



Protector^{hml}TM

henry manufacturing limited

Adjuvant for Powdery Mildew Control in Grapes

Protector^{hml}

- ▶ A complex of potassium soaps
- ▶ Currently registered for Botrytis Control on grapes
- ▶ Developed and tested in New Zealand



Previous Powdery Mildew Trials HortResearch Studies

% Total Canopy infected at Harvest	1997	1998	1999
Untreated	27.1	94	47.8
Protector and Copper	4.2	0	2.1
Standard Treatments	6.3	3	4.4

Latest Powdery Mildew Trials

Hawke's Bay – Verdelho(2.4 ha)

- ▶ 2005/06 - Verdelho block decimated with Powdery Mildew
- ▶ 2006/07 - Replicated Hand Sprayer Trial – 15 Treatments, remainder of block DMIs and S
- ▶ 2007/08 - Machine Sprayed Trial – 6 treatments

Hand Sprayed Trial 2006/07

Summary of Treatments

Untreated	Protector ^{hml} alone
Standard – Systhane + S	Sulphur alone
Standard – Impulse (2) +Systhane + S	Protector ^{hml} 0.5% + S (4/3/2 kg / ha)
Standard – Systhane + Twist + S	Protector ^{hml} 2% + Cu (120/90/60/30 ml / 100 l)
	Protector ^{hml} + Cu and S – alternating (2 rates)

Hand Sprayed Trial 2006/07

Results	% Total Infected Bunches
Untreated	36.7
Standard – Systhane + S	0
Standard – Impulse (2) +Systhane + S	0.6
Standard – Systhane + Twist + S	0
Protector ^{hml} alone	3.6
Sulphur alone	3.0
Protector ^{hml} 0.5% + S (4/3/2 kg)	0.4 / 1 / 0.2
Protector ^{hml} 2% + Cu (120/90/60/30ml)	0.1 / 0 / 0 / 0.4
Protector ^{hml} + Cu and S – alternating (2 rates)	0.1 / 0.3

Machine Sprayed Trial 2007/08

Dates, Rates and Intervals

Powdery Mildew Field trial, Hawke's Bay			
Date of Application	Low Water Rate	High Water Rate	Spray Interval (days)
26 Oct 2007	150 l/ha	200 l/ha	
13 Nov 2007	150 l/ha	300 l/ha	18
23 Nov 2007	200 l/ha	400 l/ha	10
11 Dec 2007	300 l/ha	600 l/ha	18
3 Jan 2008	300 l/ha	600 l/ha	23

Machine Sprayed Trial 2007/08

Results

Treatments		Number of bunches infected with powdery mildew Sample size = 400 bunches		
		Assessment dates		
		27/12/07	8/1/08	23/1/08
Low water with 0.5% Protector ^{hml}	2 kg/ha S	0	1	8
	3 kg/ha S	0	0	0
	4 kg/ha S	0	0	1
High water with 0.5% Protector ^{hml}	1.5 kg/ha S	0	0	1
	2 kg/ha S	0	0	0
	3 kg/ha S	0	0	0

Other Facts

- ▶ **Erinose Mite Control** – research to date indicates efficacy of Sulphur is improved with addition of Protector^{hml}
- ▶ **Botrytis** – trials this season to quantify any improvement in efficacy by low rate and frequent applications of Protector^{hml}
- ▶ **Powdery Mildew** – further trials being done with lower rates of S; evaluations for other grape varieties

Overview of Protector^{hml}

- ▶ **High Efficacy** achieved with low to medium rates of sulphur in both high and low water rates
- ▶ **Cost Effective** – competitive on price with other programmes
- ▶ **Genuinely Safe** to use and environmentally benign—
Biogro registration pending
- ▶ **NZ Made** - Developed and tested in Hawke's Bay