

## TOP OF THE LINE PRODUCTS INCREASING SIZE, YIELD AND BOTTOM LINE DOLLARS

The Kiwifruit industry is constantly searching for better production methods and maximisation of outputs and economic returns. An important issue facing growers is efficient management of nutrients and also, the issue of bigger and better fruit size.

### IMPORTANCE OF BALANCED NUTRITION

Balanced nutrition plays a major role, if not the biggest role in the production of quality produce. The aim of the grower should always be to optimise fertiliser practices and never cut costs by cutting out on fertilisers. Over the years, growers have had the tendency to use larger amounts of Nitrogen which can lead to nutrient imbalances and even promote the onset of pests and diseases. From time to time, serious nutrient disorders will appear in a crop and this can cause a severe setback in crop yield and quality. The inefficient use of applied nutrients is also undesirable from an economic point of view. Furthermore, excessive nutrients in the soil can accumulate in plant tissues and affect crop quality and storage. Growers are aware of the consequences of using excessive rates of fertilisers, however, they are often reluctant to lower the rates, in case yields are compromised. Crop monitoring is an extremely valuable technique to ensure yield, quality and crop health are all at their optimum.

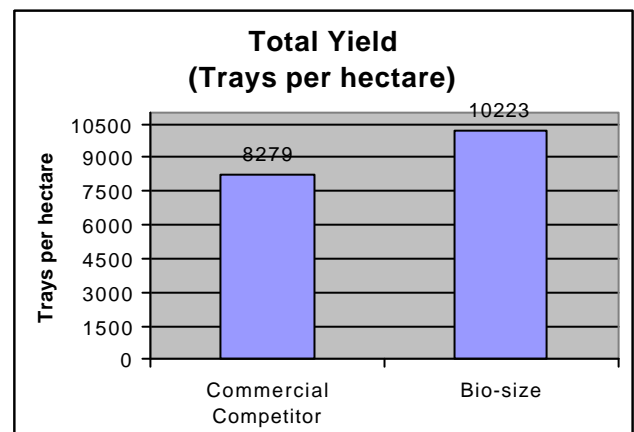
A range of products were trialed to test their efficacy on improving the yield, size and quality of kiwi fruit.

### BIO-SIZE TRIALS:

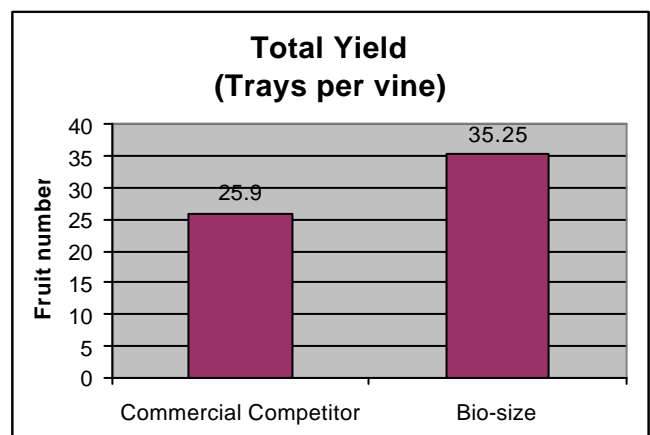
In the last season, there has been extensive work done in the major kiwifruit growing areas using **Bio-Size** as an organic product derived from the fermentation of beneficial

organisms which stimulate nutrient uptake, as well as fruit size. The trial was comparing a currently used commercial product for sizing, versus **Bio-Size**. Essentially, the aim of the trial was to improve fruit size, fruit uniformity as well as crop yields through balanced nutrient uptake. **Bio-Size** was applied at a rate of 2.5L/ha (3 applications) which occurred within 21 days after fruit set. Graphs 1 and 2 illustrate the benefits of **Bio-Size** over the current commercial product.

Graph 1:- Total Yield (Trays per canopy hectare)



Graph 1 illustrates the number of trays picked per canopy hectare where the commercial competitor yielded approximately 8279 trays, and the **Bio-Size** treatment yielded approximately 10223 trays over the same area, an increase in yield of 23.5%.



Graph 2 illustrates what this equates to in number of trays per vine, being 25.9 trays per vine for competitor, and 35.25 trays per vine for **Bio-Size**. Grower observations indicated that early on in the season, the block not treated with **Bio-Size** suffered a considerable amount of fruit loss, and also displayed delayed maturity. The block treated with **Bio-Size** did not lose fruit, nor was there a significant delay in maturity of the fruit. The difference in fruit size was minimal whereby the average size for the **Bio-Size** was 31.9 and the other block averaged out at 28.9.

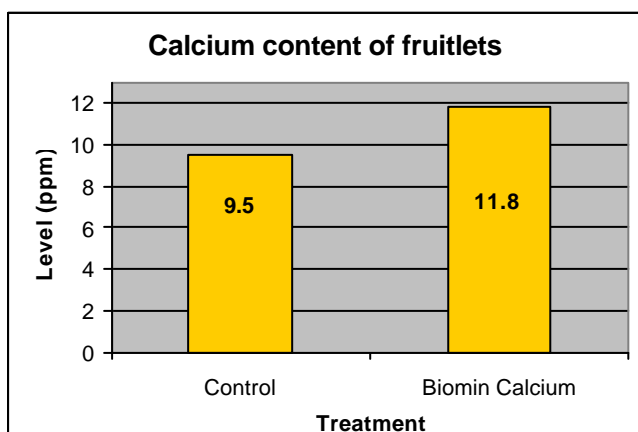
The economic returns of yielding 23.5% greater yields at almost the same size could equate to big dollars in the short terms as well as the long term. The yields obtained from the block treated with **Bio-Size** gave comparative yields to higher density plantings.

#### **K-FORTE TRIALS:-**

**K-FORTE**, a nitrogen free, totally soluble form of Potassium and Phosphorous was used in the trial to evaluate this products efficacy in increasing colour, size, and brix levels. These results look promising and are currently being analysed by Zespri.

#### **BIOMIN TRIAL:- BIOMIN CALCIUM**

There is always a lot of questions being asked about how to improve the levels of Calcium within kiwi fruit to increase the post harvest life of the fruit and to also reduce pitting. Preliminary trial results show an increase in Calcium levels in fruitlets tested which had **BIOMIN CALCIUM** applied to them. The control received no Calcium. Graph 3 illustrates the difference in fruitlet content of Calcium where the only form of Calcium applied is **BIOMIN CALCIUM**.



There is also evidence to support the use of **BIOMIN CALCIUM** in conjunction with

soil applied Calcium in order to elevate Calcium levels even further, to decrease the risk of pitting. Fruit is currently in storage to test the effects **BIOMIN CALCIUM** has on postharvest storage life of kiwi fruit which will have a significant impact on the pack houses as well as the export industries. Work is also being done on Biomin Magnesium for fruit quality and pitting.

#### **BIOREPEL**

The talk of the town at the moment in Kiwifruit is Biorepel. Problems with birds is ever so increasing and there has been a demand for a safe methods of getting rid of the birds. In Australia, Biorepel has been trialed to test it's efficacy as an insect repellent and has also shown excellent results against some birds, such as Starlings, Minors and Silver eyes.

#### **SUMMARY**

Preliminary trials indicate there are four new products being used in the kiwi fruit industry which look promising. **Bio-Size** appears to have achieved greater yields, of relatively similar sizes, as well as no delays in maturity. Results from the **K-FORTE**, **BIOMIN CALCIUM** and **BIOMIN MAGNESIUM** trials are still pending and further details will be forwarded at a later date.

Profitable kiwi fruit production revolves around the right type of fertiliser, professional guidance and balanced nutrition. Most growers can obtain relatively high yields, however, how many growers are producing top quality produce, and seeing the returns in the bottom dollar profits? This is a paramount issue in the local and export markets and for New Zealand growers to remain sustainable and competitive, the right choice must be made in regards to better management practices in the field, especially in the use of fertilisers and high quality products. Discover the top of the line products for healthier bottom line profits.

#### **Zadco for Quality Gro Pty. Ltd.**

9/9A Foundry Road  
Seven Hills N.S.W 2147  
Australia.

**Ph:** +62 2 9838 9111

**Fax:** +62 2 9838 9110

**Email:** [inquiries@zadco.com.au](mailto:inquiries@zadco.com.au)

**Website:** <http://www.zadco.com.au>