

Trial Report 2018-01

Better Returns in Citrus using Nutrition to Increase Fruit Size

The increased % of fruit which met export grade, resulted in an increased crop value of upto \$4816 per hectare.

Key Outcomes

Increase in Fruit Size and Weight

Greater % of Fruit in higher Export Grade

Increase Crop Value \$4,816 per hectare

Return \$49 Per Nutrient Dollar Invested (RONI)

Based on export prices May 18



Background: Fruit Size and Return

The export market and grading for oranges is assessed against fruit size. The difference in price per tonne is significant if growers can increase their pool of fruit grown to meet higher export grade specifications (count). For example in the current market there is a significant price difference between export fruit grades (based on fruit size).

The aim of the trial is to target specific nutritional requirements for fruit sizing with foliar nutrition in NutriMAX PhosCal and molybdenum to increase fruit size and weight and produce a return on investment from premiums paid for fruit which meets higher export grades.

Trial Objective

Assess the return on investment with the application of specific foliar applied nutrition during fruit sizing growth stages on citrus.

- Apply foliar nutrition with NutriMAX PhosCal and Molybdenum post fruit set
- Assess its influence on fruit size and weight and affect the pool of fruit which meets export grade (by size)
- Assess return on nutrient investment in the context of current export market prices

Return on Nutrient Investment (RONI)

| Trial Area | Increase Income Above control | Crop Value Increase Above control, per Ha | Investment Nutrient Cost per Ha | Return Per Dollar Invested |
|------------|----------------------------------|--|------------------------------------|-------------------------------|
| Block 9 | 18.7% | \$4,816 | \$97 | \$49.65 |
| Block 33 | 12.6% | \$4,148 | \$97 | \$42.76 |

Based on average 40T/Ha Packout and indicative export prices May 2018

Both Trial Blocks showed a significant increase in average size and percentage of fruit which met the size spec. for higher export grades. Based on current export prices the increased pool of fruit in the higher grades contributes to an increase in crop value upto \$4,816 per hectare. The overall RONI for both blocks is \$42-49 Return Per Dollar Invested.

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Trial Results

In both trial blocks (9 and 33) measurements demonstrated a significant increase in fruit size and weight in the treated areas. Increased average fruit size of

- 1.71mm on Block 9
- 3.05mm on Block 33

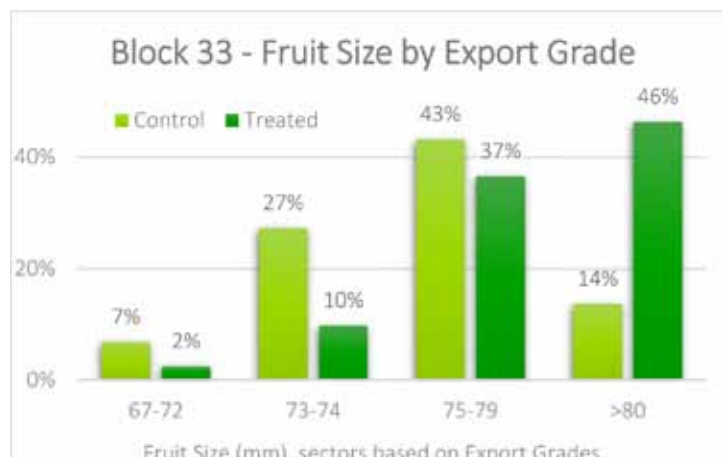
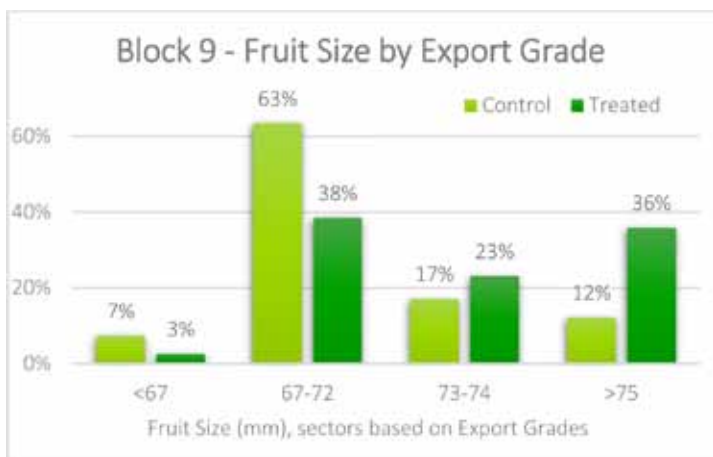
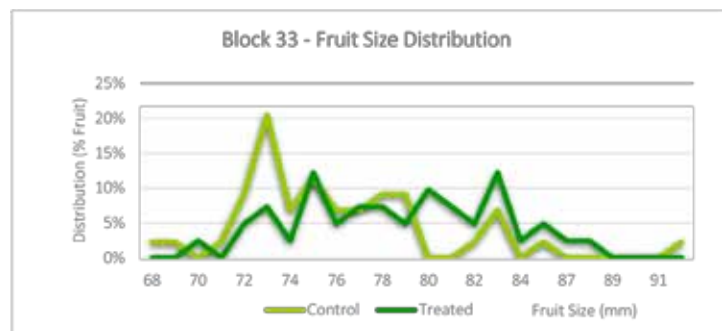
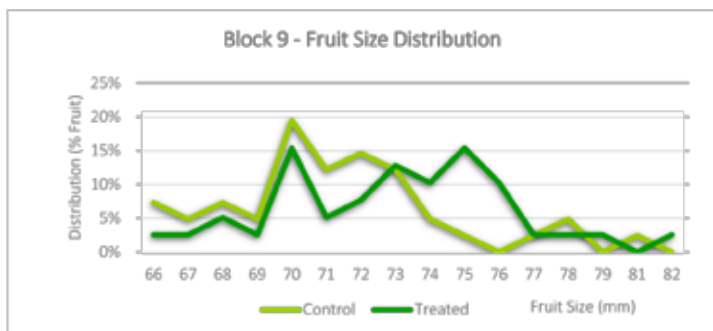
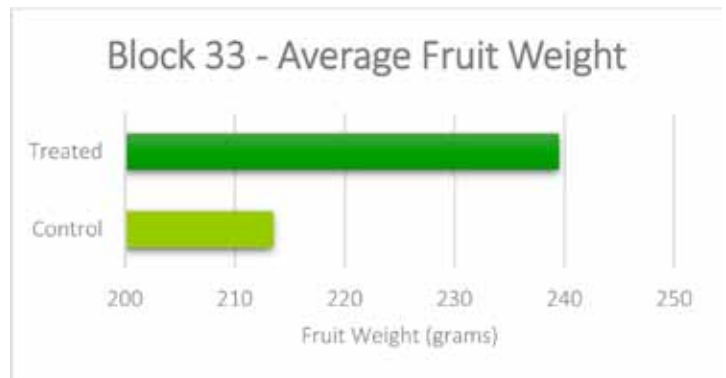
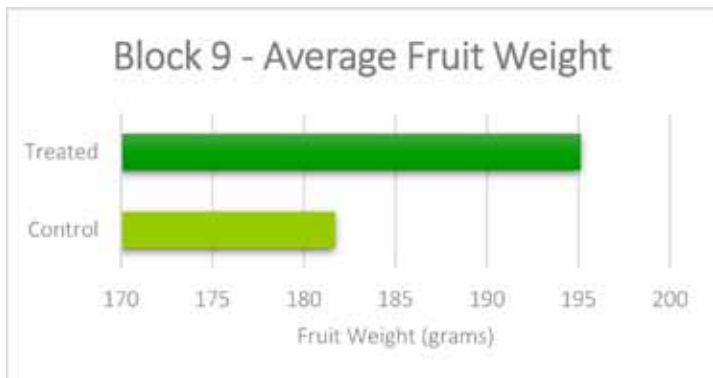
Average fruit weight increase of

- 13.4g on Block 9
- 25.6g on Block 33

Report Date 10th July 2018 By Bill Ambaras and Leticia Gosse

Trial Outline

| | |
|-------------|--|
| Location | Mirage Citrus, Riverland SA |
| Trial Area | 3.7 Ha (Block 9) & 1.63 Ha (Block 33) |
| Crop / Soil | Oranges (Washington Naval) / Sandy loam |
| Control | No treatment |
| Treated | 40L/Ha NutriMAX PhosCal* & Moly in 2 foliar app. |
| Timing | Applied from 10mm fruit size (18-29 Nov 2017) |
| Measure | Fruit size and weight pre-harvest |



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*Nutritional Treatment

Addressing key nutrients at specific crop growth stages is the basis of the nutritional treatment used in the trial, NutriMAX PhosCal.

NutriMAX PhosCal has a unique nutrient coupling of calcium and phosphorus.

In general terms a growth nutrient (phosphorus) teamed with plant strength nutrient (calcium) means plants respond with healthy growth and fruiting outcomes.

In the formulation of NutriMAX PhosCal each nutrient plays a role

- Calcium applied as a foliar is essential for building plant cell strength, coupled with
- Phosphorus for improved flower formation and seed production and a more uniform and earlier maturity and
- Boron requirement in plants are higher for the reproductive growth phase than vegetative and it will improve flower production and retention, seed and fruit development
- Silica is a key to cell strength and good plant levels are associated with plant resilience to pest and disease.
- Fulvic is a powerful natural chelator improving the delivery and efficacy of foliar applied nutrients.
- Biostimulant Base with natural plant growth hormones, vitamins and immune enhancers. These build plant health and in turn increase plant capacity to uptake and utilise applied fertiliser.
- Availability to Plants the above nutrients are delivered from natural sources in a highly plant available form, making it easy for plants to take up and an efficient way to apply nutrition.



TYPICAL ANALYSIS (w/v)

| | |
|------------|-------|
| Nitrogen | 6.0% |
| Phosphorus | 11.8% |
| Potassium | 3.0% |
| Sulphur | 0.5% |
| Calcium | 26.2% |
| Magnesium | 1.7% |
| Silica | 6.6% |
| Fulvic | 2.0% |
| Boron | 1.5% |
| Iron | 0.3% |
| Manganese | 0.02% |
| Zinc | 0.01% |