Cultural Control methods recommended

- *Ring weeding*, *burning of garbage*, prevent the rodents to establish their habitat.
- Frequent deep plowing and harrowing
- Reduction in Bund/Mears Size(<30cm)- Discourages the rodents to burrow
- Regular weed control practices on *driving and walking dams/mares*
- Burning/ Removal of bulky trash remains and wild vegetation & refuge of pervious crops.
- Synchrony of cropping (plant within 2weeks)

Biological control Methods

Install nesting boxes and perches to encourage owls and predatory birds, also mongoose can be introduced into the fields

Physical / Mechanical control

- Setting up traps

Chemical Methods

Chemical anti-coagulant bait types

1.Brodifacoum(Chronic)-e.g.BRAT,EAGLE

2.Flacoumafen(Chronic)-e.g.STORM

3.RATOFF(Acute)-e.g.RATOFFZP

Baiting Dam/Mare of Fields

- Fifteen grams (15g) of anti-coagulant bait - should be placed at the leeward side off the field after clearing spots of straws or weed if required.
- The number of baiting stations/points depends on the severity of the rat infestation.
- The side of the box in which the bait is placed should angled away from the wind direction at the time of placement.

- Bamboo bait boxes should be about 30-45 cm (12-18 inches) in length, 7.5-10 cm (3-4 inches) in diameter and the two ends separated by a middle node to allow for baiting on both sides.

- Baits(15-20g) should be placed in each end of the bamboo stations.

Type of ingredient used for local baits preparation: Paddy and rice grains, Chicken feed (Particularly Broiler Grower), Grated dry coconut (kush-kus), Cooked food… etc.

These types of baits ingredients are normally treated (soaked for 24 to 48 hrs) with chemicals/ poisons such as *Regenil, Friponil, Vyd-L, Triazophous, Carbamate, Carbaryl, other Organophosphates base insecticides;* then liquid removed, air/sun dry and package.

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RODENT MANAGEMENT IN RICE

An IPM Approach

By

PLANT PROTECTION DEPARTMENT

(Plant Pathology & Entomology)

Introduction-Rodent

- Rodents are very problematic in agriculture with sporadic outbreaks and the severity of damage varies temporally and spatially
- They can inflict considerable economic damage associated with their abundance, diversity, generalist feeding habits and high reproductive rates.
- The suspected rodent species of principal economic importance in the Guyana rice industry is *Holochilus brasiliensis*.

Classification-Rodents

Class	-	Mammalia
Order	-	Rodentia
Family	-	Muridae
Genus	-	*Rattus, Mus, Bandicota, Orgzomys, Holochilus*
Species	-	Rice field rat (*Rattus argentiventer*), the Black rat or Roof rat (*Rattus rattus*) and the Lesser bandicoot rat (*Bandicota bengalensis*), *Orgzomys navus*, and House mouse (*Mus musculus*) etc.…

Holochilus brasiliensis

The main living habitat for *Holochilus* spp.

- Nests created by rice stalks on mare and dams during the wet seasons.

- During the dry seasons rats may also be in deep cracks that occur in the cracking clay soils, as well as borrows/holes made on dams and mare.

- Temporary refuge may also occasionally be provided under old poly bags and containers that are out in the fields.
- During out of crop rats can be found in nearby vegetable plots and other abundant rice fields, or other areas with dense vegetation.

Damages by Rodents

After sowing, rodents can consume the entire seed or seedling, which leads to the complete removal of a plant.

- Once tillers have emerged, rodents generally bite off the tillers near the base-it is possible for the plant to compensate for that damage by producing new tillers or regrowing cut tillers.
- Rodents cause damage to rice by cutting at an oblique angle near the base of tillers.

- Rice is most susceptible to rodent damage from the booting (reproductive) stage to harvest