

Department of Entomology

ANNUAL REPORT

2019-20



Faculty of Agriculture
UTTAR BANGA KRISHI VISWAVIDYALAYA
PUNDIBARI, COOCH BEHAR-736165
West Bengal, India

From the desk of Head of the Department

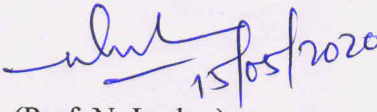
Annual Report is a mode of documentation of different activities of the Department. Annual Report 2019-20 of the Department of Agricultural Entomology has been prepared. Round the year the Department is engaged in different academic, research and extension activities. Learned faculties of the Department perform their responsibilities successfully. Students are exposed to field level practical classes regularly in both UG and PG levels in addition to theoretical and laboratory studies. They are showing excellence in different academic and research activities and are performing well in various competitive examinations like JRF, NET, SRF etc.

During 2019-20, one of our Ph. D. students were selected for SMS (Plant Protection) as well as few of them has been selected for achieving scholarships. These success stories are the results of hard work, devotion and proper guidance from the teachers. We are really very much proud of that. Voluntary Centre on AICRP on Biological Control is running well by the faculties of the Department. We have also sent proposal to the Project Coordinator, AICRP on Honey Bee and Pollinators for providing us a Voluntary Centre at our University with a view to promote apiculture. For the protection of crops the Department regularly gives advisory to the farmers who came to the Department.

All the learned faculties and students have come forward and have cordially helped in preparing the report by providing necessary information during preparation of the report. Non-teaching staffs have also extended their cooperation. I am very much thankful to all of them for such nice cooperation and I think this report will help us in chalking out future course of activities of the Department.

Date: 15.05.2020

Place: Pundibari


15/05/2020
(Prof. N. Laskar)

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Executive summary of the Department of Agril. Entomology (2019-20)

1.1 INTRODUCTION:

This department started as a constituent under the erstwhile North Bengal Campus of Bidhan Chandra Krishi Viswavidyalaya (BCKV) since 1979 at Gram Sevak Training Centre at Cooch Behar, West Bengal and only the undergraduate courses were catered 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 (2019-20) were ENT-151, ENT-152, ENT-201, ENT- 251, ENT- 301, ENT-351, ENT-352 and ENT- 353 during the tenure 2019-20.

2.1 Post Graduate Requirement:

The courses offered to the PG students were –

M.Sc.: ENT- 501, ENT-502, ENT-503, ENT-504, ENT-506, ENT-507, ENT-509, ENT-510, ENT-511 and ENT-512.

Ph.D.: ENT-601, ENT-602, ENT-603, ENT-605, ENT-606, ENT-607, and ENT-608.

2.2 PG Student completed degree:

i) M.Sc. (Ag)

SL No	Name of the student	Gender	Home state	Supervisor	Title of the thesis
1.	Atanu Maji	Male	West Bengal	Dr. S. Pal	Diversity & Seasonal incidence of aphids & their natural enemies from terai region of West Bengal

ii) Ph. D.

SL No	Name of the student	Gender	Home state	Supervisor	Title of the thesis
1.	Nagendra Kumar	Male	Bihar	Prof. N. Laskar	Formulation & evaluation of different food baits & traps for sustainable management of Tephritid fruit flies (Diptera: insects)
2.	Anil Kumar	Male	Bihar	Prof. S. Pal	Arthropod diversity in sugarcane agroecosystem and their eco-friendly management.

2.3 Existing M.Sc. students along with the name of supervisor

SL No	Name of the student	Gender	Home state	Supervisor	Title of the thesis
1.	Thodusu Mamatha	Female	Maharashtra	Dr. T. K. Hath	Studies on the Pest Complex in Brinjal and Management of Sucking Pests with Botanicals.
2.	Dharmaraj Soren	Male	West Bengal	Dr. S. K. Sahoo	Studies on the Bio-ecology of Mango hopper (Cicadellidae: Hemiptera) in Terai Zone of West Bengal
3.	Moumita Modak	Female	West Bengal	Dr. P. Sarkar	Identification and Distribution of Root Knot Nematode (<i>Meloidogyne</i>) Species and Races Infecting Betelvine (<i>Piper betle</i> L.) in Terai Region of West Bengal.

4.	Subham Kumar Sarkar	Male	West Bengal	Dr. J. Ghosh	Population Dynamics of Mustard Aphid (<i>Lipaphis erysimi</i> Kalt.) and its Demographic Parameters on Mustard.
5.	Swagata Bhowmik	Female	Tripura	Dr. T. K. Hath	Diversity of Insect Pests in Stored Rice and Biology of <i>Sitophilus oryzae</i> L. on Scented and Non-scented Rice under Terai Zone of West Bengal.
6.	Tangella Meghana	Female	Andhra Pradesh	Dr. N. Laskar	Tephritid Diversity under Terai Agro-ecological Region of West Bengal.
7.	Thathukannan C.	Male	Andhra Pradesh	Dr. S. Pal	Studies on the Pest Complex of Holy Basil (<i>Ocimum Sanctum</i> L.) with Special Reference to Lace Bug, <i>Cochlochila Bullita</i> (STALL)

2.4 Existing Ph.D. students along with the name of supervisor

SL No	Name of the student	Gender	Home state	Supervisor	Title of the thesis
1.	Debanjan Chakraborty	M	West Bengal	Dr. S. K. Sahoo	Species Recognition and Bio-Ecology of Invasive Rugose Spiralling Whitefly, <i>Aleurodicus rugioperculatus</i> Martin (Aleyrodidae: Hemiptera), in West Bengal.
2.	Atanu Maji	M	West Bengal	Dr. S. K. Sahoo	Morphometric and Molecular Characterization of Aphids (Aphididae: Hemiptera) on Vegetable and Fruit Crops in West Bengal
3.	Swapna Rani	F	Telengana	Prof. S. Pal	Insect Pests and Natural Enemy Complex of Some Selected Medicinal Plants under Northern Tract of West Bengal.
4.	Tapas Kumar Hembram	M	West Bengal	Dr. 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. 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:

i) M.Sc. students

Sl. No.	Name of the students	Name of the Scholarship	Amount (Rs.)
1.	Moumita Modak	Swami Vivekananda Merit-cum-Means Scholarship	18,000/- per year
2.	Swagata Bhowmik	-Do-	18,000/- per year
3.	Tangella Meghana	National Talent Scholarship	5,000/- per month
4.	Thathukannan C.	-Do-	5,000/- per month

ii) Ph.D. students

Sl. No.	Name of the students	Name of the Scholarship	Amount/month (Rs.)
1.	Atanu Maji	University Research Scholar	18,000/-
2.	Swapna Rani	Non-NET Swami Vivekananda Merit-cum-Means Scholarship	8,000/-

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

Sl. No.	Name of Students	Name of Organisation	Address	Govt. or Private	Others
1.	Sagar Tamang	KVK, BCKV	SMS (Plant Protection), Purba Medinipur KVK, Mulakhop, Nandakumar, Purba Medinipur, West Bengal	Central Govt.	---

3.4 Involvement of teachers in various research projects:

Sl. No	Name of the projects/ scheme	Name of the P.I/ Co-P.I.	Year of commencement (Tenure)	Funding Agency	Total Budget (Rs.)
1.	AICRP on Biological control of crop pests and weeds (Contingency Centre)	Dr. S. K. Sahoo (PI)	2018	ICAR-NBAIR	Contingency Center
2.	Bio-efficacy and phytotoxicity of Fipronil 4% + Acetamiprid 4% SC against pests of okra and tomato.	Prof. J. Ghosh (PI)	2018	M/S Parijat Industries Pvt. Ltd.	3.25 lakh
3.	Beekeeping for upliftment of rural livelihood in North Bengal	Prof. N. Laskar (PI)	2018	NABARD	5.08 lakh
4.	Bio-efficacy and phytotoxicity of Phoskil (Monocrotophos 36 SL) on okra, chilli, brinjal and onion.	Prof. N. Laskar (PI)	2018	UPL	10.08 lakh
5.	To evaluate bio-efficacy of Ulala (Flonicamid 50% WP) against insect pests of potato	Prof. N. Laskar (PI)	2018	UPL	3.36 lakh
6.	Evaluation of coded pesticides against <i>Helicoverpa</i> , <i>Spodoptera</i> and Semilooper in Soybean.	Dr. S. K. Sahoo (PI)	2018	Crystal India Pvt. Ltd.	4.00 lakh
7.	Bio-efficacy & Phytotoxicity evaluation of Acephate 75% SP against sucking pests of cotton.	Dr. S. K. Sahoo (PI)	2018	Swal Corporation Ltd.	5.04 lakh
8.	Bio-efficacy, phytotoxicity and effect on natural enemies of some new generation insecticide molecules on different crops	Prof. J. Ghosh (PI)	2018	Willowood Chemicals Pvt. Ltd.	8.55 lakh
9.	Bio-efficacy, phytotoxicity and effect on natural enemies of some insecticide molecules on field crops	Prof. N. Laskar (PI)	2018	UPL	33.60 lakh

10.	Bio-efficacy and phytotoxicity evaluation of coded product Fall army worm in maize.	Dr. S. K. Sahoo (PI)	2019	Crystal Crop Protection Ltd.	3.99 lakh
11.	Evaluation of bio-efficacy of coded insecticide CCP-0415 against <i>Spodoptera</i> spp. in soybean.	D. Chakraborty (PI)	2019	-Do-	3.99 lakh
12.	Evaluation of bio efficacy of NC – 129 (20% WP) against red spider mite and white fly infesting brinjal.	Dr. S. K. Sahoo (PI)	2019	Godrej Agrovat Ltd.	5.06 lakh
13.	Bio-efficacy and phytotoxicity of some new generation molecules on paddy, chilli and sugarcane.	Prof. J. Ghosh (PI)	2019	Willowood Chemicals Pvt. Ltd	7.98 lakh
14.	Bio-efficacy, phytotoxicity and effect on natural enemies of some insecticide molecules on soybean, pigeon pea and ground nut	Prof. N. Laskar (PI)	2019	UPL	13.44 lakh
15.	Bio-efficacy, phytotoxicity and effect on natural enemies of some insecticide molecules on field crops	Prof. N. Laskar (PI)	2019	UPL	6.72 lakh

4. Extension Activities

4.1 Training for farmers/ Rural youth/extension functionaries

Sl. No.	Date & Duration	Topic of training	No. of participants	Funding/ conducting agency
1.	25.10.2019 (1 day)	Field day on beekeeping	30	ICAR-NBAIR
2.	26.09.2019 – 28.09.2019 (2 days)	Low cost Fruit-fly trap preparation	40	Coochbehar KVK
3.	12.11.2019 (1 day)	Field day on beekeeping	30	ICAR-NBAIR
4.	31.12.2019 (1 day)	Biological control of crop pests	35	ICAR-NBAIR

4.2 Booklet/ Leaflet / Newsletter etc. developed or published

Sl. No.	Title	Author (s)	Language
1.	Joibo Paddhotite Gaachher Pusti O Rog Niyantaran	Debnath, A., Chakraborty, D. and Sahoo, S.K.	Bengali
2.	Joibo Juktisommoto Upaye Foler Machhir Niyantaraner Jonyo Fander Byabohar	Chatterjee, M., Chakraborty, D. and Sahoo, S.K.	-Do-
3.	Rugose Spiralling Sada Machhi: Samprotik Akromon O Sotorkota	Sarkar. S, Laskar. N, Sahoo. S.K., Patra. B, Chakraborty, D. and Chatterjee. M.	-Do-

4.3 Visit to the establishment (laboratory/research field etc.) by farmers/ students etc.

Sl. No.	Date of visit	Purpose of visit	No. of visitors
1.	16.09.2019	Exposure visit by farmers of Alipurduar	23

5. INFRASTRUCTURAL FACILITIES

Sl. No.	Infrastructure	Number	Facilities Available
a)	Seminar Hall cum classroom	01	AC, Internet Connectivity and LED Monitor for display/presentation
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	Laminar Air Flow and Autoclave
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

a) Faculty

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

b) 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

Sl. No.	Title	Author (s)	Journals with NAAS/other rating
1.	Studies on ovicidal activity of some selected acaricides against <i>Oligonychus coffeae</i> Nietner on tea.	Patra, B., Sahoo, S.K. and Hath, T.K.	<i>Journal of Entomology and Zoology Studies</i> (2019), 8 (2): 554-556. NAAS 5.53 . (ISSN: 2349-6800)
2.	Year round incidence and preference of cicadellid hoppers on different cultivars of mango in Sub-Himalayan terai zone of West Bengal.	Polu, P., Sahoo, S.K. and Bhowmick, N.	<i>Journal of Entomology and Zoology Studies</i> , 8 (2): 1543-1545. NAAS 5.53 (ISSN: 2349-6800)
3.	Screening of Indian mustard genotypes against mustard aphid (<i>Lipaphis erysimi</i> Kalt.) under terai zone of West Bengal.	Sreedhar, B.K., Hath, T.K., Sahoo, S. K. Chakraborty, D. and Okram, S.	<i>Journal of Entomology and Zoology Studies</i> (2019), 7 (5): 1340-1344. NAAS 5.53 (ISSN: 2349-6800)
4.	Diurnal foraging activity of flower visiting insects on some seed spices under terai agroclimatic zone of West Bengal.	Sikdar, S., Hath, T.K. Chatterjee, M., Chakraborty, D. and Patra, B.	<i>Journal of Entomology and Zoology Studies</i> (2019), 7 (4): 299-303. NAAS 5.53 (ISSN: 2349-6800)
5.	A report on severe outbreak of gall inducing psyllid <i>Pseudophacopteron tuberculatum</i> Crawford on <i>Alstonia scholaris</i> in West Bengal, India.	Chatterjee, M., Patra, B., Chakraborty, D., Hath, T.K. and Dey, A.N.	<i>The Indian Forester</i> (2019), 145 (12): 1214-1215. NAAS 4.38 (ISSN: 0019-4816)
6.	Evaluation of wooden dispensers block of methyl eugenol formulation for attraction of Tephritid fruit flies (Diptera: Tephritidae) under terai region of West Bengal	Kumar, N. and Laskar, N.	<i>Journal of Pharmacognosy and Phytochemistry</i> (2019), 8 (5):107-114. NAAS 5.21 . (ISSN: 2349-8234)
7.	Species diversity and efficacy of different food baits for management of <i>Bactrocera</i> spp. under Terai region of West Bengal	Kumar, N. and Laskar, N.	<i>Journal of Entomology and Zoology Studies</i> (2019), 7 (3):789-795. NAAS 5.53 . (ISSN: 2349-6800)
8.	Effect of some tea cultivars on the growth and development of <i>Hyposidra talaca</i> Walker (Lepidoptera: Geometridae).	Basu Majumder, A. Pathak, S.K. and Hath, T.K.	<i>Journal of Entomological Research</i> (2019). 43 (1): 25-29. NAAS 5.53 . (ISSN: 0378-9519)
9.	Biology of <i>Sitophilus oryzae</i> (L.) (Coleoptera: Curculionidae) on Stored Rice Grains during Different Seasons in Terai Agro-Ecology of West Bengal.	Okram, S. and Hath, T.K.	<i>International Journal of Current Microbiology and Applied Science</i> (2019). 8 (4): 1955-1963. NAAS 5.38 (ISSN: 2319-7692)

- i. **Book:** NIL
 ii. **Book Chapter:** NIL
 iii. **Bulletin:** NIL
 iv. **Abstract:** NIL
 v. **Popular Article:** NIL

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.	28 th Annual Group Meeting of AICRP- Biological Control (Dr. S. K. Sahoo)	AAU, Anand (Gujarat) 17 th -18 th May, 2019	2 days	National	ICAR-NBAIR
2.	Mitigating biotic stresses in agriculture for 21 st century: Changing market paradigm (Prof. J. Ghosh, Dr. S. K. Sahoo and D. Chakraborty)	UBKV, Pundibari 5 th -6 th November, 2019	2 days	National	IPS and Department of Plant Protection, UBKV
3.	4 th Regional Science and Technology Congress – 2019 (Dr. S. K. Sahoo and D. Chakraborty)	Alipurduar College, Alipurduar, 18 th & 19 th December, 2019	2 days	Regional	DST and Biotechnology, Govt. of West Bengal
4.	Annual Review Workshop of ARYA (Attracting and Retaining Youth in Agriculture) (Prof. T. K. Hath)	ICAR-ATARI, Kolkata on 24.01.2020	1 day	Regional	ICAR
5.	National Seminar on Bengal & North Eastern Region Green Initiatives and Social Entrepreneurs (BANRGISE) (Prof. T. K. Hath)	Hotel Mainakh, Siliguri on 27.01.2020	1 day	National	MSME, Govt. of India
6.	XI National Conference on KVKs-2020 (Prof. T. K. Hath)	NASC Complex, New Delhi 28 th Feb - 01 st March, 2020	3 days	National	ICAR

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.	Dr. S. K. Sahoo	COBACAS Entomological Society of India Society of Biological Control Advancement
5.	Mrs. M. Chatterjee	COBACAS Crop and Weed Science Society
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)	Date(s) of Training	Funding Agency/Organiser (ICAR/Other)
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11. CURRICULUM DEVELOPMENT & DELIVERY:

Study material and PPT on different entomological courses under UG and PG. Development of Practical manual of different UG courses.

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

Sl. No.	Purpose	Institute	No. of Teachers/ Academic Staff
1.	Question setter	Visva-Bharati University	Prof. J. Ghosh
		BAU, Sabour	-Do-
		BCKV, Mohanpur	Prof. J. Ghosh and D. Chakraborty
2.	Thesis evaluator	BCKV, Mohanpur	-Do-
3.	External examiner of answer scripts	COH, CAU Berimok (Sikkim)	D. Chakraborty

13. DETAIL OF STATE / NATIONAL / INTERNATIONAL AWARD/BEST TEACHER/THESIS/ANY NATIONAL AWARD/RECOGNITIONS:

Sl. No.	Name of the collage /Faculty	Name of Award	Conferring Agency	Awardees' Name	Conferred for
- NIL -					

Photographs

Extension related



Field-day on Beekeeping
(12.11.2019 at Kalchini, Alipurduar)



Training programme on Biological Control
(31.12.2019 at Ramsai, Jalpaiguri)

Survey related



Maize field infested by Fall armyworm
(28.11.2019 at Raichenga, Alipurduar)



Cucumber field infested by White fly
(07.12.2019 at Madhupur, Coochbehar-II)