Super Kelp
Superior Growth
Stronger Plants
Mixes easily

Activity
Increased root growth
Improved plant defence system
Improved flower retention and fruit set

Results

Stress Tolerance
Plants better able to withstand environmental stress (drought, frost, heat)

Plant Vigor
Greener plants & better developed canopy

Yield Increase
Increased production, sizing and quality and delayed senescence

Ease of Use
Compatible with fertilisers (particularly calcium nitrate, potassium nitrate), fungicides, insecticides, acidic GA
Can be applied with copper and fungicide sprays
Liquid filtered to 90 microns to ensure it can be used as a foliar spray (or via irrigation) and acidified to a pH of 4-4.5 (for stability).

Supported higher than expected yield in WA. 4 x Kelp at 3-4L/ha in January to March heat

Harness the power of nature
Super Kelp

Why Super Kelp works

**Improved crop performance**

In kelp, macro- and micro-elemental nutrients, amino acids, vitamins, cytokinins, auxins, betaines, alginites, sterols and abscisic acid affect cellular metabolism in plants that lead to enhanced growth and yield. They are bioactive at low concentrations. - Khan 2009, Burden 1997

**Heat Tolerance**

Kelp can be used to provide protection during heat stress with effects lasting for 2-3 weeks. Betains in Kelp increase chlorophyll content and consequently photosynthesis, cytokinins induce heat tolerance, increase potassium uptake and improve root growth, while antioxidants in Kelp help plants in temperature extremes. - Khan 2008, Khan 2004

**Frost Tolerance**

Offers an extra degree or two tolerance to frost, although some information suggests as high as 3-4°C. Lowered temperature at which cells will freeze. This is because it is a highly effective ice builder. Plants with higher sugar content have a lower freezing point. - Wilson 2001

**Improved flower and berry set**

Kelp enhances the mobilization of cytokinins from the roots to the developing fruit. This increase in cytokinin availability will eventually result in greater supply of cytokinins to the maturing fruit. - Khan 2009

Enhanced plant defence against pest and diseases

- Kelp imparts nematode resistance possibly by altering the auxin/cytokinin ratio in the plant. - Khan 2009
- Kelp contains elicitors (e.g polysaccharides) which release peroxidase against pathogen invasion. - Khan 2009
- Alginites in Kelp promote growth of beneficilary fungi which colonise roots and result in stronger plants - Kawasaki 2006

How to use

Super Kelp can be applied every 4 - 6 weeks during the growing season as a foliar feed or soil drench, enabling the plant to receive direct benefits from the naturally balanced nutrients and growth promoting substances.

**For heat and cold (frost) stress:**

- Apply 36-48 hours prior to stress event as a foliar spray or via irrigation. During events, it is recommended to apply via irrigation.
- Repeat every 14 days during extended heat and cold periods. For extra frost tolerance it can be mixed with 0.5% potassium fertiliser to help strengthen plants.

**Drought Tolerance:**

- Regular use during drought to stimulate root growth can help crops explore greater soil volume and access moisture.

A selection of results

**Almonds - less water stress**

Stem water potential measured every 2 weeks prior to irrigation.

A more negative stem water potential represents a higher degree of water stress.

Leaves from trees treated with Super Kelp had less water stress compared to the control. Soil moisture was the same in both treatments.

**Stone Fruit - bigger fruit**

Over 10 trial sites including peaches, nectarines, plums and apricots, the fruit produced was larger compared to the control. The average increase in class size was 42% over the control.

Almond yield increase - 5 sites - average 12% increase

1st application - pin bud (foliar)
2nd application - petal fall (foliar)
3rd application - before summer heat stress
Repeat - every 2-4 weeks
Post harvest application - 2-4 weeks after harvest

Information & Advice

Email admin@sustainablefarming.com.au
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Super Kelp - strengthening plants; superior growth

**Apples - bigger fruit, increase in yield**

Super Kelp shifted the size distribution.
Control - 57% of apples > 65mm
Super Kelp - 64% of apples > 65mm

Applications of Super Kelp increased total yield by 15% compared to control.

**Citrus - improves early plant development**

In a nursery, Super Kelp increased plant height by 13%.
Photo shows plants after 4 applications.
Applications to seedling root stock started 20 days after emergence, applied every 2 weeks.

Field trials show Super Kelp increases the percentage of fruit in the largest class by an average of 40%.
Larger fruit demands a premium, improving profit.

**Avocados - more fruit; improved natural defenses**

Trees treated with Super Kelp had on average 28 more fruit per tree. Throughout the season treated trees has consistently larger fruit.

Super Kelp elicits natural defenses to environmental stressors. Super Kelp treated plants had 78% less mites and 67% less thrips than control.

**Cherries - fruit weight and firmness**

Super Kelp consistently increased average weight of cherries by 8%.
Overall firmness increased by an average of 19%.
 Firmer fruit represent higher quality & ship better.