

Clarity

Clearly different

Bio-Gro Approved

Clarity is a natural biological fungicide based on *Bacillus subtilis* mbi600. Sourced from Becker Underwood an international specialist in biological fungicides and insecticides the product is of the highest quality.

Trialled in New Zealand since 2008 it has shown to give equivalent performance in the field against Botrytis in wine grapes to other *B.subtilis* based products with significant benefits in fruit appearance, product handling and mixing for the grower.

Formulation and Handling

- Clarity is a highly concentrated product without excess fillers.
- Low volumes make it an extremely easy to handle
- Packaged for user safety and easy.
- One or two easy to open and reseal sachets per ha.
- It mixes easily and rapidly in the spray tank without pre-mixing or lumps.

Comparison to similar products and rates

| Product Name | Active | Active content | Rate per ha | Active per ha cfu |
|---------------------|-------------------|----------------------------|-------------|------------------------------|
| Clarity | B.subtilis MBI600 | 5.5×10^{10} cfu/g | 265g – 530g | $1.46 - 2.92 \times 10^{13}$ |
| Serenade Max | B.subtilis QSR713 | 7.3×10^9 cfu/g | 2.5 - 4 kg | $1.83 - 2.92 \times 10^{13}$ |
| Donaghys FoliActive | B.subtilis KTSB | 60×10^3 cfu/ml | 6L | 0.36×10^9 |
| Companion Gold | B.subtilis GB03 | 1.5×10^7 cfu/ml | 2-4L | $3.00 - 6.00 \times 10^{10}$ |

CFU = colony forming units, 10^9 = billion 10^{10} = 10 billions Serenade Max® is a registered trade mark of AgraQuest, Inc. USA. Donaghys; Foliactive is a trade mark of Donaghys Industries Ltd. N.Z. Companion Gold is a trademark of Growth Products USA.

To deliver the same number of active units per ha (CFU/ha) of *B.subtilis* you would require

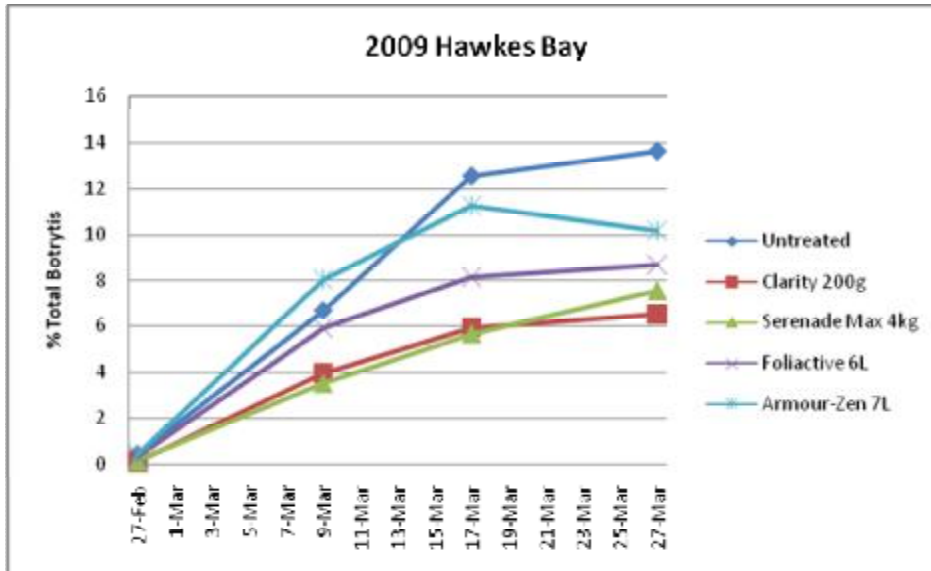
| | |
|-----------|---------------------|
| 0.265 kg | Clarity |
| 2 kg | Serenade Max |
| 243,333 L | Donaghys FoliActive |
| 973 L | Companion Gold |

Clarity of Result

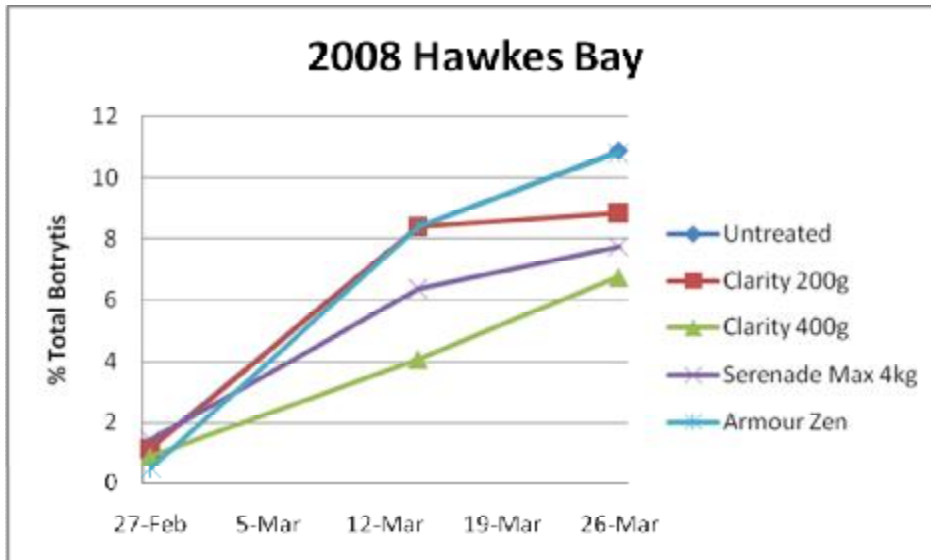
Unlike some other products Clarity does not leave a visible white residue on fruit. This is extremely important when applying close to harvest, with the presence of white residue being of concern to wine makers and pickers alike.

Efficacy Trials in N.Z.

Two years of trials in the Hawkes Bay have been completed comparing Clarity to other products for late season botrytis control.



Trial conducted by Agrivet (Geelen), Chardonnay, Te Mata Mangateretere Road, Havelock North



Trial conducted by Agrivet (Geelen), Chardonnay, St Georges Road, Havelock North

2009 – At no time was any significant difference recorded between treatments. Trends suggest the 200g Clarity rate followed the same pattern as the 4kg Serenade Max treatment.

2008 – Again at no time was there any significant difference between treatments. Trends suggest that Clarity followed the same pattern as the 4kg Serenade Max treatment.

GENERAL INFORMATION:

APPLICATION PROCEDURE: Thorough coverage is essential for optimum disease control. To achieve good coverage, ensure correct spray pressure is used. Water volume nozzle-size and spacing with the correct ground speed are critical. Sprayers should be calibrated prior to use. **Clarity** is intended for use as a dilute spray in water for application through conventional ground spray equipment.

MIXING DIRECTIONS: Partially fill spray tank with clean water. Add the specified amount of **Clarity** to the spray tank while agitating. Complete filling the tank to the required volume for the area to be treated. Maintain agitation until application is complete. Do not stand the diluted mixture for prolonged periods or overnight.

COMPATIBILITY: Do not combine **Clarity** in the tank with other pesticides, surfactants, fertilisers or copper based products. Ensure spray equipment is thoroughly rinsed of residual chemical prior to using **Clarity**.

RECOMMENDATIONS:

| CROP | DISEASE | REMARKS |
|---|------------------------------------|---|
| Application rate: 265 – 530g / ha in sufficient water to ensure complete coverage of plants. | | |
| Grapes | Botrytis, powdery mildew, sour rot | Clarity can be used all season but specific botrytis fungicides should be targeted at key grape botrytis timings. Clarity can be used later in the season as it has nil residues and no withholding period restrictions. Two applications of Clarity are recommended at 4-5 weeks from harvest and again at 1 week from harvest. An alternative botrytis fungicide is recommended between the two Clarity applications. Use the higher application rate and shorter interval when conditions favour rapid disease development. Apply in sufficient water to ensure thorough coverage of all parts of the plants. |
| Ornamentals | Botrytis and powdery mildew | Apply at the first sign of disease and repeat at 7-10 day intervals. |
| Note: For the control of any disease, use alternative fungicides when disease pressure is high and during the rest of the season prior to harvest. | | |

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 See www.nzfsa.govt.nz/acvm for registration conditions.
 Approved pursuant to the HSNO Act 1996, Approval Code HSR008016