

# Heat Stress



Helping crops through heat stress with Super Kelp

## Effect of Heat Stress on Plants

Many trees, vines & vegetable crops are susceptible to heat stress. Above 30 deg C the rate of photosynthesis is reduced and at higher temperatures, heat stress at key crop stages can severely affect yield and quality.

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 activate plant growth and heat tolerance.

Super Kelp effectively reduces plant shutdown times and 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; multiple components increase potassium uptake, improve root growth & increase turgidity of cell walls so less water likely to flow out of cells; and antioxidants in Kelp help plants in temperature extremes. - (Khan, 2009)



Crops surviving the heat with Super Kelp

## Program for heat stressed crops

48 hours prior to heat stress

Apply Super Kelp as foliar spray or via irrigation  
Apply Super Kelp at 3 - 5L/ha

Repeat every 14 days during extended heat stress periods.

If too hot to apply as foliar, we recommend using Super Kelp via irrigation.



**Call us now to help your crop through heat stress!**

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