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FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES

Lecture 2 PESTS OF RICE (continued)

5. Rice earhead bug

Rice earhead bug (*Leptocorisa acuta)*

Order: Hemiptera

Family: Alydidae

Distribution and status: India and rice growing areas

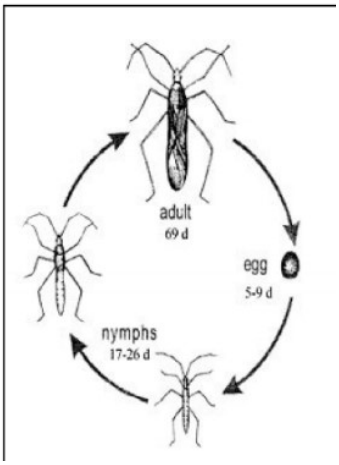
Host range: Rice, Millets

Damage symtoms: Both nymphs and adults suck the sap from individual grains at milky stage. Affected grains become chaffy with black spots at the site of feeding puncture. Yield loss may be 10- 40%. Obnoxious odour emanates on disturbing the bugs in the field.

Damaged grains caused by rice bug (IRRI)

ETL: 5 bugs/100 panicles or 1 bug/hill - flowering stage; 16 bugs/100 panicles or 3 bug/hill-milky stage.

Bionomics: Brownish green adults are slender with long legs and antennae; lay 200-300 flat, dark, reddish brown eggs in rows of 10-15 on the leaves or panicles. The egg period 5-8 days, green to brown nymphs undergo five instars in 17-27 days. Adults fairly long lived (30-50 days).



Management:

1. Remove alternate host, Echinocloa from bunds and field.

2. Ensure synchronous planting on community basis in an area.

3. Use neem seed kernel extract 5% or notchi leaf powder extract 5% or Ipomoea leaf powder extract 5% or Prosopis leaf powder extract 5%

4. Dust quinalphos 1.5 D or carbaryl 10 D or malathion 5 D @ 25 kg/ha or spray malathion 50 EC 500 ml or monocrotophos 36 WSC 500 ml/ha.

6. Mealy bug

Mealy bug (*Brevennia rehi)*

Order: Hemiptera

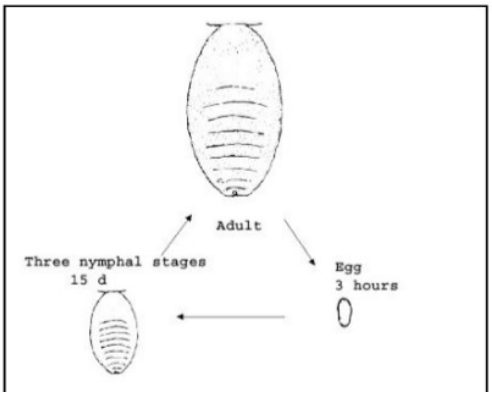
Family: Pseudococcidae

Distribution and Status: Tamil Nadu, Andhra Pradesh, Karnataka, Orissa, Madhya Pradesh, West Bengal and Kerala in India, Bangladesh, Thailand

Host range: Rice, graminaceous weeds

Damage symptoms: Large number of insects remains in leaf sheath and suck the sap, affecting plants in circular patches. Plants become weak, yellowish and stunted. Presence of white waxy fluff in leaf sheath is a typical symptom of damage.

Bionomics: The mealy bug is small reddish white, soft-bodied, wingless insect covered with filamentous materials. It lays 126-139 eggs in the leaf sheath and reproduces parthenogenetically. The egg period 1-2 days; nymphal period 17-34 days, nymphs remain within the leaf sheath and suck the plant sap.



Management

1. Parasitoids such as *Adelencyrtus* sp., *Xanthoencyrtus* sp. and *Dolichoceros* sp. and *coccinellid* predators can be utilized.

2. Remove the grasses and trim the bunds during the main field preparation before transplanting.

3. Remove and destroy the affected plants.

4. Spray dimethoate 30 EC 500 ml/ha in initial stages of infestation.

7. Rice black bug

Rice black bug (*Scotinophora lurida*; *S. coarctata*)

Order: Hemiptera

Family: Podopidae

Distribution and Status: India

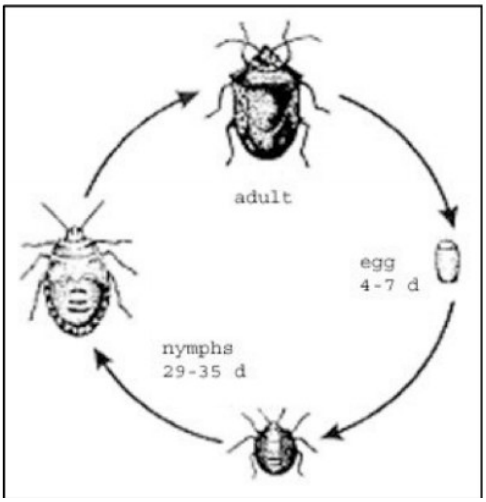
Host range: Rice, millets

Damage symptoms: Both nymphs and adults suck plant sap from the culm during tillering to flowering at the base of the plant. It also sucks the sap from leaf sheath, leaf and panicle. The affected plants turn reddish brown or yellow. During tillering stage, it causes drying up of central shoot (dead heart), stunted growth and reduced tillers. During reproductive stage, it affects the panicle development and causes chaffy grains (white ears). In severe cases, plants wilt, dry and turn bug burned, similar to hopper burn damage of brown plant hopper.

Bug burn (PhilRice)

ETL: 10% damage at tillering stage or 5 bugs / hill

Bionomics: Adults are brownish black with a prominent scutellum and pronotum having a spine on either side. 1 mm long greenish eggs are laid in masses on the stem and leaves that turn pinkish during hatching. Brown nymphs with yellowish green abdomen and 2-3 black scent glands.



Management:

1. Keep the field free from weeds and grasses.

2. Drain the excess water from the field.

3. Set up light traps to attract and kill large number of bugs.

4. Conserve the predators viz., spiders, coccinellids and wasps to check the pest.

5. Ducks can be allowed in the field to pick up the bugs

6. Spray NSKE 5% or monocrotophos 36 SL @ 1000 ml/ha or acephate 75 SP @ 625 g per ha for effective pest suppression.

MINOR PESTS

8. Earhead stink bug / Shield bug / Red spotted bug:

Menida histrio

Family: Pentatomidae

Order: Hemiptera

Both nymphs and adults suck the ear heads and cause individual grains chaffy.

9. Rice striped bug:

Tetroda histeroides

Family: Pentatomidae

Order: Hemiptera

The nymphs and adults suck the sap from the stem and cause stunting and yellowing of tillers. Adult is brown with a prominent “V” shaped mark on its back. It lays cylindrical eggs in rows on the under surface of the leaves. The egg period 5-7 days, nymphal period 40-50 days, life cycle completed in 49-62 days. The adult longevity is about 2 weeks.

10. White rice leafhopper

Cofana spectra

Family: Cicadellidae

Order: Hemiptera

Nymphs and adults suck the sap causing yellowing of leaves and stunting of tillers. Nymphs are elongate and pale green coloured. Adults are white in colour, 3-4 times larger than green leafhopper. They are the biggest of rice hoppers.

11. Blue rice leafhopper

Empoascanara maculifrons

Family: Cicadellidae

Order: Hemiptera

Nymphs and adults suck the sap of the leaves and cause “hopper burn” in the seedlings in the form of whitish waxy lines on the leaf blades in the initial stage of attack and subsequent drying. Small blue leafhoppers with yellowish vertex having a black patch in the middle of pronotum.

12. Zigzag striped leafhopper

Recilia dorsalis

Family: Cicadellidae

Order: Hemiptera

Both nymphs and adults suck plant sap and cause tip drying and orange discoloration of both margins of leaves. Adults have white fore wings with pale brown bands forming the shape of W.