

Table 1. Risk and monitoring period for citrus bud mite activity.

Flowering			Fruit drop		Golf ball		Colour break			Maturation	
Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul

Description

Citrus bud mites are small, cream, around 0.17 mm long, elongated and tapered at the posterior end (Figure 1). There are 4 legs at the front end near the mouth. These mites are difficult to find without a microscope. While it is similar in size and shape to citrus rust mite, bud mite is usually found in the buds of flowers and leaves and is a different colour.

Life cycle

The life cycle is around 10 days in summer and 20–30 days in winter. Females can lay up to 50 eggs, with over 20 generations produced in a year. Eggs are deposited in the young tissue of buds and flowers, hatching into small nymphs, which appear similar to the adult mite. These undergo 2 moults before reaching adulthood.

Damage

Citrus bud mites feed inside the buds, killing them or causing a rosette-like growth of the subsequent foliage and distortion of flowers and fruit (Figure 2 and Figure 3). Damage might reduce fruit set, yield and fruit quality. Lemons are most susceptible.

Threshold: the action level is 10% or more of leaf buds infested.

Risk period: flowering and fruiting (Table 1).

Monitoring

Citrus bud mites are very hard to see without a hand lens. To detect bud mites before damage occurs, look for twisted young shoots from November to May. Sample 5 young shoots per tree for damage.

To confirm citrus bud mites, collect one bud from each of 50 randomly chosen trees throughout the orchard. Dissect the buds using a scalpel under a microscope or 20× hand lens. Mites will be found under the bud scale. They are usually very slow-moving or stationary. Determine the percentage of buds infested with one or more live mites.



Figure 1. Citrus bud mite adults, nymphs, and eggs. Photo: Smith et al. (1997).



Figure 2. Lemons damaged by citrus bud mite, causing distorted fruit with irregular shapes. Photos: WA DPIRD.

Citrus bud mite

Aceria sheldoni (Ewing)

Fact sheet

Rachelle Johnstone, WA DPIRD, 2024

Management and control

Biological: natural enemies include predatory mites in the Phytoseiid, Stigmaeid and Cheyletid families. The main predators are *Eusius victoriensis* and *Eusius elinae*. These should be encouraged in the orchard through cultural practices and avoiding or minimising disruptive pesticide use.

Cultural: predatory mites can be encouraged by growing pollen-producing plants in inter-rows such as Rhodes grass and ryegrass. Mowing alternate rows every 2–4 weeks will allow continuous flowering and pollen production.

Chemical: control can be difficult as the mite is protected within the leaf or flower bud. Decisions to spray should be based on monitoring. If action levels are reached, a selective miticide can be applied, preferably one that is not harmful to predatory mites. Check the [APVMA PubCris database](#) and follow label instructions, withholding periods and permit conditions.

More information

[APVMA PubCRIS database](https://portal.apvma.gov.au/pubcris), <https://portal.apvma.gov.au/pubcris>

Broughton S (2014) [Mites in citrus](#). WA Department of Primary Industries and Regional Development, <https://www.agric.wa.gov.au/citrus/mites-citrus>

Smith D, Beattie GA and Broadley R (1997) *Citrus pests and their natural enemies: integrated pest management in Australia*, Queensland Department of Primary Industries. <http://hdl.handle.net/10462/pdf/9446>

University of California Integrated Pest Management Program (UC IPM) (2019) [Citrus bud mite](#), <https://ipm.ucanr.edu/agriculture/citrus/citrus-bud-mite/>



Figure 3. Flowers and leaves can be twisted and distorted by citrus bud mite. Damage to leaves include multiple budding, distortion and bunching. Photos: WA DPIRD.

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