

# Helping your crop through heat stress .....

## Effect of Heat Stress on Plants

Many tree, vine & vegetable crops are susceptible to heat stress. Above 30 deg C the rate of photosynthesis is reduced and at higher temperatures heat stress at flowering can result in little or no viable flowers.

Common signs of heat stress are:

- Reduced growth
- Reduced (or no) flowering
- Reduced (or no) fruit
- Fruit drop
- Reduced fruit quality
- Leaf tip burn

## Technical summary

*Under high temperature conditions, heat damages chlorophyll and other components of photosynthesis, reducing the amount of energy captured by plants.*

*Plants also divert more of the captured energy to cope with heat stress. This dramatically reduces the energy available; severely limiting plant growth and production during times of high temperature stress.*

*Root growth ceases in many crops when soil temperatures are above 32 deg C; above 40 deg C generally results in root death.*

*Plants also shut down to conserve water during the hottest part of the day.*

## The Solution

The agents in Super Kelp and Vitazyme activate plant growth & heat tolerance at extremely low concentrations.

### Super Kelp

Effectively reduces plant shutdown times; stimulates root growth to repair damaged roots. Can be used to provide protection during periods of heat stress; effect will last for 2-3 weeks.

How - Betaines 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, 2009).

### Vitazyme

Multiple active agents in Vitazyme have been scientifically proven to reduce the effects of high temperatures on crops and increase growth of heat damaged roots.

How - Triacontanol in Vitazyme increases chlorophyll content and CO<sub>2</sub> assimilation, improving the plants ability to photosynthesize (Tantos, 2001). Brassinosteroids protect cells from oxidative damage induced by high temperatures via the leaves and roots (Kang 2011).

## Program for heat stressed crops

48 hours prior to heat stress

Apply Vitazyme or Super Kelp as foliar spray or via irrigation

Apply Vitazyme at 1 -1.5 L/ha

Apply Super Kelp at 3 - 5L/ha

Repeat every 14 days during extended heat stress periods.

The best program alternates Vitazyme and Super Kelp every 14 days via irrigation or as foliar sprays.

Call us now to help your crop through heat stress this summer!

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[www.organicfarming.com.au](http://www.organicfarming.com.au)



Crops surviving the heat well with Super Kelp & Vitazyme.



*Stronger plants ... better yields ... it all starts with the soil!*

