

BOTRY-Zen® Best Practice – Grapes

BOTRY-Zen® is unlike any product you have used before. It is a living micro-organism that provides protection from *Botrytis* infection over flowering through to pre-bunch closure by colonising senescing floral tissue and preventing *Botrytis* establishment.

In order for this biological control agent to work effectively, certain vineyard practices must be carried out and include;

1. Ensuring that your sprayer is correctly calibrated.
2. Ensuring that good canopy management is carried out prior to the first application to achieve effective bunch coverage in more vigorous sites (e.g. shoot thinning and or light leaf plucking).
3. Good timing of BOTRY-Zen® applications to ensure that *Botrytis* is out-competed early (detailed in NOTE 1 below)
4. The correct wetter is used for the volume of water per hectare (detailed in NOTE 7 below)
5. A preference for high (500litres/ha or greater) water rates per hectare.
6. Mixing with ONLY specified fungicides (detailed in NOTE 16 below)

IMPORTANT NOTES

1. Timing of BZ applications

Gisborne / Hawke's Bay / Nelson / Northern North Island

3 applications is the minimum required:

- (i) Early flowering: apply at no later than 2-5% capfall. Note this is earlier than a chemical fungicide would normally be applied because it is a biological with a different mode of action.
- (ii) Late flowering (80% capfall).
- (iii) 2-weeks post flowering or earlier if there is an infection period.
- (iv) For your pre-bunch closure application use an alternative botryticide.

Martinborough / Marlborough / Canterbury / Central Otago

2 applications is the minimum required :

- (i) Early flowering: apply at no later than 2-5% capfall. Note this is earlier than a chemical fungicide would normally be applied because it is a biological with a different mode of action.
- (ii) Late flowering (80% capfall).
- (iii) **A third application is required 2-weeks post flowering when *Botrytis* pressure is likely in cool wet springs or earlier if there is an infection period.**
- (iv) If *Botrytis* conducive conditions continue to persist, then apply an alternative botryticide at pre-bunch closure.

2. Apply BOTRY-Zen® at 4 kg per hectare.
 3. Store BOTRY-Zen® at room temperature in a cool (less than 20°C) dry place, away from direct sunlight. Store in original packaging with excess air removed and bag tightly closed preferably away from non-compatible fungicides (refer to compatibility list in NOTE 16 below).
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4. Add granules directly to a clean, well-rinsed spray tank: no pre-mixing is necessary.
 5. **Add an adjuvant to tank to assist** product wetting/spreading:
 - For high volume applications (greater than 500 litres /ha) add a non-ionic adjuvant or Nu-Film-17[®].
 - For concentrate spraying (less than 350 litres/hectare) add a suitable organo-silicone wetting agent such as Du-Wett[®]. If rain is expected within the next 5 days use Bond[®]Xtra instead of Du-Wett[®].
 - Do not use Pulse[®].
 - If you plan to use adjuvants not listed above please contact Botry-Zen Limited for advice.
 6. BOTRY-Zen is most effective when applied at high water rates (500 litres/ha or greater).
 7. BOTRY-Zen can be tank mixed but only with ONE other compatible fungicide (refer to compatibility list in NOTE 16 below).
 8. Do not tank mix with two or more fungicides (e.g. Do not mix BOTRY-Zen[®] with copper AND sulphur)
 9. When tank mixing BOTRY-Zen[®] with another compatible fungicide do not exceed the manufacturer's recommended rate. Mixtures are best applied at higher water rates.
 10. Once mixed the product should be used immediately.
 11. Improved results may be achieved when BOTRY-Zen is applied in the early morning or late evening when temperatures are cooler and dew may be on leaves. Avoid application under hot dry conditions, e.g. midday.
 12. Use a well calibrated/set up sprayer and ensure good coverage of the bunch zone.
 13. Maintain tank agitation until spraying is complete.
 14. Because BOTRY-Zen[®] is a *Botrytis* specific product, use alternative fungicides to control other diseases as required – refer to compatibility section in NOTE 16 below.
 15. **Use alternative botryticides from pre-bunch closure through to harvest as required to maintain protection of ripening berries.**
 16. BOTRY-Zen[®] can be mixed ONLY with specified fungicides (see list overleaf).
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COMPATIBILITY CHART

The following list shows products that have been tested for compatibility with BOTRY-Zen®.

MIX BOTRY-Zen® WITH ONLY ONE OTHER FUNGICIDE

copper-based e.g. Champ	Compatible, but use at the lowest recommended rate
captan	Compatible
Mimic® 700WP	Compatible
Polyram® DF	Compatible
Scala®	Use no sooner than 10 days after final BOTRY-Zen application
Sulphur (e.g. Kumulus)	Compatible
Systhane® 40W	Compatible
Topas ® 200EW	Compatible

Amistar® WG	Not compatible
chlorothalonil e.g. Bravo	Not Compatible
Delan® WG	Not Compatible
mancozeb e.g. Dithane	Not Compatible
Euparen® Multi	Not Compatible
iprodione e.g. Rovral	Not Compatible
Switch®	Not Compatible
thiram	Not Compatible

If tank mixing BOTRY-Zen® with ONE compatible fungicide, it is recommended that the spray be mixed and applied immediately.

Compatible fungicides should only be mixed with BOTRY-Zen® at the manufacturers recommended rate.

Wetters and spreaders

Nu-film-17® is highly recommended for use with BOTRY-Zen®.

Du-Wett® is recommended for use with BOTRY-Zen® at 200ml / ha at low water rates of 200 litres/hectare. If rain is expected use Bond®Xtra at 400ml / ha instead of Du-Wett®.

NOTE: if mixing BOTRY-Zen with another compatible fungicide and Du-Wett® or Bond®Xtra, adjust rates according to the Du-Wett® rate chart (contact Elliott Chemicals).

When using high water rates other suitable adjuvants are Actiwett and Contact.

Pulse is not compatible with BOTRY-Zen®