



# Plant Bio Regulators (Pty) Ltd

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## NONTOX-SILICA™ AND THE PRODUCTION OF LETTUCE

### Location

Tarltou, Oaktree Farm. Various types of lettuce are cultivated in a hydroponic system using gravel and shallow beds to anchor the plants.

### Cultivar

Nevada

### Aim

To investigate the effect of water soluble silicon on production and shelf life of leafy lettuce.

### Treatments

Control consisting of 5 beds selected at random. Application of 1g Nontox-Silica per m<sup>2</sup> to 5 beds selected at random, at planting and 7 days later. Thereafter all beds received the same treatment as to irrigation, fertigation and other practises.

### Measurements

Days to harvest was calculated by applying the standard norms of the production manager to decide when to start picking the developed leaves. Leaves from the 10 beds were then stored under standard conditions and the quality was measured every day after picking.

### Results

It was observed that plants in the beds received Nontox-Silica appeared greener than the controls and was ready for the first picking at 28 days. The leaves from plants received Nontox-Silica also last longer in the cold room than the controls.

<i>Treatment</i>	<i>Days to harvest</i>	<i>Shelf life (days)</i>
<b>Control</b>	<b>35<sup>a</sup></b>	<b>4<sup>a</sup></b>
<b>+ Nontox-Silica</b>	<b>28<sup>b</sup></b>	<b>8<sup>b</sup></b>
<b>Significance</b>	<b>*at 10%</b>	<b>** at 10%</b>

### COMPOSITION OF NONTOX SILICA™ CONCENTRATE

Water soluble silicon as Si	(g per litre)	100
Water soluble silicon as Si	(g per kg)	83
Water soluble silicon as SiO <sub>2</sub>	(g per litre)	214
Water soluble silicon as SiO <sub>2</sub>	(g per kg)	178
pH of the concentrate	400g/1000ml	11,77

### DILUTION OF THE NONTOX SILICA™ CONCENTRATE

Dilute the concentrate as follows for weekly applications in drip irrigation systems.

1000ml concentrate per 1000 litre water gives 40mg Si per litre

250ml concentrate per 1000 litre water gives 10mg Si per litre

Dilution for re-cycling hydroponic systems.

50ml concentrate per 1000 litres water/nutrient solution gives 2 mg Si per litre.

Dilution for foliar applications.

200 ml concentrate per 100 litre water. This solution contains 80mg Si per litre and can be acidified down to pH 4.

For technical enquiries contact John Pretorius 083-228 0258 or Hannes Coetzee 082-785 7595.