



## Managing Botrytis

### Viti-note Summary:

- Cultural practices
- Chemical control strategies
- Factors to consider when spraying at different growth stages

### Other topics in this Viti-Notes series include:

- Botrytis
- Symptoms of Botrytis infection
- Botrytis monitoring
- *Managing Botrytis*

Botrytis control requires the integration of chemical and cultural management practices. While even the best efforts can be frustrated by weather conditions that are conducive to disease development close to harvest, the risk of crop loss can be reduced by actions taken early in the season.

### Cultural practices

- Cultural practices should be used to create conditions that are unfavourable to the disease and improve spray efficiency by making flowers and bunches more accessible.
- Select least susceptible varieties for planting in high risk areas. These are characterised by berries with thicker skins and loose bunches.
- Use pruning and bunch thinning to reduce bunch zone congestion and limit bunches around trellis posts.
- Use trellising to create an open canopy enabling air and light access.
- Use nutrient and irrigation management to control vine vegetative growth and discourage dense canopies.
- Be aware of and act to limit vine damage. Common causes are mechanical operations, insect pests and weather (wind and hail).
- Minimise the chance of berry split after breaking rains through irrigation strategies that enable berries to resist rapid uptake of water.
- Maintain balanced vines as excessive yield can delay picking and increase the likelihood of rain before harvest.
- Cultivate prunings into soil or manage the vineyard floor for increased microbial activity to accelerate the breakdown of inoculum and the amount carried over from the previous season.

- Consider alternatives to broadleaf covercrops that might host the disease on the vineyard floor. Some plant species also harbor light brown apple moth, the larvae of which can damage bunches and transmit the disease.
- For crops picked by hand, fruit can be selectively harvested and infected fruit avoided. Pickers must be able to recognise botrytis bunch rot and know which rotten bunches should be dropped to the ground.

### Chemical control strategies

Numerous chemicals with different modes of action are available for use against Botrytis. A basic understanding of how they work is required so that they can be targeted effectively.

Chemicals that prevent spore germination and act on the surface of the vine are known as protectants. These should be applied before infection and in anticipation of wet weather. Preventative spraying is more effective than spraying after infection has occurred, and is recommended for preventing development of fungicide resistance. Chemicals which act after infection and penetrate into the vine to kill the growing fungus are curative and known as eradicants. Translaminar fungicides are those which can move within the leaf. These offer protection when good spray coverage is difficult to achieve.

Any spray program must take into account the capacity of Botrytis to develop resistance to some chemicals and the withholding periods imposed on grapes used for wine destined for export. These limitations mean that chemicals need to be used judiciously to ensure that control options are available at the end of the season if required. The fungicide resistance management strategy and recommended withholding periods

are outlined in the AWRI publication, *Agrochemicals registered for use in Australian viticulture* which is updated annually. Laboratory testing should be undertaken if resistant strains of Botrytis are suspected or have been previously identified.

## Factors to consider when spraying at different growth stages

- Early-season: Fungicides may be applied to protect young shoots and leaves if there were high disease levels the previous season or vineyards are prone to leaf and shoot damage from natural or mechanical causes.
- Early flowering: Grapevine flowers are vulnerable to Botrytis infection when flower caps fall off. Repeated sprays might be applied to protect flowers from infection if wet weather conditions and a prolonged flowering period occurs.
- 80% capfall: This is the best opportunity to control latent infections, which can lead to Botrytis bunch rot post-veraison. Chemicals applied at this time target the wounds left by the fallen flower caps so they should not be applied too early during flowering, or chemicals may be lost with the falling caps and not reach the wound sites (abscission zone). Translaminar sprays are more effective at this time than those that don't penetrate into the tissue. If the flowering period is short this may be the only spray required during flowering.
- Pre-bunch closure: Infected flowers, shot berries and other bunch debris can harbour Botrytis within bunches. Pre-bunch closure sprays are the last chance to get chemicals inside the bunch to protect the more vulnerable post-veraison berries from these infection sources and protect bunch and berry stems.
- Veraison to 7 days before harvest: Sprays may be required in this period, especially at first signs of berry damage or if a wet period is forecast near harvest. Fungicide selection in this period is restricted due to market and winery requirements.

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## Further information

### Innovator network factsheets

Botrytis Management by Dr Kathy Evans

<http://www.gwrdc.com.au/webdata/resources/files/BotrytisFactSheet.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

Marcel Essling: [rtp@awri.com.au](mailto:rtp@awri.com.au) for more information.

## Agrochemical information

Agrochemicals registered for use in Australian Viticulture - updated annually.

Visit [www.awri.com.au](http://www.awri.com.au) for the latest version.

## Useful references

Nicholas, P., Magarey, P.A. and Wachtel, M. (Eds.) 1994 Diseases and pests, Grape Production Series 1, Hyde Park Press, Adelaide (a glove box edition of this book is also available).

For images of grapevine symptoms visit [www.winetitles.com/diagnosis/index.asp](http://www.winetitles.com/diagnosis/index.asp)

Product or service information is provided to inform the viticulture sector about available resources and should not be interpreted as an endorsement.



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