

# Spray programme

## Bud burst to pre-flowering (10-14 day interval)

Growth stage		Prebud to budburst	First leaf separated from shoot tip	First leaf separated - 2-3 leaf shoots 2-4cm long	4 leaf	6-7 leaf	8-10 leaf single flower	12 leaf, in flor. Well developed, single flower sep.
EL		1-4	7	7-9	11	12-14	14-15	15-16
Product	Rate / 100L							
HML Silco (see note 4)	100ml liquid			Silco	Silco	Silco	Silco	Silco
Sulphur	label rate			Sulphur	Sulphur	Sulphur	Sulphur	Sulphur
Copper Fungicide	label rate							Copper
Protector	0.5L / 1L / 2L			Protector 1L	Protector 0.5L	Protector 1L	Protector 0.5L	
Copper (in Protector premix)	22g elemental copper/litre of Protector (see note 3)			Copper 22g		Copper 22g		
HML32	1.25L							HML32
Nutrients	label rate			Seaweed Magnesium Sulphate (see note 12)		Seaweed Magnesium Sulphate		Tr. elements other than Mg (see note 13)
Lime Sulphur	3.5-7%	(see note 1)						

## Pre-flowering to PBC (7-10 day interval)

Growth stage		14 leaf, cap colour fading	16 leaf, beg. flowering	50% capfall (see note 6)	80% - 100% capfall	Fruit-set-Pea	Pea size 4mm	Pea size 7mm	PBC
EL		18	19	23	25-26	27	29	31	32
Product	Rate / 100L								
HML Silco	100ml liquid		Silco	Silco	Silco (see note 8)	Silco	Silco (see note 8)	Silco	Silco (see note 8)
Sulphur	label rate		Sulphur	Sulphur	Sulphur	Sulphur	Sulphur	Sulphur	Sulphur
Copper	label rate								
Protector	0.5L / 1L / 2L			Protector 2L		Protector 1L		Protector 1L	
Copper (in Protector premix)	22g elemental copper/litre of Protector					Copper 22g		Copper 22g	
HML32 (see note 5+7)	1.25L		HML32		HML32		HML32		HML32
Nutrients	label rate		Seaweed	Seaweed	Seaweed	Seaweed Magnesium Sulphate	Seaweed	Seaweed Magnesium Sulphate	Seaweed

## Post PBC to veraison (10-14 day interval)

Growth stage		Berries still hard and green		Early Veraison	Veraison
EL		33	34	35	36
Product	Rate / 100L				
HML Silco	100ml liquid	Silco			
Sulphur	label rate	Sulphur	Sulphur	Sulphur	
Copper Fungicide	label rate		Copper	Copper	
Protector	0.5L / 1L / 2L	Protector 1L			
Copper (in Protector Premix)	22g elemental copper/litre of Protector	Copper 22g			
HML32	1.25L		HML32	HML32	(See note 10)
Nutrients	label rate	Seaweed			



5079

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- Lime sulphur only needs to be applied if the previous season had high powdery mildew infection and/or erinose mites.
- Recover after rain.
- Applications of Protector and cuprous oxide fungicide as a premix provides downy mildew and powdery mildew control. Use Protector at 2L/100L with copper fungicide where there is high downy mildew pressure.
- To calculate copper amount, divide 22g by percentage elemental copper in cuprous oxide fungicide product and multiply by 100. E.g. for Nordox 75WG, 30g is required per 1L Protector, therefore 30g/100L for 1L/100L Protector mix. 60g Nordox is required 2L/100L Protector mix.
- Early applications of HML Silco helps build plant strength and crop resilience.

- HML32 mix at EL18 and EL 25 are important applications that brackets flowering. Provides powdery mildew prevention and eradication control as well as botrytis control.
- If the flowering period becomes unusually protracted, cool or wet, apply Protector mix to maintain powdery mildew cover.
- For a month after Fruitset EL27 (when plant is still susceptible to powdery mildew), cover at 7 day intervals (10 day maximum) with HML32 mix alternating with Protector mix. If under pressure, use HML32 mix instead of Protector mix.
- The HML32, sulphur and Silco mix prevents and eradicates powdery mildew. Use higher Silco rate of 540ml/100L when eradicating existing infection.
- For existing powdery mildew infection, an alternative mix is HML32, copper and HML Potum (potassium bicarbonate).

- At EL35-36, the application of HML32 can provide botrytis resilience and enhanced maturity. See notes on website for accurate timings for white and red grapes.
- All HML products are alkaline. Take care when selecting copper and nutrient products to avoid tank mix incompatibility and plant damage. Read the label of HML products.
- Magnesium sulphate is in most cases compatible with the Protector, HML Silco, copper and sulphur mix. Jar test recommended. Not compatible with HML32.
- If other trace element applications are required, an extra application round will be required or alternatively drop Protector out of the mix.

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