

Key pests associated with strawberries in New Zealand

Thrips



- In NZ, the species associated with strawberries are; Intonsa flower thrips (*Frankliniella intonsa*), Western flower thrips (*Frankliniella occidentalis*), Onion thrips (*Thrips tabaci*), and NZ flower thrips (*Thrips obscuratus*).
- Thrips are minute (mostly 1 mm long or less) slender yellow, brown or black insects with fringed wings, just visible to the naked eye.
- Larvae and adults mainly feed in strawberry flowers, but will also feed on leaves and fruit.
- Damage to flowers is characterised by brown and withered pollen structures and center of the flower, dead (necrotic) spots on the calyx of the flower, and reduction in flower base size at high density (>25 thrips/ flower).
- Feeding on the fruit surface causes scarring and bronzing.

Mites



- Two main mite species affect strawberries in NZ; Two spotted spider mites (*Tetranychus urticae*) (pictured), and Cyclamen mites (*Phytonemus pallidus*).
- Two spotted spider mites are oval shaped and approximately 0.5 mm in length. They are usually light greenish-yellow in color with two large, dark spots on their abdomens. All stages are usually found on the undersides of leaves. At high levels, they produce webbing.
- Cyclamen mites are minute (< 0.3 mm), oval shaped and white or translucent, and are usually found up under the calyx of the flower or fruit, or on the young folded leaves.
- Mites puncture leaf cells and suck out their contents, reducing the plants ability to photosynthesize.
- Quality and yield of fruit may be reduced, and severely infested plants may die.
- Infested leaves will appear stunted and crumpled, and damaged fruit is small, and bronzed, with prominent seeds.

Aphids



- Aphids are small insects, usually pale green with long skinny legs and antennae.
- Larger adults and nymphs can be seen with the naked eye, and they mainly occur in colonies on the undersides of leaves later in the production season.
- Aphids are sap-sucking insects, and heavily-infested leaves can wilt or turn yellow due to excessive sap removal. They produce large amounts of a sugary liquid waste called "honeydew", which the sooty mould fungus can grow on, resulting in black areas on leaves or branches.
- Strawberry mottle virus is a serious pathogen of strawberries that is transmitted by aphids (*Aphis gossypii* and *Chaetosiphon fragaefolii*). The virus is present in NZ but not widely distributed within commercial strawberry production.

Moth Caterpillars



- Several species of caterpillars can attack strawberry plants including leafrollers and loopers.
- Looper caterpillars are easiest to find on flowers.
- Leafroller caterpillars are often found in leaves where they have rolled the edge of the leaf up, or webbed between the calyx and fruit. To catch them early, watch for any moths between 1-3cm wide visiting the plants.
- Caterpillar feeding on the flower centres causes distorted scarred fruit to develop, and some caterpillars may chew holes in already developed fruit.

Mirids



- A common mirid found on strawberries is the Crop mirid, *Sidnia kinbergii*.
- Mirids are small (<12 millimetres in length), oval-shaped or elongate.
- Adults are usually mottled tan or brown, and young mirids are green with brown and white stripes on their antennae.
- They are fast and usually move around the back of the fruit or flower when you disturb them.
- Mirids are sucking insects, and can damage plant buds, leaves, flowers and strawberry fruit directly, due to injecting their toxic saliva into the plant as they feed. This can cause distorted fruit or 'cat-facing'.