Agronomy Division

Research Program, 2020-2021

Sl. No.	Title	Objective (s)	Annual Budget (Lac Tk)
01. Seeds and Seedlings			
1.1	Alleviation of salt stress in rice by exogenous phytoprotectants: regulation of Na^+/K^+ homeostasis and oxidative metabolism	1. To identify the effective phytoprotectant in mitigating salt stress of rice 2. To explore the effect of exogenous phytoprotectants on plant phenotype under salt stress 3. To assess the regulatory mechanisms of phytoprotectants in alleviating salt stress	6.00
2. Planting Practices			
2.1	Enhancing rice yield by optimizing planting time of newly released transplanted Aman varieties	1. To determine the effect of variable planting time on the phenology, growth and yield of newly released transplanted Aman varieties 2. To find out optimum time of planting for newly released transplanted Aman varieties	3.00
3. Fertilizer Management			
3.1	Application of Nano-Zinc Oxide to Improve Salt Tolerance in Rice	1. To develop an eco-friendly protocol to synthesis Nano-Zinc Oxide 2. To investigate the effect of Nano-Zinc Oxide on growth , yield and mineral status of rice under salinity stress	7.00
3.2	Improving nutrient uptake, nitrogen-use efficiency and yield of rice through application of neem coated urea	1. To determine the nitrogen use efficiency as influenced by neem coated urea compared to prilled urea. 2. To find out the influence of neem coated urea on the grain nutrient (NPK) uptake, growth and yield of transplanted rice.	4.00
3.3	Growth and yield improvement of transplanted Aman rice in Charland ecosystem through integrated nutrient management	To determine an economically suitable fertilizer management option for better growth and yield of rice in Charland ecosystem (combined with Soil Science Division)	4.00
3.4	Mitigation of waterlogging stress in Boro rice through application of plant protectant coupled with balanced fertilization	To determine the effect of combined application of fertilizer and plant protectants on the growth, yield and nutrient uptake of waterlogging Boro rice	5.00

3.5	Nitrogen application to maximize grain yield of shorna type varieties in T. Aman season	1. To find out optimum nitrogen rate for shorna type varieties 2. To find out the influence of nitrogen application on the grain N uptake, growth and yield of shorna type varieties.	4.00
4. Weed Management			
4.1	Residue analysis of widely used herbicides in the irrigated rice	1. To validate of high-performance liquid chromatographic protocol for the determination of herbicide residues 2. To determine the residue of pre and post-emergence herbicides in the irrigation water, soil, rice straw and grain	8.00
4.2	Herbicide Application: Shifts in soil microbial community structure	1. To characterize the herbicide-induced responses of microorganisms in transplanted rice. 2. To evaluate the herbicide-induced tolerance of soil microbes	7.00
5. Yield Maximization			
5.1	Yield Maximization of BRRI developed rice varieties through influencing some Agronomic Critical Factors in different seasons	1. To study the effect of Agronomic most critical factors for yield maximization of newly BRRI developed varieties 2. To find out and recommended the most appropriate Agronomic critical factors packages for yield maximization of newly BRRI developed varieties	10.0
5.2	Maximizing yield and quality of some local fine aromatic cultivars through influencing some Agronomic management in Aman seasons	1. To study the effect of some Agronomic managements for yield maximization of some local fine aromatic popular varieties 2. To find out and recommended the most appropriate Agronomic management packages for yield maximization and quality improvement of some local fine aromatic popular varieties.	9.00
6. Environmental Pollution			
6.1	Toxic heavy metal bioaccumulation in rice cultivated in soil and water contaminated with industrial waste	1. To quantify the physico-chemical parameters of soil and water contaminated with industrial waste 2. To determine the transfer of toxic heavy metals from contaminated soils and water into rice straw and grain	13.00