

Entomology Division

Proposed Research Programme 2019-2020

Sl No.	ProgramArea / Project (Duration)	Major Objective (s)	Budget (lakh Tk.)
1	Project: Pest monitoring in BRRI farm. Duration: Long term	To study the insect pests and their natural enemy incidence at BRRI farm and to create a database to develop a forecasting system.	1.5
2	Project: Insect pests and natural enemy in light trap. Duration: Long term	To study the pest and their natural enemy incidence patterns in rice fields and to create a database to develop a forecasting system.	1.5
3	Project: Survey of rice insect pests in selected AEZ's of Bangladesh. Duration: Long term	To find the incidence patterns of major insect pests and their natural enemies in different Agro-ecological zones (AEZs) to examine the relationship between biotic and abiotic factors on their abundance.	2.0
4	Project: Development of bioclimatic models to forecast the dynamics of rice insect pests. Duration: Mid term	To develop, validate, demonstrate and assist rice growers to adopt an integrated system for the management of rice insect pests.	2.0
5	Project: Impact of lighting period on the trapping of insect. Duration: Short term	To find out effective lighting period for maximum insect trapping. To find out suitable insect catching time. To reduce the trapping of natural enemies.	1.0
6	Project: Response of insect pests to elevated salinity in soil and aquatic condition. Duration: Mid term	To know the effects of salinity on insect pests incidence of rice plant.	2.0
7	Project: Behavioral adaptation of RLR against global warming. Duration: Mid term	To identify the effects of temperature elevation on life cycle of rice leaf roller.	2.0
8	Project: Species composition of stem borer in Rajshahi region Duration: Midterm	To identify the stem borer species in the selected Rajshahi region.	1.0
9	Project: Conservation of natural enemies through ecological engineering approaches. Duration: Midterm	To conserve natural enemies through ecological engineering approaches.	2.0
10	Project: Study on entomogenous fungi to control BPH. Duration: Mid term	To isolate the fungi from naturally infected insects. To explore suitable media for mass production of the entomogenous fungi	2.0

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		and its use in BPH management.	
11	Project: Effect of deadheart and whitehead on grain yield of BRRI rice varieties. Duration:Midterm	To determine the compensation abilities of different rice varieties against yellow stem borer damage. To know the relationship between YSB damage and yield loss.	1.5
12	Project: Test of different insecticides against major insect pests. Duration: Long term	To evaluate the effectiveness of commercial formulations of different insecticides against major insect pests of rice.	3.0
13	Project: Effect of selected botanicals (neem and mahogany etc.) on major rice pests. Duration: Mid term	To identify effectiveness of eco-friendly plant materials (mahogany and neem) against major rice insect pests (SB, RLR and BPH).	1.0
14	Project: Fumigation action of botanical oils against rice stored grain insects. Duration: Mid term	To find out the effective plant-derived insecticidal compounds against stored grain pests.	1.5
15	Project: Test of insecticides against major stored grain pests of rice. Duration: Mid term	To evaluate the effectiveness of commercial formulations of different insecticides against major stored grain pests of rice.	2.0
16	Project: Use of nanoparticle for controlling rice insect pests Duration: Mid term	To develop nano-particle based pest management in rice To reduce chemical pesticide load in environment.	3.0
17	Project: Analysis of insecticide residues in rice. Duration:Long term	Detection of insecticide residues in rice grain, straw, bran oil, husk and soil Assess the human health and ecological risk to pesticide use in rice field.	1.0
18	Project: Effect of insecticides on natural enemies of rice insect pests Duration: Mid term	To identify relatively safer insecticides for IPM program.	1.0
19	Project: Effect of selected insecticide for stem borer management Duration: Mid term	To find out effective insecticide for stem borer management.	1.0
20	Project: Screening of rice germplasm, advance line against major insect pests. Duration:Long term	To identify resistant rice germplasm against major insect pests.	4.0
21	Project: Hybridization for	To develop BPH resistant advance	5.0

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	the development of planthopper resistant rice variety. Duration: Long term	breeding lines.	
22	Project: Identification of BPH resistant sources from local germplasm. Duration:Mid term	To identify BPH resistant germplasm. To characterize BPH resistant germplasms using BPH resistant linked markers.	4.0
23	Project: Suppression of serotonin synthesis in rice using CRISPR Cas9 for insect control Duration:Mid term	To develop insect resistant advance breeding lines. To reduce the use of insecticides.	5.0
24	Project: Pheno-genomic studies of BPH & Gall midge resistance donor and advance breeding lines of rice Duration:Mid term	To estimate both molecular and morphological variation among the genotypes resistance to BPH & Gall midge.	3.0
25	Project: Identification of novel genetic sources of local germplasms related to WBPH resistance Duration: Mid term	To find resistance sources of rice germplasms under green house conditions.	1.0
26	Project: Use of solar light trap for insect pests management in crop field. Duration: Short term	To test the efficacy of BRRI solar light trap for insect pest management in rice and vegetable fields.	3.0
27	Project: Use of sex pheromone to control rice leafroller, <i>C. medinalis</i> . Duration:Short term	To test the efficacy of sex pheromone against rice leafroller in rice field To control rice leaf roller without insecticide.	1.0
28	Project: 7.3 Strengthening of environmentally sound insect pest management for enhancing rice yield Duration: Short term	To procure modern equipments for advanced research on insect pest management Reducing insecticide use in rice field To reconstruct green hose of entomology division To develop model for forecasting insect pest outbreaks in rice field To identify brown planthopper resistance local genotypes and genes	580.25
29	Project: Ecologically based management of rats in rice field	To control rats in rice field To measure the impact of ecologically based rodent management practices on rat	2.0

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	Duration: Midterm	abundance, costs of management actions, damage to crops, and yield of crops.	