



Rust mite series  
2004

## Spring control of rust mite

If rust mite activity was observed in the vineyard in the previous season, particularly significant leaf bronzing in the late summer/autumn, control measures for rust mite are likely to be required before budburst in the upcoming season.

Recent research indicates that control of rust mite can only be achieved in a very narrow window in early spring when the mites are exposed during migration from their winter sheltering sites, before leaf expansion provides them with shelter from sprays and before they can lay their eggs. Treatment with wettable sulphur and canola oil is proving effective in field trials in southern Australia.

Much rust mite management to date has relied on sulphur sprays which are commonly applied at 2 and 4 weeks after budburst for the control of powdery mildew – there may be some effect of such applications, but these are unlikely to give adequate control of rust mite.

### Targeting

To achieve adequate control of rust mite, sprays must be targeted to saturate the bark of cordons and crowns to kill migrating adult rust mites as they leave their overwintering sites, before they can lay their eggs, which are not susceptible to wettable sulphur.

### Application rates

In field trials, some control was achieved with higher volume applications of wettable sulphur (900L/ha) and lower volume applications of a mix of wettable sulphur and canola oil (500L/ha).

However, the best results were achieved by applying high volume sprays to runoff, of a mix of wettable sulphur and canola oil, applied at the rate of 900L/ha. Applications were only made when temperatures were 15°C or above as sulphur activity is reduced below this.

**CAUTION:** Mixtures of wettable sulphur and canola oil, and to a lesser extent canola oil alone, can cause damage to newly unfolding leaves and shoots, and impact on next season's developing buds.

They should not be applied from budburst onwards.

### Timing management strategies

Rust mites are only exposed for a very brief period in late winter/early spring depending on the region and the characteristics of the season. In experiments conducted in cool climate vineyards in the southern Australia, mite migration on several vine varieties was seen to correlate with woolly bud stage in Chardonnay vines. This would indicate that the migration of rust mite populations is in response to environmental conditions rather than directly to a developmental stage of the vine itself.

Although rust mites are migrating on all varieties from the period of time which correlates to Chardonnay woolly bud stage, they cannot access buds on other varieties until they begin to expand. Vineyard spraying for rust mite should commence at Chardonnay woolly bud stage in Chardonnay, and be completed in all other varieties before each reaches woolly bud stage. As long as sprays are applied prior to each variety's mid-woolly bud stage control should be achieved – any later and the migrating rust mites that have accumulated around the swelling buds will have already moved into the buds and commenced feeding and laying eggs.

**Best control can be achieved by:**

- applications of high rates of a mix of wettable sulphur and canola oil
- applied to saturate the bark of cordons and crowns
- when temperatures are 15°C or above
- timed to correspond with mid-woolly bud stage of Chardonnay

If weather or other factors prevented application of any of the recommended sprays during the key rust mite control period, some level of control could possibly be achieved by high volume spray of wettable sulphur at the label rate for mite and powdery mildew control as soon as possible just after budburst.

**Risk assessment**

If spraying Chardonnay for rust mite, it is important to note that the concurrence of rain-free days of 15°C or above when the vineyard is accessible during woolly bud stage may actually only be of several days duration – timing is therefore early and very tight for rust mite control in this variety. The risk factor for Chardonnay is perhaps balanced however by its greater growth rate at lower temperatures (therefore offsetting the 'leaf area to mite rate' damage level factor), and its inherent ability to repair wounds.

In vineyards growing multiple varieties, application of sprays can be staggered between the mid woolly bud stage of Chardonnay, and the mid woolly bud stage of each successive variety. If time, resources and vineyard access are an issue in spray application during this period however, management to avoid damage is therefore perhaps of greater importance for more high risk, later budbursting varieties such as Cabernet Sauvignon, particularly if the crop value of these later varieties is greater.

**Other topics in this Vitinotes series include:**

- Characteristics of rust mite
- Monitoring for rust mite
- Restricted Spring Growth

**Further information**

A useful reference is:

Bernard, M, Horne, PA and Hoffmann, AA (2001) Preventing restricted spring growth, *The Australian Grapegrower and Winemaker* issues: 452, pp16-7 and 19-22, 453 p26

Also available at

[www.grapeandwine.com.au/sept01/010907.htm](http://www.grapeandwine.com.au/sept01/010907.htm)

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Numerous articles about rust mite have been published in various issues of *The Australian and New Zealand Grapegrower and Winemaker*. Visit [www.grapeandwine.com.au/](http://www.grapeandwine.com.au/) for details.

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