

# Vigo for Agri review

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# Description of Vigo

- Vigo for Agri™ is a plant supplement which in itself is not a nutrient source but rather an optimiser/potentiator of other nutrient additives.
- Vigo for Agri™ has a physiological effect at the cell membrane level triggering nutrient and water movement thereby allowing the plant to maximise usage of available nutrients.
- Being water soluble, the product is easily absorbed through the roots or leaf stomata.
- The product can be applied at anytime within the plant's growth cycle – i.e. from seed to mature plant.
- Treated plants respond by producing more roots and healthier shoots over a shorter period of time as well as enhancing bud break, increasing flowering and therefore fruiting.
- Vigo for Agri™ functions similarly to other secondary metabolites in the regulation of primary metabolic pathways.

## trial summary

Three trial blocks comprising 4 hectares per block.

treatments:

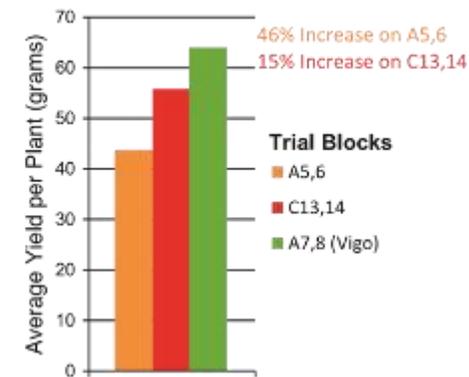
- Two controls: ■ A5,6 - untreated under shade-netting ■ C13,14 - untreated in open field
- Both control blocks were exposed to the standard fertigation protocol used for commercial production.
- One Vigo™ treated block ■ A7,8 under shade-netting exposed to a 30% reduction in the standard fertigation protocol.

All blocks are irrigated three times a week. Fertigation is applied with each irrigation cycle. Vigo™ is applied with two of the three, weekly irrigation applications.

# Strawberries

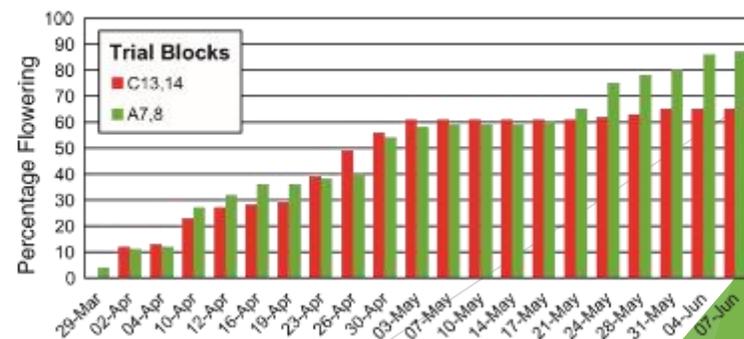
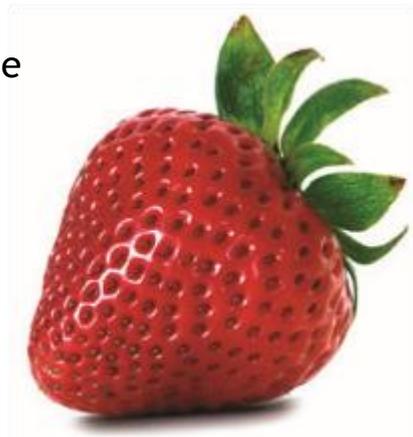
## trial observations and results

Plants treated with Vigo™ responded more vigorously after transplanting compared to untreated plants. Plants produced significantly more flowers and yielded more fruit when treated with Vigo™.



Brix value went up from 8 to 9 with is very good for flavor !

The highest yield increase was in the beginning of the season (37%)



# Tomato-1

**Table 1.** Effect of VIGO treatments on yield of 'Heinz-1370' tomato under greenhouse conditions. The VIGO concentrations were prepared by diluting 1 mL of stock solution with 500 or 2000 mL of tap water for soil drenching. The treatment pots were irrigated twice weekly with VIGO solution and once with water until they reached field capacity. The control pots were irrigated with water three times weekly (n = 15 plants).

Treatment <sub>y</sub>	Fruit (no./plant)	Total fruit (no.)	Mean fruit wt (g) <sub>x</sub>	Mean fruit diam (mm) <sub>x</sub>	Biomass (g/plant)	Biomass (g/plant)
	Mean ± SE					
Control	8.27 ± 0.80 b <sub>v</sub>	124 ± 0.80 b	72.8 ± 4.3	54.0 ± 0.7	780 ± 63	0.694 ± 0.7 b
(1:500 v/v)	11.2 ± 1.11 a	168 ± 1.11 a	67.3 ± 3.6	54.4 ± 0.6	976 ± 93	0.762 ± 0.8 a
(1:2000 v/v)	9.94 ± 0.96 ab	149 ± 0.96 ab	68.4 ± 2.5	53.3 ± 0.6	854 ± 81	0.733 ± 0.7 a

<sub>z</sub>1 mL = 0.0338 fl oz. <sub>y</sub>1 nm = 1 ppb. <sub>x</sub>1 g = 0.0353 oz; 1 mm = 0.0394 inch. <sub>w</sub>Ratio of fruit yield to total aboveground biomass yield on a fresh weight basis. <sub>v</sub>Values in the column with different letter(s) are significantly different at P ≤ 0.05 by least significant difference.

Higher concentration of Vigo leads to improved performance (1:500)

Total fruit and number fruit/ plant increased with factor 1,3 (1:500)

Biomass was enhanced with a factor of 1,3 (1:500)

Harvest Index (amount of fruit to leaves and stems) was 10% higher than the standard treatment

# Tomato-2

**Table 2.** Effect of VIGO treatments on nutritional composition of ‘Heinz-1370’ tomato fruit that were allowed to ripen at room temperature. VIGO concentrations were prepared by diluting 1 mL of stock solution with 500 or 2000 mL of tap water for soil drenching. The treatment pots were irrigated twice weekly with VIGO and once with water until they reached field capacity. The control pots were irrigated with water three times weekly (n = 15 plants). Five fully ripe tomatoes at five different harvests were used and the estimation procedure was repeated five times. Mean values are with  $\pm$ SE.

Treatment <sub>y</sub>	Ascorbic acid	b-Carotene	Lycopene	Total soluble	pH
	(mg/100 g) <sub>x</sub>	(mg/100 g)	(mg/100 g)	solids (%)	
	Mean $\pm$ SE				
Control	57.1 $\pm$ 7.1	6.77 $\pm$ 1.4	30.7 $\pm$ 5.9	5.7 $\pm$ 0.09	4.0
(1:500 v/v)	87.4 $\pm$ 8.5	7.27 $\pm$ 0.3	29.8 $\pm$ 2.0	5.6 $\pm$ 0.15	4.0
(1:2000 v/v)	75.0 $\pm$ 16.0	6.56 $\pm$ 1.3	29.7 $\pm$ 7.8	5.4 $\pm$ 0.09	4.0

<sub>x</sub>1 mL = 0.0338 fl oz.

<sub>y</sub>1 mM = 1 ppb.

<sub>x</sub>1 mg/100 g = 10 ppm.

Substances which benefit health improved with Vigo application

Ascorbic acid (vit.C) increased with a factor of 1,5

B- Carotene (vit. A) increased with a factor of 1,1

Expect that vit. E levels and brix will also increase

# Tomato-3

## Amounts and types of fertilizers used during the trial on each of the plots:

8 Liters of CaNO<sub>3</sub> per day and 12 liters of mengsel per week (Stikstoffosfaat, Kalium, Magnesium, Spoorelemente and Koolstof)

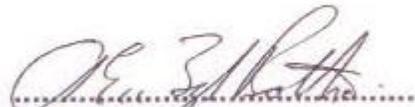
## Yield of treated and untreated plots:

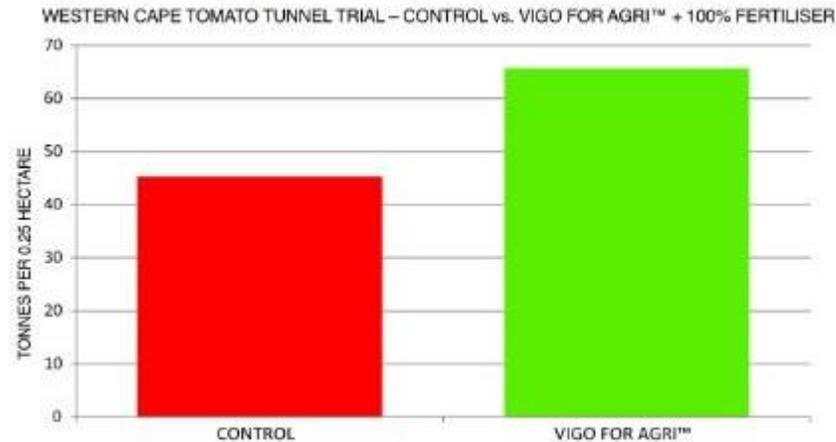
0,25 Hectare plot treated with Vigo = 65,7 tons

The 3 control plots totalling 0,75 Hectares = 135,843 Tons with the average production of tomatoes per 0.25 Hectare plot yielding 45,281 Tons

## Other beneficially notable difference between the plot treated with Vigo and the control plots:

The plot treated with Vigo gave a 2 week longer harvest and the growth was more vigorous than the untreated plots.

  
A.E. BOTHA



# Tomato-4 (ZZ2)

## trial summary

To determine the effects of Vigo™ on the yield of tomatoes. A pot and field trial were conducted at ZZ2 Farm in Mooketsi, South Africa. Four week old seedlings (ZZX23 variety) were planted into five litre pots and in open fields. Agronomic management practices followed ZZ2 standard procedure.

treatments:

- Control - exposed to the standard fertigation protocol used for commercial production.
- Vigo™ – treatment applied twice weekly, from transplant to end of harvest. Plants were exposed to a 50% reduction in the standard fertigation protocol.

Pot Trial: 3 plants x 5 replications = 15 plants/treatment.

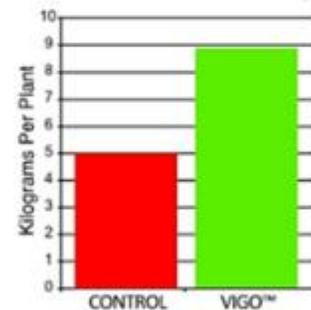
Field Trial: 0.7 Hectare blocks = 8000 plants/treatment.

## trial observations and results

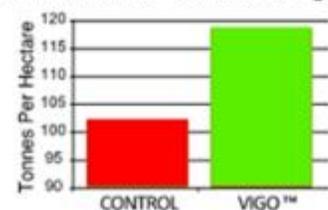
Plants treated with Vigo™ responded more vigorously after transplanting compared to untreated plants. Plants produced significantly more fruit and an increase in yield weight when treated with Vigo™.



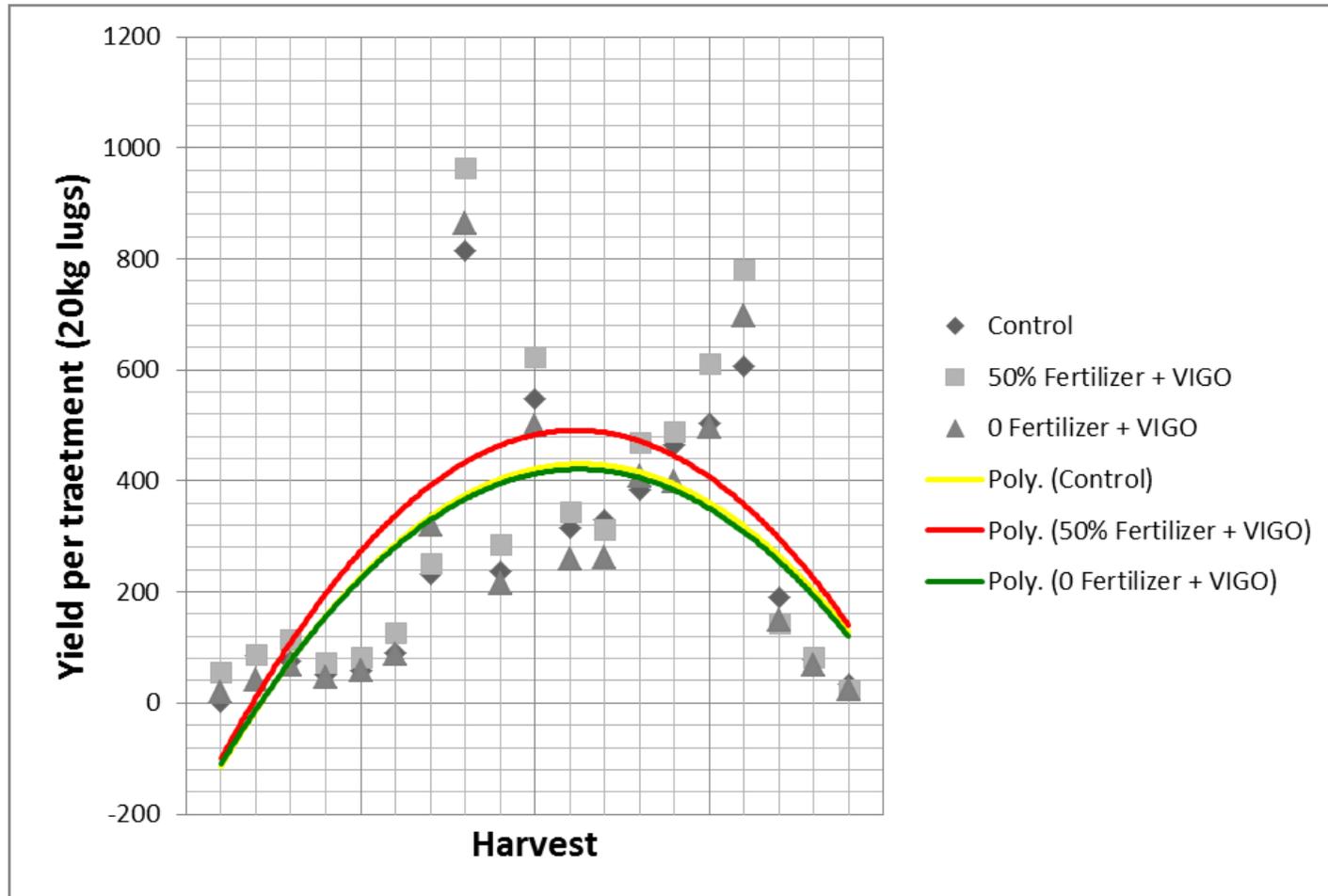
ZZ2 Pot Trials – Control vs. Vigo™



ZZ2 Field Trial – Control vs. Vigo™



# Tomato-5: Fertilizer effect



Best result from ZZ2 field trials was obtained with 50 % of usual fertilizer application & Vigo

# Bell Peppers

## trial summary

To determine the effects of Vigo™ on the yield of sweet peppers. The cultivar used is Capistrano. The trial was conducted at LARSS Experimental Farm, Nelspruit, South Africa.

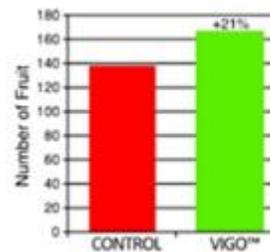
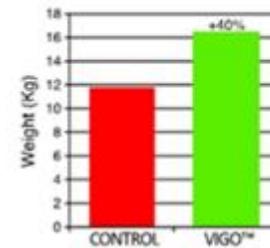
treatments:

- Control – exposed to the industry standard growing protocol used for commercial production.
- Vigo™ – treatment applied twice a week, from transplant to end of harvest.

Plot size: 8 plants x 4 replications = 32 plants / treatment.

## trial observations and results

Plants treated with Vigo™ responded more vigorously after transplanting compared to untreated plants. Plants produced significantly more fruit and an increase in yield weight when treated with Vigo™.



# Summary

## added features & benefits

### Added Features

- Vigo for Agri™ is 100% natural.
- Vigo for Agri™ can be used in tandem with all fertilisers – chemical and organic.

### Added Benefits

- When applied to plants, Vigo for Agri™ increases yield by 16% to 40%.
- Fruit produced is scientifically tested to have the same nutritional value as quality fruit grown without Vigo for Agri™.
- Vigo for Agri™ has an indefinite shelf life.