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Brown Planthopper

Tagalog names: *kayumangging hanip*, *kayumangging ngusong kabayo*

Identifying marks:

Adults are 2.5-3.0 mm long, winged, or without wings. The legs are hairless and the hind leg has a large, mobile outgrowth.

Where to find:

Rainfed and irrigated wetland fields are preferred. It is rare in upland rice conditions. Direct-sown fields are more prone to heavy damage than transplanted fields. All plant growth stages are attacked, but the most susceptible growth stages are from early tillering to flowering. Increasing nitrogen levels, closer plant spacing, and higher alternative humidity increase their numbers.

Damage:

Adults and nymphs cause direct damage by sucking the sap at the base of the tillers. Plants turn yellow and dry up rapidly. Heavy infestation creates brown patches of dried plants known as *hopperburn*. They also transmit viral diseases: ragged stunt, grassy stunt and wilted stunt. Excreted honeydew on infested plants may also become a medium for sooty mold fungus.

Life cycle:

Eggs are laid in batches inside the leaf sheaths and on the leaf midrib. Nymphs are brown. Nymphs molt five times before turning to adult. Adults with long wings are attracted to light traps.



Adult brown planthoppers

**Planthoppers are not pests until you indiscriminately apply insecticides.
Insecticides kill their predators and the parasitoids.**

Management options

Cultural Management

20 days before transplanting

- Observe the 20 cm x 20 cm planting distance. Dense planting increases number of planthoppers.
- Seedbed areas must be as far as possible from light sources to discourage hopper attack and virus infection by virus-infected hoppers.
- Plant early-maturing varieties to create a rice-free period during the year.
- Use appropriate and balanced fertilization. High nitrogen use increases planthopper attack. Split nitrogen into three applications during crop growth to reduce BPH buildup.
- Increased potassium reduces planthopper susceptibility as cell walls get thicker because of greater silica uptake.
- Grow only two rice crops per year and use early-maturing varieties to reduce their continuous breeding.
- Plow under volunteer rations after harvest.
- Raise the level of irrigation water periodically to drown the eggs, which are deposited at the base of the tillers and in leaf sheaths.



At tillering stage

- Keep water level low enhances growth of useful organisms
- Intensify forecasting. At this stage, BPH population tend to build up rapidly.

At milk stage

- Dry and flood the paddy alternately reduces their growth
- Use selective insecticide if level of pest infestation is very high to spare beneficial organisms.

Biological Control

- Avoid early application of pesticides or establish refuge areas to encourage buildup of useful organisms.
- Small wasps attack eggs
- Mirid bugs prey on eggs
- Dragonflies and damselflies prey on moving adults. Similarly, spiders, water bugs, and lady beetles prey on mobile stages (nymphs and adults).
- Dryinid kills nymphs
- Fungus kills nymphs and adults

Chemical control

- Apply insecticide as a last resort and its benefits should be weighed against the risk.
- Seek the advice of a crop protection specialist for guidance before applying insecticides
- Always read instructions

Do not spray 30 days after transplanting or 40 days after seeding. Plants can recover from early damages by producing new leaves and tillers. Spraying prevents the early season movement and colonization of beneficial organisms.

Source:

Field guide on harmful organisms in Philippine ricefields. Maligaya, Science City of Muñoz, Nueva Ecija. PhilRice. 2003

Rice Planthoppers flyer. PhilRice. 2011.

Reviewed by:

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