VARIETAL DEVELOPMENT PROGRAM

PROGRAM AREA: PLANT BREEDING

Research Program 2021-22

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Program Area/Project | Major Objective | Annual Budget  (Thousand Tk.) |
| 1 | Development of Upland Rice (Broadcast Aus) | Development of varieties in combination of multiple traits such as quick seedling emergence and vigorous growth, short growth duration (90-95 days), tolerance to lodging, drought and pre-harvest sprouting as well as good eating quality. | 700 GOB |
| 1a | Development of Jhum Rice | Development of high yielding rice variety with low (10-19%) to intermediate (20-25%) and high (25%) grain amylose content and drought tolerance suitable for Jhum cultivation | 500 GOB |
| 2 | Development of Transplanted Aus (T. Aus) Rice | Introgression of earliness, pre- harvest sprouting tolerance and tolerance to high temperature into high yielding varieties for developing rice varieties with slender grain, short growth duration  and resistance to major diseases. | 550 TRB & GOB |
| 3 | Improvement of rice for shallow flooded & Deep Water environment | Generation of genotypes in combination with moderate elongation, high yield and submergence tolerance for shallow flooded sub-ecosystem (flood water depth 0.5-1.0 m). | 300 GOB |
| 4 | Development of Rainfed Lowland Rice (RLR) (T. Aman ) | Introgression of genes from diverged genetic background for improvement of standard T. Aman  varieties. | 1800  GOB & TRB-BRRI |
| 5 | Improvement of deep-water rice | To develop semi deep water/stagnant rice varieties with strong stems, higher grain (3.5- 4.5 t/ha) and straw (14 - 15 t/ha) yield, moderate elongation, drought and submergence tolerance. | 500 GOB |
| 6 | Development of Salt Tolerant Rice for T. Aman and Boro Season | Introgression of salinity tolerant traits/ gene (s) in high yielding varieties suitable for RLR and  irrigated Boro ecosystem. | 2000  GOB, AGGRi Alliance & TRB |
| 7 | Development of Premium Quality Rice (PQR) for T. Aman and Boro Season | Introgression of genes for small & long slender grain with aroma, photosensitivity and Antioxidant property into high yielding genetic background for the development of national and international grade  aromatic rice. | 5000 GOB |
| 7a | Development of photosensitive Rice, T. Aman | Development of strong photo-sensitive (Nizersail type) and medium photo-sensitive (Gainza type) premium quality rice for T. Aman season | 500 GOB |
| 8 | Development for Zinc Enriched Rice, T. Aman | Development of new genotypes with high iron and zinc content along with resistance to major insect pests and diseases, and acceptable  grain quality. | 5000  HarvestPlus |
| 9 | Development of Insect Resistant Rice (IRR) for  T. Aman & Boro Season | Introgression of genes of BPH and  gall midge into high yielding rice genetic background. | 3000  GOB, TRB |
| 10 | Development of Disease Resistant Rice (BB, Blast & RTV) for T. Aman and  Boro season | Introgression of high yield, lodging tolerance and disease resistance trait for BB, Blast & RTV. | 700  GOB, TRB-BRRI |
| 11 | Development of Submergence and Water Stagnation Tolerance Rice | Introgression of submergence and medium stagnant water tolerant genes into modern genetic background with high yield potential, short/long growth duration, weakly/strongly photoperiod sensitivity and grain  quality etc. | 1200  GOB, TRB-BRRI |
| 12 | Development of Drought Tolerant Rice for T. Aman  Season | Introgression of drought tolerance traits gene into high yielding rice genetic background. | 1200  GOB, TRB-BRRI |
| 13 | Development of Healthier Rice | Introgression of high iron and zinc gene into high yielding rice genetic backgrounds of BRRI dha71, BRRI dhan79 and BRRI dhan81, BRRI dhan87, BRRI dhan92 and BRRI dhan99 | 1050  HRP |
| 14 | AGGRi Network Trials for Favorable Environment | To identify genetically diverged high breeding value line to leverage in the breeding program | 1000  AGGRiNet |
| 15 | Development for Golden rice for T. Aman & Boro | Development of new genotypes with high Beta Carotene (Vitamin- A) content and acceptable grain  quality. | 5000 |
| 16 | Development of favorable Boro Rice | Development of new genotypes based on the farmers and consumers preference with better plant type and  major insect and disease resistance. | 1000 GOB, TRB-BRRI |
| 17 | Development of Cold  Tolerance Boro Rice | Introgression of cold tolerance gene  into high yielding rice genetic  background. | 1200 GOB, TRB-BRRI |
| 18 | Development of water saving rice | Development of water saving rice varieties under transplanted AWD condition of irrigated ecosystem which will produce significantly similar grain yield but will save 25 to 30% water. | 300 GOB |
| 19 | Development of Heat Tolerant Rice | Introgression genes for high temperature tolerance into high yielding varieties for developing rice varieties with short growth duration. | 200 GOB |
| 20 | International Network for Genetic Evaluation of Rice (INGER) | Promising genotypes selection after evaluation to be used as parent materials and to be included in yield  trials. | 500 GOB |