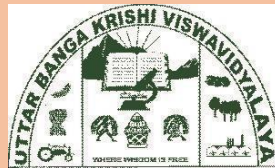


ANNUAL REPORT (2023-24)

Department of Entomology



Faculty of Agriculture
UTTAR BANGA KRISHI VISWAVIDYALAYA
PUNDIBARI, COOCHBEHAR – 736165
West Bengal, India

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Executive summary of the Department of Agril. Entomology (2023-24)

1.1 INTRODUCTION:

The department of Agril. Entomology, earlier, existed under the North Bengal Campus of Bidhan Chandra Krishi Viswavidyalaya (BCKV). It was located at Gram Sevak Training Centre at Cooch Behar, West Bengal since 1979. At that time only the undergraduate courses were catered. PG programmes were not offered till 1998. After that M.Sc. (Ag.) programme with an intake capacity of five (05) students was introduced from 1999.

The full-fledged Department of Agricultural Entomology started functioning with the establishment of Uttar Banga Krishi Viswavidyalaya in February, 2001. Since the establishment of the university in 2001 both the undergraduate and post graduate courses (M.Sc. and Ph.D.) have been introduced.

1.2 Objectives

- a) Conducting instructional programme to the Under Graduate, post-Graduate and Ph.D. students through theory and practical trainings to develop and supply best human resources in the field of agriculture and allied sciences to compete in job market.
- b) To carry out and supervise fundamental, academic and applied researches for the development of science for ultimate benefit to the farming community with keen attention towards restoration of health, environment and right to get residue free food stuff.
- c) Imparting training and visit to the farmers field with the students for the benefit of teachers and students to perceive the current on-farm problems and also to provide advisory with most modern technologies for mitigation.
- d) Restoring democratic environment and to maintain corporate life in integrity among the members of the Department for better teaching-learning processes.
- e) To maintain sustained effort towards improving teaching methodology befitting course-curriculum for imparting best knowledge to the students.

2. Teaching

The Department has catered different courses for Under Graduate Agriculture and Horticulture students as per Vth Dean Committee during the tenure 2023-24. The details of the courses like Course Number, Course Name, Semester for which the course was offered, Credit hours of the course and the Faculties associated with the said courses are given in the following Table –

2.1 Under Graduate Courses

Sl. No.	Course Number	Course Name	Semester	Credit Hour	Faculties associated
1.	ENT-151	Fundamentals of Entomology	2 nd	3 + 1	Prof. S. K. Sahoo, Prof. N. Laskar, Dr. D. Chakraborty & Prof. N. Chaudhuri
2.	ENT-152	Fundamentals of Entomology	2 nd	2 + 1	Prof. S. K. Sahoo, Prof. N. Laskar & Prof. N. Chaudhuri
3.	ENT-201	Nematode Pests of Horticultural Crops & their Management	3 rd	1 + 1	Prof. J. Ghosh & Dr. P. Sarkar
4.	ENT-251	Insect Pests of Fruits, Plantation, Medicinal & Aromatic Crops	4 th	2 + 1	Prof. S. Pal, Dr. M. Chatterjee & Dr. D. Chakraborty
5.	ENT-301	Pests of Crops and Stored Grains & their Management	5 th	2 + 1	Prof. N. Laskar, Prof. S. K. Senapati and Dr. D. Chakraborty
6.	ELC-302	Biopesticides & Biofertilizers	5 th	2 + 1	Prof. S. K. Sahoo & Dr. D. Chakraborty
7.	ENT-351	Management of Beneficial Insects	6 th	1 + 1	Prof. J. Ghosh & Dr. M. Chatterjee
8.	ENT-352	Insect Pests of Vegetables, Ornamental and Spice Crops	6 th	2 + 1	Prof. N. Laskar, Prof. S. Pal & Dr. M. Chatterjee
9.	ENT-353	Sericulture, Apiculture & Lac culture	6 th	1 + 1	Prof. T. K. Hath & Prof. J. Ghosh
10.	PPA-352	Principles of Integrated Pest & Disease Management	6 th	2 + 1	Dr. P. Sarkar

2.2 Post Graduate Courses:

2.2.1 M.Sc. students

Sl. No.	Course Number	Course Name	Semester	Credit Hour	Faculties associated
1.	ENT-501	Insect Morphology	1 st	2 + 1	Prof. N. Laskar & Prof. S. Pal
2.	ENT-502	Insect Anatomy & Physiology	1 st	2 + 1	Prof. N. Chaudhuri & Dr. M. Chatterjee
3.	ENT-503	Insect Taxonomy	1 st	1 + 2	Prof. S. K. Sahoo & Prof. S. Pal
4.	ENT-504	Insect Ecology	2 nd	2+ 1	Prof. N. Chaudhuri & Dr. M. Chatterjee
5.	ENT-505	Biological Control of Insect Pests & Weeds	2 nd	2 + 1	Prof. T. K. Hath & Prof. S. K. Sahoo
6.	ENT-506	Toxicology of Insecticides	2 nd	2 + 1	Dr. D. Chakraborty & Dr. M. Chatterjee
7.	ENT-507	Host Plant Resistance	2 nd	1 + 1	Prof. N. Laskar
8.	ENT-508	Concepts of IPM	1 st	2 + 0	Prof. N. Laskar & Prof.

					S. K. Senapati
9.	ENT-509	Pests of Crops and Stored Grains & their Management	3 rd	2 + 1	Prof. N. Laskar, Prof. T. K. Hath & Dr. D. Chakraborty
10.	ENT-513	Principles of Acarology	3 rd	1 + 1	Prof. J. Ghosh & Dr. M. Chatterjee
11.	ENT-516	Apiculture & Sericulture	2 nd	1 + 1	Prof. T. K. Hath & Prof. J. Ghosh
10.	PPA-504	Plant Nematology	1 st	2 + 1	Prof. J. Ghosh & Dr. P. Sarkar

2.2.2 Ph.D. students

Sl. No.	Course Number	Course Name	Semester	Credit Hour	Faculties associated
1.	ENT-601	Insect phylogeny & Systematics	1 st	1 + 2	Prof. S. K. Sahoo, Prof. N. Chaudhuri & Prof. S. Pal
2.	ENT-602	Insect Physiology & Nutrition	1 st	2 + 1	Prof. T. K. Hath, Prof. N. Chaudhuri & Dr. M. Chatterjee
3.	ENT-603	Insect Ecology & Diversity	2 nd	1 + 1	Prof. N. Chaudhuri & Dr. M. Chatterjee
4.	ENT-604	Insect Behaviour	2 nd	1 + 1	Prof. J. Ghosh & Prof. N. Chaudhuri
5.	ENT-605	Bio-inputs for Pest Management	3 rd	2 + 1	Prof. T. K. Hath & Prof. S. K. Sahoo
6.	ENT-606	Insect Toxicology & Residues	1 st	2 + 1	Prof. J. Ghosh & Dr. M. Chatterjee
7.	ENT-607	Plant Resistant to Insects	1 st	2 + 0	Prof. N. Laskar & Prof. S. K. Senapati
8.	PPA-504	Plant Nematology	1 st	2 + 1	Prof. J. Ghosh & Dr. P. Sarkar

2.3 PG Student completed degree:

2.3.1 M.Sc. (Ag)

SL No	Name of the student	Gender	Home state	Supervisor	Title of the thesis
1.	Pankaj Patel	M	West Bengal	Dr. P. Sarkar	Identification and Distribution of Root Knot Nematode (<i>Meloidogyne</i>) species Associated with Ramie (<i>Boehmeria nivea</i> L.) in Assam and West Bengal
2.	Prapti Panja	F	-Do-	Prof. T. K. Hath	Studies on Ovipositional Behaviour of <i>Callosobruchus</i> spp. and Their Management with Vegetable Oils

3.	Shubhayan Dutta	M	-Do-	Mr. D. Chakraborty	Studies on Occurrence and Bio-ecology of <i>Carpophilus dimidiatus</i> Fabricius (Nitidulidae: Coleoptera), an Emerging Pest in Stored Grain from Terai Region of West Bengal
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2.3.2 Ph. D.

SL No	Name of the Student	Gender	Home state	Supervisor	Title of the thesis
1.	Atanu Maji	M	West Bengal	Prof. S. K. Sahoo	Morphometric and Molecular Characterization of Aphids (Aphididae: Hemiptera) on Vegetable and Fruit Crops in West Bengal
2.	Tumma Mounika	F	Telangana	Prof. T. K. Hath	Diversity of Insect-pests of Stored Pulses with Special Reference to Bio-ecology of <i>Callosobruchus chinensis</i> under Terai Agro-Ecology of West Bengal
3.	Swapna Rani	F	Telangana	Prof. S. Pal	Insect Pest and Natural Enemy Complex of Some Selected Medicinal Plants under Northern Tract of West Bengal

2.4 Existing PG students along with the name of supervisor

2.4.1 M.Sc students

SL No	Name of the student	Gender	Home State	Supervisor	Title of Thesis
1.	Abhirup Ghosh	M	West Bengal	Prof. S. K. Sahoo	Field Evaluation of indigenous strain of <i>Beauveria bassiana</i> (UBKV-Bb-1) against insect pests of cabbage and mustard.
2.	Jafril Hamsika	F	Tamil Nadu	Prof. N. Chaudhuri	Incidence and Feeding Preference of Jute Hairy Caterpillar <i>Spilosoma obliqua</i> (Walker) (Lepidoptera: Arctiidae)
3.	Krishnakripa, A.M.	F	Kerala	Dr. M. Chatterjee	Egg Parasitoid Complex of Rice Yellow Stem Borer – A Comprehensive Study

4.	Rajath, H. S.	M	Karnataka	Prof. J. Ghosh	Evaluation of Some Indigenous Plant Leaf Extracts as A Grain Protectant against <i>Callosobruchus chinensis</i> (Coleoptera: Bruchidae)
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2.4.2 Ph.D. students

SL No	Name of the student	Gender	Home state	Supervisor	Title of the thesis
1.	Debanjan Chakraborty	M	West Bengal	Prof. S. K. Sahoo	Studies on Bio-ecology of Invasive Whitefly species in Sub-Himalayan West Bengal.
2.	Tapas Kumar Hembram	M	West Bengal	Prof. T. Dhar	Study on Feeding Preference and Digestive Physiology of <i>Spodoptera frugiperda</i> (Smith) and <i>Spodoptera litura</i> (Fab.) on Different Hosts.
3.	Riju Nath	M	West Bengal	Prof. S. K. Senapati	Study on pollinators under Terai Agro-climatic Region of West Bengal.
4.	Pousabh Das	M	West Bengal	Dr. W. Reza	Key Insect-pest and their Management at Different Growth Stages of Paddy (<i>Oryza sativa</i> L.) in Terai Region of West Bengal
5.	Deepika Gadaily	F	Sikkim	Prof. T. Dhar	Studies on Insect-pest and Natural Enemy Biodiversity in Cabbage (<i>Brassica oleracea</i> var. capitata L.) under Terai Zone of West Bengal
6.	Toge Riba	M	Arunachal Pradesh	Prof. N. Chaudhuri	Pest Constraints of Litchi (<i>Litchi chinensis</i> Sonn) at Different Agro-climatic Sub-region of Zone-II (India)
7.	Abhijit Bhadra	M	West Bengal	Dr. W. Reza	Studies on relative efficacy of new chemical pesticides against soybean (<i>Glycine max</i> L.) pests vis-à-vis their seasonal incidence and subsequent effect on oil and protein content
8.	Adrish Dey	M	West Bengal	Prof. N. Laskar	Assessment of spatio-temporal variation in bee-forage in West Bengal through melissopalynological investigations.
9.	Dosa Rajeswari	F	Telangana	Prof. S. Pal	Pest complex of Maize and their sustainable management
10.	Sanjoy Samanta	M	West Bengal	Prof. S. K. Senapati	Studies on insect fauna with reference to pests and pollinators acting upon ridge gourd (<i>Luffa acutangula</i> L. Roxb.) in Terai region of West Bengal
11.	Subham Kr. Sarkar	M	West Bengal	Prof. J. Ghosh	Diversity, population dynamics and basis of resistance against pod borer complex of redgram (<i>Cajanus cajan</i> L. Millsp.) under Terai zone of W.B.

12.	Swagata Bhowmik	F	Tripura	Prof. S. K. Sahoo	Studies on aphid faunal diversity in field crops particularly cereals, pulses and oilseeds with special reference to seasonal abundance of aphid species of field pea and mustard
13.	Keerthana B	F	Tamil Nadu	Prof. N. Chowdhury	Gut microbiome mediated insecticidal responses in fall armyworm <i>Spodoptera frugiperda</i> J. E. Smith of Maize
14.	Mrinal Karjee	M	West Bengal	Dr. P. Sarkar	Identification and distribution of root knot nematode (<i>Meloidogyne</i>) species and races infecting Medicinal Plants in the foot hills of Eastern sub-Himalayas
15.	Samrat Saha	M	West Bengal	Prof. T. Dhar	Physico-chemical and Nutraceutical Characterization of West Bengal Honey
16.	Soheli Sarkar	F	West Bengal	Prof. T. K. Hath	Studies on the biophysical and biochemical bases of resistance in brinjal genotypes (<i>Solanum melongena</i> L.) against <i>Leucinodes orbonalis</i> Guen.
17.	A. Sankeerthana	F	Telangana	Prof. S. K. Sahoo	Biodiversity of Hymenopteran parasitoids in different Ecosystem of West Bengal
18.	Sogala Manohar	M	Telangana	Dr. B. Patra	Studies on Insecticide Resistance in <i>Aphis gossypii</i> Glover on Okra
19.	Md. Sharafat Ali	M	West Bengal	Prof. T. K. Hath	Diversity of important Mite Pests, their Biology, Population Dynamics and Sustainable Management on Marigold (<i>Tagetes</i> sp.) at the Terai Zone of West Bengal
20.	Gouri Sankar Nandi	M	West Bengal	Prof. S. K. Senapati	Insect Pest Complex under Different types of Faming – A Comparative Study
21.	Jeyashree, J.	F	Puducherry	Prof. S. Pal	Utilising Coccinellid Predators for the Sustainable Management of Potato Aphid, <i>Myzus persicae</i> (Sulzer): Ecological, Functional and Molecular Insights under Cold Storage
22.	Narayan Chandra Pal	M	West Bengal	Dr. P. Sarkar	Identification and Distribution of Root Knot Nematode species (<i>Meloidogyne</i> spp.) associated with Tea Growing Zones of West Bengal

3. RESEARCH

3.1 Area of research:

The Department of Agril. Entomology has directed research activity on various aspects in the following way –

- * Crop-pest based research
- * Fundamental research like species identification, morphological studies, taxonomical studies including application of molecular approaches.
- * Formulation of IPM modules for different crop and pests
- * Mass production, release and maintenance of biological agents
- * Productive insect based research like honey bee, silkworm etc.
- *Management of nematodes and mites pests of different crops

3.2 Scholarships, Stipends and fellowship:

3.2.1 M.Sc. students

Sl. No.	Name of the students	Name of the Scholarship	Amount/Year (Rs.)
1.	Abhirup Ghosh	Swami Vivekananda Merit-cum-Means Scholarship	30,000/-
2.	Jafril Hamsika	National Talent Scholarship	60,000/-
3.	Krishnakripa, A.M.	National Talent Scholarship	60,000/-
4.	Rajath, H. S.	National Talent Scholarship	60,000/-

3.2.2 Ph.D. students

Sl. No.	Name of the students	Name of the Scholarship	Amount/month (Rs.)
1.	Abhijit Bhadra	University Research Scholar	18,000/- per month
2.	Adrish Dey	ICAR AIEEA (JRF/SRF) Ph.D.	31,000/- per month
3.	Dosa Rajeswari	Swami Vivekananda Merit-cum-Means Scholarship	8,000/- per month
4.	Subham Kumar Sarkar	University Research Scholar	18,000/- per Month
5.	Keerthana B	Swami Vivekananda Merit-cum-Means Scholarship	8,000/- per month
6.	Mrinal Karjee	Project Fellow	18,000/- per month

7.	Samrat Saha	University Research Scholar	18,000/- per month
8.	Soheli Sarkar	University Research Scholar	18,000/- per month
9.	A. Sankeerthana	Swami Vivekananda Merit-cum-Means Scholarship	8,000/- per month
10.	Sogala Manohar	Project Fellow	18,000/- per month
11.	Md. Sharafat Ali	University Research Scholar	18,000/- per Month
12.	Gouri Sankar Nandi	University Research Scholar	18,000/- per Month
13.	Jeyashree, J.	Swami Vivekananda Merit-cum-Means Scholarship	8,000/- per month
14.	Narayan Chandra Pal	University Research Scholar	18,000/- per month
15.	Swagata Bhowmick	Swami Vivekananda Merit-cum-Means Scholarship	8,000/- per month
16.	Riju Nath	University Research Scholar	18,000/- per month
17.	Sanjoy Samanta	University Research Scholar	18,000/- per month
18.	Pousabh Das	University Research Scholar	18,000/- per month
19.	Deepika Gadaily	Swami Vivekananda Merit-cum-Means Scholarship	8,000/- per month
20.	Tumma Mounika	Swami Vivekananda Merit-cum-Means Scholarship	8,000/- per month
21.	Dhanapati Gokul Krishna	Swami Vivekananda Merit-cum-Means Scholarship	8,000/- per month

3.3 Involvement of teachers in various research projects:

SL. No.	Name of the projects/ scheme	Name of the P.I.	Year of commencement	Funding Agency	Total Budget (Rs. in Lakh)
1.	AICRP on Biological Control of Crop Pests and Diseases	Prof. S. K. Sahoo	2018	ICAR- NBAIR	Contingency Centre 6.45
2.	Efficacy testing of Sulfoxaflor + Bifenthrin 15% SE w/w against sucking pests in Brinjal, Tomato, Okra and Chilli	Dr. M. Chatterjee	2021	Dow Agro Sciences India Private Limited	16.80

3.	Evaluation of some new Generation molecules against different pests of Cotton, Chilli & Maize	Prof. J. Ghosh	2022	Willowood Chemicals Private Limited	14.00
4.	Bio- efficacy, trial of PIPL 23001 against major pests of Paddy, Groundnut & Sugarcane	-Do-	2023	Parijat Industries (India) Private Limited	7.98
5.	Bio- efficacy, trial of PIPL 1024 against major pests of Paddy	-Do-	2023	-Do-	2.66
6.	Evaluation of bio-efficacy and phyto-toxicity of Etoxazole 6% + Abamectin 1.5% SC infesting Chilli	Prof. N. Laskar	2023	M/S Sumitomo Chemicals India Ltd.	5.60
7.	Bioefficacy, phytotoxicity and effect on natural enemies of Monocrotophos 15% SG on wheat	-Do-	2023	M/S United Phosphorus Ltd.	3.78
8.	Bio-efficacy, Phytotoxicity and Residue analysis of CEI 315 & CTC 75 in Paddy	Prof. J. Ghosh	2024	Chemly Agritech Private Limited	6.16

4. Extension Activities

Several training programmes were organised under the extension activities during 2023-24. These are as follows –

1. Training cum input distribution programme was organised for tribal farmers under AICRP-Biological control on 23.08.2023 at Singimari, Patlakhawa (No. of beneficiaries-40).
2. Training programme for tribal farmers was conducted under AICRP-Biological control on 02.11.2023 at Deodanga, Alipurduar (No. of beneficiaries-40).
3. Training cum input distribution programme was conducted for tribal farmers under AICRP-Biological control on 15.12.2023 at Singimari, Patlakhawa (No. of beneficiaries-40).
4. Training cum input distribution programme was performed for tribal farmers under AICRP-Biological control on 06.03.2024 at Vivekananda Auditorium, UBKV, Pundibari (No. of beneficiaries-70).

5. INFRASTRUCTURAL FACILITIES

Sl. No.	Infrastructure	Number	Facilities Available
a)	Seminar Hall cum classroom	01	AC, Internet Connectivity and LED Monitor for display/presentation, Video Conferencing facility
b)	Molecular Entomology Laboratory	01	Thermal Cycler PCR, Gel Electrophoresis, Deep Freezer, Transiluminator, Digital Hot Water Bath and Micro Centrifuge
c)	Insect Taxonomy and Morphology Laboratory	01	Stereo Zoom Microscopes (Binocular/Trinocular: 07) with imaging facility, Hot Air Oven, BOD
d)	Biological Control Laboratory	01	Stereo zoom binocular microscope (MAGNUS), Microscope (Radical), Refrigerator, Insect Cabinet, Trichogramma culture
e)	Acarology Laboratory (under progress)	01	– N.A. –
f)	UG Laboratory (Fundamentals of Entomology)	01	Simple and Compound Microscopes (30 each)
g)	Insect Museum	01	Collection of insects belonging to different orders featuring an aesthetic appeal
h)	PG Laboratory	01	Laminar Air Flow, Hot Air Oven and other Instruments and Equipments related to PG Research

6. FACULTY AND STAFF POSITION

6.1 Faculty

Sl. No	Name	Designation	Specialisation	Contact details
1.	Dr. S. K. Senapati (Posted through Drafting)	Professor	Economic Entomology	Ph. No. 9434191444 Email: sksubkv@rediffmail.com
2.	Dr. T.K. Hath	Professor	Economic Entomology	Ph.No.9434685670 Email: tapanhath@gmail.com
3.	Dr. Jaydeb Ghosh	Professor	Economic Entomology and Acarology	Ph.No.9434483767 Email: jaydebubkv@yahoo.com
4.	Dr. N. Laskar	Professor	Economic Entomology	Ph. No. 9434483855 Email: nripendralaskar@yahoo.co.in
5	Dr. S. K. Sahoo	Professor	Economic Entomology	Ph.No.9647255868 Email: shyamalsahoo@gmail.com
6.	Dr. M. Chatterjee	Assistant Professor	Economic Entomology and Acarology	Ph.No.9679350517 Email: moulita.2014@gmail.com
7.	Mr. D. Chakraborty	Assistant Professor	Economic Entomology	Ph.No.9647800589 Email: debanjan.ubkv@gmail.com

6.2 Staff

Sl. No.	Name	Designation	Specialisation	Contact details
1.	Dr. T. K. Ghosal	Superintendent (Tech.)	Associated in practical classes	Ph.No.9474521381 Email: drtkghosal@gmail.com
2	Sri Subrata Dhar	Lab Attendant	Maintenance of files, lab attendant, letter distribution	Ph. No. 6297793652 / 9851749595

7. PUBLICATION**7.1 Research Articles**

Sl. No.	Title	Author(s)	Journals with NAAS Rating/Other rating
1.	Morpho-molecular characterisation and seasonality analysis of <i>Greenidea psidii</i> Van Der Goot on Guava in Terai zone of West Bengal.	Maji, A., Sahoo, S.K. , Phani, V. and Bhowmik S.	<i>Int. Journal of Environment and Climate Change</i> , 13 (9): 1424-1431. 2023 NAAS rating 5.13 (ISSN: 2581-8627)
2.	Screening of eighty germplasm of mustard against aphid, <i>Lipaphis erysimi</i> Kalt. (Hemiptera: Aphididae) in terai region of West Bengal.	Maji, A., Samanta, S., Chatterjee, M., Sahoo, S.K. and Pal, S.	<i>Journal of Agriculture and Technology</i> , 10 (2): 53-57. 2023 NAAS rating 3.39 (ISSN: 2348-4721)
3.	First report of three invasive whitefly species (Aleyrodidae; Hemiptera) from West Bengal, India.	Chakraborty, D. and Sahoo, S.K.	<i>Int. Journal of Environment and Climate Change</i> , 13 (8): 939-944. 2023 NAAS rating 5.13 (ISSN: 2581-8627)
4.	Melissopalynological analysis of <i>Apis</i> honey from northern districts of West Bengal	Saha, S., Nath, R., Dey, A., Laskar N. and Kundu, A.	<i>Grana</i> , 62 (5-6): 352-368 2023 NAAS rating 6.90 (ISSN: 0017-3134)
5.	Foraging activity of <i>Apis mellifera</i> Linn. on litchi in the Terai zone of West Bengal	Nath R., Saha, S., Laskar, N. and Debnath, M. K.	<i>Journal of Entomological Research</i> , 47 (1): 174-178. 2023 NAAS= 5.63 ISSN (0378-9519)
6.	Seasonal occurrence of greater wax moths (<i>Galleria mellonella</i> Linn.) in Western honey bee (<i>Apis mellifera</i> Linn.) colonies under Terai agro-ecological region of West Bengal	Singha, S., Saha, S., Nath, R., Kalla, P., Dey, A. and Laskar, N.	<i>Journal of Entomological Research</i> , 47 (3): 573-578. 2023 NAAS rating 5.63 ISSN (0378-9519)
7.	Foraging duration and intensity of <i>Apis mellifera</i> L.	Nath R., Saha, S., Pokhrel, P, and Laskar, N.	<i>Indian Journal of Entomology</i> , 86 (1): 176-179. 2023 NAAS rating 5.63 ISSN (0367-8288)
8.	Perching behaviour and seasonal incidence of black drongo, <i>Dicrurus macrocercus</i> (Vieillot) on <i>Apis mellifera</i> Linnaeus apiaries under Terai agro-ecological region	Singha, S., Saha, S., Nath, R., Dey, A., Kalla, P. and Laskar, N.	<i>Indian Journal of Ecology</i> , 50 (5): 1508-1514. 2023 NAAS rating 5.38 ISSN (0304-5250)

	of West Bengal		
9.	Seasonal occurrence of greater banded hornet (<i>Vespa tropica</i> Linn.) in western honey bee (<i>Apis mellifera</i> linn.) colonies under Terai agro-ecological region of West Bengal	Singha, S., Saha, S., Nath, R., Kalla, P., Dey, A., Laskar, N. and Pal, S.	<i>International Journal of Bio-resource and Stress Management</i> , 14 (6): 808-813 2023 NAAS rating 5.40 ISSN (0976-3988)
10.	Chinese citrus fly, <i>Bactrocera minax</i> (Enderlein) (Diptera: Tephritidae) in Sikkim: A study on its morphometry	Gazmer, R., Sharma, R. K., Bhutia, S. G., Laskar, N. Sharma, L. and Adhikari, D.	<i>Pest Management in Horticultural Ecosystems</i> , 29 (1): 77-81 2023 NAAS rating 5.14 ISSN (0971-6831)
11.	Species composition, occurrence pattern and seasonal incidence of rice leaf folder (<i>Cnaphalocrocis spp.</i>) on kharif rice under Terai agro-ecological conditions of Northern Parts of West Bengal	Chatterjee, M. , Chaudhuri, N., Pal, S. and Ghosh, J.	<i>Journal of Entomological Research</i> , 47 (2): 386-392. 2023 NAAS rating 5.89 ISSN (0378-9519)
12.	First Report of Invasive Thrips, <i>Thrips parvispinus</i> (Karny) (Thripidae: Thysanoptera) in chilli from Alipurduar District of West Bengal, India	Chatterjee, M. , Biswas, A., Chakraborty, D. , Patra, B. and Sahoo, S. K.	<i>Journal of Scientific Research and Reports</i> , 30 (5): 618-624. 2023 NAAS rating 5.17 ISSN (2320-0227)
13.	Population dynamics of mustard aphid (<i>Lipaphis erysimi</i> Kalt.) in terai agroclimatic region of West Bengal	Sarkar, S. K., Maji, A., Ghosh, J. and Chaudhuri, N.	<i>Journal of Entomological Research</i> , 47 (4): 731-734. 2023 NAAS rating 5.89 ISSN (0378-9519)
14.	Evaluation of Emamectin Benzoate 5% SG for Control of Fruit and shoot borer in Brinjal terai zone	Reza, Md. W., Ghosh, J. , Poddar, P. and Gurung, B.	<i>Asian Journal of Advances in Agricultural Research</i> , 24 (7): 91-100. 2023 NAAS rating 4.35 ISSN (2456-8864)
15.	Epidemiological Model for Potato Late Blight in the Northern Part of West Bengal.	Vaidheki, M., Gupta, D. S., Hembram, S., Debnath, M. K., Hath, T. K. and Basak, P.	<i>Biological Forum – An International Journal</i> , 14 (4a): 297-306. 2023 NAAS rating 4.96 ISSN (0975-1130)

7.2 Book

Sl. no.	Title	Editors	Detail of Publication
1.	Pests of Vegetables (2nd Revised & Enlarged Edition) 2023	Laskar, N., Chatterjee, H. and Biswas, S.	Nipa Genx Electronic Resources & Solutions Pvt. Ltd., New Delhi – 110034 ISBN: 9789395319263

7.3 Bulletin

Sl. No.	Title	Authors	Detail of Publication
1.	Dhaaner Jomite Upokari Bondhu Poka O Taader Songrokkhon July 2023	Chatterjee, M., Sahoo, S. K., Debnath, A., Patra, B., Sankeerthana, A., Patel, P. and Chakraborty, D.	AICRP Biological Control of Crop Pests and Diseases, ICAR-NBAIR (UBKV Unit)

7.4 Popular Article

Sl. No.	Title	Authors	Detail of Publication
1.	Bee pollination: From an ecological and economical perspective	Saha, S., Munshi, S.A., Laskar, N.	Indian Farming, 73 (3): 34–36.
2.	Application of light in insect pest management	Chatterjee, M. and Halder, J.	Agri-India Today, 3 (6): 14-17.

8. SYMPOSIUM/ TRAININGS/ SEMINARS ATTENDED AND ORGANISED:

Sl. No.	Topic of seminar (Attended by)	Venue and Date	Duration	National/ International	Funding Agency/Organiser (ICAR/Other)
1.	Climate Resilient Millet Production Technologies for Sustainable Agriculture (CRMPTSA), Virtual mode (D. Chakraborty) (M. Chatterjee)	College of Agriculture Tripura 28.04.2023 to 29.04.2023	2 days	National	NABARD Agartala, ICAR-IIMR Hyderabad
2.	Quinquennial Review Meeting (QRT) of AICRP-Biological Control (S. K. Sahoo)	AAU Jorhat 30.05.2023 to 31.05.2023	2 days	National	ICAR-NBAIR

3.	32 nd Annual Group Meeting of AICRP-Biological Control (S. K. Sahoo)	College of Agriculture, MPKV, Pune 20.07.2023 to 21.07.2023	2 days	National	ICAR-NBAIR
4.	Nature-based solution for achieving sustainable development goals (S. K. Sahoo)	Uttar Banga Krishi Viswavidyalaya 05.03.2024 to 06.03.2024	2 days	National	COBACAS, UBKV, Pundibari

9. MEMBER OF ACADEMIC SOCIETIES

Sl. No.	Name of the Faculty	Name of the Academic Society
1.	Prof. J. Ghosh	COBACAS Society of Biological Control Advancement
2.	Prof. T. K. Hath	COBACAS
3.	Prof. N. Laskar	Society of Biological Control Advancement
4.	Prof. S. K. Sahoo	COBACAS Entomological Society of India Society of Biological Control Advancement
5.	Dr. M. Chatterjee	COBACAS Crop and Weed Science Society Association for Pest Management in Horticultural Ecosystems
6.	Mr. D. Chakraborty	COBACAS

10. OTHER ACTIVITIES AND ACHIEVEMENTS

(Co-curricular, Extension and Professional Development related Activities)

Sl. No.	Acted as Resource Person (Topic) /Delivered Lectures (Topic)/ Reviewer of Research Paper(s) in Journal	Date(s) of Activities/ Name of Journal	Funding Agency/ Organiser (ICAR/Other)/ Organisation invited for Lectures or Details of Journal
1.	Training cum input distribution programme for tribal farmers related to Biological control at Singimari (Coochbehar) and Deodanga (Alipurduar)	23 rd of August, 2 nd of November and 15 th of December, 2023	AICRP Biocontrol (UBKV Centre)

	(Prof. S. K. Sahoo, Dr. M. Chatterjee and D. Chakraborty)		
2.	Training programme for tribal farmers on Biological Control at UBKV, Pundibari (Prof. S. K. Sahoo, Dr. M. Chatterjee and D. Chakraborty)	06 th of March, 2024	AICRP Biocontrol (UBKV Centre)
3.	Reviewer of Journal Article Prof. S. K. Sahoo	<ul style="list-style-type: none"> • International Journal of Plant and Soil Science • International Journal of Minor Fruits, Medicinal and Aromatic Plants • Annual Research & Review in Biology • Pesticide Research Journal • Journal of Environmental Biology • International Journal of Tropical Insect Science 	ISSN: 2320-7035 ISSN: 2424-6921 ISSN 2347-565X ISSN: 0970-6763 ISSN: 0254-8704 ISSN: 1742-7584
4.	Reviewer of Journal Article Dr. M. Chatterjee	<ul style="list-style-type: none"> • Journal of applied Entomology • Arthropod Plant Interactions 	ISSN: 1439-0418 ISSN: 1872-8847

11. CURRICULUM DEVELOPMENT & DELIVERY:

Study material and PPT on different entomological courses under UG and PG.

12. LINKAGES WITH ICAR INSTITUTES FOR ACADEMIC RESEARCH IF ANY:

Sl. No.	Purpose	Institute/Journal	No. of Teachers/ Academic Staff
1.	Thesis evaluator	B.C.K.V. (West Bengal), O.U.A.T. (Odissa), and CAU (Imphal)	Prof. N. Laskar
		B.C.K.V. (West Bengal)	Prof. S. K. Sahoo
2.	Evaluator (apart from Thesis)	Field Experiential Training (FET) of 112 th Foundation Course of ARS Probationers at Cooch Behar KVK, Pundibari (West Bengal)	Prof. S. K. Sahoo
3.	Any other	Rapporteur (Session- III) XXXII Annual Group Meeting of AICRP- Biological Control (MPKV, Pune: 20.07. 2023 to 21.07.2023)	Prof. S. K. Sahoo

Photographs

13.1 Academics related

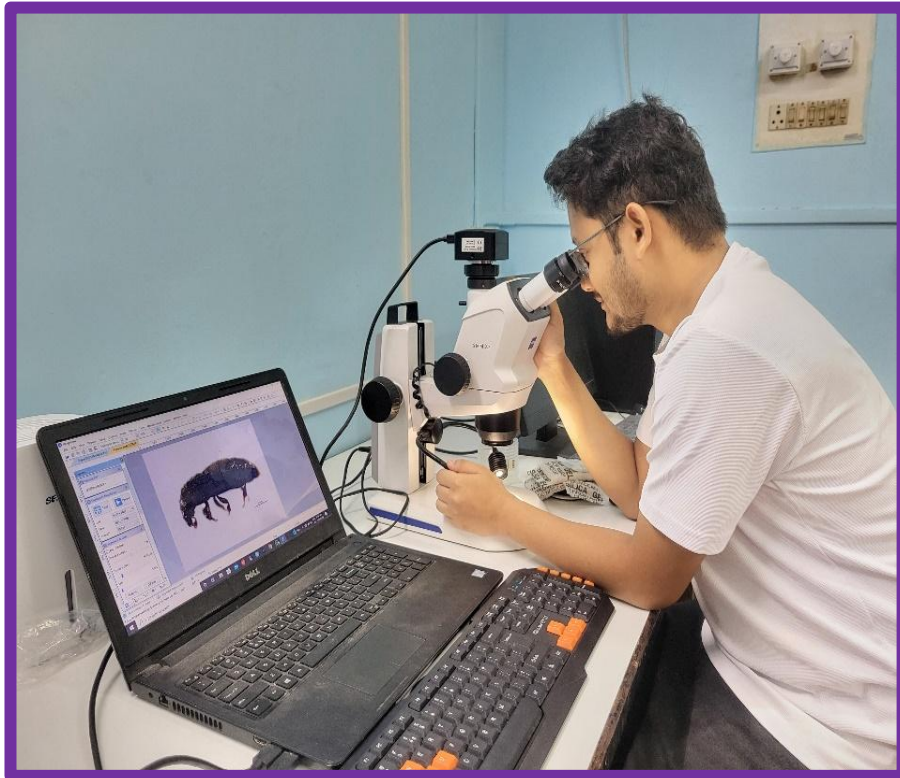


PG Students during thesis viva-voce



UG Students during field practical

13.2 Research related



Research work of M.Sc. student



Demonstration of BIPM in Tomato

13.3 Extension related



Training of tribal beneficiaries on Awareness programme of biological control held at Giddabling, Kalimpong on 11.03.2024



Training and distribution of inputs among tribal farmers at Singimari, Coochbehar on 15.12.2023

13.4 Programme-celebration in Department related



Celebration of Teachers' Day in the Department