

- F. To study the compatibility of Pesticides and their effects on rice plant.
- G. To monitor breeding, agronomy and farmers' fields for diseases incidence.

**Achievements:**

- A. Fungicides were evaluated for possible use in the rice industry, those found to be effective were Stratego and Carbendazim.

**Entomology**

**Objectives:**

- A. To establish the population dynamics of insects in the rice field ecosystem.
- B. To develop suitable control measures using insecticide as seed treatment or foliar application for both field and storage insect pests.
- C. To establish tolerable injury levels for the major rice insect pests.
- D. To enhance/strengthen farmers' IPM capabilities.
- E. To screen advanced breeding lines for resistance against leaf miner, water weevil, caterpillar and paddy bug.

Beneficial insects



Harmful Insect



Paddy Bug

**Achievements:**

- A. Several insecticides were evaluated for their use in the rice industry, few were found to be effective, These are: Pronto, Cruiser, Leaf guard 75, Padan 50SP, Engeo, Jade 35EC, Monarca 11.25EC, Muralla Delta 19 OD, Ninja.



**Seed Production**

**Objectives:**

- A. To produce sufficient quantity of high quality seed of commercial varieties for farmers and seed growers.

**Achievements:**

The rice research station produces approx. 10,000 bags of high quality seed paddy every season for farmers at a subsidized price.



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**Guyana Rice Development Board**

**Burma Rice Research Station**

**Activities and Recent Achievements 2006-2015**



## General Information

Research is an important component of the Guyana rice industry. It is the avenue through which new technology is made available to the rice industry on a continuous basis to sustain its competitiveness in an ever changing physical, financial and social environment.

Over the past years the GRDB has restructured its research efforts to better able to serve the farmers and other stake holders. An organized research program was conceived in the context of the changing environment in which rice has to be grown and farmers have to compete.

The Research Station focuses in five disciplines viz.

- i. Plant Breeding: Varietal Improvement
- ii. Agronomy: Practices, Nutrition, Weeds Mgt.
- iii. Pathology: Disease Management
- iv. Entomology: Pest Management
- v. Seed Production

Some of the objectives and recent achievements are highlighted hereunder.

### Plant Breeding

#### Objectives:

- A. Increasing the yield potential of local varieties.
- B. Evolving varieties of different grain types to meet requirements of diverse export destinations.
- C. Maintenance Breeding (Maintaining genetic purity of commercial varieties and production of sufficient quantity of seeds of high genetic purity).
- D. Decentralization of Seed Production- Off Station
- E. Developing aromatic varieties
- F. Developing a variety with tolerance to salt.

#### Achievements:

- A. Five high yielding rice varieties viz. GRDB 09, GRDB 10, GRDB 11, GRDB 12 and GRDB 14 were released along with their production practice, for commercial cultivation in Guyana. These have occupied more than 50% of the total cultivated area in Guyana.
- B. The first aromatic variety has reached the farmers field.



C. Approximately 2500 rice accession/ lines with different traits were sourced from international institutes during the period. Few are being tested for possible release as varieties.

D. Maintaining genetic and physical purity of commercial varieties and production of sufficient quantity of high quality seeds to farmers is a priority for the station.

E. The RRS has embarked on a project to decentralize seed production across the country.



### Agronomy

#### Objectives:

- A. To develop a package of practice with respect to weed management, water management, seeding density, plant nutrition and other agronomic methods for the release of new varieties.
- B. To provide remedies to short term problems or situations such as salinity, acidity, crop nutrition etc.
- C. Demonstrating or training of research personnel's, extension officers and farmers on new technologies developed by the Agronomy Department.



#### Achievements:

- A. A package of practice with respect to weed management, water management, seeding density, plant nutrition and other agronomic methods for the release of five new varieties was developed.
- B. Novel pesticides/herbicide were evaluated for possible use in the rice industry, few newer ones were found to be effective, these are: Spada, Rice Weed Killer and Designee.



### Pathology

#### Objectives:

- A. To isolate, culture and diagnose various rice diseases.
- B. To evaluate and identify entries that are Resistant to blast / possess donor level resistance.
- C. To evaluate novel and all available fungicides for the control of fungal pathogens in rice.
- D. To study the incidence of diseases, (*Pyricularia grisea*; *Helminthosporium oryzae*; *Rhizoctonia solani*) and other diseases on current varieties and new lines and their impact on yield.
- E. Training of new employees, extension officers and farmers on disease recognition and management.



Screening for Disease Resistance (Blast Nursery)