



Common insect pests of strawberries

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Two-spotted mites

Two spotted mites are considered a major insect pest of strawberries in Australia. They are sap sucking insects that feed on the underside of leaves.

The first signs of damage are speckling and mottling on the surface of leaves. In heavy infestations, leaves turn purple, with white webbing between leaves.



Figure 1. Two-spotted mites.

Affected plants are stunted, low-yielding and the fruit size and quality are poor. Outbreaks of this pest are favoured by warm, dry conditions from spring onwards.

Pest management:

1. Monitor crop for mites.
2. Control weeds in and around crop.
3. Introduce and promote beneficial insects.
4. Apply insecticides if necessary. Rotate chemicals, from different chemical groups, to prevent resistance.

Western flower thrips (WFT)

Western flower thrips (WFT) are a major insect pest of strawberries. Both larvae and adults can damage strawberry flowers and fruit.



Figure 2. Western flower thrips (WFT).

Fruit damage includes surface russetting around seeds from late green to ripe fruit. The fruit can take on a seedy bronze-like appearance.



Figure 3. Surface russetting around seed caused by WFT.

WFT feeding on flowers can result in deformed fruit. Outbreaks of this pest are favoured by warm, dry conditions and when surrounding weeds dry out. Other thrips, like onion thrips or plague thrips, can be confused for WFT.

Pest management:

1. Monitor crop for thrips with sticky traps.
2. Control all flowering weeds, particularly clovers, around plantings.
3. Remove and burn the crop after harvest.

4. Correctly identify the type of thrips before applying insecticides.
5. When using insecticides, follow the WFT insecticide management plan. Rotate chemicals, from different chemical groups, to prevent resistance.

Aphids

Aphids are considered a minor pest but can infest strawberries at any time and rapidly build-up in numbers. Aphids are sap sucking insects found on the underside of leaves and around flower buds. Sooty mould, caused by honeydew excreted by aphids, can spoil fruit and make picking difficult.



Figure 4. Green peach aphid.

High numbers of aphids can affect yield and fruit quality, and even kill plants in hot, dry conditions.

Pest management:

1. Monitor aphid numbers, particularly in early spring.
2. Introduce beneficial insects.
3. Spray only when high numbers of aphids are present.

Corn earworm (*Helicoverpa spp.*)

The corn earworm is considered a minor pest of strawberries. The larval stage of this insect can cause considerable damage to leaves, but prefers flower buds, crown and fruit. The larval stage (caterpillar) can chew into the fruit.

Numbers can build-up very rapidly. A single female can produce up to 1000 eggs. Under optimal conditions, larvae mature within 4 to 5 weeks.

Infestation is mostly in spring and autumn and is more common in warmer growing areas.



Figure 5. Corn earworm damaging fruit.

Pest management:

1. Monitor flowers and flower buds in spring.
2. Remove and burn nearby host crops such as tomatoes, as they may be infested.
3. Apply insecticides if necessary. Rotate chemicals, from different chemical groups, to prevent resistance.

Rutherglen bug

Rutherglen bugs are not considered a regular pest, but numbers can rapidly build-up under suitable conditions.

Adults and nymphs can damage flowers, seeds and fruit. Large numbers of bugs in strawberry flowers during pollination can result in deformed fruit that remains small, dry and take on a 'cat face' appearance.



Figure 6. Rutherglen bug on strawberry flower.

The insects are most active in spring and summer during warm, dry periods and when surrounding weeds are drying off.

Pest management:

1. Monitor insect numbers in spring.
2. Control weeds around crops.
3. Heavy rain and overhead irrigation can help reduce numbers.
4. Apply insecticide when numbers build up.

White curl grub

White curl grub is considered a minor pest of strawberries. They can damage the plant by feeding on the root system. Plants affected by this insect can show early signs of wilting, remain small, weak, and both yield and fruit quality is affected. If large numbers of insects are present, plants may die.



Figure 7. White curl grub feeding on roots.

Infestations are favoured by planting into new ground previously under pastures, in older infested blocks or in poorly cultivated ground.

Moist soil conditions are needed for beetles to emerge in spring and summer.

Pest management:

1. Monitor during soil cultivation for white grub numbers.
2. Good cultivation before planting will injure grubs and expose them to birds and the sun.
3. Pre-plant soil fumigation to control diseases may help reduce numbers.
4. There is no treatment in established plants.

Queensland fruit fly

Queensland fruit fly is considered a minor pest of strawberries. This insect prefers warm, humid coastal conditions but can survive in drier inland areas under favourable conditions.

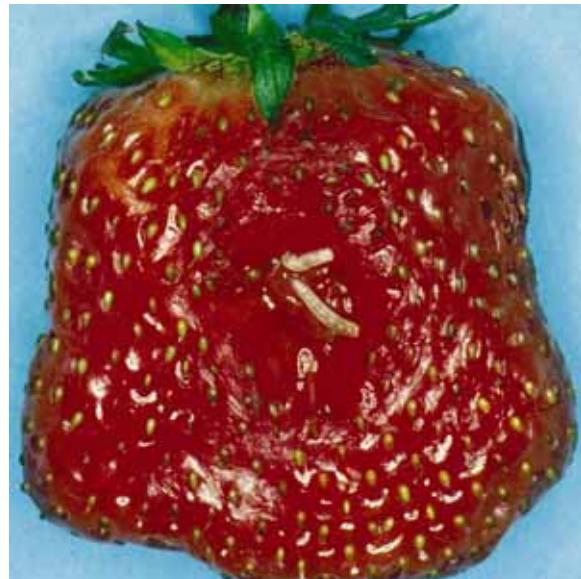


Figure 8. Fruit fly larvae in mature fruit.

This insect is most active from October to April where adult females lay eggs into maturing or ripe fruit from late spring onwards. Larvae (maggots) develop inside the fruit. In heavy infestation fruit can break down.

Pest management:

1. Monitor male fruit fly population using traps.
2. Apply cover sprays.
3. Remove and destroy discarded fruit in the field and around packing sheds.
4. Keep all house fruit trees free of fruit fly and remove unwanted fruit trees.

Biological control 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)

Target pest: two-spotted mite. These predators can occur naturally, but are more effective when released. They are best established in warm humid areas (Figure 9).

Lace wing

Target pests: aphids, thrips and small caterpillars. These predators can occur naturally, but are more effective when released. The female lacewing can consume up to 50 to 60 aphids in an hour (Figure 10).

Ladybird beetles

Target pests: aphids. These predators can occur naturally, but are more effective when released. They are effective predators (Figure 11).

Other biocontrol agents

Trichogramma wasp

Target pest: eggs of caterpillars.

Typhlodromips montdorensis

Target pest: thrips.

Typhlodromus occidentalis

Target pest: two-spotted mite. They are best established in warm humid areas.

Bacillus thuringiensis (commonly called Bt)

Target pest: caterpillars.



Figure 9. *Phytoseiulus persimilis* attacking two-spotted mite.



Figure 10. Lace wing.



Figure 11. Ladybird beetle attacking aphids.

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ISSN 1832-6668

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Job number 9259 PUB09/81