

## cotton



- Improves rooting
- Improves drought resistance
- Better plant vigour
- Improves flowering
- More first position fruit (better size boll)
- Increases total boll count
- Increases yield



Kelpak is a natural biostimulant manufactured from the brown kelp *Ecklonia maxima*, found on the west coast of South Africa. Kelpak is produced using a cold cellular burst extraction method to preserve the delicate compounds in the cell sap. The end product significantly improves overall plant growth and increases cotton yield.

**A global leader in seaweed products for over forty years**

Kelpak



## What is Kelpak?

Kelpak is a unique liquid kelp product derived from the seaweed *Ecklonia maxima*. Kelpak differs from other kelp or seaweed products for three important reasons:

1. Harvesting of the kelp is conducted in a strip rotation format (as opposed to 'storm cast' or beach collection) ensuring consistent levels of auxins and cytokinins, the active hormones found in the *Ecklonia maxima* kelp species.
2. The 'Cold Cell Burst' method of extraction is used to maintain both the integrity of auxins as well as the auxin dominance of the product. Extraction methods using chemicals, heat or freezing can negatively affect these delicate active ingredients.
3. Kelpak has a unique ratio and variety of active components, which is pivotal to its performance. The synergy between all the cell constituents gives Kelpak the edge over its competitors, both natural and synthetic.

Kelpak has been regularly used in broadacre and horticultural crops worldwide for more than 25 years, however, little experimentation has been done on cotton. Kelpak has been scientifically proven on many other crops to provide the following benefits:

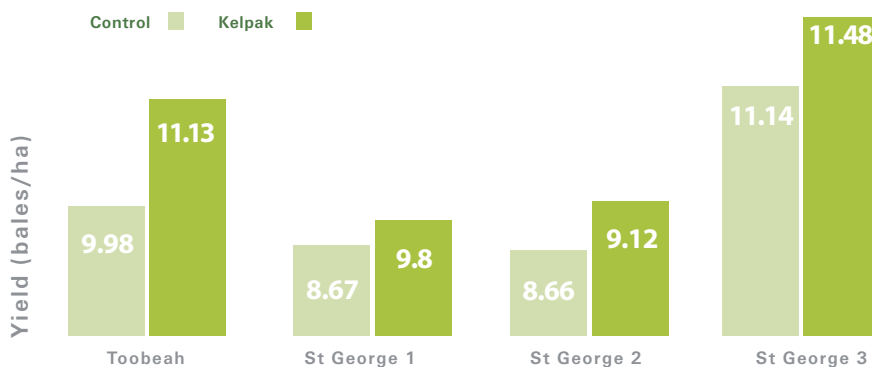
- Promotion of larger and more vigorous root systems, due to additional supply of auxins leading to better uptake of water and nutrients, enhanced plant health through reduced effects of soil-borne diseases as well as greater general stress tolerance
- Slows senescence of various crops
- Increased auxins aid in the lengthening and thickening of pollen tubes for better fruit set

## Kelpak on cotton

Initial investigation into the use of Kelpak was performed at Toobeah in the 2010/11 cotton season as a side by side trial under flood irrigation. Kelpak was applied at 2 L/ha at 12 nodes and again two weeks later. The control plot had no application of Kelpak.

The key impact on plant health was the significantly improved boll retention of the Kelpak over the untreated plot which resulted in an increased yield of 1.13 bales/ha. This exceptional trial result led to more trial work in the 2011/12 season via replicated trials, predominantly in the St George irrigation areas along with one trial on the Darling Downs.

Response to Kelpak in Irrigated Cotton 2010-2011 and 2011-2012



The overall average across two seasons, three irrigation valleys and two cotton varieties was 0.6 bales/ha increase in yield using two applications of Kelpak on irrigated cotton.

The key benefit of Kelpak on cotton is that it increases the crop's ability to explore a larger soil volume due to increased root density. This in turn allows the cotton, when at full boll load, to access more soil resources resulting in reduced boll shedding.

In a number of the trials, when there was an impediment to root growth (i.e. compaction layers, subsoil constraints such as sodicity), Kelpak has proven to be extremely beneficial. Similarly, with potassium and phosphorus responsive sites (low K and P levels at depth), Kelpak has also produced a significant yield response.



## RECOMMENDED APPLICATION

**Planting** 500 ml (1:200)  
Water injection at planting

**Foliar spray** 2 L/ha (1:300)  
Apply at 12 node stage.  
Spray at first flower visible on first fruiting branch [ flower at candle ] and  
Apply second spray 14 days later.  
Spray at approximately 15-16 nodes [ flowers visible on the first 4-5 flowering branches ]



**kelpak.com**

Office +27 21 786 2090

Email info@kelpak.com