

STRATEGIES FOR COMMERCIAL *BOTRYTIS* CONTROL

Cultural Controls

For the Winegrowers' *Botrytis* fungicide trials in Hawke's and Poverty Bays, vineyard management utilised the following practices that have already been shown to reduce *Botrytis* in previous studies:

- ❖ timely leaf plucking and close trimming to enhance fungicide deposition and to reduce bunch drying time and canopy humidity.

Bala (2000) reported a 65% reduction in *Botrytis* crop loss from leaf plucking Sauvignon blanc in Marlborough.

- ❖ fescue or fescue/chicory sward to compete with the vine for available moisture/nutrients, reducing vine vigour and assisting with maintaining an open canopy.

Fungicide Control

Bala (2000) described 2 mechanisms through which *Botrytis* develops:

a) Inoculum Driven

Districts with frequent wet periods in conjunction with high humidity weather conditions are generally conducive to *Botrytis* infection and *Botrytis* inoculum will be present much of the time.

This describes the situation in the northern half of the North Island and to a lesser extent the Hawke's Bay and Nelson regions.

In these districts it is important to maintain continuous protection against *Botrytis*

TIMING	FUNGICIDE OPTIONS	COMMENT
Pre-flowering	Captan or Chlorothalonil	Wind, hail and rain can often lead to <i>Botrytis</i> in leaves adjacent to flower clusters
Early flowering	Euparen Multi or Captan or Chlorothalonil or Shirlan	Prevent infection of the floral debris. Use in conjunction with a DMI fungicide to prevent splitting later in the season. Overseas reports link diffuse Powdery Mildew infection of the berries with subsequent <i>Botrytis</i> infection (D Martin pers. comm.)
Late Flowering	Switch or Scala/Pyrus	Key fungicide. Application highly recommended to prevent infection of floral debris and tissues
Berries Pea-size	Captan or Chlorothalonil	Maintain cover in conjunction with Powdery Mildew fungicide
Pre Bunch Closure	Teldor or Scala/Pyrus	Key fungicide. Application highly recommended
Between Bunch Closure and before Veraison	Captan or Chlorothalonil	To maintain cover
Veraison	Scala/Pyrus or Captan or Chlorothalonil	To reduce conidial infection of ripening berries
Pre-harvest	Rovral	Check dicarboximide resistance levels prior to use.

b) Weather Driven

In districts where weather conditions are generally not conducive to *Botrytis* and inoculum levels are generally lower, *Botrytis* infection is strongly influenced by wet weather events at susceptible stages of berry development.

This describes the situation in the lower eastern half of the North Island and most of the South Island.

In these districts it is possible (and therefore extremely important) to time *Botrytis* fungicides prior to (forecast) periods of wet weather. In a favourable season with little wet weather at susceptible times, it is possible to use 2-3 key *Botrytis* fungicides during the entire season. Typically these might be applied at mid-late flowering and pre bunch closure, while maintaining a watch for forecast extended wet weather events at other times.

TIMING	FUNGICIDE OPTIONS	COMMENT
Pre-flowering to Early Flowering	Captan or Chlorothalonil	Leaf <i>Botrytis</i> uncommon in these districts, therefore fungicides should only be applied if wet weather events are forecast, and/or if leaf <i>Botrytis</i> has been monitored in the vineyard.
Flowering (mid to late)	Switch or Scala/Pyrus	Key fungicide. Application highly recommended
Berries Pea-size	Captan or Chlorothalonil	Apply fungicide if wet weather forecast
Pre Bunch Closure	Teldor or Scala/Pyrus	Key fungicide. Application highly recommended
Between Bunch Closure and before Veraison	Captan or Chlorothalonil	Apply fungicide if wet weather forecast
Veraison	Scala/Pyrus or Captan or Chlorothalonil	Apply fungicide if wet weather forecast
Pre-harvest	Rovral	Check dicarboximide resistance levels prior to use. Apply fungicide if wet weather forecast

Notes: prior to using botrytis fungicides check

1. with the Winegrowers Export Spray Diary for compliance. (eg some countries to which NZ wine is exported to have nil tolerance for Scala/Pyrus residue and hence the PHI is set at not past capfall)
2. with your winery. (eg domestic and some export markets may allow for late season use of Scala/Pyrus)
3. with the label for compatibility and usage recommendations. (eg the Scala/Pyrus /Switch group of fungicides may only be used twice in one season to avoid resistance.)
4. Chlorothalonil products include Bravo, Balear and other brands.
5. BOTRY-Zen and Serenade are bio control agents which may be used for *Botrytis* control.

References

Balasubramaniam R., Edwards WRN., Agnew RH., Scott K., Sullivan A., Tidy I. (1998) Development of a Decision Support System for Integrated Disease Management of Wine Grapes. Proc. 4th Annual Romeo Bragato Conference

Balasubramaniam R., Edwards WRN., Agnew RH., Scott K. (2000) A Multifaceted Approach to Grape Botrytis Disease Management. Proc. Aust. Soc. Viti and Oeno. Viticultural Seminar Managing Bunch Rots pp 12-18.

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