Agronomy Division

BARI Head Office, Gazipur

Activities:

- Development of management packages for maximizing the yield of different field crops in various agro–ecological zones
- Screening of crop species/cultivars for rainfed situation, development of crop establishment techniques and improvement of soil health through different techniques of cultural practices and crop rotations
- Studies on the biological behavior, ecology of major weeds and development of suitable weed management techniques to minimize the yield loss of different crops.
- Development of improved production technology for forage crops through agronomic practices and also to study the nutritional status
- Study on planting configuration of different component crops in intercropping and their management practices.
- Improvement of the existing cropping patterns and their nutrient management for sustainable crop production.
- Selection of tolerant genotypes of different crops under plant growth analysis in relation to physiological changes and environmental stress (saline, drought, water logging, nutrient management) to find out tolerant genotypes of different crops.
- Identification of thermo and photo-sensitive crops to fit in the existing cropping pattern and
- Development of technologies for improved management practices for various field crops under saline, drought, charland and waterlogging stress conditions

- Study on modeling climate change impact on agriculture and developing mitigation and adaptation strategies for sustaining agricultural production in Bangladesh.

Research Activities of Agronomy Division

Basic, applied and adaptive research works are done by the division. The divisional research activities are going on under three sections namely Crop Management, Multiple Cropping and Crop Physiology.

Crop Management Section

This section is engaged in development of cost effective production technologies of different field crops. Identification of suitable tillage operation, for better crop growth, optimum sowing and harvesting date for different environment, appropriate seeding rate and seeding technique/method, to maintain optimum plant population, intercultural operations like weed management, water management, fertilizer management etc. to make them cost effective are the major task of this section. This section also works on soil health management through crop residue incorporation and green manuring. Soil moisture management through mulching, seed priming and conservation tillage techniques for soil moisture scarce areas. To supplement fodder requirement of the country this section has developed some technologies through which green fodder can be harvested without significant loss of grain from the same crop.

Crop-weed association study, weed survey in different field crops, their growth habit and critical period of weed control of different crops are identified under this section. Cost effective weed management methods of different crops are developed by this section. Besides, this section evaluates the performance of different herbicides and find out the proper dose and time of application.

To develop crop production technology in environmentally unfavorable ecosystems like saline area, charland, drought prone areas, hilly areas and flash flood affected haor areas, different stress environmental research has been done to increase cropping intensity.

Multiple Cropping Sections

To increase total productivity of per unit area, this section is engaged in developing different multiple cropping technologies. Development of intercropping and relay cropping technologies, identification of suitable crop combination for inter/relay cropping and their planting systems are done by this section. Inclusion of legume crop in cropping pattern to improve soil health, improvement of existing cropping pattern, development of new cropping pattern, residue soil moisture utilization through relay cropping are the major tasks of this section. Integrated nutrient management of the cropping pattern is also done by this section to increase total productivity through efficient use of fertilizer for the whole crops in pattern.

Unfavorable Eco-system and Climate Change

Crop growth under unfavorable eco-system and its relation to yield under different environment is evaluated under this section. The research works of this section are conducted in control (laboratory) as well as field conditions. Survey and monitoring of crops and cropping system, collection and evaluation of adapted cultivars, development of stress tolerant varieties/management technologies, adoption of appropriate technologies, validation and demonstration of stress tolerant technologies and study on climate change impact on Bangladesh agriculture are the major task of this section. Screening of different crop varieties/genotypes against different abiotic stresses is conducted through pot culture in vinyl house and also field condition.

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