dey, S., Datta, S., Mandi, G., SenSarma, S. and Datta, P. (2023). Effect of Brassinolide on physico-chemical properties of mango cv. Amrapali grown in new alluvial zones of West Bengal. *Pharma Innovation*, **12**(12): 3162–3164.
135. Thapa, S., Mahapatra, S., Baral, D., Chatterjee, A., Shivakoty, P., Subba, B. and Das, S. (2023). Morpho-molecular variability of different isolates of *Ustilagoideae virens* causing false smut of rice. *Arch. Phytopathol.Pflanzenschutz*, **56**:6, 489-502. (NAAS 7.0)
136. Tripathi, L.K., Gupta, A., Ghosh, S.K. and Patra, P.K. (2023). Distribution and characterization of sulphur fractions in *Entisols*, *Inceptisols* and *Alfisols* soil orders of India. *International Journal of Plant and Soil Science*, **35**(21): 487–497.



Papers published in Journals with NAAS rating below 5.0: No. 24

1. Adhikary, P., Sarkar, U., Jash, S., Ray, S.K. and Dutta, S. (2023). Effect of different media and temperature on mycelial growth of *Pestalotiopsis* sp., incitant of leaf spot and blight disease of cashew in western part of West Bengal. *Biol. Forum – An Int. J.*, **15**(10): 359-364. (NAAS 4.96).
2. Basu, A. (2023). Current threats to plant bio-security and safeguards for trade and exchange programs as constraints towards export of agriculture commodity. *J. Mycopathol. Res.*, **61**(2): 133-147. (NAAS 4.46).
3. Bhattacharyaa, P., Senguptaa, S. and Bhattacharyyab, K. (2023). Relating soil available zinc with physicochemical properties in New Alluvial Zone of West Bengal, India. *J. Surv. Fish. Sci.*, **10**(1S): 7037-7040. (NAAS <5).
4. Chatterjee, A., Sen, P., Chattopadhyay, T., Maji, A., Gorai, S., Sarkar, A. and Ali, M.N. (2023). Omics for elucidating heat stress tolerance mechanisms in wheat: A review update. *Curr. Agric. Res. J.*, **11**(2): 362-379. (NAAS 4.98).
5. Choudhury, A. and Bordolui S.K. (2023). Stimulatory effect of hormonal seed priming in plant tolerance to resist abiotic stress. *J. Agric. Food Sci. Biotechnol.*, **1**(3): 140-152. (NAAS <5).
6. Choudhury, A. and Bordolui, S.K. (2023). Concept of seed deterioration: reason, factors, changes during deterioration and preventive measures to overcome seed degradation. *American Int. J. Agric. Stud.*, **7**(1): 41-56. (NAAS <5).
7. Das, R. (2023) Impact of resistance inducers against purple blotch disease of onion under field conditions. *Int. J. Microbiol. Res.*, **15**(4): 2029-2031. (NAAS : 3.44).
8. Das, R.(2023). Effect of plant activators against *Alternaria solani* causing early blight disease of tomato under field conditions. *Int. J. Agric. Sci.*, **15**(11): 12754-12756. (NAAS : 4.03)
9. Das, S., Jana, K., Mondal, R. and Sarkar, A. (2023). Effect of foliar application of micronutrients on summer mungbean varieties on alluvial soil of West Bengal. *J. Food Leg.*, **36**(2 and 3): 157-163. (NAAS: 4.82)
10. Ghosh, S.K. (2023). Prospect of nano technology in applied agriculture. *SATSA Mukhapatra – Ann. Tech. Issue*, **27**: 121-133. (NAAS: 3.72).
11. Jaswanthi, M. and Dutta, A. (2023). Performance of mustard genotypes under Gangetic West Bengal condition. *Journal of Advances in Nanotechnology and its Applications*, **5**(2), pp.11–19. (NAAS <5).
12. Jaya Krishna, V.V.S., Banerjee, S., Ghosh, M., Soren, C. and Pati, S. (2023). Performance of lathyrus varieties under different establishment methods in Red and Laterite Zone of West Bengal. *Journal of Food Legumes*, **36**(2 and 3): 197–199. (NAAS: 4.82).
13. Kundu, R., Biswas, S., Jash, S. and Moinuddin, G. (2023). Assessment of demonstration through yield and gap analysis of kharif groundnut in the different districts of West Bengal. *Journal of Oilseed Research*, **40**(1&2), pp.156–160. (NAAS 4.0).



14. Lallawmzuali, R. and Pal, A.K. (2023). Computer aided design and drafting in landscape architecture. *Current Journal of Applied Science and Technology*, **42**(5): 1–11.
15. Bordolui, S.K. (2023). Conservation of folk rice genotypes: Medicinal value secure well being. *Res. Rev.: J. Environ. Sci.*, **5**(1): 44-49.
16. Mounika, D.S. and Dutta, A. (2023). Genetic divergence studies in rapeseed-mustard genotypes under Gangetic West Bengal condition. *Research and Reviews: Journal of Environmental Sciences*, **5**(1): 37–43.
17. Lallawmzuali, R. and Pal, A.K. (2023). Utilization and impact of green roof technology in maintaining the ecological balance. *Journal of Agriculture and Ecology*, **15**: 20–25.
18. Misra, A., Sarkar, A., Gope, A., Samanta, S. and Banerjee, S. (2023). Seasonal activities of diamondback moth (*Plutellaxylostella* L.) in cabbage (*Brassica oleracea* var. *capitata*) and their relation with various environmental factors under the Gangetic Plains of West Bengal. *Environment and Ecology*, **41**(2B): 1199–1203. (NAAS: 4.87)
19. Mukerjee, B., Naskar, M.K., Basak, J.S., Ghosh, M., Nath, R. and Kumari, V.V. (2023). Impact of sowing time, tillage and variety management on growth indices, nodulation and yield parameters of chickpea (*Cicer arietinum*) grown after monsoon rice in Lower Gangetic Plains of West Bengal. *Indian Journal of Dryland Agriculture Research and Development*, **38**(1): 15–20. (NAAS: 4.88)
20. Mukherjee, D. (2023). Management of lodging and yield maximization of wheat (*Triticum aestivum* L.) under Indo-Gangetic plains. *Annals of Agricultural Research*, **44**(2): 158–163. (NAAS: 4.62)
21. Mukherjee, D. (2023). Performance of hydrogel and salicylic acid on productivity and economics of yellow sarson (*Brassica rapa*) in new alluvial zone. *Journal of Oilseed Research*, **40**(4): 192–198. (NAAS: 4.59)
22. Nandi, P., Sarkar, A., Pramanik, K. and Layek, A. (2023). Bio-efficacy of some new molecular insecticides against sucking pests of chilli (*Capsicum annum* L.) in the Gangetic Basin of West Bengal. *Environment and Ecology*, **41**(3A): 1613–1619. (NAAS: 4.87)
23. Sengupta, M., Biswas, S. and Saha, S. (2023). Factor and constraints involved in income generation from sericulture: A study in three districts of West Bengal, India. *J. Exp. Agric. Int.*, **45**(11): 219-228. (NAAS: 4.89)
24. Sengupta, M., Biswas, S., Mallick, P. and Saha, S. (2023). Influence of socio-personal and management factors to generate the knowledge level of the farmers associated with sericulture of West Bengal. India. *Asian J. Agric. Ext., Econ. Sociol.*, **41**(2): 47-61. (NAAS<5)



1. Bairagi, S., Choudhuri, P., Guha Mallick, R., Baul, D., Chatterjee, S., Mandal, A.K. and Chattopadhyay, A. (2024). Breeding potential of eggplant genotypes for mosaic virus disease tolerance using multivariate analysis. *Int. J. Veg. Sci.*, **30**(6): 695–716.
2. Chel, S., Roy, S., Mohanta, R., Mondal, T., Layek, S. and Mandal, K.K. (2023). Effect of nitrogen and potassium on pomegranate cv. Bhagwa in red laterite region of West Bengal. *J. Surv. Fish. Sci.*, **10**(1S): 6979-6983.
3. Choudhury, R.K., Bhattacharya, P., Parveen, S., Bhattacharyya, K. and Sengupta, S. (2023). Modeling the uptake of cationic micronutrients and rice grain yield at different graded dose of nitrogen fertilization. *J. Surv. Fish. Sci.*, **10**(1S): 7017-7021. SNIP: 0.18
4. Das, B., Hazra, P., Chakraborty, A., Bhattacharya, A., Chatterjee, S. and Chattopadhyay, A. (2023). Characterization of growth and yield parameters and nutritional profiling of new potato clones. *Int. J. Veg. Sci.*, **29**(4): 322-336.
5. Dwary, S., Dukpa, P., Gaikwad, M., Thapa, U., Kumar, P. and Yeasmin S. (2023). Genetic variability, heritability and genetic advance studies in diverse genotypes of tomato (*Solanum lycopersicum* L.). *Int. J. Plant Soil Sci.*, **35**(22): 441-446.
6. Pal, S., P. Mallik, A. Jha Chakraborty, M. Rahaman, A. K. Nandi (2023) A Study of Agriculture and Ground water utilization in West Bengal, *SCI3*(3), 550-562. (NAAS rating 6.85]
7. Ghosh M, Pyngrupe D M, Das S, Das B, Roy K, Banerjee S, Gorain J, Sarkar S, Ghose T K (2023). Morpho-genetic characterization of black-husked small-grain aromatic rice landrace *Kalajira* of West Bengal. *Oryza*, **60**(2): 353-361.
8. Guha Mallick, R., Pramani, S., Pandit, M.K., Gupta, A. K., Roy, S., Jambhulkar, S., Sarker, A., Nath, R. and Bhattacharyya, S. (2023). Radiosensitivity of seedling traits to varying gamma doses, optimum dose determination and variation in determined doses due to different time of sowings after irradiation and methods of irradiation in faba bean genotypes. *Int. J. Rad. Bio.*, **99**: 534-550.
9. Iqbal, N., Hazra, D.K., Purkait, A., Agrawal, A., Saini, M.K. and Kumar, J. (2023). Eco-oriented formulation and stabilization of oil–colloidal biodelivery systems based on GC-MS/MS-profiled phytochemicals from wild tomato for long-term retention and penetration on applied surfaces for effective crop protection. *Journal of Agricultural and Food Chemistry*, **71**(8): 3719–3731.
10. Iqbal, N., Thirunavukkarasu, S., Krishna, R., Hazra, D.K., Jawale, C., Yadav, S. and Kumar, J. (2023). Environmentally benign design of renewable oleoresin-bioenergized imidacloprid nanohydrocolloids for improved activity, lower toxicity, and agroecological sustainability. *ACS Sustainable Chemistry and Engineering*, **11**(42): 15480–15491.
11. Jamir, I., Mandal, A.K., Bhattacharjee, T., Dutta, T., Banerjee, S., Maurya, P.K., Lalramhlimi, B., Chatterjee, S. and Chattopadhyay, A. (2023). Performance of



- eggplant cultivars grafted on wild and cultivated rootstocks in bacterial wilt infected field. *International Journal of Vegetable Science*, **29**(2): 109–127.
12. Jana, K., Thapa, U., Kundu, S., Hansda, N.N., Ray, K. and Tamang, D. (2023). Evaluation of different genotypes of late Kharif onion (*Allium cepa* L.) under the Gangetic plains of West Bengal. *International Journal of Plant and Soil Science*, **35**(22): 295–305.
 13. Jana, S., Kumar, N., Mukherjee, S., Bhattacharyya, P.K., Mandal, G.S. and Ghoshal, S. (2024). Studies on character association and genetic divergence in white jute (*Corchorus capsularis* L.). *Indian Journal of Agricultural Research*, **55**(2): 187–191.
 14. Kadam, V., Jeevan, H., Hrangkhawl, B., Euphema, N., Roy, K., Mukhopadhyay, A.K. and Thangjam, R. (2024). Floral infestation of tuberose with *Aphelenchoides* and its management. *Journal of Scientific Research and Reports*, **30**(11): 316–325.
 15. Kaushik, P., Meena, R.S., Barman, M., Layek, A. and Debnath, P. (2023). Relative abundance and effect of weather parameters on the prevalence of major insect pests complex of tomato in the eastern region of Uttar Pradesh. *Journal of Entomological Research*, **47**(1): 88–93.
 16. Lalramhlimi, B., Pramanik, S., Chattopadhyay, S.B., Bhattacharjee, T., Maurya, P.K., Mandal, A.K., Chatterjee, S., Chattopadhyay, A. and Hazra, P. (2023). Response of bacterial biovars to inheritance pattern of bacterial wilt disease in tomato. *International Journal of Vegetable Science*, **29**(5): 425–443.
 17. Mohanty, P., Pramanik, S., Sengupta, S., Bhattacharjee, T., Maurya, P.K., Banerjee, S., Chakraborty, I., Mandal, A.K., Chatterjee, S., Chattopadhyay, A. and Hazra, P. (2023). Development of tomato hybrid aiming to pyramid Ty genes for imparting tolerance to tomato leaf curl virus disease. *International Journal of Vegetable Science*, **29**(6): 492–515.
 18. Mondal, P., Karmakar, K., Ganguly, M., Chatterjee, D. and Ghosh, S.K. (2023). Diversity and host specialization of Tarsonemini mites (Acari, Tarsonemidae)— Investigations in the agroclimatic zones of West Bengal, Eastern India. *Journal of Insect Biodiversity and Systematics*, **9**(2): 265–282.
 19. Mondal, T., Layek, S., Sarkar, T., Roy, S., Mohanta, R. and Bauri, F.K. (2023). Morpho-physicochemical studies of Kusum (*Schleichera oleosa* (Lour.) Oken): A potential multipurpose tree species. *Journal of Survey in Fisheries Sciences*, **10**(1S): 6984–6986.
 20. Sarkar, S., Ray, K., Garai, S., Banerjee, H., Haldar, K. and Nayak, J. (2023). Modelling nitrogen management in hybrid rice for coastal ecosystem of West Bengal, India. *PeerJ*, **11**: e14903.
 21. Sarkar, S., Sengupta, S., Bhattacharyya, K., Parveen, S. and Bhattacharya, P. (2023). Influence of varietal duration and nitrogen fertilization in augmenting micronutrient uptake and yield of rice. *Journal of Survey in Fisheries Sciences*, **10**(1S): 6973–6978. (SNIP: 0.18)



22. Sen, K., De Roy, M., Halder, S.K., Murmu, M., Pati, B., Islam, S.S., Barman, A.R., Ray, S.K., Mondal, K.C. and Dutta, S. (2023). Effects of soil physico-chemical parameters on *Sclerotium rolfsii* suppressiveness. *Acta BiologicaSzegediensis*, **67**(1): 1–10.
23. Sen, P., Chakraborty, A.S., Sarkar, S., Pathak, A., Mukherjee, A. and Bhattacharyya, S. (2023). Efficiency assessment of PTF1 for phosphorous deficiency tolerance in rice. *Journal of Survey in Fisheries Sciences*, **10**: 6987–6995.
24. Singh, K., Majumder, T., Mallick, A., Samajder, A., Modak, M., Devi, M. S., Banerjee, A., Sarkar, A., Patel, L.C., Ghosh, S. M. and Roy, K. (2023). Defensive role of plant latex on insect pests' suppression: a critical review. *American J. Plant Sci.*, **14**:1375-1398.
25. Biswas, S. and Saha, A. (2024). Evaluation of maize hybrids under rain-fed condition in New Alluvial Zone of West Bengal. *Research Biotica*, **6**(1): 13-16.
26. Konar, A. and Ali, M.H. (2024). Interrelationships among livelihood variables in Bankura district, West Bengal, India: Insights from Pearson correlation analysis. *International Journal of Tropical Agriculture*, **42**(1): 63–76.
27. Adhikary, A., Maji, P.K. and Basu, A. (2023). Assessment of the *Colletotrichum* leaf spot disease of turmeric in West Bengal, India: A comprehensive report on the current situation. *Int. J. Sci. Res.*, **12**(8): 2419-2427.
28. Adhikary, K., Mandal, T. and Majumder, J. (2023). Green synthesis and characterization of TiO₂ nanoparticles by using ornamental grass *Cynodondactylon* (Doob grass). *Euro. Chem. Bull.*, **12**(5):1713–1723.
29. Banerjee, A. and Ray, S. (2023). Adoption and assessment of integrated strategies for managing major insect pests in kharif green gram [*Vigna radiata* (L.) Wilczek]. *Research Biotica*, **5**(3): 102-106.
30. Banerjee, A. and Ray, S. (2023). Influence of different planting dates on the occurrence of key pests affecting blackgram in the lower Gangetic Alluvial Plain of West Bengal. *Research Biotica*, **5**(4): 139-144.
31. Bera, S., Ray, S. and Banerjee, A. (2023). Population fluctuation of gram pod borer in rabi pulses of West Bengal. *Research Biotica*, **5**(4): 145-152.
32. Biswas, S., Saha, A. and Debnath, S. (2023). Effect of potassium level on growth, yield, nutrient uptake and economics of hybrid maize. *Environ. Ecol.*, **41**(3D): 2155-2159.
33. Das, P. and Panda, S. (2023). GIS and remote sensing based reconnaissance of vegetation and agroforestry areas in South 24 Parganas, West Bengal, India. *Int. J. Adv. Res.*, **11**(1): 817-843.
34. Das, S. and Roy, M. (2023). Performance of vegetable smother crops for weed management in flax (*Linum usitatissimum* L.) under new Gangetic alluvial soil of West Bengal. *Indian J. Natur. Fibr.*, **10**(1): 21-30.



35. Debnath, S. and Biswas, S. (2023). Effect of different natural products against leaf blight diseases of maize. *Int. J. Bio-resour. Stress Manag.*, **14**(3): 485-491.
36. Ghosh, S.K. (2023). Eco-friendly management of flea beetle (*Phyllotreta* spp.) on som plant (*Machilusbombycina* King) by traditionally used plant extracts. *American J. Zool.*, **6**(4): 63-71.
37. Karak, S. and Thapa, U. (2023). Millets – The super food and its nutritional and health benefits. *Research and Reviews: Journal of Environmental Sciences*, **5**(2): 26–31.
38. Karak, S. and Thapa, U. (2023). Response of different growing media for growth and yields of fodder maize (*Zea mays* L.) under soil-less culture systems. *The Pharma Innovation Journal*, **12**(3): 2243–2246.
39. Karak, S., Kundu, A. and Thapa, U. (2023). Growth and yields of potato as influenced by bio-stimulants under soil-less culture systems. *The Pharma Innovation Journal*, **12**(3): 2317–2320.
40. Karak, S., Thapa, U. and Hansda, N.N. (2023). Impact of bio-stimulants on growth, yield and quality of potato (*Solanum tuberosum* L.). *Biological Forum – An International Journal*, **15**(9): 297–302.
41. Kayal, S. and Karmakar, K. (2023). Description of two new species of genera *Fungitarsonemus* and *Xenotarsonemus* (Acari: Tarsonemidae) from West Bengal, India. *International Journal of Acarology*, **49**(3–4): 203–213.
42. Kayal, S. and Karmakar, K. (2023). Description of two new species of *Xenotarsonemus* (Acari: Tarsonemidae) from West Bengal, India with world keys. *Biologia*, **78**: 2423–2433.
43. Kusumavathi, K., Sarkar, S. and Sethi, D. (2023). Role of crop establishment techniques and weed control tactics for enhancing productivity in rice–mustard cropping system. *The International Conference on Food and Agricultural Sciences*, Dec 12–14, 2023.
44. Mukherjee, D. (2023). A case study: Weed identification and control measure in moisture stress conditions under red-lateritic belt of West Bengal. *AgriTech Today*, **1**(9): 6–8.
45. Saha, S. and Sarkar, A. (2023). Soil phosphorus accumulation and optimizing its utilization in contemporary contexts. *Agriculture and Food: e-Newsletter*, **5**(10): 371–372.
46. Saren, S., Das, P. and Panda, S. (2023). GIS-remote sensing-based village-level hydrological balance approach for agricultural water planning. *Nova Geodesia*, **3**(2): 123.
47. Sengupta, M., Biswas, S. and Saha, S. (2023). Factors associated in technology adoption among sericulture farmers under few districts of West Bengal. *Int. J. Interdiscip. Org. Stud.*, **18**(1): 852-863.



48. Shivakoty, P., Basu, A., Maji, P.K. and Thapa, S. (2023). Integrated disease management of early blight in organically grown tomato under hill condition of Sikkim, India. *Asia Pac. J. Sust. Agric., Food and Energy*, **11**(2): 67-81.
49. Tamang, S., Saha, P., Datta, J. and Rizal, S. (2023). Biochemical and histopathological changes in chickpea (*Cicer arietinum* L.) during pathogenesis of collar rot fungi (*Sclerotium rolfsii*Sacc.). *Int. J. Sci. Res.*, **12**(1): 1-5.
50. Zaman, M.I. and Patel, L.C. (2023). Comparative Efficiency of Some Novel Insecticides against Fall Army Worm, Spodoptera frugiperdain Maize. *Int. J. Bio-res. Stress Manag.*, **14**(10): 1350-1359.

BOOKS: No. 21

1. Bordolui, S.K. and Chatterjee, S. (2023) *Seed Marketing: Channel and Distribution System*. Agrobios Research, Jodhpur, ISBN: 978-93-91568-07-8
2. Acharya, S.K., Patra, S. and Sharangi, A.B. (2023) *Uncertainty and Chaos in Indian Farming: Production, Livelihood and Income*. New India Publishing Agency, New Delhi. ISBN:978-81-190022-4-5
3. Boruah, R., Mondal, S., Kalita, H.K., Buragohain, R., Saikia, H. and Ahmed, H. (2023) *Question Bank on Social Sciences*. Kalyani Publishers, New Delhi, B-1/1292, Rajinder Nagar, Ludhiana-141008. ISBN:978-93-5540-504-3
4. Acharya, S.K., Chandra, S., Biswas, A. and Haque, M. (2023) *Happiness and Farmers: The social ecology and strategy*. New India Publishing Agency (NIPA), New Delhi. ISBN: 978-81-19002-27-6
5. Mondal, S.S., Saha, M., Sengupta, K. and Banerjee, H. (2023) *Seed Production of Field Crops (2nd Fully Revised and Enlarged Edition)*. New India Publishing Agency (NIPA), New Delhi, India. p. 266, ISBN: 978-9394490789
6. Banerjee, H. (2023) *Millet Chaser Chabikathi*. Mehanati Prakashani, Hooghly, West Bengal. p. 110, ISBN: 978-81-962456-2-7
7. Banerjee, A., Mondal, M. and Sarkar, S. (2023) *Keynotes of Diseases of Field and horticultural Crops and their Management – II*. Kalyani Publishers
8. Dutta, A. (2023) *Seed Legislation & Certification A Text Book*. Satish Serial Publishing House, Delhi. ISBN: 978-93-95700-33-7, E-ISBN: 978-93-95700-35-1
9. Sharangi, A.B. (2023). *Production Technology of Plantation, Spices, Medicinal & Aromatic Crops*. Elite Publishing House, New Delhi-110089, India; ISBN: 978-93-95185-82-0
10. Hazra, P., Banerjee, M.K. and Chattopadhyay, A. (2023) *Varieties of Vegetable Crops in India*. 3rd edition, Kalyani Publishers, Ludhiana, 177p.
11. Roy, S., Thapa, U. and Karak, C. (2023) *Production Technology of Vegetable and Spices*. Agro India Publications, Prayagraj, India, 543p, ISBN : 978-93-84188-19-1
12. Saha, B.N., Saha, S., Deb Roy, P., Rakshit, R., Basak, N. and Shamim, M. (2023) *Textbook on Agricultural Microbiology*. New India Publishing Agency (NIPA), New Delhi. p. 252, ISBN: 9788119002481



13. Mondal, T., Alam, M. and Bauri, F.K. (2024) *Basic Concept of Fruit Science*. International Books & Periodical Supply Service, 38 Nishant Kunj, Main Road Pitampura, Delhi 110034 (India)
14. Pandey, R., Raj, K., Mondal, G., Mawar, R., Kalra, A. and Singh, H.B. (2023) *Compendium of Medicinal and Aromatic Plants Diseases*. Indian Phytopathological Society, Division of Plant Pathology, ICAR – Indian Agricultural Research Institute, New Delhi, India. 156 p. ISBN Number: 978-93-94678-03-3
15. Mishra, M., Behera, S., Das, P.P., Majumder, J. and Mani, A. (2023) *Objective Horticulture*. Jain Brothers India. ISBN BOCC9FHGP8
16. Das, P., Chakraborty, A. and Chowdhury, A. (2023) *A-Z in Soil and Water Conservation Engineering for GATE Agricultural Engineering Examination*. Volume 1, 1st Edition, New Delhi Publishers
17. Mandal, T. (2023) *Fundamentals of Agricultural Extension Education*. ASIN: BOCGM3YJB7, Kindle Edition
18. Patel, L. C. (2023). *Fundamentals of Applied Entomology*. Elite Publishing House, New Delhi. P. 322, ISBN 978-93-95185-02-8
19. Parthasarathy, V.A. (Sr. editor), Bose, T.K. (Editor Emeritus), Mitra, S.K., Ghosh, B., Chakraborty, I., Sanyal, D. and Majhi, D. (Editors) (2023) *Fruits: Tropical and Subtropical* (vol -3) 4th revised edition, Daya Publishing House
20. Rai, P. (2023) *Objective guidebook of agricultural entomology*. Brillion Publishing, New Delhi, ISBN: 9393980403.
21. Mondal, M. and Sarkar, S. (2023) *Diseases of Field and Horticultural Crops and Their Management – I*. Kalyani Publishers, New Delhi. Pp:1-252.

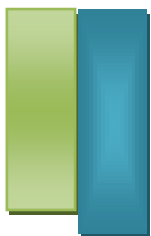
BOOK CHAPTERS:No. 53

1. Ghosh, I. and Debnath, P. (2023) Social insects, Apiculture, Silkworm and Lac insects. In: *Recent Advances in Agricultural Entomology* (ed. Kumar, S.), SR edu publications, p. 171-192.
2. Pramanik, K., Layek, A. and Debnath, P. (2023) Pest Outbreak and Climate Change. In: *Plant Protection: Present Developments and Future Strategies* (ed. Banik, S. and Halder, J.), Today & Tomorrow's Printers and Publishers, p. 23-40
3. Layek, A., Pramanik, K., Seal, S., Mandal, D. and Debnath, P. (2023) Drones: A novel technology for sustainable pest and disease management in horticultural crops. In: *Handbook of Horticulture* (ed. Chakraborty, K.), Shriyanshi Prakashan, p. 121 – 133
4. Biswas, P., Mondal, S., Maji, S., Mondal, A., Bandopadhyay, P. (2023) Microclimate Modification in Field Crops: A Way Toward Climate-Resilience. In: *Climate-Resilient Agriculture, Vol 1* (ed. Hasanuzzaman, M.), Springer, Cham., p.647-666. https://doi.org/10.1007/978-3-031-37424-1_29



5. Patel, L. and Jana, H. (2023) Bharater Sabuj Biplab. In: *Biplaber Daskahan* (ed. Ghosh, D.), Avenel Press, East Burdwan, West Bengal, India, p. 251-266. ISBN 978-81-966255-0-4
6. Saha, R. and Murmu, S. (2023) Detection and identification of Pathogens associated with post-Harvest diseases and their Management. Innovative approaches. In: *Plant protection* (ed. Maimom, R.Y. and Devi, S.), pp-296-318.
7. Poddar, R., Sen, A., Sarkar, A., Patra, S.K. and Hossain, A. (2023) Rehabilitation and Management of Multiple Stresses in Saline and Sodic Soils for Agriculture Sustainability. In: *Multiple Abiotic Stress Tolerances in Higher Plants* (Ed. Gupta, N.K., Shavrukov, Y., Singhal, R.K. and Borisjuk, N.), CRC Press, pp. 91-105. <https://doi.org/10.1201/9781003300564-7>.
8. Middya, S., Chakraborty, A., Acharya, S.K. and Chakraborty, S.K. (2023) Chapter 2 - A mathematical model-based approach to assessing water pollution through the ecodynamics of freshwater zooplankton community and remediation strategies. In: *Water, Land, and Forest Susceptibility and Sustainability* (ed. Chatterjee, U., Pradhan, B., Kumar, S., Saha, S., Zakwan, M., Fath, B.D. and Fiscus, D.), Academic Press, p. 35-69. ISBN 9780443158476
9. Ghosh, S.K., Karmakar, R., Pramanik, K., & Mandal, G.S. (2023) Application of Nanotechnology in Agriculture and allied sciences. In: *Futuristic Trends in Agriculture Engineering & Food Sciences Volume 2 Book 9*, IIP Series, Volume 2, December, 2023, Page no.41-52, e-ISBN: 978-93-5747-854-0, DOI/Link: <https://www.doi.org/10.58532/V2BS9CH3>
10. *Interventions for Resource Conservation, Climate Resilience and Natural Farming* (ed. Mahanta, K., Kohli, A., Sharma, V., Arora, S. and Singh, A.K.), Academy of Natural Resource Conservation and Management, Lucknow, p 103-107.
11. Kumar, S., Sarkar, D., Das, K., Mondal, B., Biswas, H., Bishnoi, R., Sahoo, D.C., Barla, G.W., Kumar, S., Ramamurthy, V. and Dwivedi, B.S. (2023) Land. In: *Trajectory of 75 years of Indian Agriculture after Independence* (ed. Ghosh, P.K., Das, A., Saxena, R., Banerjee, K., Kar, G. and Vijay, D.), Springer Nature, Singapore, p. 443-474. doi.org/10.1007/978-981-19-7997-2_17
12. Sarkar, D. (2023) Conservation agriculture a pathway to sustainable agriculture. In: *Sustainable Interventions for Resource Conservation, Climate Resilience and Natural Farming* (ed. Mahanta, K., Kohli, A., Sharma, V., Arora, S. and Singh, A.K.), Academy of Natural Resource Conservation and Management, Lucknow, p 103-107.
13. Kumar, S., Sarkar, D., Das, K., Mondal, B., Biswas, H., Bishnoi, R., Sahoo, D.C., Barla, G.W., Kumar, S., Ramamurthy, V. and Dwivedi, B.S. (2023) Land. In: *Trajectory of 75 years of Indian Agriculture after Independence* (ed. Ghosh, P.K., Das, A., Saxena, R., Banerjee, K., Kar, G. and Vijay, D.), Springer Nature, Singapore, p. 443-474. doi.org/10.1007/978-981-19-7997-2_17



- 
14. Basu, A. and Konar, A. (2023) Integrated Disease and Pest Management under Potato Based Cropping System. In: *Integrated Pest Management in Diverse Cropping Systems* (ed. Singh, D.P.), Apple Academic Press, USA, p. 427-459. ISBN. 9781774911167
 15. Bal, S.K., Banerjee, S., Saha, S., Chakraborty, D. and Chandran, M.A.S. (2023) Agrometeorological Research in India Towards Food and Environment Security. In: *Trajectory of 75 years of Indian Agriculture after Independence* (ed. Ghosh, P.K., Das, A., Saxena, R., Banerjee, K., Kar, G. and Vijay D.), Springer.
 16. Pal, D., Saha, S. and Banerjee, S. (2023) Precision Agriculture in View of Climate Change towards Long Term Sustainability. In: *Advances in Agronomy* Volume – 26 (ed. Rawat, A.K. and Tripathi U.K.) (Vol: 26, p:117-144), Aikinik Publications, New Delhi. ISBN 978-93-5570-816-8.
 17. Barman, M., Samanta, S., Ahmed, B., Dey, S., Chakraborty, S., Deeksha, M.G., Dutta, S., Samanta, A., Tarafdar, J. and Roy, D. (2023) Transcription dynamics of heat-shock proteins (Hsps) and endosymbiont titres in response other thermal stress in whitefly, *Bemisia tabaci* (Asia- I). In: *Abiotic stress and physiological adaptive strategies of insects Frontiers in Physiology* (ed. Ramniwas, S., Singh, D., Kumar, G. and Tyagi, P.K.). ISSN1664-8714, ISBN978-2-8325-2462-6, DOI: 10.3389/978- 2-8325-2462-6
 18. Chakraborty, S., Dutta, S., Samanta, S., Das, S., Barman, M. and Tarafdar, J. (2023) Characterization of begomo viruses and DNA satellites associated with tomato. In: *Geminivirus: Detection, Diagnosis and Management* Chapter 14
 19. (ed. Gaur, R.K., Sharma, P. and Czosnek, H.), p.217-236. Academic Press, United Kingdom, ISBN: 978-0-323-90587-9
 20. Mukherjee, D. (2023) Modern approaches of organic weed prevention measures in crop fields. In: *Recent advancement in organic farming* (ed. Bhakta, J.N. and Rana, S.), Nova Science Publisher, p.65-91, DOI: <https://doi.org/10.52305/KDXB1757>. ISBN 978-3-030-90548-4, ISBN 978-3-030-90549-1 (eBook).
 21. Mukherjee, D. (2023) Impact of social media on farming community. In: *Mobile Apps for Development of Farmers* (ed. Kandpal, A.S.). Jaya Publishing House, Delhi, India. P. 33-51. ISBN : 978-93-56512-16-0
 22. Dey, A., Dasgupta, S., Sengupta, S., Dutta, S., Mukhopadhyay, S. and Majumder, S.P. (2023) Food Security and Carbon Footprint: Lessons from COVID-19 in the Indian Subcontinent. In: *Handbook of Energy Management in Agriculture* (ed. Rakshit, A., Biswas, A., Sarkar, D., Meena, V.S. and Datta, R.), p. 597-621. Springer, Singapore. https://doi.org/10.1007/978-981-19-7736-7_30-1
 23. Barman, M., Das, S., Mukherjee, S. and Singh, S.K. (2023) Nanopore DNA Sequencing: A New Era for Crop Improvement. In: *Nanotechnology for Sustainable Agriculture* (ed. Rajput, V.D., Singh, A., Minkina, T.M., Verma, K.K. and Singh, A.K.), p. 255-280. Apple Academic Press, Taylor & Francis Group.



24. Shil, S. (2023) Physio-Biochemical approaches for raising drought tolerance in plants: Recent Progress and Future Perspectives. In: *Salinity and drought tolerance in plants- Physiological perspectives* (ed. Kumar, A., Dhansu, P. and Mann, A.), Springer Nature Publication, Singapore. ISBN 978-981-99-4668-6. ISBN 978-981-99-4669-3 (eBook). <https://doi.org/10.1007/978-981-99-4669-3>.
25. Barpete, S., Das, A., Kahriz, P.P., Kahriz, M.P., Khawar, K.M., Qunale, X., Tripathi, K., Parihar, A.K. and Kumar, S. (2023) Disease Resistance Breeding in *Lathyrus sativus* L. In: *Diseases in Legume Crops: Next Generation Breeding Approaches for Resistant Legume Crops* (ed. Jha, U.C., Nayyar, H., Sharma, K.D., von Wettberg, E.J.B., Singh, P. and Siddique, K.H.), Springer, Singapore, p.233-256. https://doi.org/10.1007/978-981-99-3358-7_10
26. Basak, D., Chakraborty, A., Das, A. and Banerjee, J. (2023) Molecular Marker-Assisted Crop Improvement in Pulses. In: *Molecular Marker Techniques* (ed. Kumar, N.), Springer, Singapore. https://doi.org/10.1007/978-981-99-1612-2_11
27. Parihar, A.K., Dixit, G.P., Lamichaney, A., Das, A., Tripathi, K., Singh, N., Konda, A., Sen Gupta, D., Barpete, S., Gupta, S. and Sarker, A. (2023) Nutrient-Dense Pea (*Pisum sativum* L.): Genetics and Genomics Mediated Developments. In: *Compendium of Crop Genome Designing for Nutraceuticals* (ed. Kole, C.), Springer, Singapore. https://doi.org/10.1007/978-981-19-3627-2_25-1
28. Jana, H. and Lakshman Chandra, P. (2023) Green Revolution of India. In: *Biplaber Dashkahan* (ed. Ghosh, D.), Avenel Press, East Burdwan, West Bengal, India, p.251-267.
29. Hazra, P. (2023) Antioxidants and health benefits of brinjal. In: *Vegetables for Nutrition and Entrepreneurship* (ed. Singh, B. and Kalia, P.). Springer Nature, Singapore, p. 203-216, ISBN: 9789811990151.
30. Saha, B., Reddy, K.M., Saha, S., Fatima, A. and Solankey, S.S. (2023) Nutritional stress management in vegetable crops under changing climate scenario. In: *Advances in Research on Vegetable Production Under a Changing Climate Vol. 2, Advances in Olericulture* (ed. Solankey, S.S. and Kumari, M.), Springer Nature Switzerland AG. p.85-108. ISBN 978-3-031-20839-3 DOI 10.1007/978-3-031-20840-9_4
31. Banerjee, P., Mandal, O., Bhattacharya, P., Atta, K., Ghosh, P.K., Nath, R. and Mondal, S. (2023) Priming with exogenous application of melatonin in improving plant adaptation against unfavourable condition. In: *Advancement of Melatonin Research in Plants* (ed. Roychoudhury, A.), p.298-310. DOI: 10.1201/9781003343752-20.
32. Biswas, P., Mondal, S., Maji, S., Mondal, A., Bandopadhyay, P. (2023) Microclimate Modification in Field Crops: A Way Toward Climate-Resilience. In: *Climate-Resilient Agriculture, Vol 1* (ed. Hasanuzzaman, M.). Springer, Cham. p.647-666. https://doi.org/10.1007/978-3-031-37424-1_29



33. Balagoni, M., Das, S., Ghosh, T., Kundu, S., Panigrahi, P., Sinha, G., Das, S. and Bandri, N. (2023) Nutraceutical and Therapeutic Properties of some Underutilized Leafy Vegetables grown in the Gangetic Plains of West Bengal. In: *Advances in Horticulture Sciences* (ed. Atul Yadav), Integrated Publications, New Delhi, 11: 37-49
34. Maji, A., Gorai, S., Hazra, S., Hasan, W., Parimala, G. and Roy, P. (2023) Marker-Assisted Breeding in Vegetable Crops. *Molecular Marker Techniques: A Potential Approach of Crop Improvement* (ed. Kumar, N.), Springer Nature. P.257-301.
35. Indira, M., Meronbala, H. and Mondal, R. (2023) Study on Antagonistic Effect of Bioagents on Seed Mycoflora and Seed Quality in Chilli (*Capsicum annum*). In: *Emerging Trends in Agriculture Sciences* (ed. Singh, Y.V.), Integrated Publications, Rohini, Delhi-110085, India. Volume – 14, pp 151-159.
36. Priyadarshini, S.S., Dutta, G., Priyadarshi, D. and Saha, G. (2023) Abiotic Stress management in Medicinal Plants. In: *Climate Resilience Agriculture-A Sustainable Perspectives* (ed. Manna, M.C., Sattar, A., Ghosh, S., Patel, V.K. and Rai, D.), Kalyani Publications, pp.40-58
37. Mondal, G., Singh, S., Mayanglambam, B., Mukherjee, S. and Dasgupta, B. (2023) Diseases of Betelvine (*Piper betle* L.). In: *Compendium of Medicinal and Aromatic Plants Diseases* (ed. Pandey, R., Raj, K., Mondal, G., Mawar, R., Kalra, A. and Singh, H.B.), Indian Phytopathological Society, Division of Plant Pathology, ICAR – Indian Agricultural Research Institute, New Delhi-110012, India. pp.1-10, ISBN: 978-93-94678-03-3
38. Chhetri, S. and Mondal, G. (2023) Diseases of Sarpagandha (*Rauwolfia serpentina* L.) In: *Compendium of Medicinal and Aromatic Plants Diseases* (ed. Pandey, R., Raj, K., Mondal, G., Mawar, R., Kalra, A. and Singh, H.B.), Indian Phytopathological Society, Division of Plant Pathology, ICAR – Indian Agricultural Research Institute, New Delhi-110012, India. pp.11-15, ISBN: 978-93-94678-03-3
39. Singh, S. and Mondal, G. (2023) Diseases of Sweet Flag (*Acorus calamus* L.). In: *Compendium of Medicinal and Aromatic Plants Diseases* (ed. Pandey, R., Raj, K., Mondal, G., Mawar, R., Kalra, A. and Singh, H.B.), Indian Phytopathological Society, Division of Plant Pathology, ICAR – Indian Agricultural Research Institute, New Delhi-110012, India. pp. 35-40, ISBN: 978-93-94678-03-3
40. Mukherjee, S. and Mondal, G. (2023) Diseases of Tulsi (*Ocimum tenuiflorum*). In: *Compendium of Medicinal and Aromatic Plants Diseases* (ed. Pandey, R., Raj, K., Mondal, G., Mawar, R., Kalra, A. and Singh, H.B.), Indian Phytopathological Society, Division of Plant Pathology, ICAR – Indian Agricultural Research Institute, New Delhi-110012, India. pp.48-52, ISBN: 978-93-94678-03-3
41. Chowdhury, T.K., Majumder, J., Mondal, T. and Gupta, D.M. (2023) Anthurium. *Textbook on Floriculture* (ed. Chowdhuri, T.K., Mondal, T., Malakar, M. and Sadhukhan, R.), Jaya Publishing House, New Delhi. Vol 2, pp.49-73. ISBN: 978-93-90309-6



42. Laha, A., Sengupta, S., Mandal, J., Bhattacharyya, K. and Bhattacharyya, S. (2023) The Journey of Arsenic from Soil to Plant. In: *Arsenic Toxicity Remediation: Biotechnological Approaches* (ed. Kumar, N. and Kumar, S.), Environmental Science and Engineering. Springer, Cham. https://doi.org/10.1007/978-3-031-37561-3_1.
43. Murmu, K., Sarkar, A., Das, P., Das A. and Bandopadhyay P. (2023) Organic Farming: Prospects and Challenges in Drylands. In: *Enhancing Resilience of Dryland Agriculture Under Changing Climate* (ed. Naorem, A. and Machiwal, D.), Springer Nature. pp.511-526
44. Sarkar, A., Murmu, K., Murmu, S., Jana, K. and Sen Sarma, S. (2023) 5. Legume Forages: A Multidisciplinary Approach for Ensuring Agricultural Sustainability and Global Food Security under Altered Climate Conditions. In: *Sustainable Solutions for a Changing World* (ed. Singh, A., Kumar, S.K., Afroz, Q.M., Chauhan, C., Kumari, S., Rastogi, D., Sarkar, A., Murmu, K., Murmu, S., Jana, K., Sarma, S.S., Dinesh, A., Singha, P.S., Ghosh, D., Ghosh, S. and Mouriya, R.), Kripa Drishti publications.
45. Mitra, M., Swain, H., Debsarma, O. and Mandal, N. (2023) Biotechnological interventions in upscaling of plant secondary metabolites. In: *Futuristic trends in Biotechnology* (ed. Debnath, S., Manjula, I.K., Shah, K.R. and Kumar, A.), IIP Proceedings, Vo. 2, Book 26, Chapter 15, pp. 245-261.
46. Sutradhar, M. and Mandal, N. (2023) Indirect regeneration of indica rice from mature seeds: The current scenario. In: *Futuristic trends in Biotechnology* (ed. Debnath, S., Manjula, I.K., Shah, K.R. and Kumar, A.), IIP Proceedings, Vo. 2, Book 26.
47. Datta, P. and Satpathi, C.R. (2023) Manipulation of chemical ecology for sustainable agriculture. In: *Recent trend in Agriculture and Horticulture* (ed. Thangapazham, S.), STAC Publishers, Agriculture College, TamilNadu, Vasudevanallur-627758. pp 1-23. ISBN: 978-81-963468-6-7
48. Sethi, D., Kusumavathi, K., Ravindran, B., Panda, N., Padhan, K., Dash, S., Sahoo, T.R., Mangaraj, S., Dhal, A., Swain, S.K., Sarkar, S., Pattanayak, S.K. and Febrisiantosa, A. (2023) Bioconversion of organic wastes into wealth by vermitechnology: a review. *Recent trends in solid waste management* (ed. Ravindran, B., Gupta, S.K., Bhat, S.A., Chauhan, P.S. and Tyagi, N.), Chapter 2, Elsevier. pp. 27-53. DOI: <https://doi.org/10.1016/B978-0-443-15206-1.00009-8>.
49. Laha, A., Sengupta, S., Mandal, J., Bhattacharyya, K. and Bhattacharyya, S. (2023) The Role of Plant Growth Promoting Bacteria on Arsenic Removal: A Review of Existing Perspectives. In: *Arsenic Toxicity Remediation: Biotechnological Approaches* (ed. Kumar, N. and Kumar, S.). Environmental Science and Engineering. Springer, Cham. https://doi.org/10.1007/978-3-031-37561-3_12
50. Sau, S., Maji, S., Ghosh, B. and Datta P. (2023) Guava. In: *Tropical and subtropical Fruit crops, Production, Processing and Marketing* (ed. Mandal, D., Wermund, U., Phavaphutanon, L. and Cronje, R.), Apple Academic Press, USA; is by HARD: 9781774911105.



51. Debnath, S. and Mallikarjuna, N. (2023) Polysora Rust. *Compendium of Maize Diseases* (ed. Gogoi, R., Hooda, K.S., Khokhar, M.K. and Jeevan, B.), Chapter 7, pp. 29-33, Indian Phytopathological Society, New Delhi, India. ISBN: 978-93-94678-04-0
52. Kumar, G., Maiti, P., Kumar, V. and Thakur, P.K. (2023) Innovative packaging technologies for extended shelf life of fruits. *Emerging trends in Food Production: Innovation and Future Directions* (ed. Kumar, A., Pavan, P.R., Yadav, G., Kumar, A. and Sheikh, K.H.A.), Elite Publication House, New Delhi, India. pp.274-292.
53. Barman, M., Pramanik, K., Kundu, R., Mukherjee, S., Das, A. (2023). *Recombinant DNA technology: Technique and applications in modern era*. In: *Futuristic trends in Biotechnology* (ed. Debnath, S., Manjula, I.K., Shah, K.R. and Kumar, A.), IIP Proceedings, Vo. 2, p.98-110. ISBN: 978-93-95632-83-6

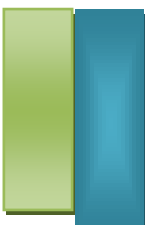
Other Publications (Technical bulletin/ Popular article/Booklet): No. 29

1. Banerjee, A. (2023). Kitshatru binashei paate safalya (Eng. Success in jute cultivation through control of insect pests). *Sambad Pratidin*.
2. Banerjee, A. and Ray, S. (2023). Organic and biological approaches to manage pests of banana. *Indian Horticulture*, 68(3): 49-52.
3. Banerjee, H., Ray, K. and Alipatra, A. (2023). Crop selection and management strategies to combat weather related vagaries in coastal Bengal. *SATSA Mukhapatra – Annual Technical Issue 27*: 134-144.
4. Biswas, S. and Debnath, S. (2023). Unnoto Prothay Baby Corn Chas. AICRP on Maize, Bidhan Chandra Krishi Viswavidyalaya, West Bengal.
5. Chakroborty, S., Hooi, A., Sk.Ala, H, Tejas, B. and Mahapatra, S. (2023). Trichoderma: A multifaceted solution towards sustainable agriculture. *The Agriculture Magazine*, 2(4): 202-205.
6. Debnath, S. (2023). Baby corn O sweet corn – krishoker aay barate bishesh bhumika nite sokhom. *Sobuj Sona* (Barshik Sonkalan, 12th).
7. Debnath, S. and Biswas, S. (2023). Fall Army Worm – Er Chinhitokoron O Byabosthapon(Bengali translation of ICAR leaflet). AICRP on Maize, Bidhan Chandra Krishi Viswavidyalaya, West Bengal.
8. Dutta, S. and Jash, S. (2023). Dhole pora thekale dhalao faida [in Bengali]. *Chasbash, Sangbad Pratidin*.
9. Hansda, N. N., Thapa, U. and Karak, S. (2023). Modern Agricultural Technology and its uses. Published by Director of Extension Education, Directorate of Extension Education, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal.
10. Hansda, N. N., Thapa, U., Karak, S. (2023). A brief guide to roof top Garden. Published by Director of Extension Education, Directorate of Extension Education, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal.
11. Jash, S. (2023). Chinabadame kanta Chhatrak [in Bengali]. *Sangbad Pratidin*.



12. Jha, S. (2023). Bee-keeping with *Apis cerana* in India. Special Volume of EIACP Newsletter, ZSI. 29(4):2-16.
13. Mukherjee, D. (2023). A case study: Weed identification and control measure in moisture stress conditions under red-lateritic belt of West Bengal. *Agri Tech Today*, 1 (9) : 06-08.
14. Mukherjee, D. (2023). Cropping system for sustainable agriculture under Red-Laterite Zone. *Agri Tech Today*, 1 (8) : 166-173.
15. Mukherjee, D. (2023). Forest resource conservation under Jhargram district of West Bengal. *MFP News Letter* (RNI No. 61465/93), 32 (3) : 05-07.
16. Mukherjee, D. (2023). Soil nutrient management under forest ecosystem for higher crop yield. *MFP News letter* (RNI No. 61465/93), 32 (1) : 04-10.
17. Pandit, R., Pandit, M. K., Ghosh, S., Karak, C. and Bairagi, S. (2023). Importance of cucurbits for food cum nutritional security and climate resilience – a brief account. *Indian Farmer*. 10 (07): 339-343.
18. Pandit, R., Pandit, M.K., Ghosh, S., Karak, C. and Bairagi, S. (2023). Importance of cucurbits for food cum nutritional security and climate resilience – a brief account. *Indian Farmer*, 10(7):339-343.
19. Rai, P., Mondal, M., Thapa, U. and Karak, S. (2023). Plant protection guidebook – at a glance. Directorate of Extension Education, Bidhan Chandra Krishi Viswavidyalaya, West Bengal. pp: 1-10.
20. Rai, P., Mondal, M., Thapa, U. and Karak, S. (2023). Plant Protection Guidebook – At a Glance. Published by Director of Extension Education, Directorate of Extension Education, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal.
21. Sengupta, S., Pati, S., Thapa, U., Karak, S. and Hasibul. (2023). Pasichm banga kichu gurutapura sag sabji er Pradhan rog. Published by Director of Extension Education, Directorate of Extension Education, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal.
22. Chakrabarty (Das), S. (2023). Various strategies for increasing the value of flower harvests. *Floriculture Today*, November: 44-50.
23. Chakrabarty (Das), S., Chowdhury, T.K. and Mandi, L. (2023). High valued hibiscus. *Floriculture Today*, April: 28-32.
24. Chakrabarty (Das), S., Chowdhury, T.K., Mandi, L. and Sengupta, B. (2023). Joba phuler bybohar hoye uthuk uparjonar dishari. *Sar Samachar*, Sravana-Aswin (2nd issue): 35-41.
25. Chakrabarty (Das), S., Karmakar, B. and Hayat, A. (2023). Natural dyeing processes to improve fabric qualities and add value (Part-I). *Floriculture Today*, October: 26-29.
26. Chakrabarty (Das), S., Karmakar, B. and Hayat, A. (2023). Natural dyeing processes to improve fabric qualities and add value (Part-II), *Floriculture Today*, November: 52-57.



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27. Karmakar, A. and Roy, A. (2023). Enhancement of shelf life of tomato using edible coating. *Bharatiya Krishi Anusandhan Patrika*. doi:10.18805/BKAP621.
 28. Mandi, L. and Chakrabarty, S. (2023). Flower Tea: A Simple Way of Value Addition to Flower Crops, *Floriculture Today*, October:26-29.
 29. Pandit, R., Pandit, M.K., Ghosh, S., Karak, C. and Bairagi, S. (2023). Importance of cucurbits for food cum nutritional security and climate resilience – a brief account. *Indian Farmer*, **10**(7): 339-343.



Awards, Fellowships, and Recognitions (2023-2024)

➤ National Institutional Ranking Framework (NIRF) 2023 – 16th Rank



A. FACULTIES

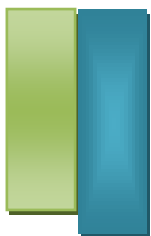
1. **Prof. S.B. Goswami:** Organized the 22nd Convocation as the Vice-Chancellor, BCKV (May 19, 2023) and attended the selection of Dean, College of Agriculture, OUAT, Bhubaneswar (June 3, 2023).
2. **Prof. Umesh Thapa** received the Eminent Scientist Award 2023 from AETDS at the 5th International Conference on Climate Change and its Impact, Sher-e-Kashmir University, Srinagar. Additionally, he was honored with the Life Time Achievement Award 2023 by the Department of Horticulture, SHUATS, Prayagraj, during the International Conference on Protected Cultivation of Horticultural Crops (November 29-30, 2023).
3. **Prof. Sankar Kumar Acharya:** Awarded the Best Agricultural Extension Book for “Happiness and Farmers: Social Ecology and Strategy” by MANAGE, Hyderabad (2023). Awarded the Professional Recognition Award for contributions to Agricultural Extension and Communication at the International Extension Education Conference, BHU (January 27-30, 2023). Elected as a Fellow of BIOVED, Allahabad (2023). Achieved a German patent (Utility Model No. 20202310273) for a novel IoT-based inventory management system in 2023.
4. **Prof. Amit Baran Sharangi:** Achieved a German patent (Utility Model No. 20 2023 102 733.4, June 19, 2023) and an Indian patent (Application No. 382186-001, October 6, 2023) for IoT-based inventory management and seed breeding systems. Featured in the World Scientist and University Rankings-2023.
5. **Prof. Mrityunjay Ghosh:** Facilitated the Plant Genome Saviour Community Award (Rs. 10 Lakh, Memento, and Certificate) for Dalpur Sree Sree Gyanananda Saraswati



Ashram, Bankura, from PPV&FRA, Government of India (September 12, 2023). Received the CWSS Gold Medal Award from the Crop and Weed Science Society (September 30, 2023, BCKV, Nadia).

6. **Prof. Pradip Kumar Sahu:** Delivered a keynote speech on computational and statistical tools in applied genomics at a three-day hands-on training at the University of North Bengal (September 7, 2023). Received the Distinguished Professor Award 2023 from the Institute of Researchers. Acted as an expert in Agricultural Statistics for the ARS Scientists Recruitment Examination of ICAR (October 18-20, 2023).
7. **Prof. Jayanta Tarafdar:** Received the Dr. T.S. Thind Distinguished Plant Pathologist Award from the Indian Society of Plant Pathologists, Punjab Agricultural University, Ludhiana (2023).
8. **Prof. Lalu Das:** Received the Distinguished Researcher Award 2023 in Agricultural Meteorology and Climate Science from Venus International Researcher Award.
9. **Prof. S. Bhattacharyya:** Served as a member of the Project Evaluation Committee, Biological Science and Biotechnology, WBDST&BT, RAC member at Central Sericulture Research and Training Institute, Berhampore, and National Tea Research Foundation, Kolkata.
10. **Prof. Ivi Chakraborty:** Received the Best Paper Award from The Institute of Engineers at the 38th Indian Engineering Congress (December 27, 2023) for research on mango pulp foaming properties for foam-mat drying, published in J. Inst. Eng. India Ser. A (2022).
11. **Prof. Kalyan Chakraborty:** Served as an invited speaker at a National Seminar on Rishi Aurobindo's contributions organized by MAKAUT, Kolkata (March 4, 2023).
12. **Prof. Niharendu Saha:** Delivered invited lectures on World Soil Day (December 5, 2023).
13. **Prof. Ramen Kumar Kole:** Appointed as an expert in the Selection Committee for Assistant Professor-cum-Junior Scientist/Junior Scientist-cum-Assistant Professor (Agricultural Chemical) at Bihar Agricultural University, Sabour, Bhagalpur (September 11, 2023).
14. **Prof. Md. Hasrat Ali:** Nominated as a Board of Studies member for the Department of Agricultural Economics, College of Agriculture, Sriniketan, Visva Bharati University.
15. **Prof. Subrata Dutta:** Chaired a session on Ecology and Edaphology related to plant diseases at the International Conference on Biotic and Abiotic Stress of Crop Plants (February 2-3, 2023, Visva-Bharati).
16. **Prof. Nirmal Mandal:** Chaired a session at the International Seminar on Recent Development Trends in Biological Research at APC, Kolkata (July 15, 2023).
17. **Prof. Amitava Basu:** Delivered the Sir E.J. Butler Memorial Award Lecture at the Indian Mycological Society, Kolkata (February 10, 2023).

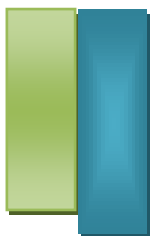


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18. **Prof. Saon Banerjee:** Served as a panelist in the session on “Nature-Based Solution in Watershed Management” at the APAC Watershed Congress 2023, Manila (October 24-26, 2023).
 19. **Prof. Susanta Kumar De:** Nominated as a Board of Studies member for the Department of Soil and Water Conservation, School of Agricultural Science, Nagaland University.
 20. **Prof. Dhiman Mukherjee:** Delivered multiple guest lectures, including on cashew cultivation and conservation agriculture (February 21-22, 2023, Jhargram), millet cultivation practices (March 15, 2023, Rajpara, Binpur).
 21. **Prof. Sujit Kumar Ray:** Presented a lead lecture at the National Conference on Novel Strategies and Advances in Crop Health Management, Bhubaneswar (December 12-14, 2023).
 22. **Prof. Subhra Mukherjee:** Served as an external subject expert in the Selection Committee for Assistant Professor at Brainware University and as an External Expert Member in the 4th Board of Studies meeting at Brainware University (February 7, 2024).
 23. **Prof. Subhas Chandra Kole:** Served as a resource person for an entrepreneurship development training course on Biofertilizer Production at the College of Agriculture, OUAT (August 5 and 7, 2023).
 24. **Prof. Gautam Chakraborty:** Received the 2nd Best Oral Presentation Award at the 10th Annual Convention and National Webinar on Next-Gen Management of Agrochemicals (March 24-25, 2023) for a paper on risk assessment of fluxametamide resistance in fall armyworm.
 25. **Prof. Subhasis Kundu:** Served as an external expert of the Board of Studies in the Department of Horticulture and Post-harvest Technology, Visva Bharati.
 26. **Prof. Manoj Kumar Nanda:** Appointed as a member of the Expert Committee, Earth Science and Geoinformatics, Department of Science & Technology and Biotechnology, Govt. of West Bengal.
 27. **Prof. F.K. Bauri:** Served as an External Member for the Screening cum Evaluation for Promotion under CAS at PSB, Visva Bharati, Sriniketan (January 9, 2023).
 28. **Prof. Benekar Biswas:** Delivered a lead presentation on “Agroforestry Regenerates Ecosystem Services in Degraded Dryland” at the International Conference on Innovations to Transform Drylands (February 21-23, 2023, ICRISAT, Hyderabad) and an invited talk on “Citrus-Based Agroforestry Offers Ecosystem Services” at the Asian Citrus Congress 2023 (October 28-30, 2023, Nagpur). Served as Editorial Board Member of Scientific Reports (Springer Nature), Associate Editor of the International Journal of Agriculture Science (Bioinfo Publications), Guest Teacher at IARI-Kolkata Hub at CRIJAF, and Expert for the Central Silk Board for project evaluation at CSR&TI, Berhampore.



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29. **Prof. Manabendra Ray:** Appointed as a member of the Research Advisory Committee and Institute Management Committee at ICAR-CRIJAF.
 30. **Prof. P.K. Bhattacharyya:** Acted as a Notified Breeder of BCKV for Breeder Seed production of rice, lentil, lathyrus, mustard, and chickpea. Served as a RAC member at CSR&TI, Berhampore.
 31. **Prof. Suhrita Chakraborty:** Served as Chairperson of the Committee on Post-Harvest Technology and Value Addition in AICRP on Floriculture. Received a Letter of Appreciation from the Director, ICAR-Directorate of Floricultural Research, for contributions as a reviewer in the XXX and XXXI Annual Group Meetings of AICRP on Floriculture. Acted as Lead Speaker and Co-Chairman of the Products and Value Addition Session at the International Seminar on Exotic and Underutilized Horticultural Crops (October 17-19, 2023, ICAR-IIHR, Bengaluru).
 32. **Prof. Surajit Mitra:** Presented a lead paper on “New Development in Prolonging Storage of Fruits and Vegetables” at the 9th Indian Horticulture Congress-2023 (November 18-21, 2023, CSAUAT, Kanpur). Received the Best Research Paper Award (oral presentation) for “New Developments in Post-Harvest Management and Processing of Tropical Tuber Crops” at the National Conference on Tropical Tuber Crops (November 28-29, 2023, ICAR-CTCRI, Thiruvananthapuram).
 33. **Prof. Tapas Biswas:** Served as an External Subject Expert for faculty evaluation at JIS Group, Kolkata (June 26, 2023). Acted as a resource person for an entrepreneurship development training course on Biofertilizer Production at OUAT, Odisha (August 5-September 1, 2023).
 34. **Prof. Goutam Mondal:** Served as an External Member of the Board of Studies for the Department of Plant Pathology, PSB, Visva-Bharati, Sriniketan.
 35. **Prof. Amitava Biswas:** Nominated as a Board of Studies or Council member for the Department of Lifelong Learning and Extension, University of Kalyani.
 36. **Dr. Dibyendu Sarkar:** Elected as a Fellow of the West Bengal Academy of Science and Technology in 2023 for contributions to soil science, agricultural chemistry, soil fertility, plant nutrition, and soil biology.
 37. **Dr. Poly Saha:** Received the Scientist of the Year-2023 award from Gochar Educational and Welfare Society, Saharanpur, UP. and delivered an invited lecture on “Pathogenesis, pathogenicity, detection, molecular profiling, epidemiology and management of Fusarium wilt of banana” at the 5th International Conference on Climate Change and Natural Resource Management, Dubai (26–30 November 2023); served as a Member of the Steering Committee and Rapporteur of a technical session; and acted as Co-ordinator of a one-month Skill Development Training Programme on Gardening organized by BCKV in collaboration with MIDH, DASD, ASCI, and the Ministry of Skill Development and Entrepreneurship.



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38. **Dr. Sonali Biswas:** Received the Outstanding Scientist Award-2023 during the 3rd Biotic Science Congress and International Conference on Advancement in Plant Health Research at Visva Bharati (December 7-8, 2023).
 39. **Dr. Shanowly Mondal (Ghosh):** Received the Prof. Kachan Baral Best Young Scientist Award-2023 during the 3rd Biotic Science Congress and International Conference on Advancement in Plant Health Research at Visva Bharati (December 7-8, 2023).
 40. **Dr. Amitava Banerjee:** Received the Best Krishi Shikshak Samman 2023 from the Society of Biotic and Environmental Research, Tripura, for contributions to bio-ecology of insect pests. Served as Chairman, Co-Chairman, and Rapporteur in sessions of the 3rd Biotic Science Congress (December 7-8, 2023, Visva Bharati).
 41. **Dr. Sanjoy Kumar Bordolui:** Received the Vigyan Ratna Samman from Edwin Incorporation in 2023.
 42. **Dr. Sunita Mahapatra:** Delivered lead lectures at the International Conference on Advancement in Plant Health Research and the International Conference on Biotic and Abiotic Stress for Sustainable Management in 2023.
 43. **Dr. Sanjit Debnath:** Delivered an invited online lecture on “Macropropagation Technology” under ICAR-AICRP on Fruits at Dr. YSR Horticulture University, Andhra Pradesh (April 24, 2023).
 44. **Dr. Golam Moinuddin:** Delivered a lecture at a District Level Seminar organized by the Deputy Director of Agriculture, Jhargram, celebrating the International Year of Millets (January 31, 2023).
 45. **Dr. Sibajee Banerjee:** Received the Best Poster Award under Theme III at the 2nd Indian Rice Congress at NRRI, Cuttack (February 11-14, 2023) for contributions to rice science. Acted as a facilitator for the Plant Genome Saviour Community Award (Rs. 10 Lakh, Memento, and Certificate) for Dalpur Sree Sree Gyanananda Saraswati Ashram, Bankura, from PPV&FRA, Government of India (September 12, 2023). Received the CWSS Gold Medal Award from the Crop and Weed Science Society (September 30, 2023, BCKV, Nadia).
 46. **Dr. Dipak Kumar Hazra:** Served as an invited speaker on “Nano-Pesticide: A New Dimension in Plant Protection” at a seminar on Application of Nanotechnologies in Agriculture at Ramakrishna Mission Ashrama, Narendrapur (January 20, 2023). Provided expert opinion on two patent-related issues for NATCO PHARMA LTD in 2023.
 47. **Dr. Md. Nasim Ali:** Appointed as Secretary, Faculty Council, Faculty of Agriculture, BCKV (June 1, 2023, to December 31, 2024).
 48. **Dr. Sankhajit Roy:** Acted as an External Expert for the selection of Research Officer, Young Professional, SRF, and Project Fellow at TOKLAI, Jorhat, Assam, and CIFRI, Barrackpore.



49. **Dr. Ashis Roy Barman:** Delivered a lead lecture on “Histopathology and Biochemical Basis of Resistance of Brinjal towards Bacterial Wilt Disease” at the National Conference on Novel Strategies and Advances in Crop Health Management, Bhubaneswar (December 12-13, 2023).
50. **Dr. Kalyan Jana:** Received a Certificate of Appreciation from IGFRI and ICAR, New Delhi, for contributions to the development of technology for organic nutrient management in ricebean-oat under irrigated conditions in 2023.
51. **Dr. Arpita Das:** Received an appreciation certificate from DDG, Crop Science, for the development of lathyrus variety KL-5, identified and released through CVRC. Awarded a travel grant from Crop Trust for attending International Lathyrus Day at Gent, Belgium.
52. **Dr. Anita Hansda:** Served as an invited speaker at a district-level workshop on millets under NFSM Nutri-cereal (September 19, 2023) and delivered classes for the DAESI course at KVK, Sonamukhi, Bankura (September 15, 2023).
53. **Dr. Sujit Hensh:** Acted as an expert in the selection committee for Workshop Instructor by the Public Service Commission, Govt. of West Bengal (April 13, 2023). Secured 1st position in the Poster Presentation at the International Conference on Agricultural Innovations for Sustainable Development Goals (September 30-October 2, 2023, BCKV).
54. **Dr. Sujaya Dewanjee:** Served as a resource person in multiple farmers’ programs organized by ADA, Govt. of West Bengal.
55. **Dr. Raghunath Mandal:** Acted as an expert to set up the State Bio Control Laboratory under the office of the Joint Director of Agriculture (PP&QC), Govt. of West Bengal (March 13, 2023).
56. **Dr. Chaitan Soren:** Appointed as a Scientific Advisory Committee member at Kalyan KVK, Jahajpur, Purulia.
57. **Dr. S. Gantait:** Served as a member of the Editorial Board of 3 Biotech, Sugar Tech, Plant Cell Tissue & Organ Culture, In Vitro Cellular & Developmental Biology—Plant (Springer), and Horticultural Plant Journal (Elsevier) since 2017.
58. **Dr. Rishu Sharma:** Delivered lectures as a resource person on mushroom cultivation at OUAT, Bhubaneswar, under NAHEP (February 2-5, 2023).
59. **Dr. Srabani Debnath:** Received the Best Oral Presentation Award at the 3rd Biotic Science Congress and International Conference on Advancement in Plant Health Research (December 7-8, 2023, Visva Bharati).
60. **Dr. Jayoti Majumder Sarkar:** Served as a member of the Executive Committee of the Society for Promotion of Horticulture, ICAR-IIHR, Bengaluru.
61. **Dr. S. K. Ghosh:** Received the Best Oral Presentation Award at the International Conference on Climate Smart Agriculture (October 19-20, 2023, Khulna University, Bangladesh).



B. STUDENTS

- **Mr. Soumyayan Roy:** Received the Best Poster Presentation Award at the International Conference on Biotic and Abiotic Stresses of Crop Plants and Their Sustainable Management (February 2-3, 2023, Visva-Bharati).
- **Mr. Ujjwal Sarkar:** Received the Best Oral Presentation Award at the National Conference at OUAT, Bhubaneswar.
- **Ms. Payel Adhikari:** Received the Best Paper Presentation Award at the National Conference at OUAT, Bhubaneswar.
- **Ms. Shinee De:** Secured 1st position in the Poster Presentation at the International Conference at Visva-Bharati and cleared ICAR NET in Plant Pathology.
- **Ms. Sushmita Pati:** Secured 1st position in the Poster Presentation at the International Conference at Visva-Bharati and cleared ICAR NET in Plant Pathology.
- **Mr. Hasibul Alam:** Secured 1st position in the Poster Presentation at the International Conference at Visva-Bharati and cleared ICAR NET in Plant Pathology.
- **Ms. Anindita Patwari:** Secured 1st position in the Poster Presentation at the International Conference at Visva-Bharati.
- **Mr. Soumen Pati:** Received the Best Oral Presentation Award at the IPS-NEZ Zonal Symposium at COA, CAU, Imphal, and cleared ICAR NET in Plant Pathology.
- **Sabir Ahmed:** Received the Best Paper Presentation Award for “Unveiling the Untapped Potential of Sunflower Oil as a Promising Option for Cancer and Diabetes Patients” at the International Conference on Ecological Impact on Agriculture, Business, and Technology.
- **Dr. Meenambagai C:** Received the Best Book Paper Author Award under “Tamil Nadu Can Do - Crop/Veterinary/Fisheries” at Tamil Nadu Dr. J. Jayalalithaa Fisheries University, Nagapattinam. Qualified ICAR NET 2023 in Agricultural Entomology.
- **Soumita Bera:** Received the Best Post Graduate Thesis Award by SBER, Tripura, during the 3rd Biotic Science Congress (December 7-8, 2023, Visva-Bharati).
- **Sabyasachi Ray:** Received the Best Master Thesis Award from AETDS, Uttarakhand Society for Ecological Sustainability, during an international conference in Nepal, the Young Research Scholar Award from the Society for Ecological Sustainability, Odisha, and the Best Post Graduate Thesis Award from SBER, Tripura, during the 3rd Biotic Science Congress (December 7-8, 2023, Visva-Bharati).
- **Tsama Subrahmanyeswari:** Received the Best Poster Award at the International Conference on Advances in Plants, Microbes, and Agricultural Sciences (March 2-4, 2023, NBU, Siliguri).
- **Souvik Gorai:** Received the Best Poster Presentation Award at the 5th International Group Meeting on Climate-Proofing Cereal Agriculture Strategies for Resilience and Sustainability (March 27-29, 2024, ICAR-IIWBR, Karnal) for research on spot blotch disease resistance in wheat.



SEMINAR / SYMPOSIUM / WORKSHOP / SUMMER-WINTER SCHOOL / WEBINAR ATTENDED OR ORGANIZED

- a. Seminar/Symposium/Conference attended: 145
- b. Workshop/Group meeting attended: 48
- c. Summer-Winter School/Training attended: 32

Organized:

1. AICRP on Tuber Crops organized 23rd Annual Group Meeting (AGM) of ICAR-AICRP on Tuber Crops on 10-12 March 2023 at FACC, BCKV, Kalyani in association with Indian Council of Agricultural Research
2. Crop and Weed Science Society organized 6th International Conference on “Agricultural Innovations for Sustainable Development Goals with Special Focus on Natural Farming” (AISDGONF-2023) on 30 Sept.- 02 October 2023 at FACC, BCKV, Kalyani
3. Department of Agril. Extension & Agril. Economics. Jointly organized four different guest lectures.
4. Department of Agricultural Chemistry and Soil Science organized 4 months training on ‘Soil Testing and Fertilizer Recommendation’ to unemployed youth through RIDF Project on Farmers Service Centre for Soil Testing and Fertilizer recommendation during 23.09.2022-25.01.2023.
5. Department of Agricultural Chemistry and Soil Science organized ‘World Soil Day’ on 05.12.2023 at RRS Gayespur jointly with AICRP on STCR.
6. ICAR-AICRP on Chickpea organized workshop on Chickpea cultivation under rice fallow in West Bengal
7. College of Agriculture, BCKV, Bardhaman organized the skill development training on GARDENER (Level 4), sponsored by MIDH spices project, DASD, CALICUT, KERALA, Govt. of India, at College of Agriculture, BCKV, Bardhaman, from 16th January to 16th February, 2024.
8. The 22nd Convocation of Bidhan Chandra Krishi Viswavidyalaya was held on 19 May 2023.
9. A two-month internship training programme on “Production Techniques of Biofertilizers” was conducted by the Survey, Selection and Mass Production of Nodule Bacteria Unit, BCKV, from 01 June to 31 July 2023.
10. Director of Extension Education Organized 1 Days workshop on “Production Technology on Millet Cultivation for ensuring Nutritional Security” during 29th March 2023, at the Seminar Hall, DEE, BCKV, Mohanpur, Nadia.
11. Director of Extension Education Organized 2 Days HRD Training Programmer on “Innovative Approaches in Agriculture Horticulture and Allied Sector with Special Focus on Natural Farming” during **30-31 March 2023**, at the Seminar Hall, Directorate of Extension Education, BCKV, Mohanpur.



Contact Details of the Faculty

Faculty of Agriculture, Mohanpur

SN	Name of the Teacher	Designation	Email	Contact No
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1. Department of Agricultural Chemicals

1.	Dr. H. Banerjee	Professor & Head	banerjee.hemanta@bckv.edu.in	9433395332
2.	Dr. R. K. Kole	Professor	kole.ramen.kr@bckv.edu.in	9433432539
3.	Dr. S. Roy	Asst. Professor	roy.sankhajit@bckv.edu.in	7319312505
4.	Dr. D. K. Hazra	-Do-	dipakipft@gmail.com	8159024819
5.	Dr. R. Karmakar	-Do-	karmakar.rajib@bckv.edu.in	8389817959

2. Department of Agricultural Economics

1.	Dr. B. K. Bera	Professor & Head of the Deptt. up to 13.07.2022	bkbera_econ@rediffmail.com	9433174194
2.	Dr. A. K. Nandi	Professor	aknandibckv@rediffmail.com	9433174137
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Details of Financial Progress of Development Grant

Budget of Bidhan Chandra Krishi Viswavidyalaya for 2023-24

Sl. No.	Source	(Rs. In Lac.)
	A.	Actual Receipt 2023-24
	Head	
1	Main Campus (including Bardhaman and Bankura College)	1342498822.00
	Total (Non Plan)	
1	AICRP 25% of State Share	62219877.00
2	State Ad-hoc Project	1798411.00
3	RIDF Projects	0.00
4	RKVY	10766598.00
5	Training Programme	0.00
	Total (Plan)	1342498822.00
	Total A (Non Plan + Plan)	1417283708.00
	B.	
1	College of Agriculture at Bankura	9200485.00
	Total (B)	9200485.00
	C.	
1	ICAR 75% share of AICRPs and AINPs	105474000.00
2	ICAR Ad-hoc Projects 100%	9359153.00
3	Development Grant (ICAR) (RAWE, NTS, Scholarship)	6847000.00
4	KVKs (Howrah, Hoogly, Nadia) 100%	100575000.00
5	Mega Seed Project (Including Revolving Fund)	5009660.00
	Total (C)	227264813.00
	D.	
1	Grants received from the Govt. of India on Comprehensive scheme 100%	8108242.00
2	Grants received from Govt. of India on Agromet Advisory Service 100% Plan	0.00
3	Grants Received from the Govt. of India on Ad-hoc Schemes 100%	20723053.00
4	RNARC	463277.00
	Total (D)	29294572.00
	E.	
1	Private/Corporate Projects	48928867.00
2	Seminer, Workshop and Training	991653.00
	Total (E)	49920520.00
	F.	
1	Internal Resource Generation	69411000.00
	Total (F)	69411000.00
	Total (A+B+C+D+E+F)	1802375098.00



Sl. No.	Name of Units	(Rs. In Lac) Actual Expenditure for 2023-24
A.	Non Plan (Govt. of West Bengal)	
	Grant-in Aids (Mohanpur, Burdwan and Bankura)other than Retirement benefi	1342227574.00
	Retirement Benefits	
	TOTAL :- A	1342227574.00
B.	Plan (Govt. of W.B)	
1	All India Co-ordinated Research Project (25%)	62219877.00
	College of Agriculture at Bardhaman	0.00
	College of Agriculture at Bankura	9200485.00
4	State Ad-hoc Schemes (100%)	21755265.00
5	RIDF Projects	359030.00
6	RKVY	8153280.00
7	Training Programme	0.00
	TOTAL :- B	101687937.00
	Non-plan and Plan (Govt. of W.B.):	
C.	Plan (I.C.A.R. Projects)	
1	All India Co-ordinated Research Project (75%)	138652533.00
2	KVK, Nadia, Hooghly, Howrah (100%), Purba Medinipur ICAR	109471550.00
3	ICAR Ad-hoc Schemes 100%	34671805.00
4	Mega Seed Project	4895683.00
	TOTAL :- C	287691571.00
D.	Govt. of India Plan	
1	Comprehensive Scheme (100%), Govt. of India	11436535.00
2	Agromet Advisory Serv. (100%), Govt. of India	3331167.00
3	Govt. of India Ad-hoc Schemes (100%)	35537628.00
4	RNARC Projects	1328874.00
	TOTAL:-D	51634204.00
E.	I C A R Development Grant (RAWES, NTS, Scholarship)	5775068.00
	Private/Corporate Projects	50590175.00
	Seminer, Workshop & Training	856936.00
	TOTAL :-E	57222179.00
	GRAND TOTAL (A+B+C+D+E)	1840463465.00



Report of Nodal Cell

Financial Year of Report: **2023-24**

Name of the Vice Chancellor along with his Date of Joining: **Prof. Subhendu Bikash Goswami** (4th March 2023 to June 3rd 2023) & **Prof. Gautam Saha** (16th August, 2023 to March 2024).

Whether Present Vice Chancellor is Permanent or Acting: **Interim**

Year of Establishment of the university: **1974**

Details of the Nodal Officer for Agricultural Education Division, ICAR (Please also provide mobile no and email): **Prof. Abhijit Saha, Department of Agricultural Meteorology and Physics, and Faculty of Agriculture, +91 9433317027, nodaloff.bckv@gmail.com**

Brief Introduction along with Mandate and Objective of the University:

No. of Constituent Colleges: 5

No. of Affiliated Colleges: Nil

Details of all Constituent College:

SN	Name of Constituent College	Year of Establishment	Location of along with		Designation of Head of Colleges (Dean/Associate Dean/ Directors)	Telephone No.	Official Email of College
			Place	District			
1.	Faculty of Agriculture	1974	Mohanpur	Nadia	Dean	033-2587-8338	deanofag.bckv@gmail.com
2.	Faculty of Horticulture	1996	Mohanpur	Nadia	Dean	09433565299	dean.ht@bckv.edu.in
3.	Faculty of Agricultural Engineering	1996	Mohanpur	Nadia	Dean	03473- 222657	dean.ae@bckv.edu.in
4.	College of Agriculture	2014	Burdwan	Burdwan	Teacher-in-Charge	09903126538	das.sibsankar123@gmail.com
5.	College of Agriculture	2015	Chatna	Bankura	Associate Dean	9433438870	de.susanta.kr@bckv.edu.in

Academic Programmes in University/ all Constituent Colleges/Faculty:

Sl No.	Name of the Constituent College/Faculty	Bachelor's		Master's		Ph. D.	
		Programme	Duration	Programme	Duration (Semester)	Programme	Duration (Semester)
1	Faculty of Agriculture	B.Sc. (Hons.) Agriculture	8 Semester	Agronomy	4	Agronomy	6
				Agricultural Biochemistry	4	Agricultural Biochemistry	6
				Agricultural Chemicals	4	Agricultural Chemicals	6
				Agril. Chem. & Soil Sc.	4	Agril. Chem. & Soil Sc.	6
				Agricultural Entomology	4	Agricultural Entomology	6
				Agricultural Economics	4	Agricultural Economics	6
				Agricultural Extension	4	Agricultural Extension	6
				Agril. Meteorology	4	Agril. Meteorology	6
				Agricultural	4	Agricultural	6



				Statistics		Statistics	
				Genetics & Plant Breeding	4	Seed Science & Tech.	6
				Plant Pathology	4	Agril Molecular Biology and Biotechnology	6
				Plant Physiology	4	Genetics & Plant Breeding	6
				Seed Science & Tech.	4	Plant Pathology	6
						Plant Physiology	6
2	Faculty of Horticulture	B.Sc. (Hons.) Horticulture	8 Semester	Vegetable Science	4	Vegetable Science	6
				Fruit Science	4	Fruit Science	6
				Floriculture and Landscape Architecture	4	Floriculture and Landscape Architecture	6
				Plantation, Spices, Medicinal and Aromatic crops	4	Plantation, Spices, Medicinal and Aromatic crops	6
				Postharvest Technology	4	Postharvest Technology	6
3	Faculty of Agricultural Engineering	B. Tech. Agricultural Engineering	8 Semester	Soil and Water Engg.	4	Soil and Water Engineering	6
				Farm Machinery & Power	4	Farm Machinery & Power	6
				Post-Harvest Engineering	4	Post-Harvest Engineering	6
				Food Engineering	4	Food Engineering	6
4	College of Agriculture, Bardhaman	B.Sc. (Hons.) Agriculture	8 Semester	Don't have PG curriculum		Don't have PG curriculum	
5	College of Agriculture, Susunia	B.Sc. (Hons.) Agriculture	8 Semester	Don't have PG curriculum		Don't have PG curriculum	

Student Status in University/ all Constituent Colleges/Faculty:

SN	Name of College	Parameters	Numbers				Total
			Bachelor's	Master's	Ph.D.	Others including Diploma	
1.	Faculty of Agriculture	Intake (1 st Yr)	154	147	89	No other Degrees are conferred	390
		Enrolled (1 st Yr)	142	136	70		348
		Passed Out	114	148	81		343
2.	Faculty of Horticulture	Intake (1 st Yr)	38	33	25		96
		Enrolled (1 st Yr)	34	29	16		79
		Passed Out	32	28	23		83
3.	Faculty of Agricultural Engineering	Intake (1 st Yr)	32	12	10		54
		Enrolled (1 st Yr)	31	12	5		48
		Passed Out	33	17	2		52
4.	College of Agriculture, Burdwan Campus	Intake (1 st Yr)	32	No Master's and PhD Degree			32
		Enrolled (1 st Yr)	30		30		
		Passed Out	29		29		
5.	College of Agriculture, Bankura Campus	Intake (1 st Yr)	32		32		
		Enrolled (1 st Yr)	31		31		
		Passed Out	29		29		



Category wise total number of students in the university during the reported period (including off campus colleges of the Universities)

Degree	Faculty / College	No. of students					
		SC	ST	OBC	General	Others	Total
Bachelor's	Faculty of Agriculture	118	30	85	288	26	547
	Faculty of Horticulture	30	6	20	79	3	138
	Faculty of Agril. Engineering	29	7	19	62	2	119
	College of Agriculture, Burdwan	28	7	20	67	4	126
	College of Agriculture, Chatna	27	7	19	67	4	124
Master's	Faculty of Agriculture	49	18	31	146	2	246
	Faculty of Horticulture	11	4	5	39	0	59
	Faculty of Agril. Engineering	5	1	2	13	0	21
Ph. D.	Faculty of Agriculture	26	10	20	62	126	244
	Faculty of Horticulture	6	3	2	24	29	64
	Faculty of Agril. Engineering	1	0	1	4	8	14
Total		330	93	224	851	204	1702

Gender Pattern amongst Students Enrolled in University/ Constituent College/Faculty:

SN	Name of College	Parameters	Numbers (including 1 st , 2 nd , 3 rd , 4 th , 5 th , and 6 th year as applicable)			
			Bachelor's	Master's	Ph. D.	Total
1	Faculty of Agriculture	Male	311	156	141	608
		Female	236	90	103	429
		Total	547	246	244	1037
2	Faculty of Horticulture	Male	85	28	34	147
		Female	53	31	30	114
		Total	138	59	64	261
3	Faculty of Agricultural Engineering	Male	86	17	11	115
		Female	33	4	3	40
		Total	119	21	14	154
4	College of Agriculture, Bardhamaan	Male	78	These two colleges don't have any Masters and Doctoral degree programme.		78
		Female	48			48
		Total	126			126
5	College of Agriculture, Chatna,	Male	82			82
		Female	42			42
		Total	124			124



Present Faculty Strength in the University/ College/ Faculty:

SN	Name of the University/ College/ Faculty	No. of Total Sanctioned				In Position (No. of Faculty based on present Designation after implementation of Re-designation cum CAS scheme)			
		Prof.	Assoc. Prof.	Asst. Prof.	Total	Prof.	Assoc. Prof.	Asst. Prof.	Total
1	Faculty of Agriculture	19	47	109	175	73	23	59	155
2	Faculty of Horticulture	6	14	22	42	25	5	5	35
3	Faculty of Agril. Engineering	5	5	12	22	5	1	4	10
4	College of Agriculture, Bankura	11	0	11	22	0	0	9	9
5	College of Agriculture, Burdwan	11	0	11	22	0	0	9	9
Total		52	66	165	283	103	30	86	218

Details of Hostels in the University including Constituent College

Sl. No.	Name of the Hostel		Type of hostel	Place with District	Availability of Wi-Fi/ Internet	Accommodation facilities in number			Alternative arrangements	
						No. of Rooms	Beds	Total no. of allotted Beds	Room	Beds
1	Matangini Abas		Girls	Mohanpur, Nadia	No	76	267	265	1	3
2	Mahasweta Abas		Girls	Mohanpur, Nadia	No	31	97	91	-	-
3	Nivedita Abas	Main Hostel	Girls	Mohanpur, Nadia	No	28	91	50	-	-
		Staff Quarter : wings of Nivedita Abas	Girls	Mohanpur, Nadia	No	-	-	-	12	24
4	Borlaug Abas		Girls	Mohanpur, Nadia	No	23	45	45	-	-
5	Raman Abas		Boys	Mohanpur, Nadia	No	86	225	195	-	-
6	Jagadish Abas		Boys	Mohanpur, Nadia	No	96	202	202	-	-
7	Vidyasagar Abas		Boys	Mohanpur, Nadia	No	144	160	160	-	-
8	Rabindra Abas		Boys	Mohanpur, Nadia	No	132	190	122	-	-
9	Nazrul Abas	Main Hostel	Boys	Mohanpur, Nadia	No	12	24	20	-	-
		Staff Quarter - 1, wings of Nazrul Abas	Boys	Mohanpur, Nadia	No	-	-	-	18	30
		Staff Quarter - 2, wings of Nazrul Abas	Boys	Mohanpur, Nadia	No	-	-	-	12	24
		Staff Quarter - 3, wings of Nazrul Abas	Boys	Mohanpur, Nadia	No	-	-	-	18	30
10	Netaji Abas		Boys	Kalyani, Nadia	Internet	31	68	41	-	-
11	Arabinda Abas		Boys	Kalyani, Nadia	Internet	30	70	72	-	-



Budgetary Support to the University:

(Rs. In lakh)

Budget Heads	Total Funding form State Government			Funding support from ICAR(Rs. lakh)				Total ICAR support	Any other central funding**	Grand Total
				Education Division	AICRP	KVK	Any other ICAR support*			
	Plan 1	Non-Plan 2	Total 1+2=3	4	5	6	7	(4+5+6+7) 8	9	3+8+9
Salary	0	13133.69	13133.69	-	918.44	825.74	-	1744.18	-	14877.87
Capital	0	311.75	311.75	-	-	103.74	-	103.74	-	415.49
Revenue	0	381.51	381.51	68.47	136.30	76.27	93.59	374.63	148.57	904.71
Total	0	13826.95	13826.95	68.47	1054.74	1005.75	93.59	2222.55	148.57	16198.07

* including Network Project, Extra Mural, etc

**including DST, DBT, ICMR, RKVY

Total amount of Revenue Generation from all Sources by Agriculture University including off campus colleges (give in tabular form):

Student's Collection	-	422.64 Lakh
Sale Proceed of farms	-	104.76 Lakh
Misc. earnings	-	166.70 Lakh
Total Amount		694.11 Lakh

All New/Existing Civil Works Repair & Renovation under taken out of the Development Grant (Details of each civil work must be reflected in the table as per approved allocation during period under report) :No Fund Sanction during the year

Details of Sports Facilities Strengthened by ICAR: No Fund Sanction during the year

Total number of smart class rooms developed (Till date) :No Fund Sanction during the year

All Equipment purchased/replaced under Development Grants (Details of each equipment must be reflected in the table as per approved allocation during period under report): No Fund Sanction during the year

All Information Technology equipments including all Hardware/ Software (Computers/ Laptops/ Printers/ Scanners/ UPS/ Software etc) purchased/replaced out of the Development Grants: No Fund Sanction during the year

All Furniture & Fixtures purchase out of Development Grant related to Hostel, Laboratory, Exam hall and Class Rooms: No Fund Sanction during the year

Status, where Internet and Wi-Fi Connectivity not provided in the University/ Constituent College / Faculty/ Hostels:



SN	Name of the Constituent College/ Faculty	Internet	Wi-Fi	Remark, if Any
1	Faculty of Agriculture, Mohanpur	Yes	Yes	Departmental Wi-fi is available in all faculties.
2	Faculty of Horticulture, Mohanpur	Yes	Yes	
3	Faculty of Agricultural Engineering, Mohanpur	Yes	Yes	
4	College of Agriculture, Burdwan	Yes	Yes	
5	College of Agriculture, Bankura	Yes	Yes	

Number of Student Beneficiaries availing RAWE/In Plant Training/Internship under Student READY in the University:

(Rs. In lakh)

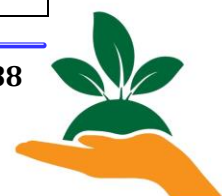
SN	Name of the University/ College/ Faculty	No of Students of Beneficiaries along with Stipend given						Total	
		RAWE		In-plant training		Internship		No.	Stipend
		No.	Stipend	No.	Stipend	No.	Stipend		
1	Faculty of Agriculture	110	19.80	0	0	0	0	110	19.80
2	Faculty of Horticulture,	30	5.40	0	0	0	0	30	5.40
3	Faculty of Agricultural Engineering,	0	0	25	0.75	20	3.00	45	3.75
Total		140	25.20	25	0.75	20	3.00	185	28.95

RAWE – Rural Agricultural Work Experience

Status of Experiential Learning (EL) Module established in the University:

(Rs. in lakh)

Year	Name of College along with location	Name of the EL Modules	Established with Support from ICAR/University/State	Nodal Officer of EL module, their mobile no & Email	Grant Received (Rs. in lakh)	No. of Students trained under EL	Product being developed under EL	Revenue earned (Rs in Lakh)	Revolving Fund Generated (Rs in Lakh)	% Share of income distributed to students
2011-12 & 2012-13	Faculty of Agriculture, BCKV, Mohanpur	Commercial Apiculture	ICAR	Prof. Shantanu Jha 9433011529 sjha2007@gmail.com	60.00 (25.00 +35.00)	2023-24 Trained -35 nos. Stud.	Honey		-	50% share distribution on profit
2011-12 & 2012-13	Faculty of Horticulture, BCKV, Mohanpur, Nadia, West Bengal	Commercial Horticulture	ICAR	Prof. Umesh Thapa 9830234577 dr.umeshthapa@yahoo.in	65.00 (25.00 + 40.00)	2023-24=30	High value vegetables, flowers and quality planting materials	Rs. 0.174 lakh	Rs. 0.062 lakh	100% share distribution on profit
2018-19 (New)	Faculty of Horticulture, BCKV, Mohanpur, Nadia, West Bengal	Processing of Fruits and Vegetables for value addition (Fruit Beverage Unit)	ICAR	Prof. Surajit Mitra 9433513560 drsrajitmitra@yahoo.co.in	80.00	2023-24=30	Different fruit beverages in commercial scale	Rs. 0.496Lakh	Rs.0.344 lakh (materials of Rs.2.5lakh in stock in hand)	50% share distribution on profit



Year	Name of College along with location	Name of the EL Modules	Established with Support from ICAR/University/State	Nodal Officer of EL module, their mobile no &Email	Grant Received (Rs. in lakh)	No. of Students trained under EL	Product being developed under EL	Revenue earned (Rs in Lakh)	Revolving Fund Generated (Rs in Lakh)	% Share of income distributed to students
2006-07	Faculty of Agricultural Engineering, BCKV, Mohanpur, Nadia, W. B.	Maintenance and Custom-hiring of Farm Machinery and equipment	ICAR	Prof. P. S. Chattopadhyay 9903406877 pschattopadhyay@yahoo.com	18.00	2023-24=5	Service-B.Tech (Agricultural Engineering) students are getting training on maintenance of farm machinery	-	Skill mode	-
2006-07	Faculty of Agricultural Engineering, BCKV, Mohanpur, Nadia, W. B.	Drip Fertigation to Fruit Crops for Better Yield and Economy	ICAR	Prof. P.S. Chattopadhyay pschattopadhyay@yahoo.com chattopadhyay.ps@bckv.edu.in	15.30	2023-24=5	Irrigation facility	-	Business Mode	-
2006-07	Faculty of Agricultural Engineering, BCKV, Mohanpur, Nadia, W. B.	Model rice based Agroprocessing Unit	ICAR	Prof. SoutiMukherjee 9836991461 souti62@rediffmail.com	68.00	2023-24=5	Rice Processing	-	Skill mode	-
2008-09	Faculty of Agricultural Engineering, BCKV, Mohanpur, Nadia, W. B.	Design, fabrication and testing of Farm machinery	ICAR	Prof. P.S. Chattopadhyay pschattopadhyay@yahoo.com chattopadhyay.ps@bckv.edu.in	180.00	2023-24=5	In house training for students in the workshop in design, fabrication and testing of small farm machinery	-	Skill mode	-
Total (Grant Received 2006-07 to 2018-19)					486.30	115		0.669	0.406	50%

Achievements under Niche Area of Excellence (If any): No Fund Sanction during the year



Number of Students Selected for JRF/SRF/NET (ICAR/ICMR/UGC/CSIR/DBT)/ARS:

SN	Name of College/ Faculty	JRF	SRF	NET	ARS	Others	Remarks
1	Faculty of Agriculture	22	2	36	0	1	-
2	Faculty of Horticulture,	3	1	13	0	2	-
3	Faculty of Agricultural Engineering,	0	0	1	0	0	-
4.	College of Agriculture, Burdwan	0	0	0	0	0	-
5.	College of Agriculture, Bankura	0	0	0	0	0	-
Total		25	3	50	0	3	-

Academic Achievement (No. of M.Sc. thesis submitted during the year):

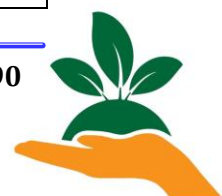
SN	Name of College/Faculty	No. of M.Sc.. Thesis Awarded in the reported year only	No. of Research Publication with NAAS /Thomson & Reuters rating			Remarks
			<5	5.0-7.5	> 7.5	
1	Faculty of Agriculture	148				
2	Faculty of Horticulture,	28				
3	Faculty of Agricultural Engineering,	17				
Total		193				

Academic Achievement (No. of Ph.D Thesis submitted during the year):

SN	Name of College/Faculty	No. of Ph. D. Thesis Awarded in the reported year only	No. of Research Publication with NAAS /Thomson & Reuters rating			Remarks
			< 5	5.0-7.5	> 7.5	
1	Faculty of Agriculture	81	49	41	16	Good number of papers published in 2023-24 are from the Ph.D. thesis's awarded earlier.
2	Faculty of Horticulture,	23	20	32	5	
3	Faculty of Agricultural Engineering,	2	4	2	1	
Total		106	73	75	22	

Curriculum Development & Delivery:

SN	Name of the University/ College/ Faculty	Title of Practical/ Instructional Manuals developed	Available offline or Online, if yes then web address
1	Faculty of Agriculture	Fundamentals of Entomology-II	
2		Practical Manual on Basic Biochemistry	
3		Practical Manual on Remote Sensing and GIS	
4		RAWE Manual, BCKV	
5		Breeding and seed production of ornamental crops	
6		A manual of Acarology	
7	Faculty of Horticulture	Practical Manual on Fundamentals of Food Technology	
8		Fundamentals of Food Technology	
9		COMMERCIAL FLORICULTURE	
10		Practical Manual on Temperate Vegetable Crops	



11			
12		practical manual on Potato and Tuber Crops	
13		Fundamentals of Horticulture	
14		Fundamentals of Food Technology	
15		Tropical and sub-tropical vegetables	
16		Ornamental Crop	

Details of the assistance provided under Library Strengthening Component:No Fund Sanction during the year

Details of study tour conducted (ICAR assistance): No Fund Sanction during the year

Details of Agencies/ Organisation where students got Placement during the year:

SN	Name of the University/ College/ Faculty	Location & District	ICAR	CAU/SAU	Central Govt.	State Govt.	PDF/ Foreign	Pvt./Others
1.	Faculty of Agriculture	Mohanpur, Nadia	0	0	35	7	4	28
2.	Faculty of Horticulture	Mohanpur, Nadia	0	0	10	1	0	5
3.	Faculty of Agricultural Engineering,	Mohanpur, Nadia	0	0	3	2	0	4
Total		97	0	0	48	10	4	37

Number of Faculty attending seminars/symposia (ICAR funds)/capacity building programme:

SN	Name of the University/ College/ Faculty	Location & District	Professor	Associate Professor	Assistant Professor
1	Faculty of Agriculture	Mohanpur, Nadia			
2	Faculty of Horticulture	Mohanpur, Nadia			
3	Faculty of Agricultural Engineering,	Mohanpur, Nadia			

Linkages with ICAR Institutes for Academic Research student exchange:

SN	Name of the ICAR Institute	Nature of Support		
		Teaching	Ph D Guidance	Lab Facilities
1	NBSSLU&P, Regional Station, Kolkata	√		
2	ICAR: CIFRI, Barrackpore, WB			√
3.	ICAR- ATARI, Kolkatta	√		
4.	ICAR-NCIPM, New Delhi		√	
5.	ICAR-IIRR, Hyderabad			√
6	ICAR-DMR, Solan, HP		√	√
7.	ICAR-CRIJAF, Barrackpore, W.B.	√	√	

No. of student entrepreneurs over last 5 years (year wise) : One

Total no. of entrepreneurs over last 5 years : Nil

Good Governance



Item	Number	Dates
Meeting of the executive council held	259 th , 260 th	10/05/2023, 02/02/2024
Meeting of Faculty Council Faculty of Agriculture	138 th , 139 th	05/05/2023, 01/12/2023
Meeting of Faculty Council Faculty of Horticulture	59 th , 60 th	02/05/2023, 01/12/2023
Meeting of FC of Faculty of Agril. Engineering	47 th , Emergent meeting	03/05/2023, 01/12/02023

Linkages with National/International universities/Institutes:

Affiliated private/govt colleges with the University: No affiliated College

Details of Faculty in Affiliated College: No affiliated College

Student Status in Affiliated College: No affiliated College

Gender Pattern amongst Students Enrolled in Affiliated College: No affiliated College

Please mention Ten Most Significant Achievements/Impacts out of the ICAR Development Grant Provided to the University: No Fund Sanction during the year

List Two Major Constraints Faced by the University for Enhancement of Education Quality:

1. In spite being accredited up to June 2026, three major UG programmes in Agriculture, Horticulture and Agril. Engineering along with BCKV (as university), is not getting any financial support from ICAR since the financial year 2021-22 which is urgently required for smooth conduction of academic programmes.
2. Due to gradually increasing proportion of girl students in every UG/PG/PhD batch, there has been an acute shortage of Girls' Hostel to accommodates our girl students of UG, PG and PhD programmes comfortably.

Justification for Continuing ICAR Support:

BCKV did not receive any fund under ICAR Development Grant and other educational grants since the year 2021-22, though, lately it has been accredited up to June 2026. Therefore, conduction of regular academic activities are being affected to a great extent. Hence, continuing ICAR Support during 2024-25 onwards is of utmost important to us because of the following:

1. Construction of new Girls' Hostel
2. Procurement of minor equipment for conduction of UG/PG/PhD Practical classes.
3. Procurement of modern instruments to support modified PG & PhD courses as per BSMA of ICAR
4. Development of new ELP Units and upgradation of existing ELP Units for UG students
5. Procurement of new and maintenance of existing ICT infrastructure.
6. Development of Incubation Centre for mentoring interested student-entrepreneur
7. Procurement of Books (Hard and Soft copies) for the Central Library.
8. Financial support to faculty members for participation in seminar/symposia/workshop



9. Day-to-day activities of ICAR Nodal Cell, which has to comply various documentation processes prescribed by ICAR throughout the year

List of Top Five Priority Areas Related to Higher Agriculture Education Improvement that University Wishes ICAR to Support:

1. Construction of new Girls Hostel and renovation of existing Boys and Girls Hostels. Existing hostels are very old which need immediate and massive renovation. Due to increase in the proportion of girls student in every UG/PG/PhD batch, construction of new Girls hostel is immediately needed.
2. University has already implemented Restructured and Revised Syllabi of ICAR for PG and PhD course as recommended by BSMA Committee from 2022-23. To cater such thoroughly revised courses, a huge investment in modernizing existing laboratories and ICT infrastructure, as per requirement of the modified syllabus, is needed for which we seek generous support from ICAR.
3. The university requires funding for new ELPs as well as a one-time grant for the existing ELPs so that they would be converted to commercial mode. Most of the existing ELPs (except two) are more than 10 years old and they were developed in skill mode during that time. They need to be modernized or replaced with new concepts.
4. BCKV did not receive any grant from ICAR since 2020-21 and so laboratory and farm activities of UG students are being affected to a great extent. Massive allotment of fund is required for updating these facilities.
5. BCKV has only four smart classrooms funded by ICAR. However, to conduct UG courses using modern tools, particularly in the context of proposed VI Deans Committee Report, all the UG classrooms are needed to be upgraded to smart classroom for which financial support from ICAR is urgently required.

UC/AUC as per format: Not applicable. (No fund received from ICAR during 2023-24)

Whether the university is accredited or not (mention date): Bidhan Chandra Krishi Viswavidyalaya is accredited up to 27/06/2026.

National Ranking overall and among AUs.: Bidhan Chandra Krishi Viswavidyalaya Ranked 16 (NIRF) in Agriculture and Allied Sector Category.

Please attach good quality photographs (for each component wherever, applicable): No component-wise fund received from ICAR during 2023-24

a) For any new civil work imitated with the grant from Council please indicate if any liability is still pending w.r.t to the approved vetted amount: Not Applicable

(b) Allocation for the Financial Year 2023-24: Not applicable (No fund received during 2023-24)

Provide Five Best Quality Photographs of the Activities Depicting Impact Mentioned in the Report:





BCKV Convocation 2023-24



**Inauguration of New Seminar Hall
at Faculty of Horticulture**



Reopening of ATIC



Krishi-O-Udyan Mela



Annual Sports Day

