

AlgaFlex 30 for Vines

AlgaFlex is a highly concentrated aqueous extract of seaweed containing no less than 30% w/v soluble seaweed solids. The Biotechnica extraction process uses relatively low temperatures and no chemicals to extract the active ingredients from *Ascophyllum Nodosum* seaweed hand-harvested from the cold coastal waters of the Atlantic Ocean.

Wine Grapes and Dessert Grapes

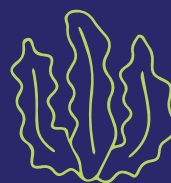
Where practical apply AlgaFlex at 0.75 litres/hectare 10-14 days or by fertigation at 0.75 litres/hectare every 21 days.

Alternatively, apply at 1.5 litres/hectare at each of the following key growth stages:

1. Early foliage.
2. First flower.
3. Fruit set.
4. Berry bronzing/softening.

Other applications:

Prior to anticipated frost, environmental stress (drought, pest and disease incidence), heavy crop load.



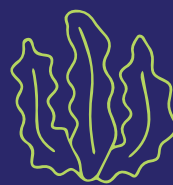


Qualities:

- **AlgaFlex** is able to mix favourably with Calcium nitrate for foliar application to table grape crops, thus saving on field operations and therefore application costs. Many other seaweed extracts on the market do not mix as favourably, producing a precipitate on mixing and a spray mixture which blocks nozzles.
- **AlgaFlex** does not cause berry staining or chemical residues on the fruit. With the more alkaline seaweed extracts when applied at veraison, or later, there are often both physical and chemical residues on fruit at harvest and packing.
- **AlgaFlex** has been seen to nurture the so called 'bloom' or 'blush', in grapes, a white powder like substance which gives red grapes a dull colour. This is naturally produced by the berries to reduce moisture loss from fruit, boosting the fruit's post harvest quality and shelf life
- **AlgaFlex** encourages increased sugar levels in vines for overwintering, with post harvest application.

Benefits:

- Reduces crop stress
- Improves drought tolerance
- More resistance to pests and diseases
- Bigger, more even sized fruit





Grape Vine Trials Merlot, South West France 2012

Objective

To investigate the effect of **AlgaFlex 30** liquid seaweed extract on the rate of berry maturation and marketable yield. The trial was carried out in 2012 on a 38 year old vineyard in South West France. The vineyard is certified organic and the variety grown is 'Merlot'.

Treatments

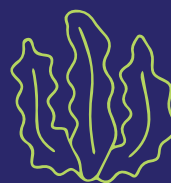
The trial commenced on 1st July at a growth stage E-L 31 when the grapes were pea size at >8mm diameter. Spraying continued at 10 day intervals until E-L 38 on 25th September. **AlgaFlex 30** was applied at a dilution rate of 1:200 sprayed to run-off in Treatment A. Treatment B was the control, both treatments contained 30 vines in each block which were statistically replicated.

Data Collection

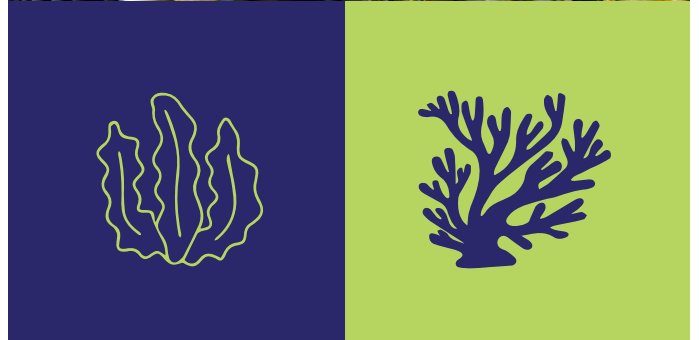
Data was collected at 10 days intervals, commencing on the first sign of colour change in 20% of the clusters, indicating varaison initiation. 30 berries from each replicate were selected for berry maturation analyses. Berries were measured for shape, and weight. Berries were also crushed and the juice was analysed for treatable acidity [TA], pH and soluble sugars [oBrix]. Finally, a Maturation Index was calculated from the oBrix/TA ratio

Trial Results

Colour change was noticeably greater on **AlgaFlex 30** treated plants. This may well be because the advancement of sugar in treated berries hastens the accumulation of flavonoids.

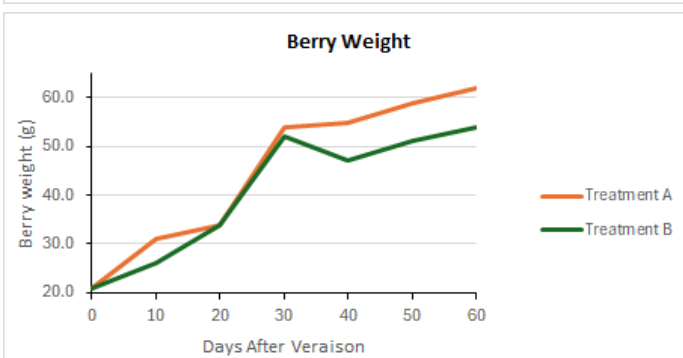
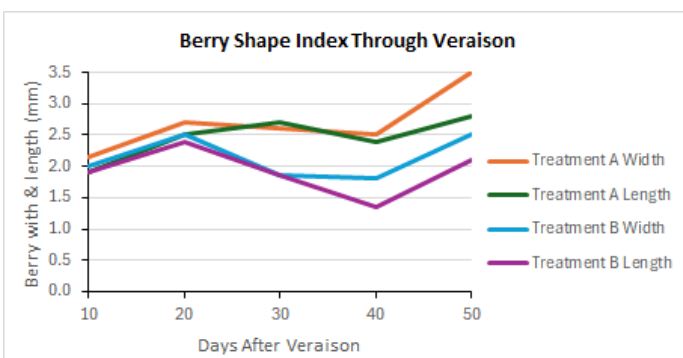


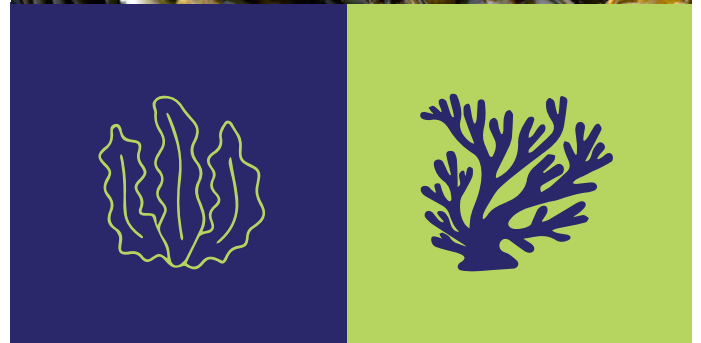
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Berry shape index through veraison and berry weight:

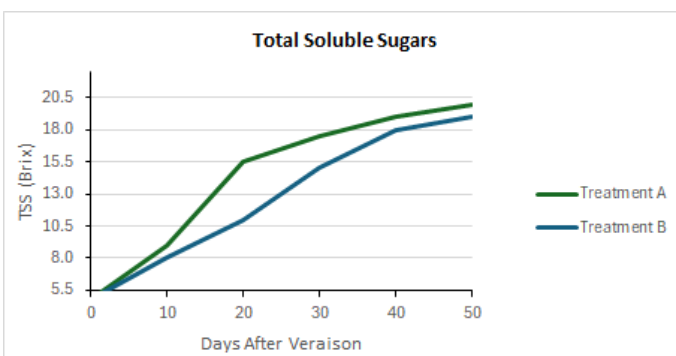
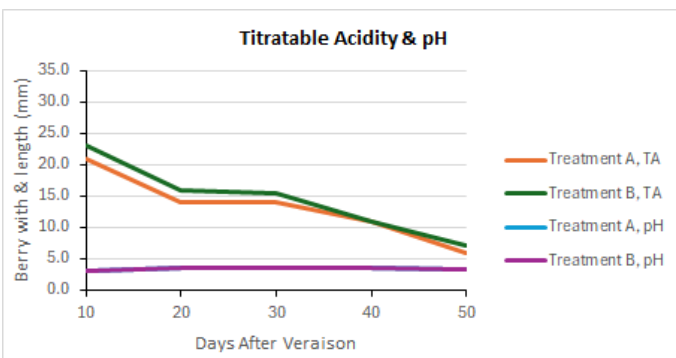
Berry shape began to differ 30 days after veraison, treated berries being wider and longer. Prior to harvest, this difference was statistically significant ($P=0.05$). Similarly, the berry weight did not differ until 30 days after veraison. There was a steady increase in berry weight after that from both treatments but those treated with **AlgaFlex 30** were significantly larger. It is worth recording that there was a greater variation in data recorded from the untreated berries whilst those treated with **AlgaFlex 30** were more uniform.





Titrateable acidity & pH and total soluble sugars

Titrateable acidity consistently reduced at a faster rate in the **AlgaFlex 30** treated grapes and a significant difference was recorded at harvest. oBrix levels increased at a faster rate in the **AlgaFlex 30** treated grapes. Maturation Index showed 30.32 for Treatment A and 26.9 for Treatment B (30-32 is judged as optimal quality of wine production).





Conclusions

The trial showed that sequential treatment with **AlgaFlex 30** seaweed extract between E31 and harvest can offer significant gains.

- 1. Potential yield increases through gains in berry volume
- 2. Earlier crop maturity
- 3. More uniform crop with optimum Maturation Index
- 4. Improved juice colour and hue (based on visual observation)

Physical and Chemical Properties

[Properties will vary due to conditions at time of harvesting. A full analysis of the batch purchased is available on request]

pH 4.0 – 4.8, ideal for plant uptake

Specific Gravity 1.125 – 1.165

Appearance Dark brown liquid

Typical analysis

Organic matter	15%	Zinc	5 ppm
Soluble seaweed solids	>30%	Potassium	0.5-1.0%
Alginate Acid	5-10%	Magnesium	100 ppm
Mannitol	2-4%	Manganese	50 ppm
Nitrogen	0.1-0.2%	Iron	100 ppm
Phosphorus	0.01%	Copper	8 ppm

Preservatives

Potassium sorbate (0.015%) and sodium benzoate (0.03%) used as the preservatives.



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