

Pest of Citrus

Major Pest

1.	Shoot psyllid	<i>Diaphorina citri</i>
2.	Citrus leaf miner	<i>Phyllocnistis citrella</i>
3.	Citrus blackfly	<i>Aleurocanthus woglumi</i>
4.	Citrus whitefly	<i>Dialeurodes citri</i>
5.	Fruit piercing moths	<i>Othreis materna, O. fullonica, O. ancilla</i>
6.	Lime/orange tree borer	<i>Cheledonium cinctum</i>
7.	Bark caterpillar	<i>Indarbela tetraonis</i>
8.	Citrus butterfly	<i>Papilio demoleus, P. polytes</i>
9.	Orange trunk borer	<i>Anoplophora versteegi</i>

Minor Pest

1.	Leaf roller	<i>Psorosticha zizyphi</i>
2.	Aphid	<i>Toxoptera citricidus</i>
3.	Thrips	<i>Thrips nilgiriensis</i>
4.	Citrus scale	<i>Aonidiella aurantii</i>
5.	Citrus leaf mite	<i>Eutetranychus orientalis</i>
6.	Citrus rust mite / Eriophyid mite	<i>Phyllocoptruta oleivora</i>

1. Shoot psyllid: *Diaphorina citri*



Host range: Citrus, certain deciduous plants and families of rutaceae.

Damage symptoms

- Both nymphs and adults suck cell sap from leaves, which curl up, dry and fall off.

Management

- Spray any of the insecticides viz., NSKE 5 %, neem oil 10 L, dimethoate 30 EC 3.0 L, of monocrotophos 36 SL 1.5 L, methyl demeton 25 EC 2.5 L, quinalphos 25 EC 1.0 L, imidacloprid 200 SL 250 ml in 1500-2000 L of water per ha during March and again in September.

2. Citrus leaf miner: *Phyllocnistis citrella*



Host range

- Citrus, Pommelo (*Citrus maxima*, *Citrus grandis*), willow, cinnamon, *Loranthus* spp.

Damage symptoms

- Larva mines into the tender leaves and form zig-zag galleries while feeding on the epidermal cells leaving behind the remaining leaf tissues quite intact.
- The infested leaves turn pale, get distorted and dry up.
- The larval damage may lead to secondary infection by fungi and bacteria causing 'citrus canker'.

Management

- Spray NSKE 5% (50 g/L) or neem cake extract 5% or neem oil 3 % or imidacloprid 17.8 SL 125 ml per ha
- Spray dichlorvos 76 WSC 1.0 L, dimethoate 2.0 L per ha

3. Citrus blackfly: *Aleurocanthus woglumi*



Host range: Citrus, sweet orange, avocado, grape vine, mango, guava, pear, plum.

Damage symptoms

- Nymphs and adults suck plant sap, causing curling of leaves and premature fall of flower buds and developing fruits.

Management

- Spray neem oil 3% or Fish Oil Rosin Soap 30 g/L or quinalphos 25 EC 2.0 L or monocrotophos 36 SL 1.5 L or methyl demeton 25 EC 1.0 L or ethion 50 EC 2.5 L or triazophos 40 EC 3.0 L or or per ha. Use 5-15 L water/tree or 1500 – 2000 L water per ha during April – May and again during September – October.

4. Citrus whitefly: *Dialeurodes citri*

Host range

- Citrus, banana shrub, chinaberry, coffee, jasmine, mock olive, pear, pomegranate, tree of heaven, water oak, persimmon.

Damage symptoms

- Injury is caused by sooty mold fungus which grows over fruit and foliage in copious amount of honeydew excreted by the whitefly.
- Heavily infested trees become weak and produce small crops of insipid fruit.

Management

- Conserve predators like Coccinellids viz., *Cryptognatha flavescens*, *Verania cardoni*.

5. Fruit piercing moths: *Othreis materna*, *O. fullonica*, *O. ancilla*

Host range: Citrus, mango, grapes and apple

Damage symptoms

- Adult moth pierces the fruits for sucking the juice and makes characteristic pin-hole damage in fruits.
- Bacterial and fungal infections take place at the site of attack.



- Whole fruit turns yellow, drops from tree and looks like a premature fruit. In severe cases, all fruits are lost.

Management

- Destroy the weed host, *Tinospora cordifolia*, *Cocculus pendulus*, *C. hirsutus* in and around citrus orchard.
- Spray with 2.5 kg of carbaryl 50 WP in 1000 L of water per ha at the time of maturity of fruits.

6. Lime/orange tree borer: *Cheledonium cinctum*,

Damage symptoms

- Grubs bore into stem and feed on the internal tissues, which results in drying of terminal shoots in early stages, followed by wilting of thicker branches and main stem.
- Gum exudation and wood powder accumulation on ground below are symptoms of attack.

Management

- Plug fresh holes with cotton soaked in monocrotophos solution mixed at 5 ml/ 20 ml of water.
- Undertake stem padding with monocrotophos 2.5 ml+2.5 ml of water.

7. Bark caterpillar: *Indarbela tetraonis*

Host range: Mango, guava, zizyphus, litchi, orange, pomegranate, bauhinia, loquat, mulberry, moringa, rose, guava and eugenia.

Damage symptoms:

- Caterpillars bore into the trunk or junction of branches make zig zag galleries Presence of gallery made out of silk and frass is the key symptom.
- They remain hidden in the tunnel during daytime, come out at night and feed on the bark. Under severe infestation, flow of sap is hindered, plant growth arrested, and fruit formation is drastically reduced.

Management

- Kill the caterpillars by inserting an iron spike into the tunnels.
- Injecting ethylene glycol and kerosene oil in the ratio of 1:3 into the tunnel by means of a syringe and then seal the opening of the tunnel with mud.
- Dip a small piece of cotton in any of the fumigants, like chloroform or petrol or kerosene, introduce into the tunnel and seal the opening with clay or mud.

8. Citrus butterfly: *Papilio demoleus*, *P. polytes*

Host range: Citrus and other Rutaceae plants. Eg. *Aegle marmelos*

Damage symptoms

- The young larvae found on the upper surface of leaves, feeding on the leaf lamina from margin to midrib.
- Grown up larvae feed on matured leaves and cause severe defoliation of the entire plant.



Management

- Spray entomogenous fungus, *Bacillus thuringiensis* 1 g /L nematode DD- 136 strain or neem seed extract 3%.

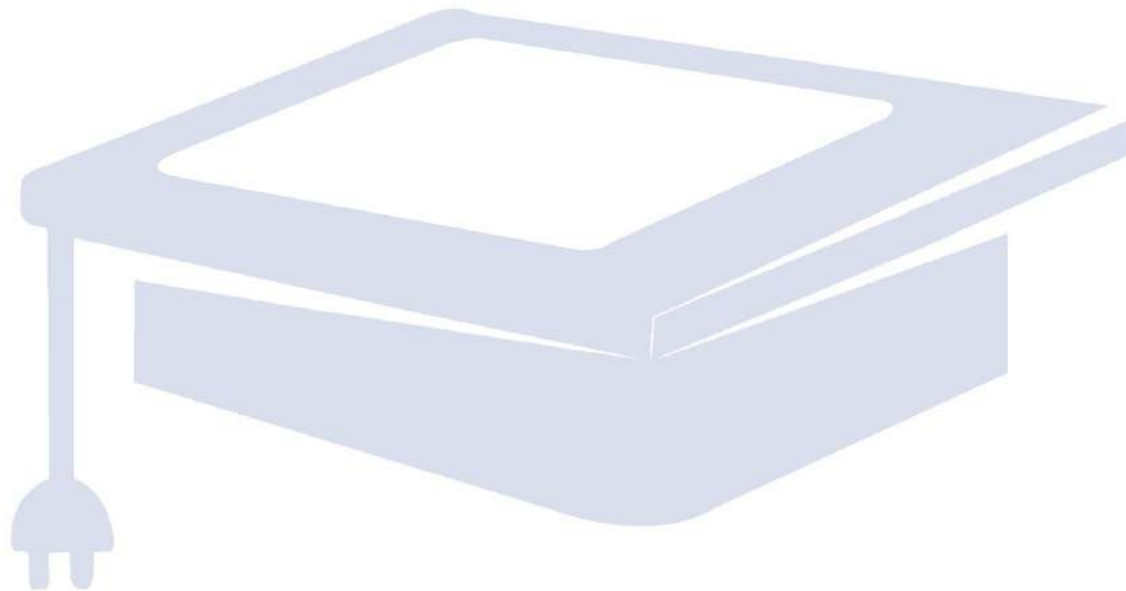
9. Orange trunk borer: *Anoplophora versteegi*

Damage symptoms

- Grub tunnels into the trunk and feeds on the internal content of the trunk resulting in death of the tree. Adult - feeds on the leaf tissue along the midrib, keeping margins intact.

Management

- Prune the infested branches
- Plug the fresh boreholes with absorbent cotton soaked in monocrotophos 5 ml/ 20 ml Water.



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