

Exotic Pest Alert: Strawberry spider mite

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Plant Biosecurity & Product Integrity, Orange

Strawberry spider mite (*Tetranychus turkestanii*) is an exotic plant pest **not present in Australia**

This mite is a serious threat to Australia's **cotton and horticultural industries**

If found it must be reported promptly to the Exotic Plant Pest Hotline **1800 084 881**

Strawberry spider mite

The common name “spider mite” is derived from the ability of spider mites to produce silk webbing. Strawberry spider mites (SSM) live and feed in webbing on the underside of leaves.

Species of *Tetranychus* already present in Australia, such as the two spotted spider mite (*T. urticae*), are very similar in appearance to *T. turkestanii*. To avoid confusion, species identification should be undertaken by an expert.

If recognised early, effective control can be implemented as SSM is more susceptible to miticides than other *Tetranychus* species.

Although SSM attacks a number of host plants, if introduced into Australia it will be particularly important to detect early season infestations in cotton as SSM is particularly damaging to cotton crops.

Description

Adults

To the naked eye, SSM appear as tiny moving dots. Adults are less than 0.5 mm long.

When viewed through a microscope, adults have eight legs, an oval body and may be coloured yellow, green, red, or brown.

Two red eyespots can usually be seen near the head and black spots may be apparent on either side of the body (Figure 1, arrow a).



Figure 1 Adult (a) and immature (b) strawberry spider mites as viewed under a microscope



Figure 2 Underside of leaf with strawberry spider mite infestation

Immature stages

Immature SSM resemble adults, though smaller (Figure 1, arrow b). Eggs are spherical, translucent and invisible to the naked eye.

Damage

Early stages of SSM infestation do not show obvious symptoms in host plants, though as numbers increase, detection becomes easier.

Strawberry spider mites puncture plant cells and feed on the contents. The part of the leaf damaged by feeding puckers upward and later turns red, then brown.

An uncontrolled infestation can cause whole leaves to die and appear as if burnt. In severe cases, entire plants may be defoliated.

In cotton, loss of leaf surface reduces the plants' ability to provide energy for developing squares and bolls. Damage can lead to boll drop and significant impacts on yield and quality.

Lifecycle

One female mite can start a new population, regardless of whether she has mated or not. Unmated females produce male mites, with which they can mate and produce females. A female can lay 40–50 eggs during the adult life stage.

Once eggs hatch, the growth period from juvenile to adult depends on temperature. A spider mite generation may take as few as 5–7 days in midsummer or a month during cool periods.

In warmer climates spider mites may remain active year round. In cooler climates, mites will overwinter as either eggs or orange coloured adults. Overwintering habitats include bark, leaf litter and the upper layer of soil at the base of plants.

Host range

Strawberry spider mite has an extensive host range of around 208 plant species. It is a significant pest of a number of commercial crops overseas including cotton, vegetable crops, berries, nursery plants and commercial flowers.

Spread

Long distance spread of SSM can occur on clothes and when infested plant material or equipment is moved. Spider mites tend to be associated with plant leaves but may spread to fruit when leaves become overcrowded.

Spider mites will walk short distances within plants and between adjacent plants. Local movement over greater distances occurs by mites producing 'parachutes' of silk thread to carry them on wind currents.

Distribution

Strawberry spider mite is currently widespread across USA, Mexico, Europe, South Africa, Russia, China and New Zealand.

Actions to minimise risk

Put in place biosecurity best practice actions to prevent entry, establishment and spread of pests and diseases:

- practice "Come clean, Go clean"
- ensure all staff and visitors are instructed in and adhere to your business management hygiene requirements
- monitor your crops regularly
- be on the lookout for changes in pest responses to chemical control
- keep records

Reporting

If you suspect strawberry spider mite:

Call the Exotic Plant Pest Hotline on
1800 084 881

Take photos not samples to minimise the risk of spreading this pest

Email clear photos with a brief explanation and contact details to
biosecurity@dpi.nsw.gov.au

An **exotic plant pest** is a disease causing organism or an invertebrate **not present in Australia** and which threatens agricultural production, forestry or native and amenity plants.

Acknowledgments

Figure 1 courtesy of Jack Kelly Clark, UC State wide IPM project

Figure 2 courtesy of Natalie Hummel, Louisiana State University AgCenter, Bugwood.org

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