List of PG & Ph.D Theses titles submitted till 30th May, 2022

DIRECTORATE OF INSTRUCTION

CENTRAL AGRICULTURAL UNIVERSITY

LAMPHELPAT, IMPHAL 795 004, MANIPUR

CONTENTS

NUMBER OF PG & PH.D. THESES SUBMITTED BY CONSTITUENT COLLEGES

(Till 30th MAY 2022)

Sl. No.		M.Sc.	Ph.D.	Total
1.	College of Veterinary Sciences & Animal Husbandry, Aizawl, Mizoram	273	11	284
2.	College of Agricultural Engineering & Post Harvest Technology, Ranipool, Gangtok, Sikkim	28	2	30
3.	College of Fisheries, Lembucherra, Tripura	177	3	180
4.	College of Community Sciences, Tura, Meghalaya	6	-	6
5.	College of Horticulture & Forestry, Pasighat, Arunachal Pradesh	88	13	101
6.	College of Agriculture, Imphal, Manipur	534	15	549
7.	College of Post Graduate Studies in Agricultural Sciences, Umiam, Meghalaya	380	50	430
	Total	**1486**	**94**	**1580**

1. COLLEGE OF VETERINARY SCIENCES & ANIMAL HUSBANDRY, AIZAWL, MIZORAM

A. THESIS DETAILS (M.V.Sc.)

1. DEPARTMENT OF VETERINARY PARASITOLOGY

M.V.Sc					
Sl. no.	**Title of the thesis**	**Name of the student**	**Major subject**	**Year of completion**	**Outcome**
1.	Surveillance of parasitic fauna and parasitic diseases of pigs in Mizoram	Dr. Freddy H. Siamthara	Veterinary Parasito-logy	2017	• A cross-sectional study was conducted between June 2015 to June 2016, to determine the prevalence of helminths, ectoparasites and haemoparasites in pigs of different age groups in Mizoram. • Out of 600 samples examined, five hundred and sixteen pigs (86%) were found to harbour at least one or more parasites. Different spectrum of parasites encountered were *Ascaris suum* (9.5%), *Strongyloides ransomi* (5.3%), *Trichuris suis* (2.8%), *Oesophagostomum* sp. (7.1%) and *Hyostrongylus rubidus* (2.1%) including four (4) species of protozoa namely- Eimeria sp. (12.8%), *Isospora suis* (7.8%), *Balantidium coli* (38.5%) and *Cryptosporidium* sp., respectively. • Out of 114 skin scrap samples of pig suspected for mite infestation, 20 (17.5%) were positive for *Sarcoptes scabiei* var. *suis* and 5 (4.3%) for *Demodex* sp.
2.	Parasitic fauna and diseases in Manipuri ponies with special reference to cutaneous Habronemiosis	Dr. Chirom Nishita Devi	Veterinary Parasito-logy	2017	• The study found that 82.5% of Manipuri ponies are infected with endoparasite and 6.0% with ectoparasite. The predominant parasite found after coprological examination are strongyle (54.55%), *Stongyloides* (30.31%), *Parascaris equarum* (23.03%), *Oxyuris equi* (20.61%), *Habronema* sp (8.49%), *Dictyocaulus arnfieldi* (3.09%), amphistome (2.43%), *Eimeria* (18.19%).

					• Cutaneous habronemiosis is also reported and genetically characterized for the first time in India.
3.	Studies on ticks and tick-borne haemoprotozoa of cattle in Aizawl and Kolasib districts of Mizoram	Dr. Subhamoy Ghosh	Veterinary Parasito-logy	2018	• The overall prevalence of tick infestation recorded was 62.27%. • Molecular detection of haemoprotozoa was done by PCR and found positive for *Babesia bigemina* (0.78%), *Theileria orientalis* (22.13%), *Theileria annulate* (15.62%), *Anaplasma marginale* (25.78%), *Anaplasma centrale* (18.22%) and *Anaplasma bovis* (17.44%)
4.	Identification of tick(s) infesting cattle in Mizoram and exploration of acaricide resistance	Dr. K. Lalawmpuii	Veterinary Parasitology	2022	• Two species of ticks *viz. Rhipicephalus microplus* and *Haemaphysalis bispinosa* was found infecting cattle of Mizoram and *Amblyomma habreum* in Mithun by morphological and DNA sequence and further characterized using ribosomal and mitochondrial DNA. • The role of these ticks in the transmission of vector-borne haemoparasites was also studied and found that 5% each of the tick carry *Theileria orientalis* and *Anaplasma marginale.* • 97% of the tick specimen examined carry Coxiella-like organism as endosymbiont.

2. DEPARTMENT OF VETERINARY PATHOLOGY

Sl. No.	Name of the student	Title of the Thesis	Major Subject	Year	Outcomes (2-3 lines)
5.	Dr. Pinaki Bhattacharyay 2019-V-30(M)	Studies on pathology and diagnosis of Lympho-proliferative diseases with special reference to Marek's Disease and Avian Leukosis in the chicken population of	Veterinary Pathology	2019-2021	

		Mizoram			
6.	Dr. Sheityabati Sagolsem 2018-V-30 (M	Clinico – Pathomorphological studies on coccidial infections in chicken population of Mizoram.	Veterinary Pathology	2018-2020	Recorded prevalence of four different species of coccidian in poultry population of Mizoram.
7.	Dr. Biswadeep Behera 2018-V-42 (M)	Pathological studies on post mortem specimens and specimens collected from slaughtered cattle in Aizawl district of Mizoram.	Veterinary Pathology	2018-2020	Detected babesiosis in slaughtered cattle in Mizoram.
8.	Dr. Sikder Jabidur Islam 2018-V-29 (M)	Studies on incidence, pathology and diagnosis of Ascites syndrome in poultry population of Mizoram.	Veterinary Pathology	2018-2020	1. First report on Ascites syndrome with co-infections of infectious bronchitis in chicken population of Mizoram 2. Recorded Ascites syndrome as a major cause of mortality in broiler population.
9.	Dr. Jahnabi Jyoti Kalita 2017-V-26(M)	Clinico-pathological studies on spontaneously occurring mycotoxicosis in chicken population of Aizawl, Mizoram.	Veterinary Pathology	2017 - 2019	Detection and estimation of aflatoxin, ochratoxin, zearalenone, DON and T2 toxin contamination of chicken feed in Aizawl region was performed. The associated pathology was studied.
10.	Dr. Kiran J. 2017-V-27(M)	Studies on occurrence and pathology of canine neoplasms in Aizawl district of Mizoram	Veterinary Pathology	2017 - 2019	Recorded occurrence of neoplastic diseases in canine population of Mizoram.
11.	Dr. Elangbam Dinesh Singh 2017-V-30(M)	Studies on incidence, pathology and molecular diagnosis of spontaneous Duck virus enteritis in Manipur.	Veterinary Pathology	2017 - 2019	1. Recorded outbreaks of Duck plague in duck population of Manipur.
12.	Dr. Sedeneinuo Suohu,	Studies on	Veterinary	2017 -	1. First confirmed report on

	2017-V-25(M)	Hydropericardium hepatitis syndrome caused by Fowl aviadeno virus C in poultry population of Mizoram.	Pathology	2019	Hydropericardium hepatitis syndrome caused by Fowl adenoviruses [Suohu, S., **Rajkhowa, T. K**., (2020). Prevalence and Molecular Diagnosis of Hydropericardium Hepatitis Syndrome in the Poultry Population of Mizoram, India. B-3923,[1-5]10.18805/ijar.B-3923].
13.	Dr. Hamari Debbarma, 2016-V-27 (M)	Pathological investigation on viral diseases of poultry in Tripura.	Veterinary Pathology	2016-2018	1.Recorded outbreaks of common poultry diseases in poultry population of Tripura.
14.	Dr. Lalrinkima, Roll No. 2016-V-26 (M),	Pathological studies on post mortem and slaughter house specimens of canine in an around Aizawl district of Mizoram	Veterinary Pathology	2016-2018	Lalrinkima, **Rajkhowa T.K**., Singh Y.D.,Ravindran R. and Arya R.S. (2019).Pathology and molecular detection of canine parvovirus in Aizawl, Mizoram.Indian J. Vet. Pathol., 43(3) : 228-230,
15.	Dr. Abhijit Deka, 2016-V-28 (M)	Pathology, diagnosis and genetical characterization of Chicken infectious anemia virus in poultry population of Mizoram.	Veterinary Pathology	2016 - 2018	1. First confirmed report on chicken infectious anaemia in chicken population of Mizoram [Deka A., **Rajkhowa T.K.*,** Singh YD, Ravindran R, Arya RS. (2018).Studies on the prevalence, clinic-pathology and molecular diagnosis of Chicken infectious anaemia virus (CIA) in poultry in Mizoram, India. Indian Journal of Veterinary Pathology. 42(3):177-180].
16.	Dr. Kim Jamoh, 2015-V-26 (M)	Pathology of Colibacillosis caused by antibacterial resistant E. coli in poultry population of Mizoram	Veterinary Pathology	2015 - 2017	1. First report on colibacillosis caused by antimicrobial resistance *E. Coli*.[Jamoh, K., **Rajkhowa T.K.*,** Singh YD, Ravindran R, Arya RS. (2018).Antimicrobial resistant E. Coli and associated Colibacillosis in poultry population of Mizoram. Indian Journal of Veterinary Pathology. 42(3):185-190.]
17.	Dr. Michael Lalramchhana. 2015-V-25(M)	Pathology of salmonellosis caused by antimicrobial resistant *Salmonella* in poultry	Veterinary Pathology	2015-2017	1. Recorded Pulloram disease in poultry population of Mizoram.

		population of Mizoram.			
18.	Dr. G. Lulinlu Kabui, 2014-V-08(M)	Studies on pathology and diagnosis of infectious bronchitis (IB) in poultry populations of Mizoram.	Veterinary Pathology	2014 - 2016	1. First confirmed report on infectious bronchitis in poultry population of Mizoram.
19.	Amlyne Gabil Momin, Roll No. 2014-V-09 (M),	Studies on prevalence and pathology of viral diseasesof chickens in and around Shillong, Meghalaya	Veterinary Pathology	2014-2016	1. Recorded outbreaks of common poultry diseases in poultry population of Meghalaya [AmlyneG. Momin and **Y.Damodar Singh*** (2017). Pathology and molecular diagnosis of viral diseases affecting chickens in and around Shillong, Meghalaya. *Indian Journal of Veterinary Pathology*, **41(4):** 268-276.]
20.	Dr. Lichumo Kikon 2013-V-12(M)	Studies on sero-prevalance and diagnosis of PCV2 & PRRSV associated reproductive failures in pig populations of Nagaland.	Veterinary Pathology	2013 - 2015	1. First epidemiological studies on PCVAD in pig population of Nagaland [L.J. Kikon, **T.K. Rajkhowa***, R.S. Arya, Y.D. Singhand R.Ravindran R. (2017). Seroprevalence of Porcine Circovirus Type-2 (PCV2) and molecular diagnosis of PCV2 associated reproductive failure in pig population of Nagaland. *Indian Journal of Veterinary Pathology*, **41(2):** 79-83].
21.	Dr. Amrit Gogoi. (2012-V-09M)	Studies on prevalence, pathology and diagnosis of PRRS in pig population of Mizoram.	Veterinary Pathology	2012 - 2014	1. First thesis on PRRS outbreaks in India [Gogoi A., **Rajkhowa T.K.***, Singh Y.D., Ravindran R., Arya R.S., Hauhnar L. (2017). Epidemiology of porcine reproductive and respiratory syndrome (PRRS) outbreak in India. ***Indian Journal of Veterinary Pathology***. 41(1):31-37]
22.	Dr. Lhaki Doma Bhutia 2012-V-08 (M)	Pathological studies on viral diseases of poultry in Mizoram	Veterinary Pathology	2012-2014	1. Recorded outbreaks of common poultry diseases in poultry population of Mizoram [L.D. Bhutia, T.K. Rajkhowa, Ravindran R., R.S. Arya, P. Roychoudhury, R.K. Mandakini and **Y.D.Singh*** (2017). Occurrence of Newcastle disease in poultry population of Mizoram, India. *Indian Journal of Veterinary Pathology*,**41(2):** 151-154].
23.	Dr. Laltlankimi,	Studies on	Veterinary	2011-2013	1.First thesis on reproductive failure

	CAU/221-V/06(B)	pathology and diagnosis of Porcine circo virus-2 associated reproductive failure in pigs of Mizoram	Pathology		in pigs caused by PCV2 in pig population of Mizoram [Laltlankimi, Ravindran R., Rajkhowa T. K.., Chhangte L. 2016. Pathological diagnosis of porcine –circo virus – 2 associated reproductive failure in pigs of Mizoram. ***Indian J. Vet. Pathol***. 40 (3): 261-263].
24.	Dr. Lalnunfella Chhangte (2011-V-04 M)	Studies on pathology and diagnosis of Post weaning multisystemic disease (PMWS) of pigs in Mizoram.	Veterinary Pathology	2011 - 2013	1. First thesis on PMWS in pig population of Mizoram.
25.	Dr. David Malswamkima , Reg. No: 2009-V-13(M)	Sero surveillance and Molecular Diagnosis of Classical Swine Fever in Mizoram	Veterinary Pathology	2009 - 2011	1. Recorded field outbreaks of Classical swine fever in pig population of Mizoram (Malswamkima D, **Rajkhowa TK**, Chandra R and Dutta TK. (2015).Pathology and molecular diagnosis of classical swine fever in Mizoram. ***Veterinary world***, 8(1):76-81.)
26.	Studies on pathology and diagnosis of Lympho-proliferative diseases with special reference to Marek's Disease and Avian Leukosis in the chicken population of Mizoram	Dr. Pinaki Bhattacharyay	Veterinary Pathology	2022	1. The prevalence, pathology and molecular diagnosis of Marek's disease in poultry population of Mizoram are studied. 2. The prevalence, pathology and molecular diagnosis of avian leukosis complex in poultry population of Mizoram is studied.
27.	Studies on pathology and diagnosis of piglet mortality associated with viral aetiology in Meghalaya, India.	Dr. Beatrice R. Marak	Veterinary Pathology	2022	1. ASF has been identified as the major cause of pig mortality in Meghalaya during the period 2021-22. 2. The circulating strain of ASFV has been characterized as genotype II.
28.	Studies on the pathomorphological changes and mortality pattern in broiler chicken in and around Aizawl district of Mizoram	Dr. Vanlalnunpuii Khawlhring	Veterinary Pathology	2022	1. The age-wise mortality pattern of broiler chicken in and around Aizawl district of Mizoram in different seasons was studied. 2. Infectious bursal disease, yolk sac infection, infectious bronchitis, ascites syndrome, Newcastle disease, colisepticemia and hydropericardium hepatitis syndrome were found to be the main causes of mortality of broiler

					chicken in and around Aizawl district of Mizoram.
29.	Pathology of naturally occurring Aflatoxin B1 & Ochratoxin A mycotoxicosis and their association with enteric pathology with special consideration to necrotic enteritis in chicken population of Aizawl, Mizoram.	Dr. Ishita Maity	Veterinary Pathology	2022	1. Pathology of naturally occurring Aflatoxin B1 & Ochratoxin A was studied in the chicken population of Aizawl. 2. Occurrence of necrotic enteritis was found in the cases affected by two mycotoxins. 3. Pathology of necrotic enteritis was studied. 4, Occurance of Aflatoxin B1 and ochratoxin A combined mycotoxicosis was found in the chicken population of Aizawl.

3. DEPARTMENT OF LIVESTOCK PRODUCTION AND MANAGEMENT

Sl No	Title of the Thesis	Name of the student	Major subject	Year of completion	Outcome
30.	Comparisons of Broiler performance under intensive system and backyard system	Dr Rody Lalrinfeli Fanai	LPM	2009	Performance of broilers in terms of average daily gain and feed conversion efficiency was much better under intensive system of rearing as compare to backyard system. Rearing of broiler upto 3 months of age (common practice at village level) was found to be uneconomical under intensive as well as backyard system of rearing
31.	Effect of Zinc supplementation on the performance of Japanese Quails	Dr H.Lalliankimi	LPM	2010	Supplementation of zinc in the diet of Japanese Quails had no significant effect on growth performance, on hatchability and egg production. However, Zinc supplementationn help in reducing mortality rate in Japanese Quail.
32.	Effect of water quality and its sources on the performance of Broilers	Dr Jamlianthang	LPM	2010	Overall feed conversion ratio was significantly better in filtered drinking water compare to unfiltered drinking water. Filtration of water reduces mortality rate in birds irrespective of the locations.
33.	Performance of piglets under field condition of Mizoram	Dr C.Lalremruata	LPM	2010	In terms of growth Largewhite Yorkshire piglets performed better than Hampshire and Burmese black. Classical swine fever was the major cause of mortality in pigs in village level. High lacatational body weight loss causes delay in onset of post weaning heat in sows under

					field condition.
34.	Effect of early weaning on the performance of Piglets and sow in Mizo Local pig (Zovawk)	Dr F. Laldinthara	LPM	2012	Weaning at 6th week can be an effective weaning strategy to increase the production efficiency of Zovawk under Intensive Housing system. However, a better ameliorative measure to prevent mortality in early weaned piglets. Litter Index was significantly higher in early weaned (4th week) sows, although mortality rate in piglets were much higher when weaned at 4th weeks of age.
35.	Effect of feeding frequency on the performance of broilers	Dr Elizabeth Lalbiaknungi Leihang	LPM	2012	Once a day feeding of broilers showed better performance
36.	A study on management practices of Local pigs under field condition of West Garo Hills district if Meghalaya	Dr Aba Liptos Marak	LPM	2013	Documentation of socio-economic status,various management practices followed by the pig farmer and performance of local pig in West Garo Hill district of Meghalaya
37.	Studies on pig farming systems under field condition in Imphal West district of Manipur	Dr Elangbam Shitaljit Singh	LPM	2013	The pig farmers in Imphal West of Manipur were predominantly of above proverty line, medium age, males of business class with secondary educations, from medium family size, amd marginal land holding capacitites. All the pig farmers practised natural service for breeding of sows. Crossbred pigs performed better than the local pigs in terms of litter size at birth and weaning, body weight at birth and weaning, age at first furrowing and furrowing interval as compare to local pigs
38.	Studies on backyard Fattener pig production system in Aizawl and Kolasib district of Mizoram	Dr C. Lalchhuanawma	LPM	2014	Cost of the weaned pigs was the principal component of expenditure in fattening pig production followed by cost of feed. Keeping aside non-paid cost of family labour, fattener pig production is Aizawl and Kolasib distric was economical. Swine fever, skin disease and parasitic infestation were common diseases found in pigs.
39.	Performance of early weaned pigs under cage system of rearing.	Dr Kha Lovingson	LPM	2014	Growth performance and feed efficiency of early weaned pigs were found to be better on slatted floor housing compare to solid concrete floor. Incidence of diarrhoea was also reduced in slatted floor compare to solid concrete floor
40.	Effect of age and rearing system in the performance of Broilers	Dr Angela L. Renthlei	LPM	2015	Overall performance of broilers under intensive system of rearing was found to be better than that backyard system of rearing. From economic point of view rearing of broiler birds upto 12 weeks of age is not recommneded in

					backyard system of rearing
41.	Use of effective Microbial Technology in fattening pigs in deep litter housing system	Dr Menalsh Laishram	LPM	2015	Deep litter housing along with fermented feeding might has got the merit in reducing occurancees of diseases, facilitating for normal behaviou vis a-vis minimizing aggressiveness in pigs, and reducing malodour in the environment. Based on benefit Cost ration, Deep Litter Housing plus conventional feeding system was found to be the best system, followed by deep litter plus fermented and conventional housing and feeding system.
42.	Effect of early weaning management on performance of Large White Yorkshire pigs	Dr Karuna Saikia	LPM	2017	With proper housing and feeding system, early weaning of piglets can be done on day 24 under Indian conditions.
43.	Studies on performance and behaviour of growing kids managed with or without concentrate supplementation.	Dr Sharon Vikram Pratap Dewan	LPM	2017	Concentrate supplementation improves the performance and behaviour of growing kids.
44.	Effect storage period and egg weight on hatchability of Japanese Quail eggs and subsequent growth performance of chicks	Dr Chandra Debbarma	LPM	2018	Egg quality as well as hatchabilty percentage decreases significantly beyond 6 days of storage in room temperature. Hatchlings from large eggs had signifantly higher body weight compare to hatchlings from small eggs. The average body weight gain and feed conversion ration was significantly better for chicks hatch from large eggs compare to smalle eggs
45.	"Effect of herbal supplement Shatavari (*Asparagus racemosus*) on performance of Large White Yorkshire Sow	Dr.Lakshya Jyoti Kakati	LPM	2018	Dietary supplementation of Shatavari @ 100 and 200mg/kg body weight in Largewhite yorkshire sow during last trimester of gestation didn't show any significant difference on performance parameters such as litter size and litter weight at birth, incidence of dystocia, number of mummified and still born piglets, furrowing duration, weight of placenta, sow body weight and backfat thickness changes during gestation.
46.	" Effect of Dietary supplementation of garlic and ginger on the performance of weaner pigs"	Dr. Malsawmkima	LPM	2019	Dietary supplemenatation (1.5%) of ginger and garlic helps to improve growth performance, to reduce incidence of diarrhoea and faecal coliform count in weaner pigs.
47.	"Effect of Nutritional Supplementation of Neonatal Pig on Growth and	Dr. Nanda Kumar Roy	LPM	2019	Oral nutritional supplemenatation containing Bovine colostrum, egg yolk, probiotics, dextrose, zinc oxide and chilated iron during neonatal period was found to be effective to

	Survivability during Pre-weaning Period"				improve growth rate and survivability during pre-weaning period.
48.	"Comparative Efficacy of Different Methods of Castration on the Growth Performance and Certain Carcass Characteristics of Growing Finishing Pigs"	Dr. Vanlalhmangaihsanga	LPM	2019	The pig castrated with Silver Nitarte was found to have better performance in terms of body weight, average daily gain, feed conversion efficiency as compare to open method of castration.
49.	Effect Of Dietary Supplementation Of Vitamin E On Internal Egg Quality Of Japanese Quail (*Coturnix coturnix japonica*) Egg.	Dr. Bidyut Sarma	LPM	2019	Hatchability, egg quality and egg production could be improved in layer quails and quail chick growth improved through Vitamin E supplementation in breeding quails
50.	Effect of Dietary Supplementation of Guava (*Psidium guajava*) Leaves on Performance of Young Pigs During Pre and Post-Weaning Periods	Dr. C. Vanlalpianpuia	Livestock Production and Management	2021	Dietary supplementation of guava leaves to young pigs during pre and post weaning period had significant positive effects on growth performance, occurrence rate (%) of diarrhoea, a slight but non-significant beneficial effects on metabolic activity of peripheral blood leucocytes (Phagocytes) as well as haemato-biochemical indices.
51.	Management of orphan piglets under intensive system of rearing	Dr. A.Khozhiio Kayina	Livestock Production and Management	2021	Orphan piglets can be reared safely by maintaining strict hygiene, good feeding and optimum microclimatic condition under intensive system of rearing.
52.	Performance and Behaviour of Growing Kids under Grazing and Stall Feeding Rearing Systems	Dr. David H. Beihroly	Livestock Production and Management	2021	Growth performance of growing kids can be improved by concentrate feed supplementation and without any significant differences in regard to the behavior of the animals under stall feeding condition
53.	Effect of Turmeric Powder Supplementation on the Performance of Japanese Quails	Dr. Sushitra Devi Longjam	Livestock Production and Management	2021	Turmeric powder can be supplemented at 1 percent and 2 percent level in the feed to improve egg production and the internal egg qualities in regard to yok index, yolk color of quail eggs. It can be added to improve body weight, FCR, decreases mortality and age at laying in quails.
54.	Effect of fermented liquid feed on performance of young pigs during pre and	Dr Ranjit Rewar	Livestock Production and Managem	2021	Feeding of fermented liquid feed (FLF) helped to reduce the occurrence of diarrhoea without affecting average daily gain (ADG) and blood biochemical parameters during pre and post

	post weaning periods		ent		weaning period.
55.	A Comparative Study on Performance Of Young Pigs Fed Diet Containing Skimmed Milk and Milk Replacer During Pre and Post Weaning Period	Dr Rubyta Chanam	Livestock Production and Management	2022	A Comparative Study on Performance of Young Pigs Fed Diet Containing Skimmed Milk and Milk Replacer During Pre and Post Weaning Period revealed that milk replacer powder can be used as a substitute to skimmed milk powder for feeding LWY young pigs to minimise the feed cost during pre and post weaning periods.
56.	Effect of dietary supplementation of turmeric (*Circuma longa*) on performance of young pigs during pre and post weaning periods	Dr Joseph Lalruatkima Stevenson	Livestock Production and Management	2022	Dietary inclusion of dry turmeric powder at 0.5% or 1.0% level in pre and post weaning diets improved growth performance, general appearance without any adverse effect on the health status of LWY young pigs especially during post weaning period

4. DEPARTMENT OFLIVESTOCK PRODUCTS TECHNOLOGY

Sl. No.	Title of the Thesis	Name of the student	Major Subject	Year of completion	Outcome
57.	A Comparative Study on The Shelf Life of Traditional and Modified *Vawksa rep*- A Local Pork Product of Mizoram	Lalchamliani	Livestock Products Technology	2013	Adoption of curing technique and application of *NISIN*, a new and much quality assured and enhanced Modified form of *Vawksa rep* could be developed successfully.
58.	A Study on Development of Ready-To Eat Vawksa-Rep – A Traditional Pork Product of Mizoram.	Deepshikha Deuri	-do-	2014	Ready-To Eat Vawksa-Rep could be developed with curing as well as aerobic and vacuum packaging methodn
59.	Development of shelf stable Ready-to-eat shredded pork pickle	Dilrash Mayanglambam	-do-	2015	Reary to eat pork shredded pickle could be developed using bhoot jolokia.
60.	Effect of *NISIN* on shelf life of low fat minced chicken sausage	Moon Choudhury	-do-	2017	Superior quality low fat minced chicken sausages could be developed.
61.	Development of shelf-stable puffed pork rind (vawk savun)"	Lhingneihoi Hangsing	-do-	2018	Pork rind which is a byproduct could be successfully converted into a value added snack item.
62.	Effect of a protective culture	Pompi Rani	-do-	2018	Biopreservation of chicken fillets could

	(*Lactobacillus sakei*) on storage life of chicken fillets	Boro			be successfully carried out by using the starter/protective culture of *Lactobacillus sakei*
63.	Development of enrobed chicken meat products using curry leaves, orange peel powder and cinnamon powder	Pranab Boro	-do-	2019	Enrobing of chicken meat products could be successfully carried out by using these antioxidant rich ingredients.
64.	Studies on the effect of different type of marinades on quality of cooked chicken breast fillets	Jesmin Khatun	-do-	2019	Different organic acids and curd were tried for marinating chicken breast fillets and reorted satisfactory results for extending the shelf life
65.	Studies on low cost smoked chicken sausages incorporated with bamboo shoot	Chandana Sonowal	-do-	2019	Bamboo shoot, which is a locally available material here in the North East was successfully used for developing low cost chicken sausages.
66.	Quality Evaluation of ready-to-eat low fat pork sausage incorporated with olive oil, dried apple pulp powder, and pomegranate seed powder	Keshab Debnath	-do-	2020	Ready-to-eat low fat pork sausage incorporated with olive oil, dried apple pulp powder, and pomegranate seed powder could be developed successfully and they could be stored well upto 15 days in refrigeration temperature.
67.	Quality Assessment of ready-to-eat low fat pork momo incorporated with olive oil and dietary fibres during refrigerated and frozen storage	Anannya Das	-do-	2020	Ready-to-eat low fat pork momo incorporated with olive oil and dietary fibres like oats, cabbage and oyster mushroom were developed.
68.	Quality of chicken nuggets incorporated with Groundnut and Pomegranate rind powder	Sandip Kumar	-do-	2020	Chicken nuggets were developed with antioxidant rich material like groundnut and Pomegranate rind powder and could be preserved well upto 15 days at refrigeration temperature
69.	Use of Hurdle Technology for developing a modified form of ***Vawksa rep***	Saifur Rahaman	Livestock Product Technology	2021	By using different hurdles a modified form of *Vawksa rep* (an ethynic pork product of Mizoram) could be developed with a great taste and extended shelf life of 6 days while stored at ambient temperature and 20 days at refrigerated temperature (4±1˚C)
70.	Development and Quality Assessment Of ***Wahan Mosdeng (Pork Vorta)*** by using Hurdle Technology	Santanu Nath	Livestock Product Technology	2021	Hurdle Technology was used to extend the shelf life of an ethnic pork product of Tripura and the study was fruitful as the shelf life could be extended upto 15 days at refrigerated temperature (4±1˚C) and 30 days at frozen temperature (≤-18˚C)

5. DEPARTMENT OF VETERINARY PHYSIOLOGY

M.V. Sc.					
Sl. No.	**Title of the thesis**	**Name of the student**	**Major subject**	**Year of completion**	**Outcome (2-3 lines)**
1. POULTRY					
DISCIPLINE: Veterinary Physiology					
CLASSIFICATION/CATEGORY: Stress Physiology					
71.	Expression analysis of HSPs and TLRs of indigenous chicken of Mizoram in response to heat and cold stress	Dr. Vanlalngilneii Ralte	Veterinary Physiology	2016	Indigenous chicken of Mizoram had higher HSP70, TLR3 and TLR4 during summer stress. Cold stress caused increase in expression of HSP70 and TLR4 in indigenous chicken.
72.	Stress status and egg characteristics of layers supplemented with chromium and vitamin C during winter.	Dr. Joycy Seiba Khukhodzinaii	Veterinary Physiology	2021	White Leghorn layers experienced mild stress in winter and drop in some egg characteristics. Supplementation of chromium and vitamin prevented winter stress and drop in egg quality.
73.	Haemato-Biochemical Profile and Growth Performance of BroilerChicken Supplemented with Green Leaves of *Brassica juncea* and *Brassica oleracea"*	Dr. Sopun Jyoti Bhuyan	Veterinary Physiology	2022	Dietary supplementation of green leaves of *Brassica juncea* and *Brassica oleracea* in broiler chickenscaused changes in a few hemato-biochemical parameters in the present investigation. However,green leaves of *Brassica juncea* and *Brassica oleracea* could be incorporated*ad libitum*into the diets of broilers sinceit does not significantly change the body weight in the control and the treatment groups. It also decreases significantly the feed intake of basal diet (commercial feed) which ultimately decreases the feed cost.
74.	Stress status and egg characteristics of layers supplemented with chromium and vitamin C during winter	Joycy Seiba Khukhodziinai	Veterinary Physiology	2021	• White Leghorn layers experience mild cold stress in winter. Supplementation of chromium picolinate, vitamin C and their combination during winter reduces cold stress in White Leghorn layers.
75.	Stress and	Susmita	Veterinary	2021	• Weaning causes stress to

	antioxidative status of Zovawk and Large White Yorkshire piglets after weaning	Majumder	Physiology		both Zovawk and Large white Yorkshire piglets. • Weaning stress lowers antioxidative status of both Zovawk and Large white Yorkshire piglets. Salivary alpha amylase is found to be a stress marker.

6. DEPARTMENT OFVETERINARY BIOCHEMISTRY

1. Pig					
DISCIPLINE: Veterinary Biochemistry					
CLASSIFICATION/CATEGORY: Characterization of Immunocompetence					
76. .	Dynamics of mitogen stimulated cytokine gene expression in peripheral blood mononuclear cells of local and exotic breeds of pigs reared in Mizoram	Dr. P. Kirthika	Veterinary Biochemistry	2014	The expression kinetics of key cytokine genes in the phytohemagglutinin stimulated peripheral blood mononuclear cells of Zovawk and Large Lhite Yorkshire pigs revealed remarkable difference between the two breeds of the pigs. This study forms an initial step in understanding the molecular basis of higher immune competence levels of local pigs as compared to exotic ones.
CLASSIFICATION/CATEGORY: Early pregnancy diagnosis					
77.	Comparative salivary proteome analysis to identify early pregnancy-specific protein biomarkers in pigs	Dr. Monti Das	Veterinary Biochemistry	2021	First report on global salivary proteome profiles of an early pregnancy stage and non-pregnant sows. Identified a set of salivary proteins which can be used as potential biomarkers for early pregnancy diagnosis.
2. Mithun					
DISCIPLINE: Veterinary Biochemistry					
CLASSIFICATION/CATEGORY: Blood biochemical profile					
78.	Hemato-biochemical profile of Mizoram strain female mithun (*Bos frontalis*)	Dr. Lalsangpuii	Veterinary Biochemistry	2013	Generated baseline data of hemato-biochemical parameters of female mithun of Mizoram state.
3. Bacteria					
DISCIPLINE: Veterinary Biochemistry					
CLASSIFICATION/CATEGORY: Bacteriology					
79. 4	Assessment of invitro growthkinetics andpathogenicity of recoded mutantof Salmonella Typhimurium	Dr. Laxmi Noatia	Veterinary Biochemistry	2021	Recoding key anaerobicregulator of SalmonellaTyphimurium compromisedthe growth of the mutant.Further, the in vitropathogenicity relatedparameters also reducedsignificantly in mutant.Thus, recoding of fnr decreased thepathogenicityof Salmonella Typhimuriumduring anaerobiosis.
JAN 2020-MAY 2022					
80.	Assessment of *in*	Dr. Laxmi	Animal	2021	Recoding key anaerobic regulator of *Salmonella*

	vitro growth kinetics and pathogenicity of recoded mutant of *Salmonella* Typhimurium	Noatia	Biochemistry		Typhimurium compromised the growth of the mutant. Further, the *in vitro* pathogenicity related parameters also reduced significantly in mutant. Thus, recoding of *fnr* decreased the pathogenicity of *Salmonella* Typhimurium during anaerobiosis.
81.	Comparative salivary proteome analysis to identify early pregnancy specific protein biomarkers in pigs	Monti Das	Veterinary Biochemistry	2021	• Firs report on global proteome profiling of saliva in early pregnancy stage and non-pregnant sows Proteins such as thioredoxin, HSPA1A, alpha 1-S haptoglobin and GST pi 1 were found to be differentially expressed statistically and may have potential as biomarkers for early pregnancy diagnosis in pigs.

7. DEPARTMENT OF VETERINARY PHARMACOLOGY & TOXICOLOGY

Sl.No.	Title of the Thesis	Name of the Student	Major Subject	Year of Completion	Outcome (2-3 lines)
1. Rat					
Veterinary Pharmacology & Toxicology					
Classification/Category: Ethnoveterinary medicine					
82.	Evaluation of Analgesic, Antiinflammatory and Antipyretic properties of *Eupatorium adenophorum* (Sticky Snake Root) in Rats	Bijargi Shriharsh Rameshwar	Pharmacology & Toxicology	2009	The ethanolic and aqueous extracts of *Eupatorium adenophorum* (Spreng) shows significant analgesic activity in different experimentally-induced pain and significant anti-inflammatory activity in carrageenan-induced rat paw edema model, cotton pellet induced granuloma test and appreciable activity in rats at 10 and 30 mg.kg-1; PO.
83.	Pharmacological studies on *Clerodendron colebrookianum* with special reference to its hypoglycemic and hypolipidemic activities in rats	Snigdha Hazarika	Pharmacology & Toxicology	2010	*Clerodendron colebrookianum* could cause significant dose dependent hypolipidemic effects and dose dependent reduction in blood glucose level with progressive increase in body weight, in hyperglycemic rats induced by alloxan treatment
84.	Studies on Wound Healing Potential of *Ageratum conyzoides*, *Gynura crepidioidesandEupatorium adenophorum* in Rats	Anwar Hussain Hazarika	Pharmacology & Toxicology	2011	The methanolic extract ointments of *Ageratum conyzoides*, *Gynura crepidioides* and *Eupatorium adenophorum* at 5 and 10 % (w/w) are effective for treating wound in rats
85.	Studies on Hepatoprotective effect of *Dendrocnide sinuata*, an indigenous perennial shrub	Binita Angom	Pharmacology & Toxicology	2011	The aqueous and methanolic extracts of roots of *Dendrocnide Sinuate* @ 100 mg.kg^{-1} body weight P.Oin CCl_4 induced hepatic damage of rats shows significant hepatoprotective effects when compared with standard drug.
86.	Pharmacological evaluation on Wound healing potential of	C. Lalchha	Pharmacology &	2011	The methanolic extracts of *Schima wallichii*, *Eupatorium odoratum* and *Mikania*

	Schima wallichii, Eupatorium odoratum and *Mikania micrantha* in rats	ndama	Toxicology		*micrantha* have low mammalian toxicity potential in rats and these plant extract exerted wound healing properties in different experimentally-inflicted wounds in rats
87.	Pharmacological evaluation of *Mikania micrantha* and *Centella asiatica* with special reference to antihyperglycemic effect in diabetic rats	H.Lalbiaksangi	Pharmacology & Toxicology	2011	The methanolic extract of Mikania micrantha and Centella asiatica are non-toxic to mice on single dose exposure at 2000 mg.kg-1 and exerted antihyperglycaemic and antihyperlipidemic effects in experimentally-induced Type-I (streptozotocin-induced diabetes) and Type-II (D-fructose-induced diabetes) diabetes in Wistar rats confirming the validity of use of these plants in traditional medicine for the treatment of diabetes in man. However, both the extracts did not exhibit significant hypoglycaemic property in glucose tolerance test in rats.
2. Rabbit					
Veterinary Pharmacology & Toxicology					
Classification/Category: Pharmacokinetics/Antimicrobials					
88.	Comparative Pharmacokinetics of Ofloxacin in uncastrated and castrated Rabbits	W. Ramdas Singh	Pharmacology & Toxicology	2010	Reduced clearance of ofloxacin after castration of adult rabbit indicates need for dose adjustment of ofloxacin in castrated rabbit
89.	Bioequivalence studies on three formulations of Ofloxacin in Rabbits	Gracia Lalchhamzuali	Pharmacology & Toxicology	2011	Pharmacokinetic disposition and bioequivalence evaluation of three ofloxacin oral solutions was carried out in healthy castrated male rabbits after oral administration and the pharmacokinetic data observed and generated shows that none of the three formulations of ofloxacin can be considered bioequivalent
3. Pig					
Veterinary Pharmacology & Toxicology					
Classification/Category: Pharmacokinetics					
90.	Studies on Pharmacokinetic disposition of Ceftriazone following single dose intravenous and intramuscular administration in Mizo Local Pig (Zovawk)	Dr. Lalrinpuia	Pharmacology & Toxicology	2012	Based on the pharmacokinetic behavior of ceftriaxone following a single IV and IM administration @ 20 $mg.kg^{-1}$, the calculated dosage regimen for IV is 17.5 $mg.kg^{-1}$and 16.5 $mg.kg^{-1}$and for IM, it is9.5 $mg.kg^{-1}$and 7.5 $mg.kg^{-1}$as loading and maintenance dose repeated at 8 h and 12 h intervals for IV and IM routes that will give a target plasma concentration (C_p) of 0.6 $\mu g.ml^{-1}$

8. DEPARTMENT OF ANIMAL NUTRITION

MVSc Programme				
Thematic research area:Utilization of locally available feeds and foddersfor livestock and poultry feeding				
Species: Swine				
Sl No.	Title of the thesis	Name of the student& Degree programme	Year of completion	Salient outcomes
91.	Effect of feeding chayote (*Sechium edule*) fruits and leaves on growth, nutrient utilization and carcass characteristics of indigenous breed of pigs	Dr. James Lalthansanga 2009-V-07(M)	2011	In the pig's diet, standard grower ration may be replaced up to 40% by chayote meal safely without any adverse effects on growth, feed conversion efficiency, nutrient utilization and carcass characteristics. It was also observed that replacement of concentrate mixture with chayote meal could be economic and profitable to pig farmers
92.	Effect on the growth performance, nutrient utilization and carcass characteristics of indigenus growing pigs by feeding diet containing sweet potato (*Ipomoea batatas*) meal	Dr. Suzanne Malsawmthangi 2009-V-06(M)	2011	Sweet potato meal (SPM)(leaf and root at 1:1 ratio) can replace standard pig grower ration up to 75% without any adverse effect on growth, feed conversion efficiency, nutrient utilization as well as carcass characteristics of the indigenous growing pigs. It was also concluded that replacement of concentrate mixture up to 75% with SPM could be economic and profitable to pig farmers.
93.	Performance of Local Growing Pig (Zovawk) Fed on Maize- replaced Wheat Bran and Rice Bran Based Diet	Dr. Y. MeryChanu 2012-V-11(M)	2014	Recommended to replace maize up to 60% with Wheat bran and Rice bran in pig's diet
94.	Performance of Growing Pigs (Large White Yorkshire) Fed Rations with Varying levels of Japan Hlo (*Mikania micrantha Kunth*) Meal as Protein Source.	Dr.EnethLalhuthangi 2013-V-04(M)	2015	Recommended to include up to 15% level as substitute of soyabean meal at an equivalent protein basis
95.	Effect of feeding rubber seed (*Hevea brasiliensis*) meal on growth, nutrient utilization & blood biochemical parameters in growing pigs.	Dr Diptanu Das 2018-V-06(M)	2020	Recommended to replace of maize up to 30% with overnight rubber seed meal (RSM) in pig's diet without any adverse effect on growth performance, nutrient utilization and blood biochemical parameters of growing pigs
Species : Poultry				
96.	Growth performance, nutrient utilization and carcass characteristics of	Dr. K. Lalrinsangi 2009-V-10(M)	2011	Cassava meal (root and leaf at 4: 1 ratio) up to 30% can be used in broiler ration by replacing maize without causing any adverse effect on the

	broilers fed diet containing cassava meal as a substitute of maize			performance of the birds.
97.	Study on the performance of broiler chicken fed on partially Maize replaced diet with Palm oil (*Elaeisguineensis*) sludge	Dr. KekiepeuNza 2015-V-05(M)	2017	Palm oil (*Elaeisguineensis*) sludge can be included up to 20% level as replacement of maize in broiler ration
Thematic research area: Mineral mapping of NE states and preparation of Area Specific Mineral mixtures for livestock				
Species: Cattle and swine				
98.	Studies on mineral status of soil, plant-animal system for augmenting livestock productivity in Aizawl District of Mizoram	Dr.Pawar Shivaji Pandurang	2009	Major (Ca & P) and Micro minerals(Cu, Fe, Zn , Co & Mn) are deficient in cattle
Thematicresearch area: Feed Processing & conservation of feeds and fodders				
Species : Poultry				
99.	Effect of fermented dried feed on growth performance, nutrient utilization and carcass characteristics of Broiler birds.	Dr.Vaisakh V.P. 2017-V-03(M)	2019	Fermented dried feed with*Bacillus subtilis* alone or in combination with avian specific *Lactobacillus spp*.can be fed to broiler chickens to improve the performance and fermented dried feed has the potential to be used as alternative to antibiotic growth promoters in broiler birds
Thematic research area: Feed additives as an alternative to Antibiotic growth promoters for swine and poultry				
Species: Poultry				
100.	Effect of dietary supplementation or organic acids blend and garlic on performance of broiler birds	Dr. Jagadish Hazarika 2015-V-34(M)	2017	Supplementation of garlic (2%) and organic acid blend (0.5%) in the diet of broiler chickens recommended to improve feed conversion efficiency.
101.	Effect of plant extracts and essential oil blend as alternatives to antibiotic growth promoters on performance of broiler birds	Dr.PebamChandrima Devi 2016-V-04(M)	2018	Plant extract (*Mikania micrantha* &*Garcinia lanceaefolia*) and essential oil (Cinnamon &Ajawain) supplementation in the diet of broiler birds showed significantly higher body weight gain in broiler.
102.	Effect of dietary supplementation of probiotic and aloe vera on performance of broiler birds	Dr.Sagarika Barman 2016-V-05(M)	2018	Probiotic along with Aloe vera have the potential to be used as AGP
103.	Effect of dietary supplementation of Chicory root powder (Cichorium Intybus) and Probiotic on the growth performance, nutrient utilization and carcass	Dr David Lalthlamuana 2017-V-04(M)	2019	Chicory root powder (1%) and avian specific Lactobacillus spp supplementation in the diet of broiler birds showed significantly higher ($P<0.01$) body weight change as compared to control group and highest was observed in chicory root powder supplemented group. Therefore,Chicory root powder and avian specific lactobacillus spp alone or in combination have the

	characteristics of broiler birds.			potential to be used as alternative to AGP
104.	Effect of *Moringa oleifera* leaf extract and clove bud oil as alternative to Antibiotic growth promoter on performance of broiler birds	Dr Juli Chakma 2018-V-04(M)	2020	Clove bud oil@0.6 g/kg of feed alone or in combination with Moringa leaf extract@ 0.55 g/kg of feed have the potential to be used as an alternative to Antibiotic growth promoters in the diet of broiler chickens
Thematic research areas: Ration balancing programme for livestock with supplementation of critical nutrients				
Species : Swine				
105.	A study on nutritional constraints and possibilities for augmentation of pig production in Mizoram	Dr. P.C. Lalsangzuala 2009-V-11(M)	2011	Rations which are generally offered to pigs by small-scale producers are usually unbalanced resulting in lower feed efficiency and hence increased input costs. These problems need to be solved by following scientific feeding practices in order to improve pig production and to increase the income of the poor. .
106.	Effect of Low Crude Protein Diets Supplemented with Synthetic Amino Acids on Performance of Growing Cross-Bred (Yorkshire and Zovawk) Pigs	Dr. Salem Lallawmawmi 2013-V-03(M)	2015	1.The reduction of dietary protein by 3% unit of NRC(1998) feeding standard in the diet of growing cross-bred (LWY x Zovawk) did not have any adverse effect on the performance, nutrient utilization and blood biochemical profile of the pigs. 2.Supplementation of limiting synthetic amino acids to the low crude protein diet of growing cross-bred (LWY x Zovawk) pig did not significantly improve the performance.
107.	Effect of Host Specific Probiotic (Bacillus spp.) and Chicory (Chicoriumintybus) Root Powder on Performance of Growing Pigs	Dr. Jayanta Banik	2021	Porcine specific *Bacillus subtilis* have the potential to be used as an alternative to AGP to improve the growth performance, antioxidant status and microbial status in growing pigs. However, Chicory root powder supplementation @1% in the diet of growing pigs did not show significant improvement in growth performance of growing pigs

9. DEPARTMENT OF ANIMAL REPRODUCTION, GYNAECOLOGY & OBSTETRICS

l. No.	Title of the thesis	Name of the student	Major Subject	Year of Completion	Outcome (2-3 lines)
Mithun					
108.	Periparturient behavioural, physical and haemato-biochemical characteristics in female Mithun (*Bos frontalis)*of Mizoram	Dr. Peter Malsawmtluanga 2011-V-15(M)	Animal Reproduction, Gynaecology & Obstetrics	2013	The prepartum behavioural and physical changes along with duration of parturition in female in female mithun of Mizoram were recorded. Mean duration for involution of uterus in female Mithun has been found to be quite similar with that of cattle and buffalo. A significantly lower level of serum calcium, serum magnesium, serum Potassium and serum Phosphorus were recorded in prepartum and post partum mithun cows
109.	Studies on characteristics and freezability of mithun semen collected through electro-ejaculator.	Dr. Saddamhusen M.N. 2018-V- 40 (M)	-Do-	2020	Mithun semen can be obtainedthoughelectroejaculationandcryopreservedsuccessfully usingOptiXcell®as diluent and acceptable levels of post-thaw motility, viable sperm and acrosomal intactness could be achieved. The cryopreserved semen could also be utilized to establish pregnancy in mithun cows through AI.
Yak					
110.	"Induction of oestrus and its effect on conception in acyclic female yaks (*Poephagus grunniens L.*)"	Dr. Aniyang Lego 2014-V-13 (M)	-Do-	2016	Induction of oestrus in acyclic female yaks during non-breeding season is possible. Ovarian pre stimulation prior to oestrus induction protocols yield better results in inducing oestrus. G6G treatment protocol gave better conception than the other two protocols in the present study.
Pig					
111.	Characteristics and preservation of semen of Mizo local pig *(Zovawk)* in liquid state	Dr. Lalhruaitlunga 2011-V-13(M)	-Do-	2014	The semen was collected successfully from Mizo local pig (Zovawk) and semen characteristics of were found to be comparable with that for other breeds of pig. Modena extender was found to be superior for preservation at 18˚C up to 72 hours.
112.	"Semen cryopreservation of indigenous pig *(Zovawk)* of Mizoram *"*	Dr. Anup Kumar Das 2012-V-13(M)	-Do-	2014	Lactose egg yolk Glycerol extender was found to maintain higher sperm motility, live sperm count, plasma membrane integrity and acrosomal integrity in

					Zovawk semen. Preservation in LEYG extender using 3 per cent glycerol found to be superior. Five hour of holding time for undiluted semen at 24ºC provides better result.
113.	Effect of Semen Packaging Materials and A.I. Catheters on Fertility of Sows	Dr. K. Lalchhanhima 2015-V-07 (M)	-Do-	2017	There was no significant effect of packaging material on sperm quality during preservation. Cochette was superior to plastic bottle for preservation of boar semen in term of litter size. Golden pig catheter is better than spiral catheter for artificial insemination (A.I) in terms of farrowing rate and litter size.
114.	"Effect of melatonin on quality of boar semen during liquid preservation"	Dr. M.S. Dawngliana 2015-V-06 (M)	-Do-	2017	Melatonin was found to have positive effect on sperm quality when added to GEPS extender for preservation of crossbred (75% Large White Yorkshire X 25% Zovawk) boar semen till 48 hours at 17ºC in comparison to BTS and KIEV. Storage temperature of 17ºC in BOD incubator was found to be superior over refrigeration temperature (5ºC) and room temperature(22 to 25ºC) in the presence of melatonin as semen additives for the preservation of crossbred boar semen till 48 hours.
115.	"Effect of Amides on Cryopreservation of Boar Semen".	Dr. John Rozarliana 2016-V-07 (M)	-Do-	2018	Methyl Formamide, Dimethyl Formamide and Dimethyl Acetamide could be used as a replacement of Glycerol for freezing of boar semen. 5% Dimethyl Formamide was found to be superior to 3 % and 7 % for freezing of boar semen. 6 hours holding time was found to be better than 2 and 4 hours holding times for freezing of boar semen.
116.	Studies on albumin separation of sperm to improve the quality of cross-bred boar semen	Dr. Dhanu Kumar Murasing 2018-V- 28 (M)	-Do-	2020	Semen quality of cross-bred (75% LWY x 25% Zovawk) boars was found to be better in 10% BSA as compared to 0%, 5% and 15% BSA in

					GEPS extender. Sperm quality of cross-bred boars was found to be better in bottom albumin column as compared to upper and middle columns with 10% BSA. Albumin column separation of cross-bred boars' sperm did not have any significant effect on fertility rate, litter size and sexratio.
Cattle					
117.	Effect of Antibiotic and Prostaglandin on Involution of Uterus in Crossbred Dairy Cows	Dr. Vanlalhriatpuia 2013-V- 05 (M)	-Do-	2016	Administration of antibiotic and $PGF_{2\alpha}$ either alone or in combination was effective on involution period of cervix and uterus during postpartum period in crossbred cows. It was found that neither antibiotic nor $PGF_{2\alpha}$ had shown any positive impact on the immunity. However, the combination of the two may improve the immunity of postpartum cows.
118.	"Effect of Ovsynch and Ovsynch based GnRH treatments on conception rate in repeat breeding crossbred cows"	Dr. Nekibuddin Ahmed 2013-V-06 (M)	-Do-	2015	Initiation of Ovsynch treatment on day six of the estrous cycle caused 100 per cent ovulation and resulted in accessory corpus luteum in repeat breeding crossbred cows. An additional GnRH on day six after the second GnRH of Ovsynch also resulted in accessory corpus luteum after TAI helped to overcome progesterone deficiency in repeat breeding crossbred cows.
119.	Assessment of Postpartum Health Status for Cyclicity andeffect of Ovsynch and G6G Protocol on conception rate in Crossbred Anestrus Cow	Dr. Dhrubajyoti Borpujari 2016-V-06 (M)	-Do-	2018	BCS $\geq$3.25 (on a scale of 5) at calving had a normal postpartum oestrus within two months and BCS $\leq$ 2.25 (on a scale of 5) at calving had a prolonged post partum anoestrus. There was positive relation between level of serum glucose, total protein, cholesterol, BUN, calcium, phosphorus and magnesium with postpartum cyclicity of the

					crossbred cows. The conception rate was higher in G6G protocol in comparison to ovsynch protocol in postpartum anoestrus crossbred cows.
120.	Studies of Reproductive Parameters in Local Female Cattle of Mizoram (Zobawng)	Dr. Sushmita Das 2018-V- 25 (M)	-Do-	2020	Different reproductive parameters in local female cattle of Mizoram (Zobawng) were found to be similar with other cattle breeds/crossbreds cows with little variation in terms of estrus period, exhibited signs of estrus and involution of uterus.
121.	Studies on sexual behaviour and semen characteristics of indigenous cattle of Mizoram.	Dr. Ashiho Kayina 2018-V- 26 (M)	-Do-	2020	Sexual behavior and semen characteristics of indigenous bulls of Mizoram was found to be similar with other breeds of bulls. Freezing of Mizo cattle bull semen can be carried out with satisfactory post thaw quality.
122.	Assessment of suitable protocols for fixed time A.I. *vis-à-vis* early pregnancy diagnosis on crossbred cattle	Dr. Utpal Boro 2018-V- 27 (M)	-Do-	2020	Main causes of post-partum anestrus in crossbred cattle were found to be ovulatory disturbance, uterine infection and silent estrus. Select-synch protocol was found to be better than G6G and co-synch protocols in response to conception rate.
Dog					
123.	Characteristics and preservation on Mongrel Dog Semen in Mizoram".	Dr. Amy Zorinkimi 2011-V-14(M)	-Do-	2014	The semen was successfully collected from mongrel dog of Mizoram and physical characteristics of semen were evaluated. TRIS was found to be superior extender preservation of mongrel dog semen at 5˚C for upto 72 hours.
124.	Application of colour Doppler ultrasonography for diagnosis of pregnancy in bitch (*canis familiaris*)"	Dr. Moon Moon Haji 2015-V-07 (M)	-Do-	2017	Pregnancy was detected as early as on day 14 with 25% accuracy and day 21 onwards with 100% accuracy after mating using transabdominal B-mode ultrasonography and on 21 and 28 days after mating using colour Doppler ultrasonography. The vaginal cytological examination was applicable for staging the

					reproductive cycle of the bitches but could not be used as a definitive diagnostic tool for detection of pregnancy in bitches.
125.	"An Approach to Predict the Date of Parturition in Canine"	Dr. Gisha Tresa Binny 2017-V- 38 (M)	-Do-	2019	Of the different methods of prediction of parturition used, measurements of the biparietal diameter was found to be the accurate predictor of parturition followed by the prediction of whelping based on day 1 of diestrus and prediction based on the gestational sac diameter respectively. Almost all the dogs in this study delivered within 16.13 ± 0.66 hours after the prepartum drop in serum progesterone levels indicating that estimations of prepartum drop in progesterone levels could be an accurate predictor of time of parturition in bitches.
Goats					
126.	Application of B-mode and colour Doppler ultrasonography in early pregnancy detection in doe (*capra hircus)*"	Dr. Ng. Saratchandra 2016-V-08 (M)	-Do-	2019	Pregnancy was detected as early as day 24 with 33.33 % accuracy and day 28 onwards 100% accuracy by using B-mode ultrasonography transabdominally. Gestational age of the fetus was calculated accurately using the ultrasonographic measurememnt the fetal crown-rump length (CRL). Ultrasonography was found to be a reliable method for early pregnancy diagnosis in does (*Capra hircus*).
Manipuri Pony					
127.	"Study on Certain Aspects of Reproduction in female Manipuri ponies (*Equus ferus caballus)"*	Dr. N. Linda 2017-V- 23 (M)	-Do-	2019	The different reproductive parameters of female Manipuri pony have been found to be similar with other breeds of horse with the exception of shorter gestation length and absence of winking of clitoris during oestrus. The assessment of different changes of the female genitalia were found be normal and the dimensions has been recorded on different days of estrous cycle.
YEAR JAN 2020-MAY 2022					

128.	"Incidence of Sub-clinical Endometritis in Crossbred Cattle and its Therapeutic Management with Tinospora cordifolia"	Dr Roland R. Songate,	-do-	2022	Cytobrush technique and Low Volume Lavage (LVL) technique was equally effective for diagnosis of Sub-Cclinical Endometritis. Tinospora cordifolia could be used as adjunct therapy for the treatment of subclinical endometritis.
129.	Effect of dried aloe vera (Aloe barbadensis miller) leaf powder on quality of boar semen"	Dr Athokpam Donin Luwang	-do-	2022	The quality of boar semen was deteriorated during 48 hours of preservation with GEPS extender along with 5% and 10% of dried Aloe vera leaf powder at 17˚C
130.	Efficacy of Mifepristone (Antiprogestin) for Therapeutic Management of Open Pyometra in Bitches	Dr Anurag Garg	-do-	2022	Treatment of open pyometra in bitches with Antiprogestin (mifepristone, 10 milligrams per kg orally was found to be effective therapy when used in combination with antibiotics (ceftriaxone and tazobactum) + Prostaglandin F2α s/c.

10. DEPARTMENT OF VETERINARY MEDICINE

Sl . No.	Title of the Thesis	Name of the Student	Major subject	Year of Completion	Out come
131.	"Therapeutic efficacy of *Azadirachta indica* (Neem) and *Ananas comosus* (Pineapple) leaves in experimental *Ascridia galli* infection in poultry"	Dr. Wallambok M. Lyngdoh Reg.No: CAU/08-V/08 (M)	Veterinary Medicine	2010	• The prevalence of ascariasis in poultry of Aizawl District is 5% • The efficacy of herbal Anthelminthes (Neem and Pineapple) were found to be encouraging result
132.	"Studies on various canine dermatoses in Mizoram and comparative efficacy status of Ivermectin with two lacally available plants (*Milletia pachycarpa* and *Linostomadecandrum*) against mange infestations"	Dr. Benjamin Lalduhawma	Veterinary Medicine	2010	• Topical Application of 20% of ointment of *Millettia pachycarpa* and 20% ointment of *Linostoma decandrum* showed better efficacy against sarcoptic mange in pig
133.	"A Study on sub clinical mastitis of cattle in Aizawl District of Mizoram"	Dr. Malsawmtluangi Ralte Reg.No: CAU/10-V/09 (M)	Veterinary Medicine	2011	• Prevalence of sub clinical mastitis in and around Aizawl District was 71% • Anti microbial susceptibility test should 100% susceptibility Cefoperazone and Sulbactum composition
134.	"A Study on the health status of dairy cattle based on metabolic profile test in and around Selesih, Aizawl District, Mizoram".	Dr. Karam Amarjit Singh Reg.No: CAU/12-V/09 (M)	Veterinary Medicine	2011	• Negative energy balance, lower calcium and phosphorus level occur in dairy cows during the periparturient period • Management condition of the dairy farms in Aizawl District was poor and unhygenic
135.	"Clinico-Biochemical and Therapeutic Studies of Ascites in Dogs".	Dr. C. Lalnunpuia Reg.No: CAU/168-V/05 (B)	Veterinary Medicine	2012	• Ascites was found 43.33% in dogs and 1 to 2 years old dog are mostly susceptible • The therapeutic regiments with furosemide tablet amino acid infusion, proteinex and dextrose 10% infusion should effective treatment of ascites in dogs
136.	"Studies on clinico-bilchemical profile of mineral deficiency status of Mithun (*Bos frontalis*) in Nagaland".	Dr. Neithono Kuotsu Reg.No: CAU/16-V/10 (M)	Veterinary Medicine	2013	• Mithuns were found to be highly deficient in cobalt followed by copper. • Iron level in serum of Mithun higher than normal

137.	"Scientific Validation of Potential ITK(S) against Gastro-Intestinal Ailments with Special Reference to Diarrhoea in Farm Animals of Manipur".	Dr. Lukram Narendra Singh Reg.No: CAU/31-V/11 (M)	Veterinary Medicine	2014	• The study showed that ITK(S) can be used successfully against Gastro-Intestinal Ailments in case of livestock.
138.	"Molecular Diagnosis of *Ehrlichiosis* in Dogs and Its Therapeutic Management".	Dr. Isaac B. Tungnunga Reg.No: CAU/39-V/13 (M)	Veterinary Medicine	2015	• Incidence of ehrlichiosis in dogs revealed 19.40% in and around Aizawl% during 2013-14. • Age wise predisposition revealed highest infection in 3-6 years age group. • *Crotalus Horridus* 200c was found to be an effective therapeutic measure and can be use as an alternative therapy against ehrlichiosis.
139.	"Prevalence and Clinico-Haematological Studies of Haemoprotozoan Diseases in Dairy Cows".	Dr. H.C. Joane Mary Reg.No: CAU/262-V/07 (B)	Veterinary Medicine	2015	• Overall prevalence of haemoprotozoan diseases in Mizoram was recorded 18**%** (27/150) during 2013-14. • Babesiosis was found to be the highest prevalence followed by theileriosis, anaplasmosis and mixed infection. • Combination therapy of Berenil and azithromycin was found to be more effective against babesiosis. • Combination therapy of Buparvaquone and oxytetracycline was found to be more effective against theleriosis.
140.	"A comparative Study on the Efficacy of Antibiotics Against Bovine Mastitis".	Dr. Miti Badu Reg.No: CAU/64-V/14 (M)	Veterinary Medicine	2016	• Prevalence of mastitis in and around Aizawl District was 72% • The highest incidence was found in cows in their third lactation and 6 to 8 years age group should higher prevalence. • The combination therapy of Cobactum 2.5% was found to be 100 % effective.
141.	"Evaluation of Anti-diarrheal effect of methanolic fruit pulp extract of *Aegle marmelos* (Bael) against piglet diarrhoea"	Dr. Santanu Ghorai Reg.No: CAU/53-V/15 (M)	Veterinary Medicine	2017	• Methanolic extract of fruit pulp of *A.marmelos* had antidiarrheal / anti-secretarial property. • The study also showed that the

					combination therapy of loperamide (0.1mg/kg BW) and methanolic extract of fruit pulp of *A. Marmelos*.(240 mg /kg.BW) was the best treatment. • Methanolic extract of fruit pulp of *A. Marmelos*.(240 mg /kg.BW) alone also showed better efficacy than standard therapy i.e loperamide. • Methanolic extract of fruit pulp of *A. Marmelos* should be used in place of loperamide in symptomatic cure of diarrhea
142.	"Clinico-therapeutic studies of Canine Distemper in dogs of Aizawl",	Dr. Tasso Yama Reg.No: CAU/409-V/10(B)	Veterinary Medicine	2017	• The incidence of Canine distemper was 1.11% in Aizawl municipal area of Mizoram. • The incidence of the canine distemper was high in young age group(0-6months) of dogs • The gastrointestinal form of canine distemper was more common (30%) compared to other forms of the disease.
143.	"Ultrasonographic Evaluation of Abdominal Disease Conditions in dogs"	Dr. Rebecca Lalmuanpuii Reg.No. CAU/450-V/11(B)	Veterinary Medicine	2018	• Ultrasonography is more accurate technique in diagnosing most of the disorders of the abdominal organs in dogs like liver cirrhosis, hepatitis, ascites, cholecystitis, cystitis, cystic calculi, splenomegaly etc. • Plain radiography is conclusive only limited instances like urolithiasis, hepatomegaly, etc. in manyinstances, they are complimentary to each other.
144.	"Molecular Diagnosis of Babesiosis in Dogs of Mizoram and its Therapeutic Management"	Dr. Chamniugon gliu Gonmei Reg.No. CAU/80-V/16(M)	Veterinary Medicine	2018	• Incidence of babesiosis in dogs revealed 1.25% during specified study period in • and around Aizawl. • *Babesia gibsoni* was the major causative agent of babesiosis in dogs of Mizoram. • Clindamycin (@ 11mg/kg B.W I/V ly daily for 10 days) was found to be effective therapeutic

					measures and can be used as an alternative of Diminazene aceturate against babesiosis.
145.	"Studies on Canine Atopic Dermatitis in Dogs and its Therapeutic Management"	Dr. Ningthoujam Suraj Singh Reg.No. CAU/79-V/16(M)	Veterinary Medicine	2018	• The incidence of canine etopic dermatitis was 3.27% • Canine IgE and canine interleukin-31 can be used as diagnosting markers for CAD • 10% *Tridex Procumbence* ointment can be used as adjunct therapy against CAD
146.	"Evaluation of Haemato-Biochemical and Oxidant Status in Dogs with Cardiac Arrhythmias"	Dr. Nirali Piyush Shah Reg.No. CAU/82-V/16(M)	Veterinary Medicine	2018	• Dogs of 12.03% were diagnosed for primary cardiac arrhythmias • Congestive heart failure was the most common diagnosis along followed by dialated cardio myopathy
147.	"Endoscopic Study on Chronic Vomition in Dogs"	Dr. Lalrintluanga Reg.No.CAU/393-V/10(B)	Veterinary Medicine	2018	• Endoscopic intervention was found to be a very good diagnostic tool for ascertaining the common causes of chronic vomition in dogs • Extensive rehydration therapy along with anti-emetic , antacids and other supportive therapy prove useful for amelioration of chronic vomition.
148.	"Etiolopathological Studies of Ascites in Dogs"	Dr. O. Kupmei Phom Reg.No. CAU/496-V/12(B)	Veterinary Medicine	2019	• Incidence of ascites in dogs revealed 1.91% cases in and around Aizawl during specified study period 2018-19. • Liver cirrhosis, Congestive heart failure, hepatitis and multi-organ dysfunction were the major causes of ascites in dog. • Imaging techniques viz. USG, ECG and Echocardiography examination were helpful for diagnosis of liver, cardiac, and other organ involvement in response to cause of ascites.
149.	"Studies on Dietary Cation Anion difference (DCAD) Concentration on Health	Dr. Arindam Bhowmik U-17-MZ-	Veterinary Medicine	2019	• Dietary Cation Anion Concentration (DCAD) concentration and incidence of

	Status of Dairy Cows with Special Reference to Milk Fever"	01-003-M-V-062			Milk Fever in pre-partum dairy cows in organized dairy cattle farms was found to be less than unorganized dairy cattle farms of West Tripura. • Anionic salt preparations (Ammonium Chloride and Calcium Sulphate @ 1:1) was found to have beneficial changes in haemato-biochemical parameters of experimental dairy cattle. • Pre-partum diet rich in anionic salt preparations (NH_4Cl @ 45gm and $CaS0_4$ @ 45 gm, orally, mix with feeds, twice daily from 3 weeks before parturition to day of parturition) were found to be effective in preventing occurrence of Milk Fever; most common metabolicdisease in dairy cows minimizing post-partum economic losses
150.	"Prevalence of Porcine Sarcoptic Mange Infectation in Tripura and Its Therapeutic Management"	Dr. Prasenjit Debnath U-17-MZ-01-003-M-V-061	Veterinary Medicine	2019	• The Prevalence of porcine sarcoptic mange infestation in Tripura was observed as 11.81% • Major etiological agent was diagnosed as Sarcoptic scabi ver suis. • Poly herbal ointment was found to be satisfactory result as compared with Ivermectin.
151.	"Evaluation of Metabolic Profile and Oxidant Status in FMD Infected Cattle and Its Management with Homeopathic Medicine"	Dr. Albert Debbarma U-17-MZ-01-003-M-V-170	Veterinary Medicine	2019	• The seroprevalence of FMD was 26% (130/500) in West dristic of Tripura during 2018-19 • LPO level was significantly higher whereas SOD was significantly decreased in infected cattle. • Homeopathic treatment with Merck sol 30 and Nitric acid 200@ 20 drops orally Once for 10days, Kalium iodatum 200C @ 20 drops orally twice a day for 5 days and Calendula

					mother tincture applied locally over the oral and foot lesions 2 times daily for 10days showed similar efficacy with standard therapy
152.	Prevalence of methiciilin resistant *Staphylococcus aureus* in canine dermal infection in Mizoram and its therapeutic management	Dr. Ankita Debnath	Veterinary Medicine	2021	i. Prevalence of methicillin resistant *Staphylococcus aureus* was found to be 22% in canine dermal infection in Mizoram • ii. Doxycycline showed maximum sensitivity
153.	Clinico-pathological study of immune mediated haemolytic anaemia associated with haemoparasitic infections in dogs and its therapeutic management	Dr. Elone Lucy	Veterinary Medicine	2021	i. Immune mediated haemolytic anaemia is noticed in haemoprotozoan and rickettsial diseases in dogs • ii. Immunosuppressive agents like prednisolone can be included as an adjunct therapy
154.	Therapeutic potential of N-acetylcysteine as an adjunct therapy against bovine theileriosis	Dr. Champak Deka	Veterinary Medicine	2022	i. Oxidative stress plays a vital role in haemolytic crisis caused by bovine theileriosis ii. N-acetylcysteine as an adjunct therapy ameliorates oxidative stress and reduces severity of anaemia induced by bovine theileriosis •
155.	Evaluation of anti-diarrhoeal properties of methanolic extract of *Pongamia glabra* and its therapeutic efficacy against clinical cases of piglet diarrhoea	Dr. Kaushik Poran Bordoloi	Veterinary Medicine	2022	i. The methanolic extract of *Pongamia glabra* has anti-diarrheal and anti-secretary properties • ii. Methanolic extract of *Pongamia glabra* can be used as an alternative to loperamide for symptomatic cure of piglet diarrhoea
156.	Therapeutic efficacy of *Lactobacillus bulgaricus*, zinc glycinate and oyster mushrooms as an adjunct therapy in piglet diarrhoea	Dr. Dilip Nama	Veterinary Medicine	2022	• Adjunct therapy of *Lactobacillus bulgaricus* and oyster mushrooms combination showed better result against piglet diarrhoea

11. DEPARTMENT OF VETERINARY MICROBIOLOGY

Sl No.	Title of Thesis	Name of the Student	Year of Completion	Outcome
Animal Species: Pig **Category: Surveillance and monitoring of diseases and antimicrobial resistance**				
157.	Studies on Prevalence of Virulence Genes of Shiga Toxigenic *Escherichia coli* (STEC) And Enteropathogenic *EscherichiaColi* (EPEC) in Piglets with and without Diarrhoea in Mizoram	Dr. Joy Lalmuanpuia Kataria	2009	• STEC and EPEC were detected in piglets of Mizoram. • Healthy pigs were found carrier of STEC and EPEC.
158.	Studies on Isolation, PCR Based Detection and Characterization of *Listeria monocytogenes* from Pig and Pork in Mizoram	Dr. Lalhruaitluangi Sailo	2009	• *Listeria monocytogenes* were detected in pigs of Mizoram. • *Listeria monocytogenes* was detected in fresh pork in Mizoram.
159.	Studies on detection and characterization of Shigatoxigenic *Escherichia coli* (STEC) and Enteropathogenic *Escherichia coli* (EPEC) associated with diarrhea in piglets and infants in Mizoram	Dr. Jubeda Begum	2011	• STEC and EPEC isolated from piglets and infants from the same households. • The EPEC isolates possessed potential zoonotic importance.
160.	Studies on detection and molecular characterization of *Pasteurella multocida* associated with progressive atrophic rhinitis in pigs in Mizoram	Dr. ZomuankimaVarte	2011	• Drug resistant *P. multocida* recovered from healthy pigs of Mizoram. • Non-toxigenic *P. multocida* were detected from pigs with progressive atrophic rhinitis in Mizoram.
161.	Seroprevalence and molecular diagnosis of classical swine fever in Mizoram	Dr. David Malsawmkima	2011	• Seroprevalence of CSF in Mizoram established. • The local isolates of CSF in Mizoram were characterized by molecular techniques.
162.	Detection of classical swine fever virus infection by PCR and ELISA	Dr. Abigail R. Pachuau	2011	• Prevalence of CSF in pigs of Mizoram was established by ELISA and PCR assays.
163.	Studies on detection and characterization of Extended Spectrum β-Lactamasses (ESBLs) with special reference to $bla_{CTX\text{-}M\text{-}1}$ and bla_{TEM} genes in *Escherichia coli, Salmonella* spp. and *Klebsiella pneumoniae* isolated from pigs and poultry in Mizoram.	Dr. H. Lalzampuia	2012	• ESBLs producing *E. coli, Salmonella* and *K. pneumonia* were detected in pigs of Mizoram. • MDR ESBLs producing *E. coli, Salmonella* and *K. pneumonia* commonly shared by pigs and poultry of Mizoram.
164.	Studies on detection and Characterization of Extended Spectrum Beta-Lactamases (ESBLS) with special reference to $bla_{TEM,}$ bla_{SHY}, $bla_{CTX\text{-}M}$ and bla_{CMY} genes in *Escherichia coli, Salmonella* spp. and *Klebsiella pneumoniae* isolated from pigs of Meghalaya and Assam	Dr. A. Lalruatdiki	2013	• Multiple ESBL genes carrying *Escherichia coli, Salmonella* spp. and *Klebsiella pneumonia* were detected in pigs of Meghalaya and Assam. • The organisms were multidrug resistant (MDR) type. • The organisms are potential zoonotic agent.

165.	Development of a Polyclonal Antibody Based Antigen-Capture Enzyme-Linked Immunosorbent Assay (ELISA) for Diagnosis of Group-A Rotaviral Diarrhoea in Piglets	Dr. G. Poulinlu	2016	• An antigen capture ELISA was developed for serodiagnosis of Group A Rotavirus in piglets. • Validation of the test is yet to be done.
166.	Studies on Antimicrobial Resistance and Biofilm Producing Properties of *Escherichia coli*, *Salmonella* spp., *Staphylococcus aureus* and *Pseudomonasaeruginosa* Isolated from Cattle, Pig and Poultry of Mizoram, India	Dr. Satyaki Chakraborty	2017	• Biofilm forming *Escherichia coli*, *Salmonella* spp. and *Pseudomonasaeruginosa* isolated from pigs of Mizoram. • Organisms were positive for multiple virulence, AMR and biofilm associated genes. • The organisms are potential zoonotic pathogens.
167.	Molecular detection of exfoliative toxin gene in *staphylococcus spp.* isolates from pigs with or without symptoms of greasy pig disease in Mizoram	Dr. Samrat Kalai	2017	• Documentation of exfoliative toxin producing Staphylococcus spp. greasy pig disease affected pigs.
168.	Molecular detection and characterization of *Porcine reproductive and respiratory syndrome virus* in samples from pigs in Mizoram	Dr. Zohlimpuia	2018	• Molecular characterization of *Porcine reproductive and respiratory syndrome virus 2* from Mizoram revealed that there is transboundary transmission of the disease taken place from 2013 onwards to Mizoram.
169.	Transboundary transmission of bacterial and viral pathogens through pigs in Mizoram	Dr. Lalremruata	2019	• Major bacterial pathogens including *Pasteurella*, *Haemophillus*, *Actinobacillus*, Mycoplasmas were detected in pigs illegally transported from Myanmar to Mizoram. • Major viral pathogens including CSF, PRRS, Rotaviruses were detected in pigs illegally transported from Myanmar to Mizoram. • Illegally transported animals carry pathogens with potential transboundary transmission ability.
Animal Species: Cattle **Category: Surveillance and monitoring of diseases and antimicrobial resistance**				
170.	Studies on Antimicrobial Resistance and Biofilm Producing Properties of *Escherichia coli*, *Salmonella* spp., *Staphylococcus aureus* and *Pseudomonasaeruginosa* Isolated from Cattle, Pig and Poultry of Mizoram, India	Dr. Satyaki Chakraborty	2017	• Biofilm forming *Staphylococcus aureus* isolated from cattle of Mizoram. • Organisms were positive for multiple virulence, AMR and biofilm associated genes. • The organisms are potential zoonotic pathogens.
Animal Species: Poultry and wild birds **Category: Surveillance and monitoring of diseases and antimicrobial resistance**				
171.	Studies on detection and characterization of Extended Spectrum β-Lactamasses (ESBLs) with special reference to $bla_{CTX\text{-}M\text{-}I}$ and bla_{TEM} genes in *Escherichia coli*, *Salmonella* spp. And	Dr. H. Lalzampuia	2012	• ESBLs producing *E. coli*, *Salmonella* and *K. pneumonia* were detected in pigs of Mizoram.

	Klebsiella pneumoniae isolated from pigs and poultry in Mizoram.			• MDR ESBLs producing *E. coli*, *Salmonella* and *K. pneumonia* commonly shared by pigs and poultry of Mizoram.
172.	Molecular detection and characterization of newcastle disease virus isolated from birds in Manipur and Mizoram	Dr. Sabitri Maibam [(admission no. 2014-V-06 (M)]	2016	• Virulent Newcastle disease virus could be isolated from diseases bird as well as from free ranged birds. • Isolates were phylogenetically belonged to Genotype XIII & II of NDV.
173. 174.	Studies on Antimicrobial Resistance and Biofilm Producing Properties of *Escherichia coli*, *Salmonella* spp., *Staphylococcus aureus* and *Pseudomonasaeruginosa* Isolated from Cattle, Pig and Poultry of Mizoram, India	Dr. Satyaki Chakraborty	2017	• Biofilm forming *Escherichia coli*, *Salmonella* spp. and *Pseudomonasaeruginosa* isolated from poultry of Mizoram. • Organisms were positive for multiple virulence, AMR and biofilm associated genes. • The organisms are potential zoonotic pathogens.
175.	Isolation and identification of gut bacteria of domestic chickens and wild birds of Mizoram, vis-à-vis detection of virulence and antimicrobial resistance repertoire genes of the bacterial isolates	Dr. H. Remsangzela	2019	• The gut microbiome of wild birds of Mizoram established. • Multidrug resistant gut bacteria in wild birds of Mizoram detected. • Wild birds may contract the multidrug resistant bacteria through environment or the domestic animals and human being.
Species: Human **Category: Surveillance and monitoring of diseases and antimicrobial resistance**				
176.	Studies on detection and characterization of Extended Spectrum β-Lactamasses (ESBLs) with special reference to $bla_{CTX\text{-}M\text{-}I}$ and bla_{SHY} genes in *Escherichia coli*, *Salmonella* spp. and *Klebsiella pneumoniae* isolated from humans in Mizoram	Dr. Iadarilin Warjri	2012	• ESBLs producing enteric bacteria were detected in human population of Mizoram. • Most of the isolates were potentially multidrug resistant. • The isolates could be transmitted from contaminated food and water sources.
177.	Studies on detection and characterization of Shigatoxigenic *Escherichia coli* (STEC) and Enteropathogenic *Escherichia coli* (EPEC) associated with diarrhea in piglets and infants in Mizoram	Dr. Jubeda Begum	2011	• STEC and EPEC isolated from piglets and infants from the same households. • The EPEC isolates possessed potential zoonotic importance.
Species: NA **Category: Alternative diagnostics, vaccines and therapeutics**				
178.	Exploration of natural Immunomodulators for overcoming Herpesvirus persistence using Marek's disease vaccine virus as a model administered *in ovo*.	Dr. Malsawmd awngkimi Colney	2018	• In ovo vaccination techniques for Mareks disease in poultry was standardized. • Application of plant extracts as immunomodulator improved the immunogenicity of the antigens.

179.	Isolation of *Betaarterivirus suid 2* prevalent in Mizoram and expression of gp5 gene in prokaryotic and eukaryotic systems	Dr. Fatema Akter	2020	• Recombinant immunogenic protein of *Betaarterivirus suid 2* local isolate could be purified and detected by standard antiserum.
180.	Studies on antimicrobial, antibiofilm and antiquorum sensing activities of the crude extracts of medicinal plants against *Escherichia coli*, *Salmonella* spp. and *Staphylococcus aureus*	Dr. Honeysmita Das	2021	• Crude extracts of potential medicinal plants of Mizoram were tested for antimicrobial activities against *Escherichia coli*, *Salmonella* spp. and *Staphylococcus aureus* with encouraging result. • Crude extracts of potential medicinal plants of Mizoram were tested for antibiofilm activities against *Escherichia coli* and *Staphylococcus aureus* with encouraging result. • Crude extracts of potential medicinal plants of Mizoram were tested for antiquorum sensing activity against *Escherichia coli*, *Salmonella* spp. and *Staphylococcus aureus* with encouraging result.
181.	Exploration of in-ovo vaccination in ducks against duck viral enteritis and aflatoxicosis by co-administering vaccine virus, aflatoxin-ovalbumin conjugate and novel organic immunomodulators.	Dr. Raj Sekhar Sarmah	2021	• A cocktail vaccine with duck viral hepatitis virus and aflatoxin B1 developed as *in ovo* vaccine for ducks. • Application of plant extracts as immunomodulator improved the duration of immunity by in vitro assays.
YEAR JAN 2020-MAY 2022				
182.	Studies on antimicrobial, antibiofilm and antiquorum sensing activities of the crude extracts of medicinal plants against *Escherichia coli*, *Salmonella* spp. and *Staphylococcus aureus*	Dr. Honeysmita Das	2021	• Crude extracts of potential medicinal plants of Mizoram were tested for antimicrobial activities against *Escherichia coli*, *Salmonella* spp. and *Staphylococcus aureus* with encouraging result. • Crude extracts of potential medicinal plants of Mizoram were tested for antibiofilm activities against *Escherichia coli*and*Staphylococcus aureus* with encouraging result. • Crude extracts of potential medicinal plants of Mizoram were tested for antiquorum sensing activity against *Escherichia coli*, *Salmonella* spp. and *Staphylococcus aureus* with encouraging result.
183.	Exploration of *in ovo* vaccination in ducks against duck viral enteritis and aflatoxicosis by co-administering vaccine virus, aflatoxin-ovalbumin	Dr. Raj Sekhar Sarmah	2021	• A cocktail vaccine with duck viral hepatitis virus and aflatoxin B1 developed as *in ovo* vaccine for

	conjugate and novel organic immunomodulators.			ducks. • Application of plant extracts as immunomodulator improved the duration of immunity by in vitro assays.
184.	Prokaryotic Expression of Recombinant Capsid Proteins of Foot and Mouth Disease Virus and Exploration of its Immunogenic Potentials in Pigs	Dr. Satyabrat Dutta	2021	• Development of virus like particle as an alternative candidate for development of vaccine against FMD virus.
185.	Development of polymerase spiral reaction (PSR) for specific detection of *Actinobacilluspleuropneumoniae* and application of the technique for diagnosis of contagious porcine pleuropneumonia	Dr. Richa Sarkar	2021	• First ever development of isothermal PSR for detection of *A. pleuropneumoniae*. • Development of a very rapid, sensitive, specific and cost effective diagnostic technology for field level diagnosis of the disease.

12. DEPARTMENT OF VETERINARY SURGERY & RADIOLOGY

Sl. No.	Title of the thesis	Name of the student	Major subject	Year of completion	Outcome
			DISCIPLINE: Veterinary Surgery and Radiology		
186.	Management of wounds and wounds infection in veterinary patients	***Dr. Thangzading a***	Veterinary Surgery & Radiology	**2008**	The number of wound cases is significantly more in canine than other species of animals in Aizawl city.Younger populations of animals i.e. less than 1 year of age are more prone to injury.Accidents are the most common cause of injury in all the species of animals.The methanolic extracts of *Mikania micrantha* and *Eupatorium odoratum* leaves, when used as ointment in paraffin base helped in wound healing by controlling or preventing inflammation, excessive exudation and infection.The results also suggest that the two herbs have antimicrobial properties.
187.	Pre-emptive use of analgesics in anaesthesia and pain management in pigs.	***Dr. Kalpana Deb Barma***	Veterinary Surgery & Radiology	**2009**	Xylazine better suited as pre-emptive analgesic in comparison to diazepam and midazolam to ketamine induced anaesthesia in pigs, when the drug was used intravenously. The intravenous xylazine-ketamine combinations can be used for general anaesthesia and pain management in clinical cases in pigs.
188.	Comparative evaluation of diazepam and midazolam as	***Dr. V. Lalzawmlian a***	Veterinary Surgery & Radiology	**2012**	Diazepam and midazolam were compatible as preanaesthetic to xylazine-ketamine and greatly enhanced the value of ketamine for balanced anaesthesia. Diazepam better suited for pre-anaesthetic

	preanaesthetic to xylazine and ketamine for balance anaesthesia in pigs				as compared to midazolam with xylazine-ketamine for balanced anaesthesia in pigs. Administration of diazepam-xylazine-ketamine provides the best balanced anaesthesia in pig.
189.	Evaluation of lignocaine, bupivacaine, ketamine and bupivacaine-ketamine combination of epidural anaesthesia in pigs.	***Dr. Vanlalchhandama***	Veterinary Surgery & Radiology	**2013**	Lignocaine, bupivacaine, ketamine and bupivacaine-ketamine can be used as epidural anaesthesia in pigs with minimal physiological, haematological and biochemical alterations. Regional analgesia in pigs can be obtained with epidural bupivacaine @0.8mg/kg, Ketamine @8mg/kg and bupivacaine-ketamine combination @0.4+4mg/kg. Ketamine have synergetic effect with bupivacaine when used epidurally and therefore, can be used in combination for surgical operations involving caudal to the umbilicus in pigs.
190.	Evaluation of propofol and its combination with preanaesthetics for total intravenous anaesthesia (TIVA) in cat.	***Dr. Ashimi Das***	Veterinary Surgery &Radiology	**2013**	Atropine sulphate, butorphanol tartrate and propofol combination provided longer duration of surgical anaesthesia and analgesia without any deleterious effect on the vital organs in cats. The anaesthetic combination may be recommended as safe and effective anaesthetic protocol for major surgical/ longer surgical procedures in cat.
191.	Studies of incidence and surgical management of canine neoplasm	***Dr. John Bezalaisa Khithie***	Veterinary Surgery & Radiology	**2014**	The incidence of neoplasm in dog was recorded in 76.47%. Highest incidence was observed in the age group of 6-9 years (41.02%), followed by 10-12 years (28.20%), 4-6 years (20.51) and least in the age groups of 0-3 years and 13-15 years which is 5.12%. The incidence in female was 64.1% and in male 35.9%. Highest incidence was recorded in mixed breeds (82.05%), followed by Alsatian (10.25%), Mongrel (5.12%) and least in Boxer (5.26%). The frequency of occurrence of canine tumour was highest in skin and subcuticle (13), mammary tumour (11), oral papilloma (11) and least in vaginal tumor (4). The highest incidence was recorded in papilloma (30.70%), lipomas (23.07%), fibroma (10.25%), adenoma (10.25%), Squamous cell carcinoma (7.69) and 2.56% in basal cell tumour, TVT, fibroma and fibrosarcoma.
192.	Wound healing potential of ***Bidens pilosa*** and ***Cassia tora*** leaves in rabbits.	***Dr. Daniel Kakki***	Veterinary Surgery & Radiology	**2014**	The methanolic extract of *Cassia tora* initiated faster wound healing than Povidone iodine and *Bidens pilosa* without any complications. Therefore, methanolic extract of Cassia *tora* can be a good alternative medicine for stimulating and improvement of wound healing in animals.
193.	Ventral hernia in pigs with special	***Dr. Nayan Bagawati***	Veterinary Surgery & Radiology	**2015**	The incidence rate of ventral hernia in pig in and around Aizawl district of Mizoram was found to be 5.05%. Higher incidence of ventral hernia was observed in

	reference to their surgical management using herniorrhaphy and hernioplasty techniques				female pigs. Age wise, the incidence rate was higher in the age group of 2-4 months. Post operative complication was found to be a responsible for high incidence of ventral hernia in female and in the age group of 2-4 months. Hernioplasty technique with the use of prosthetic mesh (polypropylene mesh) was found to be useful in large hernial ring size of the ventral hernia and reduce the recurrence rate. However, cost of the polypropylene mesh hernioplasty was found to be higher for repair of ventral hernia in pig.
194.	Studies on incidence and surgical management of canine bone fracture	***Dr. Andrew Lalremruata***	Veterinary Surgery & Radiology	**2016**	Incidence of canine bone fracture revealed 8.97 %, highest incidence was recorded in non-descript dogs, age group below 1 year and male dogs were predominantly affected. The most common etiological factor was the road traffic accident and fracture of femur bone had the highest incidence. Following immobilization of fractured bone moderate weight bearing was observed from 15 days and complete weight bearing without pain and bridging of fractured gap was observed from 45 days.
195.	Acepromazine and midazolam with butorphanol as preanaesthetics to propofol anaesthesia in pigs	***Dr. L. H. Lalrosanga***	Veterinary Surgery & Radiology	**2016**	Acepromazine and midazolam along with butorphanol were found to be effective as pre-anaesthetic to propofol anaesthesia in pig. Both the combinations of anaesthetic were found to be suitable for balanced anaesthesia in pigs. Recovery was smoother and shorter with midazolam butorphanol propofol combination.
196.	Evaluation of acepromazine and midazolam as preanaesthetics to ketamine in yak	***Dr. Tage Rina***	Veterinary Surgery & Radiology	**2016**	Acepromazine and midazolam were found to be safe and effective as pre-anaesthetic to ketamine anaesthesia in yak. The clinicophysiological, cardiopulmonary and haematobiochemical parameters remained within the physiological limit with both the combinations. Midazolam and ketamine combination produced shorter duration with shorter and smooth recovery. Acepromazine and ketamine combination produced longer duration of anaesthesia with moderate analgesia and longer recovery time.
197.	Continuous rate infusion (cri) of dexmedetomidine with isoflurane in dexmedetomidine-butorphanol premedicated dogs	***Dr. Mekha Chandran***	Veterinary Surgery & Radiology	**2017**	Combination of dexmedetomidine Continuous Rate Infusion (CRI) with isoflurane provided a practical and effective balanced anaesthesia in canines. Based on haemodynamic parameters and recovery characteristics, isoflurane with dexmedetomidine CRI @ 1µg/kg/hr and CRI @ 1.5 µg/kg/hr were ideal balanced anaesthetic regime in canines for prolonged and painful surgical procedures. Higher anaesthetic depth was observed in both the dexmedetomidine CRI groups.
198.	Risperidone-butorphanol as premedicants to	***Dr. Meme Cheda***	Veterinary Surgery & Radiology	**2017**	Risperidone with butorphanol was found to be an effective premedicant to propofol and isoflurane anaesthesia in dogs. Risperidone reduces total amount of

	propofol and isoflurane anaesthesia in dogs.				anesthetic drug for both induction and maintenance. Aggressive dogs were smoothly handled after risperidone premedication, will be a suitable drug for minor non invasive procedures in aggressive dogs. Risperidone along with butorphanol as premedicant to propofol and isoflurane anesthesia is a satisfactory anaesthetic regimen for major surgical procedure like laparotomy in dogs.
199.	Intralesional application of bone marrow derived mononuclear cells (BMMNCs) embedded with hydroxyapatite (HA) scaffold in canine long bone fracture management.	***Dr. Nengneikim Baite***	Veterinary Surgery & Radiology	**2018**	Good functional recovery of the fracture site was observed with bone marrow derived mononuclear cells (BMMNCs) loaded into hydroxyapatite. Radiographically, faster callus formation and fractured gap elimination was recorded with bone marrow derived mononuclear cells (BMMNCs) loaded into hydroxyapatite. Functional outcome was recorded excellent in the fractured bone where bone marrow derived mononuclear cells (BMMNCs) loaded into hydroxyapatite were applied.
200.	Comparison of ovariectomy by laparoscopic and conventional open methods in dogs	***Dr Sherin Shah S***	Veterinary Surgery & Radiology	**2018**	Both laparoscopic and conventional open ovariectomy could be implemented effectively for elective sterilization in dogs. Laparoscopic ovariectomy was observed with less pain, stress and post-operative complications as compared to conventional methods.
201.	Diagnosis and surgical management of pyometra in bitches	***Dr. Michael Lalhmangaihzuala***	Veterinary Surgery & Radiology	**2019**	The radiographic evaluation supported with physical and haemato-biochemical parameters were important tool for diagnosis of closed pyometra in canine. Ultrasonographic evaluation and Laparoscopic exploration supported with physical and haemato-biochemical parameters were prefer diagnostic aid in both closed and open pyometra. Both mid ventral and left flank approach of panhysterectomy could be implemented effectively for surgical treatment of pyometra in bitches. Mid ventral approach of panhysterectomy were observed preferable approach over Left flank approach.
202.	Comparison of right flank and caudal midline approaches for ovariectomy in gilts.	**Dr. Analisha Debbarma**	Veterinary Surgery & Radiology	**2019**	No clinical and haemato-biochemical alterations were observed in gilts undergoing conventional open ovariectomy (COVE) through caudal midline and right flank approach. Therefore, both right flank and caudal midline approaches could be implemented effectively for ovariectomy in gilts. Right flank approach for ovariectomy was found to be better in terms of operative timing, incisional length, pain, healing and ease of post-operative management over the caudal midline approach.

203.	Contrast enhanced ultrasonography (CEUS) for diagnosing urinary system disorders in canine	***Dr. Nirmali Sarma.***	Veterinary Surgery & Radiology	**2019**	Survey radiography and retrograde contrast radiography was indicative for lower urinary tract disorders in canine. Grey-scale ultrasound was applicable for upper urinary tract and urinary bladder and contrast enhanced ultrasonography was indicative for kidney disorders. The renal functional status can solely be obtained using contrast enhanced ultrasonography.
204.	Intraperitoneal Application of Honey and Pectin-Honey Hydrogel (phhs) for Preventing Postoperative Peritoneal Adhesion in Rabbits	***Dr. Chang L***	Veterinary Surgery & Radiology	**2019**	Honey and pectin-honey hydrogels (PHHs) were found to reduce the incidence of intraperitoneal adhesions in rabbits. Pectin-honey hydrogels (PHHs) was found to be more effective than honey in preventing the intraperitoneal adhesions.
205.	Evaluation of propofol, ketofol and etomidate as induction agent in dogs premedicated with glycopyrrolate and maintained with isoflurane anaesthesia.	***Dr. Rahul Paul***	Veterinary Surgery & Radiology	**2019**	Ketofol is better induction agent than propofol and etomidate. Ketofol was better induction agent in glycopyrrolate premedicated dogs maintained under isoflurane anaesthesia.
206.	Pre-emptive analgesia with tramadol, pentazocine lactate and meloxicam in pain management of canine ovariohysterectomy	***Dr. Chaithra S N***	Veterinary Surgery & Radiology	**2020**	Tramadol, pentazocine lactate and meloxicam caused minimal alterations in physiological and haematological parameters. Tramadol was found to be more effective as pre-emptive analgesic than pentazocine lactate and meloxicam in pain management of canine ovariohysterectomy.
207.	Total intravenous anaesthesia (TIVA) with propofol and ketofol in glycopyrrolate and	***Dr. Thangjam Reena Devi***	Veterinary Surgery & Radiology	**2020**	Ketofol produced better total intravenous anaesthesia (TIVA) than propofol in pigs premedicated with glycopyrrolate and dexmedetomidine for performing surgical procedures in pig.

	dexmedetomidine premedicated pigs				
208.	Lumbosacral Myelography with or without Ultrasound-guidance to detect Spinal Cord Abnormalities in Canines and their Management with Special Reference to Physiotherapy.	***Dr. Champak Jyoti Das***	Veterinary Surgery & Radiology	**2021**	Ultrasound guided myelography significantly reduces the time required for subarachnoid puncture and causes less tissue trauma than conventional technique. Physiotherapy is an effective treatment in acute and sub acute spinal cord injuries rather than in chronic cases.
209.	Epidural Analgesia using Dexmedetomidine with or without Lidocaine and Ropivacaine for elective Ovariohysterectomy in Dogs.	***Dr. H. Zorinpuii***	Veterinary Surgery & Radiology	**2021**	Epidural injection of dexmedetomidine, dexmedetomidine-ropivacaine and dexmedetomidine-lidocaine did not produced clinico-physiological and haematological changes in dogs undergoing elective ovariohysterectomy. On the basis of analgesia, motor blockade, anal sphincter relaxation and recovery time, dexmedetomidine-ropivacaine produced better epidural analgesia than dexmedetomidine alone and dexmedetomidine-lidocaine for elective ovariohysterectomy in canine.
210.	Lumbosacral Myelography with or without Ultrasound-Guidance to Detect Spinal Cord Abnormalities in Canines and Their Management with Special Reference to Physiotherapy	Dr. Champak Jyoti Das	Veterinary Surgery and Radiology	2021	Ultrasound guided myelography significantly reduces the time required for subarachnoid puncture and causes less tissue trauma than conventional technique. Physiotherapy is an effective treatment in acute and sub-acute spinal cord injuries rather than in chronic cases.
211.	Epidural Analgesia using Dexmedetomidine with or without Lidocaine and Ropivacaine for Elective	Dr. H. Zorinpuii	Veterinary Surgery and Radiology	2021	Epidural injection of dexmedetomidine, dexmedetomidine-ropivacaine and dexmedetomidine-lidocaine did not produce clinico-physiological and haematological changes in dogs undergo elective ovariohysterectomy. On the basis of analgesia, motor blockade, anal sphincter relaxation and recovery time, dexmedetomidine-ropivacaine produced better epidural analgesia than dexmedetomidine alone and

	Ovariohysterectomy in Dogs				dexmedetomidine-lidocaine for elective ovariohysterectomy in dogs.
212.	Comparative study of Midazolam, Dexmedetomidine and Butorphanol along with Ketamine Hydrochloride in Cats	Dr. Debajyoti Pal	Veterinary Surgery and Radiology	2021	Ketamine-midazolam showed better quality of induction and recovery, but induction time was more and peri-operative analgesia was minimal in compared to ketamine-dexmedetomidine and ketamine-dexmedetomidine-butorphanol. Ketamine-dexmedetomidine showed shorter induction time but longer duration of recumbency and recovery time as compared to ketamine-midazolam and ketamine-dexmedetomidine - butorphanol. Ketamine-dexmedetomidine – butorphanol showed shorter induction and recovery time; peri- operative and post-operative analgesia was adequate upto 1 hour than group ketamine-midazolam and ketamine-dexmedetomidine. Cardiopulmonary, haematological and bio-chemical values fluctuated within physiological range in all the three groups during the study period. Considering all aspects, combination of ketamine- dexmedetomidine-butorphanol showed better induction time; peri-operative and post- operative analgesia than the other combinations.
213.	Analgesic effect of Intraperitoneal Ropivacaine and Dexmedetomidine in Pigs.	Dr. Gokul Raj S.	Veterinary Surgery and Radiology	2021	Enhanced intraoperative and postoperative analgesia was observed following intraperitoneal infusion of ropivacaine and ropivacaine-dexmedetomidine combination in pigs. Clinical, cardio-respiratory and haemato-biochemical changes were within the physiological limit after intraperitoneal administration of the drugs. Ropivacaine-dexmedetomidine combination provided better postoperative analgesia than ropivacaine. However, ropivacaine-dexmedetomidine combination prolonged the recovery time.
214.	Evaluation of Wound Healing with *Colocasia esculenta* and *Dillenia indica* in Experimental Animal and its Therapeutic trial in Clinical Cases of Dog.	Dr. Palash Jyoti Sonowal	Veterinary Surgery and Radiology	2021	Herbal formulations of methanolic extract of C*olocasia esculenta* and *Dillenia indica* showed varying degrees of wound healing potential. Combination of 5% *Colocasia esculenta* and 5% *Dillenia indica* ointment was found to be almost similar effect with 5% Povidone iodine for wound healing. Combination of 5% *Colocasia esculenta* and 5% *Dillenia indica* ointment can be recommended for treatment of wounds. Combination ointment of 5% *Colocasia esculenta* and 5% *Dillenia indica* may be good alternative medicine for stimulating and improvement of wound healing.
215.	Analgesic Effects of Intraperitoneal Bupivacaine and Dexmedetomidi	Dr. Saurav Debnath	Veterinary Surgery and Radiology	2021	Intraperitoneal bupivacaine and bupivacaine-dexmedetomidine improved the intra-operative and post-operative analgesia in dogs during laparotomy. The clinical, cardio-respiratory and haemato-biochemical parameters remained within the physiological limit following intraperitoneal administration of bupivacaine

	ne in Dogs.				and bupivacaine-dexmedetomidine in dogs. Better post-operative analgesia was provided by bupivacaine-dexmedetomidine combination.

13. DEPARTMENT OF ANIMAL GENETICS & BREEDING

M.V.Sc.					
Sl. No.	**Title of the thesis**	**Name of the student**	**Major subject**	**Year of completion**	**Outcome (2-3 lines)**
1. POULTRY					
DISCIPLINE: Animal Genetics & Breeding					
CLASSIFICATION/CATEGORY: Phenotypic characterization					
216.	Phenotypic characterization of local chicken of Manipur in its home tract	Kshetrimayum Mahesh Singh	Animal Genetics & Breeding	2013	The local chicken of Manipur were of medium size birds with mixed plumage colour. They are poor egg producing type, with good mothering ability.
217.	Phenotypic characterisation of local chicken of Mizoram in its home tract	C. Lalhlimpuia	Animal Genetics & Breeding	2020	They are the small size birds with an average body weight of 1589.1 ± 312.2 g. The average clutch size, annual egg production, laying cycle and average egg set were 4.14 ± 0.09, 44.65 ± 0.40, 4 - 5 months and 10.29 ± 0.13, respectively.
CLASSIFICATION/CATEGORY: Identification of genes					
218.	Polymorphism of genes associated with Economic Traits in Native Chicken 'ZOAR' (*Gallus gallus domesticus*) of Mizoram	Princelina Bora	Animal Genetics & Breeding	2020	The result revealed the presence of genetic variability in the genes viz., NPY, IGF-1, PRL, MTNR1C and Mx genes associated with production traits suggesting the possibility of genetic selection for higher production performance
2. Pig					
DISCIPLINE: Animal Genetics & Breeding					
CLASSIFICATION/CATEGORY: Phenotypic characterization					
219.	Phenotypic characterization of Mizo Desi (Zovawk) pig in its home tract in Mizoram	Andrew Lalremruata	Animal Genetics & Breeding	2013	They predominantly has a compact and small body sized, convex head, short erect ears pointed upward, short and cylindrical snout, long bristles along the midline, but uniform on body, drooping rumps, short legs, long and straight tail, pot-bellied and swayback backline in adult, but straight belly and backline in young.
220.	Morphological characterization of indigenous (Zovawk) and its crosses with Large White Yorkshire under organised farm condition	Lisham Anandakumar Singh	Animal Genetics & Breeding	2016	Crossbred pigs were significantly superior in their body weights and body measurement traits in comparison to Zovawk pigs.

3. Cattle					
DISCIPLINE: Animal Genetics & Breeding					
CLASSIFICATION/CATEGORY: Phenotypic/ Molecular characterization					
221.	Phenotypic characterization of local cattle (*Bos indicus*) of Mizoram	Warngam Anal	Animal Genetics & Breeding	2015	The local cattle of Mizoram 'Zobawng' are small types of cattle with predominantly mixed colour (brown/dark brown). They are poor milk producer, mainly maintained for milk purpose.
222.	Phenotypic characterization of local cattle (*Bos indicus*) of Tripura, India	Surita Majumder	Animal Genetics & Breeding	2020	They are small sized type of cattle with predominantly brown coat colour. The average ages at first calving, milk yield per day, peak yield, lactation length, dry period and gestation period were 43.00±5.64 months, 1.40±0.15 litre, 2.01±0.52 litre, 220±20.81 days, 90±10.13 days and 280.01±5.26 days, respectively.
223.	Genetic characterization of native cattle of Manipur, Nagaland and Assam using DNA microsatellite markers	Timothy Lalmalsawma	Animal Genetics & Breeding	2017	The native cattle of Manipur and Assam were genetically more closer than native cattle of Nagaland.
224.	Genetic characterization of Meghalaya, Mizoram and Assam indigenous cattle using DNA microsatellite markers	Rebecca Lalkhawngaihsangi	Animal Genetics & Breeding	2017	The native cattle of Meghalaya and Assam were genetically more closer probably due to the mixing of genes when compared with that of native cattle of Mizoram.
CLASSIFICATION/CATEGORY: Identification of genes					
225.	DNA polymorphism in milk protein genes in local cattle of North-east India	Nakambam Manoranjan Singh	Animal Genetics & Breeding	2013	Frequency of kappa casein allele A (0.661) was higher than the B allele (0.339) in the native cattle of Assam, Manipur and Mizoram. The β –casein allele A (0.983) was predominant in the studied population.
226.	Genetic polymorphism of Toll like receptor 4 gene in indigenous cattle of North east India *vis-a-vis* crossbred cattle	Chukham Gohain	Animal Genetics & Breeding	2018	Genetic polymorphism of Toll-Like Receptor (TLR-4) genes associated with disease resistance were observed in the local cattle of Assam, Manipur and Mizoram.
227.	Polymorphism of genes associated	Lalhruaitluangi	Animal Genetics &	2018	The local cattle of 6 north east states viz. Assam, Manipur, Meghalaya,

	with production traits in local cattle of North east India *vis-a-vis* crossbred cattle		Breeding		Mizoram, Nagaland and Tripura showed presence of alleles of genes (PRL, PIT-1 and STAT-1) associated with milk production and quality traits.
228.	Polymorphism of genes associated with reproductive traits in local cattle of North East India vis-à-vis crossbred cattle	Keyolenu Yore	Animal Genetics & Breeding	2018	In bovine growth hormone gene, the frequency of A allele was predominant among indigenous cattle of NER. On the contrary, the frequency of T allele was predominant in crossbred cattle.
CLASSIFICATION/CATEGORY: Characterization of production performance					
229.	Regression tree analysis on lactation milk yield and forecasting of milk production in crossbred cows	Rohit Sharma	Animal Genetics & Breeding	2020	The results showed that lactation length (LL) as compared to lactation order (LO) and age of the animal (Age)affects significantly ($p<0.05$) to the milk yield.
4. Buffalo					
DISCIPLINE: Animal Genetics & Breeding					
CLASSIFICATION/CATEGORY: Identification of genes					
230.	Characterization of Toll-like receptor-4 (TLR-4) gene in Swamp buffalo of Manipur (*Bubalus bubalis*) of Manipur	Kaiho Kaisa	Animal Genetics & Breeding	2019	The study revealed presence of genetic polymorphism in Exon 3.5 of Toll-Like Receptor (TLR-4) gene associated with disease resistance in Swamp buffalo of Manipur.
231.	Genetic polymorphisms of reproductive and productive genes in swamp buffalo (*Bubalusbubalis*) of Assam and Manipur, India	Arindom Bora	Animal Genetics & Breeding	2020	Swamp buffalo of Assam and Manipur showed genetic polymorphisms in Fatty Acid Syntethase (FASN) and Melatonin receptor1A genes associated with milk quality and reproductive traits, respectively.
YEAR JAN 2020- MAY 2022					
232.	Effect of Estrogen Receptor Gene on Reproductive Performance in native pig 'Zovawk' of Mizoram and Marge White Yorkshire	Dr. Lishi Jernya	Animal Genetics & Breeding	2022	The genotype AB for ESR gene showed positive effects on litter size at birth and at weaning in Native pig 'Zovawk". Whereas, AA genotype was found to be superior to other genotypes on these traits in Large White Yorkshire pigs.
233.	Influence of growth	Dr. Ayesha	Animal	2022	The growth hormone gene (GH1

	hormone gene on growth performance of Zovawk and Large White Yorkshire Pigs	Chakma	Genetics & Breeding		locus) was found to be polymorphic in both Zovawk and Large White Yorkshire pigs.. In both the breeds, the genotypes AB and BB showed positive associations with superior body weights.
234.	Prediction of egg weight from Egg quality characteristics by using various Data mining algorithms for different breeds of Poultry	Dr. Arjun Allapat	Animal Genetics & Breeding	2021	The shell weight (SI) is the most influential predictor variable in the prediction of egg weight (EW) from the used set of predictors in White Leghorn, BPR Naadan breeds datasets.

14. DEPARTMENT OF VETERINARY PUBLIC HEALTH & EPIDEMIOLOGY

M.V.Sc.					
Sl. No.	**Title of the thesis**	**Name of the student**	**Major subject**	**Year of completion**	**Outcome (2-3 lines)**
235.	Studies on prevalence of virulence genes of Shiga toxigenic *E. coli* (STEC) and enteropathogenic *E. coli* (EPEC) in piglets with and without diarrhoea in Mizoram.	Joy Lalmuanpuia Kataria	Veterinary Public Health	2009	Out of 254 isolates of *E.coli* from piglets (0-3 months) with or without diarrhoea, 51 carried atleast one virulence gene(s) for *stx*$_1$, *stx*$_2$,*eae*A and *hly*A (STEC and EPEC). *saa* gene were also detected which was the first report from the country. A sizeable number of STEC and EPEC strains exhibited the resistance to more than one antimicrobial agents.
236.	Studies on isolation, PCR based detection and characterization of *Listeria monocytogenes* from pig and pork in Mizoram	Lalhruaitluangi Sailo	Veterinary Public Health	2009	*Listeria monocytogenes* was detected in 4% faecal samples from pig by PCR and they belonged to serovar ½ a as detected by multiplex PCR. Majority of the strains were multi-drug resistant.
237.	Studies on *Bacillus cereus* isolated from milk and meat based fast food in Mizoram and Molecular detection of its virulence genes	H. Lalruatfela	Veterinary Public Health	2016	*B. cereus* was detectedin24.87 % food samples comprising 17.80 % from milk based and 28.78 % from meat based fast food. The mean total viable count was 4.80 ± 0.2 (log_{10}) cfu/g from milk and 4.84 ± 0.02 (log_{10}) cfu/g from meat based food.. The mean presumptive *B. cereus from* milk and meat based food was 4.43 ± 0.2 (log_{10}) cfu/g). Biotype 3 and biotype 7 were the most prevalent from meat and milk based isolates. The *nheB* and*hblA* gene, were detected in the B. cereus isolates.The *B. cerus* were sensitive to vancomycin, ciprofloxacin , gentamicin and

					erythromycin and highly resistant to ampicillin, amoxicillin and penicillin-G.
238.	Bacteriological quality and molecular detection of virulence genes of *Escherichia coli* isolated from milk and meat based fast food in Mizoram	Laltlan mawii Hnamte	Veterinary Public Health	2016	Bacteriological analysis of milk and meat based food products showed the overall Total Viable Count of 4.82±0.01 log10 cfu/g and Coliform count of 4.57±0.01 log10 cfu/g. *E. coli* was detected in 22.43% from milk and meat based fast food. Nine different serotypes of *E. coli* were detected. The isolates were most resistant to cefazolin and most sensitive to imipenem. The $stx_2$and stx_1 could be detected in 4.34% *E. coli* strains and *eaeA* in 2.17% of the isolates.
239.	Studies on Bacteriological quality and PCR based detection of pathogenic *Escherichia coli* from retail meat in Mizoram	Mujesh Debbarma	Veterinary Public Health	2016	Beef (62.22%) and chicken meat (56.67%) samples from the retail markets of Mizoram were bacteriologically contaminated and had unacceptable level of TVC and ECC. Over all, high prevalence of *E. coli* was recorded in beef (83.33%) and chicken meat (80.00%). The highest recorded *E. coli* serotypes were O118 in beef (13.33%) and O8 in chicken meat (13.89%). Serotype O121 from chicken meat and O26 from both beef and chicken meat. All the *E. coli* strains were found to be 100% sensitive to imipenem and highest resistant to amoxicillin with multi drug resistant strains. The potentially pathogenic STEC and ETEC strains were detected in beef (8.00% and 12.00%) and chicken meat (6.94% and 26. 38%) samples.
240.	Assessment of bacteriological quality of water in and around Aizawl, Mizoram	Danima Ering	Veterinary Public Health &Epidemiology	2016	A total of 153 samples were found positive for coliform test from160 water samples from four different water sources (natural, meat market, farm and household water) in and around Aizawl. The highest coliform (100%) was found from meat market water and the lowest count (17.50%) in household water. A total of 89 isolates of *E. coli* and 8 isolates of *Salmonella* were isolated from water. The virulence genes *stx1*(1) and *LTA (1) from* natural water and meat market and *ST1 (2 each)* from meat market water and farm water were detected .None of the isolates were positive for stx_2. Highest resistance and sensitivity was shown against penicillin (100%) and chloramphenicol (100%) .
241.	Bacteriological quality of raw pork from Aizawl and Imphal	Malay	Veterinary Public	2017	Bacteriological quality of raw pork from Aizawl and Imphal showed mean TVC, CC

	with special reference to molecular characterization of *Salmonella* serovar.	Das	Health &Epidemiology		and FSC of 5.9985 ± .0254 log_{10}cfu/g, 5.2727 ± .0707 log_{10}cfu/g and 2.7794 ± .1219 log_{10}cfu/g. The overall *Salmonella* serovars were detected as 2.5%. *Salmonella enterica* serovar Virchow was recorded as predominant serotype (80%). The virulence genes *inv*A and *stn* genes showed 100% presence. Ofloxacin, norfloxacin, ciprofloxacin, imipenem and amikacin, reported to be 100% sensitive and highest resistant to ceftriaxone (80%).
242.	Role of pet dog in transmission of gastrointestinal zoonotic parasites with special reference to Giardiosis in Manipur.	Th.Leena Roy	Veterinary Public Health &Epidemiology	2017	Different gastro-intestinal zoonotic parasites (49.00% and 40%) were detected in pet dogs and human, respectievely from Manipur. *Toxocara sp*. was the most predominant nematode of dog faecal samples at 39.73%, whereas, in humans, *Ascaris sp*. was the most commonly found nematode at 43.33%. Molecular detection of giardiosis in human was reported.
243.	Epidemiological study of Cryptosporidium in Cattle and Human of Mizoram and Tripura	Prasenjit Das	Veterinary Public Health &Epidemiology	2017	The overall prevalence rates of *Cryptosporidium* were 13 percent and 16 percent in cattle and 5 percent and 7 percent in human from Aizawl and West Tripura district, respectively by detection of *18S S RNA* gene The PCR- RFLP revealed *C. parvum* genotype II in cattle and genotype I and genotype II in human.
244.	Studies on occurrence and molecular characterization of *Listeria monocytogenes* from faeces, milk and milk products of cattle from Mizoram and Tripura, India.	Papia Biswa	Veterinary Public Health &Epidemiology	2018	A total of 400 samples (cattle faeces, raw milk and milk products) i.e. 200 samples each from Aizawl district (Mizoram) and West Tripura district (Tripura). The overall prevalence of 7.50 percent. *L. monocytogenes* was detected by PCR from cattle faeces, raw milk and milk products in Aizawl district (Mizoram) and West Tripura district (Tripura). The strains were positive for *actA, iap, inlA, hlyA, plcA and prfA* gene,andbelonged to the serogroup IV (4b, 4d and 4e serotypes) and I. The sequence analysis of species specific *16Sr-RNA* gene of *Listeria monocytogenes* revealed 99.80-100 percent and 99.70-99.90 percent homology with *L. monocytogenes* reference sequences of India and China. The *L. monocytogenes* strains were 100 percent sensitive to Penicillin, Ampicillin, Oxacillin, Cefotaxime/Clavulanic acid, Ciprofloxacin, Tetracycline and Trimethoprim/Sulphamethoxazole and highest resistant to Erythromycin.

245.	Studies on occurrence and molecular detection of Salmonella from chicken sources of Mizoram, India.	H.Vanlalhruaii	Veterinary Public Health &Epidemiology	2019	A total of 50 *Salmonella* strains were presumptively isolated by conventional bacteriological methods from chicken sources (meat, internal organs,egg and cloacal swab). and 27 numbers of *Salmonella* isolates were confirmed by PCR detection of 16S-RNA gene.from the 400 different samples of chicken sources. The overall prevalence of *Salmonella* was 6.75%. All the 27 *Salmonella* isolates were serotyped as *Salmonella enterica* serovar Typhimurium. The *Salmonella* Typhimurium serovars were positive for *invA, stn, sefA, pefA and spvC* genes at variable rates. The virulence genes namely *stn, spvC* and *pefA* showed high percentage of homogenicity above 97% with other public sequences from different countries. The *Salmonella* Typhimurium isolates obtained showed sensitivity towards imipenem and highest resistance to tetracycline.
246.	Molecular detection of Enterotoxigenic *Staphylococcus aureus* from Milk and Milk Products from Aizawl, Mizoram.	Dipanjali Paul	Veterinary Public Health &Epidemiology	2021	Out of 300 samples of raw milk and milk products examined , 6.33% revealed *Staphylococcus* by conventional method and 23.33% strains were positive with species specific *nuc* gene . Overall prevalence of *S. aureus* enterotoxigenic genes was 37 (40.22%) in milk and milk products with raw milk (71.79%), rasmalai (17.65%), ice-cream (13.04%), paneer (14.28%) and pasteurized milk (33.33%). Highest Sensitivity was found in amoxyclav both in milk and milk whereas highest resistant(66.66 %)to ampicillin and muprirocin and in raw milk and penicillin and oxacillin were found with highest resistance (81.13%) in milk products. On culturing of 62 methicillin resistant strains of *S. aureus* in MeReSa agar, 7.60% strains were identified as MRSA and subsequently confirmed by detection of *mecA* gene (5.43%). Phylogenetic tree constructed with the sequences of *nuc*, *mecA* and *sea* revealed a 100% similarity to the all reference sequences available in the Gene Bank, NCBI.
247.	Molecular Detection of Enterotoxigenic *Staphylococcus aureus* from	Dr Dipanjali Paul	Veterinary Public Health &	2021	Out of 29 isolates 15 (7.5%) isolates showed presence of desired amplicon

	Milk and Milk products from Aizawl, Mizoram		Epidemiology		band on agar gel. These 15 (*B. cereus*) confirmed isolates and 14 (other *Bacillus* spp.) negative isolates were scrutinized further for presence of six virulence genes. The *B. cereus* isolates showed presence of virulence genes in descending order *nheB* 13 (86.6%), *hblD* 9 (60%), *nheA* 7(46.6%),*hblC*7(46.6%), *hblA* 0(0%), whereas other *Bacillus* spp. revealed presence of *nheB* 14(100%),*nheA*9 (64.2%), *hblD* 3 (21.4%), *hblC* 2(14.2%), *hblA* 1(7.1%) genes with absence of *ces* gene in both groups. All isolates were evaluated for resistance and susceptibility towards 18 antibiotics, *Bacillus cereus* isolates showed complete resistance towards penicillins, cefotaxime and ceftriaxone andresistance to ofloxacin (26.6%), tetracyclines (13.3%), amikacin and gentamicin (6.6%), while 100% susceptibility to imipenem, vancomycin, ciprofloxacin, chloramphenicol and erythromycin.
248.	Detection and Molecular characterization of Shiga toxigenic *Escherichia coli* and Enteropathogenic*Escherichia coli* from smoked pork(vawksa rep) sold in local market ofAizawl,Mizoram.	Dr.G.J Lallawmkimi	Veterinary Public Health & Epidemiology	2021	The overall prevalence rate is 30(15%)by conventional method where 23% and 7% of *E. coli* isolates were obtained during summer and winter season respectively, and 12.5%prevalence of *E.coli* isolateswere detected by PCR. Out of the total 25 *E.coli* detected,14 isolates were found to have atleast 1 virulence gene of which 10 (40%),1 (4%) and 3 (12%) were recorded as STEC ,EPEC and EHEC respectively. The distribution of STEC virulence genes stx_1 only, stx_2 only, stx_1 and stx_2 combined,stx_2 *and eaeA*combined,stx_2 *and hlyA*combined and stx_2, *eaeA and hlyA*combined were 2 (8%), 1 (4%), 2 (8%), 1 (4%), 2 (8%) and 2 (8%) respectively and only 1(4%) EPEC virulence genes *eaeA was detected* where the distribution of EHEC virulence genes *hly*A only and *eaeA and hlyA*combinedwere 2 (8%) and 1 (4%)

					respectively. The *E. coli*isolates were found to be highest sensitive to Imipenem (100%) followed by amoxyclav(92.85%), ceftriaxone (85.71%), chloramphenicol (78.57%), norfloxacin and nalidixic acid (71.42%) followed by ciprofloxacin (50%) and highest resistance to erythromycin and amoxicillin (100%), kanamycin (92.85%), tetracycline (85.71%), amikacin (71.42%) and gentamicin (42.85%).
249.	Detection of virulence genes of *Bacillus cereus* from fish and fish products sold at Aizawl, Mizoram	Dr. Arpita T. Naik,	Veterinary Public Health & Epidemiology	2021	Out of 29 isolates 15 (7.5%) isolates showed presence of desired amplicon band on agar gel. These 15 (*B. cereus*) confirmed isolates and 14 (other *Bacillus* spp.) negative isolates were scrutinized further for presence of six virulence genes. The *B. cereus* isolates showed presence of virulence genes in descending order *nheB* 13 (86.6%), *hblD* 9 (60%), *nheA* 7(46.6%),*hblC*7(46.6%), *hblA* 0(0%), whereas other *Bacillus* spp. revealed presence of *nheB* 14(100%),*nheA*9 (64.2%), *hblD* 3 (21.4%), *hblC* 2(14.2%), *hblA* 1(7.1%) genes with absence of *ces* gene in both groups. All isolates were evaluated for resistance and susceptibility towards 18 antibiotics, *Bacillus cereus* isolates showed complete resistance towards penicillins, cefotaxime and ceftriaxone andresistance to ofloxacin (26.6%), tetracyclines (13.3%), amikacin and gentamicin (6.6%), while 100% susceptibility to imipenem, vancomycin, ciprofloxacin, chloramphenicol and erythromycin. Other *Bacillus spp*. showed resistance to erythromycin (42.8%), ofloxacin (21.4%),gentamicin (7.1%), chloramphenicol (7.1%) and ciprofloxacin (7.1%) with 100% resistant to penicillins, cefotaxime and ceftriaxoneand100% sensitivity to imipenem, tetracyclines, amikacin, vancomycin.
250.	Detection of *Enterococcus*	Dr.F.C.	Veterinary	2021	Enterococci are opportunistic pathogens and

	with special reference to *Enterococcus faecalis* from different water sources in Aizawl district of Mizoram	Beihroki	Public Health & Epidemiology		commonly used as faecal indicator in an aquatic environment being natural inhabitants of the intestinal tracts of animals and humans. By PCR assay, *Enterococcus* was detected by targeting genus specific *tuf* gene and *Enterococcus faecalis* by species-specific *sod A* gene. The overall prevalence of *Enterococcus* was 56.78% and 42.14% *E. faecalis* in different water sources contributing to highest in river followed by spring, stream and run-off water while recreational pool water was free from *E. faecalis*. 83.90% and 10.85% E. faecalis strains were positive for *gel E* and *cylA.* The *E. faecalis* strains showed highest resistance to aminoglycosides (98.30%) class of antibiotic followed by quinolones (85.59%) and lowest in phenicol (1.69%) class and overall 22.03% *E. faecalis* strains showed MDR with highest from runoff water followed by spring, river and stream water.
251.	Detection and molecular characterization of *Staphylococcus aureus* isolated from nares of cattle and its handlers in Aizawl, Mizoram	Dr. Lalnunfela,	Veterinary Public Health and Epidemiology	2021	The overall prevalence rate of *Staphylococcus* enterotoxins was 13.12%, with 8.12% from cattle nares and 5% from cattle handler nares. All the positive isolates were resistant to multiple drugs such as oxacillin, ampicillin, cefoxitin , vancomycin etc. To the best of our knowledge, this may be possibly the first report/study of its kind in India
252.	Isolation of *Lactobacillus* from pork and traditional fermented pork products of Aizawl and detection of its probiotic characteristics	Dr. Kuldeep Kalita	Veterinary Public Health & Epidemiology	2022	The present study aimed to isolate and identify the *Lactobacillus* bacteria from Sa-Um, a traditional pork product and pig faeces in Aizawl district based on bacteriological culture and molecular detection and *in vitro* evaluation of its probiotic and safety characteristics. Preliminarily 4 *Lactobacillus* strains, 3 *Lactobacillus. plantarum* and 1 *Lactobacillus acidophilus* were detected with promising probiotic properties and *L. plantarum* SU 2 from Sa-Um was the most promising probiotic candidate. Sa-Um may be explored as a potential traditional animal origin food source of probiotics.

15. DEPARTMENT OF VETERINARY AND ANIMAL HUSBANDRY EXTENSION

Sl. No.	Topics of Research	Name of students	Major Subject	Year of Completion	Outcome	Thematic area
253.	Status of Dairy Farming in Mizoram: An Exploratory Study	Dr. Reuben Malsawmdawngliana	Veterinary and AH Extension	2015	The analysis of existing dairy farming practices revealed that the dairy farmers were maintaining their farms mostly on traditional way and heavily dependent on locally available inputs.	Sustainable livestock Farming
254.	Backyard Poultry Farming in Mizoram: An Exploratory Study	Dr. Francis LalrinmawiaSailo		2016	The analysis of existing backyard poultry farming practices revealed that the poultry farmers were maintaining their farms on traditional way on low input-output basis and dependent on locally available resources.	Sustainable poultry Farming
255.	A study on Self-help Groups engaged in pig rearing in Mizoram	Dr. Hmingthanzuala		2015	The analysis of SHG engaged in pig rearing revealed that economic factor played a major role as motivating factor for joining SHG, while lack of banking facility was the major factor hindering the functioning of SHG and lack of AI was the major problem in Pig farming.	Sustainable livestock Farming
256.	Information Needs of the Piggery Farmers of Aizawl District of Mizoram	Dr. (Ms.) Debbie Lalngaihawmi		2016	The analysis of information needs revealed that the pig farmers needed information on diseases and its symptoms, care of piglets, vaccination schedule etc.	Sustainable livestock Farming
257.	Status of Broiler Farming in Mizoram: An Exploratory Study	Dr. LalruatfelaSailo		2017	Among the improved broiler farming practices "concentrate feeding" was adopted most followed by "de-worming", "mineral mixture feeding", "vaccination" and "quality water feeding". Marketing was perceived by the respondents as the main constraint in broiler farming followed by costly feed, disease, lack of veterinary service and loss of feed by rodents.	Sustainable livestock Farming
258.	The Role of Rural Women in Household Food Security Activities in Mizoram	Dr. Dorothy Lalchhanhimi		2017	Women played a major and crucial role in food security activities and took the responsibility of rearing and management of livestock. Women were actively taking part in food security activities and rearing of livestock	Sustainable livestock Farming

					in the household.	
259.	A Study on Social Structure, Animal Husbandry and Livelihood in a Village of Mizoram	Dr. Lalhmunmawia		2017	It seems physical structure of the village played a role in livelihood and animal husbandry. Villagers were settled on an isolated hill top with poor transportation facilities. Livelihood opportunities were lacking during January-March.	Sustainable livestock Farming
260.	Navigation of Duck Farming System in Tripura	Dr. Supritam Das		2018	Most of the duck farmers reared Desi/Pati duck in low input-low output basis. There is no pragmatic approach in duck farming due to lack of awareness on scientific management among the farmers.	Sustainable livestock Farming
261.	Utilization of Information and Communication Technology (ICT)Tools by Krisihi Vigyan Kendra Functionaries in Mizoram	Dr. Biswajit Chutia		2020	Thee ICTs were used by the KVK extension functionaries to disseminate information to the farmers and other stack holders. Inadequate infrastructure and less facility opportunities in ICTs hindered the utilization of ICTs to its full extent.	Information and Communication Technology (ICT) Application
262.	A Study on Animal Husbandry Practices of *Tenyivo* Pig Farmers of Nagaland	Dr. K. Joshua Kath		2019	Tenyi-vo rearing is still dominantly reared by female members of marginal household farmers, with medium income group family and reared pigs in confinement with low input on housing and feeding with locally available resources as a subsidiary source of income	Sustainable livestock Farming
263.	Critical Success Factors of Small Scale Piglet production in Mizoram	Dr. Zothanpuii		2020	The study found that various factors contribute to the success of small farmers were factors ranged from production to management and marketing practices. Results show that more successful farmers use production systems that are diverse, adopt measures to control cost, and use marketing strategies that seek the highest level of profit.	Sustainable livestock Farming
264.	Dairy Farming Practices amongst Cooperative Milk Producers in Aizawl District of Mizoram: An analysis.	Dr. Nancy Lalruatfeli		2020	The analysis of the study revealed that dairy farming practiced was still traditional with low adoption level in healthcare and percieved high feed cost as the most seriousconstraints. It also indicated that co-operative dairy farmers depended on dairy farming as their main source of occupation and majority did not receive training related to dairy farming. The average milk production per	Sustainable livestock Farming

					annum/per farmer was estimated to be around 4,900.54 litres.	
265.	Critical Success Factors of Small Scale Piglet production in Mizoram	Dr. Zothanpuii	Veterinary & Animal Husbandry Extension	2021	Eight (8) critical factors, namely, herd size factors, breeding factors, operational management factors, health and disease factors, socio-personal factors, economic factors, productive factors and communication factors had been identified as major critical factor that contributes success of small-scale pig farming in Mizoram	
266.	Dairy Farming Practices amongst Cooperative Milk Producers in Aizawl District of Mizoram: An analysis.	Dr. Nancy Lalruatfeli	Veterinary & Animal Husbandry Extension	2021	The dairy farming practices was still traditional with low adoption level in healthcare which indicates that they still need more awareness and training in that particular area. The farmers perceived high feed cost as the most significant constraints because of unavailability of raw materials and also cultivation of feed and fodder was not widely practised by the farmers.	
267.	Sustainability of Dairy Farms of Cooperative Members and Non-members in Tripura: A Comparative Analysis	Dr. Sumit Kumar Debnath	Veterinary & Animal Husbandry Extension	2021	In majority of the dairy farms of members (53.00 per cent), SDFI was found to be high (more than 0.82) level whereas majority of the non-members (47.00 percent) farms were found to be medium (0.56 to 0.82) level of SDFI. It may be concluded from the study that cooperative activities have a good impact to the members' socioeconomic well-being and their farm's long-term viability.	

16. DEPARTMENT OF VETERINARY ANATOMY & HISTOLOGY

M.V.Sc.					
Sl. No.	**Title of the Thesis**	**Name of the Student**	**Major Subject**	**Year of Completion**	**Outcome (2-3 lines)**
1. Pig					
Discipline: Veterinary Anatomy & Histology					
Classification/ Category					
268	Comparative light and electron microscopic studies on the skin of Zovawk and Large white	Dr. A. Lalramliana	Veterinary Anatomy and Histology	2016	Histological studies revealed aboundant apocrine tubular and sebaceous glands on the skin of Zovawk which were less numerous in Large White Yorkshire.

	Yorkshire pig				Myoepithelial cells surrounding the tubular glands ducts in the Zovawk were abundant compare to Large White Yorkshire. Hair follicles were aboundant in Zovawk as compared to Large White Yorkshire.
269	Gross Morphological, Light and Electron Microscopic Studies on the Liver and Pancreas of Zovawk	Dr. Swarup Debroy	Veterinary Anatomy and Histology	2017	The thick connective tissue septa divides the liver lobes into complete hexagonal liver lobules, stroma of which are filled with hepatocytes characterized by very dense lysosome bodies or lipofuscin granules in their cytoplasm which enhance the excretion properties of the liver. Two prominent cells types were observed in the Pancreatic Islets; higher number of cells with spherical shaped nucleus known as B cells present all over the Langerhans, comparatively lower number of cells with oval shaped nucleus present on the centre of the Islet, known as A cells. Numerous zymogen granules were present in the acinar cells of the pancreas of Zovawk.
270	Comparative Gross Morphological, Light And Electron Microscopic Studies On The Testes And Epididymis Of Zovawk And Large White Yorkshire Pig	Dr. Thokchom Shitarjit Singh	Veterinary Anatomy and Histology	2018	The study revealed that the long axis of the testis is oblique in direction in Zovawk while slightly horizontal in Large White Yorkshire. The micrometrical observation in record to thickness of testicular capsule, diameter and height of seminiferous tubules, number of spermatozoa, germ cells and leydig cells/mm2 were found to be higher in left testes as compared to right testes in both Zovawk and Large White Yorkshire.
271	Gross Morphological, Light and Electron Microscopic Studies on the Harderian gland of Zovawk.	Dr. Vanlalrozami	Veterinary Anatomy and Histology	2018	The study revealed that the Harderian gland was compound multilobular acinar gland. The gland was composed of stroma and parenchyma. The parenchyma divided into lobules consisting of abundant acinar cells and ducts. The Transmission Electron microscopic studies illustrated that the nuclei in all the secretory cells acini were large, spherical and basally located with visible nucleoli and considerable amount of heterochromatin.
Deer					
Discipline: Veterinary Anatomy & Histology					
Classification/ Category					
272	Comparative Morphological and Applied Anatomical	Dr. Keneisenuo	Veterinary Anatomy and	2020	The thesis on the morphology, morphometry and Applied Anatomy of Barking and Sambar deer may assist the

	Studies on the Head Region of Barking Deer (*Muntiacus muntjak*) and Sambar Deer (*Rusa unicolor*)		Histology		wildlife officials in identifying the skull bones and differentiating them from other domestic and wild small ruminants. The data obtained in the present study also provided baseline information on the clinically important parameters, which may serve as guidance while performing regional anesthesia of the head region in the above stated species.
YEAR JAN 2020-JUNE2022					
273	Light and Ultrastructural Studies on the Blood Cells of Local Cattle of Mizoram.	Dr. Rupan Sarkar	Veterinary Anatomy & Histology	2021	There is paucity of available literature regarding the cytomorphological, cytochemical, cytoenzymic and ultrastructural (scanning electron microscopic and transmission electron microscopic) studies of blood (cells) in indigenous cattle of Mizoram. Accordingly, this research work will may provide a novel approach for generating base line data to the future researchers who could work on the anatomical as well as diagnostic importance of blood samples in indigenous cattle of Mizoram.

B. THESIS DETAILS (Ph.D)

1. VETERINARY MICROBIOLOGY

Sl No.	Title of Thesis	Name of the Student	Year of Completion	Outcome
Animal Species: Pig **Category: Surveillance and monitoring of diseases and antimicrobial resistance**				
1.	Analysis of Multidrug Resistance genes in *Escherichiacoli* Isolates from Pigs of North-Eastern India	Dr. R. Mandakini Devi	2015	• Antimicrobial resistance profile of *E. coli* in pigs of entire NER India established. • Major ESBLs and non-ESBLs resistance associated genes in *E. coli* determined. • Antibiotic prescription pattern for resistant *E. coli* in animals developed.
2.	Detection and Molecular Characterization of Enteric Bacterial and Viral Pathogens of Piglets in North Eastern States (Manipur, Meghalaya, Mizoram and Nagaland) of India	Dr. Hosterson Kylla	2018	• *Picobirnavirus* first time reported in pigs associated with piglet diarrhoea. • Prevalence of Rotavirus in piglet diarrhoea established. • Association of virulent *E. coli* and *Salmonella* with diarrhoea in piglets established. • Two new serovars of Salmonella first time detected in India.
3.	Existence and transmission of	Dr.	201	• The drug resistant bacteria and their interaction

	antimicrobial resistance and virulence genes of *E. coli* between man, animal and environment in North Eastern States (Assam, Meghalaya, Manipur and Mizoram) of India	Lalhruaipuii	7	among human, animals and environment are established in NER states. • Metallo-betalactamase carrying *E. coli* detected in human subjects of NER states, which are transmissible to animals through water. • Multiple virulent and AMR genes carrying E. coli were detected in human, pigs, poultry, sheep, goat and cattle including the common water sources of NER states.
Animal Species: Cattle **Category: Surveillance and monitoring of diseases and antimicrobial resistance**				
4.	Existence and transmission of antimicrobial resistance and virulence genes of *E. coli* between man, animal and environment in North Eastern States (Assam, Meghalaya, Manipur and Mizoram) of India	Dr. Lalhruaipuii	2017	• The drug resistant bacteria and their interaction among human, animals and environment are established in NER states. • Metallo-betalactamase carrying *E. coli* detected in human subjects of NER states, which are transmissible to animals through water. • Multiple virulent and AMR genes carrying E. coli were detected in human, pigs, poultry, sheep, goat and cattle including the common water sources of NER states.
Animal Species: Poultry and wild birds **Category: Surveillance and monitoring of diseases and antimicrobial resistance**				
5.	Existence and transmission of antimicrobial resistance and virulence genes of *E. coli* between man, animal and environment in North Eastern States (Assam, Meghalaya, Manipur and Mizoram) of India	Dr. Lalhruaipuii	2017	• The drug resistant bacteria and their interaction among human, animals and environment are established in NER states. • Metallo-betalactamase carrying *E. coli* detected in human subjects of NER states, which are transmissible to animals through water. • Multiple virulent and AMR genes carrying E. coli were detected in human, pigs, poultry, sheep, goat and cattle including the common water sources of NER states.
Species: Human **Category: Surveillance and monitoring of diseases and antimicrobial resistance**				
6.	Molecular Characterization and Multiple Drug Resistance (MDR) patterns of Diarrheagenic *Escherichia coli* isolated from infants and children of Aizawl district, Mizoram	Dr. C. Karuppasamy	2018	• Diarrhoeagenic *E. coli* detected among the young children of Aizawl, Mizoram. • Multiple virulence associated gene were detected in the pathogenic isolates from young children. • Combination of virulence and AMR associated genes were detected in same isolates recovered from young children.
7.	Existence and transmission of antimicrobial resistance and virulence genes of *E.*	Dr. Lalhruaipuii	2017	• The drug resistant bacteria and their interaction among human, animals and environment are established in NER states. • Metallo-betalactamase carrying *E. coli* detected in

	coli between man, animal and environment in North Eastern States (Assam, Meghalaya, Manipur and Mizoram) of India			human subjects of NER states, which are transmissible to animals through water. • Multiple virulent and AMR genes carrying *E. coli* were detected in human, pigs, poultry, sheep, goat and cattle including the common water sources of NER states.

2. ANIMAL NUTRITION

PhD programme				
Thematic research area :Mineral mapping of NE states and preparation of Area Specific Mineral mixtures for livestock				
Species: Cattle				
Sl No.	**Title of the thesis**	**Name of the student**	**Year of completion**	**Salient outcomes**
8.	Studies on Soil-Plant-Animal Interrelationship in Relation to Macro and Micro Mineral status and effect of formulated area specific mineral mixture supplementation on production performance of Dairy Cattle in Mizoram.	Dr. Suzanne Malsawmthangi 2012-V-01(D)	2017	1.Dairy cattle of Mizoram were deficient in most of the macro & micro minerals especially Ca, P and Co. 2. Area specific mineral mixtures prepared for dairy cattle in Mizoram. 2.Formulated ASMM supplementation to dairy cows increased milk production by 21.14%
Thematic research area:Utilization of locally available feeds and foddersfor livestock and poultry feeding				
Species: Swine				
9. 2.	Effect of feeding palm oil (*Elaeisguineensis*) sludge as a partial replacement of maize on the performance of growing – finishing Pigs.	Dr.Temjennungsang 2015-V-01(D)	2018	The replacement of maize with palm oil sludge(POS) up to 30% in the concentrate diets did not show any adverse effect on the growth performance,haemato-biochemical profiles, nutrient utilization and carcass characteristics of growing-finishing pigs.Therefore, replacement of maize up to 30% with POS in the concentrate diets of growing-finishing pigs maybe recommended without any adverse affect on the performance and also to reduce the cost of pig production.

3. VETERINARY BIOCHEMISTRY

Ph.D.					
S.No.	**Title of the thesis**	**Name of the student**	**Major Subject**	**Year of completion**	**Outcome (2-3 lines)**
Pig					
DISCIPLINE: Veterinary Biochemistry					

Classification/Category: Early pregnancy diagnosis					
10.	Exploration of serum protein biomarkers for early pregnancy diagnosis in pigs	Dr. Ankan De	Veterinary Biochemistry	2019	First report on comparative serum protein profiling of different early pregnancy stages in pigs. 2. Identified a set of proteins which can be used as potential biomarkers for early pregnancy diagnosis in pigs and thereby facilitating more economic pig production.

4.DEPARTMENT: DEPARTMENT: VETERINARY ANATOMY & HISTOLOGY

Sl. No.	Title oh the thesis	Name of the students	Major Subject	Year of Completion	Outcome of the Research Works (2-3 lines)
11.	Anatomical Characterization, Elemental and Cytochrome B Gene Analysis in the Hair of the local cattle of Mizoram and Meghalaya: A Comparative Study	Dr. Swarup Debroy	Veterinary Anatomy & Histology	2021	1. Acicular tips with clavulated roots were observed in the hair of local cattle of Mizoram and Meghalaya. Ovoid bodies were only present in the hair of local cattle of Meghalaya. In cross section more oval shaped hairs were observed in local cattle of Meghalaya, whereas more round hairs were depicted in local cattle of Mizoram. 2. In local cattle of Mizoram, the medulla was thickest in the middle portion of the hair shaft, whereas thickest medulla was observed in the distal portion of the hair shaft in local cattle of Meghalaya. 3. The hair of the local cattle of Meghalaya had more serrated scales than local cattle of Mizoram. 4. The X/Y feret and scale count of local cattle of Meghalaya were significantly greater than those of local cattle of Mizoram. 5. Uranium and fluorine weight %

					were significantly higher in the hair of local cattle of West khasi and Aizawl districts, respectively. 6. Weight % of sulfur was very low in the hair of local cattle of all the eight districts under study. Based up on the hair morphological and morphometric differences in the final statement it can be said that, these two animals under study are not the same animal and also can be belonging two different breeds of cattle

5. Department: Veterinary Pathology

Sl. No.	Title oh the thesis	Name of the students	Major Subject	Year of Completion	Outcome of the Research Works (2-3 lines)
12. .	Studies on pathology and diagnosis of syndemic infection of porcine reproductive and trespiratory syndrome virus (PRRSV), Porcine Circo virus 2(PCV2) and classical swine fever virus(CSFV).	Dr. Amitava Paul	Veterinary Pathology	2022	1. The PRRSV, CSFV, PCV2 has been identified as important endemic viral aetiology in pig population of Mizoram. 2. ASFV epidemic was recorded in pig population of Mizoram in India. 3. Syndemic infection of PRRSV with CSFV and also with PCV2 has been detected and studied for the first time in pig population of Mizoram, India.

COLLEGE OF AGRICULTURAL ENGINEERING & POST HARVEST TECHNOLOGY, RANIPOOL, SIKKIM

M. Tech.					
S. No.	Title of the Thesis	Name of the student	Major Category	Year of Completion	Outcome
Discipline- Farm Machinery and Power Engineering					
1.	Design and Development of Mechanically Metered Self Propelled Rhizome Planter	Kshitij Adhikari	Farm Machinery and Power Engineering	2015	1. Belt-cup type positive metering system for rhizomes planting 2. Development of light weight mechanically metered self-propelled rhizome planter.
2.	Design and Development of Solar-Biomass Hybrid Dryer for Large Cardamom Drying	Vishnu Sankar. A.	Farm Machinery and Power Engineering	2017	The solar biomass hybrid dryer is suitable for small scale large cardamom farmers in rural areas of the countries. The solar-biomass hybrid dryer was capable of attaining a maximum temperature a maximum temperature of 66.6°C in solar mode and 70°C in the gasifier mode of operation. The large cardamom having an initial moisture content of 82.3% dried to a moisture content of 10% within 20 hours. The average solar

					collector efficiency of developed solar-biomass hybrid dryer for drying of large cardamom is 35.39%. The average gasifier efficiency and combustion efficiency of solar-biomass hybrid dryer for drying of large cardamom is 71.57% and 55.36% respectively. The solar-biomass hybrid dryer is able to reduce the drying time and increase the product quality in comparison to traditional bhatti and open sun drying.
3.	Optimization of Operating Parameters of rotavator for Soil tillage quality of medium textured Soil under Soil bin Condition	Philipo William Kulaya	Farm Machinery and Power Engineering	2019	Optimized operating parameters of different shaped rotavator blades for higher quality work with minimum energy requirement
4.	Development of Ergonomically Designed Pedal Operated Maize Sheller for Sikkim Women Workers	Vusa Manisha	Farm Machinery and Power Engineering	2019	Pedal operated maize sheller was developed & evaluated. The performance results indicated that average values of output capacity, shelling

					efficiency and cost of shelling at 3.82 ms^{-1}peripheral speed of cylinderwere recorded as 26.2 kgh^{1}, 87.3%, and ₹3.08 per kg respectively.The average output capacities for maize shelling using tubular maize sheller and traditional shelling were 10.6 and 7.7 kgh^{-1}respectively
5.	Design, Development and Performance Evaluation of Zero-till Planter Matching to Mini Tractor for Small Farm Mechanization	Lilesh Patel	Farm Machinery and Power Engineering	2020	1. Seed metering technology for mustard seed was developed 2. Machine is suitable for planting of mustard under zero till condition
6.	Design and development of buckwheat thresher for small farm mechanization	Mr. Maniyar Mohammad Sohail	Farm Machinery and Power Engineering	2021	• Engineering properties of buckwheat seed grown in Sikkim studied in relation to moisture content • Small buckwheat thresher was developed and tested • Number of publications: 2
7.	Development of Ergonomically	Mr. Rahul Nath	Farm Machinery	2021	• Engineering properties of

	Designed Cashew Nut Sheller		and Power Engineering		oven-roasted cashew nut were studied • Ergonomically Designed Cashew Nut Sheller was developed • Cost of developed machine was ₹14250 with increase in annual income of 2.2 times and 64.86% savings in labour requirement than traditional shelling of the cashew nuts. • Number of publication: 1
Discipline- Processing And Food Engineering					
8.	Standardization of Vacuum Drying Parameters for Drying Green and Red Cherry Pepper (Dalley)	Sajesh Chettri	Processing And Food Engineering	2017	•Process for production of green and red cherry pepper flakes through vacuum drying was standardized. •An optimum drying temperature of 60°C and thickness of 6 mm was recommended for producing good quality cherry pepper flakes
9.	Optimization of Vacuum Drying Parameters for Production of Ginger Powder from Gorubathane Variety of Sikkim	Thameridus B. Marak	Processing And Food Engineering	2017	a) Vacuum dried ginger powder at optimized condition (65°C and 3 mm thick) was observed to have better quality

					in terms of colour and maximum retention of gingerol and shogaol content as compared to hot air drying. b) Total cost for drying ginger slices using vacuum dryer and hot air dryer was found to be Rs. 146.5 and Rs. 37.2 per kg respectively of fresh ginger slices.
10.	Standardization of Process Technology for the Manufacture of Intermediate Moisture Foods from Chayote (Sechium edule)	Taynath Santosh Jagannath	Processing And Food Engineering	2019	a) The shelf life of sugar based Chayote Petha was found to be 60 days at refrigerated temperature and 15 days at room temperature based on acceptable sensory,physico-chemical and microbiological attributes. b) The shelf life of Honey based Chayote Petha was found to be 60 days at refrigerated temperature and 45 days at room temperature based on acceptable sensory,physico-chemical and microbiological attributes.
11.	Functional Design and Development of a Simple Batch Type Osmotic Dehydrator for Horticultural Crops	Jitson Achom	Processing And Food Engineering	2019	• One osmotic dehydrator was designed and developed for production of osmo-

					dried intermediate moisture foods • The capacity of the dehydrator was 20 kg/batch.
12.	Standardization of Process for Development of Composite Flour Based Multi-Grain Pasta	Vijay Shankar Kushwaha	Processing And Food Engineering	2019	1) Optimized functional composite flour from germinated grains like buckwheat, finger millet and paheli dal 2)Optimized process for composite flour based multi-grain pasta from flour of germinated grains
13.	Process Standardization for Extraction of Oligosaccharides from Rice bean	Mr. Bharat Bhushan	Processing and Food Engineering	2021	a) Process technology for extraction of oligosaccharides from rice beans
14.	Development of Foam Mat Vacuum Dried Pomelo Juice Powder	Ms. Sophia Chanu Warepam	Processing and Food Engineering	2022	a) Process technology for processing of Foam mat vacuum dried pomelo juice powder
15.	Design, Development and performance Evaluation of Large Cardamom Grader	Mr. Loukrakpam Yaiphaba Meetei	Processing and Food Engineering	2022	a) A large cardamom grader is developed for grading of large cardamom
Discipline- Soil and Water Engineering / Soil and Water Conservation Engineering					
16.	Development of Soil Moisture Balance Models and Estimation of Water Footprint of Major Crops in Sikkim	Deependra Rai	Soil and Water Engineering	2017	Developed a soil Moisture Balance Model for estimating irrigation requirement. Estimated water foot prints of large cardamom for enhancement of water use efficiency of Sikkim
17.	Temporal	Pema	Soil and	2017	The aridity indices

	Characteristics of Trends in Aridity Index in Northeast India in Perspective of Precipitation and Evapotranspiration	Tshering Lepcha	Water Engineering		were found to be varying from 0.28 to 0.88 (0.23 to 0.98) among all the selected five stations from NE India in post-monsoon (winter) seasons. It was found that rainfall followed by ETo and maximum temperature were the main causal parameters of the observed trends in annual aridity indices in the region.
18.	Effect of Multi-Column Sand Filter on the Turbidity and Escherichia Coli Count of Wastewater	Prem Ranjan	Soil and Water Engineering	2017	Patented matter. The desired quality water can be procured at any stage. The fabricated filter has the ability to remove turbidity and E. Coli bacteria from the sewage.
19.	Soil Aggregate Stability Variation in Himalayan Watershed of Sikkim	Prachi Yadav	Soil and Water Engineering	2019	• Developed pedotransfer function to estimate the Mean Weighted diameter (MWD) of Sikkim Soil from easily measurable soil properties. •MWD, an index of soil aggregate stability, is positively corelated with Organic carbon and clay content in the soil MWD is higher in forested land use than the agricultural land ue suggesting that the soils of forest are less susceptible to erosion
20.	Copula-based drought	P. Kanthavel	Soil and	2019	Drought events

	analysis in Selected Stations of North East India		Water Consevation Engineering		(Highest drought severity) based on SPI-1 (SPI-3) were found to be 89 (4.8 and 3.6) and 78 at Gangtok and Imphal, respectively. The 'OR' type (AND type) bivariate and trivariate return period analysis reveals that Imphal (Gangtok) is prone to droughts of moderate risks with higher frequencies (extreme risks with shorter frequencies).
21.	Geomorphometry based Prioritization of the Teesta River Basin in Sikkim using Remote Sensing Data	Sandeep Kumar	Soil and Water Conservation Engineering	2019	•RS data and GIS can be used to prioritize the watersheds of Sikkim for oil erosion control measure •Prioritized watersheds were determined for taking up soil erosion control measures in the sub watersheds of Teesta Basin in Sikkim •Five watersheds were found under very high priority and eighteen were found under high priority from erosion point of view.
22.	Spatio-temporal variations of pan coefficients in Northeast India	Ms. Mandru Srilakshmi	Soil and Water Conservation Engineering	2021	Pan-coefficient (Kpan) values in different time scales were obtained over different parts of NE India, i.e., 0.79 in March at Umiam and 0.978 in annual scale at Imphal. Both increasing and decreasing trends in

					Kpan were observed over different sites from NE India. Spatio-temporal maps of Kpan over northeast India were produced, that would be of great help to water planners.
23.	Estimation of Soil Erodibility of Watershed in Sikkim using Soil Parameter	Mr. A. Prakash	Soil and Water Conservation Engineering	2021	• Soil erodibility factor was estimated from soil properties which can be used for soil erosion estimation from Himalayan region • Soil organic carbon is one of the most important factor for decreasing the soil erodibility The Spatial distributed map of oil erodibility, TWI, SPI generated for Sikkim can be used for predicting soil erosion from Sikkim Watersheds
24.	Remote Sensing Based Drought Estimation for Sikkim	Ms. Gargi Sarma	Soil and Water Conservation Engineering	2021	• Spatio-temporal maps of Agricultural drought were generated for Sikkim which can be utilized for crop planning MODIS derived Agricultural Drought severity index showed the potential of RS based drought severity index application in Hill terrains
25.	Structural analysis and micro-climate modeling of naturally ventilated polyhouse at high-hilly area site	Mr. Alvin C. Lyngwa	Soil and Water Conservation Engineering	2022	Structural analysis of Naturally ventilated polyhouse at high-hilly area site in Sikkim was carried

	in Sikkim				out by using the Ansys (Mechanical) software. Different combinations of loads, such as, dead, live and wind, were tried to test the structural stability of the NVP under Sikkim condition. Micro-climate study of inside and outside data of temperature, relative humidity and solar radiation was also performed. • Two NVPs were constructed at Lying Chongrang village, Gangtok district based on the above analysis.
26.	Satellite remote sensing data based soil loss estimation in the Ranikhola watershed, Sikkim	Mr. Minkeng Tapak	Soil and Water Conservation Engineering	2022	• About 64 to 73% of the area in the Ranikhola watershed experiences extremely severe (>80 tonnes/ha-year) soil loss • All the four sub-watersheds in the Ranikhola watershed experience extremely severe soil loss • Maximum of the area in the sub-watershed-III experiences extremely severe erosion as compared to other sub-watersheds
Discipline: Renewable Energy Engineering					

27.	Experimental Investigation of Solar Photovoltaic Module with Indoor and Outdoor Conditions in Sikkim	Mr. Lalthlengliana	Renewable Energy Engineering	2022	1) Test setup Developed for testing performance of SPV module with changing solar insolation, temperature and tilt angle on the basis of indoor & outdoor conditions. 2) The Indoor efficiency of modules has ranged from 16-25.03 % for both series and parallel connections while for outdoor conditions efficiency ranged from 6.37-20.8%.
Discipline: Irrigation and Drainage Engineering					
28.	Assessment of Spatial and Temporal Variation of Rainfall in Meghalaya	Ms. Rikuthakani Phawa	Irrigation and Drainage Engineering	2022	The IMD gridded data on monthly basis can be used for water resources management study in Meghalaya.
Ph. D Theses					
Sl. No.	Title of thesis	Name of the student	Major Subject	Year of Completion	Outcome of research work
1.	Drought Mapping and Vulnerability Assessment in Tripura, Northeast India	Aribam Priya Mahanta Sharma	Soil and Water Conservation Engineering	2021	Drought (Meteorological) characteristics over Tripura (NE India) based on two drought indices, namely, standardized precipitation index (SPI) and standardized precipitation evapotranspiration index (SPEI) were obtained in different time scales. Remote sensing based drought indices were

					used to identify the agricultural drought events during 2001-2016 over Tripura. 14 different parameters were selected to identify the main drought causative parameters using the Analytical Hierarchy Process as well. SPI-3 based analysis revealed the highest drought severity of 17.18 that lasted for nine months. About 43 % (20%) of total area of Tripura was found to be moderately (severely) vulnerable to drought. Rainfall, ET and slope parameters were found to be the main causal drought parameters over Tripura as per the vulnerability assessment for Tripura. The study will assist the policy makers in drought preparedness and making appropriate drought strategies in the hilly state of the NE region.
2.	Development of Portable Air-Assisted Electrostatic Spraying System for Application of Biopesticides Suitable for Hill Farming	Solanke Krishna Rustumrao	Farm Machinery and Power Engineering	2022	• Portable Air-Assisted Electrostatic Spraying System for Application of Biopesticides was developed and evaluated in field successfully

					• Performance results indicated that droplet density had a direct relationship with the applied air velocity whereas it has an inverse relationship with both liquid flow rate and target distance. • Number of publications: 2

COLLEGE OF FISHERIES, LEMBUCHERRA, TRIPURA

M.F.Sc.

Sl. No.	Title of thesis	Name of the Student	Major Subject	Year of completion	Outcome
		Fish Pathology & Microbiology			
1.	Occurrence, distribution & Pathology of monogenetic gill parasite in *Labeo Rohita* (Hamilton)	Mr. Himadri Saha	Fish Pathology & Microbiology	2009	
2.	Effect of Withania somnifera root on hematological, biochemical and immunological parameters of Indian Major carp, *Labeo Rohita* (Hamilton)	Mr. Arun Sharma	Fish Pathology & Microbiology	2009	
3.	Effect if Dietary Vitamin C on health status of *Labeo Rohita*	Mr. Tandel Riteshkumar Shantilal	Fish Pathology & Microbiology	2009	
4.	Immunological, hematological and biochemical responses of epizootic ulcerative synderome (eus) affected *labeo bata* (Hamilton) in Tripura	Mr. Arunjyoti Baruah	Fish Pathology & Microbiology	2010	
		Fish Processing Technology			
5.	Assessment of microbiological and biochemical quality of *labeo rohita* (Hamilton) marketed at Agartala (Tripura)	Mr. Ranjit Bordoloi	Fish Processing Technology	2010	
6.	Effects of salt and storage temperature on the shelf life of shidal-a fermented fish product in Northeast India	Mr. Prasanta Mahanta	Fish Processing Technology	2011	
7.	Effects of process variables on the physico-chemical properties of fish based estruded snacks	Mr. Rajkumar Ratankumar Singh	Fish Processing Technology	2011	
8.	Assessment of shelf-life of silver carp (*hypophthalmicthys molitrix)* under chilled and frozen storage condition	Ms. Sampa Deb	Fish Processing Technol	2011	

			ogy		
9.	Influence of ice storage on raw materials for the production of quality sund-dried fish products	Mr. Kapil Debnath	Fish Processing Technology	2012	
10.	Shelf-life evaluation of frozen stored mince of *pangasius sp.* For product development	Ms. Sujata Debbarma	Fish Processing Technology	2012	
11.	Study of storage characteristics of packaged rohu (*labeo rohita, Hamilton, 1822)* fish steaks	Mr. Obeth Darngawn	Fish Processing Technology	2012	
12.	Assessment of microbiological and hugienic status of battala retail fish market, Agartala, Tripura	Mr. Arup Kumar Das	Fish Processing Technology	2012	
13.	Technology evaluation of 'phasa shidal', a salt-free fermented *setipinna phasa* (Hamilton, 1822)	Mr. Deepayan Roy	Fish Processing Technology	2013	
14.	Biochemical and storage charecteristics of fam raised and wild Indian butter catfish (*ompok bimaculatus*, Bloch 1794) in Tripura, India	Mr. Jag Pal	Fish Processing Technology	2013	
15.	Effect of gnger extract during low temperature storage of rohu (*labeo rohita*, Hamilton 1822) steaks	Mt. Satyendra Kumar Maurya	Fish Processing Technology	2013	
16.	Development and storage stability of restructured products from silver carp mince	Mr. Hemant Hari Tripathi	Fish Processing Technology	2013	
17.	Study and scale up of numsing – an ethnic poduct of the missing tribes of Northeast India	Mr. Rupak Kumar Taye	Fish Processing Technology	2013	
18.	Studies on the effect of frozen storage on quality related changes in tilapia (oreochromis niloticus) Technology muscle	Mr. Kanasi Subbaiah	Fish Processing	2014	

19.	Influence of different packaging methods on the shelf- life of cured fish products Technoloqy	Mr. Prabir Debbarma	Fish Processing	2014	
20.	Effect of plant extracts on the functional properties and refrigerated storage life of gel from thai pang as Technology*(pangasianodon hypophtha/mus)* surimi	Mr. Pradip Kumar Maurya	Fish Processing	2015	
21.	"Development of fish protein isolate enriched extruded snacks"	Ms. Anisha Kar	Fish Processing	2016	
22.	"Effects of bioactive phenolics from spices during frozen storage of emulsion sausage from pangasius Technology (oanqasianodon hypophthalmus)"	Ms. Priyanka Sahu	Fish Processing	2016	
23.	"Development of shelf stable fish paneer from low cost fish through retort pouch processing technology"	Mr. Sanja Y Kumar	Fish Processing	2016	
24.	Isolation and characterization of predominant bacteria associated with few fermented fish products of Technologynortheast india"	Mr. Shubham Gupta	Fish Processing	2016	
25.	"Studies on the Effect of Carrot *(Oaucus carota)* Concentrated Protein on Stability of Surimi during TechnologyFrozen Storage"	Mr. Sanjeev Sharma	Fish Processing	2017	
26.	"Develpment of Fish Protein Enriched Noodles" Technology	Ms. Hidangmayum Dhaneshwori Devi	Fish Processing	2017	
27.	"Optimization and Functional Characterization of Fish Processing 2017 Protein Hydrolysate from Freshwater Shark *(Wallago* Technology *attu)* Waste using Bromelain Enzyme"	Mr. Wangkheirakpam Romen Mangang	Fish Processing	2017	
28.	"Effect of Fruit Peel Extracts on Rohu *(Labeo rohita* Hamilton, 1822) Steaks during Refrigeration Storage"	Ms. Seema Netam	Fish Processing	2017	
29.	"Screening of Carps from Various Sources for Isolation and Molecular Characterization of *Escherichia coli* Technology	Mr. Siddhnath	Fish Processing	2017	

	(STEC and EPEC)"				
30.	"Optimization of Enzymatic Hydrolysis of Visceral Waste Proteins of Labeo rohita"	Ms. Upasana Mohanty	Fish Processing	2018	
31.	"Isolation, Purification and Characterization of Proteases from Fish Visceral Wastes"	Mr. Biswajit Mohanty	Fish Processing	2018	
32.	"Evaluation of Seasonal Variation in Physicochemical and Microbiological Quality of Selected Dried Fishes TechnologyAvailable in Tripura Market"	Ms. Rupali Das	Fish Processing	2018	
33.	Isolation and Characterization of Collagenolytic Proteases from Freshwater Fish Waste	Ms. Ankeeta Nayaki	Fish Processing Technology	2019	
34.	Effect of Multiple Freezing-Thawing Cycles on Quality of Indian Major Carps	Ms. Swapnarani Samantaray	Fish Processing Technology	2019	
35.	Effects of Tea Extracts on Nutritional Quality and Shelf Stability of Cookies Prepared from Fish during Storage	Mr. Bhabani Shankar Rout	Fish Processing Technology (FPT)	2021	1.Fish cookies with 8% fish meat powder were found to be the best based on sensory and other qualities. 2. 0.4% of green tea & black tea extracts (tea waste after first use) incorporated fish cookies effectively reduced degradation of protein & fat oxidation. 3. Antioxidant & antimicrobial activity of tea extracts were beneficial in maintaining keeping quality of the cookies for 3 months at ambient condition.
36.	Application of Protein and Non-Protein Edible Coatings for Oil Reduction Efficacy in Fried fish Fillets with Special Emphasis on Fish Proteins	Mr. Kumar Gaurav	Fish Processing Technology	2021	1.The results of the study deduced that fish fillets coated with both protein and nonprotein coatings could reduce

			(FPT)		the fat uptake after frying. 2. Among three protein coatings & three non-protein coatings, fish fillets coated with 15 % soy protein and 1 % CMC were shown to have the highest fat uptake reductions (57.78 % & 44.77 %) compared to fish fillets that remained uncoated (control).
37.	Effect of Drying Temperatures on the Quality and Storage Stability of Small Indegenous Species of Fish	Ms. Saumya Priyadarshini Panda	Fish Processing Technology (FPT)	2021	1. Effect of different drying temperatures on the quality and storage stability of the SIS of fish i.e., *A.mola*, *Mystus* sp and *Puntius* sp. was studied. The ideal temperature was found between 40-50°C
38.	Comparative Study of Quality Assessment of Kiln and Traditionally Made Smoked Fish of Manipur,India	Ms. Langlenbi Maibam	Fish Processing Technology (FPT)	2021	1.The kiln smoked fish (*A.mola* and *O.niloticus*) showed better quality compared to traditional smoked fish
Aquatic Animal Health					
39.	Vaccination potential of antigenic preparations from *aphanomyces invadans in catla catla (*Hamilton)	Mr. Dipangka Saikia	Aquatic Animal Health	2011	
40.	Effects of water borne iron on spawn and fry on Indian major carps in Tripura	Ms. Mitra Debnath	Aquatic Animal Health	2011	
41.	Immunoreactivity of *catla, catla catla* (Hamilton) sensitised with *edwardsiella tarda*	Ms. Thongam Bidya Devi	Aquatic Animal Health	2012	
42.	Effects of dietary rubber (*hevea brasiliensis*) seed meal on growth, haematolofical and biochemical indices of *labeo rohita* (Hamilton)	Mr. Biraj Bikash Sharma	Aquatic Animal Health	2012	

43.	Systematic and mucosal immune responses in *catla catla* (Hamilton) vaccinated with *edwardsiella tarda*	Mr. Khriezhato Nakhro	Aquatic Animal Health	2013	
44.	Effects of *bacillus amyloliquefaciens* as potential	Ms. Anushree Das	Aquatic Animal Health	2013	
45.	Evaluation of a dietary nutraceutical for mitigating acid stress in labeo roh!ta (hamilton) fingerlings	Ms. Sojitra Khushbuben Ratilal	Aquatic Animal Health	2014	
46.	Effects of dietary chitin and bacillus subtilis on immunity, disease resistance and growth of catla (cat/a cat/a)	Mr. Timothy Sangma	Aquatic Animal Health	2014	
47.	Effects of waterborne iron on patho-physiological responses of cirrhinus mrigala (hamilton) fingerlings"	Ms. Mavurapu Anusha	Aquatic Animal Health	2015	
48.	"Effects of ketoconazole on patho-physiological responses in labeo rohita (hamilton) fingerlings"	Mr. Asish Kumar	Aquatic Animal Health	2016	
49.	Thesis title has been corrected as per synopsis "effects of miconazole on patho-physiological responses in*/abeo rohita* (hamilton) fingerlings"	Ms. Mukta Singh	Aquatic Animal Health	2016	
50.	"Effects of mebendazole against gill monogenean in labeo rohita (hamilton) fingerlings"	Ms. Aurosh ree	Aquatic Animal Health	2016	
51.	"Effects of dietary supplementation of biofloc on immunity and disease resistance of rohu, labeo rohita(hamilton)	Mr. Biswanath Kheti	Aquatic Animal Health	2016	
52.	Dietary Effects of Heat-Killed Bacillus amyloliquefaciens on Immunity and Disease Resistance of Catla, Catla catla (Hamilton),	Mr. Sukham Tushiba Singh	Aquatic Animal Health	2016	
53.	"Efficacy of Bamboo (Melocanna baccifera (Roxburgh) Kurz, 1875) Extract in *Labeo rohita* (Hamilton, 1822)Fingerlings against Fungal infection under Low pHStress"	Md. Idrish Raja Khan	Aquatic Animal Health	2017	
54.	"Influence of Chitin on Immuno-biochemical Responses and Resistance of *Labeo rohita* (Hamilton) Infected with Gill Monoqeneans"	Mr. Rahul Kumar	Aquatic Animal Health	2017	

55.	"Kinetics of Systemic and Mucosal Immunity and Haematological Indices of *Catla catla* (Hamilton) Challenged with Gill Monogeneans"	Ms. Narinder Kaur	Aquatic Animal Health	2017	
56.	"Evaluation of Millettia pachycarpa (Benth.) Plant Extract as a Piscicide against Weed Fish"	Mr. Bhupendra Chouriya	Aquatic Animal Health	2018	
57.	"Effects of Anesthetic and Transportation Dose of Clove Oil and Tricaine Methanesu Ifonate (MS-222) on Physiological Responses of Rohu (Labeo ~ohita)"	Ms. Arambam Ashwini Devi	Aquatic Animal Health	2018	
58.	"Dietary Supplementation to Ameliorate the Effect of Waterborne Iron and Low pH Toxicity in Labeo rohita (Hamilton)"	Mr. C. Laltlanmawia	Aquatic Animal Health	2018	
59.	"Effects of Cordyceps militaris Spent Mushroom Substrate Based Nutraceutical Mixture on Labeo rohita (Hamilton, 1822) against Aeromonas hydrophilaInfection"	Ms. Wangkheimayum Malemnganbi Devi	Aquatic Animal Health	2019	
60.	"Effect of Feed Deprivation on Immuno-Hematological Responses and Resistance of Labeo rohita (Hamilton, 1822) during Induced Aeromonas hvdrophila Infection"	Mr. Surajkumar Irungbam	Aquatic Animal Health	2019	
61.	"Effect of Oxytetracycline on Labeo rohita (HAMIL TON, 1822) Infected with Aeromonas hydrophila"	Mr. Manu Mog	Aquatic Animal Health	2019	
62.	Identification and Characterization of Virulence Potential of *Aeromonas salmonicida.*	Subham Kumar Pradhan	Aquatic Animal Health	2021	*1.* The isolated strain from aquatic environment found to be *Aeromonas salmonicida* subsp. *salmonicida.* 2. It is pathogenic to Indian Major Carps. 3. Isolate displayed presence of multiple virulent genes i.e. *aerA, act, ast, alt, hlyA, lip, ela,* and

					fstA. 4. The antimicrobial susceptibility pattern showed that isolate is highly sensitive to quinolones group of antibiotics.
63.	Effect of Externally Applied Certain antimicrobial Agents on Haematologiacal, Immunological and Biochemical Parameters in Labeo rohita Fingerlings	Mr. Lukesh Kumar Banjare	Aquatic Animal Health (AAH)	2021	1. This study showed the effectiveness of antimicrobial agents against *A. hydrophila* in *L. rohita*. 2. The physiological responses of externally applied antimicrobial have shown immunomodulation in *L. rohita.* 3. $KMnO_4$ treatment give better protection to rohu against *A. hydrophila* infection. 4. Recommended dose of formalin and $KMnO_4$ was found to be 6.65 ppm and 0.289 ppm, respectively.
64.	Immunostimulatory Effect of Tea Leaf Extract on Labeo rohita Fingerlings Challenged with Aeromonas hydrophila	Mr. Sourabh Debbarma	Aquatic Animal Health (AAH)	2021	1. Green Tea Ethanolic extract showed best phytochemical and antioxidant properties. 2. GTEE boosted the immune system and conferred resistance against bacterial infection. 3. GTEE can be used as a potent immunostimulant and can be used as sustainable alternative

					prophylactic and therapeutic agents in aquaculture.
65.	Effect of Herbicide Glyphosate on Pathophysiogical Responses of Labeo rohita	Ms. Khaidem Rabina Chanu	Aquatic Animal Health (AAH)	2021	1. Herbicide glyphosate induces haematological and biochemical changes in fish. 2. Fish exposed to glyphosate shows more susceptibility to pathogens. 3. Histopathology of liver shows liver degeneration and other undesirable hepatic changes.
66.	Characterization of Virulence Potential of *Aeromonas veronii* and A. media	Ms. Rajashree Devi	Aquatic Animal Health (AAH)	2021	1. This study showed that both *A. veronii* and *A. media* were moderately virulent to *Labeo rohita* (the LD_{50} of *A. veronii* and *A. media* in *Labeo rohita* were $10^{6.8}$ and 10^{7} cells/fish respectively). 2. Both the isolates displayed phenotypic expressions of virulence factors and also had multiple virulence genes. 3. *A. veronii* was more pathogenic than *A. media* in experimental condition, as it expressed more virulence related factors. 4. The antimicrobial susceptibility pattern showed that both *A. veronii* and *A. media* is susceptible to

					aminoglycosides group of antibiotics.
			Aquaculture		
67.	Effect of differenct dietary lipid sources in the reproductive performance of guppy (*poecilia reticulata)*	Mr. Precious Stone Suting	2012	Aquaculture	
68.	Efficacy of un-boiled rice bran as supplementary feed ingredient on growth performance and digestibility in minor carp, *cirrhinus reba* (Hamilton, 1822)	Ms. Shilpishikha Gogoi	2012	Aquaculture	
69.	Studies on fish growth and feed utilization in an integrated *wolffia arrhizal (I)* – fish production system	Ms. Phanjoubam Lakshmi Chanu	2012	Aquaculture	
70.	Effect of *wolffia arrhiza (I.)* Inclusion on fish flesh quality & water quality in a semi intensive culture system	Ms. Sampa Baidya	2012	Aquaculture	
71.	Evaluation of probiotic potentiality of lactobacillus fermentum and micrococcus luteus on gowth, survival and phusiolofical response of labeo bata finderlings	Ms. Gangmei Ladimlu	2012	Aquaculture	
72.	Effect of different feeds on the growth, survival and reproductive performance of zebrafish, *danio rerio* (hamilton, 1822)	Mr. Jumli Karga	2013	Aquaculture	
73.	A comparative study on growth performance of common carp strains; (*cyprinus carpio var. Communis and cuyprinus carpio var. Haemotopterus)* as a candidate species under monoculture in Tripura	Mr. Kennedy Lamare	2013	Aquaculture	
74.	Comparative performance of migal, *cirrhinus mrigala* (Hamilton, 1822) and amur carp, *cyprinus carpio haematipterus* (martens, 1876) in carp polyculture system in Tripura	Mr. Hari Om Verma	2013	Aquaculture	
75.	Evaluation of wolffia meal as a local plant protein feed stuff for supplementary carp feed in NE region	Mr. Bhrigumani Dewan	2013	Aquaculture	
76.	Evaluation of extruded floating and sinking fish feeds supplemented with fresh wolffia arrhiza (I.) In semi-	Mr. Biswajyoti	2014	Aquaculture	

	intensive polyculture of carps	Bordoloi			
77.	Effect of processing methods on biochemical composition and utilization of taro corms for amur common carp, cvotinu: carpio	Ms. Arunima Deka	2014	Aquaculture	
78.	Evaluation of performance of silver barb, puntius gonionotus (bleeker) as an additional candidate species in polvculture of carps	Mr. Deisaulungbe Pame	2014	Aquaculture	
79.	Evaluation of dietary protein requirement of reba carp, cirrhinus reba (hamilton, 1822) fingerlings using semi-purified diet	Mr. Ajay Kumar Yadav	2015	Aquaculture	
80.	Evaluation of dietary *wo/ffia arrhiza* meal as a subsfitize of fish meal for pengba *(osteobrama be/angeri*,valenciennes)	Mr. Ahanthem Rawat	2015	Aquaculture	
81.	"Effect of dietary wolffia arrhiza and spirulina platensis on performance and pigmentation of botia Dario (hamilton, 1822)"	Ms. Silpika Gogoi	2016	Aquaculture	
82.	"Interactive effects of stocking density and dietary protein level on growth performance of amur commoncarp (cyprinus carpio) under semi-intensive culturesystem"	Ms. Man Kumari Subba	2016	Aquaculture	
83.	"Evaluation of tapioca tubers as local starch source in fish feed of osteobrama belangeri (valenciennes, 1844)	Mr.Manmohankumar	2016	Aquaculture	
84.	"Effects of larval and fry stocking density on growth performance of butter catfish, ompok bimaculatus (bloch,1794)"	Mr. Satyajit Das	2016	Aquaculture	
85.	"Standardisation of stocking density of spawn and fry of cirrhinus reba (hamilton, 1822) under semi-intensive culture system"	Mr. Naresh Raj Keer	2016	Aquaculture	
86.	Growth evaluation of giant freshwater prawn, macrobrachium rosenbergii (de man) in biofloc system using different carbohydrate sources	Ms. Lalremsangpuii	2016	Aquaculture	
87.	"Evaluation of Optimum Dietary Protein Level for Fingerling *Osteobrama belangeri* (Valenciennes, 1844) using Semi Purified Diet	Ms. Nahakpam Surjobala Devi	2017	Aquaculture	
88.	"Standardization of Stocking Density	Ms.	2017	Aquaculture	

	for Seed Rearing of *Osteobrama belangeri* (Valenciennes, 1844)"	Atiya Niyazi			
89.	"Evaluation of Mixed Feeding Schedule using Artificial Feed and Fresh *Wolffia arrhiza* for *Osteobrama belangeri* (Valenciennes, 1844)"	Mr. Atul Sinha	2017	Aquaculture	
90.	"Evaluation of Fresh *Wolffia arrhiza* (L.) as Replacement of Artificial Feed in Carp Polyculture System"	Mr. Nikhlesh Ghritlahre	2017	Aquaculture	
91.	"Evaluation of Different Feed Attractants on Seed Rearing Performance of *Ompok bimaculatus* (Bloch,1794)"	Ms. Priya Rawat	2017	Aquaculture	
92.	"Effect of Stocking Density on Growth Performance, Survival and Production of Pabda, Ompok bimaculatus(Bloch,1794)"	Mr. Alok Kumar Jena	2018	Aquaculture	
93.	"Effect of Ferti lization on Growth Performance, Biochemical Composition and Nutrient Uptake Efficiency of Wolffia globosa (L.)"	Mr. Manoj Kumar	2018	Aquaculture	
94.	"Evaluation of Performance of Select carps Under Semi-intensive Monoculture and Polyculture Systems"	Mr. Rajkumar Debarjeet Singh	2018	Aquaculture	
95.	"Effect of feeding select carp fry with live Wolffia globosa (L.) and formulated feed on survival and growth performance under semi-intensive rearingsystem"	Ms. Amrita Pradhan	2018	Aquaculture	
96.	"Effect of Photoperiod and Light Intensity on Egg Hatching and Larval Rearing Performance of Ompok bimaculatus (Bloch, 1794)"	Ms. Kalpana Arambam	2018	Aquaculture	
97.	Interactive Effects of Stocking Density and Water Depth on Growth Performance of pengba, Osteobrama belangeri (Valenciennes, 1844)	Ms. Purnapriya Suara	2019	Aquaculture	
98.	Evaluation of Semi-intensive Polyculture System of Pengba (Osteobrama belangeri) and Pabda (Ompok bimaculatus)	Mr. Ritesh Chandravanshi	2019	Aquaculture	

99.	Effect of Dietary L-tryptophan on Cannibalism, Growth and Survival of Ompok bimaculatus (Bloch, 1794) PostLarvae	Ms. Anamika Debnath	2019	Aquaculture	
100.	Effect of protein/lipid ratios in diets on growth, feed utilization and flesh quality of Ompok bimaculatus(Bloch,1794)	Mr. Rohit Kumar	2019	Aquaculture	
101.	Effect of dietary L-tryptophan on maturation and Gonadotropin-Releasing Hormone (GnRH) geneexpression in Silver barb, Barbonymus gonionotus (Bleeker, 1849)	Mr. Shubham Sahu	2019	Aquaculture	
102.	Effect of Protein/Lipid Ratios in Diets on Growth, Feed Utilization and Flesh Quality of Ompok bimaculatus (Bloch,1794)	Mr Rohit Kumar	2019	Aquaculture	
103.	Effect of Stocking Density on Overall Growth and Physiological Function of Ompok bimaculatus in Biofloc System	Ms. Snigdha Sucharita Majhi	2021	Aquaculture	1.Stocking density strongly influenced growth and health status of *O. bimaculatus* under biofloc system, and a stocking density of 0.5g L^{-1} is found optimum.
104.	Interactive Evaluation of Olive Barb (Systomus sarana) as Alternative to Rohu (Labeo rohita) and Mrigal (Cirrhinus mrigala) in Carp Polyculture System	Ms. Mutum Deepti	2021	Aquaculture	1.Replacement of mrigal with olive barb, an indigenous fish @ ratio of 1:2.6 (one mrigal replaced with 2.6 olive barb) significantly enhanced the net fish yield (ca. 45%) without impacting the feed utilization

					efficiency.
105.	Comparative Efficacy of Selected Gonadal Inhibiting Plant Extracts on Growth and Physiological Consequences in Silver Barb,Barbonymus gonionotus (Bleeker,1849)	Mr. Upendra Suman	2021	Aquaculture	1. Enhanced growth with subsequent reduction in ovarian volume achieved in early maturing fishes like Silver barb, *Barbonymus gonionotus* through dietary pawpaw seed (PS) supplemented diets.
106.	Effect of Melatonin on the Reproductive Performance of Devario aequipinnatus (McClelland,1839)	Ms. Khusbu Samal	2021	Aquaculture	1.The administration of dietary melatonin in *Devario aequipinnatus* @ 50mg 100g-1 feed has improved reproductive performance in terms of attainment of maturation and growth.
			Fisheries Extension		
107.	Utilization of information sources among fish farmers in Faizabad District of Uttar Pradesh	Mr. Arun Kumar Yadav	Fishries Extension	2012	
108.	Profile study of fishery based self help groups in West Tripura District of Tripura	Mr. Narendra Kumar Verma	Fisheries Extension	2013	
109.	Documentation and rationality analysis of indigenous technical knowledge (itk) on fisheries in	Ms. Rajita Devi	Fisheries Extensio	2013	

	Nagaon District, Central Assam		n		
110.	Adoption of recommended composite fish culture practices by fish farmers in Kamrup District of Assam	Mr. Sarbeswar Kachari	Fisheries Extension	2013	
111.	Participation of women in fisheries activities with reference to empowerment in bishnupur district, manipur	Mr. Waikhom Tomthinnganba Meetei	Fisheries Extension	2014	
112.	Assessment of training needs of fish farmers in bishnupur district of manipur	Mr. Bishorjit Hijam	Fisheries Extension	2014	
113.	Assessment of effectiveness of fishery training programmes through perception of kvk trainees in east karnenq district of arunachal pradesh	Mr. Tsering Tashi Thungon	Fisheries Extension	2015	
114.	"Ornamental fish marketing and consumers' preference behaviour: a study in west tripura"	Ms. Bonani Laskar	Fisheries Extension	2016	
115.	"Impact of Fishery Based Self-Help Groups on Empowerment of Rural Women in Jashpur District ofChhattisgarh"	Ms. Indrani Sah	Fisheries Extension	2017	
116.	"Influence of MGNREGA on Aquaculture: A Case Study in West Tripura"	Mr. Rajsumer Ijardar	Fisheries Extension	2017	
117.	"Status of Fish Based Integrated Farming in West Tripura: A Micro Level Study"	Mr. Nongthobam	Fisheries Extension	2017	
118.	"Paddy cum Fish Farming System of Assam: A Pattern Analysis"	Mr. Rupan Pegu	Fisheries Extension	2017	
119.	"Fishers' Risk Perception and Adaptation Strategies to Climate Change in Coastal Region of Southern Odisha"	Mr. Mudada	Fisheries Extension	2017	
120.	"Communication Behavior of Fish Farmers in West Tripura: A Case Study	Mr. Kashyap	Fisheries Extensio	2018	

		Borah	n		
121.	"Adoption of Scientific Fish Farming of Pengba (Osteobrama belangeri) by the Fish Farmers in the Valleys of Manipur"	Mr. Oinam Naresh Khuman	Fisheries Extension	2018	
122.	"An Empirical Study on Fishermen's Cooperative Societies in Tripura"	Mr. Chakrapani Pegu	Fisheries Extension	2018	
123.	Perception of Fishers on Fish Diversity and its Conservation in Dumboor Reservoir of Tripura	Mr. Somlang Tesia	Fisheries Extension	2019	
124.	A Study on MGNREGS-Aquaculture Convergence in Tripura	Ms. Toko Yemin	Fisheries Extension	2019	
125.	Linkage among Researchers, Extension Personnel & Fish Farmers in the Valleys of Manipur	Ms. Sajina	Fisheries Extension	2019	
126.	Information Utilization Pattern of Fish Farmers of Tripura through Mobile Based Agro-Advisory System (Matysa Varta)	Mr. Ram Kumar Kurmi	Fisheries Extension (FEX)	2021	1.Youth-oriented strategy is required to aware and sensitize them about MBAS and its' benefits and include them in scientific culture practices by providing necessary assistance from MBAS. 2.Inclusion of more tribal farmers in Matsya Varta requires more in-depth ethno-cultural studies to customize MBAS according to the demand of the tribal farmers. 3.Customization is required in MBAS to address the issue of timely dissemination of comprehensive information to the farmers to make the advisories more credible

127.	Status of Women Empowerment through Fisheries vis-a-vis Agricultural and Animal Husbandry based Activities of Self-Help Groups in Tripura	Ms. Uma	Fisheries Extension (FEX)	2021	1.Overall women's empowerment index was medium. 2.Lack of freedom to take decisions were the major constraints faced by respondents of SHGs.
128.	A Study on Knowledge Level of Fisheries Extension Professionals on Usage of Information and Communication Technologies (ICTs) in Tripura	Mr. Chandrashekhar	Fisheries Extension (FEX)	2021	1.Thus, a meticulous and comprehensive strategy needs to be adopted in state department of fisheries for the inclusion and efficient utilization ICT mediated fishery extension system in the state to fulfill the information demand of the fish farmers in the state. 2.Young professionals are needed in the department to cater the extent services up to great extent and inclusions of fresh bloods into the fisheries department may change the scenario of ICT uses drastically.
129.	A Study on Effects of COVID-19 on Fish Farmers' Livelihood in Tripura	Mr. Raja Debnath	Fisheries Extension	2021	1.An exclusive measurement tool was developed by adopting a standard methodology for measuring the effects of COVID-19 on fish farmers' livelihood. 2.The outcome would help in determining the difficulties that fish farmers faced, and their actual needs to restore fish production, and ancillary activities during and after COVID-19

					outbreak.
Fish Genetics & Breeding					
130.	Identification of some selected isoforms of aquaporin gene in common carp *(cyprinus carpio)* and their expression analysis during reproduction	Mr. Shongsir Joy Monsang	Fish Genetics & Breeding	2015	
131.	Molecular characterisation of sifamide and its receptor in macrobrachiurn rosenberqii (de man, 1879)"	Ms. Laishram Galaxy	Fish Genetics & Breeding	2016	
132.	“Expression profiling of gonadotropin – releasing hormone (gnrh) gene in puntius onionotus (bleeker, 1850) durin different reproductive stages”	Ms. Asem Lembika Devi	Fish Genetics & Breeding	2016	
133.	"Expression analysis of gonadotropin releasing hormone receptor genes (gnrh-r) in puntius gonionotus (bleeker, 1850) durinq different reproductive staqes"	Mr. Sumit Kumar	Fish Genetics & Breeding	2016	
134.	"Identification of aquaporin-1, 4 and 11 genes in cyprinus carpio (Iinnaeus, 1758) and their expression analysis durino reproduction"	Mr. Biswaranjan Rath	Fish Genetics & Breeding	2016	
135.	"Molecular Characterization of Enzymes Involved in DNA Methylation and Histone Modification in *Macrobrachium rosenbergii* (DE MAN, 1879)"	Ms. Papuli Adhikary	Fish Genetics & Breeding	2017	
136.	"Characterization and Expression of GnlH Gene in *Clarias batrachus* (Linnaeus, 1758)"	Ms. Ningthoujam	Fish Genetics & Breeding	2017	
137.	"Molecular Characterization and Expression Profiling GnRH III gene in *Barbonymus gonionotus* (Bleeker, 1850)"	Mr. Rual Thantluanga	Fish Genetics & Breeding	2017	
138.	"Molecular Characterization of Kisspeptin Gene and their Expression during Reporductive Cycle in *Barbonymus gonionotus* (Bleeker, 1850)"	Mr. Sudhakar Bisen	Fish Genetics & Breeding	2017	
139.	"Identification of Dopamine Receptor in *Clarias batrachus*	Ms. Angam Panor	Fish Genetics	2017	

	(Linnaeus, 1758) and its Expression during Different Reproductive Stages"		& Breedin g		
140.	"Characterization and Expression of CYP17 Gene in Clarias batrachus (Linnaeus, 1758)"	Mr. Maradode Jaywant Raghunath	Fish Genetics & Breedin g	2018	
141.	"Molecular Characterization and Expression of Vitellogenin Gene in Silver Barb, Barbonymus gonionotus (Bleeker, 1850)"	Ms. Snehalata Mohanty	Fish Genetics & Breedin g	2018	
142.	"Characterization and Expression of csf1r Gene in Botia dario (Hamilton, 1822)"	Mr. Parthasarat hi Tripathy	Fish Genetics & Breedin g	2018	
143.	"Characterization and Expression Analysis of Brdt Gene in Clarias batrachus (Linnaeus, 1758)"	Ms. Khageshwa rijolhe	Fish Genetics & Breedin g	2018	
144.	Characterization and Expression Analysis of Male- Biased Genes Sox9 and Dmrt1 in Ompok bimaculatus (Bloch,1794)	Ms. Prerna Dobriyal	Fish Genetics and Breedin g	2019	
145.	Role of Dopamine Receptors on Clarias magur (Linnaeus, 1758) Reproduction	Mr Devendra Kumar	Fish Genetics and Breedin g	2019	
146.	Development of Somatostatin (SST) Targeted siRNA Construct in Labeo rohita (Hamilton, 1822)	Mr Bhubanend ra Prasad Acharya	Fish Genetics and Breedin g	2019	
147.	Characterization and Expression of GnRH Gene in Botia dario (Hamilton,1822)	Mr Shrish Chandraya dav	Fish Genetics and Breedin g	2019	
148.	Comparative Karyotyping of Somatic and Gametic Cells of Osteobrama belangeri (Valenciennes, 1844) for Sex Chromosome Identification	Mr.Subrata Rudrapaul	Fish Genetics and Breedin g	2019	
149.	Expression profiling of stress genes during induced breeding	Ms. Kalpita	Fish Genetic	2021	1 Stress gene show upregulated in ovatide administration as

	in *Cyprinus carpio* (common carp) (Linnaeus, 1758	Tripathy	s & Breedin g (FGB)		compared to administration of pituitory extract during induced breeding in *Cyprinus carpio* (common carp) (Linnaeus, 1758
150.	Characterisation of GC rich Simple Sequence Repeat and Polymorphism in *Osteobrama belangeri* (Valenciennes,1844)	Mr. Shubham Kashyap	Fish Genetic s & Breedin g (FGB)	2021	1 Characterization of GC rick simple sequence repeat and polymorphism in *Osteobrama belangari* (Valenciennes, 1844) exhibited SSRs can be used for estimating population genetics parameter in the sample collected from wild and culture *Osteobrama belangari.*
151.	Characterization of solute carrier genes and their expression profiling in gonad of *Cyprinus carpio* (Linnaeus, 1758)	Ms. Shelke Jayashri Sarjerao	Fish Genetic s & Breedin g (FGB)	2021	1. Downregulation of *SLC* gene after spermiation or ovulation suggest its role in controlling water and other solute movement across the cell membrane during spawning in common carp
152.	Docking and molecular dynamics simulation of dopamine receptor 2 (DRD2) in *Cyprinus carpio* (Linnaeus, 1758)	Mr. Gautam Kumar	Fish Genetic s & Breedin g (FGB)	2021	1 Docking analysis revealed high binding infinity of Isotoxin with DRD2 followed by Oxytocin. Invivo testing show oxytoxin significantly down regulate the expression of *D2R* and *D1R* in *Cyprinus carpio*
153.	Mining and validation of "AT" rich simple sequence repeat (SSR) marker in *Osteobrama belangeri* (Valenciennes, 1844)	Mr. Dibyajyoti Sahoo	Fish Genetic s & Breedin g (FGB)	2021	1.Mining and validation of "AT" rich simple sequence repeat (SSR) marker in *Osteobrama belangari* (Valenciennes, 1844) revealed higher allele polymorphysm and heterozygosity in culture sample indicate the result of mixing of two isolated population in *Osteobrama belangari.*
154.	Identification and expression of genes for omega 3 fatty acid biosynthesis in olive barb (*Systomus sarana)*	Ms. Kashti Prerna Deorao	Fish Genetic s & Breedin g (FGB)	2021	1.Studied on identification and expression of genes for Omega 3 fatty acid biosynthesis in Olive barb (*Systomus sarana*). Resveratrol potentially induced endogenous fatty acid

					synthesis and resulted in omega 3 fatty acid elevation.
155.	Molecular characterization of the sex determination *Dmrt1* in *Clarius magur* (Hamilton, 1822)	Mr. Solomon Kamei	Fish Genetics and Breeding(FGB)	2021	*Dmrt1* gene have possible key role in sex determination of *Clarius magur*
			Fisheries Resource		
156.	"Population characteristics and stock assessment of ana bas testudineus (bloch, 1792) and mystus bleekeri Management(day, 1877) in rudrasaqar lake, tripura"	Mr. Ashish Kumar Maurya	Fisheries Resource	2016	
157.	"Application of osteology in taxonomic validation of the species under the genus mystus (scopoli, 1777) Management distributed in north-eastern india"	Mr. Amit Kumar	Fisheries Resource	2016	
158.	"Taxonomic confirmation of species under the genus macrobrachium (spence bate, 1868) in north eastern Management states of india"	Ms. Tako Yame	Fisheries Resource	2016	
159.	"Otolith shape analysis for taxonomic validation of the species under the genus puntius (hamilton, 1822) Management distributed in north-eastern india"	Mr. Khanindra Bhuyan	Fisheries Resource	2016	
160.	"Mouth Dimension and Architecture in Relation to Food and Feeding Habits of Some Cyprinid Fishes of GEORGE Tripura"	Ms. Sneha Mol	Fisheries Resource Management	2017	
161.	"Molecular Taxonomy and Phylogenetics of Species under the Genus *Osteobrama Heckel*, 1842 in India"	Ms. Anjali Pushp	Fisheries Resource Management	2017	
162.	"Validation of Taxonomic Status of the Species under the Genus Chagunius (Smith, 1938) in India applying Osteological and Molecular Tools"	Mr. Yogesh Dan Gal Cau/238-F/11 (B)	Fisheries Resource Management	2017	
163.	"Biometric Studies of Labeo (Cuvier, 1816) Species from	Mr. Sachin Pandit	Fisheries	2018	

	Tripura, India"		Resource Management		
164.	"Validation of Species under the Genus Barilius (Hamilton, 1822) from North Eastern States of India through Morphometric Traits and Molecular Tools"	Mr. Ansuman Panda	Fisheries Resource Management	2018	
165.	"Mouth Dimension of Some Ornamental Fishes in Relation to Their Food and Feeding Habits"	Ms. Kamel Lanthaimeilu	Fisheries Resource Management	2018	
166.	"Biosystematic Study of the Genus Bangana (Hamilton, 1822) from North-Eastern India"	Mr.Kamlesh Kumaryadav	Fisheries Resource Management	2018	
167.	"Taxonomy and Phylogeny of the Cyprinid Fish genus Neolissochilus (Rainboth, 1985) from North-Eastern India"	Mr. Sanjenbam Bidyasagar Singh	Fisheries Resource Management	2018	
168.	Taxonomic Validation of the Species under Family Ambassidae from Northeast India	Mr Debashis Jena	Fisheries Resource Management	2019	
169.	Food and Feeding Habits of Some Selected Ornamental Fishes of Tripura in Relation to their Mouth Morphometry	Ms. Sengbira K. Sangma	Fisheries Resource Management	2019	
170.	Taxonomic Validation of the Species under the Cyprinid fish Genus Schizothorax Heckel, 1838 from North-Eastern India	Mr. Lekininroy Dann	Fisheries Resource Management	2019	
171.	Systematic Study of Some Barbs from Tripura	Mr Arun Kumar	Fisheries Resource	2019	

			Management		
172.	Food, Feeding Habits and Reproductive biology of Striped spiny eel, *Macrognathus pancalus* (Hamilton, 1822) in Tripura.	Ms. Wangkheirakpam Gaitri Chanu	Fisheries Resource Management	2021	1.Life History studies of *Macrognathus puncalus* showed carnivorous feeding habits, aquatic insects found the most preferred food items. 2.Predominance of Females *Macrognathus pancalus* than males throughout the studied period was observed.
173.	Food, Feeding Habit and Reproductive biology of *Mystus tengra* (Hamilton ,1822)	Ms. Srabanti Majumder	Fisheries Resource Management	2021	1.Life history studies on *Mystus tengara* showed RLG values strongly correlating with the carnivorous feeding habit and its value varies with difference in size. 2.Further, the feeding intensity indicated by Gastro-somatic index (Ga.SI) revealed low Ga.SI value during June and highest in March
174.	Population Characteristics and Patterrns in Fishery of *Amblypharyngodon mola* (Hamilton, 1822) and *Mystus tengra* (Hamilton ,1822) in Rudrasagar Lake- A Ramsar Site in North-Eastern India	Ms. B. Antrose Preethi	Fisheries Resource Management(FRM	2021	1. Both *M. tengara* and *A. mola* exhibited allometric growth pattern in Rudrasagar Lake. 2. Fishing mortality was found to be twice than the natural mortality for both the species. It indicated high level of exploitation of both the species in the Lake. 3.Exploitation rate, E is greater than Emax, further showing heavy level of exploitation of both the fish species in Rudrasagar Lake.
175.	Spatio-temporal Variation of Plankton Diversity along Lower Stretches of River Gomati,Tripura	Ms. Purnabhadra Pal	Fisheries Resource Management(FRM	2021	1.Plankton diversity as an indicatory of habitat quality was studies at the lower Stretches of River Gomati, Tripura. A total of 40 phytoplankton and 12 zooplankton genera have been identified from samples collected from three sites over four seasons.

					2. Chlorophyceae (26 genera) dominated the phytoplankton population followed by Bacillariophyceae (8 genera), Cyanophyceae (5 genera), Euglenophyceae (2 genera) and Cosmpsopogonophyceae (1 genera).
176.	Biology of Anabas testudineus (Bloch,1792) of Rudrasagar Lake- A Ramsar site	Mr. Vidyabhooshan	Fisheries Resource Management	2021	1.Life history parameters of *Anabas testudineus* showed that the size group of 9 -10 cm TL and 17-18 cm TL showed lowest and highest RLG values respectively, indicating carnivorous feeding habit of this species. GSI and HSI values were found to be inversely associated, which indicated that energy is released from the liver into the ovary. Mean GSI value started to increase gradually from January and reached a maximum value in May, indicating that peak spawning season of this species is May.
Fish Biotechnology					
177.	Effect of Lighting Condition on Coloration in Danio rerio (Zebra fish)	Ms. Riya Ragini Kujur	Fish Biotechnology(FBT)	2021	1.The implementation of photoperiod and light exposure showed enhancement in coloration in zebra fish with various effects and can be manipulated for better patterns
Ph.D.					
Sl. no.	Title of the thesis	Name of the student	Major subject	Year of completion	Outcome of the research work
1.	"Immune Effector Activities of *Asparagus racemosus* in *Labeo rohita* (Hamilton,1822)"	Shongsir Joy Monsang	Aquatic Animal Health (AAH)	2021	1. It can be inferred that A. racemosus ethanolic root extract (AREE) can be used as an immunostimulant in aquaculture and has a potential to provide resistance against *A. hydrophila* infection in *L. rohita*. 2. Dietary

					administration of AREE showed an ameliorating effect in terms of activating the immune-biochemical responses and increasing the resistance of rohu against *A. hydrophila* infection. The results collectively suggest that the immunostimulatory effect of AREE was most pronounced at a dietary supplementation of 100 mg kg^{-1} diet. Moreover, AREE at a concentration of 12.5 µg ml^{-1}in the final vaccine preparation showed potent adjuvanticity in significantly augmenting the vaccine efficacy.
2.	"Efficacy and Pharmacokinetics of Herbal Nutraceutical based Medicated Feed of Miconazole Nitrate in *Labeo rohita* (Hamilton) Fingerllings against Fungal Infection"	Mukta Singh	Aquatic Animal Health (AAH)	2021	1. The single oral administration of three different sub-lethal doses of MCZ revealed rapid absorption with immediate detection of drugs. The selected aqueous and ethanolic extract of herbal nutraceutical in combinations with drug MCZ give highest scavenging and anti-fungal activities.
3.	"Isolation, Characterization and Biocontrol Efficacy of Protential Probiotic and Bacteriophage against *Aeromonas hydrophila* Infection in *Labeo rohita*"	Md. Idrish Raja Khan	Aquatic Animal Health (AAH)	2021	1. It can be inferred that *B. amyloliquefaciens* COFCAU_P1 and AvP-2 can be potential probiotics and bacteriophage species. 2. The invitro test, safety assay and genetic assessments delineated the potential of *B. amyloliquefaciens* as a candidate probiotic species. The phage Avp-2 was most potent in terms of lytic capacity, satisfactory cross infectivity levels, stability and other phage fitness.

COLLEGE OF HORTICULTURE & FORESTRY, PASIGHAT, ARUNACHAL PRADESH

M.Sc. Horticulture					
Sl. No.	**Title of theses**	**Name of Student**	**Major Subject**	**Year**	**Outcome**
		Plantation Technology			
1.	Standardisation of nursery techniques for early growth and performance of *Phoebe goalparensis* Hutch. under Eastern Himalayas.	Ms.Lapynsuk Jana	Plantation Technology	2017	
2.	Standardisation of nursery techniques and performance of *Micheliachampaca* Linn. under Eastern Himalayas.	Mr.Nepuni Rinaldi	Plantation Technology	2018	
3.	Effect of seed treatments and standardization of potting media for early outplanting in *Canariumstrictum*Roxb. under Eastern Himalayas.	Mr.Fullmoon Puwein	Plantation Technology	2019	
4.	Population status and nursery production of *Heritieramacrophylla*Wall.under Eastern Himalayas.	Mr. Guruariba m Nishanta Sharma	Plantation Technology	2019	
		Agroforestry			
5.	Carbon sequestration potential of different landuse systems under East Siang District, Arunachal Pradesh.	Mr. Royal L. Mihriemate	Agroforestry	2019	
		Vegetable Science			
6.	Studies on variability components and genetic parameters in Potato (*Solanum tuberosum* L.) under foot hills of Arunachal Pradesh	Shiv Mangal Singh	Vegetable Science	2011	
7.	Studies on genetic variability in Tomato (*Solanum lycopersicum* Child.) under foot hills of	Teibormiki Challam	Vegetable Science	2011	

	Arunachal Pradesh				
8.	Studies on genetic variability in turmeric (*Curcuma longa* L.) under foot hills of Arunachal Pradesh	Sangja Khandu Thungon	Vegetable Science	2011	
9.	Studies on genetic variability in Ginger (*Zingiber officinale* Rosc.) under foot hills of Arunachal Pradesh	Nyaken Padu	Vegetable Science	2012	
10.	Assessment of genetic diversity in Taro [*Colocasia esculenta* (L.) Schott]	Huidrom Supriya Devi	Vegetable Science	2012	
11.	Stability anlysis for tuber yield and its components in Potato (*Solanum tuberosum* L.)	Nellisha Ngoruw Moyon	Vegetable Science	2012	
12.	Genetic diversity and seed protein electrophoresis in chilli (Capsicum annuum L.)	Tasso Yatung	Vegetable Science	2012	
13.	Studies on genetic variability in Snapmelon (*Cucumis melo* L. Var. momordica) through physico-chemical traits and seed protein profiling	Venkata Ramana Muddarsu	Vegetable Science	2013	
14.	Stability Analysis for yield and its componebts in Turmeric (*Curcuma longa* L.)	Arambam Sneha Devi	Vegetable Science	2013	
15.	Assessment of genetic variability through morphological traits and seed protein profiling in Ridge Gourd (*Luffa acutangula* (Roxb.) L.)	Uzma Khatoon	Vegetable Science	2014	
16.	Screening of Coupea [(*Vigna unguiculata* (L.) Walp.] genotypes for Aluminium toxicity	Jitendra Kumar Kushwaha	Vegetable Science	2014	
17.	Screening of Tomato (*Solanum lycopersicum* Child) genotypes for yield and quality attributes under foot hills of Arunachal Pradesh	Kuldeep Kumar Bhargav	Vegetable Science	2015	
18.	Studies on combining ability and heterosis in Tomato (*Solanum lycopersicum* Child) for yield and quality attributing traits	Sanket Kumar	Vegetable Science	2015	
19.	Studies on grafting in Brinjal (*Solanum melongena* L.) for yield and quality attributes	B. Ashok Kumar	Vegetable Science	2015	
20.	Effect of biofertilizers on growth and yield of Cowpea [(*Vigna unguiculata* (L.) Walp] var. Kashi Kanchan under foot hills of Arunachal Pradesh	Mohamma d Arshad Nadeem	Vegetable Science	2015	
21.	Response of Capsicum (Capsicum	Salsara S.	Vegetable	2015	

	annuum L. var. grossum) to different levels of spacing and training under polyhouse condition	Sangma	Science		
22.	Studies on nutritive and anti-nutritive indices of important underutilized leafy vegetables of North east region	Ayang Siram	Vegetable Science	2016	
23.	Genetic Variability and correlation studies in King Chillies(Capsicum Chinense Jacq.)under controlled condition	Ephilo Mena	Vegetable Science	2016	
24.	Studies on genetic diversity and seed protein profiling in brinjal (Solanum melongena L.)	Vanlalnunpuia	Vegetable Science	2016	
25.	Evaluation of Dolichos bean [Lablab purpureus (L.) Sweet] genotypes against Aluminium toxicity	Mohd Talha Ansari	Vegetable Science	2017	
26.	Studies on nutritive and anti-nutritive components of important underutilized perennial vegetables of Arunachal Pradesh (North East region of India)	P Mary Bui	Vegetable Science	2017	
27.	Studies on genetic diversity among indigenous landraces of Cucumber (Cucumis sativus L.) of North Eastern India through morphological traits and seed protein profiling	Dhiman Chakraborty	Vegetable Science	2017	
28.	Studies on genetic variability on Indian bean [Lablab purpureus (L.) Sweet]	M.M. Shulee Ariina	Vegetable Science	2018	
29.	Effect of NPK on growth, yield and quality of hybrid capsicum (Capsicum annuum L. Var. grossum) under protected condition	Oyimang Ngupok	Vegetable Science	2018	
30.	Studies on genetic diversity among indigenous landraces of pumpkin (Cucurbita moschata Duch. Ex Poir)	Md. Ramjan	Vegetable Science	2018	
31.	Studies on Genetic variability in Garden pea (*Pisum sativum* L.) using morphological traits and seed protein profiling	Tabalique Yumkhaibam	Vegetable Science	2018	
32.	Integrated nutrient management studies on growth, yield and quality of Cucumber (*Cucumis sativus* L.) under protected condition	Sudeshna Kharga	Vegetable Science	2019	
33.	Effect of organic manures and biofertilizers on growth, yield and quality of edible podded pea (*Pisum*	Pekila Bhutia	Vegetable Science	2019	

	sativum var. macrocarpom) var. Arka Apoorva				
34.	Studies on genetic variability, heritability and genetic advance in Brinjal (Solanum melongena L.) genotypes	Kalom Tasing	Vegetable Science	2019	
35.	Studies on effect of spacing and nutrient management on King chilli (*Capsicum chinense* Jacq.) grown under protected conditions	Akhoki G Shimray	Vegetable Science	2019	
36.	Effect of Foliar application of micronutrients on growth, yield and quality of potato (*Solanum tuberosum* L.)	Mumtak Miyu	Vegetable Science	2019	
37.	Integrated nutrient management studies on growth, yield and quality of Tomato (*Solanum lycopersicum* L.) under protected conditions	Kavyashree B	Vegetable Science	2020	
38.	Study of genetic variability, correlation and path analysis in leaf mustard (*Brassica juncea* L. Czern & Coss) of North East Hill region of India	Toto Tamut	Vegetable Science	2021	Correlation studies indicated that biological yield was positively and significantly correlated vegetative and flowering parameters indicating the importance of these traits in selection for yield. Path analysis revealed that maximum positive direct effect on biological yield per plant was imposed by leaves weight per plant, stem weight per plant at 50% flowering, days to first harvest, leaf area and number of leaves per plant up to flowering stage at both phenotypic and genotypic level.
39.	Study on Heterosis for Yield and Quality Attributing Traits in Cherry tomato (*Solanum lycopersicum* L. var *cerasiforme* (Dunnal) A. Gray).	Navya K.R	Vegetable Science	2021	It can be concluded from the present studies that genotype 7, genotype 10, genotype 4, genotype 9 appeared superior w.r.t. GCA effect and mean performance and these parents could act as effective donor for future breeding programme. The hybrids G2xG7, G3xG4, G1xG10, G9xG10, G1xG9 and G4xG6 were superior based on SCA effects, mid parent and better parent heterosis and these hybrids have potential for

					commercial future use.
40.	Effect of Spacing and Organic Manure on Growth, Yield and Quality of Rakkyo (*Allium chinense* G. Don) under Foothills of Arunachal Pradesh	L. Mashine	Vegetable Science	2021	The outcome of the studies revealed that a spacing of 15cm x 10 cm and application of organic manure (FYM) @ 25t/ha may be recommended along with repeated trials for Rakkyo (*Allium chinese*) for Pasighat conditions.
41.	"Effect of different levels of drip irrigation on growth, yield and quality of red cabbage (*Brassica oleraceae* L. var. *capitata* f. rufra) under mulch and non-mulch condition".	Shweta Yadav	Vegetable Science	2022	The present studies concluded that treatment T5 (100 % CPE with drip irrigation under mulch) is recommended for better growth and yield of red cabbage under protected conditions.
42.	"Influence of Lime and Boron on the Performance of Brocoli (*Brassica oleracea* L. var italica Plenck) under protected condition."	Pura Nani	Vegetable Science	2022	The outcome of the studies revealed that T7 (2500 kh lime/ha +0.3% borax as foliar spray) is the most suitable treatment combination for best growth, yield and quality in broccoli under protected cultivation.
43.	"Influence of Lime and Boron on the Performance of Brocoli (*Brassica oleracea* L. var italica Plenck) under protected condition."	Pura Nani	Vegetable Science	2022	The outcome of the studies revealed that T7 (2500 kh lime/ha +0.3% borax as foliar spray) is the most suitable treatment combination for best growth, yield and quality in broccoli under protected cultivation.
44.	Screening of Brinjal Genotypes of North East India against Bacterial Wilt Using SSR Markers	Tasso Annu	Vegetable Science	2021	The present studies concluded that amongst the 22 brinjal genotypes, CHFB-22 and CHFB-29 was found nearer to resistant check varieties 'Arka Nidhi' and 'Arka Keshav' under major cluster I and also CHFB-33 appeared separately in major cluster I sub cluster IA-IA, grouped under resistant and these three lines can be utilized for improvement through breeding
45.	Studies on Effect of Spacing and Nutrient Management on King Chilli (*Capsicum chinense* Jacq.) grown under Protected Condition.	A. Gaitri Devi	Vegetable Science	2021	The outcome of the study revealed that a spacing of 60 cm × 90 cm and T_7 (NAA @ 20 ppm + Boron @ 50 ppm) was found to be the best

					treatment combination for controlling flower drop & fruit setting and enhancing fruit yield of king chilli under protected condition in Pasighat climatic condition
46.	Studies on Genetic Variability, Heritability and Genetic Advance in French Bean (*Phaseolus vulgaris* L.) genotypes.	Mr. Karik Gammeng	Vegetable Science	2021	Correlation studies indicated pod yield per plant was positively and significantly correlated with days to first flowering, followed by days to 50% flowering, days to 1st harvest, no. of pods/plant, plant height, pod weight, pod girth, pod length, no. of seeds/pod and reducing sugars. Divergence study revealed that pod yield per plant contributed maximum per cent to the diversity followed by no of seeds per pod, pod length, Vit. A and pod weight.
Fruit Science					
47.	Studies on genetic diversity of citrus in East Siang District of Arunachal Pradesh	Mr. Archan Rabha	Fruit Science	2011	
48.	Effect of Season, Shoot Etiolation and Growth Regulators in Air Layering of Guava (*Psidium guajava)* cv L-49	Ms. Ponung Taki	Fruit Science	2013	
49.	Effect of Pruning and Spray of urea on growth, flowering and fruiting of Guava (cv. L-49)	Ms. Rebecca Eko	Fruit Science	2013	
50.	Effect of Micronutrient on growth, yield and quality of Banana cv. Grand Naine.	Ms. Lalrinchhani	Fruit Science	2013	
51.	Forced flowering of pineapple (*Ananas comosus* cv. Kew) in response to cold stress, ethephon and calcium carbide with or without activated charcoal	Mr. Siyang Borang	Fruit Science	2014	
52.	Effect of growth regulators and time of air layering in litchi (*Litchi chinensis* Sonn.) cv. Muzaffarpur	Mr. Rishi Longdo	Fruit Science	2015	
53.	Effect of Mulching and Hydrogel on Growth, Yield and Quality of Litchi (*Litchi chinensis*) cv. Muzaffarpur	Mr. Jaman Rangkham	Fruit Science	2015	

54.	Study on the effect of Stockosorb on the growth and yield of khasi mandarin	Mr. Oder Tabi	Fruit Science	2015	
55.	Selection of superior genotypes of Pummelo (*Citrus grandis* L.) in East Siang District of Arunachal Pradesh	Mr. Getem Tamut	Fruit Science	2016	
56.	Effect of Different Levels of Nitrogen and Potassium on Growth, Yield and Quality of Litchi (*Litchi chinensis*) cv. Muzaffarpur	Ms. Lineea Pertin	Fruit Science	2016	
57.	Effect of GA and Pruning on flowering and yield in Assam Lemon under foothills of Arunachal Pradesh.	Mr. Mahesha N	Fruit Science	2016	
58.	Effect of Organic and Inorganic Fertilizers on Growth, Yield and Quality of Papaya (*Carica papaya* L.) cv. Vinayak	Mr. Shangpong Konyak M	Fruit Science	2017	
59.	Crop Regulation in Guava (*Psidium guajava* L.) in Foot Hills of Arunachal Pradesh	Mr. Nikja Taha	Fruit Science	2017	
60.	Effect of micronutrients and plant growth regulators on growth, yield and fruit quality of litchi cv. Muzaffarpur under foot hills of Arunachal Pradesh	Mr. Devaraj R	Fruit Science	2017	
61.	Identification and Characterization of superior genotypes of carambola found in Arunachal Pradesh	Ms. Rebika Padun	Fruit Science	2017	
62.	Effect of Plant Growth Regulators, Decapitation and their combination on lateral shoots initiation for vegetative propagation in Papaya (*Carica papaya*) var. Vinayak.	Ms. Susmita Das	Fruit Science	2018	
63.	Standardization of of Prunng Techique for harvesting of Winter Guava	Ms. Hau Ngaih Lian	Fruit Science	2018	
64.	Studies on Mechanisms of Aluminium Tolerance in Citrus Species	Ms. Longing Basuk Langstieh	Fruit Science	2018	
65.	To Study the effect of PGR on rooting of leaf-bud cuttings in Assam lemon (*Citrus limon* (L) Burm.).	Mr. Rohullah Amin	Fruit Science	2019	
66.	Effect of Organic Manures on Growth, Yield and Quality of Assam Lemon (*Citrus lemon*)	Ms. Rosangpui Pachuau	Fruit Science	2019	
67.	Study on Genetic diversity of	Ms. R.	Fruit	2019	

	carambola found in North east India	Lalmuanpuii	Science		
68.	Effect of planting time, growth regulators and their combination on rooting of hardwood cuttings in grape cv. Bangalore Blue under foothills of Arunachal Pradesh.	Mr. Raju Debbarma	Fruit Science	2020	
69.	Effect of Biofertilizers and plant growth stimulator on seed germination and early development in citrus cv. Rangpur Lime under hydroponic condition	Mr. Nasratullah	Fruit Science	2020	
70.	Effect of plant growth regulators and chemicals on seed germination and seedling growth of rough Lemon	Mr. Sanaullah Arghistani	Fruit Science	2020	
71.	Effect of foliar application of micronutrients on growth, yield and physico-chemical attributes of Aonla cv. NA-7 under the foot hills of Arunachal Pradesh	Mr. M. Daisinlung	Fruit Science	2020	
72.	Morphological and Biochemical characterization of Passion fruit genotypes found in North East Region of India	Mr. Kripa Shankar	Fruit Science	2020	
73.	Influences of Organic and Inorganic Nutrient sources on Growth, Yield, fruit quality and post-harvest life of Lemon cv. Assam Lemon under the foot hills of Arunachal Pradesh	Mr. Songthat William Haokip	Fruit Science	2020	
74.	Effect of PGRs and Micronutrients on Granulation Disorder of Citrus cv. Rangpur Lime.	Ms. Omem Moyong	Fruit Science	2020	
75.	Effect of Different Media and Corm Preparation Methods on Macropropagation of Banana *Musa acuminate* cv. Grand Naine	Mr. Robert Rabson Malemba	Fruit Science	2021	The present studies recommended the use of ½ split corms in Banana *Musa acuminate* cv. Grand Naine which resulted in the higher number and quality of planting materials and sawdust, sand and cocopeat can be selected in order of priority depending on the availability in a particular area
76.	Effect of NAA and Micronutrients on Flowering, Fruit Setting, Yield and Quality of Litchi (*Litchi chinensis Sonn*.) cv. Muzaffarpur	Sanabam Indira Devi	Fruit Science	2021	It is concluded from the present studies that application of RDF (1200:500:600 g NPK/plant/year) along with foliar spray of NAA @25 ppm + 0.5% Borax +0.5% Zinc

					sulphate thrice (first application after emergence of new flushes during November followed by second application at one month interval during December and third application after fruit setting during April) can be recommended to the litchi growers under foothills of Arunachal Pradesh to increase the yield and productivity.
77.	"Screening of different citrus rootstock species for NPK uptake efficiency and early graftability".	Mr. Praveen Gurav	Fruit Science	2021	It is concluded form the studies that citrus species Karnakhatta, Rangpur lime, Samphola, Volkamariana, Rough lemon and Tasi have the potential as rootstock in North eastern region w.r.t. growth, nutrient uptake and early graft ability.
78.	"Influence of Panicle Covering on Fruit, Maturity, Yield, Quality and Storage of Litchi (*Litchi chinensis* Sonn.) cv Muzaffarpur".	Rajkumari Bidyalakshmi	Fruit Science	2022	It is recommended from the present studies that covering of litchi panicle after fruit setting with white colour polythene along with recommended package of practices may be adopted by the litchi growers under hot and humid regions of Arunachal Pradesh to obtain the maximum yield and best quality fruits of litchi.
79.	"Effect of PSB and VAM with graded levels of Phosphorus on growth, yield and quality of Litchi (Litchi chinensis Sonn.) under foothills of Arunachal Pradesh".	Aruna Priyanka P	Fruit Science	2022	Studies of effect of PSB and VAM with graded levels of phosphorous on growth in litchi revealed that application of 600g P + 100g PSB + 100g VAM improved the growth, yield and quality of litchi as compared to other combinations.
80.	"Effect of biofertilizers on growth, quality, yield and shelf life of Guava (*Psidium guajava*. L) cv. L-49".	Monalisa Debbarma	Fruit Science	2022	Studies conducted on effect of biofertilizers on different parameters of guava concluded that application of RDF+Azotobacter 100 g+ Azosprillum 100g + VAM 100 g proved to be the most effective in improving the growth, quality, yield and shelf life of guava.
81.	Effect of planting time, growth	Mr. Raju	Fruit	2021	The results from the present

	regulators and their combination on rooting of hardwood cuttings in grape cv. Bangalore blue under foothills of Arunachal Pradesh.	Debbarma	Science		investigations revealed that the cuttings prepared in the month of March with treatment T3 (IBA 2000 ppm) and T4 (3000 ppm) was found to be best for getting maximum rooting and survival percent in grape cuttings
82.	Studies on influence of growth regulators and chemicals on seed and vegetable propagation of passion fruit	Rinchen Dorjee Bhutia	Fruit Science	2021	The present studies concluded that treatment with GA3 500 ppm improved the vegetative parameters like no. of leaves, height of the seedling and increased the biomass of the plants. However, NAA 200 ppm was best for rooting of cuttings, maximum sprouting percentage and number of roots and leaves.
83.	Morphological and biochemical characterization of passion fruit genotypes found in North East Region of India	Kripa Shankar	Fruit Science	2021	Based on the results obtained from the present investigation, it is concluded that the collected passion fruit genotypes exhibited noticeable variation in the morphological and genetical characteristics which could be utilized for further passion fruit crop improvement works.
84.	Growth, Yield, Fruit Quality and Leaf Nutrient status of Lemon [*Citrus limon* (L.) Burm.] cv. Assam lemon in response to foliar application of micronutrients.	KH. Anush Sheikh	Fruit Science	2021	The results of the investigations revealed that foliar application of ZnSo4 (0.2%) + FeSO4 (0.2%) + Borax (0.2%) + CusO4 (0.2%) once (two weeks after fruit setting in the month of April) along with the recommended dose of fertilizers (100:100:100 g NPK/plant/year) may be recommended to obtain the maximum yield and best quality fruits of Assam lemon
Floriculture & Landscaping					
85.	*In vitro* Propagation on *Dendrobium* Orchid var. Earsakul.	Khaling Lalemmoi	Floriculture & Landscaping	2022	In-vitro propagation studies in *Dendrobium* orchid revealed that 0.5 mg/l KIN+ 7.5 mg/l NAA application was significantly associated with callus induction and formation when explant was placed in 16

					hrs normal light. While treatment combination of 2.5 mg/l BAP + 0.5 mg/l NAA was more pertinent for shoot proliferation and 0.5 mg/l BAP + 1 mg/l IBA for root proliferation
M.Sc. Forestry					
86.	Tree Selection, Fruit Characterization and vegetative propagation of Tapil (*Phoebe cooperiana* U.N. Kanjilal ex. A. Das) in Eastern Himalayas.	Ms. Jasmine Pabin	Tree Improvement, Plant Breeding and genetics	2021	The air layering studies in *Phoebe cooperiana* U.N. Kanjilal ex. A. Das revealed that NAA @ 3000ppm is the best treatment by obtaining highest rooting percentage (74.36%) and number of roots per layer (21.33) and highest survival percentage (54.16).
87.	Analysis of variability in morphological and molecular characteristics of *Melia dubia* Cav. Syn. *Melia composite* Willd.	Ms. Unshani Daryal	Tree Improvement, Plant Breeding & Genetics	2021	As per outcome of the study, the overall genetic diversity of the studied area for *Melia dubia* Cav. Syn. *Melia composite* Willd. was moderate The 5 SSR primers out of 15 SSR had shown *Nei's gene diversity* (h=0.47), *Shannon's Index*, (I=0.66) and P_iC value (0.48). These primers varied in detecting the genetic diversity and suggested that genetic composition of the genotypes yet to be affected. In order to avoid inbreeding and alterations of the species, plantations from highly diverse superior seed sources should be raised.
88.	Pre-sowing treatment and seedling performance for nursery production of *Morus laevigata* Wall. under Eastern Himalayas.	Ms. Seema Chettri	Silviculture and Agroforestry	2021	Soaking the extracted seeds of *Morus laevigata* Wall.in Gibberellic acid solution of 0.1 % can be considered as thye most effective seed pretreatment for obtaining maximum germination. Seeds of *Morus laevigata* Wall.has to be extracted before sowing for obtaining germination. Combination of potting media either with FYM or vermicompost the ratio 1:1 enhances the biomass

					production. Outplanting of the seedling can be suggested after 3-4 months of raising in the potting media.
			Ph.D.		
1.	Studies on Morphological and Biochemical Profile of Wild Brinjal (Solanum gilo)	Lalhmingsanga	Vegetable Science	2018	
2.	Studies on differential response of french bean genotypes against aluminium toxicity in North East region	Athikho Kayia Alice	Vegetable Science	2018	
3.	Evaluation of Different Citrus Genotypes against Aluminum and Manganese Toxicity	Ms. Lakidon Khonglah	Fruit Science	2018	
4.	Studies on Genetic Diversity of Jackfruit (*Artocarpus Heterophyllus* Lam.) In the North Eastern Region	Mr. Ashok Chhetri	Fruit Science	2018	
5.	Studies on Tolerance Ability of Citrus Species against Salinity and Drought	Ms. Nesara Begane	Fruit Science	2019	
6.	Drought Stress in Strawberry – Studies on Physiological and Biochemical Attributes	Ms. Amrita Thokchom	Fruit Science	2019	
7.	Morphological Studies and Nutritional Profiling of Important Underutilized Fruit Crops of North-East Region	Mr. Thejangulie Angami	Fruit Science	2020	
8.	Effect of plant growth regulators and micro nutrients on fruiting and quality attributes of litchi (*Litchi chinensis* Sonn).	Oyinti Megu	Fruit Science	2021	It is concluded from the present studies that the foliar application of borax and $ZnSO_4$ @ 0.4% proved to significantly resulted in better fruiting, yield and improved the quality of litchi.
9.	Effect of plant growth regulators and micronutrients on seed production of okra (Abelmoschus esculentus L.)Moench.	Vikash Kumar	Vegetable Science	2021	It is inferred from the present studies that plant treatment with P_4M_5 (GA_3 100 ppm + Borax 1.0%) is the best for adopting at the field level to reap good economic yield with better quality seed and high net returns in okra.
10.	Screening of Pea (*Pisum sativum* L.) genotypes and Ameliorative effect of Nutrient and Salicylic Acid against Aluminium Toxicity	Mohd Talha Ansari	Vegetable Science	2021	The outcome of the research revealed that amongst the treatments, the application of 0.5 mM P under aluminium stress appeared as a potential tool in restoring the growth and physiological activities in

					sensitive pea genotype (AP-3) indicating the best ameliorating agent
11.	Studies on morphological and molecular characterization of cherry tomato (*Solanum l ycopersicum* var. *cerasiforme*) genotypes.	Naorem Bidyaleima Chanu	Vegetable Science	2022	Findings from the presents investigations concluded that cherry tomato genotypes VRCRT-12 followed by VRCRT-7 and VRCRT-18 have potential economic importance and can be successfully employed for commercial exploitation in crop improvement of cherry tomato
12.	Evaluation of Genetic Diversity of Mandarin (*Citrus reticulate* Blanco) from different parts of North East India using morphological and SSR markers.	Megha Raghavan	Fruit Science	2022	The results from the present studies concluded that mandarin found in North East India are morphologically diverse but molecular diversity was comparatively less except few genotypes and could be utilized for future crop improvement of mandarin
13.	Characterization and Estimation of Nutritional and Anti-nutritional Components of Underutilized Vegetables of North East India	Md. Ramjan	Vegetable Science	2022	Studies were carried out on 50 different traditional vegetable species of North east India to characterize and estimate nutrient content (nutritional and anti-nutritional composition) and it revealed that all the fruit vegetables and leafy vegetable species possessed varied nutritional and anti-nutritional components.

COLLEGE OF COMMUNITY SCIENCES, TURA, MEGHALAYA

M.Sc.					
Sl .no.	**Theses Title**	**Name of Student**	**Major Subject**	**Year**	**Outline**
Food Science and Nutrition					
1.	Nutritional Status and Energy Balance of Tribal Females of Reproductie Age Group of Meghalaya	Elvina Shongsir Mongsang	Food Science and Nutrition	2018	• Overall prevalence of CED was 24 percent • 92% of study subjects were moderately anemic • Calcium & iron intake was below recommended dietary allowance
2.	"Development of Value Added Products from Amaranth (*Amaranthus L.)* Grain"	Ms. Chungkham Nangthoibi	Food Science and Nutrition	2021	Standardization of different form (broken, roasted, powdered, whole grains etc.) of Amaranth grain. Formulated and developed - Nutritional, biochemical and sensory evaluation of developed products done. - The developed product such as cake, burfi, coconut ladoo and dosa was evaluated on different parameter.
3.	"Development of Value Added Products from Drumstick (*Moringa Oleifera*) Leaves"	Ms. Chungkham Chanu Malemngangbi	Food Science and Nutrition	2021	Standardization of dehydration process and powder formulation of drumstick leaves, formulated and developed value added products by using drumstick leaves powder. Nutritional, biochemical and sensory evaluation of developed product done. Chemical analysis for fourteen nutrients was done for all the formulated Moringa supplemented products.
Home Science Extension and Community Management					
4.	Extent of Exposure to Selected Electronic Media by Garo Farm Women in West Garo Hills of Meghalaya	Silkame N. Sangma	Home Science Extension and Community Management	2019	• Radio and television were two important media which was helpful in transmission of information to the people living in various parts of rural areas. It helps people receiving knowledge, ideas and gathers different information through farm and home broadcast by radio and television which helps to develop their living standards. Garo farm women seek information through radio and television and benefitted in their day to day life. It was found out to be an important tool where all respondents shows positive

					responds towards it and found positive results in development of farm women in Garo farm women of West Garo Hills Meghalaya.
5.	Extent of Utilization of Integrated Basin Development and Livelihood Promotion (IBDLP) Programme by Garo Farm Women in Garo Hills of Meghalaya	Mikkimchi G. Momin	Home Science Extension and Community Management	2019	• Helps to know the socio economic characteristics; level of awareness and utilization; problem faced by Garo farm women of Meghalaya. • Helps to learn about the activities and benefits provided by IBDLP programme. • Farm women beneficiaries of selected areas highly utilized only three missions namely Livestock, Horticulture and Forestry & plantation missions. Therefore, other missions should clearly define and intensify the activities among the women beneficiaries so that they can utilize and gain benefits from other missions as well. • A study on extent of utilization of IBDLP programme by women beneficiaries can be conducted by taking large sample size and can be done in other parts of Meghalaya as well where IBDLP is operational.
6.	"Roles of Women in Integrated Farming System- A Study in Meghalaya"	Ms. Huidrom Bliss	Extension Education and Communication Management	2021	Study recommends that women play major roles in marketing and harvesting in Fish Farming so they should be trained with marketing strategies and harvesting technologies. In Poultry Farming mostly women are involved in feeding of poultry, hence capacity building programmes may be arranged to make them aware about scientific feeding practices. The major problems faced by the women are lack of awareness about benefits of Integrated Farming system and delay in financial support.

COLLEGE OF AGRICULTURE, IROISEMBA, MANIPUR

M.Sc.				
Sl. No.	**Title of thesis**	**Name of the Student**	**Major Subject**	**Year of completion**
1. AGRONOMY				
CATEGORY (CROP): RICE				
Cereals				
Rice				
1.	Studies on Weed Control in the Transplanted Rice and its Economics Implications	L Chaoba Singh	Agronomy (weed management)	1993
2.	Effects of Levels and Method of Application of Nitrogen on the Yield of Transplanted Rice	M Gyanendro Singh	(Agronomy Nutrient management)	1993
3.	A Study on Rice Based Intercropping System Under Upland Rainfed Condition	N Manileima Devi	Agronomy (cropping system)	1995
4.	Effect of Age of Seedling and Spacing on the Yield of Rice (*Oryza sativa* L.) Variety Norin-18	K Nandini Devi	Agronomy (Agrotechniq ue)	1996
5.	Effect of Levels of Nitrogen on the Growth and Yield of Transplanted Rice	S Jugindro Singh	Agronomy (Nutrient management)	1996
6.	Effect of Seedling Age Cutting Height and Nitrogen Requirement on Economics and Yield of Main-ratoon Rice Sequence	A Sanatombi Devi	Agronomy (Nutrient management)	1998
7.	Study on the Effect of Different Sources of Organic Nitrogen With and Without Inorganic Nitrogenous Fertilizer on the Yield Rice (*Oryza sativa* L.)	Oinam Bidur Singh	Agronomy (Nutrient management)	1997
8.	Effect of Cyanobacteria and Azolla Biofertilizers in Conjunction with Nitrogenous Fertilizer on the Productivity of Rainfed	M Amutombi Singh	Agronomy (Nutrient management)	1997

	Lowland Rice			
9.	Effect on Spacing and Number of Seedling per Hill on the Yield of Transplanted Rice Under Rainfed Condition	Khumlo Levish Chongloi	Agronomy (Agro-technique)	2001
10. .	Effect of Different Sources of Phosphorous and Phosphate Solubilizing Bacteria on Yield and Nutrient Uptake to rice (*Oryza Sativa L. ev K D 2-6-3*)	Sakhen Sorokhaibam	Agronomy (Nutrient management)	2004
11.	Effect of Planting Geometry and Nitrogen on Growth and Yield of Black Aromativ Rice (Chak-hao)	Yamthong Kuki	Agronomy (nutrient management)	2005
12.	Effect of Introducing Arrowhead (*Sagitharia sageltiifolia*) as an Intercrop of Transplanted Rice *(Oryza satva* L.)on Productivity and Economics Under Rainfed Condition of Manipur	John Debbarma	Agronomy (cropping system)	2006
13.	Response of Transplanted Rice (*Oryza satium*) to Zinc and Sulphur with Reference to Growth and Yield	Ranjeeta Khomdram	Agronomy (Nutrient management)	2010
14.	Varietal cum Spatial effect on Yield of Rice (*Oryza sativa* L.) Under System of Rice Intensification (SRI) Method in Manipur Valley	Pheiroijam Thoithoi Devi	Agronomy (Agro-technique)	2012
15.	Efficacy of some promising Weedicides on Shallow land Transplanted Rice (*Oryza sativa* L.) Under Rainfed Condition	Punabati Heisnam	Agronomy (weed management)	2012
16.	Influence of Variety and Sowing Date on Growth and Yield of Direct Seeded Puddled Rice (*Oryza sativa* L.) Under Late Situation	Chumsha Clement Ngoruw	Agronomy (Agro-technique)	2013
17.	Influence of Nitrogen and	Khongbantabam	Agronomy	2015

	Weed Management Practices of Yield of Direct Seeded Puddled Rice (*Oryza sativa* L.)	Henery Singh	(Nutrient and weed management)	
18.	Studies on the Effect of Age of Seeding and Number of Seedling per Hill on Growth and Yield of Manipur Black Scented Rice *Oryza satva* L) Cultivar Chakhao Poireiton	Ganesh Narayan Gurjar	Agronomy (Agro-technique)	2016
19.	Effect of Variety and Spacing on the Productivity of Direct Seeded Rice *(Oryza satva L.)* under Manipur Condition	Ng Monica Devi	Agronomy (Agro-technique)	2017
20.	Studies on the Effect of Sowing Techniques and Seed rate on the Productivity, Economics and Energetic of Direct Seeded Rice (*Oryza satva* L.) Rainfed Madium land Condition	Nilanjana Halder	Agronomy (Agro-technique)	2017
21.	Influence of Phosphorus and Potassium on Growth and Yield of Black Aromatic Rice (Chak-hao)	Naorem Meena Devi	Agronomy (Nutrient management)	2018
22.	Influence of Different Doses of Pyrazosulfuron-Ethyl and Establishment methods on the Yield of lowland Rice (*Oryza sativa* L.)	T Malemnganbi	Agronomy (weed management)	2018
23.	Studies on Different Crop Establishment Techniques and Nitrogen Management on Basmati Rice variety (*Pusa basmati* 1509)	Nurina Shahni	Agronomy (Nutrient management)	2019
24.	Nitrogen Management in Direct Seeded Black Rice (*Oryza sativa* L.) Under Different Establishment Methods	Kumar Sambhavgiri	Agronomy (Nutrient management)	2019
25.	Effect of chemical priming on drought tolerance and its	Thoudam Anupama Devi	Agronomy (Agrotechniq	2020

	impact on a few varieties of rice under moisture stress condition		ue)	
26.	Systematic Approach on Agronomic Research of SRI system of rice cultivation in Manipur	Nongthombam Anandakumar	Agronomy (Agrotechniq ue)	2018
MAIZE				
27.	Planting Geometry and Weed Management in Maize *(Zea mays* L.*)* and Green Gram *(Vigna radiate* L.Wilzok*)* Intercropping System	N Lakshmichand Singh	Agronomy (weed management)	1999
28.	Effect of Weed Management on Growth and Yield of Hybrid Maize (*Zea mays* L.)	Gaipuichung Kamei	Agronomy (weed management)	2008
29.	Influence of Bio-fertilizer and Nitrogen on Growth and Yield of Hybrid Maize (*Zea mays L.*)	Zothanmawii	Agronomy (nutrient management)	2013
30.	Effect of Phosphorus and Potash on the Growth and Yield of Hybrid Maize (*Zee mays* L.)	Rajesh Kumar	Agronomy (nutrient management)	2015
31.	Influence of Integrated Nitrogen Management Practices on Growth and Yield of Hybrid Maize(*Zea mays* L)	Y Sanatombi Devi	Agronomy (nutrient management)	2016
32.	Influence of Sowing Time and Integrated Nitrogen Management on Growth and Yield of local Glutinous Maize (*Zea mays* L)	Tabuiliu Abonmai	Agronomy (nutrient management)	2019
WHEAT				
33.	Studies on Wheat Based Intercropping Systems Under Upland Rainfed Conditions	K Pradipkumar Singh	Agronomy (cropping system)	1994
34.	Effect of Different Doses of Vermicompost on Growth	Ajit Kripal Sahu	Agronomy (nutrient	2006

	and Yield of Wheat [*Triticum aestivum* L. c.v. H W 2004 (Amar)]		management)	
35.	Effect of different Concentrations of Potassium nitrate (KNO_3) as Foliar Spray on Growth and Yield of Wheat (*Triticum aestivum* L.)	Kshetrimayum Manishwari Devi	Agronomy (nutrient management)	2014
TUBER CROP				
POTATO				
36.	Study on the Effect on Seed size and Spacing on the Growth, Development and Yield of Potato (*Solanum tuberosum* L.) *Var. Kufri Jyoti* Grown Under Clay Soil of Manipur	Kh Nandijei Kabui	Agronomy (Agrotechniq ue)	1994
37.	Study on Effect of Different Methods of Planting and Placement of Seed on the Growth, Development and Yield of Potato (*Solanum tuberosum* L.) Var *Kufri Jyoti* Grown Under Clay Soil of Manipur	Soram Nilla Singh	Agronomy (Agrotechniq ue)	1998
38.	Effect of Different Levels and Mode of Application of Potassium on Growth and Yield of Potato (*Solanum tuberosum* L.) *Var. kufri Jyoti*	W Vijayalakshmi Devi	Agronomy (nutrient management)	1999
39.	Effect of Varying Levels of Nitrogen with and without Azolobactor on Growth and Yield of Potato (*Solanum tuberrosum* L.) var. “Kufri Jyoti”	Ps Esther Anal	Agronomy (nutrient management)	2002
40.	Effect of nitrogen in Integrated with Different Organic Sources on Growth and Yield of Potato (*Solanum tuberosum L, var Kurffri jyoti*)	Anju Keisham	Agronomy (nutrient management)	2013
41.	Effect of Mulching on the	Kimneihoi	Agronomy	2014

	Yield of Potato (*Solanum tuberosum*L.) local Cultivar Thangal Allu	Duhlian	(agrotechnique)	
42.	Effect of Seed Size and spacing on Yield and Economic of Potato (*Solanum tuberosum* L.) var. Kufri Jyoti	Yengkhom Telneikhomba	Agronomy (agrotechnique	2014
43.	Comparative Study in Growth and Yield of Different Varieties of Potato (*Solanum tuberosum* L) in Manipur Condition	Dibyendu Debbarma	Agronomy (agrotechnique	2016
44.	Effect of Integrated Nitrogen Management on Yield of Potato (*Solanum tuberosum* L.) local Cultivar Alu Amubi	Kamwenes Kazamba	Agronomy (Nutrient management)	2019
OILSEED CROP				
45.	Effect of Nitrogen Application on the Seed Yield of Sunflower (*Helianthus annuus* L.)	M Shanti Devi	Agronomy (Nutrient management)	1994
46.	Effeect of Nitrogen, Phosphorus and Potassium on Growth and Yield of Broad Leaf Mustard (*Brassica Juncea Var. rugosa. Roxb tsen and Lee*)	Lydia Zimik	Agronomy (Nutrient management)	1999
47.	Effect of Different Levels of Nitrogen and Sulphur on Seed Yield and Oil Content of Rapeseed (*Brassica campestris var.* Toria)	Nongmaithem Jyotisana	Agronomy (Nutrient management)	2000
48.	Effect of Spacing on Different Plant Types of Groundnut (*Araches hypogaea* L) Under the Foot Hills Conditions of Manipur	N Arunkumar Singh	Agronomy	2001
49.	Effect of Azotobacter on Yield and Oil Content of a few Varieties of Rapseed and Mustard Under Manipur Condition	Sucharita Dutta	Agronomy (Nutrient management)	2001

50.	Studies on the Effect of Rhizobium on the Growth and Yield of Different Varieities of Soyabean (*Glycine max L.* Messit)	Sukanya Pandey	Agronomy (Nutrient management)	2001
51.	Study on Yield Performance of a few Varieties of Rapeseed and Mustard Under Manipur Condition	I Rajendro Singh	Agronomy (Agro-technique)	2003
52.	Effect of Phosphorus and Organic Manure on Growth and Yield of Rapeseed (Brassica campestris var. toria) Under Late-Sown Condition	N Anando Singh	Agronomy (Nutrient management)	2004
53.	Effects of Phosphorus on Plant Growth and Yield of Promising Varieties of Soybean (*Glycine max L.* Merril) Under Rainfed Condition of Manipur	Kamalesh Kumar	Agronomy (Nutrient management)	2011
54. .	Impact of Hydrogen and Thiourea on Field and Quality of Indian Mustard(*Brassiea juncea L.)* Under Moisture Stress Condition	Abhinanda Singh	Agronomy (Water management)	2015
55.	Effect of Herbicides on Growth, Yield and Weed Dynamics of Soybean (*Gtycine max.* L. Merrill) under Rainfed Condition of Manipur	Ng Bishal Singh	Agronomy (Weed management)	2016
56.	Agronomic Manipuration of Indain Mustard *(Brassica junces L.)* for Yield Optimization under Protected Irrigation of late Sown Condition	Aswin C	Agronomy (Agro - technique)	2017
57.	Effect of mulching on performance of soyabean	Deva Daniel Anand	Agronomy (Agro - technique)	2020
PULSE CROP				

58.	Studies on Effect of Cobalt and Molybdenum on Yield of Broad Bean	Y Kunjo Singh	Agronomy (Nutrient management)	1995
59.	Effect of Nitrogen, phosphorus and Potassium on Yield of Black gram *(Vignna …* L.)	N Shantikiran Devi	Agronomy (nutrient management)	1996
60.	Effect of Lime and Molybdenum on the Yield of Field Pea (*Psum sativum L. Sensu lato*)	A Kirankumar Singh	Agronomy (Nutrient management)	1998
61.	Effect of Sources and Levels of Phosphorus on the Yield of Green gram (*Vigna radiate* L Wilezek)	Lhungdim Jamkhogin	Agronomy (Nutrient management)	1997
62.	Effect of Different Levels of Nitrogen in Association with "Rhizobium" on the Growth and Yield of Broad Bean (Vicia faba L.)	Y Mrinalini Devi	Agronomy (Nutrient management)	2000
63.	Effect of Nitrogen in Conjunction with Rhizobium inoculation on Growth, Modulation and Yield of Gram (*Cicer arietinum*, L.)	Nandini Chongtham	Agronomy (nutrient management)	2000
64.	Productivity of Pea (*Pesum sativum* L.) as Influenced by Integration of Different Nutrient Sources	Rajendra Kumar Bhattarai	Agronomy (Nutrient management)	2002
65.	Response of Broad Bean (*Vicia faba* L.) To Different Strains of Rhizobium in Combination with F Y M on the Growth, Nodulation and Yield	Judy Khianngte Lalrimsangi	Agronomy (Nutrient management)	2003
66.	Effect of Different Strains of Rhizobium with and without Nitrogenous Fertilizers and Phosphatica on Yield and Nutrient Uptake of Pea (*Pisum sativum*, L. Sensu lato)	W Jiten Singh	Agronomy (Nutrient management)	2003
67.	Effects of Spacing and Levels of Phosphorus on Growth and Yield of Broad	Phulchand Moirangthem	Agronomy (Nutrient management)	2005

	Bean (Vicia faba L.) Under Late Sown Condition of Manipur			
68.	Effects of Nipping on Growth and Yield of Pea (*Pisum sativum sub. Sp. Arvense*)Var. Makhyatmubi	Kh Sophia Devi	Agronomy (Agro-technique)	2005
69.	Studies on Lentil (*Lens culinaris* M.) based Intercropping System with Indian Mustard (*Brassica juncea L*.) Under Upland Condition of Manipur	Diana Shamurailatpam	Agronomy (Cropping system)	2012
70.	Effect of Nipping on Growth and Yield of Different varieties of Pea (*Pisum sativum supsparvense)*	Thokchom Repahini	Agronomy (Agro-technique)	2013
71.	Effect of Row Spacing and Different Levels of Phosphorus on Growth and Yield of grass Pea (*Lathyrus sativus* L.)	Rashmi Hajong	Agronomy (Nutrient management)	2013
72.	Influence of Sulfhydryl Bio-regulator on Growth, Yield and Profitability of Lentil (*Lensculinaris medikus*) Under Restricted Irrigations	N Premaradhya	Agronomy (Agro-technique)	2014
73.	Effect of Spacing on Growth and Green pod Yield of Pea (*Pisum sativum* L. subsp. *Hortense*) Local Cultivar Makhyatmubi	M Manolata Chanu	Agronomy (Agro-technique)	2014
74.	Effect of Foliar Nutrition on Growth, Yield and Quality of Urd Bean (*Vigna mungo L*.)	Laishram Santosh Singh	Agronomy (Nutrient management)	2015
75.	Studies on Chickpea (Cicerarictinum L.) Based Intercroping System with Rapeseed (*Brassieanapus* L.) on Growth, Yield and Competetive Indices	Susmita Das	Agronomy (Cropping sytem)	2015
76.	Effect of Spacing and	Flora Veilalkim	Agronomy	2015

	Nipping of Growth and Seed Yield of Pea (*Pisum sativum* sbsp. *hortense)* Local Cultivar Makhyamubi	Baite	(Agro-technique)	
77.	Influence of Methods of Seed Priming and Sowing Depth on the Field Germination, Growth and Yield of Desi Chickpea *(Cicer arietnum)* under Acidic Soil Condition	Th Tejmani Singh	Agronomy (Agro-technique)	2017
78.	Yield Performance of Different Summer Mung (*Vigna radiate* L.) Varieties Sown at Different Dates under Manipur Valley Condition	Langpei Pamei	Agronomy (Agro-technique)	2017
79.	Studies on Pea (*Pisum sativum* L.) based Intercropping System with Indian Mustard (Brassica juncea L.) on Growth, Yield an	Mary Chongtham	Agronomy (Cropping system)	2018
80.	Response of Broad Bean (*Vcia faba* L.) to Tillage and Crop Establishment Methods in Conjunction with Nutrient Management on Growth, Yield and Economics	Devaraja	Agronomy (Agro-technique)	2018
81.	Effect of Rice Husk Mulching on the Yield of Local Variety Pea (Makhatmubi) *Pisum satvum* L.	A Abel Arche	Agronomy (Agrotechniq ue)	2018
82.	Influence of Phosphorus on Growth and Yield of Promising Varieties of Lentil (*Lens culinaris* L. Medik)	Tophia Yumnam	Agronomy (Nutrient management)	2018
83.	Influence of integrated phosphorus management on the growth, yield and quality of lentil(*Lens culinaris* L. Medik)	Emmanuel Sonkarlay	Agronomy (Nutrient management)	2020

84.	Resource conservation technology in pigeonpea through tillage an mulching	Karri Pramodha Eswari Mounika	Agronomy (Agro-technique)	2020
FODDER				
85.	Effect of Phosphorus and Potash on Yield and Quality of Fodder Oat (*Avena sativa* L.)	Ps Rolling Anal	Agronomy (Nutrient management)	2010
86.	Effect of Nitrogen Levels on Forage Yield of Promising Varieties of Oat (*Avena sativa* L.)	Sonia Kamei	Agronomy (Nutrient management)	2010
87.	Effect of Nitrogen Level on the Promising Varieties of Barley (*Hordeum vulgare* L.)	Samjetsabam Neetarani	Agronomy (Nutrient management)	2012
88.	Effect of Integrated Nutrient Management on Yield and Quality of Fodder Oat (*Avena sativa L.)*	Z Kawikhonliu	Agronomy (Nutrient management)	2014
89.	Effect of Cutting and Nutrient Management on Growth, Green Fodder Yield, Seed Yield and Economics of Fodder Oats (*Avena sativa* L)	Kh Sundeep Singh	Agronomy (Nutrient management)	2016
OTHERS				
90.	Management of Present and Abandoned Jhum Land in Manipur	Ayekpam Renuka Devi	Agronomy (Agro-technique)	1996
91.	Effect of Cutting Length, Sixe and Planting Growth Hormone on Sprouting and Growth of Jatropha *(Jatropha cureas Linn*) Setts	Ch Roben Singh	Agronomy (Agro-technique)	2007
92.	Effect of Inter and Intra row Spacings on Growth and Yield of Arrowheat (*Sagittaria sagittifolia)* Under Rainfed Condition of Manipur	R Joseph Koireng	Agronomy (Agro-technique)	2008
93.	Effect of spacing and root	Mutum Dinamani	Agronomy	2020

	trimming on growth, yield and economics of water Mimosa			(Agro-technique)	
YEAR JAN 2020-MAY 2022					
94.	Effect of Tillage and mulch in mustard (*Brassica juncea* L) under rainfed condition	Bhargavi Naga Kalyani	Agronomy	2021	Maximum seed yield was recorded from conventional tillage with polythene mulching. But from economic point of view, the highest monetary benefit was associated with the combination of minimum tillage and rice straw mulching. Highest net energy output, energy use efficiency and lowest specific energy were found in treatment combination of minimum tillage with no mulching.
95.	Influence of Planting geometry and nutrient management on productivity and economics of dwarf Ricebean under rain-fed condition.	Khomdram Monika Devi	Agronomy	2021	Planting geometry with wider spacing between crop rows 45cm x 10cm and nutrient management with 40 kg P_2O_5/ha along with molybdenum and phosphate solubilizing bacteria (PSB) is the most ideal management practice for optimum seed and stover yield, crude protein content, crude protein yield. However gross income, net income and benefit-cost ratio were higher in wider spacing of 60 cm x 10cm and 60 kg P_20_5/ha + seed treatment of molybdenum + PSB.
96.	Influence of plant growth regulators on growth, yield and quality of lentil under rainfed condition	Vendidandi Sathavahana Reddy	Agronomy	2022	Lentil responded well to the different treatments of priming with plant growth regulators at all stages of observation in terms of growth, yield and quality. Among the different treatments, priming with GA3 @ 500ppm can be followed

					for better growth, yield and quality as the maximum seed yield, stover yield, crude protein content, crude protein yield, gross income, net income and benefit-cost ratio were achieved through this treatment.
97.	Influence of different application techniques of Nitrogen at seedling stage and different top dressing metho on yield of rice	Manish Pradhan	Agronomy	2021	Root dipping of rice seedling in urea solution before transplanting and broadcasting method of nitrogen trop dressing are proven technologies in increasing of rice yield.
98.	Influence of nitrogen sources and application methods on nodulation and yield of Soybean	Immadesetty Bala Manikanta	Agronomy	2021	Application of 75% nitrogen through Urea and 25% through poultry manure with band placement method have been proved to be the best technology in nodulation potential and yield of Soybean.
99.	"Effect of tillage and weed management practices on growth and yield of direct seeded rice (*Oryza sativa* L.) under rainfed condition".	Buru Yalung	Agronomy	2021	Conventional tillage along with Pyrazosulfuron ethyl 10% WP at 2-3 DAS followed by Fenoxaprop-p-ethyl 9.3% EC at 25-30 DAS proved to be one of the most commendable treatment and can be adopted effectively and economically without notable reduction in yield from the rest of the treatments

2. GENETICS & PLANT BREEDING

CATEGORY (CROP): RICE

Sl. No.	Title of thesis	Name of the Student	Major Subject	Year of completion
100.	"Plant Growth Stages and Yield Evaluation of some Early Rice (*Oryza sativa* L.) Genotypes under Different Rice Planting Seasons of Manipur Valley"	Moirangthem Damu Singh, 7A-91(M)	Genetics and Plant Breeding (Varietal Evaluation)	**1995**
101.	"Genetic Divergence in the Local Rice (*oryza*	Laimujam Inaobi	Genetics and	**1996**

	sativa L.) Cultivars of Manipur Valley"	Singh, 8A-92(M)	Plant Breeding (Diversity Analysis)	
102.	"Phenotypic Stability of Selected Rice Genotypes (*Oryza sativa* L. Sub Sp. indica) Under Rainfed Wetland Condition of Manipur Valley"	Heisnam Nanita Devi, 7A-97(M)	Genetics and Plant Breeding (Stability Analysis)	**2000**
103.	"Morpho-Agronomic Evaluation, Correlation and Path-Analysis in Some Early Rice (*Oryza sativa* L.) Genotypes under Pre-Kharif Conditions of Manipur Valley"	Tisu Tayeng, 13A-98(M)	Genetics and Plant Breeding (Varietal Evaluation)	**2002**
104.	"Line X Tester Analysis for Grain Yield and its Components in Rice (*Oryza sativa* Linn.)"	Pramesh Khoyumthem, 5A-98(M)	Genetics and Plant Breeding (Genetic Analysis)	**2002**
105.	"Comparative Performance, Character Association and Path Analysis for Yield and its Components of Hybrid Rice VIS-A-VIS Inbred Rice Varieties Under Rainfed Transplanted Conditions of Manipur"	Lourembam Promin, 6A-99(M)	Genetics and Plant Breeding (Varietal Evaluation)	**2002**
106.	"Comparative Effectiveness of Different Selection Methods on Breeding Very Early Rice (*Oryza sativa* L.) Varieties"	Kolom Rabi, 2A-2000(M)	Genetics and Plant Breeding (Varietal Evaluation)	**2004**
107.	"Genetics divergence in local rice cultivars of Manipur"	Bidya Moirangthem, 26A-07(M)	GPB (Diversity Analysis)	**2009**
108.	"Diallel analysis of yield and its important components in aromatic rice (*Oryza sativa* L.)"	Chuwang Hijam, 11A-08(M)	Genetics and Plant Breeding (Genetic Analysis)	**2012**
109.	"Screening of hill rice (*Oryza sativa* L.) Genotypes of Manipur through agro-morphological, biochemical analysis and genetic diversity analysis	Sophia Longjam 30A-16 (M)	Genetics and Plant Breeding (Varietal Evaluation)	**2019**
110.	"Characterization and Evaluation of Aromatic Rice Genotypes of North East Region for Agronomic and Quality Traits"	Lalrinchhani Chhangte 37A-16(M)	Genetics and Plant Breeding (Varietal Evaluation)	**2019**
111.	"Variation for Seed Vigour and Seedling Establishment Traits in Rice (*Oryza sativa*) Genotypes from North East India"	SUSHILKUMAR S	Genetics and Plant Breeding (Evaluation of seed properties)	**2019**
112.	"Mutagenesis in Indigenous Semi-Glutinous Rice Genotypes of Manipur"	Elreev Rai 22A-17(M)	Genetics and Plant Breeding (Mutation	**2020**

			Breeding)	
113.	"Variation for aluminum tolerance in Indigenous genotypes of rice from Manipur"	Kanala Sai Sreelekha 23A-18(M)	Genetics and Plant Breeding (Abiotic Breeding)	**2020**
114.	"Variation and character association for seed yield and related traits among indigenous rice (*Oryza sativa* L.) Genotypes of Manipur"	Prapakaran M	Genetics and Plant Breeding (Varietal Evaluation)	**2020**
	SubTotal=15			

CATEGORY (CROP): MAIZE

Sl. No.	Title of thesis	Name of the Student	Major Subject	Year of completion
115.	"Genetics divergence in local maize (*Zea mays* L.) cultivars of Manipur"	Yumnam Omita Devi, 17A-06(M)	GPB (Diversity Analysis)	2010
116.	"Variability and stability of yield and related traits in baby corn (*Zea mays* L.)"	Magudeeswari P. 5A-16(M)	Genetics and Plant Breeding (Stability Analysis)	2018
117.	"Genetic Variability and Character Association Analysis in Quality Protein Maize "	Takhellambam Thjasana Devi 2A-16(M)	Genetics and Plant Breeding (Varietal Evaluation)	2019
118.	"Genetic Variability and Character Association Analysis in Quality Protein Maize "	Danisa Dube 34A-18(M)	Genetics and Plant Breeding (Varietal Evaluation)	2020
	SubTotal=4			

CATEGORY (CROP): OTHER CROPS

Sl. No.	Title of thesis	Name of the Student	Major Subject	Year of completion
119.	"Stability Analysis for some Important Agro-Economic Characters of Sunflower (*Helianthus annuus* L.) in Manipur"	Ningombam Ningthemjao Singh, 3A-90(M)	Genetics and Plant Breeding (Stability Analysis)	1993
120.	"Varietal Evaluation, Correlation and Path Analysis of some Important Morpho-Agronomic Characters in Rice Bean (*Vigna umbellata*(Thunb.) Ohwi and Ohashi) Genotypes of Manipur"	Dipankar Chakrabarti, 3A-91(M)	Genetics and Plant Breeding (Varietal Evaluation)	1995
121.	"Genetic Analysis of Yield and its	Athokpam	Genetics and Plant	1996

	Components in Tomato (*Lycopersicon esculentum Mill.*) in Manipur Valley	Mempishak Devi 4A-93(M)	Breeding (Genetic Analysis)	
122.	"Genetic Divergence in Vegetable Mustard [*Brassica juncea* (L.)] Czern and Coss. Ssp. *integrifolia* (West) Thell]"	Longjam Pradip Kumar Singh 3A-94(M)	Genetics and Plant Breeding (Diversity Analysis)	1997
123.	"Line X Tester Analysis in Rice Bean (*Vigna umbellata* (Thunb) Ohwi and Ohashi)"	Laimayum Ajitkumar Sharma, 5A-94(M)	Genetics and Plant Breeding (Genetic Analysis)	1998
124.	"Mutagenesis and Induced Variability in Rice Bean [*Vigna umbellata* (Thunb.) Ohwi and Ohashi]"	Thokchom Renuka Devi, 8A-95(M)	Genetics and Plant Breeding (Mutation Breeding)	1998
125.	"Stability Analysis in Mungbean (*Vigna radiata* (L) Wilczek]"	Konjengbam Noren Singh, 7A-95(M)	Genetics and Plant Breeding (Stability Analysis)	1998
126.	"Physio-Morphological Evaluation and Genetic Divergence in Pea (*Pisum sativum* L.)"	Arabinda Deb Barma, 2A-96(M)	Genetics and Plant Breeding (Varietal Evaluation and Diversity Analysis)	1999
127.	"Phenotypic Stability Analysis in Tomato (*Lycopersicon esculentum*. Mill.)"	Joyashree Dey, 1A-96(M)	Genetics and Plant Breeding (Stability Analysis)	1999
128.	"Genetic Divergence in Tomato (*Lycopersicon esulentum* Mill.)"	Rita Nongthombam, 1A-97(M)	Genetics and Plant Breeding (Diversity Analysis)	2000
129.	"Partial Regression Analysis and Selection Indices for Simultaneous Selection in Rice Bean (*Vigna umbellata*(Thunb) Ohwi and Ohasi)"	Maisnam Debati Devi, 9A-97(M)	Genetics and Plant Breeding (Selection Indices)	2000
130.	"Generation Mean Analysis of Quantitative Characters in Tomato (*Lycopersicon esculentum* Mill.)"	Elangbam Sulodhani Devi, 12A-98(M)	Genetics and Plant Breeding (Generation Mean Analysis)	2002
131.	"Genetic Analysis in Tomato (*Lycopersicon esculentum* Mill.) under Different Environments"	Ngairangbam Sasmeeta, 7A-99(M)	Genetics and Plant Breeding (Stability Analysis)	2002
132.	"Genetic Analysis of Yield and its Attributes in Indian Mustard (*Brassica*	Monalisa Pukhramba	Genetics and Plant Breeding	2002

	juncea L. Czern & Coss)"	m, 8A-99(M)	(Genetic Analysis)	
133.	"Genetic Analysis of Tomato (*Lycopersicon esculentum* Mill.) Resistance to Bacterial Wilt (*Ralstonia solanacearum* Smith) Smith"	Salam Gunamani Singh, 3A-2000(M)	GPB (Genetic Analysis)	2004
134.	"Varietal Characterization, Classification and Genetic Divergence in (*Phaseolus vulgaris* L.)"	V.L. Hmangaihchhunga, 3A-2001(M)	Genetics and Plant Breeding (Varietal Evaluation and Genetic Analysis)	2004
135.	"Genetic Divergence in Soybean (*Glycine max* L. Merill)"	K. Debadutta Sharma, 1A-99(M)	Genetics and Plant Breeding (Genetic Analysis)	2004
136.	"Stability Analysis in Rice Bean (*Vigna umbellata* (Thunb.) Ohwi and Ohashi)"	Shabir Hussain Wani, 5A-03(M)	Genetics and Plant Breeding (Stability Analysis)	2005
137.	"Gene action studies in tomato *(Lycopersicon esculentum* Mill.) involving important bacterial wilt resistant lines"	N. Rakesh Singh, 14A-06(M)	Genetics and Plant Breeding (Genetic Analysis)	2009
138.	"Gene action studies on yield and its important characteristics in Pea (*Pisum sativum* L.)"	Thiyam Rebika Devi, 5A-07(M)	Genetics and Plant Breeding (Genetic Analysis)	2010
139.	"Line X tester analysis for seed yield and its components and oil yield in Indian mustard [*Brassica juncea* (L.) Czern and Coss]"	Moirangthem Sangeeta, 6A-07(M)	Genetics and Plant Breeding (Genetic Analysis)	2010
140.	"Stability analysis in Indian Mustard (*Brassica juncea* L. Czern and Coss)"	Diana Sagolsem, 21A-09(M)	Genetics and Plant Breeding (Stability Analysis)	2012
141.	"Stability analysis in groundnut (*Arachis hypogaea* L.)"	Mutum Suraj Singh, 13A-08(M)	Genetics and Plant Breeding (Stability Analysis)	2012
142.	"Stability analysis in lentil (*Lens culinaris* Medik.)"	Yumnam Indrajit Singh, 3A-10(M)	Genetics and Plant Breeding (Stability Analysis)	2012
143.	"Studies on *in vitro* anther culture of Indian mustard (*Brassica juncea* L. Czern"	N. Reetisana, 9A-10(M)	Genetics and Plant Breeding (Tissue Culture)	2012
144.	"Genetic divergence in groundnut (*Arachis*	Yaikhom	Genetics and Plant	2013

	hypogaea L.) using molecular markers and comparison with conventional D^2 divergence analysis"	Vivekanand a, 13A-10(M)	Breeding (Genetic Analysis)	
145.	"Study on genetic variability, correlation and path analysis in chickpea (*Cicer arietinum* L.)".	Lunkim Heminlun Khongsai, 17A-10(M)	Genetics and Plant Breeding (Varietal Evaluation)	2013
146.	"Study of Mutagenic Effect of EMS on Field Pea (*Pisum sativum* L. var. arvense)"	Ravi Raj Singh Patel, 24A-12(M)	Genetics and Plant Breeding (Mutation Breeding)	2014
147.	"Assessment of Genetic Diversity in Indian Mustard (*Brassica juncea* L. Czern and Coss) Genotypes for Agro-morphological Parameters"	Nongmaithe m Devshini Devi, 15A-13(M)	Genetics and Plant Breeding (Diversity Analysis)	2015
148.	"Combining Ability Studies in Field Pea (*Pisum sativum* L. var. *arvense*) for Yield and its Attributes"	Manish Kumar, 4A-13(M)	Genetics and Plant Breeding (Genetic Analysis)	2015
149.	Character association and variability studies and trait on mungbean (*Vigna radiata* L.)Wilzeck.	Konsamcha Shyamanan da. 20A-11 (M).	Genetics and Plant Breeding (Varietal Evaluation)	2015
150.	"Genetic divergence in black gram (*Vigna mungo*)"	Sunder Nongthomb am 7-A-11(M)	Genetics and Plant Breeding (Diversity Analysis)	2015
151.	"Analysis of gene effects controlling yield contributing traits in grasspea (*Lathyrus sativus* L.)"	Roda Gonmei 24A-14(M)	Genetics and Plant Breeding (Genetic Analysis)	2016
152.	"Induced Variability in Adapted Cultivars/Varieties of Indian Mustard (*Brassica juncea* L. Czern and Coss) by using Gamma Rays"	Takhellamb am Julia 23A-14(M)	Genetics and Plant Breeding (Mutation Breeding)	2016
153.	"Combining ability analysis of yield and yield contributing characters of groundnut (*Arachis hypogea* L.)"	Hijam Premila Chanu CAU/787-A/10(B)	Genetics and Plant Breeding (Genetic Analysis)	2016
154.	"Genetic diversity among soybean [*Glycine max* (L.) Merrill] genotypes based on agro-morphological parameters under rainfed condition of Manipur"	Homichon Sareo 33A-14(M)	Genetics and Plant Breeding (Diversity Analysis)	2016
155.	"Agro-morphological and Quality Characterization of Some Rice (*Oryza sativa* L.) Genotypes in Manipur"	Bomit Lourembam 37A-14(M)	Genetics and Plant Breeding (Varietal Evaluation)	2016

156.	"Combining ability studies in lentil for yield ant its attributes"	Supriya Majumder 19A-15(M)	Genetics and Plant Breeding (Genetic Analysis)	2017
157.	"Study of mutagenic effects of sodium azide on field pea (*Pisum sativum* L. arvense)"	Th. Nepolian Singh 16A-15(M)	Genetics and Plant Breeding (Mutation Breeding)	2017
158.	"Genetic variability study using SSR markers in chickpea (*Cicer arietinum* L.)"	Krishna Murari Prasad CAU/337-A/15(M)	Genetics and Plant Breeding (Marker Assisted Breeding)	2017
159.	"Molecular characterization of soybean [*Glycine max* (L.) Merril] genotypes using SSR markers"	Daisy Zirthansangi 29A-15(M)	Genetics and Plant Breeding (Marker Assisted Breeding)	2017
160.	"Line x Tester Analysis For Yield And Its Contributing Characters In Field Pea"	Soibam Tampha Devi 23A-16(M)	Genetics and Plant Breeding (Genetic Analysis)	2018
161.	"Genetic Diversity Analysis of Indian Mustard Genotypes Using SSR Markers"	Haobam Kholchandra Singh 20A-15(M)	Genetics and Plant Breeding (Diversity Analysis)	2018
162.	"Genetic variability for yield related traits and resistance to late leaf spot in Groundnut (*Arachis hypogea* L.)"	Vanlalrohlupuii CAU/328-A/16(M)	Genetics and Plant Breeding (Varietal Evaluation)	2019
163.	"Selection Indices for Improving Seed Yield in Soybean (*Glycine max* (L.) Merrill under Manipur Condition"	P. Manjunath 25A-17(M)	Genetics and Plant Breeding (Selection Indices)	2019
164.	"Genetic Variability and Character Association Studies for Higher Grain Yield and its Component Traits in M4 Mutant Lines of Indian Mustard (*Brassica juncea* L. Czern and Coss)	Ippa Srujan Kumar 34A-17 (M)	Genetics and Plant Breeding (Varietal Evaluation)	2019
165.	"Genetic divergence in lentil (*Lens culinaris* M.)	Sakthivel G 4-A-17 (M)	Genetics and Plant Breeding (Diversity Analysis)	2019
YEAR JAN 2020-MAY 2022				
166.	Genetic diversity analysis in Blackgram (*Vigna mungo* L. Hepper)	Mr. Dondiba Kundagar [49A-18(M)]	2021	On the basis of inter cluster distances, cluster means and *per se* performance revealed that the 50 genotypes were well diverged indicating that these can be further utilized in hybridization

				programme of crop improvement
167.	Diallel analysis of yield and its important components in wheat (*Triticum aestivum* L.)	Mr. Vikash Kumar Jalaj [27A-17(M)]	2021	There is considerable scope for improving the 10 genotypes used in the research through purelines and heterosis breeding too for yield and its related components.
168.	Genetic divergence studies in filed pea (*Pisum sativum* L.)	Mr. Masadi Sunil Kumar [53A-19(M)]	2021	On the basis of inter cluster distances, cluster means and *per se* performance revealed that the 47 genotypes were well diverged indicating that these can be further utilized in hybridization programme of improvement for yield and its components
169.	Character association and divergence studies in Lentil (*Lens culinaris* M.)	Mr. Seetha Ramaiah Kammela [17A-19(M)]	2021	The sixty genotypes under study are well diverse and hybridization programme can be taken up for improvement for yield and its components.
170.	Genetic variation for grain and its quality parameters in stable mutant lines of black aromatic rice of Manipur	Mr. Pittala Ravichnadra [16A-19(M)]	2022	There is substantial genetic diversity among the genotypes under study, and they can be utilized for further crop improvement programme.
171.	Genetic variation for seed and seed related characters in indigenous rice genotypes of Arunachal Pradesh	Ms. Chamin Chimyang [8-A-19(M)	2021	Some of the genotypes viz., Sakant, Twisa and Wedikachah are more preferable by the consumers due to its soft gel and sticky nature. And upland rice is very sensitive towards iron stress as compared to lowland rice.
172.	Genetic divergence among elite soybean (*Glycine max* L. Merrill) genotypes based on agro-morphological traits	Ms. Kolisetti Lakshmi Sai Mounika [19A-19(M)]	2021	On the basis of inter cluster distances, cluster means , *per se* performance and contribution of individual characters towards divergence revealed that the 100 genotypes were well diverged indicating that these can be further utilized in hybridization programme of improvement for yield and its components.
173.	Genetic assessment for seed yield and its contributing traits in yellow sarson	Mr. Raaghul R	2022	On the basis of inter cluster distances, cluster means, *per se*

	(*Brassica rapa* var. Yellow Sarson) under natural field conditions of Manipur Valley	[20A-19(M)]		performance and contribution of individual characters towards divergence revealed that the 30 genotypes were well diverged indicating that these can be further utilized in hybridization programme of improvement for yield and its components.

3 AGRICULTURAL ECONOMICS

Sl. No.	Title of thesis	Name of student	Major subject	Year of completion
RICE				
174.	Economics of Upland Rice Production in Manipur	Ms. Sylvia Moirangthem	Production Economics	2009
175.	Economics of Production and Marketing of Value Added Products of Paddy in Valley Region of Manipur	Ms. Sorensangbam Jarita Devi	Production Economics Agricultural Marketing	Jan. 2010
176.	Resource Use and Technical Efficiency of Rice Production in Manipur	Ms. Leishangthem Geetarani Devi	Production Economics	April, 2012
177.	Economics of Hybrid and Improved Varieties of Rice Production in Manipur: A Comparative Study	Mr. Yumnam Santosh Singh	Production Economics	July. 2012
178.	Economic Analysis of Wet Rice Cultivation in Champhai District of Mizoram.	Ms. Lalhmingmawii Ralte	Production Economics	Aug. 2015
179.	Production and Marketing of Low-land Rice in Ri-Bhoi District of Meghalaya	Ms. Badondor Khongshei	Production Economics Agricultural Marketing	Sep. 2016
180.	Economic Analysis of Black Rice Production in Imphal East and Imphal West Districts of Manipur	Mr. Pradeep Kumar	Production Economics	June 2017
181.	Economics of Production and Marketing of Value Added Products of Paddy in Valley Region of Manipur	Ms. Sorensangbam Jarita Devi	Production Economics Agricultural Marketing	Jan. 2010
VEGETABLE				
182.	Resource Use and Marketing Efficiency of Tomato Production in Manipur	Ms. Konjengbam Kamala Devi	Production Economics	2009

			Agricultural Marketing	
183.	Economics of Production and Marketing of Potato in Thoubal District of Manipur	Mr. Sarangthem Biroj Singh	Production Economics Agricultural Marketing	2010
184.	Economics of Cauliflower Production and Marketing in Valley Districts of Manipur	Mr. Ningombam Anandkumar Singh	Production Economics Agricultural Marketing	2011
185.	Economics of Cabbage Production and Marketing in Valley Districts of Manipur	Ms. Sonia Sagolsem	Production Economics Agricultural Marketing	2012
186.	A Study of Technical and Marketing Efficiency of Tomato in Bishnupur District of Manipur	Ms.Pebam Roshni Devi	Production Economics Agricultural Marketing	2014
187.	Economics of Winter Vegetables Marketing in Bishnupur District of Manipur	A. Elavarson	Production Economics Agricultural Marketing	2019
SPICE				
188.	Economics of Turmeric Production and Marketing in West Garo Hills District in Meghalaya.	Mr. Sandeep M. Sangma	Production Economics Agricultural Marketing	2014
FRUIT				
189.	Economics of Production and Marketing of Pineapple in Thoubal District of Manipur	Ms. Laxmi Thingbaijam	Production Economics Agricultural Marketing	2011
190.	Economics of Pineapple Production and Marketing in West Siang District of Arunachal Pradesh	Mr. Doni Sanjay Taniang	Production Economics Agricultural Marketing	2018
PLANTATION CROP				
191.	Economic Study of Small Tea Growers in Ri-Bhoi District, Meghalaya	Mr.Kynpham Bor Dkhar Sawian	Production Economics	2016
FISH				

192.	Economic Analysis of Fish Farm Production in Thoubal District of Manipur	Ms. Abhujam Anuradha Devi	Production Economics Agricultural Marketing	2009
193.	An Economic Analysis of Production and Marketing of Inland Fish in Imphal West District of Manipur.	Ms.Zimisai Saikhom	Production Economics Agricultural Marketing	2012
194.	Economics of Fish Production and Marketing in West Tripura District of Tripura	Mr. Biman DebBarma	Production Economics Agricultural Marketing	
195.	Production and Marketing of Composite Fish Farms in Bishnupur District of Manipur	Mr. Ahanthem Ronel Singh	Production Economics Agricultural Marketing	2015
LIVESTOCK AND POULTRY				
196.	Economics of Broiler Production and Marketing in Imphal Districts of Manipur	Ms. Carina Watham	Production Economics Agricultural Marketing	2010
197.	Economics of Pig Production and Marketing in Imphal West District of Manipur	Mr. H. Lalnunsanga	Production Economics Agricultural Marketing	2018
DAIRY				
198.	Economics of Milk Production and Marketing in Imphal West District of Manipur	Mr. Leishangthem Menankumar Singh	Production Economics Agricultural Marketing	2015
199.	Economics of Milk production and Marketing in Thoubal District of Manipur	O. Krishnadas Singh	Production Economics Agricultural Marketing	2019
MULTIPLE ENTERPRISE				
200.	An economic analysis of Paddy-Fish farming system in Bishnupur district of Manipur.	Th. Kanyalaxmi Devi	Production Economics Agricultural Marketing	2020
RURAL DEVELOPMENT				
201.	Impact Analysis of National Rural Employment Guarantee Act (NREGA) in Imphal-West District Manipur	Mr. GunoyThokchom	Rural Development	2012
202.	Socio-Economic Analysis of Sagolkhong Watershed Development Project: A Case Study	Mr.Thokchom Motilal Singh	Rural Development	2005

YEAR JAN 2021- MAY 2022					
Sl. No.	**Title of Thesis**	**Name of the student**	**Major Subject**	**Year of completion**	**Outcome of the research work (2-3 lines)**
203.	Production and marketing of French bean in Bishnupur district of Manipur-An economic analysis	Mr. Kenjit Tongbram [32A-18(M)]	Agri-Economics	2021	French bean growing farmers are in the age group of 36-45 years. The crop in the sample area is marketed through village traders. In order to improve the productivity and profit of the farmers, improvement of existing system varieties, irrigation facilities, farm mechanization and timely availability of farm inputs.
204.	A study on climate change effect on large cardamom based spice economy of East Sikkim District in Sikkim	Mr. Manoj Kumar N [44A-19(M)]	do	2022	The decline in the area and yield of large cardamom was noticed in the area which was due to high disease infestation. There is need for a disease resistant and climate resilient variety of large cardamom.
205.	Economics of production of Rapeseed and mustard in Imphal West district of Manipur	Ms. Gayathri H [48A-18(M)]	do	2021	Cultivation of rapeseed and mustard under zero tillage is profitable. In order to improve the cultivation inputs and production technology should be made available to farmers in time so that livelihood conditions of farmers can be improved.
206.	Study on yield gap in milk production and disposal pattern in Imphal West district of Manipur	Ms. Siripuram Haripriya [31A-19(M)]	do	2021	The yield analysis revealed a considerable difference in the milk yield of CB cows in progressive dairy farms and average dairy farms. Experience and management practice of progressive farmers may be transferred to other farmers through demonstration, thereby reducing the milk yield gap.

					As there is no organized marketing channel, there is a need for cooperative and regulated markets in the district.
207.	Effect of climate change on the livelihood of turmeric growers in Lunglei District of Mizoram State	Mr. Chetan A Iragar [21A-19(M)]	do	2022	Due to lack of marketing facility, cultivation of turmeric has been found to be decreasing. Some farmers replaced it with plantation crops, Whereas others left the land as such. There is need for awareness programmes related to climate change in the study area.
208.	Production and marketing of organic large cardamom in West District of Sikkim	Ms.Sushnim Golay [40-A-18(M)]	Do	2021	Organic large cardamom cultivation is found to be economically and financially viable. In this direction, state government should take up strong initiative for expansion of area under the crop by providing incentives and other technical support in collaboration with research institution.

PLANT PATHOLOGY				
M.Sc., Plant Pathology				
Sl. No.	**Title of Thesis (M.Sc.(Agri)**	**Name of the Student**	**Major subject**	**Year of Completion**
Name of Category (Crop) Rice				
209.	Morphological characters on Culture Media, Hyphal Anatomosis and Virulence Pattern of Some Isolates of *Rhizoctonia solani*, causing Sheath Blight of Rice.	Kumari Phanjouba Premila Devi	Plant Pathology (Variability) and Diversity)	1994
210.	Control of *Rhizoctonia Solani* Kuhn. Causal Agent of Sheath Bligh of Rice	Shri Thangjam Krishnachandra Singh	Plant Pathology (Chemical management)	1995
211.	Studies on seedling blight of Rice caused by *Sclerotium rolfsii* Sacc. in Manipur	Muhammed Hifijur Rahman	Plant Pathology (Chemical management)	1995
212.	Rice Grain Discoloration In Manipur	Shakhitombi	Plant Pathology (Disease Incidences)	1995

213.	Studies on Leaf Blotch of Rice caused by *Fusarium Solani* (MART) SACC.	Kumari Pukhrambam Pramo Devi	Plant Pathology Plant Pathology (Disease Incidences)	1998
214.	Virus-Vector Relationship of Rice Ragged Stunt Disease.	Chittaranjan	Plant Pathology (Host Vector Relationship)	1996
215.	Studies on Rice Blast &its Management with chemicals.	Marpe Riba	Plant Pathology (Chemical management)	2002
216.	Management of Stem Rot ofRice caused by Sclerotium oryzae Calt.	Sengkham W Moumin	Plant Pathology (Chemical management)	2009
217.	Present Scenario of Stem Rot of Rice And Its Management	Sumitra Phurailatpam	Plant Pathology (Management)	2010
218.	Morphological and Molecular Variability of *Rhizoctonia solani* Caused Sheath Blight of Rice and its *in-vitro* management.	Kota Chakrapani	Plant Pathology (variability and Diversity)	2019
219.	Studies on Aggregate Sheath spot disease of Rice and *In-Vitro* Management.	P.Vignesh	Plant Pathology (Disease Occurrence)	2019
220.	Studies on *Pestalotipsis oryzae* Hara. a causal agent of rice	L. Nongdren Khomba Singh	Plant Pathology (Disease Pattern)	1992
221.	Studies on the Stem Rot of Rice Caused by *Sclerotium oryzae* CNTT	K. Anupama Devi	Plant Pathology (Disease Pattern)	2002
Name of Category (Crop)- Pea				
222.	Studies on *Fusarium wilt* of Pea in Manipur	Smt. M.K. Elizabeth	Plant Pathology (Disease Pattern)	2000
223.	Management of Powdery Mildew Diseases of Pea Caused by *Erysiphe polygoni*	Aribam Dayarani	Plant Pathology (Chemical management)	2015
224.	Influence of Plant Extractonn Powdery Mildew (*Erysiphe Polygoni* D.C.) of Pea (*Pissum Sativum*) C.V.Makhyatmube in Manipur	Tasso Tabin	Plant Pathology (Plant Extract management)	2005
225.	Management of *Fusarium* Wilt of Pea (*Pisum sativum* L.) by Native *Trichoderma* in Manipur.	Dipika Debbarma	Plant Pathology (Biocontrol management)	2015
Name of Category (Crop)- Chilli				
226.	Studies on *Fusarium* of Chilli in Manipur	R. Zangbell	Plant Pathology (Disease Pattern)	1995
227.	Bio-efficiency of Plant Extracts and Modified Panchgavya(MPG)	Gaichui Gangmei	Plant Pathology (Biocontrol-Management)	2008
228.	Present scenario of *Cerscospora* disease of Chilli (Capsicum Species) and it management.	Betsy Deineihoi Haokip	Plant Pathology (Management)	2010
229.	Effect of seed treatment with locally available botanicals on seed mycoflora of chilli (*Capsicum annuum* L.)	Soraisham Debala Devi	Plant Pathology (Seed Pathology)	2011

230.	Studies on Variability of Native *Trichoderma* spp. ad Their *In-vitro* Effect on *Sclerotium rolfsii* Sacc. Causing Collar Rot of Chilli.	V. Bhuvaneswari	Plant Pathology (Biocontrol-variability)	2019
231.	Studies on Viral diseases of King chilli(*Capscicum Chinese* Jacquin)	Sapam Monteshori	Plant Pathology (Plant Virus-Disease incidence)	2013
232.	Studies on Major Fungal diseases of Chilli &their Management in Manipur.	Leena Bongshing	Plant Pathology (Management)	2000
233.	Morphological and Molecular Variability of *Collectrotrichum capsici* causing Anthracnose of Chilli in Valley Districts of Manipur and its Management	Roseline Salam	Plant Pathology (Variability-Management0	2018
Name of Category (Crop)- Maize				
234.	Detection of Seed borne fungi of Maize (*Zee Mayas* L.) and its management	Tayenjam Dipu	Plant Pathology (Detection and Management)	2012
Name of Category (Crop)- Groundnut				
235.	Exploration of Native *Trichioderma* Species for the management of Stem Rot of Ground nut (*Arachis hypogeae* L.) caused by *Sclerotium rolfsii* Sacc.	Khwairakpam Rashmi	Plant Pathology (Biocontrol - Management)	2014
236.	Management of Tikka disease of Groundnut (*Arachis hypogaea*).	Rosangpuii	Plant Pathology (Disease incidence and Management)	2017
Name of Category (Crop)- Broad bean				
237.	Physiology and Management of *Alternaria Altrnata* (Fr.) Keissler Causing Broadbean(*Vicia Faba* L.) Leaf Blight	David Kamei	Plant Pathology (Management)	2002
238.	Studies on Canker of Broadbean and its Management	N.Ibohal Singh	Plant Pathology (Management)	2002

Name of Category (Crop)- Tomato				
239.	Cultural Morphology, Physiological Characteristics and Management of *Alternaria Solani* (Ellis and Mart) Jones and Grout Causing Fruit Rot of Tomato. (CROP-Tomato)	N. Olivia Devi	Plant Pathology (Management)	2002
Name of Category (Crop)- Potato				
240.	Studies on Potato Leaf Roll Virus diseases in Manipur	Ksh. Kunjaraj Singh	Plant Pathology (Virus-Management)	2002
241.	Status of PotatoLeaf roll Virus in Plain areas of Manipur and its Management.	Thokchom Nimaichand Singh	Plant Pathology (Virus-Management)	2002
242.	Status of Early Blight and Alternaria Solani(F&M)Jones and Grout of Potato (*Solanum tuberosum* L.) and its Management.	N. Madhuraja Singh	Plant Pathology (Management)	2002
243.	Effect of Native Trichoderma Spp. on Management of Important Fungal Diseases of Potato in Manipur.	Ravi Regar.	Plant Pathology (Biocontrol Management)	2002
Name of Category (Crop)- Mustard				
244.	Studies on Mosaic disease of Broad Leaf Mustard (*Brassica juncea* Var. *Rugosa Roxb. Tse and Lee*)	Mihir Lal Das	Plant Pathology (Virus-Management)	2002
245.	Studies on Transmissionn and Management of Mosaic disease of Broad leaf Mustard (*Brassica Juncea* Var. *Rusosa Roxb. Tsen and Lee*)	Laishram Ranjana Devi	Plant Pathology (Management)	2002
246.	Insect Transmission of Mosaic Diseases of Broad Leaf Mustard and Influence of Certain Organic Products on it Transmission by *Myzus perpicae* Slz.	Samuel Lalliansanga Pacruan	Plant Pathology (Management)	2002
247.	Studies on Wilt of Rapeseed caused by *Fusarium moniliforme* Sheld.	Ngangbam Anita Devi	Plant Pathology (Manageme	2002

			nt)	
248.	Management of White stem of Rapeseed and Mustard by Native Trichoderma species.	R.K. Nirupama	Plant Pathology (Biocontrol - Management)	2002
249.	Evaluation of local Cultivars of Rapeseed and Mustard against White Rust caused by *Albugo candida* and Management of the disease.	Sahena Tongbram	Plant Pathology (Management)	2002
250.	Studies on Alternaria Leaf Blight of Rapeseed and Mustard .	Angela Laltanpui	Plant Pathology (Management)	2002
251.	Reaction of *Albugo candida* to local cultivars of rapeseed and Mustard in Manipur.	Tusi chakma	Plant Pathology (Host Pathogen Interaction)	2002
Name of Category (Crop)- Ginger				
252.	Biocontrol of Soft Rot of Ginger (*Zingiber officinale* Rosc.) by *Trichoderma* species.	Thokchom Surjit Singh	Plant Pathology (Biocontrol - Management)	2002
Name of Category (Crop)- Brinjal				
253.	Leaf Mold of Brinjal (*Cladosporium fulvum* Cooke) and its management.	Prashant	Plant Pathology (Management)	2002
254.	Cultural,Morphological Characteristics and its Management of *Phomopsis Vexans(Sacc. &Syd.*) Harter the causal Pathogen of Brinjal Fruit Rot	K.Beiralua	Plant Pathology (Diversity-Management)	2002
255.	Morphological ,Physiological and Molecular Characterization of *Alternaria alternate* Isolates Causing Brinjal Fruit Rot.	Marjit Chandam	Plant Pathology (Variability)	2002
Name of Category (Crop)- Tree Bean				
256.	Studies on Tree Bean (*Parkia roxbhurgii*)	Linda	Plant	2002

	Decline in Perspective of Plant Pathology in Manipur.	Lalduhzuali	Pathology (Detection)	
Name of Category (Crop)- Papaya				
257.	Characterization, Genetic Diversity and Development of Immunocapture-Reverse Transciption -PCR based Diagnostics for *Papaya ring spot virus* , prevalent in Manipur.	Prateek Ranjan Behera	Plant Pathology (Detection)	2002
Name of Category (Crop)- Blackgram				
258.	Detection of Seed Borne pathogens of Black gram (Vigna Mungo (L.) hepper)	Thoidingjam Jugitabali Devi	Plant Pathology (Detection)	2002
Name of Category (Crop)- Turmeric				
259.	Leaf spot disease of turmeric (Curcuma Longa L.) and its management.	Yanglem Herojit	Plant Pathology (Management)	2002
Name of Category (Crop)- Soybean				
260.	A study on Pod Blight of Soybean (Glycire max L.) and its Management by Native Trichoderma Spp. In Valley Areas of Manipur.	C.Lalhruaitluangi	Plant Pathology (Bocontrol-Management)	2002
Name of Category (Crop)- Mango				
261.	Studies on Anthracnose Diseases of Mango in Manipur	N. Ingobi Singh	Plant Pathology (Management)	2002
262.	Studies on wither tip of mango (*Mangifera Indica* Lin.) and its Management.	Kripalini Ningombam	Plant Pathology (Management)	2002
263.	Grey Leaf Spot of Mango (*Mangifera indica* L.) and its management.	M.Indira Devi	Plant Pathology (Management)	2002
264.	Variability & Molecular Characterization of Pestalotiopsis mangiferae Bult. Causing Grey Leaf Spot of Mango	Ch. Inao Khaba	Plant Pathology (Variability)	2002
265.	Post Harvest Diseases of Mango (*Mangifera*	Rahee Bui	Plant	2002

	indica L.)		Pathology (Post Harvest-Management)	
Name of Category (Crop)- Banana				
266.	Studies on Leaf Spot of Banana(*Musa* Sp.) var. Dwarf Cavendish ad its management.	Prema Devi Hemam	Plant Pathology (Management)	2002
267.	Major Fungal Diseaes of Mature Banana Fruit and its Managment in Manipur.	Yogesh Sharma	Plant Pathology (Management)	2002
Name of Category (Crop)- Citrus				
268.	Wither Tip of Citrus (*Citrus* spp) and its Management	Apswari Murasing	Plant Pathology (Management)	2002
269.	Present Scenario of Citrus Die-Back and its Management	Laishram Reenita Devi	Plant Pathology (Management)	2002
Name of Category (Crop)- Guava				
270.	Leaf Spot Disease of Guava (*Psidium guajava* L.) and its management.	L. Gorvachov Singh	Plant Pathology (Management)	2002
Name of Category (Crop)- Marigold				
271.	Morphological and Molecular Characterization of *Alternaria* spp. Causing Alternaria Blight of Marigold an d its Management.	Tokmem Siram	Plant Pathology (Variability - Management)	2002
Name of Category (Crop)- Sunflower				
272.	Studies on Stella Rot of Sunflower Caused by Alternaria alternate(Fr.) Keissler in Manipur	M. Gojendro Singh	Plant Pathology (Management)	2002

Name of Category (Crop)- Others					
273.	Efficiency of Biocontrol Agent and Plant Extracts on Phyto pathogenic Fungi	Sharmila Naorem	Plant Pathology (Biocontrol, Plant Extracts-Management)		2002
274.	Studies on Damping -off of Vegetable Seeds and its Management.	Salma Begum	Plant Pathology (Management)		2002
275.	Mass Production of *Trichoderma Viride* with locally available materials.	Markidahun Biam	Plant Pathology (Biocontrol mass production)		2002
276.	Morphological and Molecular Variability of *Sclerotium rolfsii. Sacc* and *in vitro* Management.	K. Dinesh	Plant Pathology (Variability-Management)		2002
277.	Management of Soil Borne Diseases of Chickpea (*Cicer arietinum* L.) by Native *Trichodderma* Species.	W. Tampakleima Chanu	Plant Pathology (Biocontrol-Management)		2002
278.	Management of *Fusarium* Wilt of Pea (*Pisum sativum* L.) by Native *Trichoderma* in Manipur.	Dipika Debbarma	Plant Pathology (Management)		2002
279.	Studies on *Fusarium* wilt of Pigeon pea and *In vitr*o Management	Poorvasandhya R.	Plant Pathology (Management)		2002
YEAR JAN 2020- MAY 2022					
280.	Study on the Effect of Temeperature , pH and Sugar on Growth of *Lasiodiplodia theobromae* Associated with Tree Bean Decline under *in vitro* Condition	Sruti Ranote	Plant Pathology	2021	i) Increase in temperature and sugar concentration found favourable for growth of *L. theobromae* ii) pH, temperature and sugar concentration separately and in combination significantly affected the growth of *L. theobromae*.
281.	Management of *Fusarium* Wilt of tomato (*Lycopersicum esculentum* Mill.*)* by Liquid formulation of *Tricoderma* spp.	Yengkhom Premica Devi	Plant Pathology	2021	i) *T.viride* treated plot showed 9.52% of disease incidence as compare to 24.40% in control plot *ii) T. viride* treatment plot showed increase in fruit number and yield of 3.37 benefit cost ratio.

3. EXTENSION EDUCATION					
Sl. No	**Title of M.Sc. (Ag) Thesis**	**Name of Student & Adm. No.**	**Major Subject (Extension Education)**		**Year of Completion**
			Major Subject	**Cereals/ Vegetables/ Technology**	
282.	Decision-Making Behaviour of the Farm Woman (The Meiteis) in Agriculture	Ms. T. M. Chanu	Decision-Making Behaviour	Farm Women in Agriculture	11-07-06
283.	A Study on Correlation Between Crop Productivity and Selected Characteristics of Farmers in Sikkim	Mr. Bhishon Pradhan	Crop Productivity	Cereals	12-09-07
284.	Training Need Areas of potato Growing Tribal Farm Women in Meghalaya	Ms. Sanchita Roy	Training Need Assessment	Potato	05-01-08
285.	Impact of Activities of KVK with Special Reference to Dissemination of Rapeseed Mustard Production Tech. in South Tripura District (Tripura)	Mr. Guru Prasad Kar	Impact of Activities of KVK	Rapeseed Mustard	03/09/08
286.	Study on Effectiveness of women SHGs on Imphal East District Manipur	Ms. K. Tamphasana	Effectiveness of women SHGs	Women SHGs	16-02-09
287.	A Study on the Entrepreneurial Behaviour of Vegetable Grower in Bishnupur District of Manipur	Mr.S. Sadananda Singh	Entrepreneurial Behaviour	Vegetables	12-06-09
288.	Training Need Assessment of Assistant Agriculture Officers of Manipur	Ms. Sanatombi Kh.)	Training Need Assessment	Assistant Agriculture Officers	05-08-09
289.	Impact of Front Line Demonstrations of Rice Production in Valley Areas of Manipur	Ms.L. Bekeshori Devi	Front Line Demonstrations	Rice	06-11-09
290.	A Study on Adoption of Integrated Pest Management of Cabbage and Cauliflower in Imphal East District of Manipur	Ms.U. Supriya Devi	Adoption	Cabbage andCauliflower	13-11-09

291.	A Study on Adoption of Pineapple Cultivation Practices by the Trival Farmers of Churachandpur District, Manipur	Mr.David J. Baite	Adoption	Pineapple	25-11-10
292.	A Study on the Decision-Making Behaviour of the Tribal Farm Women in Agriculture in West Garo Hills District, Meghalaya	Ms.Chivandi D. Momin	Decision-Making Behaviour	Tribal Farm Women in Agriculture	29-11-10
293.	A study on Communication Behaviour of Potato Growers in East Khasi Hills District, Meghalaya	Mr.Drulson Rangslang	Communication Behaviour	Potato	21-09-11
294.	A Study on Adoption of Reparsed Mustard in Zerotillase Cultivation Practices of Imphal West District, Manipur	Ms.A. Subhashini Devi	Adoption	Reparsed Mustard	12-08-11
295.	Study on Empowerment of Women of Self Help Groups (SHGs) of West Tripura District, Tripura	Ms.Usharani Das	Empowerment of Women of Self Help Groups (SHGs)	Self Help Groups (SHGs)	16-01-12
296.	A Study on the Woman Entrepreneur of Ima Market in Imphal West District of Manipur	Ms.Laishram Jayarani	Woman Entrepreneur of Ima Market in Imphal	Ima Market	16-04-12
297.	A Study on Awareness of the Job Card Holder under NREGA in Imphal West District, Manipur.	Ms.Kh. Stina	Awareness of the Job Card Holder under NREGA	NREGA	26-09-12
298.	A Study on Adoption Behaviour of Rabi Vegetable Crops by the Farmers of Sawombung Block of Imphal East District, Manipur	Ms.Gunesh ori Maisnam	Adoption Behaviour	RabiVegetable	05-10-12
299.	A Study on the Adoption of Package of Practices of Hybrid Rice Cultivation by the Farmer of Keirao Bitra Block, Imphal East District Manipur	Mr.Th. Boboy Singh	Adoption	Rice	01-12-12
300.	A Study on the Technological Crop of Recommended Package or Practices of Hybrid Rice	Mr.Kangjam Santosh Singh	Technological Crop of Recommen	Rice	01-12-12

	Cultivation by the Farmers of Imphal East District, Manipur		ded Package		
301.	A Study on the Knowledge Level of Poultry Husbandary Practices by the Poultry Farmers of Imphal West District, Manipur	Mr.Mangle mba Paonam	Knowledge Level of Poultry Husbandry Practices	Poultry Farmers	21-11-12
302.	A Study on Sustainable Livelihood of Loktak Lake Islanders of Bishnupur District, Manipur	Ms.Sunanda Takhellamb am	Sustainable Livelihood of Loktak Lake	Loktak Lake	06-08-13
303.	A Study on Agricultural and Allied Enterprises in Imphal West District of Manipur	Ms.Ningtho ujam Margaret	Agricultural and Allied Enterprises	Enterprises	06-11-13
304.	A Study on Knowledge Assessment and Training Needs of Pesticides Retailers of Imphal East and Imphal West District of Manipur	Ms.Priyadar shini Elangbam	Knowledge Assessment and Training Needs	Pesticides Retailers	06-11-13
305.	A Study on Mass Media Exposure of the Students of North Eastern Hill University, Tura Cmpus, West Garo Hills, Meghalaya	Ms.Tasri R. Marak	Mass Media Exposure	Students	21-11-13
306.	A Study on Behavioural Changes of Adopted Farmers Under KVK Andro of Imphal East District, Manipur	Mr.Moirang them Universe Singh	Behavioural Changes of Adopted Farmers	KVK	27-01-14
307.	A Study on Entrepreneurial Behaviour of Potato Growers in Imphal East District, Manipur	Mr.Thokcho m Keniyo Singh	Entrepreneu rial Behaviour	Potato	10-03-14
308.	Extent of Farm Women's Participation in Rice Cultivation in Tamenglong District of Manipur	Ms.Machu m Remmei	Extent of Farm Women's	Rice	31-01-15
309.	A Micro Level Study on Adoption Behaviour of TPS (True Potato Seed) Growers in Khowai District of Tripura	Ms.Garani Debbarma	Adoption/E xtent	Potato	31-01-15
310.	A Study on Training Needs Assessment of Rice Growers of Horang Sabal Block, Imphal West District, Manipur	Ms.Khundra kpam Homeshwar i Devi	Training Needs Assessment	Rice	03-08-15

311.	A Study on Adoption Behaviour of System of Rice Intensification (SRI) Technology by the Farmers of Dhalai District, Tripura	Ms.Bichitra Debbarma	Adoption Behaviour of System of Rice Intensification (SRI) Technology	Rice	03-08-15
312.	Assessment of Training Programmes Through Perception of KVK (Andro) Trainees in Imphal East District of Manipur	Ms.Deepa Thangjam	Training Needs Assessment	KVK	13-07-16
313.	A Study on Effectiveness of Women Self Help Groups (Handloom) In Imphal West District, Manipur	Ms.Debikarani Chungkham	Effectiveness of Women Self Help Groups (Handloom)	Self Help Groups	13-07-16
314.	A Study on Information and Communication Technologies (ICTs) Exposure of the P.G. Students of Central Agricultural University Imphal, Manipur	Mr.Rilangbor Dkhar	Information and Communication Technologies (ICTs) Exposure	P.G. Students	13-07-16
315.	A Study on Training Needs Assessment of Potato Growing, Tripura West District of Tripura	Mr.David Debbarma	Training Needs Assessment	Potato	24-01-17
316.	A Study on Training Needs Assessment of Sugar Cane Growers in Shriganda Block, Ahmadnagar District, Maharastra	Mr.Dangalde Kiran Sakharam	Training Needs Assessment	Sugar Cane	24-01-17
317.	A Study on Communication Behaviour Among the Rice Growers in Haorang Sabal Block, Imphal West District, Manipur	Mr.Ediga Ravi Goud	Communication Behaviour	Rice	06-07-17
318.	Extent of Opportunities in Rice Cultivation Practices of Lohit District of Arunachal Pradesh	Ms.Weijimlu Tayang	Adoption/Extent	Rice	17-07-17
319.	A Study on Newspaper Reading Behaviour Among Imphal Urban Women in Manipur	Ms.Bandana Yumnam	Newspaper Reading Behaviour	Newspaper	11-08-17
320.	A Study on Entrepreneurial Behaviour of Tribal Farmers in Senapati District of Manipur	Ms.S. Kareini Kayina	Entrepreneurial Behaviour	IFS	06-07-18

			of Tribal Farmers		
321.	A Study on Women's Participation in Silk Industry in Imphal West District of Manipur	Ms.W. Miranda	Women's Participation in Silk Industry	Silk	06-07-18
322.	A Study on the Role Performance of the Agricultural Extension Personnel (Assistant Technology Manager) in the Revitalized Extension System in Manipur	Ms.Rebani Akoijam	Revitalized Extension System	ATMA	09-08-18
323.	A Study on Utilization Pattern of Mobile Phone Among Registered Women Vendors in Imphal Ema Market of Manipur	Mr.Ch. Narendrajit Singh	Utilization Pattern of Mobile Phone	Women Vendors	09-08-18
324.	A Study on Technology Gap in Orange Production Technology in West Siang District of Arunachal Pradesh	Mr.Ngaken Yongam	Technology Gap	Orange Production	26-07-19
325.	A Study on Training Needs Assessment of Tomato Growers in West Jaintia Hills District of Meghalaya	Ms.Ebiang mitre Pale	Training Needs Assessment	Tomato	23-07-19
326.	A Study on Effect of Internet Utilization Among Undergraduate Students in College of Agriculture, Central Agricultural University, Imphal, Manipur	Mr.S. Harish Kumar	Effect of Internet Utilization	Undergraduate Students	23-07-19
327.	A Study on Technological Gap in Turmeric Production Technology by the Farmers of West Jaintia Hills District, Meghalaya	Ms.Phidalangki Lyngdoh	Technological Gap	Turmeric	26-07-19
328.	A Study on the Adoption Behaviour of Vegetable Crops Growing Farmers of Bishnupur District of Manipur	Mr.Godfrey Tore	Adoption Behaviour	Vegetable Crops	03-08-20
329.	A Study on the Training Needs Assessment of the Subject Matter Specialist (SMSs) of the Krishi Vigyan Kendra (Farm Science Centre) in Manipur, India	Mr.Mhike Augustine	Training Needs Assessment	Subject Matter Specialist (SMSs	03-08-20

YEAR JAN 2020- MAY 2022					
Sl. No.	**Title of the thesis**	**Name of the student**	**Major Subject**	**Year of completion**	**Outcome of the research work.(2-3 lines)**
330.	Impact of Integrated Farming System on the Socio-Economic Status of Farmers Under 'Mera Gaon Mera Gaurav (MGMG)' Programme in Bishnupur District of Manipur	Ms. Suparna Dey Adm. No. 2A -18(M) Regn.No – U-18-MN-01-002-M-A-013	Extension Education	2021	Problems like lack of training program, changing market price, lack of knowledge about IFS, cost of HYV seeds, complexity of credit facilities and high wages of labor were the major prevalent issues faced by the MGMG farmers.
331.	A Study on Training Needs Assessment of Kiwi Growers in Lower Subansiri District of Arunachal Pradesh	Ms. Hage Yadii Adm. No. 14A -18(M) Regd.No – U-18-MN-01-002-M-A-024	Extension Education	2021	It was found that age, land holding, annual income, training exposure and innovation proneness were the important factors which had significant influence over the training needs of the respondents. Hence, the variables could be termed as good predictors that can be effectively used as a tool for the assessment of training needs of the kiwi growers in the future.
332.	A Comparative Study on Adoption of Organic and Inorganic Pesticides by the Vegetable Growers on Bishnupur District of Manipur	Mr. Darelli Naveen Adm. No. 46A -18(M) Regd.No – I-18-MN-01-002-M-A-006	Extension Education	2021	Education, farming experience, farm size, annual income, input availability and risk taking availability were found as important factors, which contributed to the overall extent of adoption of organic and inorganic pesticides among the vegetable growers in the Bishnupur district of Manipur. Use of these findings in State will be fruitful for livelihood

					improvement of vegetable growers.
333.	A Study on Utilisation Pattern of Information and Communication Technology by the Farmers of Farmer First (Farm, Innovations, Resources, Science and Technology) Programme, Imphal East District of Manipur	Mr. Nethaji M. Adm. No. 15A -18(M) Regd.No – U-18-MN-01-002-M-A-025	Extension Education	2021	The majority of farmers had a low to medium level of ICT institutions usage. This leaves a broad scope to boost the farmers to use ICT by holding awareness campaigns and meetings.
334.	Attitude of Girl Students Studying in College of Agriculture, Central Agricultural University, Imphal Towards Higher Agricultural Education	Ms. Yousra Omer Osman – Adm. No. 37A -19(M) Regd.No – F-19-MN-01-002-M-A-042	Extension Education	2021	The variables such as, academic performance, ICT exposure, and occupational aspirations had contributed significantly with the attitude of girl students towards higher agricultural education. It is therefore, recommended that more efforts should be made by the Government, agricultural universities and other organizations to develop these characters more in girl students.
335.	Study on Enterpreneurial Behaviour of Orange Cultivators in Chuchuyimlang Block, Mokokchung District, Nagaland	Mr. Wachapong Kichu Adm. No. 4A-19(M) Regd. No – U-19-MN-01-002-M-A-001	Extension Education	2021	The fact that majority of the orange cultivators had medium entrepreneurial behaviour is a clear indication of the progressiveness of the farmers. Therefore, it calls for intensification of educational efforts and policy support to the farmers by the field extension workers of the development departments, NGOs and private organizations.
336.	Extent of Adoption of Rice	Ms. Irom	Extension	2021	The results of the

	Variety CAU-R1 in Sawombung Block of Imphal East District, Manipur	Rati Chanu Adm. No. 49A-19(M) Regd. No – U-15-MN-01-002-B-A-007	Education		findings revealed that variables such as socio-economic status, social participation, training received, innovation proneness, extension contact, mass media exposure and marketing facilities were significantly correlated with adoption behaviour of CAU-R1 growers at 0.01 level of significance. These findings can be utilized by state departments in their future planning.
337.	A Social Study of Adaptation Strategies to Climate Change Effect on Cardamom Cultivation in East Sikkim District of Sikkim	Ms. Posibia Meinam Adm. No. 50A-19(M) Regd. No – U-19-MN-01-002-M-A-031		2021	Diseases and pests were the major problem in the study area. Thus, urgent need for research and development interventions is required for developing disease resistant planting materials.

SOIL SCIENCE AND AGRICULTURAL CHEMISTRY

M. Sc. (Agri)

A. Nutrient Management

Sl. No.	Title of thesis	Name of student	Major subject	Year of completion
328.	Integrated Nutrient Management in Rainfed Rice	Zoliana Chhangte	SSAC	2002
329.	Management of zinc fertilizer for rainfed rice (*Oryza sativa* L. var. CAU-R-1) ecosystem of Manipur	Maibam Chintu Singh	SSAC	2012
330.	Nitrogen Transformation in Paddy Soil Fertilized with Organic Manures and Urea	Khundrakpam Manorama	SSAC	2016
331.	Phosphorus Transformation in Paddy Soil Fertilized with Single Super Phosphate and Rock Phosphate	Sudip Sarkar	SSAC	2017

332.	Transformation of Zinc in Soils under Submerged Condition and its Relation to Zinc Nutrition of Lowland Rice (*Oryza sativa*)	Konda Reddy	SSAC	2018
333.	Boron Transformation in Paddy Soil Fertilized with Boron and FYM	Animesh Sarkar	SSAC	2020
RAPESEED				
334.	Effect of nitrogen, sulphur and mulching on the growth, seed yield and oil content of rapeseed (*Brassicacampestris* var. Toria)	Lairenlakpam Somendro Singh	SSAC	2002
335.	Effect of Sulphur and Zinc Levels on Growth, Seed Yield and Oil Content of Rapeseed (Brassica campestris)	Naorem Chanu Gulleibi	SSAC	2016
TOMATO				
336.	Effect of Vermicompost and Boron on Yield and Fruit Quality of Tomato (*Lycopersicon esculentum* cv. Pusa Ruby)	Athokpam Haribhushan	SSAC	2005
337.	Effect of Zinc and Boron on the Growth and Yield of Tomato (*Solanum lycopersicum*) in Acid Soils	D. Gopal	SSAC	2018
CITRUS				
338.	Development of Diagnostic Techniques of Khasi Mandarin Grown in Manipur	L. Devarishi Sharma	SSAC	2012
POTATO				
339.	Effect of Integrated Nutrient Management on Soil Fertility and Productivity in Potato in Acid Soil	Dorjee Tsering	SSAC	2016
LEGUME				
340.	Phosphorus Transformation in Rock Phosphate Fertilized soil Amended with Organic manures and Lime	Tshering Palden Bhutia	SSAC	2017
341.	Comparative Efficiency of Zinc with and without organic manure in growth and effect of organic amendments in Zinc Nutrition of Chckpea (*Cicer arietinum*)	T. Vikashkumar	SSAC	2017
342.	Comparative Efficacy of Different	Vanlalmuanpuia	SSAC	2018

	Manures on Chickpea (*Cicer arietinum* L.)	Fanai		
343.	Nitrogen Transformation in Soil Amended with Humic Acid Derived from Organic Manures	Geeta Nongmeikapam	SSAC	2018
344.	Phosphorus Transformation in Rock Phosphate Fertilized Soil Applied with Phosphorus Solubilizing Bacteria and Farm Yard Manure	Akhil Dev Tamalam	SSAC	2020
345.	Boron Transformation in an Acid Soil Applied with Boron and Lime	Hiren Das	SSAC	2020
346.	Effect of Nitrogen and Molybdenum on Soil Properties and Yield of Pea (*Pisum sativum* L.)	Ch. Karuna Chanu	SSAC	2020
B. NUTRIENT STATUS IN SOIL				
347.	Study on different forms of potassium in acid soils of Manipur	R.K. Umakanta Singh	SSAC	2004
348.	Distribution of some micronutrients in relation to soil properties on citrus orchard of Tamenglong, Manipur	K. Vikramjeet	SSAC	2010
349.	Vertical distribution of some micronutrients in relation to soil properties of citrus orchard of Ukhrul, Manipur	Vashainao Somiphang Zimik	SSAC	2011
350.	Distribution of micronutrient in the soil of Imphal East and West District of Manipur	Kh. Surmani Singh	SSAC	2012
351.	Status and different forms of phosphorus in acid soils of Imphal East district, Manipur	Wangthem Herojit Meetei	SSAC	2013
352.	Status and different forms of phosphorus in acid soils of Imphal East district, Manipur	Linthoi Watham	SSAC	2013
353.	Distribution of Micronutrients in the Paddy Fields of Thoubal and Bishnupur Districts of Manipur	L. Punilkumar Singh	SSAC	2014
354.	Status and different forms of phosphorus in acid soils of Imphal East district, Manipur	Rabichandra Khangembam	SSAC	2015
355.	Micronutrient Status of Soils Under Different Landuse System in Manipur	Ningombam Riyabati	SSAC	2016
356.	Status and different forms of zinc in	Lalramdinpuia Ralte	SSAC	2017

	soils of Imphal West district, Manipur				
357.	Vertical distribution of micronutrients in the soils under Jhum land in Chandel district, Manipur	Hrangbung jurist Anal		SSAC	2018
358.	Micronutrients status in the soils of orange orchard (Citrus reticulate Blanco) of Tamenglong district, Manipur	Laikhuram Banarjee Singh		SSAC	2019
359.	Forms of Boron and their Relationship with Some Physico-Chemical Properties of Soil	Ann Maria Joseph		SSAC	2019
360.	Status of zinc in the soils of Imphal East district, Manipur	Pawan Kumar		SSAC	2020
361.	Status and distribution of zinc in the soils of Thoubal district, Manipur	Lalitha Gollapudi		SSAC	2020
C. LIMING					
362.	Characterization of Acid Soil and Lime Requirement of Bishnupur District, Manipur	Pebam Bidyananda Singh		SSAC	2014
D. CRITICAL LIMIT OF NUTRIENT					
363.	Distribution of Secondary Macro Nutrients and Estimation of Critical Limits of Magnesium for Green Gram	V. Venkatesh		SSAC	2018
364.	Standardization of Soil Test Methods and Establishment of Critical Limits of in Soils of Manipur	Laxmi Ningthoujam		SSAC	2019
E. SOIL MOISTURE AND NUTRIENT					
365.	Nitrogen Transformation in Soil Amended with Organic Manures at Different Moisture Regimes	T. Sanahanbi Devi		SSAC	2014
YEAR JAN 2020 -MAY 2022					
366.	Phosphorus Transformation in Rock Phosphate Fertilized Soil Applied with Phosphorus Solubilizing Bacteria and Lime	Nakeertha Venu Adm. No. 47A-19(M	Soil Science & Agricultural Chemistry	2021	i. Application of rock phosphate in combination with PSB and lime is feasible to obtain higher yield of green gram in acid soils of Manipur. Combined application of PSB and lime enhanced organic P

					mineralization thereby increasing soil P availability, growth and yield of green gram.
367.	Boron Transformation in an Acid Soil Applied with Boron and FYM	Laishram Nikita Devi Adm. No. 05A-19(M)	Soil Science & Agricultural Chemistry	2021	i. Application of boron and FYM significantly influenced different boron pools, plant boron uptake and yield of green gram (var. DGGS-4). ii. Application of boron at 2 kg ha^{-1} in combination with FYM at 5 t ha^{-1} exhibited superiority among all the other treatment combinations in maintaining and improving the retention level of accessible boron content and yield of green gram (var. DGGS-4) grown in an acid soil of Maibam Chingmang, Nambol, Bishnupur.
368.	Influence of Boron and Sulphur on Soil Properties and Yield of Broccoli (*Brassica oleracea* var. *italica*)	Rafiya Choudhury Adm. No. 51A-19(M)	Soil Science & Agricultural Chemistry	2021	i. Combined application of 30 kg S ha^{-1} and 1 kg B ha^{-1} was found superior in terms of yield, yield parameters, nutrient content, net returns and B:C ratio (3.30). ii. Hence, it is advisable to the farming community that application of 30 kg S ha^{-1} + 1 kg B ha^{-1} was economically profitable for obtaining higher productivity and quality in broccoli besides maintaining sulphur and boron status in soil.
369.	Status and Different Forms of Phosphorus in Acid Soils of Kakching District, Manipur	Trishanku Kashyap Adm. No. 9A-19(M)	Soil Science & Agricultural Chemistry	2021	i. The amount of inorganic P fractions in the soils of Kakching District, Manipur was in the order: Red P>Fe-P>Al-P>Occl-P>Ca-P>Sal-P. ii. Extracting power of the different extractants was in the order: Troug> Bray 2> Bray 1> Mehlich 3> Olsen (pH-8.5)> Mehlich 1. iii. Critical levels of P in soil and green gram were found to

					be 20 kg P_2O_5 ha^{-1} and 0.43%, respectively.
7. HORTICULTURE					
Pomology					
370.	Bearing behaviour of Mango Cultivation ”Moreh” (*Mangiferaindica* L.) under different nutritional levels	W. Prameshwar Singh	Pomology	1993
371.	Study on the Effect of Ethrel, Calcium carbide and Spacing on the Growth, Flower Induction and Yield of Pineapple (*Ananascomasus*)	Mannianching	Pomology	1994
372.	Effect of N P K and Mulching on Growth, Yield and Quality of Dwarf Mango(*Mangiferaindica L.*) var. Morch	M HepuniThangal	Pomology	1995
373.	Effect of Potasium and Sneker Size on Grogth, Yield and Quality of Pine-apple (*Ananascorosus*L Merr) Var Kew	M Bimola Devi	Pomology	1996
374.	Effect of Mulching and Mode of Fertilizer Application on Growth, Yield and Quality of Pine-apple (*Ananascomosus*L. Merr) cv Kew	N Nepolean Singh	Pomology	2000
375.	Effect of Nitrogen and Potassium on Growth, Yield and Quality of First Ratoon Pine-apple	SanasamSanjoy Singh	Pomology	2002
376.	Effect of Nitrogen and Potassium on Growth, Yield and Quality of First Ratoon Pine-apple (*Annanascomosus* L. Merr) var. Kew	S Sanjoy Singh	Pomology	2002
377	Effect of potassium nitrate and zinc sulphate on growth, yield and quality of dwarf mango (*Mangiferaindica L.)*varKhongnembi syn. Moreh	Catherine Chozah	Pomology	2004
378.	Effect of Seasons in the Preparation of Juive, Canning and Squash of Pine-apple *(AnanasComosus L. Merr)* var. Kew in Manipur	KhPremlata Devi	Pomology	2004
379.	Effect of Organic Manures and Biofertilizers on Growth and Fruitset of Pine-apple *(Auanascomosus*L. Merr.) Var. Kew	HemantaNgangom	Pomology	2005
380.	Studies on the in Victroshoot-Tip	Robert Lalringsang	Pomology	2005

	Culture of Banana Var. MeeteiHei			
381.	Effect different training systems on growth, flowering and fruiting of passion fruit *(Passifloraedulis Sims var. Edulis)* under subtropical condition in Manipur	Brijesh Pandey	Pomology	2007
382.	Response of Different Size and Growth Regulation on Cuttings of Passion fruit Var. Purple *(Passifloraedulis Var.* Edulis Sims*)*	K Bemkaireima	Pomology	2007
383.	Effect of desuckering on the vegetative and reproductive growth of banana cv. Grand Naine	Lourembam Dhanabati	Pomology	2009
384.	Effect of Double and Single Row System of Planting in the Hill Slop of Imphal East District (Andro) on Growth and Yield of Pine-apple (*Ananuscomsosus*L. Merr) c.v. Kew	Mantosh Laishram	Pomology	2010
385.	Effect of Manuring on growth yield and quality of passion fruit (*Passifloraedulis Sims var. Edulis*)	Soubam Monita Devi	Pomology	2011
386.	Effect of growth regulators on rooting and growth of grape (*Vitisvinifera* L. var. Thompson Seedless)	Sony Laitonjam	Pomology	2012
387.	Effect of Organic Manures and Varieties on Growth and Yield of Banana	Ng Monisha Devi	Pomology	2012
388.	Effect of different levels of nitrogen on vegetative growth of guava (*Psidiumguajava* L.) during pre-bearing stage	L. Sani Khrasi	Pomology	2013
389.	In Vitro Propagation of Pine-apple {*Ananascomosus*L. Merr} from Suckers,Crowns and Slips var. Kew	Gloria Leisan	Pomology	2013
390.	Effect of Varying Levels of Ethrel and Calcium carbide on Flower Induction of Kew Pine-apple Under Polymulch Condition	Takhelchangbam Nongdambi Devi	Pomology	2013
391.	Effect of different levels of BAP on In vitro culture of pineapple (*Ananascomosus* (L) Merr) var. Kew	Premi Devi Mayengbam	Pomology	2014
392.	Effect of Variety and Bio-fertilizer on Growth and Yield of Pine-apple (*Ananascomosus*L. Merr)	Hijam Krishan	Pomology	2014
393.	Effect of grafting height and scion	Amrita Thokchom	Pomology	2015

	length on growth of Citrus reticulate var, Nagpur Mandarin			
394.	Effect of Varying Levels of Growth Regurator on Early Rooting of Pine-apple (*Ananascomosus* L. Merr) Var. Kew by Stem Cutting	Thokchom RebikaChanu	Pomology	2015
395.	Effect of Different Shoot Cuttings and Soil Media for Rapid Multiplication of Pine-apple (*Ananascomosus* L. Merr.) cv kew	Khamrang Mathukmi	Pomology	2015
396.	Effect of Various Sources of Organic Nutrient on the Growth and Development of Grape (*Vitisvinifera* L.) Var. Thompson Seedless Under Open and rain Shelter Conditions	Thangjam Nandarani	Pomology	2015
397.	Effect of Varying Levels of Growth Regulators on Early Rooting of Pineapple (*Ananascomosus* L. Merr) var. Kew by Stem Cutting	Th Rebika Chanu	Pomology	2015
398.	Effect of different levels of ethylene on induction of flowering in ratoon pineapple (*Ananascomosus* Merrill.)cv. Kew	Leishangthem Hemabati Devi	Pomology	2016
399.	Effect of Micronutrients Application on Growth, Yield and Quality of Pineapple cv. Kew	Toijam Monica Devi	Pomology	2016
400.	Effect of growth regulator and different diameter of cuttings on rooting and growth of grapes (*Vitisvinifera* L.) cv. Thompson Seedles under polyhouse condition	Hannah Lalrohlui Betlu	Pomology	2017
401.	Effect of Foliar Application of Micronutrients on Growth, Yield and Quality of Mandarin Orange (*Citrus reticulate* Blanco.) cv. Tamenglong Mandarin	Duanaliu Kamei	Pomology	2017
402.	Effect of growth regulator on rooting of cutting of dragon fruit (Helocereusundatus)	Omekali	Pomology	2018
Olericulture				
403.	Effect on Various Organic Mulching Materials on the Growth, Development, Yield Quality and Storage of Potato (*Solanumtuberosum*L.) Var*KufriJyoti* under Clay Soil Condition of Manipur	A. Ajoykumar Singh	Olericulture	1993

404.	Study on the effect of boron and copper on growth development and yield of Okra (*Abelmoschusesculentus* L. Moench) var. PusaSawani	Ch. Narendra Singh	Olericulture	1993
405.	Efficiency of $GA_3$and foliar application of nitrogen on growth and yield of cabbage (*Brassica oleraceae*var. Capitata L) var. Golden Acre.	L. Nirmala Devi	Olericulture	1994
406.	Varietal evaluation of local chillies (*Capsicum annum*) of Manipur	M. Dinachandra Singh	Olericulture	1994
407.	Effect of spacing boron and ethanol on sex expression and yield of cucumber.	Leishangbam Jamini Devi	Olericulture	1994
408.	Effect of Nitrogen on Growth and Yield of Alocasia (Rox B) Schott Under Different Spacing	Kamei Khamjai Kabui	Olericulture	1995
409.	Effect of Spacing Planting Material and Yield of Chinese Chives (*Allium tuberrosum*) cv *Ningthanesidabi*	T Robindro Singh	Olericulture	1995
410.	Effect of Boron and Zinc on Growth and Yield of French Bean (*Phascolusvulgoris*L.)	Kumari Rajni	Olericulture	1996
411.	Effect of Different Levels of Nitrogen and Spacing on Growth and Yield of OKRA (*Abelmoschusesculentus L.* Moench) VarpusaSawan	Ch Jilla Singh	Olericulture	1996
412.	Effect of Nitrogen on Growth and Yield of Ginger (*Gingiberofficinanale*Rose*)*c.v.s. Gorubathan and Bhaisey Under Clay Soil Conditions of Imphal	Pintso Wangyal	Olericulture	1997
413.	Effect of potassium and molybdenum on growth and yield of cauliflower (*Brassica oleraceae* var. botrytis L.) var. PSBK -1	Y. Jayalaxmi Devi	Olericulture	1998
414.	Influence of Spacing and Variety on Growth, Yield and Quality of Board Leaf Mustard (*Brassica junceaVarrugosaRoxbTsen and Lee*)	Ps Marium Anal	Olericulture	1999
415.	Dynamics of Yield Accumulation as Influenced by Transplanting, Seed Sizes and Condition of Sowing of Tubers on Growth, Yield and Storage of Potato (*Solanumtuberosum*L.)var. “kufri-jyoti”	Liagi Tajo	Olericulture	2000
416.	Effect of Nitrogen, Potassium and their mode of Application on Growth and Yield of Chinese Chives. (*Allium tubersum Roller Ex sprengel*)	P Bijaya Devi	Olericulture	2001
417.	Effect of Nitrogen, Phosphorus and Potassium on Groeth, Yield and Quality of Chilli (*Capsicum annuum*L.) *var*. MorokAshangbi	Solie Luiram	Olericulture	2001
418.	Effect of Different Mulching and Varieties on the Growth, Development and Yield of Ginger	Angom Sunita Devi	Olericulture	2001

	(*Zingiberofficinale*Rose) Under Clay Soil Condition of Imphal			
419.	Effect of Seed Size and Method of Sowing of Tuber on Growth and Yield of Potato var. "Kufrijyoti"	R K Rajendro Singh	Olericulture	2002
420.	Effect of Mode of Application and Level of Nitrogen on Growth, Development and Yield of Broad Leaf Mustard (*Brassica juncea var. rugosa*, RoxbTsen and Lee)	Pura Obing	Olericulture	2002
421.	Effect of different sources of plant nutrients on growth and yield of cabbage (*Brassica oleracea* var. *capitata* L)	Arpita Roy	Olericulture	2002
422.	Effect of different levels of nitrogen and phosphorus in combination with biofertilizer on growth, yield and its parameters of multiplier onion (*Allium cepa* L. var. *aggregatum* Don.)	Limi Ado	Olericulture	2003
423.	Effect of different levels of boron and zinc on growth, yield and yield parameters of cauliflower (*Brassica oleracea* var. *botrytis*)	Judith D	Olericulture	2005
424.	Effect of different levels of spacing and bulb size on growth and yield of multiplier onion (*Allium cepa* L. var. *aggregatum* Don.)*aggregatum*)	Lavid Anal	Olericulture	2005
425.	In Vitro Preservation and Regeneration of Protocorm like Bodies of Cymbidium Rivulux cooks Bridge through Modified Culture Medium	Pema Choten Bhutia	Olericulture	2007
426.	Morphological characterization, cataloguing and evaluation of sweet potato [*Ipomoea batatas* (L.) Lam]	Gin Buanglung Gangmei	Olericulture	2009
427.	Effect of different sources of plant nutrients on growth, yield and quality of sweet potato [*Ipomoea batatas* (L.) Lam] cv. SreeBhadra.	Yengkhom Rahul Kumar	Olericulture	2010
428.	Effect of spacing and planting time on growth and yield of common onion (*Allium cepa* L) cv. N-53 under Manipur condition	D. Deepak Mishra	Olericulture	2010
429.	Study on the growth, yield potential and tuber quality fourteen sweet potato *[Ipomoea batatas* (L.)Lam.] germplasms under Manipur condition	Kenny Thangjam	Olericulture	2011
430.	Standardization of agro-technique of cucumber under Manipur condition.	Mirnalini	Olericulture	2012
431.	Evaluation of short duration cassava(*Manihot esculenta* Crantz.) varieties under Manipur condition	Konthoujam James Singh	Olericulture	2014
432.	Identification of suitable Intercrops in Taro/Arvi (*Colocasia esculenta* Schott,) cv. Mukhi Pan under the Sloppy Foot Hills of Imphal East	Momoko Thokchom	Olericulture	2014
433.	Effect of intercropping Spice crops on Growth, Yield and Quality of Elephant Foot Yam	Ravi Kiran Thirumdasu	Olericulture	2014

	(*Amorphophallus campanulatus* Roxb. Blume) cv. Gajendra			
434.	Evaluation of Greater Yam (*Dioscorea alata* L.) germplasm on growth, yield and quality.	Loitongbam Sulochana Devi	Olericulture	2016
435.	Effect of planting time and spacing on growth and yield of King Chilli (*Capsicum chinense*) under polyhouse condition	Satya Prakash Barik	Olericulture	2016
436.	Effect of Introducing KnolKhol (*Brassica oleracea* var. *gongylodes* and Broad Bean (*Viciafaba* L.) as intercrops on growth and yield of cabbage (*Brassica oleracea* L. var. *capitata*)	Ashwini Ananda	Olericulture	2018
437.	Effect of organic source of nitrogen on growth and yield of local onion (*Allium cepa* L. var . *aggregatum*.Don)	Nishchita T.M	Olericulture	2019
438.	Effect of intercropping short duration vegetable crops on growth, yield and quality of cabbage (*Brassica oleracea* L. var. *capitata*) cv. Rareball	Justy. D. Varughese	Olericulture	2019
439.	Characterization and evaluation of Swamp taro [*Colocasia esculenta* var *stoloniferum* (L) Schott] germplasms under Manipur condition	Joyshree Laishram	Olericulture	2019
436.	Effect of nitrogen and phosphorus growth flowering and corm production of Gladiolus, American Hybrid Green Bay	Ningboi Haokip	Floriculture and Landscape Architecture	1998
437.	Effects of spacing and bulb size on growth, flowering and yield of tuberose (*Polianthes tuberosa L)* cv. single	Tagom Ronya	Floriculture and Landscape Architecture	2008
438.	Effect of biofertilizers and vermicompost on growth, flowering and yield of tuberose (*Polianthes tuberosa L*) cv. Single	L. Basil	Floriculture and Landscape Architecture	2009
439.	Effect of nitrogen on growth, flowering and yield of tuberose(*Polianthes tuberosa L*) cv. Single	Kh. Lily Devi	Floriculture and Landscape Architecture	2009
440.	Response of nitrogen and potassium on growth, flowering and yield of tuberose(*Polianthes tuberosa*)	Cleopatra Yaikhom	Floriculture and Landscape Architecture	2010
441.	Effect of time and depth of planting on growth, flowering and yield of tuberose (*Polianthes tuberosa*)	Rocky Thokchom	Floriculture and Landscape	2012

			Architecture	
442.	Response of different sources and levels of phosphorus on the growth, flowering and yield of tuberose (*Polianthes tuberosa L*) cv. Single	MangsatabamNena	Floriculture and Landscape Architecture	2012
443.	Effect of foliar application of $ZnSO_4$ and $CuSO_4$ on growth, flowering and yield of tuberose (*Polianthes tuberosa L*) cv. Single	S. Renuka Devi	Floriculture and Landscape Architecture	2013
444.	Effect of nitrogen and phosphorus on growth flowering and yield of African Marigold (*Tagetes erecta L*) cv. Pusa Narangi Gainda	KosoChokhoni	Floriculture and Landscape Architecture	2015
445.	Effect of different levels and mode of application of potassium on growth flowering and yield of African Marigold (*Tagetes erecta L*) cv. Pusa Narangi Gainda	Lumlin Mary Lamare	Floriculture and Landscape Architecture	2015
446.	Effect of integrated nutrient management on growth, flowering and yield of tuberose (*Polianthes tuberosa L.*) cv. Prajwal	Usham Gautam	Floriculture and Landscape Architecture	2017
447.	Effect of foliar application of Zn, Cu and B on growth, flowering and yield of African Marigold (*Tagetes erecta* L.) Pusa Narangi Gainda	Devika Thangjam	Floriculture and Landscape Architecture	2017
448.	Response of Gibberellic Acid and Benzyladenine on Growth, Flowering and Yield of Tuberose (*Polianthes tuberosa* L.) cv. Prajwal.	Sukanta Biswas	Floriculture and Landscape Architecture	2018
449.	Efficacy of Foliar spray of IAA, GA_3 and Daminozide on Growth, Flowering and Yield of Gladiolus (*Gladiolus grandiflorus* L.) cv. Oscar.	Rajkumari Sweety Devi	Floriculture and Landscape Architecture	2018
450.	Effect of Different Sources of Nitrogen on Growth, Flowering and Yield of African Marigold (*Tagetes erecta* L.) cv. Summer Sugat.	Meikam Ichancha	Floriculture and Landscape Architecture	2018
451.	Effect on Different Levels of Potassium on Growth, Flowering and Yield of Gladiolus (*Gladiolus grandiflorus* L.) cv. Oasis in Acidic Soil Condition of Manipur"	Lourembam Tinibala Devi	Floriculture and Landscape Architecture	2019

YEAR JAN 2020 – MAY 2022					
Sl.	**Title of the thesis**	**Name of the**	**Major**	**Year of**	**Outcome of the research work.(2-3 lines)**

No.		student	Subject	completion	
452.	Effect of IBA Concentrations and Length of Hardwood Cutting on Rooting and Growth Performance of Pomegranate cv. Bedana "	Salam Dayaprakash Singh	Fruit Science	2021	Based upon the result obtained, it can be concluded that, use of IBA concentration I_3 (3000ppm), length of hardwood cutting L_3 (25cm) and their interaction effect resulted with best rooting and shoot pararmeters. Therefore, it can be suggested that use of 3000ppm IBA concentration with 25cm length of hardwood cuttings gave the better option for the propagation of Pomegranate cutting as per the present investigation.
453.	"Influence of Mulching Material on Growth, Yield and Quality of Strawberry Under Polyhouse Conditon"	Haobam Neljosh Meetei	Fruit Science	2021	With regard to mulching applied, highest plant height, crown spread, number of leaves per plant, leaf area, number of runner per plant, fresh weight of plant, dry weight of plant, single fruit weight, diameter of fruit, number of fruit per plant, yield, specific gravity of fruit juice percentage were observed in Straw mulch compared to rest treatment polymulch straw dust. For Straw mulch (M2)with Chandler(V2) i.e. M2V2 observed maximum in plant height, number of leaves per plant , crown spread, leaf area of plant, number of runners per plant, fresh weight, dry weight, number of fruits per plant, single fruit weight, diameter of fruit, yield, juice, specific gravity.
454.	Effect of Different Levels of Nitrogen and Potassium on Growth, Yield and Quality of Sweet Potato [*Ipomoea batatas* (L.) Lam] cv. NFSP-1	Rudolph Brandonne Nongkhlaw	Vegetable Science	2021	Highest level of N i.e. 65kg/ha of N (designated as N_3) & highest level of K i.e. 65kg/ha of K (designated as K_3) gave highest values for growth and yield characters and also quality of tubers at harvest.
455.	Effect of Organic Sources of Nitrogen on Growth, Yield and Quality of King Chilli (*Capsicum chinense* Jacq.) Under Poly house Condition.	Humtu Rangai	Vegetable Science	2021	Treatment with RDF (120:50:50kg NPK/ha) resulted maximum growth, yield and net return & it was found statistically at par with 100% recommended dose of N through Vermicompost. Thus, it could be recommended as vermicompost was found effective alternatives to inorganic source of nutrients.
456.	Effect of Planting Time and Spacing on Growth and Yield of Multiplier Onion (*Allium cepa* L. var. *aggregatum*	Poovamma B.C.	Vegetable Science	2021	Treatment combination of closer spacing 10cmx10cm and early planting date 10th November produces plants with better plant growth rate, better quality of the bulblets, higher and economically profitable yield.

	Don.) cv. Meitei Tilhou under Manipur Condition.				
457.	Skin coating for prolonging shelf life and quality maintenance of immature mangoes (*Mangifera indica L.*) cv. Konsam Heinou of Manipur	Ram Preet Singh	Fruit Science	2021	Fruit treated with cling film (T_7) recorded significantly lowest physiologically loss in weight, specific gravity minimum TSS, TSS: acid ratio, reducing sugar and total sugar content with maximum acidity content and marketability with a highest sensory quality during 12-15 days of storage, whereas the fruit coated with paraffin wax (T_6) as recorded maximum retention of marketability with minimum spoilage and maximum shelf life upto 15^{th} days of stored under ambient condition.
458.	Studies on Quality of Pickle Prepared from Different Growth Stages of Local Mango (*Mangifera indica* L.) cv. Heinou Khongnembi Fruit of Manipur	Deepak Singh	Fruit Science	2021	Treatment T_8 (160g fruit weight) was found to be good with respect to TSS, total sugars and lowest moisture content. Treatment T_1 (20g fruit weight) performed well with respect to titratable acidity and minimum pH. T_8 received the highest score for color, flavour, texture and overall acceptability.
459.	Effect of Pulsing Treatment and Vase Solution on Post-Harvest Performance of Gladiolus *(Gladiolus grandiflorus* Andrews) cv. Advance Red	Trishangni Saikia	Floriculture	2021	Pulsing treatment with high concentration of AgNO3 300ppm and vase solution containing Sucrose 5% + Citric acid 200ppm show better result in post-harvest performance of cut gladiolus spikes.
460.	Study on Different Packaging Materials for Shelf Life Extension of Lime (*Citrus aurantifolia*)	Pundru Manoj Reddy	Fruit Science	2022	Vacuum packaging was found to the best treatments for extending shelf life of lime upto 36-38 days maintaining a low PLW, good sensory score, minimum spoilage and other physic-chemical characters at the same time.
461.	Effect of Post Harvest Treatment on Shelf Life of King Chilli (C*apsicum chinense* Jacq.)	Priyadharshini T.	Vegetable Science	2022	King chilli washed with 100mg/l of NaOCl + Packed in LDPE bags was the best treatment for extending shelf life of King chilli upto 28 days maintaining a low PLW, good sensory score, minimum spoilage and physic-chemical characters at the same time.
462.	Effect of Nitrogen and Spacing on Growth and Yield	Konsam Ibetombi Chanu	Vegetable Science	2022	Treatment combination of maximum nitrogen dose of 150 kg N/ha and closer spacing of 10 cm × 10 cm produces plants

	of Common Onion (*Allium cepa* L.) cv. Prema 178 Under Manipur Condition				with better growth rate and higher and economically profitable yield.
463.	Performance of Okra (*Albelmoschus esculentus* L. Moench)cv. Arka Anamika at Different Plant Densities and Nitrogen Levels under Manipur Condition	Jinamoni Lahkar	Vegetable Science	2022	The highest fruit yield per plot (13.89 kg) and per hectare (21.44 t) was recorded by T_9. The best treatment can be concluded only with the help of economics of the production. Gross return (Rs 643096), net return (Rs 482868) and benefit-cost ratio (3.014:1) were maximum in treatment combination T_9 (60×30 cm and 150kg/ha). This implies that the interaction between closer spacing of 60×30 cm and 150 kg/ha nitrogen is the best treatment combination for profitable okra cultivation.

8. DEPARTMENT OF ENTOMOLOGY

Sl No.	Title of theses	Name of Student	Major Subject	Year
464.	"Microbial Control of Cabbage Butterflies Under Cabbage Crop Agro- Ecosystem".	Maryir Basar 45A-16(M)	Entomology	2019
465.	"Studies on the Economic Threshold and Management of Mustard Aphid, *Lipaphis erysimi* (Kalt.) Infesting Rapeseed – Mustard"	Thokchom Robindro Singh, 13A-99(M)	Entomology	2002
466.	"Studies on the Seasonal Incidence and Management of Planthoppers, *Nilaparvata Iugens* (Stal.) and*Sogatella furcifera* (Horv.) Infesting Pre-Kharif Rice Crop in Manipur"	Salam Bembem Devi, 15A-99(M)	Entomology	2003
467.	"Bio-Efficacy of Certain Bio-Rational Insecticides Alone and in Combination with Synthetic Organic Insecticides Against the Gram POD Borer, *Helicoverpa armigera* (Hubn.) on Pea"	Km. Mutum Bimola Devi, 6A-2000(M)	Entomology	2003
468.	"Studies on the Effect of Plant Nutrients on the Incidence of Rice Gall Ridge, *orscolia oryzae* Wood-Mason and its insecticidal Management under Imphal agro-ecological situation"	Debabrata Das, 1A-2001(M)	Entomology	2004
469.	"Effect of Graded Doses of Fertilizers on the Incidence of Diamond Back Moth, *Plutella xylostella* Linn. and Cabbage Butterfly, *Pieris brassicae* Linn. And their Control with safer Insecticides"	Khaidem Maipak Singh, 9A-2000(M)	Entomology	2004
470.	"Studies on the Ecology and Eco-Friendly Insecticidal Management of Diamond Back Moth	Mrs. H. Vanlaldiki,	Entomology	2005

	(Plutella xylostella Linn.) on Cabbage under Agro-Climatic Conditions of Imphal, Manipur"	9A-03(M)		
471.	"Studies on the Seasonal Abundance and Eco-Friendly Management of Shoot and Fruit Borer, *Leucinodes orbonalis* Guenee Infesting Brinjal Crop in Manipur"	Athokpam Sanatomba, 1A-03(M)	Entomology	2005
472.	"Impact of Intercropping and Cow-Urine Indigenous Plant Extracts on the Incidence of Major Insect pests of Cabbage under Imphal Agro-Climatic Situations"	Nongmaithem Johnson Singh, 1A-04(M)	Entomology	2007
473.	"Management of Fruit Borer, *Helicoverpa Armigera* (Hubner) in Tomato with Reference to Bio-Rational Insecticides and Varietal Screening"	Ningthoujam Ajitkumar Singh, 16A-05(M)	Entomology	2007
474.	"Management of Mustard Aphid *Lipaphis erysimi* (Kaltenbach) in Rapeseed-Mustard with Reference to Botanicals and Varietal Resistance"	N. Madhu Sudhan, 15A-05(M)	Entomology	2007
475.	"Eco-Friendly Management of Black Aphid, *Aphis Craccivora* Koch in Broad Bean Crop under Agro-Climatic Condition of Manipur"	Km. Soibam Juliana, 17A-05(M)	Entomology	2007
476.	"Impact of insecticisal schedule in controlling *Scirpophaga incertulas* Walker and *Cnaphalocrocis medinalis* Guenee under Rice Crop-ecosystem of Manipur"	Jenita Thokchom, 9A-06(M)	Entomology	2008
477.	"Ecofriendly management of tomato fruit borer, *Helicoverpa armigera* (Hubner)"	Millo Tara, 14A-06(M)	Entomology	2008
478.	"Growth and development of Diamondback Moth *Plutella xylostella* Linn. (Plutellidae:Lepidoptera) as influenced by different temperature and host plant"	Y. Kenedy Singh, 9A-07(M)	Entomology	2010
479.	"Varietal screening and management of major insect pests of rice"	Walseng D. Sangma, 19A-07(M)	Entomology	2010
480.	"Studies on biology and management of *Sitophilus oryzae* (Linnaeus) and *Tribolium castaneum* (Herbst) under laboratory condition"	Kamei Kushinglung, 10A-07(M)	Entomology	2010
481.	"Evaluation of extracts of some Filicinophytes against Diamondback Moth"	Lunglu Marangmei Kabuini, 23A-08(M)	Entomology	2010
482.	"Studies on the eco-friendly insecticidal management of major insect pests of cabbage under agro-climatic conditions of Imphal, Manipur"	Gajendra Pal Singh Yadav, 7A-08(M)	Entomology	2011
483.	"Effect of certain varieties and new molecules on the incidence of major insect pests under rice-crop-eco-system of Manipur valley"	H. Ramananda Singh, 25A-08(M)	Entomology	2011
484.	"Studies on biology and eco-friendly management of Angoumois grain moth, *Sitotroga cerealella*	S. Papak Bindu, 4A-09(M)	Entomology	2011

	(Olivier)"			
485.	"Laboratory studies on biology and comparative prey consumption of *Aphidophagous coccinanellids* and *Chrysopids* on aphids infesting cole crops"	Soibam Jenita, 11A-09(M)	Entomology	2012
486.	"Effect of some constant temperatures on the growth and development of Cabbage aphids; *Brevicoryne brassicae* Linnaeus (Homoptera:Aphididae)"	Laishram Chitra Chanu, 12A-09(M)	Entomology	2012
487.	"Effect of some rice varieties of Manipur on the growth and development of rice leaf folder, *Cnaphalocrocis medinalis* Guenee (Lepidoptera:Pyralidae)"	Rustam Ngangom, 27A-10(M)	Entomology	2012
488.	"Growth and development of cabbage aphid, *Brevicoryne brassicae* Linnaeus (Homoptera:Aphididae) on some cruciferous host plants"	Chungkham Niranjan, 28A-10(M)	Entomology	2012
489.	"Influence of trap crops on the incidence of major insects pests of *Kharif* rice"	Supriya Wahengbam, 36A-10(M)	Entomology	2013
490.	"Studies on the bio-rational management of major lepidopterous pests in cabbage crops"	Arun Debbarma, 40A-10(M)	Entomology	2013
491.	"Laboratory evaluation of Neem and Patchouli Oil against Cabbage Aphid, *Brevicoryne brassicae* L. (Homoptera: Aphididae)".	Suranjana Pal, 2A-11(M)	Entomology	2013
492.	"Effect of some microbial formulations on Dimondback Moth, *Plutella xylostella* L. (Lepidoptera:Plutellidae)".	Teresa Konsam, 3A-11(M)	Entomology	2013
493.	"Effect of Planting Dates and Phyto-Products on the Incidence of Primary Lepidopterous Pests in Cabbage under Manipur Valley Situation".	Deepjyoti Koch, 38A-11(M)	Entomology	2013
494.	"Management of Major Insect Pests of Cabbage Using Aqueous Indigenous Plant Extracts Under Manipur Valley Agro-Ecological Situations"	Pukhrambam Sanatombi 25A-11 (M)		2013
495.	"Studies on Biology of *Diaeretiella rapae* (Mc Intosh) (Hymenoptera:Aphidiidae) on Cabbage Aphid, *Brevicoryne brassicae* Linnaeus (Homoptera:Aphididae)".	Miss Roshna Gazmer, 12A-12(M)	Ento.	2014
496.	"Seasonal Abundance and Management of Aphis *craccivora* under Agro-Climatic Condition of Manipur Valley"	Ronibala Soibam, 18A-12(M)	Entomology	2014
497.	"Bioefficacy of Botanicals against Mustard Aphid, *Lipaphis erysimi* (Kaltenbach) and their Effect on Bee and Predator Population"	Nameirakpam Sunita Devi, 17A-12(M)	Entomology	2014
498.	"Studies on Biology of *Galerucella Placida* Baly Infesting *Polygonum hydropiper* Linn."	Rajkumari Indranisana, 11A-12(M)	Entomology	2014

499.	"Studies on Growth Development and Host Specificity Test of *Galerucella plalcida* Baly on some Polygonaceous Plant"	Dipankar Dey, 1A-13(M)	Entomology	2015
500.	"Effect of Gamma Radiation on the Growth and Development of Cabbage Aphid, *Brevicoryne brassicae Linnaesus* (Homoptera: Aphididae)"	Mangal Deep Singh, 3A-13(M)	Entomology	2015
501.	"Management of Trips and Leafminer using eco-friendly insecticide in Onion-crop-ecosystem of Manipur Valley"	Miss Sunanda Devi Tongbram, 31A-13(M)	Entomology	2015
502.	"Laboratory efficacy of certain indigenous plant powders and edible oils against pulse beetle, *Callosobruchus chinensis* Linnaeus infesting legume grains"	Miss Khundrakpam Julia, 11A-13(M)	Entomology	2015
503.	"Studies on Bioefficacy of New Molecular Insecticides Against Major Insect Pests of Kharift Rice Under Manipur Valley Agro-Climatic Conditions"	Km Athokpam Rajshree Devi 9A-12 (M)	Entomology	2015
504.	"Effect of Cow Urine Decotious of Batanicals Against Cabbage Aphid, Brenicoryne brarricase Linnaeus, (Homoptera: Aphididae)"	Konsam Linda Devi 21A-13 (M)	Entomology	2015
505.	"Biology and Eco-Friendly Management of Diamond Back Moth (*Plutella xylostella*Linn.) on Cabbage under Manipur Valley Agro-Climatic Conditions".	Vignesh M. 41A-14(M)	Entomology	2016
506.	"Laboratory Evaluation of Some Plant Oils Against *Pieris brassicae* Linn. (Pieridae:Lepidoptera)".	Madhumita Bhowmik 18A-14(M)	Entomology	2016
507.	"Consumption and Utilization of Food by *Galerucella placida* Baly on Some *Polygonaceous* Plant".	Rakesh Debbarma 27A-14(M)	Entomology	2016
508.	"Studies on Varietal Screening and Efficacy of New Molecular Insecticides for the Management of the Major Insects Pests of *Kharif* Rice-Crop-Ecosystem".	Mukta Das 19A-14(M)	Entomology	2017
509.	"Evaluation of Extracts of Some Fern Plants Against Diamondback Moth,*Plutella xylostella* L. (Lepidoptera:Plutellidae)".	Jyotirmoyee Murasing 17A-14(M)	Entomology	2017
510.	"Effect of Some Plants Oils Against Major Insect Pests of Soybean {*Glycine max* (L.) Merrill}".	Thangjam Leonard Singh 12A-14(M)	Entomology	2017
511.	"Bio-efficacy of Certain Eco-friendly Insecticides Against Yellow Stem Borer and Rice Leaf Folder under *Kharif* Rice-Crop-Ecosystem of Manipur Valley".	Mr. I. Yimjenjang Longkumer 8A-15(M)	Entomology	2017
512.	"Effect of Maleic Hydrazide and Gibberellic Acid on	Chethankumar	Entomology	2017

	the Biology of Melon Fly,Bactrocera Cucurbitae, Coquilett (Diptera:Tephritidae)".	N 7A-15(M)		
513.	"Biology of Potato Tuber Moth, *Phthorimaea operculella* (Zeller)(Lepidoptera:Gelechiidae) on Some Potato Varieties and its Management".	Lapynbiang Khongrymmai 28A-15(M)	Entomology	2017
514.	"Biology and Biometrics of Melon Fly, *Bactrocera cucurbitae* Coquillett (Diptera:Tephritidae) on Some Cucurbitaceous Crops".	Yona Pradhan 9A-15(M)	Entomology	2017
515.	"Influence of Dietary Constituents on Development of Reproductive Organs and someLife History Parameters of Melon fly, *Bactrocera cucurbitae* Coquillet*(*Diptera:Tephritidae*)*".	Somala Karthik 9A-16(M)	Entomology	2018
516.	"Eco-Friendly Management of *Brevicoryne brassicae* Linnaeus in Cabbage using IndigenousPlant Extracts under Manipur Valley Situation".	Heisnam Bideshwori Devi 24A-16(M)	Entomology	2018
517.	"Screening of Indigenous Rice Genotypes of Manipur for their Resistance Reactionagainst Major Insect Pests of Rice"	Balaga Mohan Ganesh 10A-16(M)	Entomology	2018
518.	"Studies on the Reproductive Organs of Diapausing and Non-Diapausing Leaf Beetle, *Galerucella placida* Baly (Coleoptera:Chrysomelidae)".	Christina Borang 35A-16(M)	Entomology	2018
519.	"Effects of Plant Volatile Oils on Pulse Beetle, *Callosobruchus maculatus* Fabricius *(Coleoptera:Bruchidae*)".	Sushmita Thokchom 17A-16(M)	Entomology	2018
520.	"Efficacy of Some Insecticides for the Control of Pulp Weevil, *Sternochetus frigidus*Fabricius (Coleoptera: Curculionidae) and Fruit Fly, Bactrocera dorsalis Hendel (Diptera: Tephritidae) Infesting Mango"	Sukanya Sougaijam 22A-15(M)	Entomology	2018
521.	"Effect of Planting Dates and Newer Insecticides on the Incidence of Major Insect-Pests Under *Kharif* Rice-Crop-Eco-system of Manipur Valley".	Bellary Naveen Kumar 17A-17(M)	Entomology	2019
522.	"Influence of Gibberellic Acid and Maleic Hydrazide on Some Biological Parameters of Melon fly *Bactrocera cucurbitae* Coquillett (Diptera: Tephritidae)".	Akshay Mishra 29A-17(M)	Entomology	2019
523.	"Comparative Biology and Ovipositional Preference of Pulse Beetle, *Callosobruchusmaculatus*(F.)(Coleoptera:Bruchidae) on Different Stored Pulses".	Karthik R. 3A-17(M)	Entomology	2019
524.	"Study on the Biology of Papaya Mealybug, Paracoccus marginatus Williams and its Management in Brinjal Using Biopesticides under	Shobha Laishram 11A-17(M)	Entomology	2019

	Manipur Conditions".			
525.	"Study on the Arthropod pest Complex of King Chilli (*Capsicum chinense* Jacquin*)* and Their Eco-friendly Management in Manipur."	Mayanglambam Somorjit Singh 28A-17(M)	Entomology	2019

YEAR JAN 2020-MAY 2022					
Sl.No.	**Title of the Thesis**	**Name of the Student**	**Major Subject**	**Year of completion**	**Outcome of the research work (2-3 lines)**
526.	Study on the effect of somemicrobial insecticides on larvalgrowth & Development of diamond back moth (*Plutella xylostella* Linn.)	Subhadip Sen; Adm.No. 29A-18M)	Entomology	2021	Fungal entomopathogen*Beauveria bassiana* @4g/l and 5g/l was the most effectivemicrobial insecticideagainst DiamondBackMoth. High mortality of larvae of 62.50% after 120 hours of treatment and leastpercent pupation of 27.50% after 144 hours of treatment wasobserved with treatment *B. bassiana* @5g/l.Bacterial formulation, *B. thuringiensis* wasfound to be inferior as compared to entomopathogenic fungi tested in controlling DBM.
527.	Study on the insect pest complex of leafy mustard vegetablesin the valley of Manipur	D. Rajeshwari;Adm. No. 50A-18(M)	Entomology	2021	During the experimentation, eleveninsect pests, two parasitoids and four species predatory insects were recorded..
528.	Study on biology and host preference of existing lac insect species of Manipur	Ksh. Jabasku mar Singh	Entomology	2021	Identified a new specieslac insect i.e. *Kerriamanipurengiensis*. From the studiy ofbiology of this new species on the most preferred host (*Cajanuscajan*) it was observed that the mean sex ratio ranged from 20.28, 20-30 and 22-31 per centper sq.cm, respectivelyon upper, middle and lower portion of *C. cajan*. The mean life period of female lacinsect varied from 120- 135, 121-135 and 120 – 136 days, respectively on upper, middle and lower portion of *C.cajan.*

529.	Management of Pulse Beetle, *Callosobruchus chinensis* Linnaeus through Indigenous Plant Powders and Oils on Green gram under Stored Conditions	Loganathan R; Adm. No. 25A-19(M)	Entomology	2021	From the present research it concluded that among the plant powders, *Acorus calamus* powder treatedseeds had high adultmortality, less seeddamage and seed weight loss, and minimum adult emergence, whereas incase of the oils used in the experiment castoroil showed most effective against Pulse Beetle, *Callosobruchuschinensis* Linnaeus which exhibited noeffect on germination percentage of green gram seeds
530.	Studies on Biology and Eco-friendly Management ofRust Red Flour Beetle, *Tribolium castaneum* (Herbst) under Stored Conditions	Gulappa Chandra Sekar; Adm. No. 26A-19(M)	Entomology	2021	Outcome of theresearch, either Neem, Eucalyptus, Tulsi, Cow dung ash and Coal ash which are easily biodegradable can be exploited their insecticidal propertiesand utilized as the grainprotectants from theattack of Rust RedFlour Beetle, *Tribolium castaneum* (Herbst) Under StoredConditions
531.	Study on Evaluation of Plant Powders and Oils as Seed Protectants against Angoumois Grain Moth,*Sitotroga cerealella*(Olivier)	Nisanam Nagaraju ; Adm. No. 27A-19(M)	Entomology	2022	Paddy seeds susceptible to *S. cerealella* may bestored for seed purpose for next season crop by treating with powder of black pepper @ 10g/kg seed or sweet flag rhizome powder @10g/kg seed which offerbetter protection uptoone and half month of storage with no effect on germination. As traces of plant powderon seed coat may leave unwanted odour and taste to the milled grains, seeds meant for human consumptioncould be best stored with citronella oil @10ml/ha..
532.	Study on biology and managementof Rice weevil, *Sitophilus oryzae*Linn. using edibleoils and plant powders on Stored Rice Grains.	Punam Gurung; Adm. No. 30A-19(M)	Entomology	2022	Among the edible oilsneem oil and plant powders *Melia azedarach powder* exhibited besttreatments to suppress the population of rice weevil under storage condition.

533.	Eco-friendly Management of *Plutella xylostella* (Linnaeus) with Reference to Bionsecticides and Planting Datesunder Cabbage – Crop – Ecosystem of Manipur Valley	Saravana n S;Adm. No. 9A-20(M)	Entomology	Thesis Seminar completedon 30th May, 2022	It was concluded that 25thNovember planting and need-basedapplication of GreenLipel (*Bacillusthuringiensis* var. *Kurstak*i basedformulation) @2000 ml/ha may be advisedfor successfulmanagement of *P. xylostellla* withoutgiving adverse effect onnon-targeted insect
534.	Study on Biology and Eco-friendly Management ofRice Weevil, *Sitophilus oryzae* (Linnaeus) onStored Rice Grains under Laboratory Condition	Gokulnath R; Adm. No. 40A-20 (M)	Entomolog y	Thesis Seminar completedon 30th May, 2022	Based on overall performance of plantoils in controlling *S. oryzae* Neem oil showed mosteffective treatment.

Ph. D. AGRONOMY				
S.no	**Title of thesis**	**Name of student**	**Major subject**	**Year of completion**
1. .	Comparative performance of rice establishment methods under different nitrogen management practices in rice-rice cropping sytem	Khwairakpam Lenin Singh	Nutrient management	2020
2.	Effect of crop establishment methods and organic manure on the performance of black aromatic rice-pea cropping system	Yumam sanatombi Devi	Nutrient management	2019
3.	Studies of Integrated Weed Management in Lentil (*Lens culinaris medekus*)	Jamkhogin Lhungdim	Weed management	2013

Ph.D. GENETICS AND PLANT BREEDING				
CATEGORY (CROP): MAIZE				
Sl. No.	**Title of thesis**	**Name of the Student**	**Major Subject**	**Year of completion**
4.	"Collection, Characterization of Maize Germplasm of Manipur and identification of CrtRB1 and LycE Genes for marker assisted introgression"	Chuwang Hijam 1-A-12 (Ph.D.)	GPB (Marker Assisted Breeding)	2018
5.	"Identification of *β*-carotene rich maize (*Zea mays* L.) lines and introgression of this trait in popcorn using molecular markers"	Yaikhom Vivekananda 1-A-13 (Ph.D.)	GPB (Marker Assisted Breeding)	2019
	Total=2			

Ph.D. Plant Pathology

Sl. No.	Title of Thesis (Ph.D.)	Name of the Student	Major subject	Year of Completion
Name of Category (Crop)- Rice				
6.	Survival , Pathologenic Variability and Management of *Sphingomonas Oryzae Sp. Nov*, Causing \Bacterial \Blight of Rice in Manipur	R.K. Imotomba Singh	Plant Pathology (Variability-Management)	2002
7.	Studies of Fungi With Rice Collar Rot in Manipur	L. Nogdren Khomba Singh	Plant Pathology (Management)	2002
8.	Studies of Rice Gain Discolaration Caused by Field Fungi	L. Kheroda Devi	Plant Pathology (Management)	2002
Name of Category (Crop)- Citrus				
9.	Genetic Diversity of *Candidatus* Liberibacter asiaticus(Clas) Causing Citrus Huaglongbing (HLB) Disease in Manipur and Development of Efficient Diagnostics for Onsite Detection.	Y.Herojit Singh	Plant Pathology (Detection)	2002
Name of Category (Crop)- Pea				
10.	Characterization of *Fusarium* Wilt of Pea and its Management.	W. Tampakleima Chanu	Plant Pathology (Management)	2002

Ph.D. Soil Science & Agricultural Chemistry

A. NUTRIENT MANAGEMENT IN PADDY/MUSTARD				
11.	Distribution and Transformation of Zinc in Soil and its Critical Limit in Rice Growing Acidic Soils of Manipur	Nivedita Oinam	SSAC	2018
12.	Integrated Nutrient Management in Rice-Mustard Cropping Sequence	W. Herojit Meetei	SSAC	2019
13.	Integrated nitrogen management of rice and nitrogen status in paddy fields of Imphal west district, Manipur	Takhellambam sanahanbi Devi	SSAC	2020
B. SOIL ACIDITY				
14.	Characterization of Soil Acidity in Soils of Manipur	L. Devarishi Sharma	SSAC	2018
15.	Nature of Surface and Sub-surface Soil Acidity in Relation to Iron and Aluminium Under Different Land Use System of Manipur	Linthoi Watham	SSAC	2019

COLLEGE OF POST GRADUATE STUDIES IN AGRICULTURAL SCIENCES, BARAPANI, MEGHALAYA

M.Sc Theses

NATURAL RESOURCE MANAGEMENT (NRM)					
S. No.	Title of the thesis	Name of the student	Major subject	Year of completion	Outcome (2-3 lines)
1. Rice					
Discipline: Agronomy					
Classification/category: Agrotechniques					
1.	Evaluation of rice cultivars under various planting geometry in mid altitude lowland condition of Meghalaya	Mr. K. Lenin Singh	Agronomy	2013	➢ The hybrid cultivar Arize 6444 gave significantly higher yield over the recommended inbred Shahsarang1 and local cultivar Mynri at all the planting geometries. ➢ For getting maximum net return, Arize 6444 should be transplanted at 20 cm x 20 cm planting geometry.
2.	Agronomic evaluation of rice cultivars under delay transplanting in the mid hills of Meghalaya	L.Platini Singh	Agronomy	2018	➢ Under delayed transplanting, rice cultivar CAU R3 gave significantly high yield and economic return on all three transplanting dates ➢ CAU R1 could be used as an alternative only upto 5th August transplanting
2. Maize					
3.	Performance of quality protein maize under integrated nutrient management practices	Mr. Samborlang K. Waniang	Agronomy	2012	➢ Utilizing the inter space in between the maize rows for green manuring with cowpea helped in improving yield and soil fertility. ➢ Application of 75% RDF in presence of 5 t FYM ha^{-1} found to increase yield and economics of quality protein maize under mid hill altitudes of Meghalaya.
4.	Effect of sources and levels of nitrogen on performance of sweet corn (*Zea mays* var. Saccharata) on mid hills of Meghalaya	Ms. K. Surjarani	Agronomy	2013	➢ Significantly superior cob yield and net return was obtained with nitrogen application of 120 kg ha $^{-1}$. ➢ Organic sources of nitrogen (poultry manure and FYM) were at par with urea. ➢ All organic sources left positive effect on organic carbon content and availability status of N, P and K in soil after crop harvest.

Classification/category: Intercropping (Agrotechniques/nutrient management for maize based intercrops)					
5.	Effect of planting pattern and organic nutrient sources on performance of Maize-cowpea intercropping	Mr.Vikram Kumar	Agronomy	2014	➢ Paired row planting of maize is a better alternative to accommodate cowpea as an intercrop with maize ➢ Green leaf manure with *Ambrosia* weed biomass could partially substitute the requirement of traditional organic manure FYM.
6.	Nitrogen management for maize – legume intercropping in acidic soils	Ms. Saphina Mary Kurkalang	Agronomy	2015	➢ Maize+groundnut intercrop gave significantly higher maize equivalent yield and residual N in soil over maize+soybean intercropping. ➢ N treatment 100% RDN of maize to maize+50% RDN of IC to IC and 75% RDN of maize to maize+100% RDN of IC to IC in maize+ legume intercropping gave statistically similar MEY and:C ratio. ➢ Intercropped legumes gave higher pod and grain yield only upto 50% RDN of IC to IC.
7.	Effect of intercropped legumes and their planting pattern on the performance of maize- based cropping system	Ms. Daphibanri Donbar Lyngdoh	Agronomy	2016	➢ Growth and yields of intercropped maize was at par with sole maize. ➢ Intercropping of groundnut in between the paired rows of maize was the best intercrop treatment as it gave higher MEY, LER, net returns and B:C ratio.
8.	Effect of population proportion of component crops on the productivity of maize+soybean intercropping	Telkar Shivkumar Gajanan	Agronomy	2017	➢ Treatment 1:1R was a better alternate for maize-soybean intercropping as it gave significantly higher MEY, LER, net return and B:C ratio over sole maize. ➢ This treatment also recorded higher positive apparent N balance and left significantly higher available N in soil over sole maize
Classification/category: Cropping system(Agrotechniques/nutrient management for rice fallows)					
9.	Effect of planting geometry and nutrient sources on performance of pre kharif rice and its ratoon	Ms. Sangita Das	Agronomy	2015	➢ Both the main crop and ratoon of rice gave significantly higher yield at closest planting geometry of 15 cm x 15 cm. ➢ Both main crop and its ratoon preformed at par with all the nutrient sources. ➢ Ambrosia GLM could be a good alternative to FYM for promoting organic crop production.

10.	Effect of sowing time on summer pulse(s) in lowland rice fallows	M. Bishonath Singh	Agronomy	2018	➢ Cowpea and Frenchbean out performed the greengram and blackgram in rice fallows of midhills of Meghalaya ➢ Grain yields of all pulses was significantly more when sowing was done on 4th March
3.Groundnut					
Classification/category: Nutrient management					
11.	INM in groundnut(*Arachis hypogea*) in acidic soils of Meghalaya	Sushree Panda	Agronomy	2020	➢ Seed inoculation with *Rhizobium* and PSB+ 50 % RDF+FYM@2.5tha^{-1} +Eupatorium weed biomass @ 5 t ha^{-1} gave higher pod yield and net return over RDF. ➢ This INM practice also brought a marked improvement in soil bio-physico-chemical properties over the RDF. ➢ Eupatorium, a seasonal weed biomass could be an alternative organic source in FYM scarce situation.
12.	Evaluation of potato varieties under different irrigation methods in mid altitude of Meghalaya	Mr. Joy Kumar Dey	Agronomy (Water Management)	2016	✓ The water requirement of Potato was estimated to be 59.69, 51.62 and 41.32 cm under gravity-fed drip, micro-sprinkler and furrow method of irrigation ✓ The BCR values for gravity-fed drip, micro-sprinkler and furrow method of irrigation was 2.27, 2.31 and 1.85, respectively ✓ The performance of Kufri Megha variety was found better over kufri jyoti, kurfi giriraj and kufri giridhar potato variety
13.	Influence of organic mulching on soil moisture and yield of rajma (*Phaseolus vulgaris* L.) varieties under mid altitude of Meghalaya	Mr. Yearbok Marwein	Agronomy (Water Management)	2016	• Highest *in-situ* soil moisture depletion was recorded at 0-15 cm depths under un-mulched treatment • The performance of weed mulch was found comparatively better in terms of availability and price • Rajma variety "Selection-9" performed better under Barapani region, Meghalaya and BCR was found better for "weed + selection-9" combination
14.	Planting time and irrigation scheduling on the performance of potato in Ri-Bhoi, Meghalaya	Ms. Meghana Gogoi	Agronomy (Water Management)	2017	○Real time based irrigation scheduling at IW/CPE of 1.25 was found suitable for potato production under Barapani, Meghalaya ○Potato tubers planted during 2nd Week of November gave higher gross return, net return and BCR
15.	Influence of fertilizer on the performance of black rice (Chakhou) under	Ms. Menaka	Agronomy (Integrated	2018	➢ Black rice performed better under 50% Organic + 50% Inorganic, (Nitrogen fertilization)

	Meghalaya condition	Sharma	Nutrient Management)		under Barapani, Meghalaya with a reported higher grain yield (1.29 t ha^{-1}) ➢ Higher protein content (8.35%), iron content (1.80%) and BCR (2.12) were also recorded under 50% Organic + 50% Inorganic (nitrogen fertilization)
16.	Performance of Potato (*Solanum tuberosum* L.) under different irrigation scheduling and organic manure in mid hill of Meghalaya	Ms. Jolyne Margaret Mawthoh	Agronomy (Water Management)	2019	❖ Irrigation scheduled at sprouting + stolonization (stage) is most suitable for better performance (tuber yield of 17.52 t ha^{-1}) and better BCR (2.83) ❖ Performance of Potato was found better under poultry manure application as compared to FYM.
17.	Influence of organic mulching and organic manures on growth and yield of black gram	Ms. Dhivya R.S.	Agronomy Nutrient Management	2019	✓ Performance of blackgram (Uttara Var.) was found better with poultry manuring under Barapani, Meghalaya with BCR of 2.24 and economic yield of 1.05 t ha^{-1}
18.	Evaluation of Sweet corn varieties under varied date of planting in mil hill of Meghalaya	Mr. Sidhartha Priyatam	Agronomy Water Management	2019	• Under late sowing condition of sweet corn, under sowing during first week of July, the performance was found better for ASKH-6 (cob yield of 6.2 t ha^{-1}), var, under organic amendment • Total soluble solid (TSS) content (11.50%) and protein content (10.44%) was found more for ASKH-6 sown during first week of July
	Cropping System				
19.	Effect of Planting Method in Potato-Maize Intercropping During Summer Season	Sanjenbam Dayananda Singh	Agronomy	2012	Ridge and furrow system of maize and potato intercropping with 1:1 ratio may be sustainable system to protect from heavy rainfall and cold temperature in enhancing system productivity
20.	Direct and residual effect of Green manure and phosphorus levels on baby corn-baby corn+ groundnut cropping system	Ipsita Kar	Agronomy	2013	The interaction of green manuring with 60 kg P_2O_5 ha^{-1} produced higher yields by augmenting the residual soil fertility for succeeding babycorn and groundnut crops.
21.	Dynamics of mineralization of Crop Residues Under Baby Corn-Baby Corn System	Shreyosi Roy	Agronomy	2018	Baby corn being a short duration crop can be used as contingency crop and increase the crop diversification of Meghalaya. Utilization of weed biomass improves the soil fertility.
22.	Development of Nitrogen	Shayana	Agronom	2018	The plant dry matter and leaf dry matter based

	Dilution Curve for Baby Corn Based on Leaf and Plant Dry Matter	Laishram	y		nitrogen dilution curve is developed at different stage for precise nitrogen management in baby corn
Rice (Nutrient management)					
23.	Influence of phosphorus levels and bioinoculation on growth, spectral reflectance and yield of rice	Raghuveer M	Agronomy	2013	Spectral indices such as NDVI and CI were influenced by P levels and higher were obtained by 60 kg P_2O_5 at 90 days after transplanting. The physical and economic optima of 75.27 and 6.86 kg P_2O_5 ha^{-1} were worked out with *Pseudomonas sp*.
24.	Effect of Phosphorus and Zinc on root morphology and productivity of Rice (*Oryza sativa L*).	Hadienlarisa Syiemlieh	Agronomy	2015	Application of 50 kg P_2O_5 with 20 kg Zinc recommended for higher rice yield with its increased nutrient density in grains.
Maize (Nutrient management)					
25.	Performance of Quality Protein Maize (*Zea Mays L.*) (QPM) Varieties in Response to Nitrogen Levels.	Badapmain Makdoh	Agronomy	2011	The QPM varieties HQPM 2 and HQPM 1 produced higher yields and are associated with more nutritional value especially proteins and their nitrogen requirement is higher than normal maize
26.	Effect of Integrated Nutrient Management Practices on Productivity and Quality of Baby corn	Ms. Jenny Moyong	Agronomy	2011	Phosphorus is most limiting plant nutrient in acid soils of Meghalaya, hence for sustainable quality baby corn production. It should fertilized with 40, 30, 20 kg NPK through chemical fertilizer + 7.5 t FYM ha^{-1} alongwith PSB.
Groundnut (Weed)					
27.	Seasonal Variation of Critical Period for Crop-Weed Competition in Groundnut (*Arachis hypogaea L.*)	Santosh Basavant Korav	Agronomy	2017	The critical period for groundnut and weed competition is 15-16 days after emergence. Further, early stage of winter groundnut is more susceptible to weed competition than *kharif* groundnut.
Rice					
Crop Growth Modelling/ Climate Change					
28.	Response of Low land Cultivars to N-Application-A modelling approach"	Mr. Kamal Kant	Agronomy	2017	• 2 research papers, one book chapter. • Determined the Genetic Coefficient for CAU-R1, Shahsharang and Lampanah-1 rice varieties DSSAT-CERES-Rice model was found to be effective to predict yield and other growth parameters very closely.
29.	"Effect of Climate Change on the performance of Low land rice under N-levels through DSSAT-Rice Model	Mr. Tage Lampung	Agronomy	2018	• 1 research paper • Model run for ±1.2.3 ^{0}C temperature, ±19, 50% rainfall from normal and 450 and 500 ppm CO_2 • Grain yield was found to increase at reduced rainfall upto 18.7 % and at the same time grain yield was reduced at +3^{0}C up to 43.1 %. • Grain yield is expected to increase with the increase of CO_2 level upto 500 ppn with 1^{0}C increase of temperature.
30.	"Influence of Integrated	Mr.	Agronom		Thesis not yet submitted. Temporary withdrawal

	Nutrient Management on the Performance of Lowland Rice –A modelling Approach"	Dipankar Bora	y		was approved as joined in the service
Maize					
Crop Growth Modelling/ Climate Change					
31.	"Simulating Effect of Climate change on growth and yield of Maize under varying N-applications in the sub-tropical hills of Meghalaya"	Ms. Mesaya R. Marak	Agronomy	2018	• DSSAT-CERES-Maize model was found to be effective in predicting yield and growth parameter at Level-1 conditions • Model run for ±1.2.3 ^{0}C temperature, ±19, 50% rainfall from normal and 450 and 500 ppm CO_2 • Yield is expected to reduce as high as 27.8% at +3^{0}C at present CO_2 and +19% rainfall. Different level of N fertilizer though had incremental yoield of grain, it could not mitigate or reveres the effect of climate change
Pulses					
Resource characterization and evaluation					
32.	"Influence of Micro-climate on performance of Kharif Black gram (Vigna mungo)	Ms. Yami Bei	Agronomy	2017	• SBC-47 cultoivar was found to be adaptive to Umiam climate. • SBC-47 can also be sown till 3rd week of August without much compromising the yield. 14th July was found to be the best sowing date for all the varieties, i.e. PU31, SBC-42 and SBC-47
YEAR 2020 JAN-2022 JUNE					
33.	Weed Diversity and its Interference in Pea (*Pisum sativum* L.)	Mr. Arindam Deb	Agronomy	2021	• For optimum utilization of resources and maximization of yield, weeding shouldbe done between 21 to 48 DAS or after 260 to 510 °C Day accumulated heatunits. • The weed population in the field beyond 20.91 plants m-2. cause significant yieldreduction in pea crop.
34.	Performance of Lentil Cultivars under Different Organic Mulching	Ms. Karupakula Shirisha	Agronomy	2021	• Lentil (Var.PL-4) performed better under paddy straw mulch, highest economic yield (723.3 kg ha^{-1}). • Highest water productivity and BCR was recorded for PL-4 (3.22 kg ha^{-1} mm^{-1}) and 1.79, respectively.
35.	Performance of Black Gram (*Vigna mungo* L. Hepper) under Various Date of Sowing in Mid-Hills of Meghalaya	Mr. Pradosh Kumar Parida	Agronomy	2021	• The performance of black gram varieties PU-31 (964.11 kaha^{-1}) was found superior over other three varieties (*i.e*., PU 1, PU 30 and INDIRA) • Black gram sown on 5th march (1st week of March) performed better as compared to other date of sowing at Meghalaya

					• Black gram yield decreases with both delay and early in sowing.
36.	Effect of Doses and Split Application of Nitrogen on Wheat (*Triticum aestivum* L.) in Mid Hills of Meghalaya	Mr. Akkireddy Karnakar	Agronomy	2022	• Nitrogen treated wheat recorded significantly higher plant growth, yield attributes and yields in wheat as compare to control (non nitrogen treated) wheat plots. • Nitrogen application @ 120 kg ha^{-1} in wheat recorded significantly high plant dry weight, yield attributes; grain yield, net return and B:C ratio over the N applications of 80 and 40 kg N ha^{-1}. Further, N application in three equal splits (1/3 at basal+1/3 at CRI+1/3 at booting) recorded significantly more plant dry weight, yield attributes, grain yield, net return and B:C ratio over the treatment when all N was applied as basal application. • Uptake of N and P varied significantly both due to doses and split application of N in wheat.
37.	Growth, Yield and Nutritional Quality of Cowpea (*Vigna unguiculata* L.) as Influenced by Zinc Fertilization	Ms. Manashi Baruah	Agronomy	2022	• Growth, yield and nutritional quality of cowpea differed significantly due to zinc fertilization. • Application of zinc @ 2.5kg ha^{-1} as basal +one foliar spray @ 0.5% at pod initiation stage was more effective than its basal application @ 5kg ha^{-1} or foliar spray @ 0.5% at pod initiation stage. • Soil zinc content varied significantly due to various zinc application methods.
Non-crop					
Resource characterization and evaluation/Resource Conservation/ Application of RS and GIS					
38.	" Soil Resource Mapping of a Micro-watershed at Ri-bhoi District of Meghalaya"	Mr. Adelbert Kharlyngdoh		2013	• Mapped soil resources for Nongpoh watershed of Meghalaya with 77% inceptisols, 19% entisols and 4% alphisols • Eight sub-groups of soils were identified with TypicDestrudepts dominating the watershed. Published 1 research paper
39.	" Land Use Planning using GIS and RS at Micro-Watershed Level, Meghalaya	Ms. Carolyn Zothansiami	Soil Science and Agricultural Chemistry	2013	• Published 1 research paper • Studied the present land uses in the watershed dominated by Rice, Maize, Pineapple and built ups. • Based of soil characteristics alternative

					land use was suggested.
40.	”Land Use Effect on Aggregation of Acid Soil under Humid Sub-tropic”	Ms. P. Helena Devi	Soil Science and Agricultural Chemistry	2018	• Published 2 research papers. • Found stable soil aggregation in upland rice followed by Jhum
41.	“Development of Soil Erodibility Index MapforRi-bhoi District of Meghalaya”	Mr. Manish Olaniya	Soil Science and Agricultural Chemistry	2018	• Published research paper in Scientific Reports (Nature Group) and developed soil erodibility map for Ri-Bhoi disctrict of Meghalaya
42.	”Comparison of Infiltration Models for Suitability on Hilly Slopes”	Mr. Libi Robin	Soil Science and Agricultural Chemistry	2019	Published 1 research paper • Found Horton Model is effective on all the slopes from flat land to 23% slopes
43.	“ Estimation of Soil Loss through RUSLE in Nongpoh Watershed”	Mr. Susanta Das	Soil Science and Agricultural Chemistry		• Published 1 paper in Sustainability and two other paper in different journal. Two more papers are submitted for consideration. • Annual soil loss in the watershed was ranging from 0-1348.08 t/ha/y with an average of 59.94 t/ha/yr, which is extremely high • MMF model estimated by about 5% less soil loss than RUSLE model
44.	“Soil Structural Stability and Quality under Different Land Uses”	Mr. Alok Maurya	Soil Science and Agricultural Chemistry		•
45.	“Estimation of Water Footprints in the Peri-Urban Villages in Meghalaya”	Ms. Labetshisha Kharbhih	Soil Science and Agricultural Chemistry		•
Khasi Mandarin					
Resource characterization and evaluation					
46.	“Soil Hydro-physical properties and productivity of Khasi Mandarin along the Hill Slope of Meghalaya”	Mr. Eliazer Ch. Momin	Soil Science and Agricultural Chemistry	2011	• Determined all soil physical properties of a Khasi Mandarin orchards which might have influenced on crop productivity. • Soil water holding capacity was found to be poor where crops were also not performaing well.
47.	“Soil Fertility and Productivity of Khasi Mandarin along the Hill Slopes of Meghalaya”	Ms. R. Vanlalduati	Soil Science and Agricultural Chemistry	2011	• Determined all soil chemical properties to understand their effect on crop productivity. • Rejuvenation programme of Khasi mandarin should be slope specific and acidity was found to be most important factor affecting crop productivity.
Vegetables					
Resource management/ water management					

48.	"Derivation of Crop Coefficient of Tomato and Capsicum in Sub-Humid Mid Hills Region of Meghalaya"	Ms. Moutushi Tahashildar	Soil Science and Agricultural Chemistry	2015	Found crop coefficients for tomato and capsicum . Capsicum 0.25 0.59 0.24 Tomato 0.55 1.04 0.78 Published 3 research papers. • Blaney-Criddle method can be used in absence of data for P-M Method of ET_0 estimation
49.	Effect of Phosphorus and Sulphur on Nutrient Uptake of Black Gram (*Vigna mungo* L. Hepper) in Acid Inceptisol	Basant Tamang	Soil Science and Agricultural Chemistry	2017	• The combined application of P and S had significant effects on seed and stover yield of black gram. The optimum seed yield (15.08 g pot^{-1}) and stover yield (39.20 g pot^{-1}) were recorded with combined application of 60 mg P kg^{-1}soil and 30 mg S kg^{-1} soil indicating synergistic effect of P and S on each other as both the nutrients mutually help in their absorption and utilization by black gram probably due to balanced nutrition, which was statistically at par with combined application of 80 mg P kg^{-1}soil and 40 mg S kg^{-1}soil.
50.	Critical Limits of Available Phosphorus for Rapeseed (*Brassica campestris*var. *toria*) Growing Acidic Soils of Meghalaya	Alok Maurya	Soil Science and Agricultural Chemistry	2017	• The critical limit of available P for Rapeseed (cv. M-27) by Bray P_1 soil test method were established using Linear Response and Plateau (LRP) model as described by Waugh *et al*. (1973) as 38.5 kg P ha^{-1} under Rock Phosphate and 31.0 kg ha^{-1} under Single Super Phosphate in Alfisol, whereas in Inceptisol, the critical limits of available P were established as 37.0 kg P ha^{-1} under Rock Phosphate and 29.5 kg ha^{-1} under Single Super Phosphate.
51.	Effect of Organic and Inorganic Nutrient Sources on Performance of Cabbage (*Brassica oleracea* L. var capitata) in Inseptisol	Chingak PW Konyak	Soil Science and Agricultural Chemistry	2018	• 50% RDF + 50% N through vermicompost is the best option for obtaining optimum production of cabbage with superior quality and maintaining soil health of for acid Inceptisol of Meghalaya.
52.	Effect of Nitrogen Application through Urea and Azolla on Growth, Yield of Rice (*Oryza Sativa* L.) and Temporal Soil Phosphorus Availability	Shubham Singh	Soil Science and Agricultural Chemistry	2018	• Application of 60 kg N ha^{-1} through urea in combination with incorporation of azolla @ 16000 kg ha^{-1} is the best option for getting optimum production of rice and sustainability of soil health in low land acid soil of Meghalaya. Moreover, the farmers can manage around 30 kg N through incorporation of azolla @ 16000 kg ha^{-1} in rice crop instead of supplying this through nitrogenous fertilizers.
53.	Performance of Pea (*Pisum sativum* L.) under	Vanlalmalsawmi	Soil Science and	2019	The P concentration in pea straw increased with the increased residual P, whereas the

	Phytoremediated heavy Metal Polluted Soil with Residual Phosphorus	Sailo	Agricultural Chemistry		concentration of Cr, Cd, Ni, Pb and Co followed the reverse trend and it decreased with each increasing level of residual P. • The increasing soil available P maintained by higher P application rates for preceding phytoremediating crop may efficiently utilized to phytoremediate the remaining heavy metals contents of the coal mined heavy metals polluted soil and almost normal yield levels of pea cv. Arkel can be achieved with 100 mg kg^{-1} soil level of residual P.
54.	Biochar as Component of Integrated Nutrient Management and its Significance in Tomato (*Solanum lycopersicum* L.) Productivity in Acid Soil	Ogubuya na Srikant Yadav	Soil Science and Agricultural Chemistry	2019	Plant height, number of fruits/plant, fruit size and fruit yield of tomato was superior with the application of biochar @ 4 t/ha with vermicompost @ 2.5 t/ha and 100% RDF Soil reaction increased with the graded doses of biochar. However, the bulk density showed reverse trend and the lowest bulk density was observed with the application of T_{16}- 100% RDF +B @ 4t/ha + VC @2.5 t/ha.
55.	Response of black gram (*Vigna mungo* L. Hepper) to phosphorus and boron fertilization and their temporal availability in acid Inceptisol	Muddana Sri Sai Charan Satya	Soil Science and Agricultural Chemistry	2020	The combined application of phosphorus @ 75 kg P_2O_5 ha^{-1} and boron @ 1.5 kg ha^{-1} is suitable for better growth, higher yield and nutrient uptake by black gram in acid Inceptisol of Meghalaya.
56.	Evaluation of Soil Carbon stock under different land uses in Meghalaya	Fellycia S. Basaiaw moit	Soil Science and Agricultural Chemistry	2012	➢ The CEC (Cmol (P+) kg^{-1}) is found high in lowland (Bhoirymbong) than the slope lands due to higher clay content. It was inversely relationship between SOC stock and BD. ➢ Pine forest lowers the SOC content, pH and CEC than permanent grassland. ➢ soil inorganic carbon (SIC) was high at slope land (Sawkilo) of permanent grasses before converting to agricultural land ➢ The SOC stock was found in the order of high altitude slope land (CPRS)> Low lands (Bhoirymbong and Sawkilo)>12%slope land (Sawkilo)>32%slope land Pyllun. ➢ The long period of Rice-Fallow system at lowlands would store more SOC than the slope lands under similar type of management (no addition of manures and fertilizers). The CENTURY simulation SOC stock shows that SOC dynamics will stabilization after 25 years.

57.	Effect of Integrated Nutrient Management on Soil Organic Carbon pools and rice productivity	Rupaia Siangshai	Soil Science and Agricultural Chemistry	2013	➢ Different oxidizable organic carbon fractions (OOC), particulate organic matter (POM), microbial biomass carbon (MBC), dissolved organic carbon (DOC), hot water extractable carbohydrates (HWC) and water extractable carbohydrates (WC) were increased with the addition of organic manure (FYM). ➢ SOC pools were found highest at FYM@ 10 tone ha^{-1} + RDF dose of NPK (T5). the highest grain and straw yield of rice and harvest index at T5 treatment.
58.	Spatial variability of soil organic carbon (SOC) and available NPK under different toposequences and land cover management	David Long Pani Tao	Soil Science and Agricultural Chemistry	2015	(i) Land cover/uses effect on SOC are found as guava orchard>citrus orchard>ginger/turmeric cultivation at NBPGR1>maize-vegetable>medicinal plant (perilla, coix) cultivation>buckwheat-pulses>maize-fallow>pulses-vegetable>ginger/turmeric cultivation at ICAR-KVK. (ii) The best described semivariograms of SOC and available NPK have been exponential, pentaspherical, exponential and exponential model. The nugget/sill ratio of ICAR-Horticulture is weak spatial dependence of SOC and available N and moderate spatial dependence of available PK.
59.	Evaluation of soil test methods for available boron in acidic soils	Rokogeno Charlie-U	Soil Science and Agricultural Chemistry	2015	1. Mehlich-3 and DTPA-Sorbitol can serve as an alternative to hot water without affecting the reliability of B testing in acidic soils. Although hot water can continue as B extractant for NER India, if multi-nutrient extractant is not required. 2. Being a multi-nutrient extractant, adoption of Mehlich-3 and DTPA-Sorbitol can improve the rapidity of soil testing, saving substantial amount of time, cost and labour involved therein.
60.	Effect of fallow age of Jhum on soil properties in West Garo Hills district, Meghalaya	Manjunath R.L.	Soil Science and Agricultural Chemistry	2017	Salient findings: 1. Mapping of shifting cultivation using remote sensing and GIS 2. Many farmers of West Garo Hills district were enthusiastically continued second year crop after jhuming. 3. The most prevalent jhum cycle was 4 to 9 years in the West Garo Hills district (68.5%). 4. The minimum jhum fallow period should

					be atleast 6-7 years to resotore the soil properties in the district at present time.
61.	Temporal soil nitrogen availability and its influence on rapeseed (*Brassica campestris* L.) under varying nitrogen sources	Sowjanya T.V	Soil Science and Agricultural Chemistry	2019	✓ Application of 75% N_{Urea}+25% N_{FYM} was the most efficient nutrient management practice for enhancing rapeseed production. ✓ The highest available K recorded in the treatment receiving 100% N_{FYM}. The higher growth, N uptake, yield attributes and yield were recorded with treatment receiving 75% N_{urea}+25%N_{FYM}.
62.	Assessment of Soil Biochemical Quality Indices of Rice-Fish Farming System in Apatani Plateau	Ms. Anindita Das	Soil Sc. & Agril. Chem.	2021	✓ The soil biochemical quality index (SQI) of Apatani rice-fish farming system as a time-tested natural farming unit recognized as Apatani Cultural Landscape by UNESCO was developed for the first time. Findings indicated that rice-fish farming system supported marginally lesser SQI values based on soil biochemical traits relative to that in adjacent reserve forest sites.
63.	Silicon Nutrition in Rice as Influenced by Sources and Application Methods	Mr. Palla Madhu Babu	Soil Sc. & Agril. Chem.	2021	✓ The findings revealed that the application of silicic acid hydrate as seedling root dipping method,Si@225 mg kg^{-1}) and sodium meta silicate as foliar spray (Si @1%) at vegetative stage and reproductive stage performed best in terms of yield attributing parameters and grain yield of transplanted rice.
64.	Dynamics of Soil Nitrogen and Phosphorus vis-à-vis Nutrient Regimes in Lowland Rice Field	Ms. Shilpi Gupta	Soil Sc. & Agril. Chem.	2021	• NH4 +-N ranged in between 1.76 mgl^{-1} to 4.89 mgl^{-1} at 0-15 cm depth and in between 1.69 mgl^{-1} to 4.76 mgl^{-1} at 15-30 cm soil depth • NO3 −-N ranged in between 1.51 mgl^{-1} to 4.21 mgl^{-1} at 0-15 cm depth and in between 1.41 mgl^{-1} to 4.27 mgl^{-1} at 15-30 cm depth ✓ P ranged in between 0.55 mgl^{-1} to 1.26 mgl^{-1} at 0-15 cm depth and in between 0.47 mgl^{-1} to 1.16 mgl^{-1} at 15-30 cm depth of solution.
65.	Interaction of Genotype and Fertilization on Phosphorus Uptake Efficiency in Rice Under Acid Soil	Ms. Oyem Taki	Soil Sc. & Agril. Chem.	2021	✓ The positive effect of *Pup1*$^{+}$(phosphorus uptake gene) on rice genotypes could be enhanced when combined with nutrient management practice i.e.50% RDF + Seedling root-dip (SRD) in single super phosphate (SSP) soil slurry @ 112.5 mg P kg^{-1} soil for 10 h + CAU Bioenhancer @ 2.5 kg ha^{-1}) in terms of higher grain

					yield, PUpE and PUE in low P acid soils.
66.	Development of Soil Physico-Chemical Quality Index of Rice-Fish Farming System in Apatani Plateau	Ms. Narang Ampi	Soil Sc. & Agril. Chem.	2021	✓ The soil physico-chemical quality index (SQI) of Apatani rice-fish farming system as a time-tested natural farming unit recognized as Apatani Cultural Landscape by UNESCO was developed for the first time. Findings indicated that rice-fish farming system supported relatively better SQI values on physico-chemical properties to that in adjacent reserve forest sites.
67.	Phosphorus Fractions Influenced by Liming in Acid Soil	Mr. Bisharlang Wannian g	Soil Sc. & Agril. Chem.	2021	Saloid-P (easily available bounded P) attend maximum at 30 DOI (11.46 ppm) and 45 DOI (9.84 ppm) with treatment T_1 (1 t ha $^{-1}$) which was statistically at par with T2 (lime @ 2 t ha^{-1}) and T3 (lime @ 3 t ha^{-1}).Maximum changes of different P fractions one form to another was occurred between 30 - 60 DOI with lime 1 -2 (@ t ha^{-1}). ✓ The best lime amelioration for effective acid neutralization was1t/ha at 30-60DOI
68.	Developing Soil Testing Protocol for Potentially Available Phosphorus in Acidic Soils under Organic Production System	Ms. Pritisha Patgiri	Soil Sc. & Agril. Chem.	2021	For successful organic cultivation, it may be advised to test organically managed acidic soils for potentially available phosphorus through citric acid and double lactate extractants, and accordingly recommend P manorial plan. ✓
69.	Soil Organic Carbon Estimation from Rice Fallow Using Satellite Remote Sensing Data	Ms. Priya Das	Soil Sc. & Agril. Chem.	2021	1. The PCR model was the best suitable for SOC prediction of such fragile topographical settings as SOC (%) =8.41+20.55*NDVI+1.14*GNDVI-12.34*MSAVI2+0.04.98*EVI, (R^2=0.51, RMSE = 0.17) in the month of October. 2. The NDVI, GNDVI, MASAVI2 and EVI are highly sensitive in fragile topography with vegetation system especially in the month of October. ✓
70.	Evaluation of Phosphorous Extractants for Organically Managed Acid Inceptisol under Pea (*Pisum sativum* L.) Cultivation	Mr. Vinukond a Abhishek Raj	Soil Sc. & Agril. Chem.	2022	✓ Bray P1 + 0.05(M) 2, Keto glutaric acid + 0.02(M) HCl at pH 4.0 may be identified as a suitable combination of extractants for estimating potentially available phosphorus in organically grown pea in acidic soil of Meghalaya.
71.	Zinc Biofortification of French Bean (*Phaseolus vulgaris* L.) in Acid Inceptisol	Ms. Sultana Jerifa Ullah	Soil Sc. & Agril. Chem.	2022	✓ The application of zinc as basal @ 7.5 kg ha^{-1} combined with foliar spray @ 0.5 per cent through $ZnSO_4$ was found most suitable option for getting higher green pod yield of French bean fortified with

					higher Zn content in acid Inceptisol of Meghalaya.

SCHOOL OF CROP IMPROVEMENT

Sl. No.	Title of the thesis	Name of the student	Major subject	Year of passing	Outcome
1. Rice					
DISCIPLINE GENETICS AND PLANT BREEDING					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
72.	Genetic analysis of upland rice genotypes and allele mining for phosphorus deficiency tolerance	Mr. Aibanshan K. Dohling	GPB	2011	Line x Tester analysis was performed to identify the best upland rice genotypes and cross combinations that can be used for varietal development programme to develop soil acidity tolerant upland rice and this led to identification of lines like Dhan and Epyo and testers like RCPL 116 and Bhalum 2 with the best general combining ability while the crosses ARR09 X RCPL116 (L4xT2), N902 X RCPL116 (L3xT2), EPYO X N902 (L1xT3) showed the best specific combining ability. Allele mining on a selected panel of 16 tolerant and susceptible genotypes for *PUP*1 and *PTF1* genes revealed presence of different alleles in some of the genotypes.
73.	Divergence studies and path analysis of yield contributing traits in lowland rice (*Oryza sativa* L.)	Mr. Loukham Varun Singh	GPB	2012	Data on 12 yield contributing traits for 21 lowland rice genotypes of the North East India analyzed in 2 different environments, one with application of organic manure and the other with synthetic chemical fertilization, revealed that biological yield (0.772) in organic environment and harvest index (0.6463) in chemical fertilizer environment had the maximum direct effect towards grain yield.The two fertilization regimes revealed opposite path coefficient effect for panicle length while path coefficient of days to 50% flowering, plant height, panicles per plant, grains per panicle, 100 grains weight, biological yield and harvest index showed similar positive effect in both the different fertilization regime. Path coefficients of tillers per plant, spikelets per panicle and percent spikelet fertility showed negative effect in both the environments.Based on metroglyph index score of the twenty-one lowland rice genotypes of the North East India, LR 15 (Priya) had the maximum index.
74.	Assessment of genetic diversity of upland rice (*Oryza sativa* L.)	Ms. PaharasainingSyiemlieh	GPB	2012	Twenty two accessions of rice consisting of short bold, medium slender/mild scented and strong scented including CAU R-1 and

	genotypes from North Eastern Hill Region of India				Shahsarang were used to study crossability and genetic diversity by 11 RAPD and 7 SSR primers. The Jacaard's similarity coefficient ranged from 0-0.6 and 0-0.86 in RAPD and SSR analysis.
75.	Assessment of molecular variation in the known pericarp colour related genes in purple Rice (*Oryza sativa* L.)	Ms. ThoithoiHuidrom	GPB	2012	In the present investigation, a total of 26 primer pairs were tested on 8 genotypes with varying pericarp and endosperm colour to assess the molecular variation in the known pericarp colour related genes in purple rice (*Oryza sativa* L). The primer AF-12 amplified a fragment where, in genotype 12 (Daya- white pericarp), a new deletion was seen immediately after the 'G string' of Rc-g. The characteristic 14bp deletion was absent in all test genotypes. There was removal of the stop codon in genotype 13 (Chak - haoPoireiton). Our results suggest that deletion at the 'G string' without the 14bp deletion can produce a white pericarp phenotype.
76.	Genetic analysis of yield contributing traits in lowland rice genotypes and NILs under acidic soil	Mr. Ashim Debnath	GPB	2014	A total of 194 NILs derived from crosses between rice cultivar Swarna and two accessions of *O. nivara*were screened under acidic soil and hydroponic conditions and lines performing well were identified. These lines were K 416, K 413, K 410, S 312, S 310M and S 296.Through Line X Teter analysis, Sahbhagi Dhan X Kasalath and Priya X IR 24 were identified as best cross combinations. Priya and Sahbhagi Dhan were identified as best general combiners.
77.	Morphological and molecular characterization of upland rice germplasm and screening for the presence of fertility restorer genes	Ms. Anni Lego	GPB	2017	Genotypes SR-3925-13-1, IRCTN-91-77, Tami Hikari, Niver, Gurrah were identified as early flowering genotypes to be used for breeding programme. For primers DRRMRF3-5 and DRCG-RF4-14, 89 and 125 genotypes, respectively were found to be homozygous for restorer gene.
78.	Grain quality characterization and molecular diversity analysis of aromatic rice (*Oryza sativa* L.) genotypes using SSR markers	Mr. Wadbok Rani		2018	Ja-Pnah (82.18%) followed by IC-465275 (81.55%) recorded the highest carbohydrate content, CT3-D-4 (11.69%) recorded the highest protein content %, IC-137342 (0.99%) recorded the highest fat content.Three major clusters were identified; Cluster I is the largest cluster with 15 genotypes, Cluster II is the second largest cluster with 13 genotypes and Cluster III consisted of 4 genotypes. Highest PIC value was recorded for RM447 (0.750) and lowest for RM125 (0.236). Maximum diversity was observed between IC-137401 and

					IC-342368 (0.98), followed by IC-342368 and IC-326284 (0.97).
79.	Agro-morphological characterization and genetic diversity analysis of aromatic rice (*Oryza sativa* L.) genotypes using SSR Markers	Mr. Pramod Kumar		2019	The genetic distance between the 42 accessions of aromatic rice ranged from 0.03 to 0.87; genotype RM495 (82.6%) recorded highest per cent of polymorphismIC-342368 and IC-401209 showed maximum genetic distance on the basis of morphological analysis. The genetic dissimilarity between the 42 accessions of aromatic rice ranged from 0.06 to 0.42. Maximum genetic dissimilarity was found between IC-137401 and Ja-Shulia genotypes.
80.	Molecular characterisation and evaluation of a panel of aromatic mutant-M_7 rice (*Oryza sativa* L.) for yield performance and blast resistance	Mr. Samuthirapandi S.		2019	A total of 60 alleles were detected in 22 loci with minimum and maximum of 2 and 4 alleles per locus with average of 2.7 in 33 genotypes, respectively. PIC value ranged from 0.061 (by RM251) to 0.616 (by RM452) with average of 0.390. Molecular analysis of blast resistance in a 33 genotypes showed that, all mutant genotypes had *Pi1, Pi12* and *Pi20(t)* blast resistant genes out of 5 genes screened except *Sabhagidhan* (as resistant check) genotype which had four resistant gene *viz*., *Pi1*, *Pi2, Pi12* and *Pi20(t)* and *Chakhao poireiton* (susceptible check) which had only two resistant genes *viz*., *Pi1* and *Pi12*. *Pi2* was found in only *Sabhagidhan*
CLASSIFICATION/CATEGORY: ABIOTIC STRESS TOLERANCE					
81.	Path analysis for yield component traits in upland rice and allele mining for aluminium toxicity tolerance	Ms. KhriedinuoPfukrei	GPB	2011	A combination of 23 yield contributing characters spread over various stages of crop growth from a set of 21 upland rice genotypes was used to predict the response of grain yield using path analysis. Partitioning of correlation coefficients between response and predictor traits, revealed that traits such as the number of primary branches/panicle (0.630), spikelet fertility (-0.673), number of filled grains/panicle (0.530), 100 grain weight (0.184), number of tillers (0.858), EST (0.498) and panicle weight (0.692) had significant direct or indirect effect on grain yield/plant. For allele mining, eight rice genotypes (4 tolerant and 4 susceptible) were selected based on relative root growth (RRG) from the results of a hydroponic experiment in Magnavaca solution, where aluminium was used as treatment.

82.	Screening of a core set of rice germplasm for response to low light intensity and identification of tolerant and susceptible genotypes	Mr. Karyom Bam	GPB	2014	Characters like spikelet fertility %, grain yield/plant and biomass are important characters for screening rice genotypes under low light intensity.IRCTN 91-84, IRCTN 91-94, RCPL 1-4C and RCPL 1-9C were identified as tolerant to low light intensity. IRCTN 91-84 can be used as donor for breeding for low light tolerance.
83.	Evaluation of rice mini-core collection for response to Phosphorus deficiency under lowland conditions	Mr. Laldintluanga	GPB	2015	Indian rice mini-core along with local accessions evaluated (#154) for iron toxicity and low phosphorus deficiency tolerance. Genotypes like LR 18-2, BAM 5891, BAM 698, BAM 1264, BAM 1057, BAM 1098, BAM 785 and BAM 8364 were identified as good performers in lowland soil conditions. These identified lines could be used to study the mechanism of tolerance as well as potential donors for traits listed above.
84.	Line X Tester analysis of a set of rice genotypes and evaluation for heat tolerance at grain filling stage	Mr. Lalruatmawia	GPB	2015	Trait profiling of genotypes under heat treatment showed that genotypes TRC 12, RCPL 1-136, RCPL1-186, RCPL1-188 could be good donor sources for key breeding traits like grain yield/plant, spikelet fertility, root biomass, 1000 grain weight etc. The trait profiling also predicted ten cross combinations of which TRC 9 x TRC 12 and RCPL1-188 x TRC12 were predicted as the most promising.
85.	Evaluation of rice mini core collection for aluminium toxicity tolerance and blast resistance under upland conditions	Mr. N. Radhakishore	GPB	2015	Indian rice mini-core along with local accessions evaluated (#154) for aluminium toxicity tolerance and blast resistance. UR 3, BAM 811, JR 31 and UR 17-2 were identified as best performers for aluminium toxicity tolerance.
86.	Evaluation of rice mini core collection for response to low temperature at reproductive stage	Ms. BapsilaLoitongbam	GPB	2015	Indian rice mini-core along with local accessions evaluated (#154) for cold tolerance. For low temperature tolerance, UR 100 and were identified as tolerant ones.
87.	Marker assisted pyramiding of drought tolerant QTLs qDTY1.1 and qDTY3.1 in rice variety Samba Mahsuri Sub-1	Ms. Dake Deepika	GPB	2020	Pyramided lines SABD-9, SABD-76, SABD-79 and SABD-80 carrying two drought tolerant yield QTLs qDTY1.1 and qDTY3.1 performed well, showing greater tolerance than parents under stress conditions.
CLASSIFICATION/CATEGORY: BIOTIC STRESS TOLERANCE					
88.	Marker assisted selection (MAS) of backcross progenies for introgression of	Mr. George Ferdinand War	GPB	2013	Eleven best advance back cross lines carrying multiple blast resistance genes in the background of CAU R-1 and Shahsarang were selected.

	blast resistance genes in lowland rice				
89.	Marker assisted selection (MAS) of backcross progenies for introgression of blast resistance genes in upland rice	Ms. Mayalang RJ Najiar		2014	A set of backcross progenies derived from two distinct crosses were evaluated for presence of favourable allele for blast resistance followed by phenotypic screening revealed 11 families with 45 plants carrying 1 gene and 29 plants carrying 2 genes of interest. From the other 200 BC3F1 progenies screened for donor foreground of IRBL 9W, 1 family showed positive results with 3 plants carrying the gene of interest. Characters for the BC3F1progenies were also recorded to assist background selection to identify which progeny resembles the recipient parent, Bhalum 3 the most.
CLASSIFICATION/CATEGORY: WIDE HYBRIDIZATION					
90.	Intervarietal hybridization and genetic diversity of rice by molecular markers	Ms. Diploma Debbarma	GPB	2013	Fourteen RAPD and 8 SSR primers were used to assess the genetic variability of 17 commercially cultivated rice varieties from North India and North East (CAU R-1 and Shahsarang). Jacaard's similarity coefficient for RAPD ranged from 0.28-0.77 whereas for SSR it ranged from 0.07-1.
CLASSIFICATION/CATEGORY: VARIETAL DEVELOPMENT					
91.	Molecular characterization of advanced breeding lines of lowland rice and their evaluation for grain quality traits	Mr. I. Gopinath		2018	Superior breeding lines, *viz.* CAUS103, CAUS104, CAUS105 and CAUS107 were identified for nomination to AICRP trials. Lines carrying favourable alleles for *Chalk5*, *Pita* and *Pi54* were identified. SSR marker profile for advanced breeding lines were obtained.
92.	Characterization and evaluation of advanced breeding lines of lowland rice with respect to agro-morphological traits	Mr. Ashish Rai		2018	Superior breeding lines, *viz.* CAUS103, CAUS104, CAUS105 and CAUS107 were identified for nomination to AICRP trials. Blast resistant and Fe toxicity tolerant lines were obtained. DUS characteristics were recorded for all the lines.
93.	Genetic analysis of elite rice breeding lines for allelic status of agronomically important genes and combining ability	Mr. Shanmugam A		2019	Five blast resistance genes (*Pi1, Pi12, Piz, Pb1* and *qPbm11*) and two yield genes (*SCM2* and *TGW6*) were found to be fixed in the selected elite lines. Crosses, viz. CAUS105 x VL40387, CAUS103 x UPRI-3908-18-2-1-1 andCAUS 105 x HPR 2921 were found to have significant SCA, good to moderate parental GCA, with good *per se* performance for yield related traits and thus, these could be forwarded for pure line development using marker assisted selection.
YEAR JAN 2020- MAY 2022					
94.	Assessment of Genetic	Ms. Puthem	Gen. &	2021	Field trials and hydroponics screening

	Variation in Lentil (*Lens culinaris* Medik) for its Agronomic Performance, Aluminium Tolerance and Phosphorus Uptake Efficiency	Victoria Devi	Plant Breeding		identified PDL-1, DPL-62, L-7903, L-4147 as genotypes having high PUE. L-7903, PAL-6, PAL-7 and DPL-62 showed highest performance as most Al tolerant in acidic condition which have high ability to give high yield in field trials
95.	Genetic Analysis of Grain Yield and Quality Parameters in a Set of Breeding Lines Derived from BLB Resistant Donor and Selected Mutants of Rice (*Oryza sativa* L.)"	Mr. Manoj M.	Gen. & Plant Breeding	2021	The genetypes NEH-2, NEH-13 (kernel length after cooking), NEH-15, NEH-11, NEH-14, NEH-2, NEH-12, NEH-4 (kernel breadth after cooking), NEH-2 (gel consistency), M-11, NEH-18, NEH-2 (alkali spreading value), M-1 (water uptake ratio) and NEH-4 amylose content showed better performance for cooking characteristics among the other genotypes. The genotype M-3 (protein content), NEH-2 (total carbohydrate content) and NEH-8 (fat content) showed the highest nutritional value than other genotypes.
96.	Genetic Variability Study in a Set of Breeding Lines Derived from BLB Resistant Donor and Selected Mutants of Rice (*Oryza sativa* L.) for Aluminium Tolerance and Phosphorus Uptake Efficiency (PUE) under Hydroponic Condition"	Ms. Shefali Gupta	Gen. & Plant Breeding	2021	Genotypes NEH-1, NEH-2, NEH-7 had the PUE valueand also had the low difference between PUE control and PUE treatment. Higher PUE in Al stress acidic condition in hydroponics reveal genotypes with better yield potential and capabikity to absorbed inorganic P at normal P supply with high Al tolerance capacity
97.	Divergence Analysis of Advanced Breeding Lines of Rice in Terms of SSR Markers, Yield and Grain Quality Characteristics"	Mr. Lokesh Kumar	Gen. & Plant Breeding	2022	Line ULRC 6*7-5-1-1 was the best performing lines for all the important yield related, grain quality traits. The crosses of ULRC 6*7, ULRC 24 and ULRC 29 were found to be best performing crosses for both yield related and grain quality traits.
98.	Combining Ability Studies for Yield and Aluminium Toxicity Tolerance in Maize (*Zea mays* L.) Hybrids	Mr. Samudra Kalita	Gen. & Plant Breeding	2022	The field evaluation studies indicated that non-additive variance was preponderant and can be exploited for heterosis. When subjected to aluminum stress, a compensatory mechanism - early formation of lateral roots was triggered in all the treated genotypes. In certain hybrid combinations, the response to aluminum stress for the root / shoot parameters were at par with the control.
99.	Phenotypic Diversity Studies and Pigment Characterization in	Ms. Sristishila Baruah	Gen. & Plant Breeding	2022	Presence of considerable variation at both the phenotypic and genotypic level was observed among the eighty-three landrace accessions

	Coloured Maize (*Zea mays* L.) Landraces Adapted to North East Hill Region (NEHR) of India				studied. Phenotypic studies indicated that for direct selection on the basis of high ear weight to be fruitful, simultaneous selection of other ear/kernel related traits were important. Highest anthocyanin content was recorded in the accession P/T 1 (1.48 CGE mg/g). Highest phlobaphene content was recorded in the accession P/MI 5 (1.12 A 510 /g). Population III and Population IV were most divergent.
DISCIPLINE: PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY (PMB)					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
100.	Crossability studies and characterization by molecular markers in rice (*Oryza sativa* L.) accessions	Ms. Spurty Tripura		2013	Eleven RAPD and 7 SSR primers were selected (out of 14 and 8, respectively) to assess the genetic diversity of 20 accessions and 2 rice varieties. A total of 42 RAPD amplicons were generated. The average number of amplification products formed was 3.84 with a maximum of 7 in OPD-08 and a minimum of 2 in OPD-07.
101.	Allele mining and wide-hybridization approach for enhancing yield in rice	Ms Bindanchi T.M. Sangma		2015	Allele mining across *Rdd1* gene suggested that allele A (600 bp) can be used in breeding programmes to enhance grain length in rice. Allele A (205 bp) of RM 478 and allele B (240 bp) of RM 574-2 associated with low grain weight and grain width, respectively can be used for rejection at seedling stage in marker assisted breeding programme.
102.	Evaluation of putative mutant populations in rice (*Oryza sativa L.*) and rapeseed(*Brassica rapa syn. campestris*)for aluminium toxicity tolerance	Mr. Limasunep Longkumer		2016	Genotypes TS38 and M27 are better performers for Al toxicity tolerance.
CLASSIFICATION/CATEGORY:MOLECULAR MAPPING					
103.	Study of sequence polymorphism at DREB loci in relation to seedling stage cold tolerance in rice	Ms. Clarissa Challam	PMB	2011	Diverse genotypes from NEHR along with known international cold tolerant lines were screened for cold tolerance at germination and seedling stageand it was found that the cumulative score of 7 parameters was a good indicator, distinguishing cold tolerant from sensitive genotypes and the most contrasting genotypes both from Arunachal Pradesh identified.PCR amplification of the OsDREB1A and OsDREB1B across a panel of 15 diverse genotypes revealed presence of 2 and 5 SNPs, respectively.
104.	Identification and cloning of cold	Ms. Tshering Chomu Bhutia	PMB	2012	Present study was carried out to find the novel genes, to validate the responsiveness in two

	responsive genes in Rice				rice landraces (UR5 and UR 17-2) adapted to low temperature by RT-PCR method and clone the selected genes into an appropriate vector. Out of 10 selected genes, 6 showed amplification when standardized with genomic DNA. RT-PCR experiment showed that at 24 hours stress 2 genes (OsZim and OsFbx257) show differential expression. While at 3 hours 4 genes viz, OsPs, OsFbx257, OsZim and OsPal were differentially regulated. The OsFbx257 gene was successfully cloned. This gene could be evaluated further for its role in plant under low temperature.
105.	Identification and tagging of gene(s)/loci showing differential response to phosphorus deficiency in rice	Mr. FirstbornsonDkhar	PMB	2013	F_2 Mapping population involving parents Chakhao Poroiton and Shahsarang was evaluated for Phosphorus deficiency tolerance and 10 informative markers identified.
106.	Association of genic markers for phosphorus deficiency tolerance in rice biparental populations	Ms. SalamgwamlieMichui	PMB	2015	In a F_2 rice population, it was observed that the flag leaf dry weight, fresh leaf weight and leaf width were significantly correlated with P uptake, while leaf width was found to be correlated with PUE under lowland acidic field conditions. Four novel gene based polymorphic markers were identified from markers designed targeting ten genes identified from root transcriptome data. The results showed that marker CG 1-2 associates with three phenotypic traits {(tiller number at 60 days after transplanting (DAT)} and at 90 DAT and leaf number), CG-111-3 with one trait (plant height) and CG-113-1 with one trait (leaf area).
107.	Marker assisted pyramiding of drought tolerant QTLs in rice variety SambaMahsuri Sub-1	Ms. DiezelhounoChuchua	PMB	2017	The F_2 progenies carrying both the “drought tolerant yield” QTLs qDTY 1.1and qDTY 2.2 QTLs (inhomozygous or heterozygous condition) were generated and evaluated under moisture stress for various physiological parameters. As per physiological studies the plants in lines SAB1, SAB2, SAB7 and SAB4 were found to be performing better under moisture stress.
108.	Characterization of a panel of contrasting rice genotypes for low phosphorous tolerance using morphological and molecular markers	Mr. Ebenazar Gympad	PMB	2018	A set of 60 diverse rice genotypes selected from the previous study on 110 genotypes were evaluated for performance with respect to 15 different traits under lowland, acidic P deficient soil conditions using morphophysiological and molecular parameters. Significant correlation of our data with previous field data (2014) for 11

					agronomic traits suggests that the genotypes and traits identified can be used for various breeding and crop improvement programmes for low P tolerance. The correlation matrix showed that panicle length, leaf area and biological yield were significantly correlated with grain yield. Marker K46-2 showed significant association with panicle length and test weight.
109.	Bulk segregation for blast resistance in F2 population derived from two contrasting rice genotypes of North Eastern hill region	Ms. HageSumpi	PMB	2018	Blast resistance genePi20t was found to be associated with resistance to local pathotypes of *Magnaporthegrisea* (rice blast pathogen).
110.	Characterization of advanced inbreed lines for low phosphorous and iron toxicity tolerance	Mr. Shaikh Akbar Rasul	PMB	2018	Two advanced breeding lines i.e., 51(BC_2F_9) near isogenic lines (KM lines) and recombinant inbred lines (235 plants; $F_{3:4}$; ULRC-36) were evaluated for iron toxicity and low P tolerance under lowland acidic field. Lines like KM-194, KM-608 and KM-660 identified as good performers.
111.	Molecular characterization of selected RILs derived from two low phosphorous tolerant rice genotypes	Ms. T. Oshin Sharma	PMB	2018	In a set of 1600 individuals (F_5) (recombinant inbred line (RIL)) generated from LR23 (Sahbhagi Dhan; *PsTOL1*$^+$) X LR26 (Chakhao Poreiton; *PsTOL*$^-$) was phenotypedchi-square test for goodness of fit revealed that HvssR02-14, RM527, snpOS0303, snpOS0304, snpOS0305, snpOS0306, BADH2 and Chalk5 showed significant values, suggesting preponderance of LR23 allele in markers 02-14 and chalk5 and LR26 allele for other six markers. A sand based screening using Yoshida solution on these 20 lines along with the parents revealed significant differences in control and treatment conditions for all the six traits suggesting that the performing lines were distinct for both phenotypic and genotypic traits and therefore, can be used for further selection of best lines under lowland acidic soil conditions.
YEAR JANUARY 2020-MAY 2022					
112.	Molecular Characterization of Mineral Stress Responsive Rice Genes and Identification of their Putative Orthologs	Ms. Boobana P.	Plant Molecular Biology & Biotechnology	2021	Our data revealed that PHR3 and PHO1 are highly induced in roots after 48 and 24 hrs. of high Fe stress, respectively. The present study gave an insight about the response of the P$^-$ and F+ tolerant and P$^-$susceptible genotypes under both low P and high Fe conditions. The tolerant genetypes performed well under both

					stress conditions.
113.	Bulk Segregant Analysis for Aluminium Toxicity Tolerance in $F_{2:3}$ Population of Rice	Ms. Akunuru Sreeja	Plant Molecular Biology & Biotechnology	2022	The Bulk based on phenotypic data were significantly different and genetyping on a set of 76 progeny revealed that 7 markers *viz* HvSSR01-34, RM12557, AR051-2, AU01-3, FR033, PR026-3 and PR062-3 were associated with various traits under hydroponic conditions. Three markers *viz* HvSSR01-34, AR051-2 and PR062-3 are associated with better performance under lowland acidic soil conditions.
114.	Molecular Characterization of Advanced Breeding Lines of Rice Using Candidate Gene Based Markers	Mr. Jayanta Bora	Plant Molecular Biology & Biotechnology	2022	Thirty-one advanced breeding lines had both the two blast resistance genes Pi54 and Pita for the desirable allele, while in four advanced breeding lines neither of the desired allele was present. Twenty-three advanced breeding lines carry the desirable allele were fixed for four genes (PsTOL1, OsWD40-2, OsML08 and Os02g08018) for low phosphorous tolerance.
115.	*In Vitro* Regeneration and Genetic Fidelity Assessment of Red Ginger Lily (*Hedychium rubrum*)"	Mr. Kishor B	Plant Molecular Biology & Biotechnology	2022	Plant growth regulator combination of BAP and NAA was found to give the best response for shooting with simultaneous rooting. All plants regenerated maintained genetic fidelity as confirmed by using RAPD markers. Field performance of the *in vitro* regenerated plants is being evaluated.
116.	Genetic Fidelity Assessment of *In Vitro* Regenerated Sweet Flag (*Acorus calamus*) Using Molecular Markers	Mr. Paraskar Shyam Purushottam	Plant Molecular Biology & Biotechnology	2022	TDZ was found as an alternative source to BAP and NAA for multiple shooting. IBA was found to give the maximum response for *in vitro* rooting. The protocol developed in this study produced true to type plants and maintained genetic fidelity as confirmed by using RAPD markers
117. Maize					
DISCIPLINE GENETICS AND PLANT BREEDING					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
118.	Evaluation of maize landraces of North-Eastern Hill Region of India for genetic diversity and Turcicum blight resistance	Ms. Miranda Sanjenbam	GPB	2013	Cluster analysis of the 139 maize landraces studied revealed that the groping was based on ear weight variability rather than geographic origin. For NCLB resistance, qualitative disease assessment under natural field conditions followed by controlled quantitative assessment based on Area Under Disease Progress Curve scores were consistent for thelandraces studied implying genetic basis of inheritance.
119.	Combining ability studies of a set of QPM (Quality Protein Maize) inbred lines	Ms. Backiyalakshmi C.	GPB	2016	Diallel mating studiesfor tryptophan content and grain yield under acidic soil conditions identified QPM lines and crosses which showed promise for developing lines with high

	under acidic soil conditions				tryptophan content and grain yield.
120.	Tryptophan content analysis in F2:3 families of six quality protein Maize crosses	Mr. Pawan Kumar Khati	GPB	2018	Kernel characterization and tryptophan content analysis for identifying useful segregants from $F_{2:3}$ QPMfamilies derived were effective for lines with kernel modification scores of 2-3. Both high and low levels of tryptophan were observed in the segregating generation indicating selection would be effective in the presence of variability for tryptophan content.
121.	Selection for hard endosperm, tryptophan content and yield contribution traits in F3:4 QPM families	Mr. Mariyappan. S. B.	GPB	2018	Study of homozygous QPM lines from $F_{3:4}$ generation families for high tryptophan using SSR markers for *o2* and *o2* modifiers could identify five lines with % tryptophan values ranging from 0.90 to 0.94 identified as distinct from non QPM maize for further line development programme.
122.	Combining ability studies for yield and yield attributing traits in maize (*Zea mays* L) inbred lines developed from north eastern hill region (NEHR) of India	Mr. Harsha Vardhan Rayudu Jamedar	GPB	2019	Half diallel studies among the inbred lines developed from landraces of NEHR of India for yield and yield attributing traits indicated non-additive gene action for most quantitative traits studied. Ear related traits were highly significantly correlated to grain yield in both red and yellow kernel lines studied.
CLASSIFICATION/CATEGORY: ABIOTIC STRESS TOLERANCE					
123.	Identification of water logging tolerant maize (*Zea mays* L.) landraces from Northeast India	Mr. KunaljitDebbarma	GPB	2014	A set of sixty maize landraces collected from different states of North Eastern Hill region screened for water logging tolerance revealed presence of genetic variability among the landraces for critical parameters -shoot to root ratio, ability to form adventitious roots and lysigenousaerenchyma.
124.	Study of aluminium toxicity among maize landraces of North Eastern Hill Region (NEH) of India	Ms. NiraliMoirangthem	GPB	2015	The studies based on hydroponics for root characters and hematoxylin staining revealed that high staining of root tissues was negatively correlated with decreased root lengths. Path Analysis studies of treated plants grown to adult stage suggested that selection criteria for higher yield based on ear weight and total grain weight would be effective for improving yield.
125.	Evaluation of full sib families for aluminium and water logging stress in a set of identified maize *(Zea mays* L.) landraces	Ms. Baltachina. G. Momin	GPB	2016	Seedlings of second generation full sib maize families screened under hydroponics at highly toxic Aluminium concentrations recorded differential response for shoot dry weight for families with both high and low Net Seminal Root Length. For submergence tolerance, families with higher Water Tolerance Coefficient recorded greater ærenchyma and adventitious roots production.

CLASSIFICATION/CATEGORY: BIOTIC STRESS TOLERANCE					
126.	Genetic gain in response to selection for yield contributing traits and Turcicum blight resistance in maize (*Zea mays* L.) landraces	Ms. Moutushi Sarkar		2015	Directional selection on the basis of cobweight done in ten maize landraces previously identified to be resistant to *Turcicum* blight disease identified five population showing higher resistance compared to the check line under study. Genetic gain in the progeny population was highest for cob weight.
127.	Characterization of identified maize Inbred lines for resistance to northern corn leaf blight (NCLB)	Mr. ShimreisoVashum	GPB	2017	A set of 39 maize inbreds consisting of 34 full sib families, 3 QPM lines and two reference checks for NCLB were used for phenotyping and genotyping. The full sib family M9 (4)-39X42 with a very low field (4%) as well as AUDPC score of 3.42scored similarly as the resistant check for markers bmc1152 and umc1149 which tag close to reported *Ht2* and *HtN* genes for resistance in bin 8.06. Similarly, sib familiesN25 (5)-2X1, Ma5 (7)-3x5 and S16 (9)-4X8 with AUDPC scores over 40 were comparable with the susceptible check for SSR markers umc 1947 and phi 053.
128.	Generation Mean Analysis for inheritance of Northern Corn Leaf Blight Resistance in maize of North East Hill condition	Ms. ViolinaBharali	GPB	2019	The mode of inheritance and gene action governing NCLB resistance in three different maize populations developed from inbred lines indigenous to North East Hill Region of India revealed that mode of gene action governing resistance to NCLB was population specific. Highly significant mean effects for the resistance parameters studied implied that NCLB inheritance was under polygenic control in all the three populations studied.
129.	Phenotypic and genotypic characterisation in segregating biparental population of maize (*Zea mays* L.) for Turcicum leaf blight resistance	Mr. Sugumar S.	GPB	2020	A total of twenty seven generations from three bi parental crosses using resistance parameters Area Under Disease Progress Curve, Disease Severity and Incubation Period under artificial epiphytotics studies revealed that disease progression for *Turcicum* leaf blight in the segregating F_2 and F_3 generations was variable in the three crosses studied. Joint Scaling test revealed the presence of non-allelic interactions in Cross 1 and Cross 3 along with a preponderance of dominance gene action as shown by Generation Mean Analysis. A high additive genetic varianceresulting in high narrow sense heritability was also observed for Cross 1.
LEGUMES					
DISCIPLINE GENETICS AND PLANT BREEDING					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
130.	Assessment of genetic	Mr.	GPB	2011	Genetic diversity study among 34 pea

	diversity of pea (*Pisum sativum* L.) using morphological and molecular markers	HandersonChule t			genotypes (Pisum sativum L.) including 7 already adapted varieties of this region, 21 advanced breeding lines and 6 local cultivars was performed using 16 morphological markers and 15 SSR markers. The number of alleles per SSR marker varied from 2 to 5, with an average number of 2.866 alleles per locus.The diverse genotypes revealed from both the dendrograms were IPFD 09-2, HFP-620, Azad P-1, Matek, IPFD 1- 10, CAU FP-1, IPFD 09-3, Pant P-136, Rachna, E-6, Matek and LP-3.
131.	Genetic diversity analysis of blackgram [*Vigna mungo* (L.) Hepper] using morphological and molecular markers	Ms. Artibashisha Hijam Pyngrope	GPB	2012	Genetic diversity study among 30 blackgram genotypes [*Vigna mungo* (L.) Hepper]was performed using 21 morphological markers and 20 SSR markers. In cluster analysis, the local germplasm grouped separately from the advanced breeding lines and locally adapted varieties. The study also revealed some genetically distinct WBB-1, VBG 09-005 and IPU 10-17.
132.	Assessment of genetic diversity in ricebean (*Vigna umbellata*) germplasm using morphological and molecular markers	Ms. Yengkhom Sanatombi Devi	GPB	2017	Morpho-molecular evaluation of 120 ricebean accessions identified 7 clusters based on morphology and cG9589C1 as the most informative SSR marker. Chak-hawai-31, BKSB and chak-hawai-1 were identified as the most promising genotypes.
133.	Crossability studies and genetic diversity in black gram using molecular markers	Mr. Puyam Tondonba Singh	GPB	2018	A total of 15 crosses were made with KU-16-33 having the highest pollen fertility. Based on PIC value, primer CEDG118 and CEDG279 were found to be informative. In factorial plot analysis, the first axis explained 18.66% variation.
134.	Characterisation and evaluation of some genotypes of soybean [*Glycine max* (L.) Merrill] under acidic soil condition in Meghalaya	Ms. Yengkhom Linthoingambi Devi	GPB	2019	The maximum yield per plant was recorded in the genotype TS-53 followed by SKF-SPS-11 and MACS-1493. Lowest yielder genotypes were MACS-1575 followed by NRC-130. Genotype CSB-10112 had the highest protein content (45.1%) and genotype NRC-131 was found to have highest oil content (20.1%). Clustering of genotypes for studying genetic diversity was performed by Tocher's method of clustering in D^2 analysis. In which 4 clusters were formed. Based on hydroponic study under 25 µMaluminium treated solution, the genotype TS 53 was found to have least root length difference from the mean value and so, was recorded as tolerant genotype followed by the genotype JS 335 and MACS 1493. The genotype NRC 130 was found to have more

					root length difference and was recorded as susceptible genotypes and was succeeded by the genotype MACS 1575 and NRC 137. Under 75 µMaluminium treated solution, the result showed genotype TS 53 as tolerant genotype followed by the genotype JS-335 and MACS-1493 while the most susceptible genotype was MACS 1575 followed by NRC 130 and NRC 129.
DISCIPLINE: PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY (PMB)					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
135.	Crossability and genetic diversity studies in Pea *(Pisum sativum)*	Mr. Dipen Nama Adhikari	PMB	2017	Maximum number of fruit set was recorded in VRP-61 x VRP-228 cross. SSRs AA446 and AA473 were found to be most informative.
136.	Hybridization and genetic diversity in *Vigna unguiculata (L.) Walp.*	Ms. TanniRangkham	PMB	2017	A total of 27 polymorphic SSR primers were selected to assess genetic diversity of 36 accessions of cowpea revealed 72 alleles and two clusters i.e. Cluster I and Cluster II comprising of 14 and 22 accessions, respectively.
137.	Studies on crossability between various accessions and genetic diversity in cowpea *(Vigna unguiculata (L.) Walp.)*	Mr. BipramaniNameirakpam	PMB	2017	In PCA plot, the first component explained 18.56 % variation and the second and third component explained 16.85 % and 12.77 %, respectively among the 36 accessions of cowpea using 30 RAPD primers. Genotypes PL-2 (C-27) and CP-7 (C-30) were identified as distinct and can be part of future breeding programmes.
138.	Hybridization and genetic diversity in pea	Mr. Dharmendra Singh Lagoriya	PMB	2017	Based on Euclidean distance and dendrogram two major clusters Cluster I and Cluster II comprising of 27 and 13 accessions, respectively were revealed. The cultivars Makochabi 1 and Debgiriwere identified as distinct from the other 38 pea accessions.
139.	Genetic variability analysis of Faba bean (*Viciafaba*L.*)* Genotypes of North East Hill region of India using Morphological Characteristics and SSR markers	Mr. Balaji S.	PMB	2020	The Faba bean genotypes used in the study showed variability among the genotypes. However, there was little association of genetic divergence and ecological origin of genotypes. Some genotypes were identified having promising performances in terms of agronomic traits and can be further utilized for future crop improvement programme.
CLASSIFICATION/CATEGORY:TISSUE CULTURE					
140.	Standardisation of *in vitro* regeneration protocol and genetic diversity analysis in Blackgram using	Ms. Vedulla Usha Tejaswini	PMB	2019	Best rooting medium was BAP 1.0 mg/l with IBA 1.0 mg/l. The primers OPG-03 and OPH-04 were found to be most informative with genotypes PANT-U-6 and GP-52-NO-5/31 as the most diverse.

	RAPD markers				
141.	*In vitro* regeneration and genetic diversity analysis in soybean using SSR markers	Ms. SakuonuoTheunuo	PMB	2019	MS medium containing 2 mg/ml BAP gave 100% response in explants. Single coty-node of CSB 10084 genotype gave the highest number of shoots in MS media augumented with 1.75 mg/l BAP and 1 mg/l KIN. PIC value was the highest for markers Satt571, Satt230 and Satt129.
SPICES (chilli; ginger; turmeric)					
DISCIPLINE GENETICS AND PLANT BREEDING					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
142.	Study of morphological and genetic variability in ginger accessions of North-East	Mr. Aiarson K. Sangma	GPB	2014	Out of a total of 48 ginger accessions from N.E. India Nadia, WGH1, EGH2, JH4, JH6 and Suruchi were found suitable for higher rhizome yield (>25 t/ha); Varada, Ernad, JH1 and Suprabha were suitable for low fibre content (<4.5%); Khasi local and JH10 were suitable for higher oleoresin content (>7%).Association studies and path analysis revealed that plant height, rhizome thickness and number of fingers per rhizome were good traits for indirect selection for higher rhizome yield by virtue of their higher positive direct effect as well as indirect effects through other traits. These characters also possess higher GCV and heritability values.Twenty seven (27) out of 39 ISSR primers generated sufficient polymorphism to differentiate the 48 accessions at DNA level. Molecular diversity assessed through Nei's similarity coefficient was narrowed except for few genotypes which were highly divergent (WGH3 and JH11).
DISCIPLINE: PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY (PMB)					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
143.	Diversity analysis of chilli germplasm in North East India by using morphological and molecular markers	Ms. Julia Sunderi Yumnam	PMB	2011	Diverse chilli germplasm (thirty-eight in number) collected from different areas of the North-East were evaluated using morphological parameters and 52 SSR primers. A total of 27 markers polymorphic with maximum alleles detected for Hpms116 (7 alleles). Four clusters were observed. It was observed that plants having erect fruits clustered together and so was the case with campanulate fruits. Percentage variation among populations, within individuals of population and within individuals was found to be were 29.43%, 14.62% and 55.95% respectively indicating diversity in the landraces sampled.

CLASSIFICATION/CATEGORY:MOLECULAR MAPPING					
144.	Molecular Characterization of King Chilli (Bhutjolokia) and DalleKhursani accessions with reference to pungency related genes	Mr. Lalduhzuala Colney	PMB	2017	Morphological and molecular markers identified distinguishing king chilli from Dale khurasani. The SSR and sequencing data leads supports to morphological evidence that Dallekhursani is a pungent *C. annuum.*
CLASSIFICATION/CATEGORY:TISSUE CULTURE					
145.	Micropropagation and DNA fingerprinting of ginger *(Zingiberofficinale)* genotypes cultivated in Meghalaya	Mr. L. Victor Khonglah	PMB	2011	Out of four genotypes studied for micropropagation only two i.e. Nadia and Ingbah were found to be responsive. The 8 SSR markers used in this study were found to be monomorphic across all the 11 genotypes. 17 RAPD markers produced a total of 93 bands of which 47 were polymorphic (50.5% polymorphism). A total of 12 ISSR markers were found to be most suitable as they were able to differentiate between all genotypes except Jamaica and Khasi local.
146.	Inter-specific hybridization and embryo rescue in Capsicum	Mr. Chandan Debbarma	PMB	2011	In the crossability studies, out of the three species (viz. *Capsicum annuum, Capsicum chinense andCapsicum frutescens*) crosses with two varieties of *Capsicum annuum,* viz. PusaJwala and Kashi Anmol, showed success. In *in-vitro* investigation ofembryo rescue, the optimum timing for explants collection was found to be 27-33 days after pollination (DAP). The highest percentage of embryo growth was observed with the hormone concentration of 0.5 mg l^{-1} GA_3 and 0.05 mg l^{-1} of NAA. Hybridity test was confirmed with morphological markers and RAPD markers like OPV-12 and OPZ-4.
147.	Standardization of regeneration protocol for increasing capsaicin content in *Capsicum sp. (Dallekhursani)*	Mr. Karma Landup Bhutia	PMB	2015	Micro-propagation of a pungent chilli (DalleKhursani) from Sikkim standardized.
148.	Genetic fidelity assessment of *in vitro* regenerated King chilli *(Capsicum chinensis Jacq.)* using molecular markers	Ms. Careen Nongrum	PMB	2018	Out of 20 MS media combinations tested, 12 meia were found to be effective. The maximum number of shoots per explant were observed for MS18 (20 μM BAP + 10 μM IAA). Out of 28 selected RAPD markers, 16 gave unique band. Shoot tips, nodes and internodes *in vitro* regenerated explants showed monomorphism.
149.	Production of virus free quality planting	Ms. Saumika Bhattacharjee	PMB	2019	Cucumber mosaic virus free plants regeneration protocol using meristem tip

	material in chilli var. Dallekhursani by *in vitro* meristem tip culture				culture developed for Dallekhursani and confirmed using molecular methods. The protocol can be used for large scale production of pathogen free planting material.
150.	Evaluation of curcumin content and genetic diversity using molecular marker inturmeric genotypes cultivated in North East India	Ms. Magar Sayali Ganesh	PMB	2019	Among the 112 treatments checked for regeneration, BAP (3.5 mg/l with NAA (1.5 mg/l) gave the best result. PIC values ranged from 0.497 to 0.222. The curcumin content was the highest in Lachin (8.9%).
Others					
DISCIPLINE GENETICS AND PLANT BREEDING					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
151.	Genetic divergence study in selected germplasm lines of *Mucunapruriens* using morphological, biochemical and molecular markers	Ms. BabuhlinKharjana	GPB	2016	Twenty ISSR and SSR primers when used produced a total of 43 alleles among 11 Mucuna accessions with locus PH9B2 was the most informative marker. . Depending on the variability present in the accessions, MPWBN-03 can be selected for higher seed yield and MPWBN-07, MPNGL-41 and IC-83195 can be taken in hybridization programmes for further improvement of the traits.
152.	Assessment of genetic diversity in Job's Tears germplasm using morphological and SSR markers	Ms. Bharati Lap	GPB	2016	Genotypes JTN 11 and IC-89392 were identified as most promising genotypes based on grain yield data. IC-417053 with highest phenol content and high antioxidant content may be used as a parent in future breeding programme.In molecular characterization with SSR primers a total of 62 alleles were generated with an average of 3.87 alleles per locus using 16 microsatellite markers.GBssrJT198 was the most informative marker and two alleles unique to wild accessions only were also obtained.
153.	Hybridization and genetic diversity studies in brinjal	Ms. Pungdila Valentina	GPB	2017	Fruit set was maximum in Jawaharlal Brinjal-8 X Brinjal Rajendra Green as well as in DBR-31 X DRNKV-104 (80 %) where pollen germination was not the highest whereas fruit set was the least (40 %) in Jawaharlal Brinjal-8 X DBR-31 where pollen germination was the highest. Seven RAPD (out of 18) and all 12 SSR primers were selected to assess the genetic diversity of 31 accessions. A total of 35 amplification products were scored in 31 accessions with different primers, out of which 29 were found polymorphic.
154.	Response to selection for yield contributing traits in *Brassica*	Mr. HiralalDebbarma	GPB	2017	The present investigation was carried out to select superior plants for six yield contributing traits under rainfed, low-input, acidic upland

	*campestris*under acidic upland soils				soil condition in M27 background. Based on the important yield contributing traits OP1-12-5, OP2-3-1, OP1 -13-5, OP1-6-1 and OP1-14-5 were identified as superior lines.These lines, after further evaluation and multiplication can constitute an improved M27 population, or can be intermated to form a base population for further selection.
155.	Morphological characterization and in vitro regeneration in strawberry (*Fragaria* sp.)	Ms. Chumki Dutta	GPB	2018	Data for seven *Fragaria*genotypes from farmers' fields in Ri-bhoi and East Khasi Hills subjected to ANOVA revealed presence of considerable variation for nineteen quantitative traits especiallythose pertaining to fruit characteristics.*In vitro* regeneration revealed that MS Medium supplemented with 5mg/l BAP + 1mg/l IAA produced the best results both in terms of maximum percentage survival of explants and number of shoots in all the varieties studied.
156.	Evaluation of Citronella (*Cymbopogonwinterianus*Jowitt.) genotypes for their oil yield and essential oil content under Meghalaya conditions	Mr. Mallikarjun P. K	GPB	2020	The genotypes Bio-13 and Mandakini were registered as high oil yielding and stable for essential oil yield, whereas JC-4 had higher fresh biomass yield and showed better adaptability for most of the traits. Among the four seasons, Pre-kharif, 2019 (S2) was found to be the better season for most of the traits studied and Rabi, 2019-2020 (S4) was desirable from oil quality point of view as it was observed with higher percent concentration of chemical constituents except Citronellal. Genotypes Jalapallavi, JC-2 and JC-4 were desirable for major essential oil constituents as they had high Citronellal, citronellol and geraniol percent, respectively.The molecular characterization of Citronella genotypes with SSR markers produced a total number of 57 alleles. The highest PIC value of 0.69 was recorded for CM007 and lowest value of 0.22 was recorded for CM4142 with an average value of 0.48. The highest similarity was found between the genotypes JC-1, JC-2 and JC-4, while the least similarity was found between genotypes Mandakini and JC-2 as well as between genotypes Bio-13 and JC-1.
157.	Evaluation of *Linumusitatissimum* genotypes and F1 hybrids under acidic upland conditions of Meghalaya	Ms. Bezil M.	GPB	2020	Breeding lines LMS 2015- 11 and BAU 15- 03 were identified the mostlow Ptolerant, stable and high yielding genotypes under upland conditions of Meghalaya.

DISCIPLINE: PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY (PMB)					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
158.	Screening and characterization of putative mutant population in Brassica for low moisture stress	Ms. Chandrakanthi S	PMB	2016	Reproductive stage low moisture stress screening revealed that M 27 and NRCHB 101 are better performers. Hydroponics screening showed that M 27 had the least amount of MDA suggesting it is more tolerant to low moisture stress. In terms of germination percentage and root length in low moisture conditions during germination, M 27 and TS 38 are good performers.
159.	Studies on hybridization between various accessions and genetic diversity in cucumber *(Cucumis sativa)*	Ms. ChongdeilhingKipgen	PMB	2016	Nineteen SSR primers and 10 RAPD primers to assess genetic diversity of 35 accessions of cucumber showed a range of 33 to 100 for Bray-Curtis similarity coefficient with an average value of 65 %. In M-1 X VRCU-03 the highest fruit set (93 %) was recorded which showed 81.32 % pollen germination after 4 hours of pollination. The genotype IIHR-76 was distinct from the rest of the accessions.
CLASSIFICATION/CATEGORY:MOLECULAR MAPPING					
160.	Development of microsatellite markers for*Momordicacharanti a*and assessment of their cross amplification in some related species	Mr. Raghu Santosh Bhagwan	PMB	2013	22 SSR markers were developed out of which 15 showedpolymorphism.
CLASSIFICATION/CATEGORY:TISSUE CULTURE					
161.	Studies on inter-specific hybridization and embryo rescue in tomato	Mr. Herbert P. Kharkongor	PMB	2012	The cross of *S. Iycopersicum* with S. *pimpinellifolium* gave the maximum fruit set followed by the reciprocal cross. Twenty five days after pollination was found to be the optimum stage for rescuing the immature embryos. MS medium supplemented with 1 mg/I GA_3, 0.1 mg/I NAA and 0.5 mg/I BAP gave the highest germination percentage of the cultured embryos. Hybridity of the embryo rescued plants was confirmed using RAPD markers viz. OPAB-18 and OPAB-17.
162.	Standardization of in vitro regeneration protocol, crossability and genetic diversity studies in bottle gourd (*Lagenariasiceraria* (Mol.) Standal.)	Mr. Santhosh B. L.	PMB	2017	Maximum number of roots (5.6) was recorded in cotyledonary explants (MS + BAP @ 2.0 mg/l + IBA @ 2.0mg/l). Based on 16 polymorphic SSRs, Euclidean distance matrix index analysis revealed that the lowest distance coefficient (0) was found between GH – 37 and GH – 28, whereas GH – 35 and GH – 31 showed the highest (4.12).
163.	*In vitro* regeneration and genetic variation	Ms. FlamiaChimachi	PMB	2018	Invitro regeneration protocol on 10 banana genotypes suggested use of MS11 and MS5

	analysis using molecular markers in selected banana cultivars of Meghalaya	R. Marak			combination as the best combinations. The Euclidean distance was the highest between Champa and Atigola.

MASTER"S THESES in HORTICULTURE

Sl. No.	Title of the thesis	Name of the student	Major discipline	Year of passing	Outcome
164.	Off season production of strawberry: effect of low tunnel and planting time	Ms. AgreesiaSyndor	Horticulture (Hort)	2009	Low tunnel structures and planting time had a positive effect on the plant growth, fruiting and extension of fruit period, yield and quality. Fruit bearing is 30-35 days earlier than the normal period when planted in 50% shade during the month of July or August and the fruit availability can extend up to 47 days when planted during the month of November under UVS polythene tunnel.
165.	Impact of planting time and phosphorous dosage on the productivity of dolichos bean (Lablab purpureus I.) Cv Rcdl-10	Ms. BanyllaKharbamon	HORT	2011	For Dolichos bean (*Lablab purpureus* l.) Cv. Rcdl-10, as compared with late sowing, early sowing in the months of May and June resulted in higher yield and yield attributes, even with low levels of phosphorus applied. Fertilization with phosphorus dose of 60kg/ha produced better results, as compared to the lower phosphorus doses in all aspect.
166.	Standardization of plant growth promoting substances and grafting techniques for raisinhSohiong (Prunus nepalensis L.) seedling	Mr. BasuLangpoklakpam	HORT	2011	All pre-sowing seed treatments significantly influenced seed germination and subsequent seedling growth and development process in *Prunus* with GA_3 @ 75 ppm proving to be the best in overall germination behavior. Tongue grafting proved to be the better technique of propagation with respect to days to first sprouting, graft success, sprouting duration, subsequent plant growth characteristics and final survival percentage.
167.	Physico-chemical properties of Assam lemon (Citrus limonBurm.) at different stages of fruit growth, development and storage	Mr.Callisthenics Mukhim	HORT	2010	Fruits harvested at 120 to 130 days after fruit set (DAF) developed acceptable physico-chemical qualities with optimum fruit weight (109.28-112.95 g), juice content (37.68-41.23 %), titratable acidity (4.18-4.35%), TSS (≤6.3 ^{0}Brix) and TSS: acidity (≤1.51), and these may be considered as the most reliable maturity indices for taking harvest decision of Assam lemon fruit. The packaging of fruits in perforated (2

					pin hole) PP had distinct advantages over control and other packaging materials in respect of shelf life extension besides retention of other quality and nutritional value of the fruits.
168.	Yield and antioxidant dynamics in Broccoli (Brassica oleracea var. italic) under different nutrient management regimes	Mr. Lalhminsanga	HORT	2010	Combined application of 50% NPK + 50% Vermicompost + FYM produced the highest broccoli yield (174.45 q ha^{-1}).The highest ascorbic acid, β carotene and total phenol content of head were observed in the treatment combination of organic, inorganic fertilizers and biofertilizers.
169.	Estimation of genetic variability and its implications in improvement of tomato (*Lycopersiconesculentum*Mill.)	Mr. Rajendra Prasad Thapa	HORT	2009	The path coefficient studies on thirty genotypes of tomato revealed that average fruit weight, number of fruits per plant, β - carotene, pericarp thickness, number of locules per fruit, flowers per cluster and number of primary branches per plant exhibited direct effect on yield per plant. Among nineteen characters in thirty genotypes average fruit weight contributed maximum per cent towards genetic divergence followed by juice content.
170.	Physico-chemical changes of Sohshang (*Elaenuslatifolia*L.) at different stages of maturity and storage	Ms. Rikadakini Lamare	HORT	2009	Fruits harvested at 75 to 80 days after fruit set (DAF) developed acceptable physico-chemical qualities with good colour, flavour and texture. Packaging of fruits in non perforated PP had distinct advantages over control and other packaging materials in respect of shelf life extension besides preservation of quality and nutritional value of the fruits.
171.	Changes in antioxidant phytochemicals of turmeric at different stages of harvesting	Mr. Sanyang Sangma	HORT	2010	The highest yield per plant was recorded in the variety Megha Turmeric (692.67 g), the highest harvest index (95.30 %) and moisture content (92.70 %) was recorded from the variety Narendra Haldi while the variety Alleppy Supreme recorded highest (11.80 %) curcumin content.The maximum curing percentage (23.20 %) was observed in Kedaram and the maximum ascorbic acid content (57.87 mg/l00g) was recorded from the variety Kasturi Tanaka and β carotene content was highest (4332.70 mg/100g) in the variety Kedaram.
172.	Crop regulation and quality improvement of peach	Mr. Sarangthem Binoi Meitei	HORT	2011	For crop regulation and quality improvement of peach cv. Flordasun hand thinning 70 %, ethrel @ 150 ppm and thiourea 5% and LFR of 30:1 were most effective. Among the hand thinning treatments, 70 % thinning at FB was the most effective where maturity was advanced by 5-6

					days, improved fruit size, weight, pulp to stone ratio, TSS, titratable acidity, ascorbic acid, total sugars, fruit colour, total anthocyanins and total phenols.Chemical thinners too, when applied at higher concentration (Ethrel @ 150 ppm) and thiourea @ 5% AFS reduced the crop load and improved the physico-chemical characteristics of fruits. However, all the treatments significantly reduced total yield.

SCHOOL OF CROP PROTECTION

M.Sc. Crop Protection (Entomology)					
Sl. No.	**Title of the Thesis**	**Name of the student**	**Major subject**	**Year of completion**	**Outcome (2-3 lines)**
DISCIPLINE: CROP PROTECTION					
CLASSIFICATION/ CATEGORY: ENTOMOLOGY					
173.	Eco-biology and management of citrus leaf miner, *Phyllocnistis citrella* (Stainton) in Meghalaya.	Mr. Shembha Syngkon	Entomology	2009	• Citrus Leaf miner, *Phyllocnistis citrella* life cycle ranged from 11-36 days with an average of 20.50 days with highest infestation in the third week of February. • Among the insecticides evaluated, Imidacloprid (0.05%) was found most effective against this pest on Citrus.
174.	Studies on the Biology of *Callosobruchus chinensis* (Linnaeus) on different pulses and its management at medium altitude hills of Meghalaya.	Mr. Jash Paul Debbarma	-do-	2010	• Pulse beetle, *Callosobruchus chinensis* was recorded as most serious pest in stored pulses. • Among different botanicals tested against the pest, neem leaf powder @ 50 g/kg seed followed by neem oil @ 10 ml/kg were found most effective.
175.	Insect Pest Complex of okra and their management at medium altitude hills in Meghalaya.	Mr. Kitdorlang Kharpran	-do-	2010	• Among the insect pests recorded on Okra, Blister beetle, *Mylabris postulate* was recorded as major pest. • Among the insecticides tested, Imidacloprid (0.004%) was found most effective in controlling the major pest.

176.	Population dynamics of lepidopteran pests in Cabbage and bio-efficacy of eco-friendly insecticides against *Pieris brassicae* (L.).	Ms. Ridalang W. Rangad	-do-	2010	• Among the insect pests, recorded on Cabbage, Cabbage butterfly, *Pieris brassicae* was recorded as a major pest. • Among the insecticides evaluated, botanicals and microbial insecticides, Endosulfan, Annonin and *Beuveria bassiana* were found most effective in controlling the pest, respectively.
177.	Insect pest complex of brinjal and management of *Leucinodes orbonalis* at mid hills of Meghalaya.	Ms. Pukhram Bhumita	-do-	2010	• Among ten insect pests recorded on brinjal, shoot and fruit borer was observed as the major pest. • Among the insecticides evaluated against the shoot and fruit borer, Pheromone trap (Luci lure) @ 100 traps/ha followed by spray of Endosufan @ 0.07% were found most effective in reducing the pest population.
178.	Study on fruit flies of mid altitude hills of Meghalaya.	Ms. Bakordalin Chyne	-do-	2010	• Among the fruit flies recorded, *Bactrocera tau* was the most common pest on cucurbits and *B. dorsalis* on fruit crops. • The total life cycle of *B. tau* ranged from 30-40 days which could be controlled by parapheromone *viz*. Methyl eugenol.
179.	Seasonal incidence of mustard aphid, *Lipaphis erysimi* (Kaltembach) and associated natural enemies on mustard crop.	Ms. Karma Doma Bhutia	-do-	2011	• Mustard aphid, *Lipaphis erysimi* had highest incidence during last week of December and disappeared in 2nd week of February. • Among the natural enemies, Lady bird beetle, *Coccinella septumpunctata* was observed very potential predator consuming highest number of aphids.
180.	Studies on biology of maize weevil, S*itophilus zeamais* (Mostch.) and its	Ms. Rumki Heloise Ch. Sangma	-do-	2011	• Maize weevil, S*itophilus zeamais* completed life cycle in 38-45 days with a mean of 40 days in stored maize grains.

	ecofriendly management in mid altitude hills of Meghalaya.				• Among the botanical leaf powders and botanical oils, neem oil @ 3.0 ml/kg grain was found most effective in controlling the pest under storage conditions.
181.	Biological attributes of Cabbage butterfly, *Pieris brassicae* (L.) and its natural in mid-altitudes of Meghalaya.	Mr. Damitre Lytan	-do-	2012	• It was recorded that the most important attribute of Cabbage butter fly, *Pieris brassicae* was to lay eggs under lower surface for both oviposition and pupation to avoid predation by its natural enemies. • Among the natural enemies, larval pupal parasitoids *H. ebninus* was recorded as the major natural enemy in suppressing the pest population.
182.	Studies on seasonal activity and management of white grubs on Groundnut.	Ms. Devina Seram	-do-	2012	• The seasonal activity of adult white grub, *Leucopholis coneophora* was observed maximum during the last week of July to first week of September. • Among the management practices viz., seed treatment with Imidacloprid @ 3.0 ml/kg followed by soil drenching with Chlorpyriphos @ 4.0 l/ha were found most effective in controlling the pest in groundnut.
183.	Ecological aspects related to biological control of cabbage butterfly, *Pieris brassicae* (L.) (Lepidoptera: Pieridae) in Meghalaya.	Ms. Meena Debbarma	-do-	2012	• Among the natural enemies of cabbage butterfly, Ichneumonid wasp *Hyposoter ebeninus* was recorded as predominant parasite which could be used for its successful management.
184.	Insect pest complex and eco-friendly management of major insect pests of maize at medium altitude hills of Meghalaya.	Mr. Deebune Shilla Lamare	-do-	2012	• Among the insect pest recorded on maize, stem borer, *Chilo partellus* was observed as a major pest. • Among the insecticide evaluated against stem borer, Imidacloprid @ 0.25 ml/l was found most effective in controlling the pest.

185.	Eco-biology of tomato fruit borer, *Helicoverpa armigera* (Hubner) and its management.	Mr. David Nonglait	-do-	2012	• The life cycle of tomato fruit borer, *Helicoverpa armigera* was recorded 42-61 days on artificial diet whereas it was higher on natural diet with 42-66 days. • Among the insecticides evaluated endosulfan @ 0.07% was found most effective in controlling the pest.
186.	Insect pests complex of soybean and their eco-friendly management in mid hills of Meghalaya.	Mr. CNJS Arangba Mangang	-do-	2012	• A total of six insect pest species of which, stem fly, *Ophiomyia phaseoli* was recorded as major pest on Soybean crop with highest infestation of 50.60% in first week of August. • Among the synthetic insecticides evaluated endosulfan @ 2.0 ml/l was found most effective in controlling the major pest.
187.	Effects of different pesticides on Major Parasitoids of Cabbage Butterfly, *Pieris brassicae* (L.).	Mr. Deimonlangki P. Thubru	-do-	2013	• It was observed that among the four conventional insecticides evaluated against parasitoids of Cabbage Butterfly, *Pieris brassicae*, deltamethrin was found most deleterious and *Bt var. K* was found safest.
188.	Population Dynamics and Management of Mustard Aphid (*Lipaphis erysimi* Kaltenbach) in Meghalaya.	Ms. Tongbram Rojina Devi	-do-	2013	• Mustard Aphid, *Lipaphis erysimi* population was recorded highest during the 12^{th} week after sowing i.e. 3^{rd} week of January. • Among the nine insecticides evaluated against the mustard aphid, Profenofos @ 5.0 ml/l was found most effective in controlling the pest.
189.	Studies on Biology and in *Vitro* Efficacy of Pesticides against Diamonback Moth, *Plutella xylostella* (L.).	Mr. Pritin Pramod Sontakke	-do-	2013	• The biology of Diamond back Moth, *Plutella xylostella* studied on different cruciferous crops revealed that the total developmental period was longest on Cabbage (20.2 ± 0.66 days) and shortest on Brocolli (13.0 ± 0.45 days). • Toxicological studies showed that

					botanical (Anosom) was most effective at LC_{50} of 0.1 ppm against pest.
190.	Biology and Control of Tomato Leaf Miner (*Liriomyza trifolii*) in Meghalaya.	Ms. Supriya Okram	-do-	2013	• The life cycle of Tomato leaf miner, *Liriomyza trifolii* ranged from 13-23 days. • Evaluation of different insecticides indicated Phosphamidon 22.44% as most effective against the pest.
191.	Studies on pest complex and efficacy of botanicals against major pest of oyster mushroom in Meghalaya.	Ms. Badarikynti Nongkynrih	-do-	2014	• Among the nine insect pests recorded on Oyster mushroom, Sciarid fly, *Bradysia* spp. and the fungus beetle, *Triplax* spp. were found major pests. • Among the biopesticides and botanicals evaluated, ethanol extracts of *Zanthoxylum armatum* was found most effective against the major pests.
192.	Insect pest complex of ginger in Meghalaya and their eco-friendly management.	Ms. Grikchi Ch. Momin	-do-	2014	• Among the seven insect pest recorded on ginger, rhizome weevil and shoot borer were recorded as major pests. • Among the eco friendly pesticides evaluated, rhizome treatment with Imidacloprid + Ridomil MZ followed by application of *Metarrhizium anisopliae* ($2x10^6$ cfu/ml) were found most effective against the major pests.
193.	Genetics of Indoxacarb resistance in *Plutella xylostelia* (Diamond back moth).	Mr. Romeo M. Marak	-do-	2014	• Studies on resistance to Diamond back moth, *Plutella xylostelia* showed that Indoxacarb is autosomal and is inherited as semi dominant trait which could increase the rate of resistance in DBM. • Therefore some lethal doses and frequent use of Indoxacarb should be avoided for control of DBM.
194.	Evaluation of different artificial diets for laboratory rearing of	Mr. Vinayak B. Doddamani	-do-	2014	• Of 21 artificial diets evaluated for rearing predatory lady bird beetle, *Coccinella septempunctata*, cat food

	Coccinella septempunctata L. (Coleoptera: Coccinellidae).				based artificial diet was found the best for rearing the predator
195.	Molecular Characterization of Fruit Fly Species of the Genus *Bactrocera* in Mid Altitudes of Meghalaya.	Ms. Arpana Manger	-do-	2015	• Diagnostic keys were developed for 10 species of *Bactrocera* which would be useful for their identification. • Sequence length polymorphisms detected at ITS I and micro satellite loci would be used for the development of PCR based molecular diagnostic markers.
196.	Studies on Biological and Ecological Attributes of Major Natural Enemies of Mustard Aphid, *Lipaphis erysimi* (Kalt.)	Ms. Nang Sena Manpoong	-do-	2015	• Of three groups of potential natural enemies of mustard aphid, Coccinellids i.e. Lady bird beetle, *Coccinella septumpunctatta* was found most dominant natural enemy of this pest.
197.	Study on Diversity of Pollinators in Cucurbits and Pollination Biology of Honey Bee in Chow-Chow (*Sechium edule*) at Mid-Hills of Meghalaya.	Mr. Ripan Debbarma	-do-	2015	• Among the diversity of pollinators India Honey bee *Apis cerena indica* was found most efficient pollinator on Chow-Chow, bottle gourd and pumpkin. • It is recommended that honey bee hives may be installed in the Chow-Chow fields so as to increase the yield as well as the honey production.
198.	Development of DNA Barcodes for Major Insect Pests and Natural Enemies of Cole Crops Ecosystem in Mid-Altitude of Meghalaya.	Ms. R. Lalrinfeli	-do-	2015	• A total of 29 insect species (Pest + Natural enemies) were documented in Cole crop ecosystem. • All the 29 DNA barcodes were developed for all the insect species.
199.	Studies on Biology and *In Vitro* Efficacy of Different Pesticides against Major	Ms. V. Lalnunpuii	-do-	2015	• Studies on preferential crop host, i.e. cabbage, cauliflower and knol khol of Tobacoo caterpillar, *Spodoptera litura* and Cabbage butterfly, *Peris*

	Lepidopteran Pests of Cole Crops.				*brassicae* showed that these pests have longer developmental period on cabbage than other two crops. • Bio efficacy studies against these pests showed that, Spinosad 45% was most effective in controlling these pests.
200.	Development of DNA Barcodes of Insect Pests and Natural Enemies of Major Cereal Crops in Mid Hills of Meghalaya.	Mr. Khrieketou Kuotsu	-do-	2016	• A comprehensive molecular data was developed for a total of 30 insect species infesting rice and maize. • This data could be used as a diagnostic guide at both morphological and molecular level which will be helpful in developing pest management strategies.
201.	Eco-friendly Management of Major Insect Pest of Tomato in Mid-Hills of Meghalaya.	Ms. K. Lalruatsangi	-do-	2016	• Among the chemical insecticides, microbials and botanicals, Flubendiamide, Azadirachtin and *Bacillus thurengenisis* were found most effective in controlling the major pest of tomato, respectively.
202.	Ecological Aspects and Management of Fruit Infesting Tephritids in Guava (*Psidium guajava* L.).	Mr. Pitchaimuruga n M	-do-	2016	• Ecological studies of fruit flies, *Betrocera dorsalis* could be managed by topical sprays of neem oil and soil incorporation of entomopathogenic fungus *Metarrhizium anisopliae*.
203.	Pollination Biology of Honey Bee in Chow-chow (*Sechium edule* Jacquez) and its Impact on Yield at Mid Hills of Meghalaya.	Mr. Remiioo Newyear Bamon	-do-	2016	• Studies on pollination biology showed that Indian honey bee is a predominant pollinator of Chow-chow with highest foraging in the month of August. • The effect of pollination of Indian honey bee showed increase in yield of 15.48 kg/plant as compared to 12.3 kg/plant in non pollinated plants.
204.	Seasonal Incidence and Bio-rational Management of Shoot and Fruit borer (*Leucinodes orbonalis*	Mr. Ajit Tripura	-do-	2016	• Seasonal incidence studies of Brinjal Shoot and Fruit borer showed that the severity of damage could be avoided by planting the crop in the month of April.

	Guenee) of Brinjal in Mid-Hills of Meghalaya.				• Among the insecticides evaluated, Chlorantraniliprole was found most effective in controlling the pest in brinjal ecosystem.
205.	Screening of Germplasms and Evaluation of Botanicals Against Mustard Aphid, *Lipaphis erysimi* (Kaltenbach) in Mustard in Mid Hills of Meghalaya.	Mr. Partha Debnath	-do-	2016	• Out of twenty germplasms of Mustard, eight were found highly susceptible and rests were found moderately susceptible. • Among the botanicals tested, *Melia azedarach* was found most effective in controlling Mustard Aphid, *Lipaphis erysimi*.
206.	Insecticidal Activities of *Zanthoxylum armatum* Extract Against Major lepidopteran Defoliators of Vegetables.	Mr. Kaleeswaran G.	-do-	2017	• Studies on insecticidal properties of *Zanthoxylum armatum* showed that n-hexane fraction of its extract have lethal and sub lethal action with strong anti feedant and ovicidal effect against vegetable defoliators. • The extract will be useful in management of major pests of vegetables under organic farming as well as in insecticide management programmes.
207.	Studies on Aphidophagous Coccinellids of Cowpea Ecosystem in Mid Hills of Meghalaya.	Ms. Lency Tangu	-do-	2017	• Among the several Aphidophagous Coccinellids, *Coccinella septumpunctata*, *C. transversalis* and *Chilomenes sexmaculatus* were found dominant predators of Cowpea Aphids, *Aphis crassivora*.
208.	Studies on Bio-Efficacy, Persistency and Non-Target Toxicity of Chlorfenapyr and Indoxacarb in Brinjal and Cabbage.	Mr. Sakil Dhamala	-do-	2017	• Among the insecticides evaluated, Indoxacarb was found most effective against brinjal shoot and fruit borer and cabbage butterfly. • Studies on dissipation and non target insects revealed that Indoxacarb was least persistent and safe to natural enemies.
209.	Development of DNA Barcodes for Major	Mr. Sankarganesh	-do-	2017	• A total of 52 insect species were recorded in Solanaceous crop

	Insect Pests and Natural Enemies of Solanaceous Crops Ecosystem in Mid Hills of Meghalaya.	E			ecosystem. • A comprehensive molecular data was developed which could be used as a diagnostic guide at both morphological and molecular level which will help in developing pest management strategies.
210.	Studies on major Soil Borne Insect Pest and Parasitic Nematodes Affecting Potato Crop and Their Management.	Sh. Along Bryan M. Sangma	-do-	2017	• Among the soil insect pests recorded, white grubs and cutworms were found major pests in potato ecosystem. • Plant parasitic nematodes were also recorded in potato ecosystem which could be managed by using *Crotalaria* as cover crop to control the nematode pest.
211.	Development of DNA Barcodes for Major Insect Pests and Natural Enemies of Cucurbitaceous Crops in Mid Hills of Meghalaya.	Ms. Arensungla Pongen	-do-	2018	• DNA barcodes generated for 33 insect species in cucurbitaceous crop ecosystem. Of which 23 insect species were established up to species level and 10 upto genus level. • Reported 3 species *viz*., *Maculus* sp., *Paridea* sp. and *Coridius* sp. were established for the first time.
212.	Bioefficacy and Dissipation of Imidacloprid and Thiacloprid in/on Chilli (*Capsicum annuum* L.).	Ms. Baiamon Sutnga	-do-	2018	• Among the six insecticides evaluated against sucking insect pest of Chilli, Imidacloprid @ 50g a.i./ha was found most effective in controlling the pest. • Dissipation studies of the insecticides revealed that the waiting period of Imidacloprid was 4.2 days which is safe for consumption of chillies.
213.	Assessment of Toxicity of Bio-pesticides to the Indian Honey Bee, *Apis cerana indica* (Fabricius) in Oilseed Brassica.	Mr. Challa Girish Kumar	-do-	2018	• Biopesticides *viz*., azadirachtin, annonin, *Bt* var *kurstaki*, *Beauveria bassiana*, *N. rileyi* were found to be safe for foraging bees except spinosad. • *N. rileyi* was found to be selective and absolutely harmless to the foraging bees.

214.	Effect of Plant Extracts and Essential Oils on Major Lepidopteran Pests of Cruciferous Crops.	Ms. Pebam Inija Devi	-do-	2018	• Among plant extracts tested, n-hexane fraction of Vitex negundo was most effective against *Spodoptera litura, Pieris brassicae* and *Plutella xylostella* • Among essential oil, Ocimum basilicum was found most effective.
215.	Studies on Various Histological Changes in Haemocytes Associated with NPV Infection in *Helicoverpa armigera* Hübner).	Mr. Yengkhom Suraj Singh.	-do-	2018	• Dietary effect on *Helicoverpa armigera* biology revealed that chickpea based diet showed highest fitness index followed by pea. • DHC showed six identified cells and four unidentified cells whereas, THC showed effects of NPV are more in younger than older larvae.
216.	Effect of Different Temperatures and Plant Oils on Bruchid, *Callosobruchus maculatus* (Fab.) and Curculionid, *Sitophilus zeamais* (Mots.).	Ms. Balguri Lavanya Sravani	-do-	2018	• Among eight plant oils tested, rosemary and peppermint oil exhibited highest percent adult mortality of *Callosobruchus maculatus* and *Sitophilus zeamais*. • Increase in temperature caused higher build up and greater population dynamics in stored grain pests.
217.	Insect Biodiversity and Seasonal Incidence of Major Insect Pests of Apple (*Malus sylvestris* Mill.) in Mid Hills of Meghalaya.	Mr. Debanand Biswas	-do-	2019	• Seasonal incidence studies showed presence of five insect pests *viz*., green apple aphid, pale tussock moth, tussock moth, giant looper and cocoa tussock moth attacking apple plantation. • Mean population of green apple aphid, pale tussock moth and cocoa tussock moth was significantly correlated with maximum and minimum temperature.
218.	Investigation on Role of Insect and Nematode Pests for Decline of Khasi Mandarin in East and West Khasi Hills	Mr. Krishna Kumar. S.	-do-	2019	• Citrus leaf minor and mite attacks were recorded all the year round. • Five plant parasitic nematodes were recorded in Khasi mandarin among them, *Xiphinema* and *Tylenchulus* was the most common.

	Districts of Meghalaya.				
219.	Insect Biodiversity and Seasonal Abundance of Major Insect Pests of Black Gram (*Vigna mungo* L. Hepper) Ecosystem in Mid-Hills of Meghalaya.	Mr. Penumajji Ganesh Kumar	-do-	2019	• Recoded 95 insect species belonging to 13 insect orders and 51 families in black gram ecosystem.. • Bean stemfly, spotted pod borer and bean aphid were recorded as key pests in black gram ecosystem.
220.	Arthropod Diversity in Rice Ecosystem with Special Reference to Spiders in Mid-hills of Meghalaya.	Ms. Sonali Nakambam	-do-	2019	• A total of 1640 arthropod species belonging to 2 classes *viz*., Arachnida and Insecta were recorded in rice ecosystem. • Spider *Lycosa* sp. Was recorded the most abundant species while *Oxyopes bharatae* and *Pardosa sumatrana* were found in all the growth stages of rice crop.
221.	Insect Biodiversity and Seasonal Incidence of Major Insect Pests in Wheat (*Triticum aestivum* L.) Ecosystem in Mid-hills of Meghalaya.	Mr. Wankitkupar Fernando Nadon	-do-	2019	• Among the insect pest, wheat aphid, *Rhopalosiphum padi* and *Sitobion avenae* was found to be major pest throughout the cropping season • Correlation analysis showed significant difference with minimum temperature and RH with *Rhopalosiphum padi* and *Sitobion avenae* multiplication.
222.	Arthropod Diversity in Agricultural, Horticultural and Silvicultural Ecosystems with Special Reference to Spiders in Mid-Hills of Meghalaya.	Mr. Jyotim Gogoi	-do-	2020	• A total 4023 arthropods were collected from silvicultural, horticultural and agricultural ecosystem, of which 727 Nos. of hexapod and 3296 Nos. of arachnids. • Beta diversity indicated that the maximum richness was found in Silvicultural ecosystem followed by horticultural, rice, maize and potato ecosystem.
223.	Studies on Population Dynamics and Monitoring Insect Pests in Potato Agro-	Mr. Nitin Hugar	-do-	2020	• Five insects' *viz*., *Myzus persicae*, *Empoasca fabae*, *Bemisia tabaci*, *Henosepilachna vigintioctopunctata* and *Thysanoplusia orichalcea* were

	Ecosystem Through Different Pheromone Traps and Lures in the State of Meghalaya.				found as major pests exhibiting peak infestation on potato crop. • The activity of insects was positively correlated with maximum and minimum temperature.
224.	Study on Biodiversity of Soil Arthopods in Mid-Hills of Meghalaya.	Ms. Deepika Gadaily	-do-	2020	• Biodiversity indices depicted that there was no significant difference in species richness and evenness in both ecosystems (Horticulture & Agriculture). • Soil arthropod showed positive correlation with both maximum and minimum temperature in horticultural ecosystem. Whereas, in agricultural ecosystem, positive correlation was recorded with maximum temperature.
225.	Diversity and Morphometric Study of Termites in Mid-hills of Meghalaya.	Mr. Harish R.	-do-	2020	• A total of 10 species were identified of which 3 **new** species *viz*., *Odontotermes parvidens, Odontotermes hainanensis* and *Pseudocapritermes tikaderi* were recorded from Meghalaya. • Genus *Odontotermes* was the most diverse genus with maximum number of species. • *Odontotermes parvidens* showed maximum damage in both forest ecosystem and horticultural ecosystem; *Microtermes obesi* showed maximum damage in maize ecosystem
226.	Spatial and Temporal Distribution of Stingless bees in Mid Hills of Meghalaya.	Mr. T. Narendrakumar	-do-	2020	• A total of 3 species of stingless bees were collected *viz., Tetragonula* sp., *Tetragonula* sp. & *Lepidotrigona arcifera* of which Genus *Tetragonula* was the most diverse system. • Species richness was observed maximum in the month of September and minimum in December.
227.	Dietary influence on	Mr. Karthik.	-do-	2020	• Lab experiment conducted with four

	the biology and susceptibility of fall armyworm, *Spodoptera frugiperda* (J.E. Smith) to Cry toxins from *Bacillus thuringiensis*.	R			artificial diets *viz*., Beans, Soya meal, Potato and Corn; bean (0.9525) and corn (0.8789) based diets showed better results by having good fitness index, as compared to Soya meal (0.6575) and Potato (0.48109) based diets. • Bioassay with cry toxins showed high mortality rate (based on LC_{50}) in Cry1Ab as compared to Cry1Ac • A new parasitoid, *Cotesia rufricus* on fall armyworm, *Spodoptera frugiperda* was identified for the first time from the region.
228.	Biodiversity and Molecular Characterization of Insect Pests and natural Enemies of Potato ecosystem in Mid-Hills of Meghalaya.	Ms. A. Mounika	-do-	2020	• A total of 48 insect species and one non insect (31 insect pests; 14 Natural Enemies and 4 visitors) were recorded in potato ecosystem. • Comprehensive molecular data were generated for 26 insect pests.
229.	Diversity and Abundance of Fruit Fly Species by Adoption of Parapheromonic Traps in Ri-Bhoi District of Meghalaya	Ms. Sunita Chetry	Entomology	2022	A total of 11 species belonging to 3 genera of tephritid fruit flies were recorded from the study area viz. *Bactrocera*, *Dacus* and *Zeugodacus*. The most dominant genus absorb was *Bactrocera*. • Two species were recorded for the first time in Meghalaya of which one is a new record of the country.
230.	Biointensive Management of Pest Complex of Brinjal, *Solanum melongena* L. in Organic Environment	Ms. Sushruta Boruah	Entomology	2022	A total of fifteen species of insect pests were recorded in brinjal during experimentation. The Brinjal shoot and fruit borer (BSFB) was found to be the major pest (22.40% shoot infestation; 38.84% fruit infestation). • Among the natural enemies, three species of predatory spiders and six species of lady bird beetles were found.

M.Sc. (PLANT PATHOLOGY)					
Sl. No.	**Title of the Thesis**	**Name of the student**	**Major subject**	**Year of completion**	**Outcome (2-3 lines)**
DISCIPLINE: CROP PROTECTION					
CLASSIFICATION/ CATEGORY: PLANT PATHOLOGY					
231.	Eco-friendly management of late blight (*Phytophthora infestans*, (Mont.) de Bary) of tomato in mid-hill conditions of Meghalaya.	Ms. Mariana Dkhar	Plant Pathology	2009	• The new organic formulation MATW-2 (native botanical consisting, Asafoetida, Turmeric and Water) was found effective against late blight of tomato (*Phytophthora infestans*).
232.	Survey and management of Post harvest diseases of Khasi Mandarin (*Citrus reticulate* Blanco) in Meghalaya.	Mr. Kamalendra Barman	-do-	2010	• *Penicillium brevicompactum* was identified as one of the important fungi to be associated with post harvest disease of Khasi mandarin. • The water extract of Holy basil was found to be the most effective amongst the botanicals tested for controlling *Penicillium brevicompactum*.
233.	Etiology and management of pod blight complex of soybean in Meghalaya.	Mr. Tilling Tabyo	-do-	2010	• Five genotypes of soybean viz., MACS 1184, MAUS 417, MACS 1188, DS 2614 and DSB 12 were found moderately resistant to pod blight (*Collectrotrichum truncatum*) and four genotypes viz., MACS 1188, TS 2, AMS 1 and JS 335 were grouped under tolerant category.
234.	Management of early blight (*Alternaria solani*) of tomato in mid-hill conditions of Meghalaya.	Ms. Iterekha R. Marak	-do-	2011	• The genotypes MT-1 and BT-106 were found moderately resistant to of early blight of tomato (*Alternaria solani*) and showed better yield under field conditions.
235.	Characterization of fluorescent Pseudomonads and their evaluation	Ms. Thalhun Lhingkhanthem Kipgen	-do-	2011	• *Pseudomonas flourescens* isolate F. Pd19 was found effective against *Ralsotonia solanacearum*, the bacterial wilt pathogen of solanaceous vegetable crops

	against *Ralstonia solanacearum* (Smith) Yabuuchi under Meghalaya condition.				*in vitro* conditions.
236.	Management of Soybean collar rot caused by *Sclerotium rolfsii* Sacc. under mid hill conditions of Meghalaya.	Mr. Ajit Debbarma	-do-	2011	• *Pseudomonas putida* and *Trichoderma viride* were found the most promising bio-control agents against collar rot pathogen, *Sclerotium rolfsai*. • Garlic extract was the most effective botanical against *S. rolfsai in vitro* conditions.
237.	Studies on bud rot (*Phytophthora palmivora*) of arecanut and its management through eco-friendly methods in Meghalaya.	Ms. Domesticity Lyngdoh	-do-	2011	• Garlic and Duranta extracts were found effective at 5% and 10% concentration, respectively against bud rot of arecanut pathogen, *Phytophthora palmivora* in-vitro conditions.
238.	Etiology of post-harvest bacterial soft rot of King Chilli and its management.	Mr. Albertson L. War	-do-	2012	• Acetic acid, Strerptocycline and Datura leaf extract in different combinations were the promising treatments against bacterial soft rot of king chilli.
239.	Management of turmeric leaf spot, *Colletotrichum capsici* (Syd.) Butler and Bisby under *in-vitro* condition.	Ms. Binalata Kangjam	-do-	2012	• Garlic clove extract, *Trichoderma harzianum, T. viride* and *Psuedomonas fluorescens* as well as fungicides *viz*., Sixer, Tilt and Avone were found highly effective against turmeric leaf spot pathogen, *Colletotrichum capsici* under *in vitro* condition.
240.	Evaluation of native fluorescent pseudomonads against wilt pathogens of major vegetables in Meghalaya.	Ms. Kongbrailatpam Jina Devi	-do-	2012	• *Pseudomonas fluorescens* and *P. putida* were identified as the dominant fluorescent pseudomonads associated with different crop rhizosphere. • MRN 18, PC and USR 9.2 were the potential isolates against the wilt pathogens of vegetables *in vitro* conditions.

241.	Eco-friendly management of turicum leaf blight (*Exserohilum turcicum*) of maize in mid-hill conditions of Meghalaya.	Mr. Lourembam Sanjaoba Singh	-do-	2012	• Biocontrol agent *Trichoderma harzianum* was found effective in controlling Turicum leaf blight (*Exserohilum turcicum*) of maize next to fungicide treatment.
242.	Characterization of *Ralstonia* S*olanacearum* (Smith) Yabuuchi *et. Al.,* Isolates from Meghalaya and its Management in Tomato.	Ms. Janshame Tariang	-do-	2013	• Two fluorescent pseudomonad strains *viz*., USR 9.2 and PC were found highly effective against bacterial wilt of solanaceous vegetables under field conditions.
243.	Management of Cabbage Leaf Spot, *Alternaria* spp. Under Mid Hill Conditions of Meghalaya.	Ms. Kanchanbala Thangjam	-do-	2013	• Biocontrol agent *Trichoderma viridae*, neem leaf extract and fungicide propiconazole were found effective against Cabbage leaf spot caused by *Alternaria brassicicola* under field conditions.
244.	Ecofriendly Management of French Bean Anthracnose (*Colletotrichum lindemuthianum*) under Mid Hill Conditions of Meghalaya.	Ms. Nirmala Maibam	-do-	2013	• Three French bean genotypes *viz*., Rajma Gold, ML-D and ML-F were found moderately resistant to anthracnose disease.
245.	Management of French Bean Rust (*Uromyces appendiculatus*) using Biocontrol Agents.	Ms. Supriya Laishram	-do-	2013	• French Bean genotypes *viz*., Arka Anoop and Selection-3 were found highly resistant to rust (*Uromyces appendiculatus*) under field conditions.
246.	Management of sheath rot {*Sarocladium*	Ms. Thongbam Omega	-do-	2014	*Trichoderma viridae*, neem leaf extract and the systemic fungicides *viz*., Carbendazim, Hexaconazol, Tebuconazole and

	oryzae (Sawada) Gams and Hawksworth} in rice under *in vitro* condition.				Propiconazole at 0.1 % concentration were found effective against sheath rot of rice pathogen, *Sarocladium oryzae in vitro* conditions.
247.	Etiology of ginger rhizome rot complex in mid-hills of Meghalaya and its management.	Ms. Chanda Poudyal	-do-	2014	• *Allium sativum* (at lower conc.), Lantana camara, *Trichoderma harzianum*, *Pseudomonas fluorescens* and copper oxychloride were found effective against ginger rhizome rot pathogen *in vitro* conditions.
248.	Management of grain discolouration complex in rice.	Ms. Ibakorlang Suting	-do-	2014	• *Sarocladium oryzae*, *Fusarium moniliforme* and *Bipolaris oryzae* were the three dominant fungal pathogens associated with grain discolouration of rice.
249.	Studies on *Ascochyta* Blight of Beans.	Ms. Hissay Lhamu Lepcha	-do-	2015	• Lima bean (*Phaseolus lunatus*) was found highly resistant to Ascochyta blight with 0% PDI. Whereas the four genotypes of French bean VIZ., RCMFB 75, RCMFB 61, RCMFB 62 and Selection 9 were found moderately resistant.
250.	Variability Studies of Pathogenic *Alternaria* spp. On Cruciferous Crops.	Ms. Iadariti Kharumnuid	-do-	2015	• Isolates of *Alternaria* spp. collected from different crucifers showed high variability in cultural, morphological and pathogenic chararacteristics. • Isolates collected were found mostly belonging to *A. brassicicola*, after confirmation using molecular techniques.
251.	Influence of Soil Factors on *Rhizoctonia solani* in Meghalaya.	Mr. Kadiri Mahendra	-do-	2015	• Most of the *Rhizoctonia solani* isolates causing diseases in rice and maize belonged to AG 1-IA based on the identification using specific primers.
252.	Characterization and Evaluation of Rhizospheric Bacillus spp. From Jhum Cycles against Major Crop	Mr. Paodumai Seisou Khozii	-do-	2015	• Isolates COB15Y4 (*Bacillus pumillus*) and RB5Y1 (*B. cereus*) showed better performance with respect to bio-control potential as well as PGP attributes of the respective crops against soil borne pathogens of Jhum crops.

	Pathogens.				
253.	Distribution Pattern and Molecular Variability of Banana Bunchy Top Virus (BBTV) in Tripura.	Mr. Tanmoy Das	-do-	2015	• The comparison of Tripura isolates of BBTV among the Districts and within each district indicated nucleotide variation in DNA R in case of isolates from North Tripura and Khowai.
254.	Host - Pathogen Resistance in *Phomopsis* Fruit Rot of Brinjal in Meghalaya.	Mr. Gurumayum Robert Daniel	-do-	2016	• Only one brinjal genotype, 12/BRBWRES-3, was found as moderately resistant to Fruit Rot causing pathogen *Phomopsis vexans* under pot conditions.
255.	Characterization of *Papaya ring spot virus* Pathotype P from Mid-Hills of Meghalaya.	Mr. Korla Saratbabu	-do-	2016	• Biological and molecular characterization of PRSV -P isolate from mid hills of Meghalaya (PRSV –P: Umiam) showed similarity with previously reported PRSV isolates from India.
256.	Evaluation of Antagonistic Potential of Native *Trichoderma* spp. Against Major Soil Borne Pathogens.	Ms. Lopi Rebi Kojum	-do-	2016	• *Trichoderma* isolates TL 3.2 and TL 3.8 were found best in respect to biocontrol potential, functional attributes and efficacy in field condition for managing soil borne fungal pathogens of tomato.
257.	Pathogenicity of *Rhizoctonia solani* Kuhn on Major Weeds Prevalent in Rice and Maize Ecosystem in Meghalaya.	Ms. R. Saveinai	-do-	2016	• *Rhizoctonia solani* isolate of rice (SRS) was found pathogenic on all the lowland rice and upland weeds. Whereas, maize isolates (RSM 2) was not pathogenic on *Cyperus difformis*, *C. haspans*, *C. odoratus*, *Sagittaria sagittifolia*, *Celosia argentea*, *Comonelina diffusa* and *Floscopa scandens*.
258.	Host Plant Resistance against *Rhizoctonia solani* Kuhn causing Foliar Blight in Soybean (*Glycine max* L. Merril) in Meghalaya.	Ms. Rimikini Laloo	-do-	2016	• The varieties/lines *viz*., Dsb 28-3, MAUS 706, KDS 869 and VLS were found resistant to *Rhizoctonia solani* causing foliar blight in Soybean.

259.	Identification and Characterization of Yellow Mosaic Virus (s) Associated with Yellow Mosaic Disease of Legumes in Mid-Hills of Meghalaya.	Ms. Yashi Umbrey	-do-	2016	• Yellow Mosaic Virus Disease of legumes under mid hills of Meghalaya was caused by a distinct strain of MYMIV with a recombinant DNA B derived from variant MYMIV.
260.	Evaluation of Biocontrol Potential of Bacterial Endophytes against Major Diseases of Rice.	Mr. Abdel Baset Hassan Mohhammed Mohmoud	-do-	2016	• Bacterial Endophyte 34 WE obtained from roots of wild rice showed better performance in several PGP attributes (Cellulase production, shoot elongation, root elongation and vigour index) and in terms of biocontrol potential against *Pyricularia grisea* and *Xanthomonas oryzae pv oryzae in vitro* conditions.
261.	Evaluation of Microbial Antagonists against Major Plant Pathogens and Development of Microbial Consortium in Liquid Formulation.	Mr. Abhishek Gowda M.N.	-do-	2017	• Bacterial isolates GE 8 and FP 2 were the better performers against major stress (A1, Fe and acidity) *in vitro* conditions.
262.	Studies on *Pesalotiopsis versicolor* (Speg.) Steyaert Causing Yellow Leaf Spot of Guava in Meghalaya and its Management *in vitro*.	Mr. Emanuel M. Sangma	-do-	2017	• Plant extracts (garlic, winged prickly ash, aloe vera) and biocontrol agents (*Trichoderma harzianum, T. viridae and Pseudomonas putida*) were found effective in inhibiting the growth of the isolates of *Pesalotiopsis versicolor*.
263.	Studies on the Antagonistic Potential of *Metarhizium* spp. Against Major Soil	Ms. Leeza Loya	-do-	2017	• The native Metarhizium isolates *viz*., ML 3 and ML 6 were found to be the most effective against major soil borne pathogens of vegetables *viz*., *Rhizoctonia solani* and *Pythium aphanadermatum*.

	Borne Pathogens.				
264.	Studies on Antagonistic Potential of *Beauveria* spp. Against Major Soil Borne Pathogens.	Ms. Lipa Deb	-do-	2017	• The native of *Beauveria bassiana* isolate BP 1.1 was found most effective with respect to major soil borne pathogens *viz*., *Pythium myriotylum* and *Phytopthora infestans in vitro* conditions.
265.	Pathogenecity of Major Soil borne Plant Pathogens on Common Weeds in Meghalaya.	Mr. Pamala Prince Jayasimha	-do-	2017	• Most of the common weeds of Meghalaya were found susceptible to soil borne pathogens *viz*., *Sclerotium rolfsii, S. delphinii* and *Rhizoctonia solani* AG 1-IB.
266.	Studies on Morphology, Cultural and Physiological Variability of *Colletotrichum capsici* (Sydow.) Butler and Bisby Isolates Causing Chilli Anthracnose.	Ms. T. Lalnunsangi	-do-	2017	• *Colletotrichum capsici* isolates collected from chilli fruits showed high variability in morphology, cultural and physiological characters.
267.	Studies on *Ascochyta phaseolorum* Sacc. Causing Ascochyta Blight on Cowpea and its Management	Ms. B.K. Namriboi	-do-	2018	• Carbendazim, turkey berry plant extracts and *Trichoderma harzianum* were found effective in inhibiting the growth of *Ascochyta phaseolorum* causing Ascochyta blight on Cowpea *in vitro* conditions.
268.	Management of *Alternaria* spp. Causing Black Leaf Spot of Cauliflower in Meghalaya.	Mr. Heipormi Papang	-do-	2018	• Pitcher plant extract, *Trichoderma harzianum, Mancozeb, T. harzianum* combined with copper hydroxide and combination of *B. subtilis* strains (BS217+CoB5Y1) were found effective against black leaf spot of cauliflower caused by *Alternaria* spp.
269.	Variability Studies of *Phomopsis vexans* (Sacc. & Syd.) Harter and Eco-friendly	Ms. Moakala Jamir	-do-	2018	• *Phomopsis vexans* isolates showed high variability in cultural, morphological and physiological characteristics. • Allamanda extract and *Trichoderma harzianum* gave promising results for

	Management of Fruit Rot of Brinjal.				managing brinjal fruit rot pathogen r *in vitro* conditions.
270.	Evaluation of Bacterial Endophytes Against Ginger Rhizome Rot.	Mr. Meshanki Bamon	-do-	2018	• Microbial consortium of bacterial endophytes *viz*., GE-1, GE-4 and GE-6 was found effective against rhizome rot complex of ginger *in vitro* conditions.
271.	Evaluation of Potential Bacterial Endophytes Against Major Vegetable Pathogens.	Mr. Pranab Malakar	-do-	2018	• Bacterial endophytes *viz*., NGB 21 and BE 1 by the application methods *i.e.*, STMC + SMCBS + SFS (seed treatment MC + soil application before sowing + standard fungicide spray) were found highly effective against major foliar pathogens of vegetables.
272.	Formulation of Bacterial Endophyte Consortium for the Management of Alternaria Blight of Mustard.	Ms. Sushanti Thokchom	-do-	2018	• Seed treatment + root dip treatment + foliar spray of the microbial consortium of *Bacillus* spp. and fluorescent Psedomonas were found highly effective against Alternaria blight of Mustard under pot culture conditions.
273.	Incidence of Bacterial Soft Rot of Carrot in Meghalaya and Ecofriendly Postharvest Management.	Ms. Ashwini E.	-do-	2019	• The treatments *viz*., garlic extract, sodium hypo chloride and net bag in different combinations were found effective against bacterial soft rot of carrot caused by *Pectobacterium carotvora* sub sps. *carotvora*.
274.	Incidence of Postharvest Fruit Rot of Chilli (*Capsicum annum* L.) and its Management in Meghalaya.	Ms. Bhashwati Sharma	-do-	2019	• The treatments *viz*., betel vine extract, *Bacillus subtilis* (CoBY1), sodium metabisulpite, perforated poly bag and combination of sodium metabisulpite with perforated poly bag were found effective against fruit rot of chilli caused by *Colletotrichum capsici* under laboratory conditions.
275.	Cultivation of Shiitake Mushroom (*Lentinula edodes* (Berk.) Pegler) in	Mr. Madhan N.	-do-	2019	• Strain DMR-388 of Shiitake mushroom was considered suitable for commercial cultivation and *Quercus griffithii* was considered as the best suitable tree

	Wood Logs under Net House Conditions of Meghalaya.				species for its cultivation.
276.	Cultivation of *Ganodermalucidum* (W. Curt.: Fr.) P. Karst and its Antifungal Properties Against Phytopathogenic Fungi.	Mr. M. Roopesh	-do-	2019	• Among four substrates used for cultivation of antagonistic fungus *Ganoderma lucidum,* paddy straw with rice bran and wheat straw rice bran when supplemented at different concentration gave better yield.
277.	Standardization of Shiitake Mushroom (*Lentinula edodes* (Berk.) Pegler) Production Technology in Meghalaya.	Mr. Nandeesha S.V.	-do-	2019	• Sorghum grain was found as the ideal substrate for spawn production of Shiitake mushroom and wheat straw substrate used as the best substrate for indoor cultivation of Shiitake mushroom.
278.	Management of *Alternaria brassicae* (Berk.) Sacc. Causing Alternaria Blight of Mustard in Meghalaya.	Ms. Anjana Rai	-do-	2020	• Seed treatment + foliar spray of microbial consortium of bacterium were found effective against *Alternaria brassicae* causing Alternaria blight of mustard under field conditions.
279.	Studies on Post-harvest Fruit Rot of Banana caused by *Colletotrichum musae Corda* in Meghalaya.	Ms. Liza Kalita	-do-	2020	• The highest incidence and severity of post harvest fruit rot of banana (*Colletrotrichum mesae*) was recorded in the warmer areas like Khanapara, Byrnihat and Nongpoh of Rhi-bhoi district whereas, the lowest incidence and severity of the disease was observed in Sohra of East Khasi Hills district.
280.	Incidence, Severity and Management of Turmeric Leaf Spot Disease (*Colletotrichum* spp.) in Meghalaya.	Ms. Madhusmita Mahanta	-do-	2020	• Two bacterial endophytic isolates viz., NGB 21 and BE 1 were found highly effective against turmeric leaf spot pathogen, *Colletrotrichum gloeosporioides* under in vitro conditions.

281.	Management of *Alternaria* leaf blotch of apple.	Mr. E. Pradeep Kumar	-do-	2021	• Garlic clove extract at 10%, *Trichoderma* sp. (MYE 9), *Bacillus amyloliquefaciens* (BE 43) and *B. niacin* (BG 34) were found highly effective against apple leaf blotch pathogen, *Alternaria mali* under in vitro condition. • In field experiment, garlic clove extract at 10% showed the lowest per cent disease index (PDI) of 25 per cent among all treatments.
282.	Characterization of Phyylloplane Microflora of Tomato (*Solanum lycopersicum* L.) and their Role against Major Foliar Fungal Diseases.	Ms. Monica Hajong	-do-	2021	• Two potential biocontrol agents isolated from tomato phylloplane *viz*., CPSH-2 and CPSH-11 showed the minimum incidence of late blight of tomato (*Phytophthora infestans*) with maximum yield under both pot culture and field conditions. • Among different treatments, it was found that the combination treatment (Seed + Soil + root dip + foliar) for both the potential biocontrol agents were found effective against late blight.
283.	"Management of Leaf Blight of Citronella Caused by *curvularia andropogonis* (Zimm.) Boedijn in Meghalaya"	Ms. Ashee Linggi	Plant Pathology	2021	• Citronella variety, mandakini and JC2 were found moderately resistant to leaf blight (*curvularia andropogonis*) with per cent disease index (PDI) of 28.98 and 32.62 respectively. • Biocontrol agents viz., *Trichoderma asperellum* and T. *harzianum* as well as the fungicides viz., propiconazole, tricyclazole and zineb and hexaconazole were found highly effective against the leaf blight pathogen under in vitro condition.
284.	Phytopathogenic Microflora Associated with Rice Grains and their Management	Ms. Jyotismita Das	Plant Pathology	2021	• *Curvularia lunata* was predominant fungal pathogen associates with rice grains than other fungal and bacterial pathogens. • Seed treatment of CAU R1 with microbial consortia (MC) and individual

					5 endophytes were found superior in maximum percentage of seed germination and vigour index over control as well as they were effective against the grain pathogens.
285.	"Management of Pod Rot of French bean (*Phaseolus vulgaris* L.) incited by *Sclerotium rolfsii* Sacc."	Ms. Shaik Munnysha	Plant Pathology	2021	• Evaluation of the individual biocontrol agents and microbial consortia under field conditions against pod rot of French bean (*Sclerotium rolfsii* revealed that seed treatment and soil application with MC4 was found highly effective in managing the disease with lowest PDI (15.87± 0.43) as compared to control (37.30±1.26) and individual application of E1 (26.23±o.86) E2 (29.97±1.31) and E3 (28.23± 1.29)
286.	Exploitation of Endophytes for the Management of Ascochyta blight of Cowpea	Ms. Chinka Sireesha	Plant Pathology	2021	• Seed treatment and foliar spray with the microbial consortia MC4 was found highly effective in managing Ascochyta blight of cowpea (*Ascochyta phaseolorum*) under field condition with the lower PDI (18.09%) followed by MC2 (19.53%) as compared to control (33.19%). • Number of pods per plant, pod length, weight of 10 pods and plant height (85 DAS) were found maximum in MC4 when treated as seed + foliar treatment among the microbial consortia followed by MC2 and MC3.

SCHOOL OF SOCIAL SCIENCES (SSS)

Sl. No.	Thesis Tittles	Name of the students	Year of completion	Out comes (2-3 lines)
DISCIPLINE: AGRICULTURAL EXTENSION				
287.	Awareness and Utilization of agricultural	Ms. Amita H.	2012	• Significant association was found between awareness and utilization of communication sources and level of education, land holding, socio-economic status, cosmopoliteness, scientific

	Communication Sources among the farmers of Manipur			orientation, information seeking behavior and market orientation.
288.	Analysis of public agriculture extension service in Tripura	Mr. Amit Debnath	2012	• The information output behaviour level of the clientele was medium (48.33 per cent). • Majority of the clientele had expressed medium relevancy (65 per cent), quality (51.67 per cent) but the overall clientele satisfaction was high (38.33 per cent) among more than one-third of clientele. • From the effectiveness indicators, the total expenditure intensity of the department was Rs. 3831.13/ha/year and extension expenditure intensity was Rs. 2260.46/ha/year. • The clientele contact intensity was 1.75 hr/clientele/year and the technical manpower: cultivator ratio was 1:1218. • The overall process level index was 68.88 and the overall outcome level index was 72.45 for the DoA
289.	A study of training needs of agricultural extension personnel in Meghalaya	Ms. Genialda Nongtdu	2012	• The important training need areas in order of importance are Soil Science, Entomology, Agronomy, Plant pathology, Nematology and Horticulture. Correlation analysis shown that age, service length, job performance and training exposure had negative and significant correlation with training needs.
290.	Adoption of resource conservation technologies inRice cultivation and its sustainability in Imphal West district of Manipur	Ms. K. Sony Devi	2012	• The finding also indicate that all the 5 psychological characteristics viz., economic motivation, risk orientation, innovation proneness, attitude towards RCTs and knowledge towards RCTs were found medium adoption by over 50% respondents with percentage distribution of 50%, 66.67%, 61.67%, 70% and 51.67% respectively.
291.	Agricultural innovation systems in System of Rice Intensification in Tripura.	Ms. Suchiradipta Bhattacharjee	2012	• The actors in the SRI innovation systems had fairly strong relationship among themselves and the interactive learning they developed through their association have assisted each other in increasing their knowledge base and efficiency in SRI. • While Department of Agriculture (DoA) has been a key player in the SRI innovation systems in the state, the unique role had been played by the local administrative units, the Panchayati Raj

				Institutions (PRIs) in creating mass awareness about SRI and providing assistance in development of the cultivators. • The AIS in SRI in Tripura had its own weaknesses like farmers were more the receiver of technology than being their generator; media being an isolate in Dhalai district and policies like MGNREGS having a negative impact on the income of SRI farmers through high labour cost or unavailability of labour.
292.	Impact of Rubber plantation on livelihood security of farmers of west Tripura district of Tripura.	Mr. Debashis Datta	2012	• It is found that majority of rubber growers' used to send their children to school and private tuitions also while, only 30 % of non-rubber growers' send their children to school. Almost all the rubber growers' got economic support from government, where only 18.33% of non growers' got support from government for their respective cultivation.
293.	Profile and impact of women Self-help groups (SHGs) in Imphal west district of Manipur	Mr. Rajkumar Sandeep Singh	2012	• The study shows that 90.9% of the SHG members participated group meeting regularly and 95.5% of them were found contribute in common fund for the group regularly i.e. every week. 92.8% of the SHG members were returned loan in time regularly every week. Most of the SHG members (86.4%) and (59%) participated regularly in group activities and income generating activities respectively.
294.	An evaluative study on Home science training programmes in Ri-Bhoi district of Meghalaya	Ms. Liza BaiakmenlangNongdhar	2012	• The study revealed that majority of the trainees were in between 36-50 years of age and have studied up to middle school level. They had medium exposure to training and majority of the respondents were reported to have frequent follow-up of training programmes in their individual units or self-help groups. Majority of the respondents had medium achievement motivation and medium market orientation.
295.	Information need for pineapple growers in Meghalaya	Mr. Nathanial	2012	• The respondents feel that personal localite sources (50.36%) were more credible than personal cosmopolite sources (49.64%) but only just by a small margin. And among the personal localite sources family (32.37%) were perceived to be most credible.
296.	Impact of ICTs in Agriculture and Rural Development in Meghalaya	Ms. Rebekka Syiem	2013	• Mobile phones were widely used by the farmers for the purpose of communication with family and friends, contacting experts on real time basis for getting agricultural advisories and contacting middle-men for marketing of produce. The presence of CSCs at the village level has been a

				boon to the few young educated farmers for educational purpose. • The impact of ICTs on the awareness of the farmers reported to be high for disease and preventive measures under rural health. Impact was also recognized in knowledge enhancement particularly for pest and disease management of potato. • Farmers reaped manifold benefits in terms of its time saved by 15.9 fold for agriculture, 8.6 fold for rural health and 1.1 fold for rural education while cost reduced through using ICTs to avail services for agriculture is 14.84 fold, 13.4 fold for rural health and 0.71 fold for rural education respectively. • Around 39 per cent of the farmers reported to have better price realization through market price information and better marketing of produce through the ability to communicate efficiently to sell their products to identify market location, information on prices of commodities by contacting fellow farmer producers and market middlemen.
297.	Adoption of Improved Mentha Cultivation practices by farmers in Central Uttar Pradesh	Mr. Ajeet Kumar Pal	2013	• 65 percent of the respondents belonged to medium level adoption category and the mean overall adoption score was 30.49 %. • Adoption was highest in the main areas transplanting and harvesting while pest management and nutrient management had lowest adoption. • The variables found to be significantly associated with extent of adoption of mentha cultivation practices were education, land holding, annual household income, experience in mentha farming, contact with extension agents, mass media exposure, trainings attended on mentha, irrigation source, labour availability, marketing channel and access to distillation unit. • Decrease in water table was the most important undesirable consequence reported while desirable consequences include high profit, increase in socio-economic status
298.	Contextual Vulnerability of Climate Change in Agriculture: An	Mr. M. Defenderson Shadap	2013	• The result for the test for independence showed that there was significant difference in the level of Contextual Vulnerability among the three ACZs and the strength of independence was ascertained

	Agro-Climatic zones analysis in Meghalaya			to be medium. The correlation analysis found out that Level of Educational Scientific Orientation, Innovativeness, Risk Orientation and Level of Awareness had significant positive correlation with contextual vulnerability.
299.	Legumes in Rural Meghalaya: A Socio-Economic Study	Mr. Sao Evalwell Dkhar	2013	• 11 different legume crops were found to be under cultivation by the respondents of selected areas. However, average areas put under cultivation of those crops were very low. • The per capita consumption of legumes by the respondents was found to be highest in case of West Garo Hills district (77.16 g/day), and lowest in East Khasi Hills (43.42 g/day). Low consumption was due to incompatibility with ethno-cultural food habits of the respondents, which prefers animal proteins as food item than pulse based ones. • Important problems as indicated by the respondents were poor yield, non-availability of inputs, utterly inadequate market information and almost inexistent irrigation system
300.	An Evaluative Study on the Impact of MGNREGA in Arunachal Pradesh	Mr.Bai Koyu	2015	• The study revealed that 10.26 lakh job cards were issued in the state during 2008-09 to 2013-14 with a total of 240 lakhs person-days jobs created. • Only 8.05 per cent of the works undertaken in the state could be completed till the end of 2013-14 and substantial proportion of the year wise allocated fund remained unspent in the state. • 61.25 per cent of the respondents were found to have medium level of awareness on various laid down provisions of the scheme.
301.	Gender Differences in Empowerment in Farm-Households of Tripura	Ms.Kankabati Kalai	2015	• Empowerment level for both genders can be increased by reducing workload and improving access to and decision about credit. For women attention is needed to be given in creating avenues and empowering them for public speaking. • Majority of women reported household drudgery, stringent traditional taboos & restriction, balancing farm & home and lack of gender friendly equipments as major problems. As for men, important problem was demanding family members.
302.	Assessment of Job Performance and Clientele Satisfaction of	Mr. P. Lalhmachhuana	2015	• KVK staff perceive that they have low level of performance in getting samples tested (compost /fertilizers /plant protection chemical /seed / soil & water), ensuring that rural youths member within the KVK got a stable and reliable job.

	Selected KVKs in Mizoram			• The clienteles satisfaction was high towards the organisation of different communication methods and compatibility of the subject content with overall farming situation but found to be low in terms of developing vocational efficiency of rural youths • KVK staff requires capacity building in leadership & other soft skills, use of ICT tools.
303.	Entrepreneurial Behavior of Floriculturists in East Khasi Hills District of Meghalaya: A Critical Analysis	Mr.WanmidamehiPassah	2015	• Nearly two-third (62.50 %) of the floriculturists in East-Khasi Hills district of Meghalaya had medium level of Entrepreneurial Behaviour. • Personal characteristics of floriculturists viz., 'Education', 'Scientific orientation' and 'Mass media exposure' had significant association with 'Entrepreneurial Behaviour'. • About three-fourth of the respondents (70.00 %) had medium size of land holding.
304.	Farmers' Mitigation and Adaptation of Climate in Moderate and High Vulnerable Districts of Madhya Pradesh: A Stakeholder Analysis	Mr.Pankaj Kumar Meghwal	2016	• State Department of Agriculture turned up to be the most active stakeholder. • The Likelihood Ratio of 'Level of Education of Farmers' and 'Awareness on Consequences of Climate Change in Agriculture' were significant with respect to 'Low' and 'Medium' categories of decision-making on adoption of mitigation and adaptation practices on climate change in agriculture. • Lack of information on appropriate adaptation option was the major problem being faced by the farmers in adoption of mitigation and adaptation of climate change practices in agriculture.
305.	Social Networks of Farmers on "Climate change Mitigation and Adaptation in Western Agro-climate Zone of Tamil Nadu"	Ms.Muthulakshmi B.	2016	• More than 70 % of the farmers had medium mass media access, had medium knowledge on climate change in agriculture and had high fatalism on climate change. • The average in-degree and out-degree, of four villages, in the study ranged from 1.571 to 3.619, which reflected poor interaction among villagers w.r.t climate change mitigation and adaptation in agriculture. • The average Geodesic distance of 3.119 revealed that at least three persons, on an average, are involved in fastest transmission of a new information on climate change mitigation and adaptation in agriculture.
306.	A study on information Management Behaviour (IMB) of Rice Farmers in Imphal West District of Manipur	Ms.Konjengbam Monika Devi	2016	• It was observed that almost half of the non-adopted farmers too had medium (4303%) level of IMB; but comparatively lower than the adopted farmers. The findings also indicate that the variables like social participation and mass media exposure contributed to the IMB of the non-adopted farmers. Among the adopted and non-adopted farmers there was significant difference in their IMB, annual income, occupation, social participation, mass media

				exposure, cosmopoliteness, extension orientation, innovation proneness and risk orientation.
307.	Training Needs Assessment of Agricultural Extension personnel in Arunachal Pradesh	Ms.Inne Lego	2016	• Majority of extension personnel had high level of training need • Training needs were high in micronutrient problem in acid soils and management and use of organic manures as fertilizers. • Training exposure of the extension personnel was low
308.	Usage of ICT in Agriculture by the Farmers and Extension Personnel in Dimapur District of Nagaland	Ms. DitolynSumi	2017	• Communication behaviour had significant association with ICTs. • The existence of significant difference in the both the 'Level of Awareness' and 'Usage of ICTs' between the Farmers and Extension Personnel were observed from the study area. Customized information in form of Voice Call/ SMS/ MMS in local dialect/ language in the area of interest and importance of farmers should be readily available. The organisations and departments concerned with agricultural development should be engrained with advances in ICTs for the speedy dissemination to farmers.
309.	Impact of use of ICT by rural youths of Manipur	Ms. Mayanglambam Victoria Devi	2017	• To study the access and utilization of ICTs by rural youth. • To analyze the impact of use of ICTs on rural youth. • To find out the constraints faced by rural youth in access and usage of ICTs.
310.	Gender Differences in the level of Economic Empowerment of farm- Households of Manipurs	Mr.Meghajit SharmaS.	2017	• To carry out gender analysis of economic activities within a farm-household • To assess the gender differences in the level of economic empowerment • To find out gender disaggregated constraints in economic empowerment
311.	A study on effectiveness of training programmes conducted by Krishi Vigyan Kendra (KVK) West Garo Hills of Meghalaya on Socio-Economic improvement of rice growers	Mr. Samir Medhi	2017	• It was found that trainings were effective in increasing the knowledge of trainees about improved rice farming practices hence more number of trainings should be organized by KVKs so that it can benefited to more number of rice growers. Different training programmes followed by field demonstration should be organised and imparted so that farmers develop confidence in them to take up improved methods to increase their productivity and improve their socio-economic condition. • 2. Allocation of budgets under contingency head

				should be increased for trainings leading to increase in dimensions and numbers of KVK trainings under different thematic areas of agriculture and allied sectors.
312.	Communication Behaviour of the farmers enrolled in M4agri NEI	Mr.Achin Kharmudai	2017	• To study the personal and socio-economic profile of the farmers • To study the communication behaviour of the farmers • To identify the constraints in usage of the services rendered by m4agriNEI
313.	A study on attitude of Agriculture collegian towards opting Farming as a Profession"	Mr.Deena Dayalan. S. K.	2017	• To study the personal, socio-economic and psychological characteristics of agriculture collegian. • To measure the attitude of the agriculture collegian towards opting farming as a profession and to find out its relationships with the personal, socio-economic, psychological characteristics • To know constraints of the agriculture collegian towards opting farming as a profession.
314.	A study on entrepreneurial behavior of the members of women self-help Groups in west Garo Hills District of Meghalaya	Ms. Chekame A. Sangma	2018	• More number of WSHG members (45.00%) were found to belong to age group of 35 – 50 years, most of the respondents (41.25%) were educated upto 10^{th} standard, majority of the respondents (75.00%) had family size ranging from 5 to 9, most of the respondents (58.75%) belonged to medium monthly income category, and 90.00 per cent of respondents had land holding of less than 1 ha. Majority (70.00%) of the respondents had medium level of social participation. More than two-third of the respondents (68.75%) had medium mass media exposure. More number of the respondents (56.25%) had medium level of aspiration.
315.	Adoption Behaviour of Rice Growers on improved Rice Technology through Krishi Vigyan Kendra (KVK) in Khowai District of Tripura.	Ms. Debjani Das	2018	• The study also reveals that majority of the respondents in KVK adopted villages had medium level of knowledge on improved rice farming practices (54.16%), level of adoption (55.00%), level of productivity (68.34%), annual net income (81.67%), self confidence (58.33%) and materials possession (60.00%). Among the independent variables under study age, education, farming experience, annual income, training received, land holding, were found to be significantly associated with the knowledge and adoption level of improved practices of rice technologies.

				• Inadequate availability of quality seed at proper time, lack of knowledge about scientific cropping pattern, cropping system, method of application, non-availability of improved implements and other critical inputs such as FYM/organic fertilizers, low price of product in local market, lack of storage and marketing facilities, lack of guidelines about seed treatment were the major problems faced by the respondents with respect to adoption of improved rice cultivation practices in the study area.
316.	Assessment of child poverty in rural farm-households of Garo Hills, Meghalaya"	Mr. Guruprasad Nagesh Hedge	2018	• To study the profile of children living in the poor rural farm households. • To find out the dimensions of poverty among those children
317.	Agro-Advisory Effectiveness of m4agriNEI on Climate sensitive sustainable agriculture: An Evaluative Study	Mr. IrshadHussain	2018	▪ More than half (55.20%) of the total respondents were found to be in the middle aged group followed by young aged group about (34.30%). ▪ Around (38.80%) of the respondents had an educational qualification of up to high school followed by one-third (35.10%) of the respondents had primary education qualification and (12.70%) were found to be illiterate. ▪ Majority of about (80.60%) of the respondents were found to be in marginal famers.
318.	Ascertaining m4agriNEI Farmers' innovations on climate-smart agriculture: A case study	Mr. Salam Prabin Singh	2018	• Apropos to the 'Age' of the respondents, that more than half of the total respondents (55.38 %) belonged to the middle age group (35 – 50 years). • With regard to 'Level of Education', highe percentage of the respondents (35.40%) have 'High School' level of education. • As far as 'Annual Income' was concerned, it was found out that majority of the respondent (69.23%) belonged to 'Medium Annual Income' group.
319.	A Study on Entrepreneurship Behaviour of Tribal Farmers in adoption of Improved Piggery Farming Practices in Dhalai district of Tripura	Mr. Biswajit Debnath	2018	• Out of 120 respondents, majority of farmer belonged to middle age (35-50 years) category. • The findings also indicated that majority of the farmers had medium family size (47.50%), medium level of experience in pig farming (54.16%), medium level of annual income (46.67%), medium level of economic motivation (50.84%), medium level of mass media exposure (48.34%) and medium level of extension contact (43.34%).

				• The study has clearly shown that most of the farmers had medium level of entrepreneurial behaviour with EBI score ranging from 41.26 to 68.56.
320.	A Study on organizational climate as perceived by the employees of district agricultural offices in Meghalaya	Mr. Sachin V R	2018	• Majority of overall (51.52%), grade A (46.53%) and grade C (40.74%) employees perceived organizational climate at medium level. Whereas grade B employees perceived at very high, high and medium levels in equal percent (32.00%). • In age, majority in overall employees are old(40.00%), grade A(42.86 %) and grade C(48.15%) are young and grade B (44.00 %) are middle aged. • In education, majority in overall(28.75%) and grade B(76.00%) employees are 12^{th} passed, grade A(67.86%) and grade C(62.96%) employees are BSc.(Agri.) graduates and 10^{th} passed respectively.
321.	Impact of Horticulture-Hubs on the farmers of Meghalaya	Mr. Kungumaselvan T	2019	• It was observed the mean extent of adoption was found to be highest in the case of anthurium (68.17 %) followed by strawberry (64.85 %). However, in case of polyanthus and (47.58 %) and ranenculus (48.33 %), the extent of adoption was comparatively lower. • . Impact was assessed in seven selected impact indicators. In case of knowledge level on recommended practices, significant increase was observed the beneficiaries over time. • In Knowledge level of the beneficiaries was increased significantly compared to before due to training attended on improved package of practices, regular contact with the horticulture officers and progressive farmers.
322.	A Study on e-readiness of extension personnel in agricultural institutions in Ri-Bhoi district of Meghalaya	Nikhil J.	2019	• More than three fourth (81.67%) of the respondents belonged to the middle age (32-48 years) group and 65 per cent of them were male respondents. • Little above half (53.34%) of the respondents possessed doctorate degree followed by 28.33 per cent with post-graduation. • Majority (70.00%) of respondents had medium job experience with a range of 4-19 years while 41.67 per cent of the respondents' major job responsibility was teaching.
323.	Analysis of innovation system of horticulture in Meghalaya	Sengmitchi D. Sangma	2019	• Actor linkage matrix revealed that linkages between stakeholders with similar organizational levels were stronger than linkages between stakeholders working at different organizational levels. • The social network analysis of the stakeholders of the

				hubs revealed that overall the networks were very loosely connected to each other with many absent ties. • Among the policies and support structures existing in the state Mission for Integrated Development of Horticulture (MIDH) and Floriculture Development Scheme have been a major contributor to the success of horticulture development in the state.
324.	Dynamics of Design Thinking on Climate Smart Agriculture by Under-Graduate Students in Agriculture under Central Agricultural University Imphal	Mr. EllyKipkorirKirwa	2020	1. The concept on Integrated Agriculture and Animal Husbandry Farming Systems based CSAPs should be subject to DT for students. 2. Theoretical based teaching and learnings systems should be oriented towards practical based which have a composite systems on enhancing Competency on ICT Application, Ability to Visualize Abstract Ideas, Memory Retention, Reading Behaviour and Aptitude of students.
325.	Nutrition Competencies of Agricultural Extension and Advisory Service (AEAS) providers in Meghalaya	Mr. NkululekoNyoni	2020	• Through an extensive review of available literature, a total of 37 nutrition competency items for AEAS providers' nutrition extension were identified across eight (8) broad dimensions viz; Farming systems that promote nutrition, Post-harvest handling & food safety, Managerial & planning skills, Household nutrition planning, Gender-related nutrition issues, Affective & soft skills, Extension education & communication and Knowledge on human nutrition & related programmes. • Overall, AEAS providers' nutrition extension competency ranged between high to very high (mean 3.56 to 4.50) with highest competency in affective and soft skills ($\bar{x}$=4.50, S.D 0.75), followed by knowledge on human nutrition and related programmes ($\bar{x}$=3.92, S.D 0.92) and extension education and communication ($\bar{x}$=3.83, S.D 1.05) dimensions.
326.	Community Participation and Perceptions in Rural Tourism: A study in Khasi Hills of Meghalaya	Ms. PagadalaSaiPriyanka	2020	• A total of 15 categories of community stakeholderswere identified.The*dorbar*was the only stakeholder category observed to perform multiple roles and reported to be involved in all activities at various levels of participation and forms the major decision-making body. Tourists had high importance and *dorbar* had high influence associated with rural tourism project in both the villages.Stakeholders of Mawlynnong village had more strong linkages among themselves than that of Sohliya village. • 80.00 percent of respondents from Mawlynnnong and 53.34 percent of respondents from Sohliya had favourable attitude towards rural tourism. Factor 4 'opinion about tourism development' was ranked first and factor 1 'community and personal benefits derived from tourism' was ranked second in both villages. • Sightseeing was the most practiced experience by

				tourists in Mawlynnong (70.00%) and in Sohliya (80.00%).Tourist of Mawlynnong were relatively more satisfied ($\bar{x}$= 3.87) than that of Sohliya ($\bar{x}$=3.56).
327.	Mapping Informal networks of Mera Gaon Mera Gaurav (MGMG) Beneficiary Farmers in Ri-Bhoi District on Adoption of Climate-smart Agricultural Practices	Ms. Polasa Bhuvanasri	2020	• Information seeking and sharing of CSAPs by farmers in domains of CI, AAS, NRM and PP within the six MGMG adopted villages of CPGS-AS, CAU, Imphal and ICAR RC for NEH Region were very similar. • Innovation on CSAPs did not disseminate nimbly in a homophilous ISN of farmers. • Different ordinals of eight predictor variables *viz.*, 'Age', 'Gender', 'Education', 'Operational Land Holding', 'Annual Income', 'Farming Experience', 'Mass Media Access' & 'Knowledge on CSA Practices' indeed influenced/enhanced in the outcome of being Low, Medium and High ABCSAP.
328.	Internalizing Design Thinking on Remunerative Agricultural Enterprises Amongst Under-Graduate Students in Agriculture of Central Agricultural University, Imphal.	Mr. Bitu Nangkar	2021	• The identification of vegetable cultivation as the promising RAEs in the study area has been worthy as it has assured additional income to the farmers. • Originality', Competency on ICT application', 'Intrinsic Motivation', and 'Creative Problem Solving' ability of students is found to have positive role on the internalization of Design Thinking. • Inability to transfer theoretical knowhow of RAEs into real practice' had been picturized as the most limiting restrain faced by the students.
329.	Online-teaching competencies required for teaching agricultural undergraduates in North-East India during COVID-19 pandemic	Ms. Progati	2021	• A total of 23 competency items across 5 factor dimensions viz., Technological Competency, Teaching Facilitation, Session Management Competencies, Teaching Ethics and Content Facilitation was identified. ➢ Of the 5 competency dimension highest competency score obtained for Teaching Ethics and lowest in Content Facilitation followed by Teaching Facilitation. Most of the respondents (74.66%) were found to be have medium competency level. Online teaching experience; attitude towards online teaching; access to technical support; and organisational facilities and support were calculated to have significant and positive correlation with online teaching competency of the respondents. • The most important constraints reported by the respondents were: ➢ Difficulty to conduct field and lab related practical classes, Difficulty to assess students' attention and understanding during online class, ➢ Dissociation of theoretical frameworks of courses on

				practical applications, • Difficulty in assigning and execution of group assignments, Psychological stress and anxiety induced by the pandemic.
DISCIPLINE: AGRICULTURAL ECONOMICS				
330.	Economics of ginger in Ri-Bhoi district of Meghalaya	Mr. Gyati Riku	2010	• MVP of inputs at their geometric mean level showed that farmers still have scope for further utilization of area and seed to increase the returns. In Ri-Bhoi district four marketing channels were identified and found that channel I was the most effective channel in case of quantity transaction (48% of total marketed surplus) while channel III was most efficient with marketing efficiency of 8011%.
331.	Comparative economics of system of rice intensification (SRI)	Ms. Beauty Debbarma	2011	• B-C ratio of was found more on SRI farm • The benefits of SRI should be realized by farmers through extension services • More training and awareness programmes on SRI should be initiated by the Govt.
332.	Economics of chow-chow (*Sechium edule*) in Aizawl district of Mizoram	Ms. Lalrinsangpuii	2011	• The Cobb-Douglas production function indicated that the variables land and human labour were significant while input manures and fertilizers showed negative significant. MVP of inputs at their geometric level showed that farmers still have scope for further utilization of land to increase the returns.
333.	Economics of turmeric (*Cucuma longa* Linn.) in Jaintia Hills district of Meghalaya	Ms. Janailin S. Papang	2011	• The results of Cobb-Douglas analysis revealed that the regression co-efficient of land and manures, fertilizers and plant protection chemicals were significant. Regression co-efficient for human labour was negative and non-significant. An increase in expenditure on manure, fertilizer and plant protection chemical would result in improving the production of turmeric. There is no scope of increasing production by adding more human labour. The marketable and marketed surplus was found to be 63.08% and 60.56% to the total production respectively.
334.	Economics of pineapple production in Ri-Bhoi district of Meghalaya	Ms. Dayohimi Rymbai	2012	• Labour intensive • Establishment cost: Large > Medium > Small • Total cost: Large > Medium > Small • Returns: Large > Medium > Large • Marketed surplus : Large > Medium > Small
335.	Socio-Economic	Ms. Dahun	2012	• The study found that there was 27.43 per cent

	study of Mahatma Ghandhi National Rural Employment Guarantee Act (MGNREGA) in East Khasi hill district of Meghalaya	Shisha Dkhar		increase in the income of beneficiaries after working in MGNREGA. The present income of the beneficiaries was higher by 19.66 percent as compared to the non beneficiaries. The average monthly expenditure on food and non-food items of beneficiaries (after MGNREGA) also increases and was also found to be higher than that of non-beneficiaries.
336.	Economic analysis of Umton Syiem watershed, Meghalaya	Ms. Wansaka D. Kynjing	2012	• The income distribution among the sample households is more uneven in the watershed area than in the non-watershed area. The per family employment level was also higher in the watershed area indicating more employment opportunities by the project.
337.	Analysis of agri-based self-help groups in Meghalaya	Ms. Mary Prathyusha Gondi	2012	• It was found that the SHGs saved 76 per cent of the total committed savings. The outreach of internal loan was cent per cent for the first loan and 74 per cent for the repeat loans. On an average the groups received an external loan savings. About 86.67 percent of the members reported that the loan amount was sufficient.
338.	Economics of Rapeseed and Mustard cultivation under zero tillage in Thoubal District of Manipur	Ms. Monika Aheibam	2012	• Production function analysis reveals that the regression co-efficient for human labor and chemical fertilizers were found to be positively significant while the regression co-efficient for seed and plant protection chemicals were turned out to be negatively significant. As indicated by resource use efficiency measures (MVP: MFC), seeds and plant protection chemicals per hectare were over utilized by the farmers in the study area which brought unnecessary huge expenditure.
339.	Rice cultivation in Senapati district of Manipur: An economic analysis	Mr. Koijam Johny Singh	2012	• The total area, production and yield of rice in Manipur during 2000-01 to 2011-12 have increased by about 5.30 per cent, 23.84 per cent and 17.33 per cent, respectively. The growth rates in area, production and yield of rice in Manipur during 2000-01 to 2011-12 was -0.67 per cent 0.68 per cent and 1.36 per cent per annum, respectively.
340.	Rice cultivation in West Tripura district: An economic analysis	Ms. Dipika Jamatia	2012	• The total area under rice has declined by about 11.72 per cent, total production has increased by about 74.40 per cent and yield has increased by about 97.55 per cent during the period of 1985-86 to 2009-10. The growth rates in area,

				production and yield of rice in Tripura during 1985-86 to 2009-10 was -0.32 per cent, 2.08 per cent and 2.41 per cent per annum, respectively.
341.	Economics of production of cashew in West Garo Hills district of Meghalaya	Mr. Pradip Sangma	2012	• The overall total cost of establishing a cashew orchard was estimated to be Rs 28542.00 per hectare and the establishment cost was highest for a large category of orchard amounting to Rs 28728.00 in comparison to small (Rs 28016.00) and marginal(Rs 26686.00) category of cashew orchard. The gross return obtained from the harvest in the fourth year was estimated to be Rs 117600.00 for marginal category and for small and large growers, it was estimated to be Rs 107800.00 and Rs 110950.00, respectively.
342.	Economic analysis of production and marketing of Areca nut in East khasi hills of Meghalaya	Mr. Remdor Dkhar	2012	• Economic analysis of data reveals that areca nut cultivation is economically feasible and viable in the study area. Two major channels were identified efficient in three selected markets. Channel-I was found efficient in Sohra market and Channel-II in Pynursla market.
343.	Sustainability of wetland transplanted rice farming in Nagaland	Mr. Sajapong	2013	• Per hectare cost of rice cultivation was `49575.80/ha in Nagaland. • The net return was calculated to be `3583.39/ha. • About 86.05% of the farms in lowland were moderately sustainable and in upland 70.27% of the farms were sustainable.
344.	Performance Analysis of Co-operative Credit Institutions in Manipur	Ms. Janee Yumlambam	2013	• The overall recovery performance of MSCB was poor. The Heigrujam and kangmong PACS of valley region, found to be good in recovery position. Ratio analysis has revealed that the liquidity position of PACS was satisfactory. Long term solvency position of the PACS was poor.
345.	Economics of strawberry production and marketing in Ri-Bhoi district of Meghalaya	Mr. Damewan Muliar	2015	• The costs and returns both found to be increased with the increase in size of farm which implies 'economies of scale'. • The total cost was higher due to variable cost than that of fixed cost • The share of net price received by the producers in consumer's rupee found to be higher in Channel-III (Producer → Retailer → Consumer). Channel-III was found efficient than Channel-I and Channel-II.
346.	Economics of Production of Selected Cultured	Mr. Ruben Mog	2015	• The fish production was found to economically feasible and profitable in the study area across the category. • The price spread was found to be higher under

	Fisheries in Gomati District of Tripura			channel-I (Producer → Wholesaler → Retailer → Consumer), due to more marketing costs incurred by agencies involved and more marketing margins earned by them. • Inadequate financial support from the government, transportation, non-availability of fish feed, storage and non-availability of fingerling in time were the major problems faced by the fish producer in the state.
347.	Drought and rice productivity in Manipur: A socio-economic analysis.	Ms. Nivetina Laitonjam	2015	• About 18 years (54.55%) registered mild drought whereas moderate drought occurred only once. No severe and extreme drought has occurred during the study period. • One per cent increase in June rainfall led to 0.33 per cent increase in yield of paddy. • The average productivity of rice reduced from 3490.47 kg/ha to 2137.10 kg/ha during low rainfall/drought, which is a loss of 35.09 per cent.
348.	Rainfall variability and rice productivity in Meghalaya: A socio-economic analysis.	Mr. Deotrephy K. Dkhar	2015	• All the monsoon weeks (22nd to 39th SMW) have high (88-100%) probability of being wet week. • One per cent increase in June rainfall led to 0.75 per cent increase in yield of *kharif* rice whereas with one per cent increase in the amount of rainfall in August led to the decline in rice yield by 0.46 per cent. • With one percent increase in average monsoon rainfall led to the reduction in variability in yield of *kharif* rice by 2.38 per cent.
349.	Risk to drought in Nagaland: An empirical study of farm households	Mr. Baiarbor Nongbri	2016	• It was observed that the normal annual minimum and maximum temperature has increased in the range of 0.01˚C and 0.03˚C in Phek and Dimapur district of Nagaland during 1975-2013. He reported that the annual rainfall has decreased by 2.76 mm/year and 2.99 mm/year at Phek and Dimapur districts, respectively and has shown insignificant and negative trend. Moderate drought years were higher at Dimapur (17.94%) than at Phek (12.82%). Extreme drought was experienced at Phek during 2006 and at Dimapur during 2006 and 2012. • Due to the high sensitivity and low adaptive capacity, farm households were more vulnerable to drought and therefore, under high risk of yield loss.
350.	Economics of	Ms. Astha	2016	• The total cost of production was estimated to be

	Chow-chow (Sechium edule) Cultivation in West Khasi Hills District of Meghalaya	Barman		Rs. 135.42/q. • It was found that the marketable surplus was equal to the marketed surplus (96.57% of the total produce). • Four marketing channels were identified of which channel I was the most used channel as 42.80 per cent of the marketed surplus was sold through this channel followed by channel II (26.23%), channel III (18.72%) and channel IV (12.25%). • Unavailability of labour ranked 1st among production problems. While the most serious problem for marketing of chow-chow was lack of proper market. In case of market intermediaries, gluts during peak period were the most serious problem faced by them in handling of chow-chow. • Extension services should also be provided to make the farmers aware of new technologies and farming practices in order to increase quality and quantity of output. • Proper storage facilities are to be developed in order to reduce post-harvest losses.
351.	Economic Assessment of Lemon Production in Ukhrul District of Manipur	Ms. Singyala Chiphang	2016	• The CAGR for production revealed that the growth rates for area, production and productivity were positive for all districts in Manipur. • Government may promote rainwater harvesting structure to irrigate the lemon orchard as 62.88 per cent have been reported of irrigation problem. • Government subsidy on planting materials and other agricultural inputs for farmers to encourage them to undertake cultivation of lemon in the region.
352.	Economics of Large Cardamom Production in Zunheboto District of Nagaland	Ms. Tovinoli Shohe	2016	• Compound Growth Rate computed for area, production and productivity of large cardamom in Nagaland showed positive growth rate only in area, while growth rate of production and productivity was found to be negative in the state. • The net farm income was estimated to be Rs. 251559.65 per hectare. It was observes that the net farm incime increased with increase in age

				of the plants. • The study on economic viability measurers indicates the cultivation of large cardamom to be economically feasible and viable in the study area.
353.	Economic analysis of pineapple production in Tripura	Ms. Juicy Debbarma	2016	• The costs and returns both found to be increased with the increase in size of farm which implies 'economies of scale'. • The major problems expressed by both marginal and small category farmers were the cost of earthing up/ intercultural operation, marketing problem, storage problem, non-availability of quality planting materials, lack of credit facility and transportation problem
354.	"Rice cultivation under climate change in West Siang district of Arunachal Pradesh: An Economic study"	Ms. Mun Yomcha	2017	• The monsoon onset dates got delayed to 2nd week (30%) or 'after the 2nd week' (20%) during 1984-1993. • Majority of the farmers (60%) perceived the case of rainfall deficit at 6-10 per cent level while 58 per cent and 18 per cent farmers reported about the occurrence of sudden excess rainfall at 6-10 per cent and 11-20 per cent, respectively. • August rainfall is a risk increasing factor while, July rainfall is a risk decreasing factor.
355.	Economics of khasi mandarin in East Khasi Hills and West Khasi Hills districts of Meghalaya	Mr. Sukheimon Passah	2017	• The net cash flow (net return) was worked out to be more on group II orchards. It may be due to better management practices used by them. • The NPV (₹ 226289), B: C ratio (2.26), IRR (22) and PBP (0.67) was found to be economically feasible and profitable in the study area across all the groups of orchards. Even though the economic indicators show a positive results in term of investment opportunity but it was not able to generate surplus from it for reinvestment at the farm (mandarin orchards). • Channel III was found to be most efficient in both the market with market efficiency of efficiency of 17.20 in Sohra market and 12.05 in Mawkyrwat market. This was mainly due to the absence of intermediaries.
356.	Value chain analysis of fish in Loktak Lake of	Mr. N. Chinglen Meitei	2017	• It is observed that Manipur shows a positive growth rates in production (4.67%) and productivity (4.68%) during the observed years

	Manipur			• Maximum of the captured fish (41.67%) is disposed off through Channel-I (Producer→ Local trader (uunja) cum Retailer→ Consumer) followed by Channel-II (Producer→ Consumer) and Channel-III (Producer→ Wholesaler→ Retailer→ Consumer) with 33.33 percent and 25 per cent and it was observed that Channel-I was found to be most popular as maximum of the captured fish were disposed off through this channel.
357.	Production and Marketing of Kiwi in West Kameng District of Arunachal Pradesh	Ms. Ainy Taloh,	2017	• The average yield and the average returns from kiwi obtained by the sample farmers in overall group of orchards was found to be 3.63 t/ha and ₹ 270066.45/ha. • The overall disposal of kiwi was found to be highest in Channel I with 49.63 per cent which was followed by channel ll (42.05%) and channel lll (8.30%) of the total volume of their production. • The common constraints faced by the farmers was lack of knowledge and technical know-how, maintaining male and female kiwi plant ratio, lack of recommended package of practices in the orchard, marketing problems etc.
358.	Consumer behaviour of tourists for agri-products in Meghalaya".	Mr. Kunchum Suresh Krishna	2018	• Among all the agricultural products available at the stalls or with the vendors pineapple was most preferred by the tourists and the translation of first preference to actual purchase was 94.49%. • About 51.36% felt taste was an 'extremely important' attribute while making purchase decision and they either agreed or strongly agreed that they buy a product for its nutritional value, followed by freshness and organically produced. • WTP was highest in case of pineapple (42.47% to 43.13%), followed by orange (28.36%), bamboo pickle (14.28%), banana (9.21%) and chilli pickle (9.09%).
359.	Valuation of alder based farming system in Nagaland	Mr. Limasunep Ozukum	2018	• The farmers at Khonoma practiced total 23 combinations of different crop mix but three crops mix were followed by majority of the farmers. Most of the respondents cultivated potato, *naga* garlic as sole crops or potato with maize as intercrop. • The estimated value of the goods (biomass)

				provided by the system was `3.86 lakh/ha. • The total value of the services provided by the alder trees at Khonoma ranged from `30521.59/ha to `35171.82/ha.
360.	Socio-economic study on Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in Ri-Bhoi district of Meghalaya	Mr. Shaikh tabrez	2018	• The income and expenditure on some food and non-food items of beneficiaries had increased significantly after working under MGNREGA. The difference in monthly income between beneficiaries and non-beneficiaries was statistically non-significant. But the differences in expenditure of some food and non-food items were significant. The assets of beneficiaries had increased after MGNREGA. • No records entered in job card, demanded 100 days of work is not provided under the scheme in a financial year, inappropriate work season, less work related to soil conservation and land development and less wage rate were the major problem faced by all the participants
361.	Value Chain Analysis of Dairy Industry in Nagaland	Ms. Sedeno Chale	2018	• Majority of the respondent dairy farmers were concentrated in the medium herd size category. • The milk productivity was lower for local cows than crossbred cows; therefore, the local cows were kept mainly for meat purpose. • The major value addition was done only in Channel-lll, at the processor cum dairy cooperative's level. The study also revealed that some margin or profit was gained by the stakeholders at every stage of each channel.
362.	Economics of Tea cultivation in Tirap district of Arunachal Pradesh	Mr. Nowang Wangnow	2019	• The compound annual growth rate for area, production and productivity of tea in Arunachal Pradesh showed a significantly positive trend with 9.61 per cent, 21.20 per cent, and 10.56 per cent annual growth respectively from 2000-2001 to 2014-2015. • The operational cost was increasing from the beginning year up to the peak harvesting year because as the plantation mature the operational activities also increase such as pruning and weeding.The total variable cost was found to be higher than the total fixed cost. The share of hired labour in total variable cost was the highest component. Likewise, family labour was the most important component contributing to the total fixed cost.

363.	Performance of Agriculture in Sikkim: Assessing the satisfaction of farmers.	Ms. Minam Gamoh	2019	• The Gross State Domestic Product (GSDP) of Sikkim at constant (2011-12) prices was ₹1509525 in 2016-17. • Agriculture sector contributed 7.10 per cent to the total State GSDP. The agriculture GSDP increased in between 2011-12 to 2016-17 at constant prices but the share of the agriculture sector to total GSDP decreased. • The net sown area decreased by 18.95 per cent but the gross sown area increased by 9.21 per cent in between TE 1994-95 and TE 2014-15 which was due to the increase (11.36%) in cropping intensity (176%) in 2014-15.
364.	Economic analysis of milk production in Ri-Bhoi district of Meghalaya	Mr. Evans Kiprono Kemboi	2020	• Milk production per household was 23.59L and about 83.35% quantum of milk was disposed of through the cooperative society. • The yield gap present in the study area was very high, estimated to be 6.20L (91.06%) per day out of which 11.76% was yield gap I and 79.30% was yield gap II. • The size of the animal shed, experience, price of concentrate and labour were the important factors influencing yield gap in milk
365.	Economic analysis of milk production in East Khasi Hills district of Meghalaya	Mr. Jabir Ahmed	2020	• The average milk production in the study area was 39.81 L/day/household, out of which 96.66 per cent was marketed by the cattle rearers. • Substantial difference in milk yield was noticed at experiment station and farmer's farm. Total yield gap was 49.62 per cent, where yield gap-I is 6.52% and yield gap-II is 43.10%. • The experience in dairy farming, distance from farmer's farm to research station, contact with extension personnel, price of concentrate and human days allocated for dairying were significant factors influencing yield gap.
366.	Economic analysis of Cabbage production in East Khasi Hills District of Meghalaya	Ms. Kota Karuna Sri	2020	• The compound annual growth rate was found positive for the all the districts in Meghalaya and the CAGR for area, production and productivity under Meghalaya was found to be (2.59%), (3.01%) and (0.4%). The CAGR for area, production and productivity in East Khasi hills was (0.83%), (1.6%) and (0.84%). The reasons for the low yield growth rate might be lack of latest agricultural technical know-how, pest infestation etc • The total costs (TFC+TVC) in Zaid season was

				found to be ₹52129 and the productivity was found to be 58 quintals and gross income was ₹84578.50 and net returns was ₹32449.50 with the B-C cost ratio 1.60 and operating ratio was 54% when compared to Zaid season, winter seasons cost of cultivation was found to be low viz., ₹47834.42 and productivity was found to be 68 quintals with the gross income ₹88400, net returns was ₹40565.58. B-C ratio was found to be 1.84 with the operating ratio 47%. It was found that cabbage was economically profitable and viable and study reveal that winter cabbage was more beneficial.
367.	An evaluation of the public distribution system in Kamrup (Rural) district of Assam	Mr. Rizwan Ahmed	2020	▪ To understand and assess the status of functioning of PDS in Kamrup (Rural) district of Assam ▪ To estimate the impact of PDS in calorie intake of BPL households ▪ To estimate the various parameters for effective participation in PDS and identify the problems faced by households due to PDS
368.	A study on marketing pattern of potato in Meghalaya: Special reference to East Khasi hills district	Mr. Mumadi Rajavardhan	2020	• In the period 2005-06 to 2012-13 area used to grow potato highest positive growth rate was seen in South Garo hills (4.60%) followed by West Garo hills district (3.28 %). Among all the districts highest production growth rate was observed in West Garo hills district which recorded as 3.76 per cent. From 2013-14 to 2017-18 East Jaintia hills district recorded highest area growth rate to be 10.61 per cent during study period. • Highest marketing cost for summer potato and winter potato observed in channel-I due to presence of more marketing actors present in these channel followed by channel-II. In channel-III the producer's share in consumer's rupee was higher than other channels due to absence of marketing middlemen. It was reported in both summer potato and winter potato.
369.	Economic analysis of milk production in West Khasi and South-West Khasi Hills district of Meghalaya	Mr. Mridupaban Das	2020	• Average milk production was 3.68 L/day/household and the decisive agency in disposing surplus milk was middlemen/vendors who dispose milk of about 76.71 per cent household. • The TYG was 2.13 L/day/cow (2.21 L/day/cow in WKH and 2.01 L/day/cow in SWKH,

				respectively) and the TYG percentage was 244.83 per cent which comprises of yield gap-I (196.55%) and yield gap-II (48.28%) in the study area. • Experience in dairy farming (years) ($p<0.01$), scientific cattle shed ($p<0.01$), vaccination ($p<0.01$), education of the family head ($p<0.05$) and human days allocated for dairy (hours) ($p<0.10$) were the factors that significantly impacts the yield gap.
370.	Value chain analysis of Pork in Meghalaya: a special reference to Khasi Hills region	Mr. Richu Mathew Sunil	2021	• Channel-I was found to be most preferred among the pig farmers because of the high price availability among the marketing channels for live pig. • Among the marketing channels for pork, Channel-I was preferred by the consumers owing to its easy accessibility. • The net benefit available to the producer was estimated to be higher in value-added products when compared to the fresh pork.
371.	Value chain Analysis of Fish in Meghalaya with special reference to Khasi Hills district	Ms. Sumithra. S	2021	• In the marketing of fish, Value chain-1 (Fish farmer- Consumer) was found to be a most efficient one but it is not practically possible in case of large scale production. • Value chain-2 was found to be a next efficient value chain which need to be strengthen and popularize to increase the producer's share in consumer's rupee. • Value added products of fish have relatively higher price than fresh one in the market.
372.	A study on Pradhan mantri Kisan Samman Nidhi (PM Kisan) in Ri-Bhoi District of Meghalaya: An Economic Analysis	Palnati Naveen Reddy	2021	• From the socio-economic features of the beneficiary respondents, it was observed that were the average age of the beneficiary farmers was 47 years; average household family size was 5-6 members; Literacy rate was 74 per cent; average farm size was 0.99 ha. From the primary data, the beneficiary respondents were 91, out of which 93 per cent of the farmers received PM-KISAN scheme amount timely in

				three installments and the rest later. From the scheme, amount received by beneficiary farmers was ₹6000 per year, however only about 66 per cent was used for agriculture purposes and the rest 34 per cent for non-agriculture purposes during Agricultural Year 2020-21. Among agricultural purposes, 92.3 per cent was used for input purchase by the beneficiary farmers and the rest for hiring labour. • From regression coefficients of independent variables it was observed that the variables like, Education shows positive significance implied that better the educational qualification, better the utilization of the scheme amount. The other variable that showed significance but negatively was family size. • Net returns of beneficiary farmers were greater than that of non-beneficiary farmers, just like cost of cultivation and gross returns. The average net returns of beneficiary farmers were ₹25298.6 which was greater than that of non-beneficiary farmers i.e., ₹23095.22 during Kharif 2020-21. The percentage difference of 8.71 per cent and an absolute difference. •
DISCIPLINE: ABM				
373.	Value chain of Agro Products in Manipur- A Case study	Ms. Amenri Thongam	2019	• The raw materials used by the industry were especially available within the state. The industry needs 1 metric ton of raw materials per day • But sometimes *King Chilli* were imported from outside the state like Nagaland and Assam • Other materials like packaging materials,

				spices, oil, and sugar are also imported from outside the state.
374.	Value chain analysis of honey in Meghalaya-A case Study	Ms. Missal Elbe Ch Momin	2019	• The forward linkage of the study comprised of the market distribution and the consumers. The processed honey was reassigned to the warehouse where the distributor makes an attempt and delivers their product to the super premium retail stores on order basis and the consumers are those with high purchasing power, hotels and restaurants and wellness retail outlets. • BEE Natural over the years has changed the lives of the people associated with it through social responsibility, economic equity and environmental sustainability
375.	A study on value chain of tea in Manipur	Mr. Hijam Thoiba Meitei	2019	• About (60%) of the total area under lemongrass cultivation is in Chingnungkhok, Imphal East. • The maximum percent of the establishment cost of lemongrass production is spent on buying planting material (28.04%). • The maximum percent of operational cost for lemongrass production is spent on harvesting (59.41%).
376.	Tripura Forest Development & Plantation Corporation & Rural livelihood Security of Tribals: A study of Corporate Social Responsibility	Mr. Oliver Uchoi	2019	• The maximum (65.83%) of the respondents were earning 1,00,000 and above per annum in the study area because It has been observed that the higher income in rubber was due to the large and medium land holdings among the respondents. • The other sources of income were from MGNREGA (100%), Construction works (58.33%), rubber fire woods (10%), rice (8.33%) and livestock (20.83%). • The success stories of Bonita tripura and Sundar mohan tripura shows that after getting scheme from TFDPC their life were well improved and had made a strong livelihood income compared to early days as there were no sources of income.
377.	Scope of value chain Management of Agri-products in Meghalaya	Ms. Iarasa Lakiang,	2019	• Urlong Tea Integrated Village Cooperative Society needs a decent network based supply chain to run them year long so that it may be set as an example of Buyer driven model through assuring quality product and to be converted into a business model. • Mutual trust is the key factor for developing a strong social capital within the tribal community through self help group was an exemplary of

				success case study in value chain analysis. • Overall proposal is to develop social capital via social networks for the success of any kind of business
378.	Study of Machal Spices Industry in Manipur	Mr. Thoudam Umashankar Singh	2020	• The average production of the company was approximately 6,100 kg per month and average cost of processing was approximately ₹3,68,500 per month, with an approximate average gross return of ₹13,13,400 per month and the Benefit Cost Ratio of the company from selling of processed spices was 1.36. • The values added per kg of Machal powder was ₹60.17 giving the net return of ₹81.83 for this particular product, values added per kg of Machal chilli powder was ₹60.67 and the net return is ₹89.33, values added per kg of Machal besan powder was ₹28.25 with a net return of ₹3.15, values added per kg of zeera powder was ₹59.73 giving ₹15.27 as net return of this product. The company do not have much challenges, they can adjust it from time to time but they have some major challenges like the brand imitation, market competition, shortages of electricity, transportation and road problems, etc.
379.	Value Addition in Cashew Nut – A case study of B.R. Industries in Meghalaya	Mr. Albert S. R. Sangma	2020	● The average production of the industry was 1200 kg of finished product per month and the industry consumes around 4800 kg of raw cashew in order to produce 1200 kilogram of processed nuts. The average cost of processing of cashew was approximately ₹1,61,232 per month and the average gross return is ₹7,19,400 per month and the net return per month is ₹1,26,168. Therefore, annual net return of the industry is approximately ₹15,14,016. ● The industry supply 60 percent of processed nuts to Assam and 40 percent was consumed in Meghalaya itself. In Assam it is supplied to Guwahati city and Dhubri while in Meghalaya it is distributed to the local retailer and whole seller of Phulbari, Tura, Shillong, Baghmara and Williamnagar.
380.	A study of Lambu Subu Food and Beverages in	Ms. Dogin Mamung Anjalee	2020	• The kiwis were brought to the processing center after procuring it from the local farmers

	Arunachal Pradesh			for ₹ 100 per kg and also from the owners' own orchard. After the fruit was brought to the processing unit, it was weighed and cleaned for removal of undesirable matters. Then, the processing starts, which involves fermentation, racking, fining, filtration, cold stabilization, bottling, capping, labelling so as to obtain the final product, kiwi wine. • The firm has a gross return of ₹ 37,49,500 per month of kiwi wine with total processing cost of ₹ 12,03,950 per month and Net return was ₹ 13,16,550 .The processing cost of 1 quintal of kiwi wine was ₹ 8889 having returns per quintal of ₹ 74,089 so, the value addition of 1 quintal of kiwi was ₹ 8889. Therefore, in a month 135.4 quintals of kiwis were used for producing approximately 3333 bottles of kiwi wine. The constraints faced by the firm were market competition from the local kiwi wine seller, lack of awareness of the product among people, no variety specific orchard etc.

PH.D. THESIS

Natural Resource Management (NRM)					
S. No.	Title of the thesis	Name of the student	Major subject	Year of completion	Outcome (2-3 lines)
Discipline: Agronomy					
Classification/category: Cropping system (Nutrient management)					
1.	Integrated nutrient management in vegetable pea – maize cropping sequence	Mr. Samborlang K. Waniang	Agronomy	2018	Dual seed inoculation of vegetable pea+FYM@5tha^{-1} produced high yield of tender green pods, net return and B:c ratio besides leaving more residual N to succeeding maize during both the years. Furrow application of 0.5t ha-1 lime with all three RDF levels has a positive impact on soil properties measured as reduction in AL toxicity, increase in soil pH, population and activities of soil microorganisms and enhanced availability of N,P,K and Ca in soil
2.	Estimation of Plant Biomass and Agronomic Management in *Jhum* Cycle of North East India	Hari Charan Kalita	Agronomy	2015	Burning and mulching had differential influence on weed diversity in *Jhum* ecosystem. Fallow cycle of 10 years optimized the yield under mixed and relay crop
3.	Seed Priming of	Yanglem Sofia	Agronomy	2017	Seed invigoration technique has increased the

	Pea (*Piscum sativum L.*) and Residual Soil Moisture Conservation in Rice (*Oryza sativa L.*) Fallow	Devi			agrophisiological responses of pea under abiotic stresses and normal condition. H_2O_2 is the cheapest source of seed invigoration after hydropriming.
4.	Evaluation of Urine as an Alternative Fertilizer Source for Crop Production in North East India	Sanjebam Dayananda Singh	Agronomy	2017	Urine is the potential alternative source of plant nutrients. It can save 50-75% of non renewable inorganic and organic source of plant nutrient resources.
5.	Assessment of Weed Diversity and its Impact on Crop-Weed Interaction in Upland Rice-Rapeseed Cropping System under Residue Mulch	Mr. Premaradhya. N	Agronomy	2021	• To prevent 5% yield loss the critical periods in both the years (2016 and 2017) of study were 16 – 66 and 15 – 63 DAS; whereas, with 10% relative yield loss the critical periods were 23 – 62 and 21 – 61, respectively • Spatial analysis of the evenness of the weed species community permits identification of field areas with a strong dominance of weed flora from one or several invasive weeds and, accordingly, the present analysis would be useful in Optimum weed management practices in upland rice along with appropriate residue management practices followed by adoption of no till in succeeding winter crop toria is a recommendable option for enhancing energy use efficiency and economic returns in the NER of eastern Himalayas, India
6.	"Development of Critical Nitrogen Dilution Curve and Simulatingits Effects on Rice-Rice System under Climate Change"	Mr. Chandrabhan Bharti	Agronomy	2022	• Nitrogen dilution curve based on plant dry matter for rice are kharif rice Nc = 3.18 $PDM^{-0.91}$ and boro rice Nc = 5.80$PDM^{-0.84}$), it can be used for nitrogen scheduling. 150 kg N ha^{-1}may be applied in 3 split application (50% as basal + 25% at45 DAT and 25% at 60 DAT as top dressing) produced higher rice yield
7.	"Studies on the suitability of potato in rice fallowsunder valley land of Meghalaya"	Mr. Ganesh Narayan Gurjar	Agronomy	2022	• Sowing of potato crop on 5th November was responded significant in terms of higherthermal response and tuber yield as well as higher monetary returns in rice-potato system. Application of straw mulches not only increased the crop productivity but alsoenhanced in the conservation of natural resources through improve in soil chemical and biological properties with reduced water losses.

Discipline: Soil Science and Agricultural Chemistry					
8.	Effect of amelioration practices on soil productivity of coal mine affected lowland fields	Markynti.S. Lyngdoh	Soil Science and Agricultural Chemistry	2020	1. The coal mine affected soils are categorised to two such as moderately pH (4.40) (i.e. Moonlakhepand) and low pH (3.36) (i.e. Ladrymbai). 2. The identified best treatment in such both the soil is: Compost @10t/ha+ Lime @ 500kg/ha+ microbial consortium.
9.	Soil organic carbon mapping and carbon sequestration of hill agro-ecosystems of Ri-Bhoi district	Kabir Debbarma	Soil Science and Agricultural Chemistry	2020	➢ Rabi crop is dominant in 0-1% slope with 536.54 ha, kharif crop in 1-3% slope with 1217.85 ha, Jhuming activity dominant from 8-30% slope with 7040.12-89.46.28 ha and forest cover 6664.92 ha with minor agricultural activity in slope 30% and above. ➢ The ordinary kriging exponential was the best model for the spatial soil org. Carbon mapping. ➢ The soil organic carbon stock was found in the following order as forest (39.48 Mg/ha/year)> current jhum (38.58 Mg/ha/year)> >rabi(37.79 Mg/ha/year)> abandoned jhum(37.46 Mg/ha/year)> kharif (37.11 Mg/ha/year)>both season (36.20 Mg/ha/year). ➢ The carbon sequestration was in the following order as the rabi crop (11.98 Mg/ha/year) > cropping both kharif-rabi season (6.10 Mg/ha/year)> abandoned jhum (5.08 Mg/ha/ year)> kharif (3.55 Mg/ha/ year).
10.	Hyperspectral spectroscopic study of soil properties in acid soils of North-East India	Mr. Chandan Goswami	Soil Science and Agricultural Chemistry	2020	(i) The highest and lowest reflectance values were recorded in soils of kharif crop (0.10 to 0.62) and deciduous forest (0.09 to 0.49) in Alfisols, evergreen forest (0.10 to 0.62) and current jhum (0.09 to 0.51) in Inceptisols, and double crop (0.09 to 0.62) and deciduous forest (0.09 to 0.54) in Ultisols. (ii) The suitable wavelengths (bands) were identified for pH (400 to 657 nm, 1388 to 1417 nm & 2149 to 2321 nm), Org. C (504 to 661 nm, 1905 to 1953 nm & 2143 to 2390 nm), N (495 to 781 nm, 1395 to 1421 nm, 1901 to 1949 nm & 2149 to 2316 nm), P_2O_5 (531 to 654 nm, 1384 to 1419 nm, 1900 to 1982 nm & 2145 to 2364 nm), K_2O (400 to 576 nm & 2145 to 2305 nm), Zn (400 to 576 nm, 734 to 854 nm & 2147 to 2297 nm),

					sand (481 to 671 nm, 1379 to 1417 nm, 1828 to 1930 nm & 2148 to 2296 nm), silt (446 to 678 nm, 1357 to 1418 nm, 1881 to 1924 nm & 2156 to 2293 nm) and clay (446 to 678 nm, 1357 to 1418 nm, 1881 to 1924 nm & 2156 to 2293 nm).
11.	Phytoremediation of Heavy Metal Polluted Soils of Coal Mine Areas of Jaintia Hills and Determination of Critical Limit of Prosphorus for Maize (*Zea mays* L.)	Euwanrida Adleen Shylla Lyngdoh	Soil Science and Agrilcultural Chemistry	2019	Sunflower is adjudged as superior phytoremediating crop in comparison to Asparagus for accumulating more heavy metals form coal mined heavy metals polluted soil. Critical limits of available P for getting maximum/optimum production of maize from heavy metal polluted soils of coal mined areas were established as 21.90 mg/kg for sunflower remediated soil, whereas 27.00 mg/kg for asparagus remediated soil.

Ph.D. Theses

Sl. No.	Title of the thesis	Name of the student	Major subject	Year of passing	Outcome
1. Rice					
DISCIPLINE GENETICS AND PLANT BREEDING					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
12.	Crossability Embryo rescue and genetic diversity studies in Oryza	Mr. TalomDabi	GPB	2019	Crossability and pollen studies revealed CAUR1 X Shasharang as the best combination among the intervarietal crosses. Among wide crosses, *Pathara* X *Oryza rufipogon* was the best. Genetic diversity study of 43 genotypes using 31 SSRs revealed a total of 113 alleles.
CLASSIFICATION/CATEGORY: ABIOTIC STRESS TOLERANCE					
13.	Marker assisted selection of transgressive segregants for high yield under acidic soil conditions	Mr. Shiva Kumar K	GPB	2017	Marker assisted selection for transgressive segregants derived from two different crosses in rice carrying favourable alleles for P deficiency and submergence tolerance under acidic low land soils has yielded high yielding F_4 progenies homozygous for Sub1 locus and showing submergence tolerance phenotype. Also high yielding F_4 progenies homozygous for PUP1 locus and showing P deficiency tolerance phenotype were identified based on field and hydroponic evaluation.
CLASSIFICATION/CATEGORY: BIOTIC STRESS TOLERANCE					
14.	Genetic Analysis of Leaf and Neck Blast Resistance in Rice	Mr. Ashim Debnath	GPB	2018	Genes/loci *Pi54* , *Pi2*, *Pib*, *Pi2/9* locus, *Pi5*, *Pb1/q*Pbm locus and *Pi20(t)* were associatedwith leaf blast resistance in rice under mid-hill conditions. Genes *Pi5* and *Pi54* were found to be associated with leaf blast resistance in both, natural population and biparental F_2 population. *Pib*and*qPbm* showed some degree of association with neck blast resistance in natural population. The study indicates that leaf

					and neck blast resistance is primarily governed by dominant alleles of multiple genes that interact with each other to impart resistance.
DISCIPLINE: PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY (PMB)					
CLASSIFICATION/CATEGORY:MOLECULAR MAPPING					
15.	Identification of novel alleles for acidity tolerance in rice	Ms. Julia S Yumnam	PMB	2015	Rice seedlings screened under low P condition for 15 and 25 days revealed LR 23 and LR 26 as tolerant genotypes. Genotypes like UR 5 and UR 29 were identified as tolerant when screened under 0.54 mM of Al^{3+} for 5 days based on basis of percentage increase in root and shoot biomass. Pot experiment conducted for 25 days for aluminium toxicity tolerance (0.54 mM of Al^{3+}) led to identification of LR 39, LR 56 and LR 13 as tolerant genotypes. Field screening for P deficiency and iron toxicity tolerance identified LR 11, LR 15, LR 18 and LR 26 were tolerant to iron toxicity conditions. Novel alleles for genes reported for low P, aluminium and iron toxicity tolerance identified from NE rice germplasm.
16.	Understanding molecular biology of acidity tolerance in rice: A case study of phosphorus deficiency and iron toxicity tolerance in Shahsarang	Mr. Sudip Das	PMB	2016	Genes reported for iron deficiency tolerance can be potential targets for enhancing rice production under P deficiency and iron toxicity field conditions.Maintaining Fe homeostasis under Fe toxicity and P deficiency conditions could be vital to better performance under poor soil conditions.
17.	Molecular mapping for low light intensity tolerance in rice	Mr. Suvendhu Sekhar Dutta	PMB	2017	Key traits affected by low light intensity identified as Panicles per plant, Harvest index, Spikelet fertility, grain yield. Tolerant genotypes for low light intensity identified: Megha rice 1, Mahisugandh, Danteshwari, Pusa Sugandh 5. Five HvSSR markers associated with low light intensity tolerance identified.
18.	Role of *Oryza sativa* G2-like transcription factor family in low P tolerance in acidic soil adapted rice genotypes	Mr. Karma Landup Bhutia	PMB	2019	New members of G2-like transcription factors identified for role in low P tolerance. Chromosome 2 of rice identified as a novel region imparting higher yield under lowland acidic soils.
2. Maize					
DISCIPLINE GENETICS AND PLANT BREEDING					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
19.	Divergence and Combining Ability	Mr. Naveen Kumar	GPB	2019	A total of 111 lines developed from seven different landraces employing full sib-mating

	Studies in a Set of Inbreds Developed from Maize Landraces of North Eastern Hill (NEH)				from generations one to four and selfing in generations five and six respectively were studied for heterotic grouping. Model and distance-based clustering approaches combined with the presence of phenotypic variability in the lines for yield traits followed by a preliminary partial diallel analysis indicated the existence of distinct heterotic groups for landraces of North East India.
1. Others					
DISCIPLINE GENETICS AND PLANT BREEDING					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
20.	Evaluation of lentil (*Lens culinaris* ssp. *CulinarisMedikus*) germplasm under low-input acidic soil conditions of North East India	Mr. Sapam Rajesh Kumar Singh	GPB	2017	A set of 150 evaluated under upland acidic conditions and crossing between contrasting genotypes attempted. IPL-325, PL-04, LRIC 560812, IPL-322, PL-117, SKUAL-2-96, PL-4 and PL-101 were found to be performing best under the conditions with respect to pod yield, root and shoot biomass.
DISCIPLINE: PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY (PMB)					
CLASSIFICATION/CATEGORY: GERMPLASM CHARACTERIZATION AND EVALUATION					
21.	Crossability, embryo rescue and genetic diversity studies using molecular markers in cultivated soybean and its wild relatives	Mr. Billy Cherian	PMB	2019	Genetic diversity revealed two distinct clusters. Polymorphic information value ranged from 0.3119-0.6836. *Glycine soja*was successfully crossed with Bargg, Kalitur and Alankar and hybridity proved with marker Satt396.
CLASSIFICATION/CATEGORY:MOLECULAR MAPPING					
22.	Isolation and characterization of tissue-specific promoter from pigeon pea	Mr. Satish Kumar Verma	PMB	2017	Two transcripts, 00220 and 11572 were identified as seed specific pigeon pea transcripts. While 00220 belongs to MADS transcription family, 11572 belongs to TALE transcription family. TAIL PCR approach led to identification of 228 bp 5' UTR (untranslated region) of 00220 transcript. Upon sequencing of final tertiary PCR product and subsequent analysed using PlantCARE database revealed presence of different motifs such as ARE motif, three CAAT-box, G-box, GT1-box, two Skn-1, three TATA-box and three unnamed motifs 1, 3 and 4.
YEAR JANUARY 2020- MAY 2022					
23.	Genetic Analysis of Grain Characteristics and Blast Resistance in Biparental Crosses Involving Coloured Rice of North-Eastern Region (NER)	Ms. Bharati Lap	Genetics and Plant Breeding	2021	Transgressive segregants that had better yiel than the parents and with good quality traits of aroma, colour and blast resistance identified were ULRC46-326(4), ULRC43-67(2), ULRC43-546(1), ULRC48-379(2), ULRC43-316(1), ULRC34-202(2)-1, ULRC34-242(4)-2,

					ULRC34-87(3)-5 AND ULRC34-195(4)-2. The study found evidences for existence of novel alleles for reported genes and novel loci for grain colour that can be elucidated through fine mapping and allele specific sequencing.
24.	Genetic Analysis and Marker Trait Association for Powdery Mildew Resistance in Mutagenized and Biparental Population of Pea (*Pisum sativum* L.)	Ms. Reginah Pheirim	Genetics and Plant Breeding	2022	Mutant line M-144 was identified as promising line having both high seed yield and moderately resistant to powdery mildew. Among biparental population, MP-5-2 and MP-119-2 were identified as promising genotypes having superior performance with the combination of desirable characters viz., dwarf and powdery mildew resistance from both the parents. A5 markers was validated for use in identification and selection of powdery mildew resistance.
Ph.D. (PLANT PATHOLOGY)					
25.	Management of *Penicillium* Rot of Khasi Mandarin (*Citrus 268 eticulate* Blanco) by Using Native *Bacillus subtilis* Isolates.	Ms. Janshame Tariang	Plant Pathology	2019	• In Khasi Mandarin, post-harvest application of *Bacillus subtilis* as liquid formulation by immersing the fruit before storage and sending for sale to market was found the most effective one with minimum *Pennicillium* rot incidence even after 30 days of storage. The two *Bacillus subtilis* strains *viz*., Bs 167 and COB5Y1 were identified as potential bio-agents, against post-harvest disease *Penicillium* rot of Khasi Mandarin.
26.	Bio-efficacy of *Trichoderma* Formulation Against Damping-off Caused by *Pythium* spp. and *Rhizoctonia solani* Kuhn. on Tomato (*Solanum lycopersicum*).	Ms. Markidahun Biam	-do-	2019	• *Trichoderma hamatum* and *T. harzianum* were identified as the dominant *Trichoderma* species associated with different habitats in Meghalaya. The *Trichoderma* isolates viz., TR55, TR66, TR122 and TR136 were found potential isolates against the damping-off caused by *Pythium* spp. and *Rhizoctonia solani* in Tomato.
27.	Characterization of Arbuscular Mycorrhizal Fungi and Endophytic *Bacillus* in Tomato Roots and their Antagonism	Ms. Nongthombam Olivia Devi	Plant Pathology	2021	• A total of 41 AMF species were recovered and identified from the 20 sampling sites from field soil. All the 41 AMF species isolated from field soil

	against *Fusarium* Wilt				were also recovered from trap culture inoculum along with an additional 6 species from trap culture soil. The result gives first image of tomato rhizospheric soils of Meghalaya to have good number of AMF species which can later be used as a consortium or single species to improve plant physiology, biodiversity of soil and overall productivity of tomato plants. •
28.	Management of Rhizome Rot of Ginger (*Zingiber officinale* Rosc.) in Meghalaya	Mr. Maaragaani S. V. Satyanarayana	Plant Pathology	2021	• The causal agents of the disease were identified as *Fusarium oxysporum* f. sp. *zingiberi* (Foz) and *Fusarium solani* • Diverse rhizospheric microflora belongs to genus *Acidovorax* spp, *Azohydromonas* spp, *Bacillus* spp, *Pantoea* spp, *Acremonium* spp, *Penicillum* spp, *Trichoderma* spp. were found habituated with ginger in this region • Soil amendment with organic manures such as neem cake @250kg/ha or mustard cake @100 kg/ha either with pre sowing treatment of rhizomes with hot water @50o C for 30 minutes or with T. neotropicale @5kg/ha were found effective, and the technology developed in the present study would serve as an economically feasible and effective integrated strategy for the management of rhizome rot of ginger.
29.	Evaluation of Biocontrol Potential of *Beauveria bassiana* (Balsamo) Vuillemin Against Major Rice Pathogens	Ms. Lipa Deb	Plant Pathology	2021	• *Beauveria bassiana* isolates *viz.,* Bb4, Bb16, Bb25, Bb44 and Bb53 were identified as potential plant disease antagonists against major phytopathogens of rice *viz., Rhizoctonia solani, Bipolaris oryzae, Pyricularia oryzae* and *Xanthomonas oryzae* pv. *oryzae*. • *B. bassiana* isolates *viz.,* Bb4, Bb16 and Bb44 were successfully established as an endophyte of rice. •

30.	Investigation on Grey Leaf Blight Disease of Mango (*Mangifera indica* L.) in North East India	Mr. Tanmoy Das	Plant Pathology	2021	• Field surveys conducted in 2017 against GLB, Out of 180 locations of North-East Indiam, 158 locations showed occurrence of the disease with a maximum GLB incidence of 64.21 per cent in Tripura. • Among biocontrol agents *P. fluorescens* exhibited a highest per cent mycelial growth inhibition of 87.16 • Bi-seasonal field experiments against GLB, revealed that carbendazim 12%+mancozeb 63% @0.2 per cent recorded the highest disease control (82.85 %).

Sl. No.	Thesis Tittles	Name of the students	Year of completion	Out comes (2-3 lines)
DISCIPLINE: AGRICULTURAL EXTENSION				
31.	A micro-level study on dimensions of emerging livelihood pattern of rural tribal youth in Tripura	Ms.Suchiradipta Bhattacharjee	2016	• Majority of resource poor youths are engaged in low0return remunerative sectors of occupation. • Size of land holding and asset endowment are important factors influencing occupational diversity • No significant gender differences in socio-economic and socio-personal characteristics of youth • Major constraints identified were low risk bearing ability, absence of veterinary facilities, turn-off of agricultural sector to be non-remunerative one, inadequate vocational training, reduced mobility and migration to cities.
32.	A study on impact assessment of the employment and livelihood linked programmes in Manipur	Ms. Khumukchan Stina	2016	• For MGNREGA, though the demand for work was found increasing and the fund utilisation high, the percentage of work completed was low. The number of person days generated was also low • No significant change was observed in income level of the beneficiaries after MGNREGA, however, SGSY have contributed a significant increase in income of the respondents by 39.64%. • Non availability of 100 days of work, late payment of wages, under payment of wages, non availability of tools and worksite facilities etc were the constraints perceived by the beneficiaries under MGNREGA. Constraints as per the beneficiaries under SGSY were complicated process in getting credit, long time period in getting credit, benefits of the program not read to the needed people etc.
33.	Jhumias of	Ms. Punitha P	2017	• Analysis of livelihood diversification revealed that

	Manipur in North-Eastern India: A Livelihood Analysis			majority (60%) of respondents in Watershed Development Project in Shifting Cultivation Area (WDPSCA) found to exhibit low level of livelihood diversification, where as in Non-WDPSCA majority (49.37%) of respondents found to exhibit medium level of livelihood diversification. • ***Jhum*** income contributes the highest to the total farm income both in watershed Development project in shifting cultivation (WDPSCA) and Non-WDPSCA**.** The banana crop contributes the highest source of fruits income with an average income of Rs.37227 in Tamenglong district. • Lack of market access was the foremost infrastructural constraint expressed by the respondents of WDPSCA and Non-WDPSCA. Primary livelihood activities not leaving enough time to pursue diversification strategies followed by inadequate experience in expected livelihood activity and lack of role model entrepreneur in my village were the social constraints expressed in Non-WDPSCA. • The promotion of location specific livestock activities combined with common market place for cluster of villages and agri-business activities Banana fibre extraction in Tamenglong district for Jhumias need to be promoted by state government.
34.	Social Networks of Agricultural Stakeholders on Climate- Smart Agriculture in Meghalaya: A structural equation Modelling	Alethea Dympep	2018	• On estimating a structural equation model of the standardized parameters *viz.,* 'CSA Performance', 'Maladaptation, Risk perception of Climate Change', 'Perceived Adaptive Capacity' and 'Subjective Norms' through Confirmatory Factor Analysis, the study revealed that the exogenous variable 'Risk perception of Climate Change' was positively influencing the endogenous variable 'Maladaptation' at 5% level of significance. While the exogenous variables *viz.,* 'Perceived Adaptive Capacity' and 'Subjective norms' were positively influencing endogenous variable 'CSA Performance' at 1% and 5% level of significance, respectively. • The most prioritized constraints expressed by the farmers was the lack of support from government on adapting the CSA practices.
35.	Livelihood Security of Farmers in	Ms. DeepaThangjam	2019	• From the result of the present study, it could be

	Meghalaya under Tribal Sub-Plan: A Result-Based Evaluation			concluded that the performance of TSP has some impact on securing the livelihood and in empowering the respondents. • The findings showed that overall crop diseases and pest infestation ranked the most serious problems followed by cost and timely availability of inputs, marketing problems, climate risk and uncertainty, limited availability of skill training, livestock management, and post-harvest management. The result provides an opportunity for the existing program to consider and intervene towards the most important issue faced by the farmers in the region. This not only serves importance to existing program but also provides a background for policymakers for future interventions. The prime focus on the most need-based issue will help policymakers while introducing any kind of agriculture and rural development program/project.
36.	Implication of mobile phone Applications in Farming by Tribal Rural Youth of Meghalaya	Mr. TermaricOinam	2019	• For 'Mobile Phone Service Reliability' it could be reported that more than half of the respondents (67.08 per cent) had expressed medium level of mobile phone service reliability, followed by 18.75 per cent who opined that mobile phone services are highly reliable and only 14.17 per cent of the respondents expressed there is low mobile phone service reliability. 12. As far as 'Money Spent on Mobile Phone Monthly' is concerned it was known that more than half of the respondents (55.42 per cent) had medium level of money spent monthly (Rs. 101 - 200) on mobile phone applications and a quarter of the respondents (25.00 per cent) had high (Rs. 200 and above) money spent on mobile phone applications and only 19.58 per cent of the respondents had low level (less than Rs. 100) of money spent on mobile phone applications.
37.	Organisational Climate and performance of Krishi Vigyan Kendras in Meghalaya	Mr. Sao EvalwellDkhar	2019	• To study the aspects of organisational climate as perceived by employees of the KVKs. • To measure the organisational performance of different KVKs over the years. • To study the clienteles' satisfaction regarding services of the KVKs. • To gather suggestions for improving the services and outputs of the KVKs.

38.	Understanding the technological information Network in diffusion of Improved Rice varieties in Manipur	Ms. Jyothi SSP.	2019	• To identify the key stakeholders in the diffusion of CAU Rice varieties and understand their role and interrelationships • To map the social networks of rice farmers and determine their degree of participation in disseminating CAU Rice varieties among the peer groups • To study the effect of network variables on the innovation adoption-diffusion process of the farmers • To identify the constraints faced by the stakeholders for effective linkages and farmers in accessing technology through their social networks and suggest suitable policy measures
39.	Social Simulation on Assimilation of Climate Smart Agricultural Practices in North Eastern Hill Region of India	Ms. M. Victoria Devi	2020	• In the study a total of thirty eight (38) CSA Practices which was suitable for the farmers of the selected Climate Change vulnerable districts in the three states had been identified. The identified CSA Practices were further categorized into six domains as: (1) Nutrient Smart CSA Practices, (2) Water Smart CSA Practices, (3) Soil Smart CSA Practices, (4) Carbon Smart CSA Practices, (5) Energy Smart CSA Practices, and (6) Knowledge Smart CSA Practices were established. The study could endeavour to identify the CSA Practices by interpolating the scores with respect to three pillars of CSA *viz.*, Adaptation, Mitigation and Food Security as identified by FAO, 2010. • As the Assimilation Gap of CSA Practices by farmers at present is alarmingly very high regardless of the availability on basket of potential CSA Practices. The barriers faced by extension specialists and farmers need to be examined and dealt seriously at ground level so that the hurdles are overcome by way of tripartite participation of (1) Scientific personnel of agriculture and allied disciplines, (2) Farming community, and (3) Decision makers who are in politics and executive bureaucrats of the respective state in particular and NEH region in general.
40.	Modeling e-learning for Climate-Smart Horticulture on High Value Horticultural Crops of Arunachal Pradesh: A Quasi-	Bai Koyu	2020	• In the study, there was a high extent of application of e-learning. • Asynchronous e-learning module on climate smart horticulture imparts significant increase in knowledge level of farmers. • E-learning Self-Efficacy, Perceived Ease of Use and Facilitating Condition are themost important attributes for the e-learning module to have significant influence

	Experimental Approach.			onBehavioural Intention to Use.
41.	Role Performance of Village Councils in Implementation of Rural Development Programmes in Meghalaya	Mr. Ereneus K. Marbaniang	2022	• Majority of the village councillors had medium knowledge level about MGNREGA, PDS and ICDS programmes, respectively and similarly majority of them had medium participation level. • • Role perception index of VCs and SBs for MGNREGA was 79.29% & 90.40%, whereas it was 87.84% & 84.78% for PDS ,75.23% & 80.58% for ICDS, respectively. • • iii) Role performance index as perceived by the village councillors and scheme beneficiaries of MGNREGA was 80.79% & 65.01%, whereas it was 83.86% & 63.91% for PDS, 85.11% & 68.68% for ICDS, respectively with majority of them falls under medium level category of role performance for all the three programmes
DISCIPLINE: AGRICULTURAL ECONOMICS				
42.	Economic analysis of pineapple in Manipur	Mr. Ningombam Anandkumar Singh	2016	• The growth of area, production and productivity for pineapple crops in the two regions *i.e.*, valley and hill region and as well as Manipur state as a whole were increased over the year and significantly positive. • The value of instability index was found to be positive of area, production and productivity for pineapple crop in both the regions and as well as Manipur state as a whole which means that there was no stable growth but less riskiness for growing pineapple. • The cultivation of pineapple was found to be profitable both the season, but it was more profitable in summer compared to the winter season
43.	An Empirical Study on Economics of Rice Production in Tripura	Mr. Pallab Debnath	2016	• The cultivation of rice in Tripura was observed to be quite profitable. • The net returns were comparatively higher in small category than the marginal category. • Among the factors of rice production, human labour, fertilizer and agrochemical had significantly positive effect on rice production in the state. Some of the production inputs, *viz.*, human labour and fertilizer should be increased while machine labour, seed, irrigation, manure and agrochemical should be decreased in Tripura in-order to make the resources allocatively efficient.
44.	Sustainable of rice farming in Manipur	Ms. L. Geetarani Devi	2016	• the sustainability of agriculture in Manipur. She

	: An Economic analysis			reported that Imphal West is the most sustainable district in the state. The hill districts were ecologically more sustainable whereas economically the valley districts were better. She concluded there is a trade-off between ecological and economical sustainability. Farm level sustainability revealed that the majority of the farms in the study area were moderately sustainable. She recommended afforestation, organic farming as measure to improve sustainability of the farms.
45.	Adaptation to climate Change: An economic study of cereal crops in Eastern Himalaya	Ms. Dayohimi Rymbai	2016	• The magnitude of annual rainfall is declining in Manipur and Sikkim and has been erratic in nature. Maximum temperature has increased significantly in case of Manipur and minimum temperature has increased significantly in Sikkim. • The strategies adopted were limited, traditional and location specific which were adopted to specifically tackle the change in time of arrival in rainfall, whereas, no strategy was related with the change in temperature. The main adaptation strategies taken by the farmers are the change in transplanting time (Strategy 1) and the change in transplanting and harvesting time (Strategy 2). • The cost of rice cultivation has increased by `8505.63/ha and `6374.29/ha for Strategy 1 and Strategy 2, respectively during drought period. The net benefits realized was `1329.30/ha and `1568.67/ha in case of Strategy 1 and Strategy 2, respectively.
46.	Crop diversification and its impact on farming households of Manipur: A micro level study	Ms. Monika Aheibam,	2017	• The category-wise analysis of crop diversification at household level shows that 65 per cent of the marginal farms had high level of crop diversification followed by medium (19.61%); low (13.73%) and only about 2 per cent of very high level of crop diversification. • Overall, the category-wise analysis of level of crop diversification shows that in case of marginal farmers; about 54 per cent of the households had high level followed by low level (26.92%); medium level (17.95%) and very high level (1.28%). • The study found that the socio-economic factors which influence households' decision to diversify crop was farm size whereas, tools and machineries, fertilizer, availability of HYV or improved seeds, irrigation facility, exposure to farming information, training and market distance from homestead area were the technological and institutional factors which influence households' decision to diversify crop by the households in Thoubal district.

47.	Economics of solar powered pumping system in major crops of Rajasthan: a comparative study"	Mr. Narendr Kumar Meena	2019	• The establishment cost was estimated to be highest on solar irrigation system (without subsidy) followed by electric, solar (with subsidy) and diesel system of irrigation due to high initial investment on installation of solar system without subsidy compare to other irrigation systems. • Per hectare operational cost and cost of cultivation of kinnow farm with solar irrigation (with subsidy) was calculated to be least comparative to other irrigation systems. • The kinnow cultivation under all the irrigation systems was proved to be cost-effective and feasible and viable economically in the study area.
48.	Vulnerability and Adaptation to Climate Change: A Study of Rice Farms in Manipur	Ms. Nivetina laitonjam	2019	• There was significant increasing trend in maximum and minimum temperature in the study area during 1975-2013. • The 3-months, 6-months and 12-months SPI showed that there were occurrences of extreme climatic variability like extreme wet, very wet, moderate wet and extreme dry, very dry and moderate dry condition in the study area. • Although a hill district, Churachandpur district was categorized under low vulnerability due to low exposure and sensitivity while, Imphal East district was categorized high vulnerability due to high exposure and sensitivity to climatic variability.
49.	Livelihood Security through Organic Farming in North East Hill Region of India: An Economic Analysis	Ms. Singyala chiphang	2020	• Organic farming is economically more profitable as it has cost saving benefits in several aspects and also increases the gross income of the farmers as organic produce fetches more prices in the markets. • Majority of the respondents irrespective of the organic adopters (40.67%) and non-adopters (40%) were having moderate level of livelihood security. Organic adopters were found to be higher reflecting the direct impact of adoption of organic method for cultivation of different crops. • For the non-adopters, household size, total farm income, land holding and access to market were the significant factors influencing their livelihood security.
50.	Food and Nutritional Security at Farm Household Level in Meghalaya: Impact of Government	Mr. Baiarbor Nongbri	2020	• There were mainly two main sources for food availability across households in the state of Meghalaya *viz*., own farm production and market sources. PDS system was the other main sources for rice availability. • It was estimated that there was a gap or deficit in terms of food supply in the state. Thus, self sufficiency of

	Schemes			food across the state was still a challenged whereby, epitomised that the state still depends on other states for food imports. Considering the food basket, there was a huge gap in the calorie intake across various food items and rice was still the main staple food contributing the maximum calorie intake.

PUBLISHED: June 2022

COMPILED & EDITED BY:

Dr. Y. Ranjana Devi
Deputy Director of Instruction

Dr. S. Basanta Singh
Director of Instruction

CENTRAL AGRICULTURAL UNIVERSITY
Lamphelpat, Imphal, Manipur-795004
Website: www.cau.ac.in
E.mail: di.office@yahoo.com