

CITRUS RED MITE

Panonychus citri (McGregor)

1 PEST PROFILE

1.1 Distribution and status

Citrus red mite is a common pest of citrus throughout southern Africa, and can attain epidemic proportions in the absence of its natural enemies.

1.2 Description

Citrus red mite (and also red spider mite) is relatively large (approx. 0.5 mm long) and easily visible in comparison to other mite species which occur on citrus. The adult females are oval in shape and range from greenish-red to reddish-purple in colour. The dorsal setae are longer than those of the red spider mite and arise from protuberances on the abdomen. The males are smaller than the females, are more pointed posteriorly and have longer legs. The eggs range from pale to dark red and appear as slightly flattened, onion-shaped spheres. They have a protruding spike on the upper surface from which fibrils extend to the surface of the leaf. The eggs are laid on the surface of the leaf, often along the midrib and never on webbing. Relative humidities of below 25% hinder mite development, temperatures of 35°C and higher reduce male survival, and all life stages die at ambient temperatures of 40°C. Strong winds at high temperatures increase mite mortality but light winds aid their dispersal.

1.3 Infestation sites on tree

These mites can be found on the leaves (usually the upper surface), green twigs and fruit.

1.4 Damage

1.4.1 Symptoms

Light foliar damage resulting from mite feeding appears as stippling, but as the damage increases the leaves turn grey or yellow. Severe infestations can cause mesophyll collapse, resulting in brown patches on the leaves, and leaf drop may occur.

In severe cases this drop may be accompanied by twig die-back. Severe damage to immature fruit can cause silvering, but this usually does not prevent development of normal fruit colour.

1.4.2 Seasonal occurrence

Citrus red mite can occur throughout the year except for the hottest summer months. It is most common after growth flushes.

2 MANAGEMENT ASPECTS

2.1 Infestation/damage assessment

Citrus red mite infests trees of all ages in nurseries and established orchards.

2.1.1 Inspection

Foliage should be inspected every two weeks.

2.1.2 Treatment threshold

When inspection reveals mite numbers are progressively increasing, apply a treatment when an average density of 5 adult mites per leaf is noted. More mites per leaf can be tolerated if predatory mites or beetles are readily noted in infested areas and ongoing inspections indicate that no further infestation increase is taking place. This will also apply if a period of lethal temperatures is expected.

2.2 Control options

2.2.1 Biological

Biological control of this mite can be effected by predators. The most important are *Stethorus* spp. which are small, black ladybird beetles. Lacewing larvae, dustywings (Coniopterygidae) and predatory mites (*Euseius* spp. and *Typhlodromus* spp.) also help to suppress this pest. The presence of dustywings is easily recognisable from their circular, flat, white silky cocoons on the upper surfaces of leaves. Predatory mites are most effective at relatively low citrus red mite population levels and may prevent infestations from reaching the treatment threshold. *Stethorus* beetles, lacewings and dustywings are more effective against severe infestations. Pesticide disruption of their biocontrol and the stimulatory

effects of some pesticides on red mite may cause population outbreaks.

2.2.2 Cultural

There are no cultural measures that can be used for red mite control, although ground cover in the inter-row will improve the chances of biocontrol by providing refugia and alternative food sources for natural enemies.

2.2.3 Plant protection products

The following treatments are registered for the control of citrus red mite:

Product	Dosage/100 ℓ water
Oil	1.0 ℓ
Tedion ¹	200 ml
Envidor	10 ml
Torque	55 ml
Kelthane	200 g
Smite	50 ml
Selecron ¹²	50 ml

¹ Not to be used after petal fall for some markets.

² Not to be applied to grapefruit or midseason cultivars.

If Mitigate is applied for the control of bud mite in autumn it will also control citrus red mite at the same time.