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Common insect pests of nectarines

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Aphids

Aphids are sap-sucking insects that are found mostly on the underside of leaves. They are considered a minor pest, but under favorable conditions insect numbers can build up, usually in patches on the leaves (Figure 1). Aphid-infested leaves can turn yellow and eventually fall.

Aphids excrete honeydew which can cause sooty mould on the fruit and on the tree. They are also capable of virus transmission.

Figure 1. Aphids on nectarine leaves.

Conditions that favour this insect include excess fertilisers that produce soft plant tissues and the presence of weeds in and around orchards that act as hosts for the insect.

Insect pest management:

1. Monitor aphid numbers, particularly in early spring.
2. Spray early 'hot spots'.
3. Remove weeds that act as hosts.
4. Promote or introduce beneficial insects.

Carpophilus beetles

Carpophilus beetles are considered a serious pest of ripening fruit in Australia. They have the potential to cause heavy fruit losses.

This beetle can penetrate ripening fruit, causing breakdown. The main entry point for this insect is around the stem area. It primarily attacks fruit on the ground, but it can also attack fruit on trees (Figure 2). *Carpophilus* beetles are very active, move quickly around the orchard, and can help spread brown rot.

Figure 2. Carpophilus beetle damage on nectarine fruit.

Conditions that are favourable to this insect include poor orchard hygiene (i.e. fruit left on and under trees) and poor hygiene around packing sheds.

Insect pest management:

1. Avoid dropping discarded fruit in the orchard.
2. Remove and destroy rejected fruit from packing sheds.
3. Control fruit fly to reduce fruit drop.
4. Use attract-and-kill pheromone traps in and around the orchard.

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Oriental fruit moth

The Oriental fruit moth is considered a minor pest of stone fruit, but can be a seasonal pest. The larvae can damage fruit and shoots.

This insect can bore into the tips of young, green shoots, causing dieback (Figure 3). In summer, the larvae tunnel into mature fruit.

When boring into shoots, the larvae leave frass near the entry point.

Conditions that are favourable to this insect include vigorous spring growth, neglected fruit trees nearby and poor spray application to new growth.

Figure 3. Oriental fruit moth damage.

Insect pest management:

1. Use a mating disruption program.
2. Monitor adults with pheromone traps (not with mating disruption).
3. Avoid using bins from known infested orchards.
4. Burn large prunings and neglected trees.
5. Monitor for shoot and fruit damage.
6. Apply good spray coverage, particularly to growing tips, only when necessary.

Queensland fruit fly

Queensland fruit fly is considered the most important insect pest of stone fruit. Fruit flies sting ripening fruit and lay their eggs under the skin. The larvae (maggots) tunnel into the fruit and the infested fruit usually falls from the tree.

Queensland fruit fly numbers can build up very rapidly under favourable conditions and are most active from October to April.

Conditions favourable to this insect include warm, humid conditions, neglected fruit trees in orchards and around houses, and poor hygiene in orchards and packing sheds (Figure 4).

Figure 4. Queensland fruit fly attacking fallen fruit.

Insect pest management:

1. Monitor the fruit fly population using fruit fly traps (note – traps do not control fruit fly).
2. Use cover spays as fruit approaches maturity.
3. Use bait spray, as an alternative to cover sprays.
4. Remove unwanted or neglected fruit trees around sheds, houses and surrounded areas.
5. Maintain good orchard hygiene.

San Jose scale

San Jose scale is considered a minor pest, but insect numbers can build up under favourable conditions. This scale insect can damage trees by feeding on branches, twigs and fruit.

Heavy infestations can cause a flaky layer to develop on the branches and on trunks (Figure 5). Affected fruit develop red rings around the scales.

Crawlers, the immature stage of this insect, can move on to new twigs and branches during the growing season.

Conditions that favour this insect include: poor control of the scale during previous seasons; the build-up in scale numbers on surrounding ornamental trees, shrubs and neglected fruit trees; warm, dry conditions during the growing season and dust settling on the trees.

For heavy infestations, apply additional sprays during the growing season.

Figure 5. San Jose scale.

Insect pest management:

1. Monitor for scale from late blossom to dormancy.
2. Control scale in surrounding trees and shrubs, or remove affected trees.
3. Reduce dust from roads.
4. Apply dormant oil sprays.

Two-spotted mite

Two-spotted mites are considered a major pest of stone fruit (Figure 6). Mites damage the tree by causing leaves to turn brown and fall. In a severe mite infestation, trees can be defoliated. The overall effect is to reduce yield and fruit quality.

Conditions that are favourable to this insect include: dusty areas in and around orchards; hot, dry conditions, and excessive use of sprays that reduce the number of beneficial insects.

Insect pest management:

1. Monitor for increase in mite population.
2. Promote or Introduce predatory mites.
3. Apply sprays only when mite numbers build up rapidly.
4. Rotate sprays to prevent resistance.

Figure 6. Two spotted mite.

Western flower thrips (WFT)

Western flower thrips (WFT) is an insect pest that occasionally affects nectarines in coastal areas.

Damage occurs during early flowering, fruit set and at maturity. Young fruit can show scarring and russeting on the skin surface, while mature fruit develop white patches around the stem end and silvering on the fruit (Figure 7).

Conditions that favour this insect include; warm, dry conditions, flowering weeds in and around the orchard, and excessive use of sprays that can lead to resistance.

Figure 7. Damage to fruit by WFT

Insect pest management:

1. Control flowering weeds (particularly clovers) in and around the orchard.
2. Replace clover and weeds within rows with grasses.
3. Monitor population numbers with yellow sticky traps.

4. Adopt the WFT insecticide resistance management program when spraying.

Biocontrol agents

Biocontrol agents, also called beneficials, are used to help better manage crop pests. They can occur naturally in crops, or can be purchased and released at critical times.

These include:

Phytoseiulus persimilis (predatory mite)

The target pest of the predatory mite is the two-spotted mite (Figure 8). This mite can occur naturally, but is more effective when released. It is best established in warm, humid areas.

Figure 8. Predatory mite Phytoseiulus persimilis attacking mite.

Lacewings

The target pests of lacewings are aphids, thrips and small caterpillars. Lacewings can occur naturally, but are more effective when released. Female lacewing can consume up to 60 aphids an hour (Figure 9).

Figure 9. Lacewing.

Ladybird beetles

The target pests of ladybirds are aphids. Ladybird beetles can occur naturally, but are more effective when released. They are effective predators (Figure 10).

Figure 10. Ladybird beetle.

Typhlodromus occidentalis (predatory mite)

The target pest is the two-spotted mite. This mite can occur naturally, but is more effective when released. It is best established in warm, dry areas.

Trichogramma wasp. Target pest: eggs of caterpillars.

Bacillus thuringiensis (Bt). Target pest: caterpillars.

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