viti-notes

[pests and diseases]

Research to Practice

Monitoring mealybugs

Viti-note Summary:

- Choosing monitoring sites
- Rapid visual assessment
- Detailed threshold monitoring
- Action thresholds

Monitoring provides essential information for making management decisions by indicating:

- the presence and numbers of mealybugs and predator insects;
- the degree of natural control by insects which prey upon or parasitise mealybugs, e.g. certain ladybird larvae and some species of wasps;
- if mealybug numbers are high enough to require treatment; and
- the life cycle stages of any mealybugs present and therefore the most effective timing for management options.

Choosing monitoring sites

Pay particular attention to parts of the vineyard where mealybugs have been found before, especially on vigorous vines at the ends of rows. Areas, which have previously been sprayed with insecticides may also have high mealybug populations as natural predator numbers will have been affected.

There is generally however, no other patterning to mealybug 'hotspots' other than their preference for humid sheltered sites within vines. They are commonly found inside dense canopies where humidity is higher. Mealybugs can also be found underneath bark down to soil level.

Rapid visual assessment

Monitor from October to harvest.

Examine likely sheltered sites on 10 panels of vines:

- Under leaves. Target leaves in contact with the crown or cordon.
- Inside bunches.
- Where vines are 'matted' around trellis wires and cordons.
- Where bunches contact the bark.

Look for signs of:

- Colonies of egg sacs*, nymphs and adult mealybugs, and signs of parasitised mealybug 'mummies' (use a hand-lens).
- Honeydew (droplets of sap) and sooty mould (if sooty mould is obvious when monitoring, it is likely that a substantial population of mealybugs exist).
- Tag infested vines for future monitoring and for spot treatment if that becomes necessary.

*The egg sacs which encase the eggs laid by citrophilous and tuber mealybugs can persist on vines for one or more seasons, so check for evidence of live eggs or recent hatchings to ascertain if any egg sacs observed are from the current season.

Other topics in this Viti-Notes series include:

- Mealybugs
- *Monitoring mealybugs*
- Managing mealybugs

Detailed threshold monitoring

At berry set

- Select 10 leaves at random from the base of canes inside the crown of the canopy of 10 vine panels (100 samples).
- Look for evidence of mealybugs on the lower leaf surfaces using a 10X hand-lens or field microscope.
- Tag infested vines for future monitoring and for spot treatment if that becomes necessary.
- Repeat at veraison and then fortnightly or monthly until harvest.

At harvest

- Select 10 bunches randomly from the 10 panels and examine for mealybugs (100 samples).
- Also repeat leaf sampling.

NOTE: If mealybug are found on leaves in contact with bunches, it is very likely that bunches are also infested.

Action threshold

If general infestation levels exceed a threshold of 10% of the 100 leaves or bunches sampled, it may be necessary to spray, however the decision should be balanced against any potential for hot weather and natural predators to decrease the mealybug population. This should also be considered in relation to winery tolerance for mealybug contamination.

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Further information

Learmonth, S. Understanding the biology and improved management of longtailed mealybug in WA. http://www.gwrdc.com.au/webdata/resources/project/RT04062.pdf

Training

For regional specific training in pest and disease control, the AWRI is running Research to Practice: Integrated Pest Management for changing viticultural environments.

Contact

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Agrochemical information

Agrochemicals registered for use in Australian Viticulture - updated annually.

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