



## Crop Protection :: Pest of paddy

Brown plant leafhopper: *Nilaparvata lugens*

## Symptoms of damage:

- Nymphs and adults congregate at the base of the plant above the water level.
- Affected plant dries up and gives a scorched appearance called "hopper burn".
- Circular patches of drying and lodging of matured plant.
- It transmits grassy stunt, ragged stunt and wilted stunt diseases.
- Honey dew is secreted by nymphs and adults which causes sooty mould at the base.



Nymphs and adults at base of tiller



Hopper burn

## Identification of insect pest:

- **Egg:** Eggs are laid in a group of 2 to 12 in leaf sheath (near the plant base or in the ventral midribs of leaf blades). White, transparent, slender cylindrical and curved eggs are thrust in straight-line in two rows. (They are covered with a dome-shaped egg plug secreted by the female. Only the tips protrude from the plant surface).
- **Nymph:** Freshly hatched nymph is cottony white, 0.6 mm long and it turns purple-brown, 3.0 mm long in the fifth instar.
- **Adult:** Adult hopper is 4.5-5.0 mm long and has a yellowish brown to dark brown body. The adults exist in two forms, macropterous and brachypterous. Macropterous adults or long-winged have normal front and hind wings, whereas brachypterous forms or the short-winged have reduced hind wings. A prominent tibial spur is present on the hind leg.



Eggs



Affected Tillers



Winged Adult



Adult Female

## Management:

**ETL:** 1 hopper/ tiller in the absence of predatory spider and 2 hoppers /tiller when spider is present at 1/hill.

- Avoid close planting and provide 30 cm rogue spacing at every 2.5 to 3.0 m.
- Control irrigation by alternate wetting and drying.
- Avoid excessive use of nitrogen

- Release of natural enemies like *Lycosa pseudoannulata*, *Cyrtorhinus lividipennis* adults (200-250 bugs/ha) during the peak incidence of BPH.
- Set up light traps during night or yellow pan traps during day time
- Drain the water before use of insecticides and direct the spray towards the base of the plants.
- Apply Neem oil 3% 6 lit/ac or Azadirachtin 0.03% 400 ml/ac
- Apply any one of the following insecticides
  - Acetamiprid 20% SP 20-40 g/ac
  - Acephate 75 % SP 400 g/ac
  - Buprofezin 25% SC 320 ml/ac
  - Carbosulfan 25 EC 400 ml/ac
  - Chlorantraniliprole 18.5% SC 60 g/ac
  - Chlorantraniliprole 0.4% G 4 kg/ac
  - Clothianidin 50% WG 8-9.6 g/ac
  - Chlорpyrifos 20 EC 500 ml/ac
  - Dinotefuran 20% SG 60-80 g/ac
  - Fipronil 5% SC 400 ml/ac
  - Fipronil 0.3% GR 6.7 - 10 kg/ac
  - Flonicamid 50% WG 60 g/ac
  - Imidacloprid 17.8 SL 40-50 ml/ac
  - Methyl demeton 25 EC 400 ml/ac
  - Pymetrozine 50% WG 120g/ac
  - Phosalone 35 EC 600 ml/ac