

Managing spider mites

Tetranychus lambi and *Tetranychus urticae*

Causes of mite flares

Broad spectrum insecticides, such as bifenthrin, are one of the major causes of mite flares because they remove the beneficial predators that are providing background pest control. The use of such chemicals is not recommended.

Other factors likely to increase the potential for a mite problem include:

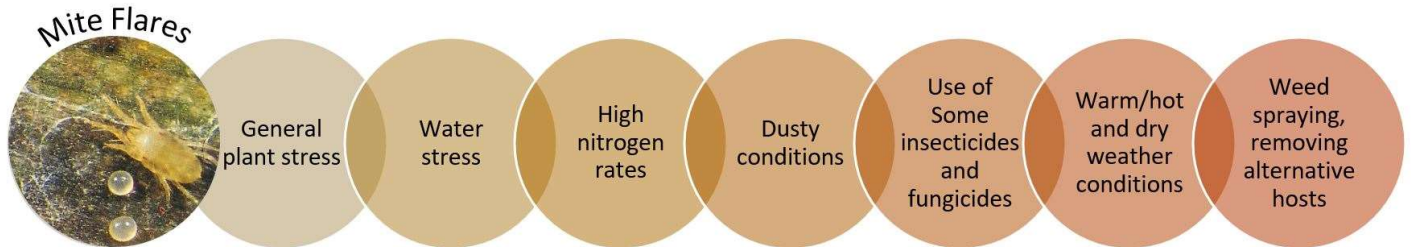


Figure 1 Causes of mite flares

Monitoring mite populations

Mites have a short life cycle which can be as short as 7-10 days during hot-dry conditions and as long as 4 weeks. Over summer months, weekly monitoring is preferable, however, fortnightly is sufficient during cooler, wet conditions. To monitor for the presence of mites, check plants for overall mite damage. The following categories can be used as a guide for the assessment of damage on the underside of leaves.

1 = Low

A few mite colonies on leaves and minor (more than one or two) localised bronzing on the under surface of leaves.

2 = Moderate

Mite colonies are scattered but numerous; bronzing is clearly evident on leaves (patchy but starting to coalesce) but the damage is contained within the interveinal areas.

3 = High

Mite colonies coalescing and bronzing damage over most of the leaves.

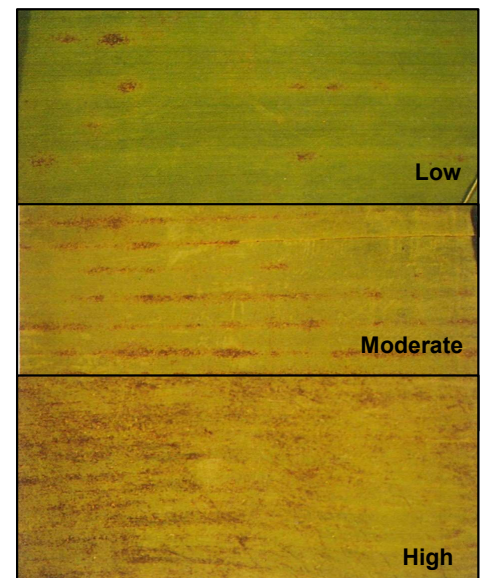


Figure 2 Scale of mite damage

Applying miticides may be unnecessary if you have low to moderate levels (categories 1 or 2) of spider mite damage and healthy predator populations. A healthy predator population may look like finding predatory eggs and nymphs near the mite colonies. This may include finding small black *Stethorus* beetles. *Stethorus* are found mainly on the underside of leaves, with their pupae found close to the mid-rib. If healthy predator populations are detected then your consultant may advise continued weekly monitoring. You may also consider boosting the number of natural predators by releasing the predatory mite *Californicus* as a hot-spot treatment if only certain parts of the paddock are having mite flares.

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In addition to an overall damage assessment, it is also important to take note of the youngest leaf the mites are present on. In general, mites will move up the plant to the younger leaves, particularly as the population grows. In general, the younger the leaves the mites attack, the more severe the infestation.

It's important to monitor regularly, as spider mite populations can increase rapidly under favourable weather conditions (hot and dry). Therefore, always consider weather conditions before making management decisions. Rain and wet weather will help to keep spider mite populations down.

If you have high levels of damage (category 3) and spider mites are present on newly emerged leaves then a miticide treatment will be required to gain control of the population.



Figure 3 Mites on the underside of banana leaf, adults visible to the naked eye.

Encouraging predators

Promoting predatory insects to manage mite levels is best done by limiting the use of harmful chemicals, such as broad-spectrum insecticides, which affect beneficial predatory mites and *Stethorus*.

Stethorus, the shiny black pinhead-sized lady beetles, are naturally occurring mite predators. They tend to increase in number when spider mite populations are high, as they use spider mites as a food source. However, there may be a delay in their population growth due to the initial lack of spider mites.

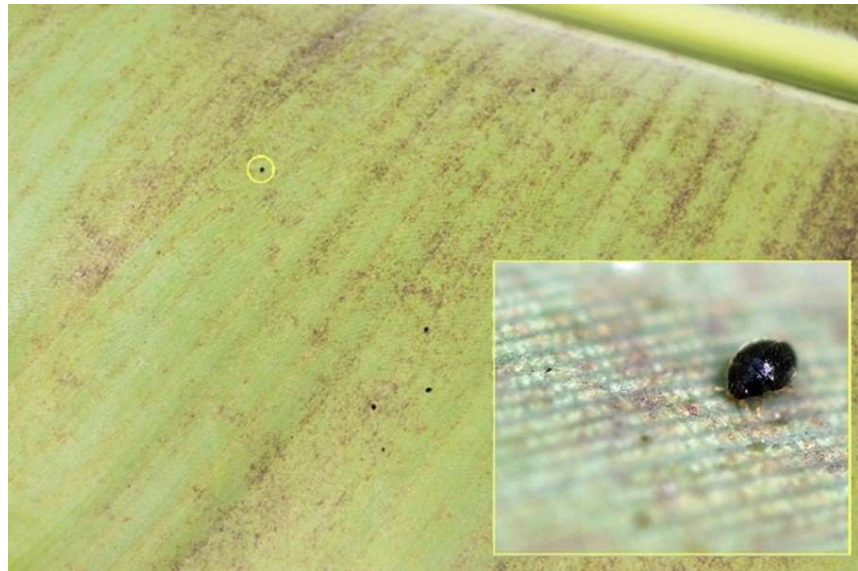


Figure 4 Predatory adult *Stethorus* beetles on a banana leaf.

Predatory mites such as *Neoseiulus californicus* (*Californicus*) and *Phytoseiulus persimilis* (*Persimilis*) can also be purchased for release in your blocks from biological agent suppliers. It has been found that *Persimilis* may be the more efficient predator in south-eastern Queensland and northern NSW, as it utilises the webbing of the two-spotted spider mite, to locate its prey. While, in Far North Queensland, it's advised to use the predatory mite *Californicus* due to its suitability to the climatic conditions and its effectiveness against the predominant predatory mite, the banana spider mite.

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