



INFORMATION OF THREE ACTION PLAN



FOR
2017 -2020

Submitted to
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

SUBMITTED BY

**CENTRE OF ADVANCED FACULTY TRAINING IN
ORGANIC FARMING**

**DEPARTMENT OF SOIL SCIENCE
Faculty of Agriculture
ASSAM AGRICULTURAL UNIVERSITY
Jorhat-785013**

Introduction

The Department of Soil Science ,FA, Assam Agricultural University got its initiation along with the start of the then Assam Agriculture College at Jorhat in the year 1948. The mandate of the department was initially teaching only. The post-graduate teaching programme was started in 1965 and the Ph.D. degree programme was started in 1985. With the establishment of the Assam Agricultural University in 1969, the mandate of the department was broadened to include research and extension activities in the state of Assam.

1. Faculty (as on 31.12.2019)

Pedology

1. Dr. R. M. Karmakar, Professor
2. Dr. Samiron Dutta, Professor
3. Dr. Marami Dutta, Assistant Professor

Soil Physics

1. Dr. D. K. Patgiri, Professor
2. Dr. Bipul Deka, Principal Scientist, AICRP on Irrigation Water Management

Soil Chemistry

1. Dr. Devajit Bhattacharyya, Professor
2. Dr. K. N. Das, Professor
3. Dr. Nilay Borah, Professor
4. Dr. B. K. Medhi, Professor
5. Dr. Aradhana Baruah, Assistant Professor
6. Dr. Rupjyoti Borah, Assistant Professor

Soil Fertility

1. Dr. K. Barkakoty, Professor
2. Dr. (Mrs) Anjali Basumatary, Professor
3. Mr. Bhabesh Gogoi, Jr. Scientist, IFS
4. Dr. Gayatri Goswami Kandali, Assistant Professor

5. Dr. Danish Tamuli, Assistant Professor

Soil Microbiology

1. Dr. RajenBaruah, Professor
2. Dr. D. J. Nath, Sr. Scientist, AINP on Biofertilizers
3. Dr. (Mrs) KaberiMahantaRajkhowa, Assistant Professor
4. Dr. (Mrs) AnjumaGayan, Assistant Professor

2. Human Resource Development:

Particulars of Short Courses / Training program for HRD conducted during 2017-2020

Sl. No.	Name of the program	period	Number of participants		
			Internal	External	Total
1	“Culturing Techniques for Biofertilizers and Biopesticides”	7-27 November, 2017.	4	10	14
2	“Recent developments in organic production systems”	7 th - 27 th February, 2018	5	13	18
3	Techniques in Biofertilizers and Biopesticides production for organic agriculture”	14 th November – 4 th December, 2018.	4	11	15
4	“Developments in organic agriculture”	6 - 26 February, 2019.	5	12	17
5	“Exploitation of beneficial microbes in organic agriculture”	4 th to 24 th September, 2019.	5	18	23

6	“Organic agriculture and soil health”	To be held from February 20 to March 11, 2020	-	-	-
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3. Infrastructure Development

a. Equipment purchased during 2018-19

Sl. No	Name of equipment	Cost (Rs)
1	Refrigerator	28,700.00
2.	KEL PLUS Automatic Nitrogen Digestion & Distillation Unit	2,85,137.00
3.	Hot Air Oven	27,300.00
4.	Autoclave	56,049.00
5.	Magnetic stirrer with hot plate	5,310.00
6.	Temperature controlled water bath	13,954.00
7.	Electronic precision balance	49,560.00
8.	Top loading balance	29,500.00
Total		4,95,510.00

b. **Renovation and repairing of class room:** Expenditure made during 2018-19 Rs. 4,91,217/- (Rupees Four lakh ninetyone thousand two hundred seventeen) only

c. Library up gradation

Book purchased in Financial Year : 2017-18

	Name of the book	Author name	Publisher	Quantity
1.	Plant Diseases: Biocontrol Management	Trivedi	Aavishkar	1
2.	Relevance of Organic Farming	Jana	Aavishkar	1
3.	Fungal Biopesticides and VAM Applications	Trivedi	Pointer	1
4.	Organic farming for improving fertility of soil	Pradhan	Daya	1
5.	Biopesticides for Sustainable Agriculture	Ameta	ATPA	1
6.	Organic farming and biofertilizers: Scope and uses of biofertilizers	JDS Panwar	NIPA	1
7.	Organic Farming and Mycorrhizae in Agriculture	Trivedi	IK	1
8.	Natural Organic Biological, Ecological and Biodynamic Farming	Tiwari	Agrotech	1
9.	Bio Pest Management	Gupta	ATPA	1
10.	Plant Protection Practices in Organic Farming	Sharma	IBD	1
11.	Organic Agriculture For Sustainable Livelihood	Finn	Agrotech	1
12.	Organic Crop Breeding	Singh	Agrotech	1
13.	Organic farming: Standard, Accreditation, Certification and Inspection	D. Gehlot	Agrobios	1
14.	Organic Agriculture Development In India (hb)	Gupta	Abd	1
15.	Organic Fruits Growing	Patil	Agrotech	1
16.	Handbook of Microbial Biofertilizers	Awani	Agrotech	1
17.	Organic Farming, Prototype for Sustainable Agriculture	Reynold Finn	OBC	1
18.	Biofertilizers for Sustainable Agriculture		Aavishkar	1
19.	Organic Farming	T.D.Pandey	Kushal	1
20.	New Vistas of organic Farming	Mukund Joshi	Scientific Publisher	1
21.	Principles of Organic Farming	S.R.Reddey	Kalyani	1
22.	Organic Farming for Sustainable Horticulture	P.P. Reddy	Scientific	1
23.	ABC of Organic Farming	AmitavRakshit	JB	1
24.	Organic Farming	N. Ravisankar&associates	ICAR-IIFSR, Modipuram	1

Book purchased in Financial Year: 2018-19

	Book Name	Main Author	Publisher	Qty
1.	Applied Microbiology (Agriculture, Enviromental ,Food & Industrial Microbiology	Reddy S.M	Scientific	2
2.	Biocontrol of Soil Bore Pathogens and Nematodes	Nakkeeran	NPH	2
3.	Microbes and sustainable plant productivity	Jamaluddin	Scientific	2
4.	Prescott's Microbiology 10 th Ed.	J.M. Wiley	McGraw Hill	1

5.	Traditional Knowledge of Organic Farming	R.M. Plant	Akansha	2
6.	Organic Farming Components and Management	Gehlot	Agrobios	1
7.	Organic Farming Theory and Practice	Palaniappan	Scientific	2
8.	Organic Farming Standard accreditation Certification And Inspection	Gehlot	Agrobios	1
9.	Organic Farming Hardcover	A.k. Singh	NIPA	2
10.	Organic Farming Concepts, Application and Advance	S. Chand	Astral	3
11.	Organic farming Principles, Prospects and Problems	Deshmukh	Agrobios	1
12.	Soil Health for Better Crops	Jana BL		1
13.	Soil Suitability for Crop Productivity	Singh AK & Singh RS		1
14.	Soil , Water and Plant Nutrient management	Sarkar AK et al		1

4. Award/ Recognitions /Fellowships received during 2017 -2019

A. By PG students

Fellowship	No. of Students Qualified	
	2017-18	<i>BAYER scholarship</i> 2018-19
JRF	4	
SRF	1	
DBT	-	
NET	3	6
Others	Ms Babita Tamuli, Ph.D. Scholar received National Fellowship (Rajib Gandhi National Fellowship for Other Backward Classes)	<i>(BAYER scholarship)</i> 1

Honour/Award received by students

a) Mr Mridupawan Saikia	<ul style="list-style-type: none"> Received Best Poster Award in 1st Asian Conference on Water and Land management for food and livelihood Security organized Soil Conservation Society of India, New Delhi, at Indira Gandhi KrishiVishwavidyalaya, Raipur and during 20-22 January, 2017
b) Shraddha Mohanty, 2016-AMJ-153	<ul style="list-style-type: none"> Winner of Indian Society of Soil Science Zonal Award (East Zone) for best M. Sc. Dissertation in Soil Science, 2018

	<ul style="list-style-type: none"> • 1st prize in All India Post Graduate Students' Research Convention in Soil Science held at Bihar Agricultural University, Bhagalpur during 15-16 March, 2019.
c) Prarthana Priyam Hazarika, 2018-ADJ-50	<ul style="list-style-type: none"> • Second Prize in Poster Presentation at Research Conclave' 18 , IIT Guwahati (March' 18) • Best Paper award in Poster Session (Technical Session V) at 27th National Conference of Soil Conservation Society of India, New Delhi on sustainable management of soil and water resources for doubling farmers' income, AAU, Jorhat (2018). • Best interactive poster award at International Conference on Next Generation Plant Production and Bioresources Utilization Technologies, IIT, Guwahati ,February 11-13, 2019 • Best poster award at Research conclave' 19 , IIT, Guwahati during March 14 to 17, 2019. • Third prize at three minutes thesis presentation at Research conclave' 19, IIT, Guwahati during March 14 to 17, 2019.
d) Lekhika Borgohain, 2018- ADJ-48	<ul style="list-style-type: none"> • Best Oral Presentation, Research Conclave-2019, Held at IIT Guwahati on 17-18 March, 2019

B. Honour/Award Received By Faculty (2017-19)

1. Dr. R. M. Karmakar, Professor & Head, Department of Soil Science, FA, AAU, Jorhat selected as Editor, Journal of the Indian Society of Soil Science, New Delhi.
2. Dr. K. N. Das, Professor, Department of Soil Science
 - Conferred with the Fellow of Indian Society of Agricultural Biochemist (F.I.S.A.B), Kanpur on 6th December 2016 at AAU, Annand, Gujrat.
3. Dr. Niloy Borah, Professor, College of Horticulture, Department of Soil Science
 - Conferred with the Fellow of Indian Society of Agricultural Biochemist (F.I.S.A.B), Kanpur on 6th December 2016 at AAU, Annand, Gujrat.
 - Leadership Award 2016 conferred by Soil Conservation Society of India, New Delhi.
4. DrDevajit Bhattacharyya, Professor, Department of Soil Science
 - Nominated as a Member of the Academic Council of Gauhati University for a period of 3 years
5. Dr. K. N. Das, Professor received Best Teacher Award, 2018-19
6. Dr. BipulDeka, Professor received 'Leadership Award' of Soil Conservation Society of India, New Delhi (2018)

7. Mr. Bhabesh Gogoi, Junior Scientist, received 'Leadership Award' of Soil Conservation Society of India, New Delhi (2018)

8. Dr. Danesh Tamuli, Assistant Professor received Best paper award in oral session in the 27th National Conference of Soil Conservation Society of India, New Delhi, held at AAU, Jorhat during October 25-27, 2018. Paper title: Toxicity and bioremediation feasibility of iron (II) through bacillus spp in few Indica rice cultivars of Assam: A laboratory study.

9. Dr. Anjali Basumatary, Professor received Best paper award in the 27th National Conference of Soil Conservation Society of India, New Delhi, held at AAU, Jorhat during October 25-27, 2018. Paper title: Spatial variability of fertility status in soils of Dhubri district of Assam

10. Dr Nilay Borah, Professor was honored by the Soil Conservation Society of India, New Delhi with Gold Medal for his commendable contribution to the cause of Soil Science in the International conference held at National Agricultural Science Complex, New Delhi from 5-9 November, 2019

5. List of Publications during 2017-2019

a. Paper Published in Peer Reviewed Journal

Sl No.	Author(s)	Year of Publication	Title	Journal Name, Volume, page nos.	NAAS Score	Impact factor (Thomson Reuters)
1	Deka Bipul, Maruthi Sankar, G.R., Dutta, Marmai, Baruah, T.C., Pushpanjali, Kumari, V.V. and Mishra, P.K.	2017	Assessment of fertility potential for the soils of Northern Brahmaputra valley zone of Assam using Principal Component Analysis	<i>Indian Journal of Soil Conservation</i> 45 (1), 1-11	5.2	
2	Nasrin, M., Borua, S., Borua, R. and Deka, B.	2017	Knowledge Level of Farmers on Recommended Cultivation Practices of Off-season Vegetable Crops under Low Cost Polyhouse Technology in Assam	<i>Asian Journal of Agricultural Extension, Economics & Sociology</i> 21 (4), 1-6	4.35	
3	Dutta, Marami, Karmakar, R.M., Borkakati, K. and Deka Bipul	2017	Characterization and Classification of Soils of Tipukjan Watershed of the Upper Brahmaputra Valley of Assam	<i>Journal of the Indian Society of Soil Science</i> 65 (4), 349-359	5.23	
4	Dutta, Namita, Dutta, Samiron and Karmakar, R.M.	2017	Characterization and classification of some alluvium derived soils under	<i>Journal of the Indian Society of Soil Science</i>	5.23	

			different land uses in Jorhat district of Assam	65 (4), 360-368		
5	Basumatary, A., Shange,JJ.,Bhattacharyya, D., Das K. N., & Kandali, G. G.	2017	Sulphur fertilization for increased yield of blackgram and soil fertility in an Inceptisol of Assam	Annals of plant and soil research. 19(4):350-354	4.39	
6	Basumatary,P,Narzary,B.D., Phookan,D.B and Basumatary,A	2017	Combined effect of nitrogen, phosphorus, potassium and boron on yield and quality of broccoli(<i>Brassica oleraceavar italic</i>).	Research on crops 18(3) 468-471.	4.75	
7	Baral, A. P., Saikia, L., Kotoky, U.,Baruah, S &Tamuly, D	2018	Organic nutrition for potato-cucumber-okra cropping sequence	International Journal of Pure and Applied Bioscience	4.74 (2018)	6.327
8	Jain,D., Sita D. S., SumanSanadhya, S., Nath, D.J.& K. Khandelwal,K.S.	2017	Molecular characterization and PCR-based screening of cry genes from <i>Bacillus thuringiensis</i> strains	3 Biotech 7:4	7.38 (in 2018 NAAS)	1.361
9	Buragohain, S., , Sarma, B., , Nath, D.J., Gogoi, N., Meena, R.S.&Lal,R	2017	Effect of 10 years of biofertiliser use on soil quality and rice yield on an Inceptisol in Assam, India	<i>Soil Research</i>	7.61	
10	Pujari,D.,Bhattacharyya, B., Mishra, H., Bhagawati, S., Nath D.J.& Medhi B.K.	2018	Linking soil physico-chemical properties with the recent upsurge of <i>Lepidiotamansueta</i> (Coleoptera: Scarabaeidae) in sugarcane ecosystem of Majuli river island, Assam, India	Journal of Entomological Research,42(1)19-26	5.05	
11	Devi,G., Bhattacharyya, B., Mishra, H &Nath, D.J.	2018	Rearing of two entomopathogenic nematodes, <i>HeterorhabditisBacteriophora</i> poinar and <i>Steinernema</i> sp. in termite (<i>OdontotermesObesus</i> ramb.)	Applied Biological Research20(1),77-81	5.07	
12	Patra, A., Sharma,V. K. Purakayastha, T. J., Barman ,M., , SarvendraKumar,S., Chakraborty,D., Kapil A. Chobhel &Nath,D. J.	2017	Effect of Integrated Nutrient Management in Rice on Nitrogen Availability, L-asparaginase and L-glutaminase Activity in Acidic Soil	International Journal of Current Microbiology and Applied Sciences 6(9): 3777-3783	5.38	

13	Chutia,R, Bhagawati, P.C. &Nath D.J.	2017	Effect of Biofertilizer and Integrated Nutrient Management on Growth of Potato and Soil Microbial Activity	International Journal of Current Microbiology and Applied Sciences 6(12): 355-365	5.38	
14	Barua, Rashmi; Medhi, B.K.; Patgiri, D.K.; Bhattacharyya, D. and Deka, C.R.	2017	Soil organic carbon stock in agricultural land of Jorhat district of Assam.	<i>Journal of Soil and Water Conservation</i> , 16(1): 25-31	5.08	
15	Saikia, M; Bhattacharyya, D. ;Patgiri, D.K.; Thakuria, R.K., Deka, P. and Borah, N.	2017). Physical characteristics of puddle rice soils as influenced by agro-ecological and and situations.	<i>Journal of Soil and Water Conservation</i> 16(3): 221-227	5.08	
16	Nayak, M.K.; Patgiri, D.K. and Baruah, T.C. (2017).	2017	Effect of Organic Matter and Initial Moisture Content on Water Transmission Characteristics of Alfisols of Assam.	Agropedology. 27(1):36-41	4.16	
17	MilonJyotiKonwar, M.K. Sarmah, K.N. Das,LoleshPegu, Syed WasifurRahman and Shyamal Kumar Phukon	2018	Performance of direct seeded <i>salirice</i> as influenced by sowing dates, sowing methods and nutrient management practices. Print ISSN:0253-150X / Online ISSN:0976-0547 (Feb 2, 2018)	<i>Agric. Sci. Digest.</i> , 38 (1) : 40-43	4.21	
18	PrakshiptaBoruah, A. Sarma and Das, K.N.	2018	Water Saving Strategy in Rice by Alternate Wetting and Drying Technology.	<i>Int.J.Curr.Microbiol. App.Sci.</i> 7(03): 1333-1340.	5.38	

19	Mohanty, S and Karmakar, R. M.	2018	Forms of iron in clay fraction of paddy and associated non-paddy soils of Assam	<i>Journal of Pharmacognosy and Phytochemistry</i> ,2018; 7(6): 2677-2682	5.21	
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20	Gogoi, A., Barbora, A.C. , Kakati, R.K, Bhattacharya, B., Dutta, S and Saikia, J	2018	Effect of Integrated Nutrient Management on Growth, Yield, Quality and Nutrient Content of Khasi Mandarin (<i>Citrus reticulata</i>) in Acidic Soils of Assam, India	<i>International Journal of Current Microbiology and Applied Sciences</i> Volume 7, Number 09, pp: 1675-1689	5.38	
21.	Ahmed, P., Saikia, M., Pathak, K., Dutta, S and Sarmah A.C.	2019	Effect of Microclimatic Regimes and Nitrogen Management on Growth and Yield of Direct Seeded Rice (<i>Oriza sativa</i> L.) under Rainfed Condition	<i>International Journal of Current Microbiology and Applied Sciences</i> Volume 8, Number 02, pp: 1351-1358	5.38	
22	Kandali, GG., Barua, NG., Basumatary, A., Medhi, B.K., &Karmakar, R.M.	2018	Critical limit of zinc for response of rice to zinc application in acidic soils of Assam.	<i>Oryza</i> , 55, 308-316	4.44	
23	Bhuyan S, Kandali, G.G., Deka,K., Karmakar, R.M.,Choudhury, M., & Borah, K.	2018	Impact of organic and conventional tea cultivation practices on soil health.	<i>International Journal of chemical studies</i> ,3,502-508	5.31	
24	Mondal, S.C., Sarma, B., Farooq, M., Nath, D.J. and Gogoi, N	2019	Cadmium Bioavailability in Acidic Soils under Bean Cultivation: Role of Soil Additives.	<i>International Journal of Environmental Science and Technology</i>	8.04	-
25	Buragohain, S., Nath, D.J., Devi, Y. B., Bhattacharyya, B and Dutta, S.	2018	Molecular characterization of potassium solubilizing bacteria from crop rhizosphere of the North Eastern Region of India.	<i>Current Science</i> 114(12):2543-2548.	6.84	
26	Patra,A., Sharma,V.K., Purakayastha,T.J., Barman,M., Kumar, S., Chakraborty,D., kapilChobhe, A., and Nath, D.J.	2018	Long-term effect of integrated nutrient management on yield and nutrients uptake by rice (<i>Oryza sativa</i>) in acid soil.	<i>Indian Journal of Agricultural Sciences.</i> 88 (4): 579–583.	6.22	
27	Saikia, J., Saikia,L., Phookan, D.B. and andNath, D.J	2018	Effect of biofertilizer consortium on yield, quality and soil health of French bean (<i>Phaseolus vulgaris</i> L.).	<i>Legume Research</i> , 41(5) 2018: 755-758.	6.12	

28	Ojah,I., Nath, D.J., Gayan, A and Buragohain, S .	2018	Influence of Different Levels of Phosphorus on the Effectiveness of ArbuscularMycorrhizae in Rice Rhizospher.	<i>International Journal of Current Microbiology and Applied Sciences</i> (2018) 7(7): 1076-1085.	5.38	
29	Barik, N., Phookan,D.B., Kumar, V., Teron, T., Millik and Nath,D.J.	2018	Organic cultivation of Ridge Gourd (<i>Luffaacutangula</i> Roxb)	<i>Current Journal of Applied Science and Technology</i> . 26(4), 1-6.	5.32	
30	Rajkhowa, D.J., Sarma, A.K., Bhattacharya, P.N. and Mahanta, K.	2019	Bioconversion of agricultural waste and its efficient utilization in the hilly ecosystem of North East India.	<i>International Journal of Recycling of Organic Waste in Agriculture, Trends in Plant Science</i> , 22, 550–553	6.40	0.40
31	Gogoi, N. K., Deka, B. and Bora, L.C. Bora	2018-19	Remote sensing and its use in detection and monitoring plant diseases: A review	<i>Agricultural Reviews</i> , 39(4), 307-313	4.37	
32	Kashyap, N., Das, K.N., Deka, B., Dutta, M. andBasumatary, A.	2018-19	Individual and combined effect of phosphorus and potassium on yield and nutrient uptake of hybrid rice (<i>Oryza sativa</i>) under IPNS in an alluvial soil of Assam	<i>Annals of Plant and Soil Research</i> , 20 (2), 109-115	4.39	
33	Prarthana P. Hazarika, B.K. Medhi, R.K. Thakuria, D.K. Patgiri1 and KankuDeka	2018	Characterization of Grey Water to Assess its Feasibility for Irrigation	<i>International Journal of Current Microbiology and Applied Sciences</i> (2018) 7(10): 1056-1064	5.38	
34	Prarthana P Hazarika, BK Medhi, RK Thakuria, DK Patgiri and KankuDeka	2018	Qualitative characterization for suitability assessment of residential grey water in terms of water quality index	<i>International Journal of Chemical Studies</i> , 6(6): 284-292	5.31	

35	M.K. Nayak, D.K. Patgiri and T.C. Baruah	2018	Effect of organic matter and initial moisture content on water transmission characteristics of Alfisols of Assam	<i>Agropedology</i> , 27:36-41	3.00	
36	Baruah, R, Medhi., B. K, Patgiri, D. K., Bhattacharyya, D and Deka C.R.	2018	Soil organic carbon stock in agricultural land of Jorhat district of Assam	<i>Journal of Soil and Water Conservation</i> ,16(1): 25-31	3.00	
37	Basumatary, A., Shangne, J. J., Das, K. N and Bhattacharyya, D	2018	Impact of sulfur fertilization on distribution of sulfur fractions and use efficiency in blackgram in subtropical acidic soil of Assam, Indian.	<i>Journal of Plant Nutrition</i> , Vol 41, Issue11 page 1436-1443	6.62	0.565
38	Gogoi, A, Talukdar, M.C. Basumatary, A and Baruah , U.	2018	Characterization and classification of the soils of Dorika watershed of Assam using GIS and remote sensing techniques.	<i>Journal of the Indian Society of Soil Science</i> .66(4):341-350	5.23	
39	Gogoi1, A, Talukdar, M.C. Basumatary, A.,Baruah, U and Deka, J	2018	Soil Site Suitability Evaluation of Crops for Dorika Watershed of Assam	<i>International Journal of Current Microbiology and Applied Sciences</i> ISSN: 2319-7706 Volume 7 Number 10	5.38	
40	Kashyap, N., Das, K.N., Deka, B. and Dutta, M.	2018	Soil Test Based Fertilizer Prescriptions under Integrated Plant Nutrient Supply for Hybrid Rice (cv. US – 382) in Alluvial Soils of Jorhat District of Assam, India	<i>International Journal of Current Microbiology and Applied Sciences</i> (2018) 7(5): 3570-3576	5.3	
41	Konwar, M. J., Sarmah, M.K., Das,K. N.,Pegu, L., Rahman, S. W and Phukon, S. K.	2018	Performance of direct seeded <i>salirice</i> as influenced by sowing dates, sowing methods and nutrient management practices	<i>Agricultural Science Digest.</i> , 38 (1) 2018 : 40-43	4.21	

42	Boruah, P Sarma , A and Das, K.N.	2018	Water Saving Strategy in Rice by Alternate Wetting and Drying Technology	<i>International Journal of Current Microbiology and Applied Sciences</i> , 7(3): 1333-1340	5.3	
43	Prarthana P. Hazarika, B.K. Medhi, R.K. Thakuria, KankuDeka, and R Borah	2019	Characterization of Grey Water to Assess its Feasibility for Irrigation under different soil types and depths Authors: Prarthana P. Hazarika, B.K. Medhi, R.K. Thakuria, KankuDeka, and R Borah	<i>Journal of Pharmacognosy and Phytochemistry</i> 8(1): 587-592	5.21	
44	KankuDeka, B. K. Medhi, G. G. Kandali, K. Pathak, R. Das, D. C. Nath and P. P. Hazarika.	2018	Physicochemical Characteristics of Activated Biochar Derived from Different Sources Authors:	<i>International Journal of Biochemistry Research and Review</i> 22(2): 1-9, 2018	4.9	
45	Borgohain, L., Tamuly, D., Bora, N., Dutta, S., Nath, D. J., Thakuria, R., Borah, K and Bora, S. S.	2019	Kinetics of nitrogen mineralization as influenced by liming and organic amendments: a laboratory study	<i>International Journal of Current Microbiology and Applied Sciences</i> ISSN:2319-7706 volume 8 number 01 page no:853-865	5.38	

b. Book /Book Chapter published during 2017-18

Sl No.	Author(s)	Year of Publication	Title	Editor (s)	Name of Book, Edition, page Nos	Name of Publisher
1	Deka, Bipul	2017	Mitigating Food Wastage for Food Sustainability	M. Sarmah	<i>Amar Bigyan</i> , 40-43	Assam Science Technology & Environment Council
2	Borua, S. and Deka, B.	2017	Organic farming techniques and organic certification	S. Borua, S. and B. Deka	Organic farming techniques and organic certification	EEI, AAU, Jorhat
3	Deka, Bipul	2017	<i>SeujiDharaniDhunia</i>	S.B. Mahanta& P. Kakati	<i>Assam Agrian</i> (Vol 38): 36-44	Editors, Assam Agrian
4	Deka, Bipul, Dutta, M. Kalita. P.	2017	Roll of Microbes in Nutrient Release from Soil Minerals	R.M. Karmakar, and D.J.Nath	Compendium of lectures on ICAR sponsored training on “Culturing Techniques for Bio-fertilizers and Bio-pesticides”, 164-170	Director, CAFT
5	Deka, Bipul	2017	<i>BorokhunorPaniSangrakshanAr u Iyar Byabahar</i>	Dr. A. Saikia	<i>Anwexon</i> , 62-64	Jorhat District Childrens’ Science Congress
6	Deka, Bipul	2018	Smart Farming: The Future of Agriculture	N.N.Bora&T.Neog	<i>SeujSupan</i> , 70-73	Souvenir Committee, 5 th Assam International Agri-Horti Show-2018

7	Deka, B., Karmakar, R.M., Dutta, M. and Borkakati, K.	2018	Training Manual on Soil Testing	B. Deka, B., R.M. Karmakar, MaramiDutta and K.Borkakati	Training Manual on Soil Testing	Jorhat Chapter of Indian Society of Soil Science
8	Deka, Bipul	2018	Management of Soil Physical Condition in Organic Agriculture	R.M. Karmakar, and D.J.Nath.	Compendium of lectures on ICAR sponsored training on “Recent Development in Organic Production System”	Director, CAFT
9	D.J.Nath, AnjumaGayan, K.Mahanta and S.Buragohain	2017	Isolation, enumeration and characterization of <i>Azospirillum</i> from crop rhizosphere (Associative N ₂ - fixing bacteria)	-	Compendium of lectures- ICAR Sponsored 21 days Training on Culturing techniques for Biofertilizers and Biopesticides, CAFT in Organic Farming, 7-27 November, 2017 (Pg No., 24-30)	ICAR

10	AnjumaGayan, D.J.NathK.Mah anta and S.Buragohain	2017	Isolation,enumeration and characterization of <i>Azotobacter</i> from crop rhizosphere (Free living N ₂ - fixing bacteria)	-	Compendium of lectures- ICAR Sponsored 21 days Training on Culturing techniques for Biofertilizers and Biopesticides, CAFT in Organic Farming, 7-27 November, 2017 (Pg No., 31-40)	ICAR
11	D.J.Nath,Anju maGayan,K.Ma hanta and S.Buragohain	2017	Isolation, enumeration and characterization of <i>Zinc solubilising bacteria</i> from rhizosphere	-	Compendium of lectures- ICAR Sponsored 21 days Training on Culturing techniques for Biofertilizers and Biopesticides, CAFT in Organic Farming, 7-27 November, 2017 (Pg No., 41-46)	ICAR

12	S.BuragohainA njumaGayan,K. Mahanta and D.J .Nath	2017	Potassium solubilizing bacteria: Isolation and Screening		Compendium of lectures- ICAR Sponsored 21 days Training on Culturing techniques for Biofertilizers and Biopesticides, CAFT in Organic Farming, 7-27 November, 2017 (Pg No., 47-54)	ICAR
13	S.BuragohainA njumaGayan and D.J. Nath	2017	Liquid formulations of Biofertilizers		Compendium of lectures- ICAR Sponsored 21 days Training on Culturing techniques for Biofertilizers and Biopesticides, CAFT in Organic Farming, 7-27 November, 2017 (Pg No., 181- 183)	ICAR

14	AnjumaGayan and D.J.Nath	2017	Isolation of Biofertilizer microbes from crop rhizosphere		<p>Compendium of lectures-ICAR Sponsored 10 days Short course on Preparation of bioformulation of fungal and Bacterial biocontrol agents for management of biotic stress of agricultural crops, 1-10 September 2017</p> <p>(Pg No., 66-73)</p>	ICAR
15	D.J.Nath and AnjumaGayan	2018	Soil quality Assessment as influenced by Organic inputs		<p>Compendium of lectures-ICAR Sponsored 21 days Training on Recent Developments in Organic Farming, CAFT in Organic Farming, 7-27 February, 2018</p>	ICAR

					(Pg No., 84-94)	
16	S.Buragohain, Anjuma Gayan and D.J.Nath	2018	Liquid formulations of Biofertilizers		Compendium of lectures- ICAR Sponsored 21 days Training on Recent Developments in Organic Farming, CAFT in Organic Farming, 7-27 February, 2018 (Pg No., 63-65)	ICAR
17	Patil Chandragouda Rudragouda , Srinivasamurthy R, Rajen Baruah and Mahesh Kumar Sharma	2017	Biofertilizers and Biopesticides in Indian agriculture- Current status and future prospects			APO, Tokyo, Japan
18	Dr. Rajen Baruah , Amrita Phukan and Antara Paul	2017	Acquaintance with Laboratory equipments in a soil Microbiology Laboratory	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
19	Dr. Rajen Baruah , Amrita Phukan and Antara Paul	2017	Basic laboratory and Aseptic Culture Techniques	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat

20	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Root nodule bacteria	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
21	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Isolation of root nodule bacteria	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
22	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Characterization of Rhizobium	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
23	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Authentication of Rhizobium (Nodulation test)	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
24	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Quantification of Rhizobia	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
25	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Counting Rhizobia by MPN method	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
26	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Isolating and Purifying Genomic DNA of Rhizobia Using a Rapid Small-Scale Method	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
27	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Analyzing Plasmid Profiles of Rhizobium spp. by Gel Electrophoresis Procedure	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
28	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Rhizobium Inoculant Production and Quality Control	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat

29	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Isolation and Identification of Phosphate Solubilizing Bacteria	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
30	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Isolation, Purification and Cultivation of Cyanobacteria(BGA)	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
31	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2017	Importance of Azolla and Cultivation Practices	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
32	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2018	Concepts and developments in organic agriculture	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
33	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2018	Organic standards	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
34	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2018	Components of organic farming	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
35	Dr.RajenBaruah , Amrita Phukan and Antara Paul	2018	Role of biofertilizers in organic farming	R.M. Karmakar, and D.J.Nath		Director, CAFT, Deptt of Soil Science, AAU, Jorhat
36	Dutta, M.	2017	BahankhyamKrishir Babe JaibikSar	Saikia, Anjumoni	Anneshan Page 76	Jorhat District Childrens' Science Congress

c. Book /Book Chapter published during 2018-19

Sl No.	Author(s)	Year of Publication	Title	Editor(s)	Name of Book, Edition, page Nos	Name of Publisher
1	Nath, D. J., Borah, D. K and Gayan, A	2018	Prospects and Problems of Biofertilizer Uses in Assam	-	-	Dean, Faculty of Agriculture Assam Agricultural University Jorhat, 785013, Assam
2	Mahanta, K., Bora, N., Deka, J. and Barua, I.C.	2019	Herbicide Residues in Rice Based Cropping System in Assam	SobhaSondhia, Partha P Choudhury and A.R.Sharma	Herbicide Residue Research in India (1st ed., pp. 305–324)	Springer Nature Singapore Pvt. Ltd.
3	Rajkhowa, D.J. and Mahanta, K.	2019	Doubling Farmer's Income – Issues and Strategies for Agriculture in Hill Ecosystems	R.K.Avasthe, Ashis Yadav and R. Singh	Technological Interventions for Doubling Farmers Income. (1st ed., pp. 107–111)	
4		2018		Bhattacharyya, A. & Deka, B.	Golden Jubilee Souvenir, Assam Agricultural University	Assam Agricultural University, Jorhat
5		2018		Deka, B.	Souvenir-27 th National Conference of Soil conservation Society of India	Assam Chapter of SCSI, New elhi

6		2018		Deka, B., Das, R. & Rajasekaran, C.	Souvenir-International Conference on Climate Change, Biodiversity and Sustainable Agriculture	ICCBSA-2018
7	Deka, B. & Dutta, M.	2018	Integrated Nutrient Management for Sustaining Crop Productivity in Nutrient Deficient Soils (Book Chapter)	Deka, B., Das, R. & Rajasekaran, C.	Souvenir-International Conference on Climate Change, Biodiversity and Sustainable Agriculture	ICCBSA-2018
8	Basumatary, A., Baruah, R., Goswami, K and Ozah, D	2018	Fertility status and mapping of nutrients in soils of Central Brahmaputra Valley Zone of Assam			AICRP on MSPE(ICAR) Department of Soil Science, AAU, Jorhat
9-22	Baruah, R., Phukan, A. and Paul, A.	2018	<ol style="list-style-type: none"> 1. Acquaintance with Laboratory equipments in a soil Microbiology Laboratory 2. Basic laboratory and Aseptic Culture Techniques 3. Root nodule bacteria 4. Isolation of root nodule bacteria 5. Characterization of Rhizobium 6. Authentication of Rhizobium (Nodulation test) 7. Quantification of Rhizobia 8. Counting Rhizobia by MPN method 9. Isolating and Purifying Genomic DNA of Rhizobia Using a Rapid Small-Scale Method 	R.M. Karmakar, and D.J.Nath	Compendium of lectures on ICAR sponsored training on “Techniques in Bio-fertilizers and Bio-pesticides production for organic agriculture” during 14 th Nov.-4 th Dec., 2018.	Director, CAFT

			<p>10. Analyzing Plasmid Profiles of Rhizobium spp. by Gel Electrophoresis Procedure</p> <p>11. Rhizobium Inoculant Production and Quality Control</p> <p>12. Isolation and Identification of Phosphate Solubilizing Bacteria</p> <p>13. Importance of Azolla and Cultivation Practices</p> <p>14. Isolation, Purification and Cultivation of Cyanobacteria(BGA)</p>			
23-26	Nath, D.J., Gayan, A. and Buragohain, S.	2018	<p>1. An overview of biological nitrogen fixation</p> <p>2. Isolation, enumeration and characterization of Azospirillum from crop rhizosphere (associative N₂-fixing bacteria)</p> <p>3. Isolation, enumeration and characterization of Zn solubilizing bacteria from rhizosphere.</p> <p>4. Quality assessment, mixing and packaging of mass multiplied azospirillum, azotobacter, ZSB and KSB for biofertilizer production.</p>	R.M. Karmakar, and D.J.Nath.	Compendium of lectures on ICAR sponsored training on “Techniques in Bio-fertilizers and Bio-pesticides production for organic agriculture” during 14 th Nov.-4 th Dec., 2018.	
27	Gayan, A. Nath, D.J. and Buragohain, S.	2018	Isolation, enumeration and characterization of Azotobacter from crop rhizosphere (free living N ₂ -fixing bacteria)	R.M. Karmakar, and D.J.Nath.		
28-29	Buragohain, S., Gayan, A. and Nath, D.J.	2018	<p>1. K solubilizing bacteria: isolation and screening.</p> <p>2. Liquid formulation of bifertilizers.</p>	R.M. Karmakar, and D.J.Nath.		

30-33	Baruah, R., Phukan, A. and Paul, A.	2019	1. Concepts and developments in organic agriculture 2. Organic standards 3. Components of organic farming 4. Role of biofertilizers in organic farming	R.M. Karmakar, and D.J.Nath.	Compendium of lectures on ICAR sponsored training on “Development in Organic agriculture” during 6-26 February, 2019.	Director, CAFT
34.	Medhi, B.K.	2019	Use of biochar in organic agriculture			
35.	Borkakati, K.	2019	Government schemes and support for organic farming			
36.	Dutta, S.	2019	Impact of long-term organic cultivation on soil properties.			
37.	Buragohain, S., Gayan, A. and Nath, D.J.	2019	Liquid formulation of bifertilizers.			
38.	Patgiri, D.K.	2019	Carbon sequestration potential under different land use systems			
39.	Nath, D.J. and Gayan, A.	2019	Soil quality assessment as influenced by organic inputs			
40.	Das, K.N.	2019	Carbon foot-print in organic agriculture			

d. Practical Manuals

Year of Publication	Title
2018	Laboratory Manual on Agricultural Microbiology Soil – 122
2019	Soil Fertility and Nutrient Management AS (Soil)-323

2018	Practical Manual on Soil 501
2019	Practical manual on Manures, Fertilizer and soil fertility management for Soil 223
2019	Soil fertility and fertilizer use For Soil 502
2019	Practical manual For Soil, water and air pollution Course No. Soil 509
2017	Environmental studies {EVS-(Soil)-224}
2017	Practical Manual on Soil Fertility and Fertilizer Use (Soil- 502)

e. Popular Articles

Authors	Title of Articles	Name of magazine/News paper with Vol., No., Date and Page No.
Dr. Bipul. Deka	<i>Bimudrakoron, NogodbihinArthanitiAruKrishokorKoroniya</i>	' <i>SujalaSuphala</i> ', (Souvenir, International Agri.-Horti Show, February, 2017), Page 110-113
Dr. MaramiDutta	Remote Sensing and its use in Agriculture	<i>SujalaSuphala</i> ', (Souvenir, International Agri.-Horti Show, February, 2017), Page 91-93
Dr. BipulDeka	<i>JaibikKrishitByabahritaSarAru Iyar Prastuti</i>	' <i>NatunSomoy</i> ', February, 2017
Dr. Bipul. Deka	<i>KrsihiVigyaniDhirendraNathBorthakur- EtiAwalokon</i>	' <i>Garioshi</i> ', February, 2017
Dr Bipul Deka	" <i>Biswa Dharitree Diwas</i> "	2018

5. Events organized

Sl. No.	Title of Events Organized	Organized by	Period	Sponsored by	Venue	Level (International/National etc.)
1	<i>27th National Conference of the Soil Conservation Society of India, New Delhi on "Sustainable Management of Soil and Water Resources for Doubling Farmers' Income"</i>	Soil Conservation Society of India, New Delhi & AAU, Jorhat	25 th October to 27 th October, 2018	Soil Conservation Society of India, New Delhi	AAU, Jorhat	National

2	21 days training on “Techniques in Bio-fertilizers and Bio-pesticides Production for Organic Agriculture”	Centre of Advance Faculty Training (CAFT) in Organic Farming	14 th November- 4 th December, 2018.	ICAR	Department of Soil Science, AAU, Jorhat	National
3	21 days training on “Development in Organic Agriculture”	Centre of Advance Faculty Training (CAFT) in Organic Farming	6 th to 26 th February 2019	ICAR	Department of Soil Science, AAU, Jorhat	National
4	Culturing Techniques for Biofertilizers and Biopesticides	Centre for Advanced Faculty Training in Organic Farming	7-27th November’2017	ICAR	Department of Soil Science, AAU, Jorhat:13	National
5	Recent Developments in Organic Production Systems	Centre for Advanced Faculty Training in Organic Farming	7-27th February’2018	ICAR	Department of Soil Science, AAU, Jorhat:13	National

6. Budget utilized during 2017-2020

Head		2017-18	2018-19	2019-20
Operating expenditure	1 st training	399389	439849	588044
	2 nd training	514293	536730	Not yet completed
Recurring contingency		399879	396694	-
T.A.		-	-	-
Books		34905	34215	-
Additional grant-in-aid	Equipment	-	495511	-

(creation of capital assets	Minor repairing / renovation	-	491217	-
	Total	1348466	2394216	

