

# **Annual Report**

## **2017-18**

### **Department of Agronomy**



**Uttar Banga Krishi Viswavidyalaya**  
**Pundibari, Cooch Behar**  
**West Bengal-736165**

## **Annual Report, 2017-18**

### **Department of Agronomy at a glance**

#### **Background:**

The Department started its journey from 14<sup>th</sup> February, 1979 Under North Bengal Campus as a Constituent Unit of Department of Agronomy, Bidhan Chandra Krishi Viswavidyalaya at Gram Sevok Training Center Complex, CoochBehar. Later, with the bifurcation of Bidhan Chandra Krishi Viswavidyalaya in 1<sup>st</sup> February, 2001, the said Constituent Unit emerged as a full – fledged Department under Faculty of Agriculture, Uttar Banga Krishi Viswavidyalaya at Pundibari, CoochBehar. Since then Animal Science Unit and Agricultural Engineering Unit have remained merged with the Department of Agronomy. After establishment of Faculty of Technology in 2005-06 academic sessions, the course of Agricultural Engineering has been carried out from that Faculty. However, since inception of Uttar Banga Krishi Viswavidyalaya, the course of Animal Science has been offered from the Department of Agronomy. From 2007-08, the department followed new syllabus as per guidelines of IV<sup>th</sup> Deans' Committee of ICAR. The M.Sc. (Ag.) programme in Agronomy was initiated from 2010-11 academic sessions as per recommendation of National Core Group constituted by ICAR. By integrating teaching, research and extension efforts, the department finds and disseminates solutions to problems and discovers opportunities concerning efficiency and sustainability of production, improvement in quality and method for safe and environmentally sound agricultural practices.

#### **Functions:**

- i) To impart teaching in Agronomy for B.Sc. (Ag) Hons., M.Sc. (Ag) and Ph.D degrees.
- ii) To undertake academic as well as location specific research programmes in the field of Agronomy.
- iii) To organise seminar, symposium and training programme.
- iv) To co- operate and participate in various extension activities or organisations.

#### **A. Teaching:**

The department performs teaching at under graduate and post graduate levels under the semester system of study. The objective of the department is to provide best quality education to the student in both theoretical and practical aspect of crop production. The department offers 38 credit, 54 credit, 74 credit courses at B.Sc. (Ag) Hons., M.Sc. (Ag) and Ph. D level ,respectively. It also caters one Hands on Training Programme on “Vermicompost Production” for undergraduate students. The department also caters the agronomy courses for B.Sc.(Hort.) Hons. and B.Tech. Programmes. The current intake capacity in each academic year is eight for Master’s degree and two for Doctoral degree programme. At present ten teachers (including two teachers of Animal Science) are involved from both teaching and research wings.

a) **Field of specialization for M.Sc and Ph.D.:** Crop Husbandry, Weed Management and Water Management

**b) Compulsory Courses (PG):**

- i) MODERN CONCEPT IN CROP PRODUCTION
- ii) PRINCIPLES AND PRACTICES OF SOIL FERTILITY AND NUTRIENT MANAGEMENT
- iii) PRINCIPLES AND PRACTICES OF WEED MANAGEMENT
- iv) PRINCIPLES AND PRACTICES OF WATER MANAGEMENT

**c) Under graduate courses (UG):**

**i) Core courses :**

Course No.	Name of the Course	Credit Hours	Semester
AGR 101	Principles of Agronomy	1+1	First
AGR 102	Agricultural Meteorology	1+1	First
AGR 103	Livestock Production and Management	2+1	First
AGR 151	Crop Production Technology-I (Kharif-I)	1+1	Second
AGR 152	Weed Management	1+1	Second
AGR 201	Crop Production Technology-II (Rabi-I)	1+1	Third
AGR 202	Water Management of Field Crops: Principle and Practices	1+1	Third
AGR 251	Crop Production Technology-III (Kharif-II)	2+1	Fourth
AGR 301	Crop Production Technology-IV (Rabi-II)	2+1	Fifth
AGR 302	Organic Farming	1+1	Fifth
AGR 351	Farming Systems and Sustainable Agriculture	1+1	Sixth

**ii) Elective courses (Crop production module):**

Course No.	Course	Cr. Hrs	Semester	Associated Department
AGR 401	Seed Production Technology	3(1+2)	Seventh	GPB
AGR 402	Agrometeorology and Crop Modeling	2(1+1)	Seventh	SSAC & Ag. Statistics
AGR 403	Integrated Farming Systems	2(1+1)	Seventh	-
AGR 404	Water Management	3(1+2)	Seventh	SSAC
AGR 405	Organic Farming	3(2+1)	Seventh	SSAC

**iii) Hands on Training:**

Course. No.	Course	Semester
AG 451	Hands on Training on Vermicompost production under RAWE Programme	Eighth

**d) Post Graduate course:**

<b>CODE</b>	<b>COURSE TITLE</b>	<b>CREDITS</b>
AGRON 501*	MODERN CONCEPTS IN CROP PRODUCTION	3+0
AGRON 502*	PRINCIPLES AND PRACTICES OF SOIL FERTILITY AND NUTRIENT MANAGEMENT	2+1
AGRON 503*	PRINCIPLES AND PRACTICES OF WEED MANAGEMENT	2+1
AGRON 504*	PRINCIPLES AND PRACTICES OF WATER MANAGEMENT	2+1
AGRON 505	AGROMETEOROLOGY AND CROP WEATHER FORECASTING	2+1
AGRON 506*	AGRONOMY OF CEREAL CROP-I (RICE)	2+1
AGRON 507	AGRONOMY OF CEREAL CROPS-II (MAIZE AND MILLETS)	2+1
AGRON 508	AGRONOMY OF CEREAL CROPS II (WHEAT AND BARLEY)	2+1
AGRON 509	AGRONOMY OF PULSE CROPS (KHARIF AND RABI)	2+1
AGRON 510	AGRONOMY OF OIL SEED CROPS (KHARIF AND RABI)	2+1
AGRON 511	AGRONOMY OF FIBRE CROPS	2+1
AGRON 512	AGRONOMY OF SUGAR CROPS	2+1
AGRON 513	AGRONOMY OF TUBER CROPS	2+1
AGRON 514	AGRONOMY OF FODDER AND FORAGE CROPS	2+1
AGRON 515	CROPPING SYSTEMS AND SUSTAINABLE AGRICULTURE	2+0
AGRON 516	DRYLAND FARMING AND WATERSHED MANAGEMENT	2+1
AGRON 517	PRINCIPLES AND PRACTICES OF ORGANIC FARMING	2+1
AGRON 518	DIAGNOSIS OF NUTRITIONAL DEFICIENCY IN FIELD CROPS AND THEIR REMEDIAL MEASURE	2+1
AGRON 591	MASTER'S SEMINAR	1+0
AGRON 601	CURRENT TRENDS IN AGRONOMY	3+0
AGRON 602	CROP ECOLOGY	2+0
AGRON 603	ADVANCES IN CROP GROWTH AND PRODUCTIVITY	2+1
AGRON 604	ADVANCES IN WATER MANAGEMENT	2+1
AGRON 605	ADVANCES IN WEED MANAGEMENT	2+0
AGRON 606	INTEGRATED FARMING SYSTEMS AND SUSTAINABLE AGRICULTURE	2+0
AGRON 607	SOIL CONSERVATION AND WATERSHED MANAGEMENT	2+1

CODE	COURSE TITLE	CREDITS
AGRON 608	STRESS CROP PRODUCTION	2+1
AGRON 609	CROP PRODUCTION AND SYSTEM MODELING	2+1
AGRON 610	ADVANCE TECHNOLOGY IN CEREALS PRODUCTION	2+1
AGRON 691	DOCTORAL SEMINAR I	1+0
AGRON 692	DOCTORAL SEMINAR II	1+0
AGRON 699	DOCTORAL RESEARCH	45

\* Compulsory for Master's programme

**e) Post graduate requirement:**

i) For M.Sc. (Ag.) Degree: 4 years B.Sc(Ag.) Hons. Degree with Agronomy as a compulsory subject

ii) For Ph.D Degree: Two years Full time M.Sc. (Ag.) in Agronomy

**f) PG student completed degree:**

**For the degree of M.Sc in Agronomy**

Sl. No.	Name of the Students	Name of The Supervisor	Title of work
1	Roni Barman	Dr. Biplab Mitra	Evaluation of herbicides for control of broad leaved weeds in wheat
2	Koushik Nandi	Prof. S. Bandyopadhyay	Effect of date of sowing on growth and yield of maize-greengram system of intercropping
3	Monorama Behera	Prof. Asok Saha	Studies on varying K levels on early duration potato varieties
4	Jince Mary M Joy	Dr. Parthendu Poddar	Performance of new timely sown wheat genotypes under restricted irrigation conditions
5	Md. Aziz	Dr. P.S.Patra	Response of split application of nitrogen on productivity of maize

**For the degree of Ph.D in Agronomy**

Sl. No.	Name of the Students	Name of The Supervisor	Title of work
1	Augustina Saha	Prof. A.C.Sinha	“Effect of Integrated Nutrient Management on Buckwheat ( <i>Fagopyrum esculantum</i> Moench) varieties and its residual effect on Mung bean ( <i>Vigna radiate</i> L.) under Terai region of West Bengal”

2	Ananda Shankar Singha	Prof. Asok Saha	Effect of Cultivars and Date of Sowing on Growth and Yield of Rapeseed/Mustard in Rice-Rapeseed/Mustard Cropping System
3	Koushik Patra	Prof. S. Bandyopadhyay	Productivity, energy efficiency and economics of rice-wheat system as affected by varieties and crop establishment techniques in Sub-Himalayan plains of Bengal
4	Punabati Heisnam	Dr. Parthendu Poddar	Studies of INM and effect of transplanting dates on growth, yield, quality and economics of aromatic rice cultivar
5	Tapas Das	Dr. P.S.Patra	Effect of varied microclimate on Ground nut( <i>Arachis hypogaea L.</i> ) due to tillage, date of sowing and nutrient management and impact assessment of imposed temperature variation using crop simulation model

**g) Existing M.Sc students along with their supervisors:**

Sl. No.	Name of the Students	Name of The Supervisor	Remarks
1	B.Tripathy	Prof. A.K.Singha Roy	Continuing
2	M. Akhila	Prof. Asok Saha	Continuing
3	H. Mandi	Prof. S. Bandyopadhyay	Continuing
4	M. Pandey	Dr. Parthendu Poddar	Continuing
5	Arju Ahmed	Dr. P.S.Patra	Continuing
6	Sukanya Dutta	Dr. Shyamal Kheroar	Continuing
7	Suchitra Roy	Dr. Tarun Paul	Continuing

**h) Existing Ph.D students in Agriculture (Agronomy)**

Sl. No.	Name of the Students	Name of the Supervisor	Remarks
1	Bidyapati Ngangom	Prof. A.K.Singha Roy	Continuing
2	Anwesh Rai	Prof. S. Bandyopadhyay	Continuing
3	Triptesh Mondal	Prof. A.K.Singha Roy	Continuing
4	Santanu Das	Prof. Asok Saha	Continuing
5	Prantick Singha	Dr. Biplab Mitra	Continuing
6	Rajesh Saha	Dr. P.S.Patra	Continuing
7	Soumya Saha	Prof. S. Bandyopadhyay	Continuing
8	Senjit Singh Ashem	Prof. A.K.Singha Roy	Continuing
9	Everest Lepcha	Dr. Parthendu Poddar	Continuing
10	Nabarun Paul	Prof. Asok Saha	Continuing

## B. Research activity:

### a) Area of Research:

Research activities of the department are concentrated on Crop Husbandry, Water Management, Weed Management, Integrated Nutrient Management, Conservation Agriculture and Crop Weather Relation.

### b) Scholarships, Stipends and fellowships:

The students are getting University Research Scholarship, Junior/Senior research Fellowship and various other merit scholarship every year based on their performance.

### c) Involvement of teachers in various Research Projects:

Sl. No.	Name of the Projects/scheme and funding Agency	Name of the P.I/Co. P.I/Associated Scientists	Year of commencement	Remarks
1	“Gramin Krishi Mausam Sewa” Funded by Ministry of Earth Science, Govt. of India.	Dr. S. Bandopadhyay, Principal Nodal Officer	2005	Continuing
2	“Forecasting of Agricultural Outputs Using Space, Agrometeorology and Land Based Observations (FASAL)” Funded by Ministry of Earth Science, Govt. of India.	Dr. S. Bandopadhyay, P.I	2010	Continuing
3	Image IDGP: Image based system for identification of individual, breeds and diseases of pig and goat. Funded by Madia Lab Asia, New Delhi, Govt. of India	Dr. Dilip Kumar Hajra (PI)	2016-17	Continuing
4	Socio economic upliftment of weaker section through piggery, Funded by RKVY	Dr. Dilip Kumar Hajra (PI)	2016-17	Continuing
5	Scientific evaluation and CB analysis of duck rearing system special emphasis to socio economic upliftment through women empowerment	Dr. Dilip Kumar Hajra (Co-PI)	2017-18	Continuing
4	Prevalence of GI parasites of cattle in Terai zone under Institute funded project	Dr. Dilip Kumar Hajra(Co-PI)	2015-16	Continuing
5	All India Coordinated Wheat and Barley Improvement	Dr. Biplab Mitra (Agronomist)	2014-15	Continuing

Sl. No.	Name of the Projects/scheme and funding Agency	Name of the P.I/Co. P.I/Associated Scientists	Year of commencement	Remarks
	Project			
6	Sustainable and Resilient Farming System Intensification funded by ACIAR	Dr. Biplab Mitra(Co-PI)	2014-15	Continuing
7	Improving water use for dry season agriculture by marginal and tenant farmers in the Eastern Gangetic Plains funded by ACIAR	Dr. Biplab Mitra(Co-PI)	2014-15	Continuing
8	Australia-India Council sponsored Mobile E-Service Farmer Service Kiosks (MEFSK) through “Developing Innovative Agri-Entrepreneurship Roles for Young Agri-Professionals in West Bengal”	Dr. Biplab Mitra(Co-PI)	2017-18	Continuing
9	All India Coordinated Research Network(AICRN) on Potential Crops	Dr. Tarun Paul (In-Charge)	2016-17	Continuing

### C. Extension activities:

The department imparts training on vermicompost production and conservation agriculture. The faculty members of the department participated in various extension activities organised by State Department of Agriculture, State Department of Agriculture Marketing, State Department of Forest, KVK and ongoing research project as resource persons.

### D. Infrastructural and support facilities available:

1. Soil fertility Laboratory- Provides analytical facilities for soil-plant samples.
2. Vermicompost Production Unit- Imparts Hands on Training Programme for Under Graduate students and training programme for the rural youth, self- help group & NGOs and for meeting the requirements of University farm.
3. Computer Room- Provides an exposure to computer applications.
4. Seminar Room- Provides the facilities to organise seminar, symposium, meeting and examination.
5. Integrated Farming System Model (consists of dairy, goat and sheep rearing unit, piggery, fishery along with field and horticultural crops)-Imparts practical class for under graduate and post graduate students as well as in farmers’ training programme



### E. Faculty and Staff:

a) Head of the Department: Prof. Asok Saha (from 22.01.2015 till date)

b) Faculty

Sl. No	Name	Designation	Specialisation	Contact Address
1	Dr. Asok Saha	Professor and Head	Crop Husbandry & NRM	Mobile:+91-9434116906 Email: asok.ubkv@gmail.com
2	Dr. A.K. Singha Roy	Professor	Crop Husbandry	Mobile:+91-9434685854 Email:aksroyukv@rediffmail.com
3	Dr. Subhendu Bandyopadhyay	Professor	Crop Husbandry and Crop weather relations	Mobile:+91-9434126763 Email:baneerjees_ubkv@rediffmail.com
4	Dr. Biplab Mitra	Assistant Professor	Crop Husbandry, RCTs, Cropping system research	Mobile:+91-9434502292 Email:bipmitra@yahoo.com
5.	Dr. Dilip Hazra	Assistant Professor	Poultry Science	Mobile:+91-7063102355 Email:dhajra@gmail.com
6.	Dr. Tarun Paul	Assistant Professor	Crop Husbandry,	Mobile:+91-8759580947 Email:tarun.bckv@gmail.com

c) Staff Members:

Sl. No	Name	Designation	Contact No.
2	Mr. Alope Saha	Technical Assistant	+91-9475415280
3	Mr. Rajat Saha	Junior Peon	+91-9434405354
4	Shri. Rajkumar Roy	Laboratory Attendant	+91-8670734157
5	Mr. Puspajit Debnath	Field Assistant	+91-9933047758

### F. Publication:

- Paper: 9
- Book: - Nil
- Book Chapter: - Nil
- Bulletin: - Nil
- Abstract: 3
- Popular Article: 2

### G. National and International Symposium/ Trainings/ Seminars attended and organized:

- International attended: 2
- National attended: 4
- Training attended: 3
- Workshop attended: 5

#### **H. Member of different academic societies:**

- i) Indian Society of Agronomy
- ii) Indian Society for Plant Physiology
- iii) Association of Rice Research Workers (ARRW)
- iv) Crop and Weed Science Society
- v) Indian Meteorological Society
- vi) Animal Nutrition & Feed Technology
- vii) Indian Poultry Science Association
- viii) Veterinary Council of India
- ix) Cooch Behar Association for Cultivation of Agricultural Sciences

#### **I. Awards : Nil**

#### **J. Other Activities:**

- i. A Number of thesis was evaluated for M.Sc. (Ag.) and Ph.D. Degree
- ii. Faculty members are involved as External Examiner in other Agriculture Universities and Central Universities(BCKV, Visva-Bharati, CAU, Tripura University, etc)
- iii. Faculty members are acted as resource persons in different training programmes organized by the line departments of the state, NABARD, KVKs, NGOs, etc.
- iv. Member, Board of Research Studies, BCKV
- v. Selection Committee Member in various Universities



**Field preparation in the practical class**



**Sowing in the practical field**



**Demonstration of plant parts**



**Visit to students practical field**



**Milking operation in dairy unit of IFS Model**



**Low cost Azola production system for dairy animal**



**Vermi-composting demonstration**



**Students involvement in Vermicompost production**