

PINEAPPLE MITES



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There are two species of mites that generally infest pineapple plants and fruit, the pineapple red mite (*Dolichotetranychus floridanus*) and the pineapple fruit mite (*Steneotarsonemus ananas*). The red mite (sometimes known as the flat mite) is the one commonly seen by growers and its damage symptoms are generally well recognised; if present in planting material it can cause significant problems with plant establishment and early growth. Damage associated with the fruit mite is not common, but can occur seasonally, as its name implies it damages the fruit.

Red mite/flat mite (*Dolichotetranychus floridanus*)

Symptoms and damage

This is large for a mite, 0.25 to 0.33 mm long, and about a quarter as wide. Red mite colonies can develop rapidly, and are clearly visible as reddish/orange blotches on the soft white basal tissue of the leaves. The feeding sites appear as “rusty spots” that can be invaded by microscopic pathogens. As damaged leaves continue to grow the feeding sites of the red mite appear as multiple indentations on the green leaf. Severe infestations produce large, dark brown lesions that almost completely cover the basal white tissue, and this can lead to necrosis and death of the leaves. Mites can also affect the fruit, and tips of aerial roots at the base of the leaves.

Populations develop very quickly under hot dry conditions, and while red mites are found throughout the industry they tend to be heaviest in Central and North Queensland particularly during and after hot dry spells. There have been instances where the crowns of fruit were so heavily infested – prior to fruit harvest – that they actually disintegrated at harvest.

The symptoms on fruit include dark red to brown lesions on the shoulders of the fruit (usually associated with heavily infested crowns) with individual fruitlets having a sunken appearance. Mites can be found inside fruitlets, creating a brown blemish in the flesh reaching to the core, this is more common in hybrid varieties particularly 73-50.

The main source of loss in the crop is due to heavy infestations in planting material. The effects of red mite feeding on slips and suckers are much less severe than on crowns, but since crowns are the dominant “seed” today red mites are economically important. Heavily infested crowns, particularly if they are stored in bins, establish erratically (some plants die), the crop is uneven and yields can be badly affected.

Management

Red mite control programmes are based on crop monitoring – looking for colonies on the basal white tissue of leaves and/or the leaf indentations and “rusty” feeding sites. There are three stages in the crop cycle where they may be a problem and should be monitored; at planting, at flower initiation and near fruit harvest. Timing of treatments is critical to successful control.

Post-plant treatment

There is an off-label permit for the use of **Dimethoate 400 g/L** as a post-plant treatment against red mite.

At flower induction, four sprays may be applied at fortnightly intervals at flower initiation.

Approaching fruit harvest if red mites are found feeding on the crowns of developing fruit a further four sprays may be applied at fortnightly intervals with the final spray at least 14 days prior to harvest. This will require commencing the program at least 8 weeks before harvest.

- The rate of **Dimethoate 400 g/L** is 0.11L/100L in at least 2000 L of spray mixture/ha. For example this is equivalent 2.2L of the pesticide per hectare in 2000 L of spray mixture.

Pineapple fruit mite (*Steneotarsonemus ananas*)

Symptoms and damage

Pineapple fruit mites are not a common problem. They are small and grey – about half the size of the red mite. They normally live in the heart leaves of the pineapple plant and feed on the trichomes (leaf hairs) under these leaves. Occasionally their feeding causes some browning near the margins of the basal white tissue, but these mites and their feeding effects are rarely visible. During the plant's growing period this mite is normally found in only small numbers. But immediately after flower initiation the population can increase dramatically. The developing fruit is heavily covered with trichomes giving the fruit mite lots of food. The typical symptom can show as the fruit cone begins to flower. “Polished” green patches appear where the normal white trichomes have been removed by this feeding. This has no direct effect on fruit size or yield.

Fruit mite can however be associated with “inter-fruitlet corking” (IFC) which can occur seasonally. The symptom of IFC is corking between the fruit's eyes. Some eyes are missing, or very small, but the affected eyes are in patches – unlike boron deficiency symptoms which tend to affect the entire fruit. IFC is caused by a fungus infection during the pre-redbud fruit stage. The fungus – *Penicillium funiculosum* – is the actual cause of this deformity, and the fungus grows on the “soup” created by the feeding of the pineapple fruit mite. Control of the fruit mite controls IFC.

Management

Treatments applied for red mite at flower initiation will incidentally control fruit mite during the critical fruit development stage.

References and further reading

Broadley, R.H., Wassman, R., Sinclair, E. (1993). Pineapple pests and disorders. Qld DPI.

Broadley, R.H., Wassman, R., Sinclair, E. (1993). Protect your pineapples. Qld DPI.