Zelp and Onions, Chamberlain (March 2015)

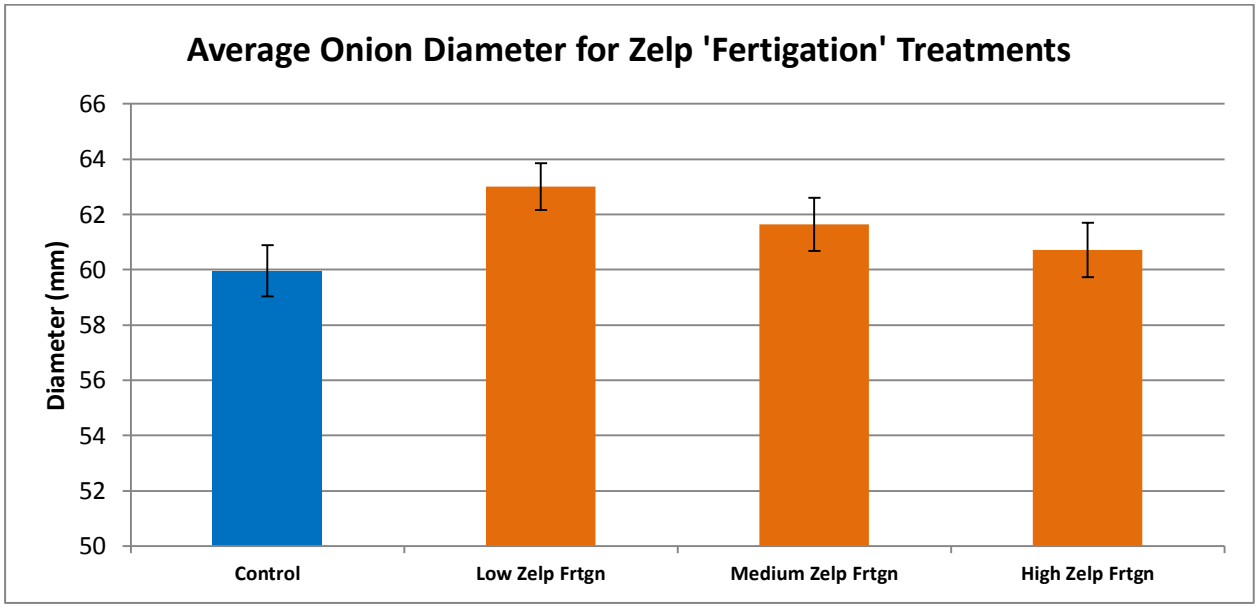
(Peter Randrup)

PLANTING

This trial was based in Leeston in a 4ha onion paddock. Two rows, (like shown to right) that were 1m wide x 300m long were split into 10sm plots and treated with different quantities of Zelp powder, Zelp Tea, & Kelp Juice. There were 13 treatments (incl. 3 controls), replicated 3 times. The diameter (as a proxy for weight) of 30-40 onions was measured in each plot, giving about 100 measurements for each treatment. The trial plan was drawn blind.

30/1/15 – Application date
3/3/15 – Sample date (Same week as harvesting date)

RESULTS

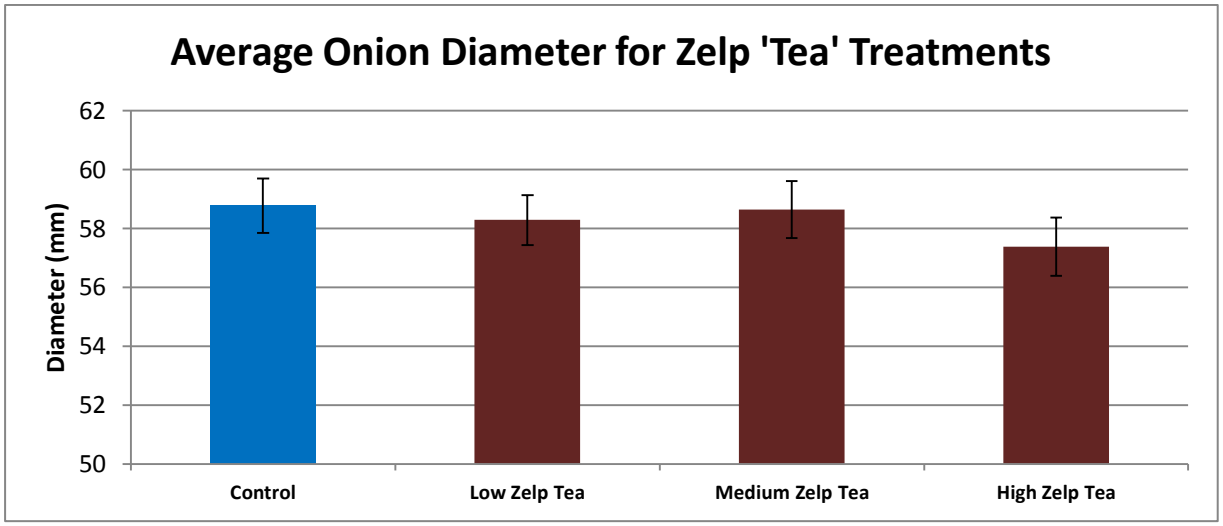


Graph 1. The error bars are the 'Standard Error' not the 'Standard Deviation'. Axis starts at 50mm (frtgn = fertigation)

- Above is the Zelp powder group. The control and treatments were given 10L water across the 10sm patch. The Zelp groups had Zelp powder mixed in with the water (5g, 10g & 20g respectively). This is the equivalent of: Low treatment = 5kg/ha, Medium treatment = 10kg/ha, High treatment = 20kg/ha
- The 5kg/ha was clearly the best with on average a 5% greater onion diameter than the control. Because of the nature of a sphere, a 5% increase in diameter results in a greater than 15% increase in volume, and therefore a 15% increase in weight. A 60mm diameter onion typically weighs 100g. An onion measuring 63mm, typically weighs 116g. This is a 16% increase in onion weight and therefore a 16% increase in yield.
- P-value = 0.117

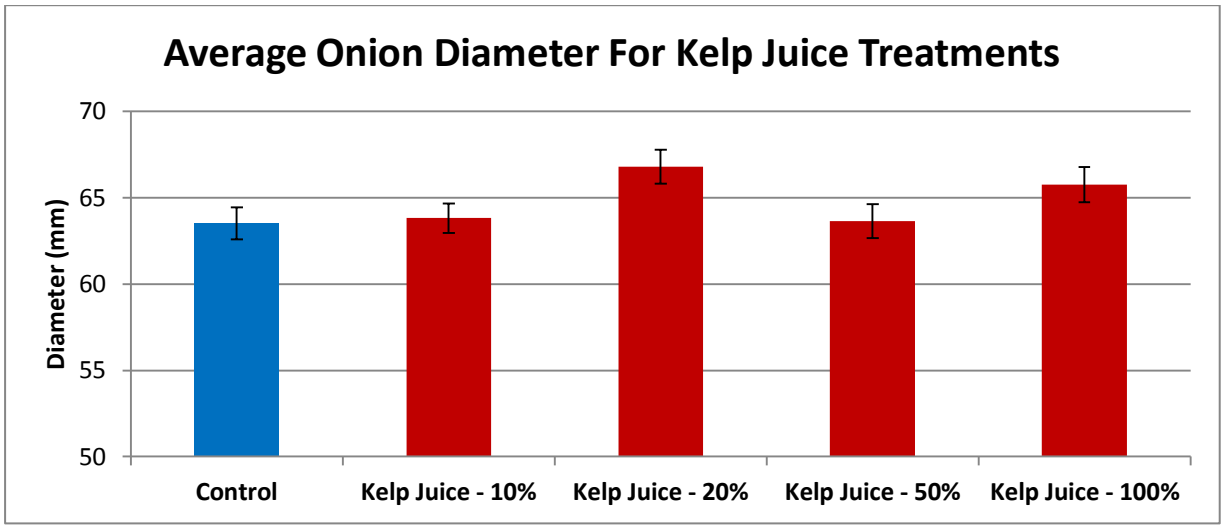
Zelp and Onions, Chamberlain (March 2015)

(Peter Randrup)



Graph 2. The error bars are the 'Standard Error' not the 'Standard Deviation'. Axis starts at 50mm.

- All groups had 1L of water in each 10sm plot (equivalent to 1000L /ha and therefore would be applied with a sprayer). The quantities, type & batch of kelp were the same as in the fertigation groups, but the powder was simply brewed for 45mins and then the fibrous parts sieved out so it could go through the sprayer.
- None of the tea's seemed to work effectively.
- Due to it's viscosity it had great difficulty running through the sprayer – it dribbled out more than sprayed out. This will have resulted in a less even coating which is important when the concentration is high - Some plants may have got too much while others none at all. It may work fine in a large commercial sized sprayer with a strong pump to overcome the viscosity issues.
- It is also possible that the best parts of the kelp are in the solid parts and won't come out simply by brewing. They may need microbes to break them down.
- P=0.717



Graph 3. The error bars are the 'Standard Error' not the 'Standard Deviation'. Axis starts at 50mm.

- All groups received 1L of solution per 10sm plot.
- It is difficult to conclude a lot from this part of the trial. However, 20% dilutions should be the starting point for future Kelp Juice trials.
- P=0.128