Insect Pests of Rice

Yellow and White Stem Borer

T.N.

1. *Scirpophaga incertulas* (Yellow)
2. *Scirpophaga innotata* (White)

Family: Pyralidae

Order: Lepidoptera

Identification

Yellow stem borer

- Eggs: creamy white – covered with yellowish brown hair
- Larvae: Dirty white
- Adult: Straw color with black spots on forewing

White stem borer

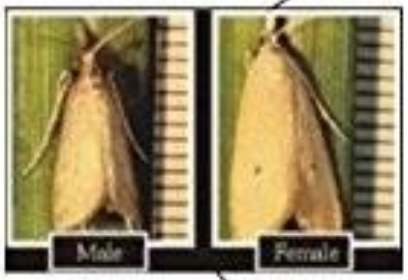
- Eggs: creamy white
- Larvae: Dirty white
- Adult: White color

Life cycle

Active: April-October

50 eggs - cluster - underside of leaves
Eggs hatching - 1 week

Egg Mass



Adult Moths

5-7 generation/year

Larva

6 instars
4 weeks

Pupa

Pupate inside the attacked plant
Duration: 2 weeks

Damage

- Cause up to 90% loss
- After hatching, bore into stem – downward feeding
- Attacked plant early stage – **Dead Hearts**
- Later stage - **White ears** (ears without grains)

12

13

Control

- Removal and destruction of stubbles
- Collection of egg cluster
- Light traps
- Rotation of crops (wheat following rice)
- *Trichogramma* Spp. Egg parasitoids
- Insecticides
  - Carbofuran G 14 kg/acre
  - Carbosulfan G G 8-12 kg/acre

RICE LEAF FOLDER

T.N. *Cnaphalocrocis medinalis* L.

Family: Pyralidae

Order: Lepidoptera

Identification

Eggs:

- Creamy white

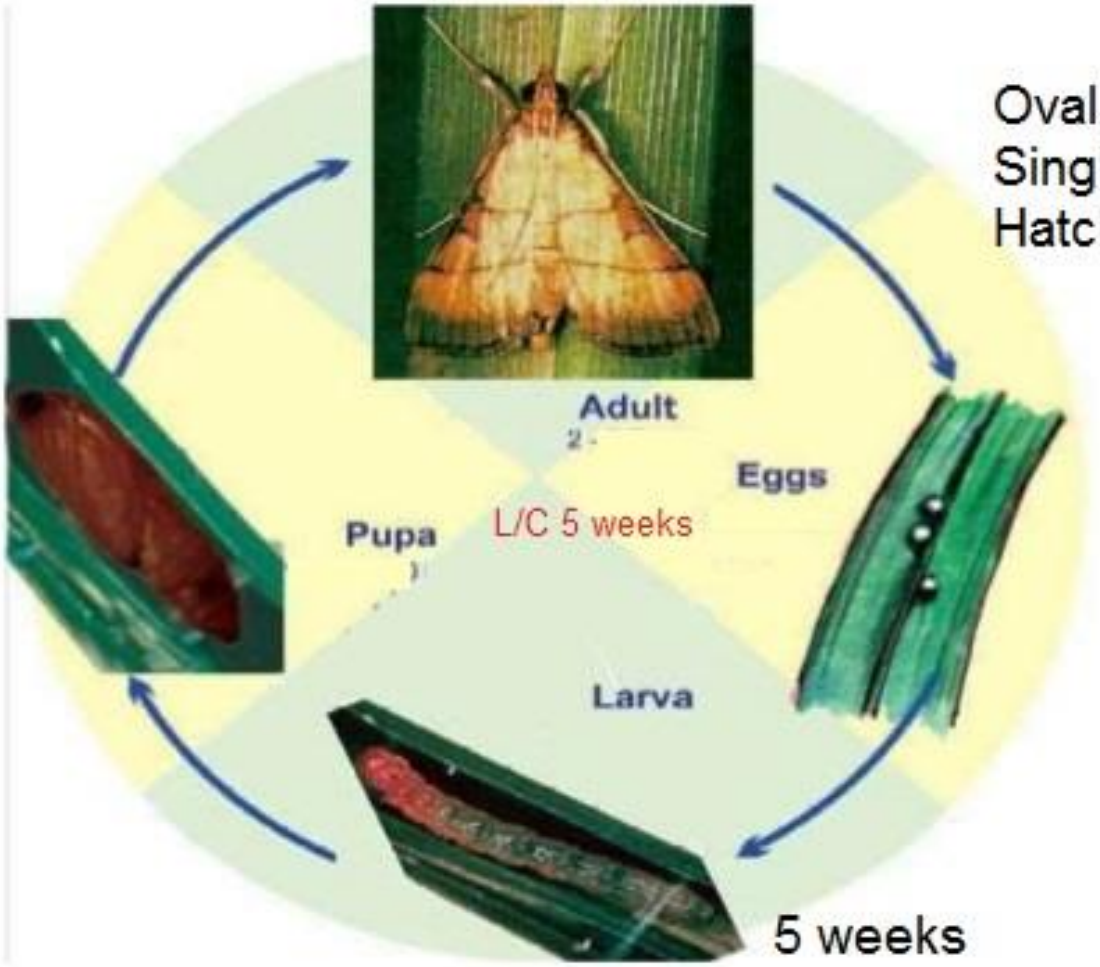
Larvae:

- Light yellow or greenish in color

Adult:

- Moths are golden or yellowish brown
- Wings have 2-3 wavy lines characterized by dark bands

LIFE CYCLE



Oval, creamy white
Singly or pairs
Hatch 1 week

Pupae
Loose
silken web
b/w leaves
2 weeks

5 weeks

Damage

- Young larvae feed on tender leaves without folding them
- Older larvae fasten the longitudinal margins of leaves together with a silky substance and feed inside the fold by scraping the green matter
- Scrapped leaves become membranous, turn white and finally wither
- A single larva may damage a number of leaves as it migrates from one leaf to another leaf
- As a result of the attack, photosynthetic activity of leaves is affected and the plants are predisposed to fungal and bacterial infections

Control

1. Removal and destruction of weeds
2. Light trap
3. *Trichogramma* spp. is an effective egg parasitoid
4. Insecticides
    1. Cartap G 9 kg/acre
    2. Chlorpyrifos EC 1000ml/acre

White-Blacked Plant Hopper

T.N: *Sogatella furcifera*

Family: Delphacidae

Order: Homoptera

Identification

- Adult is wedge shaped insect, having straw color with white back

- Nymph is grayish white which turns to dark grey
- Adults and nymphs of this insect are very active and they can easily jump from one leaf to another on a slight disturbance

Life cycle

- **Eggs** = 100-150 on leaf sheath
- **Hatching** = 8-10 days
- **Nymphs** = 5 instars – 1 week
- **Adult** = 2 weeks

Damage

- Adults and nymphs suck cell sap from the leaf surface
- Leaves of attacked plants turn yellow and later on red
- Symptoms start from the leaf tips and spread to the rest of the plant
- Various brownish spots also appear on the feeding sites
- Damaged plants finally dry up without producing ears
- The insect also secretes honeydew on which a sooty mould appears

Control

- Destruction of hoppers by sweeping
- Draining out the standing water from the field 2-3 times (to reduce humidity in crop) control the population of the hopper to a large extent
- Grow resistant varieties
- Spray
  - Carbaryl D 5kg/acre
  - Imidacloprid SL 250ml/acre