

CITRUS RUST MITE

Phyllocoptruta oleivora (Ashmead)

1 PEST PROFILE

1.1 Distribution and status

The rust mite appears to favour humid conditions and is primarily a pest in the subtropical citrus production areas. In these areas severe crop blemishes can occur if the mite is allowed to become established. Rust mite has not been recorded as a pest in the dry citrus areas of the Cape provinces.

1.2 Description

The adult rust mite is microscopically small, cigar-shaped and is a tan-yellow colour. It is just visible with the naked eye when large mite numbers are present on fruit in which case the fruit surface looks as if it has been dusted with powder. The white, spherical eggs are laid in small groups on the fruit or leaf surface. The egg is followed by two active nymph stages before the appearance of the adult mite. In the adult stage the sexes cannot be readily differentiated.

1.3 Infestation sites on tree

The mites infest foliage and fruit and can be spread from tree to tree by the wind. Out of season fruit can be a source of infestation.

1.4 Damage

1.4.1 Symptoms

Damage is caused by the feeding activities of the mites. Edges of infested leaves can turn brown and feeding marks can also occur on the leaf surface. These damage symptoms are usually of limited extent and importance.

Economically important damage occurs on the fruit of all cultivars. Most feeding activity on oranges results in the formation of noticeable, continuous dark brown or dark purple blemishes which can wholly or partially cover damaged fruit. These blemishes become progressively more noticeable as the fruit matures. In the case of grapefruit, damage to

young green fruit can initially resemble the grey/white lesions of severe thrips damage.

1.4.2 Seasonal occurrence

In areas where rust mite is endemic, infestations are cyclical. The mites survive the winter on foliage. Infestation of the new crop occurs in the spring and, depending on circumstances and general pest control strategies used, can reach epidemic proportions during the summer.

2 MANAGEMENT ASPECTS

2.1 Infestation/damage assessment

Rust mite is only of commercial importance on bearing trees.

2.1.1 Inspection

Inspections for rust mite presence must be focused on fruit with the intention of identifying the presence of damage in its earliest stages. They must be conducted at intervals of 10 to 14 days during the danger period which stretches from petal fall to March.

2.1.2 Treatment threshold

The first sign of rust mite presence in an orchard is frequently the presence of isolated blemished fruit. When this is noted during a particular season it must be regarded as a serious rust mite warning for the following season.

2.2 Control options

2.2.1 Biological

Various predators, including the predatory mites, *Euseius citri* (van der Merwe & Ryke) and *Pronematus ubiquitous* (McGregor) attack rust mites. It is not known whether these agents are able to prevent fruit infestation by the mite. They are, however, unable to control large, established rust mite populations on fruit.

2.2.3 Cultural

Although not proven experimentally, pruning that allows more air flow and light into trees

may reduce the severity of rust mite infestations in areas where it is not common.

2.3.3 Plant protection products

2.3.3.1 Trunk treatment

A double application of Citrimet with a 21 day interval between applications, is registered as a preventive treatment. Refer to TRUNK APPLICATION PROCEDURE in Chapter 2 for more information.

2.3.3.2 Soil treatment

The carbamate nematicide Temik can be used as a soil treatment for rust mite control but ideally this should only be used if nematode control is required at the same time. If Temik is to be used as a nematicide in mid-November then it will give control of rust mite.

The recommended quantity of Temik must be distributed uniformly over the drip area below the tree. In the case of flood irrigation it must be distributed in the tree basin. A normal irrigation cycle should be applied subsequently to wash the Temik into the soil.

The dosage for soil treatment is as follows:

Product	Per m ² soil surface
Temik	5 g

2.3.3.3 Spray treatment

One of the following acaricides can be used as a medium cover, film spray:

Product	Dosage/100 ℓ water
Envidor ¹	15 ml
Torque	15 ml
Sulphur ² WG or WP	300 g
Lime sulphur ²	1.25 ℓ
Dithane M45 ³	75 g
Selecron ¹	100 ml
Smite	50 ml

- ¹ First verify residue acceptability for markets.
- ² May not be applied on trees with young fruitlets and a six week safety period must be allowed between this treatment and any oil-containing treatment.
- ³ Ineffective in some areas due to resistance.

Comment on mancozeb

The control programme for black spot disease containing Dithane M45 usually provides good suppression of rust mite in areas where there is no resistance to this product. Resistance is now common in many parts of the lowveld.