

Identification of Insects Pests of Brinjal and their Management

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Abstract

Brinjal (*Solanum melongena* L.), originated from India and it is also known as “eggplant” or “King of vegetables”. Eggplant is grown as a vegetable throughout the tropical, sub-tropical, and warm temperate areas of the world. It provides nutrients such as dietary fiber, ascorbic acid, vitamin K, niacin, vitamin B6, pantothenic acid, potassium, iron, magnesium, manganese, phosphorus, and copper to poor people's diets, which is particularly important when other vegetables are scarce. The crop is attacked by a number of insect pests including shoot and fruit borer, whitefly, leafhopper, aphid, Hadda beetle, Stem borer, Lacewing bug, Brinjal brown leafhopper, and Leaf roller. Besides these insects brinjal is also attacked by mites, which results in significant losses in the yield. This article mainly focused on the identification, life cycle, nature of the damage, and sustainable management of major insect pests of brinjal.



Keywords: Vegetables crop, shoot and fruits borer, white fly, haada bittle, brown hopper, aphid, etc.

Major Insect Pests of Brinjal

1. Fruit and shoot borer, *Leucinodes rbonalis* (Lepidoptera: Pyralidae): In South and Southeast Asia, the fruit and shoot borer is one of the most dangerous pests of brinjal. It can be found in Asia's tropics, where it can reduce yield by up to 70%.

Symptoms of damage:

- Withering of terminal shoots/dead hearts
- Bore holes on shoots and fruits plugged with excreta
- Shedding of flower buds
- Withering and drying of leaves



Identification of pest: Eggs: Creamy white eggs

Larva: Pink in colour

Pupa: Greyish boat shaped cocoon

Adult: Medium sized moth. Forewings has black and brown patches and dots on white colour, hind wings are opaescent with black dot

Management: Remove the affected terminal shoot showing boreholes. Remove the affected fruits and destroy. Avoid continuous cropping of brinjal crop Grow the varieties with long and narrow fruits in endemic areas Install pheromone trap@12/ha.

2. Leafhopper, *Amrasca devastans* (Hemiptera: Cicadellidae):**Symptom of Damage:**

Both nymphs and adults suck the cell sap from the lower leaf surface. "hopper burn".

Identification of pest: Adult: Small light brown leaf hopper



Management: Use yellow sticky traps. Grow okra as a trap crop along the borders of a brinjal field. Spray Neem seed kernel extract (NSKE) @ 5%. Before fruit formation use malathion 50EC @ 300-400ml/acre in 200-250L of water,

3. Brinjal hadda beetle, *Epilachna vigintioctopunctata* (Coleoptera: Coccinellidae):

Identification of pest: Eggs: Cigar shaped, yellow in colour

Grub: Yellowish bearing six rows of longitudinal spines.

Pupa: Yellowish with spines on posterior part and anterior portion being devoid of spines.

Adult: 14 spots on each elytra, deep red

Symptom of damage: This pest beetles as well as grub scrape the chlorophyll from the epidermal layers of the leaves. They eat up regular areas of the leaf tissue, leaving parallel bands of uneaten tissue in between. The leaves, thus, present a lacelike appearance.



Management: Collect damaged leaves with grubs and egg masses and destroy them. Shake plants to dislodge grubs, pupae and adults and destroy. Conserve natural enemies in brinjal ecosystem. Spray Carbaryl 50 WP @ 3g/lit

4. Brinjal lace wing bug, *Urentius hystricellus* (Hemiptera: Tingidae)

Identification of pest: Egg: White nibble shaped eggs

Nymph: yellowish white with prominent spines

Adult: Dorsal side -straw coloured Ventral side -black coloured Pronotum and forewings reticulated

Symptoms of damage: Yellowing of leaves Affected leaves covered with exuviae and excreta



Management: Spray dimethoate 30 EC @ 1 lit/ha or methyl demeton 25 EC @ 1 lit/ha

5. Stem borer, *Euzophera perticella* (Lepidoptera: Pyralidae):

Identification of pest: Egg: Cream, scale-like

Larva: Fully grown larva is creamy white

Adult: Greyish brown, forewings has transverse line and hind wings are white in colour

Symptoms of damage: Top shoots of young plants droop and wither. Older plants become stunted. Fruit bearing is affected.



Management: Collect and destroy the damaged and dead plants Light trap @1/ha to attract and kill adults Spray neem oil 2ml/lit Avoid using synthetic pyrethroids causing resurgence

6. Brown leaf hopper: *Cestius phycitis* (Hemiptera: Delphacidae)

Identification of pest: Adult: Small light brown leaf hopper

Symptoms of damage: Reduction in size of leaves Shortened petioles. Excessive growth of branches general stunting of plants. Conversion of floral parts into leafy structures. Plants become bushy. Fruiting is rare. Vector of little leaf of brinjal.

Management: Remove infected plants and destroy them Before transplantation dip the seedlings in 0.2% carbofuran 50 STD solution (control insect vectors) Spray with dimethoate 0.3%



Conclusion

In certain tracts, some of the minor pests may become occasionally serious and may cause considerable damage to the crop. An overall reduction in the yield of Brinjal due to arthropod pests was upto 60 per cent and the joint infestation of shoot borer and aphids caused losses upto 34 per cent.

References

1. <https://justagriculture.in/files/newsletter/2021/july/69.%20Insect%20Pests%20of%20Brinjal%20and%20Their%20Management.pdf>
2. https://agritech.tnau.ac.in/crop_protection/crop_prot_crop_insect-veg_brinjal.html
3. Bsc. agriculture E-books