












Wine Grapes

Biological Program

Crop Growth Stage	Budburst	Vegetative Growth	Pre-flowering	Flowering	Fruit Set	Fruit Sizing	Veraison	Maturity	Harvest
									
Crop Stress Points	Root & shoot growth; Disease; Cold		Disease; Environmental Stress - Heat & Cold (early)				Heat Stress		
		Leaf area to ripen fruit		Temp Sensitive	Temp Sensitive	Stage I	Stage II	Stage III	
					Temp -18- 38 deg Cell division Temp below 35 deg	Organic acids Cell division & Cell enlargement 3-4 weeks Water Stress	Lag phase 2-3 wks	Sugar accumulation Acid decline Cell enlargement 6-8 weeks	
Crop Stress Program									
 <i>Energise the Vine</i>	Super Kelp 3-5L/ha*		Super Kelp 3-5L/ha*		Super Kelp 3-5L/ha*		Super Kelp 3-5L/ha; during heat stress events*		
						Vitazyme 1.5-2L/ha		Vitazyme 1.5-2L/ha	
	Grosil 2-4L/ha		Grosil 2-4L/ha		Grosil 2-4L/ha				
Soil Health Program									
 <i>Microbial Activity</i>		Fish Plus 5-10L/ha; monthly; 3-4 times							
+C <i>Add Carbon</i>	Humus 26 10L/ha				Humus 26 5L/ha				

Notes

Berry size & weight is controlled by: number of cells, cell volume, sugar content, nutrient shortages or disorders that reduce photosynthesis.

* Vitazyme can be used as an alternative to Super Kelp at these stages



Soil Essentials - Strategies . . . it all starts with the soil!

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Crop Stress Products

- tolerance
- recovery

ENERGISE THE PLANT



- Improves root growth - allows the plant to absorb nutrients like P & Ca
- Reduces plant stress caused by planting, drought or frost
- Mixes easily with fertiliser (low pH formulation)

Key components in kelp that are bioactive at low concentrations are macro- and micro-nutrients, amino acids, vitamins, cytokinins, auxins, betaines, alginates, sterols, abscisic acid.



- Promotes early growth
- Improves photosynthesis
- Helps with planting shock
- Improves plant defence system
- Improves soil biological activity
- Extensive research

Contains multiple natural active components that are active at very low concentrations including triacontanol and brassinosteroids.



- Strengthens plants & reduces plant stress
- 100% plant available silicon
- Improves photosynthesis
- Apply as a spray or via irrigation

Highly concentrated liquid potassium silicate - 100% plant available. Used primarily as a source of plant available silicon with the advantage of low application rates.

Soil Health Products

- microbes
- carbon

MICROBIAL DIVERSITY



- Activates nutrient uptake
- Releases powerful enzymes into the soil which dissolves hard to capture nutrients like P and Ca
- Root colonising microbes that out complete pathogens & improve root health

Contains beneficial fungi & bacteria including Mycorrhiza, Trichoderma, Bacillus, Streptomyces, Pseudomonas, Nitrogen fixing bacteria and more.



- Naturally colonises and shields plant root system
- Improves root health by out-competing pathogens
- Easy to use liquid formulation
- Mixes with most fertilisers and ag-chemicals

Contains Streptomyces lydicus and Bacillus subtilis - fast acting powerful beneficial microbes. These synergistic soil microbes feed off natural root exudates, crowd out pathogens and promote plant growth.

ACTIVE CARBON



- Improves soil structure
- Retains nutrients
- Holds soil moisture
- Buffers salinity
- Provides carbon source to feed soil microbes
- Cost-effective source of carbon
- Liquid, powder or pellets

Contains Humic and Fulvic acid which are the most active components of soil organic matter. Cost-effective way to get benefits of soil organic matter for growers who do not have the time or resources to green manure and fallow or apply large quantities of compost regularly.

MICROBIAL ACTIVITY



- Stimulates beneficial microbes which help your crop by:
 - * Improving nutrient availability
 - * Reducing root disease
 - * Improving water penetration (heavy soils) & water retention
- Fulvic Acid to improve nutrient uptake
- Kelp to improve root growth
- Provides carbon source to feed soil microbes

Contains Fish Emulsion, Kelp Extract, Fulvic Acid, Molasses, Phosphorus - research shows the synergistic combination of all these products produces optimum results.



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