

## Spinach Case Study 21<sup>st</sup> May 2013

A field of Spinach was sprayed with Mobilizer<sup>®</sup> and Phoscare<sup>®</sup> combined and compared to a control site in which Foschek had been applied.

The field site was seeded on the 18<sup>th</sup> April, the product was applied on the 7<sup>th</sup> May and the crop was harvested on the 23<sup>rd</sup> May.

Phoscare was applied at 3L per hectare with Mobilizer at 2L per hectare.

The site was evaluated on the 21<sup>st</sup> May 2013, 8 replicates containing 50 plants were measured.

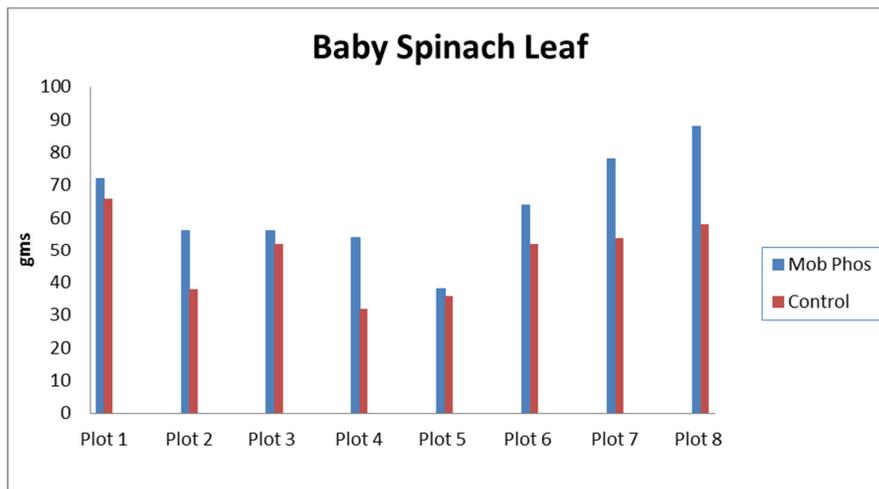
The site was very wet on the day the measurements were taken.

### Method

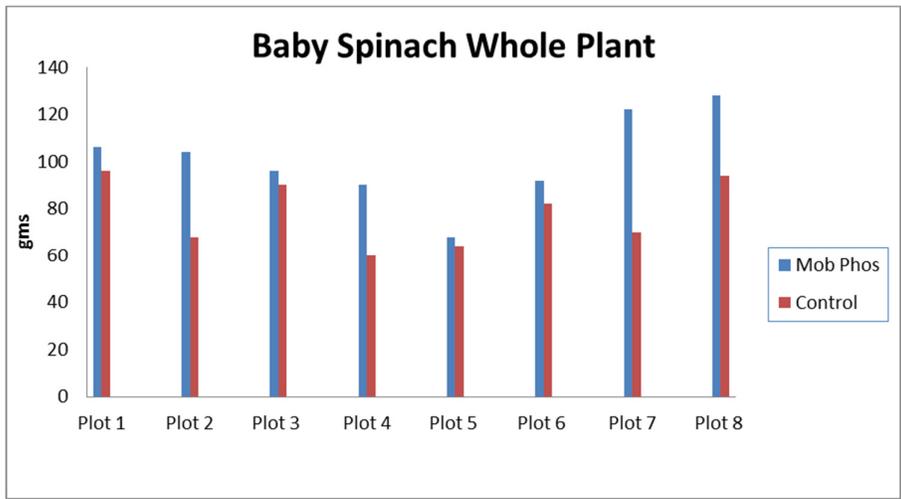
The sampling method involved taking a random location in the field and measuring out a plot 25cm/25cm. Every plant within this area was measured until 50 plants were taken with 8 replicates. The sites being compared were located in similar locations in the field to reduce differences in topography and variable soil conditions.

### Results

The results obtained are below:



Graph 1: Total Weight in gms of leaf taken from 25cm<sup>2</sup> plots with 50 plants measured within it.



Graph 2: Total weight of the whole plant taken from 25cm<sup>2</sup> plots with 50 plants measured within it.

Plant Average Weight ALL Plots	Grams	Leaf Average Weights ALL Plots	Grams
Mobilizer / Phoscare Treatment	100.75	Mobilizer/ Phoscare Treatment	63.25
Foschek Control	78.00	Foschek Control	48.5
Total	23% Increase	Total	23% Increase

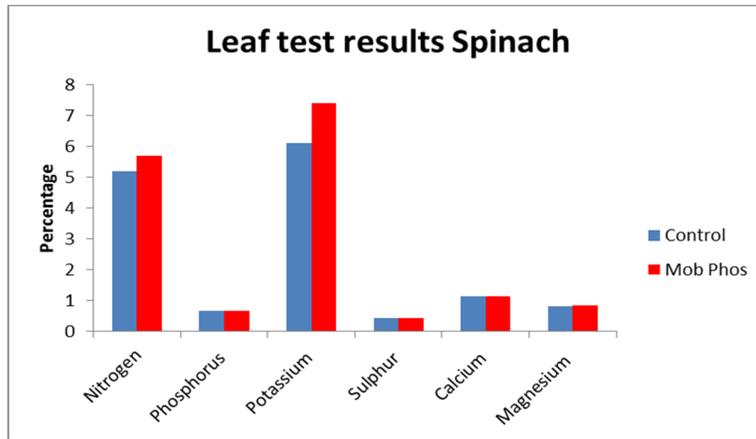
Table 1. Average and Total weights of Spinach in grams calculated over the 8 trial plots combined.

All of the 8 trial plots recorded heavier weights than the control.

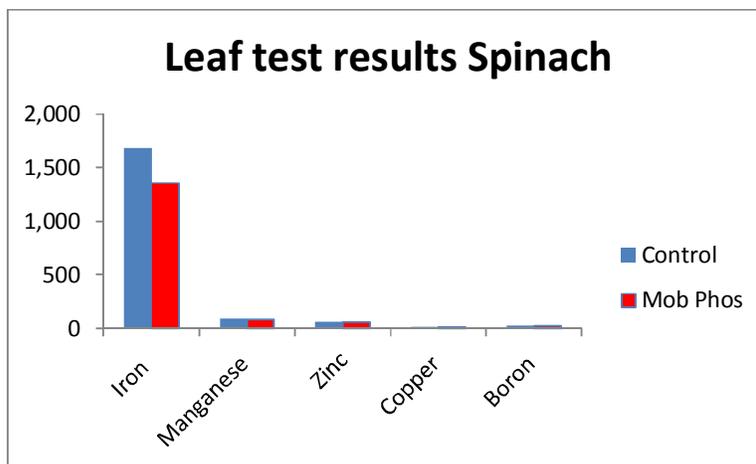
Overall the average weight in grams for 50 plants in the Mobilizer-Phoscare plots came to 100.75 grams compared to 63.25grams for the control. The increase of 23% was recorded in the total weight of the plant and surprisingly was found to be the same increase in the Leaf measurement weights. This result would indicate that the main difference was in the total leaf and not in root growth.



## Leaf Test Results



Graph 3. Leaf Test results from Spinach



Graph 4. Leaf Test Results

## Discussion

It appears that the total weight/yield of Spinach treated with Mobilizer and Phoscare was greater by 23%. This increase can only be attributed to increase leaf growth.

The nutritional levels are very difficult to measure with such a young crop and due to Iron contamination of the samples which maybe from water used to wash the samples. The biggest variation in the analysis result is with potassium from 6.1 in Foscheck control to 7.4 in the Mobilizer-Phoscare site.

Overall there was a 23% increase in total weights of the plants, which would account for extra profit. Every site in the Mobilizer Phoscare site measured a higher yield.

## Statistical Analysis

### **Baby spinach leaf results**

*Average result for each treatment*

<u>Treatment A</u>	<u>Treatment B</u>
63.25	48.5

The p-value is between 0.001 and 0.005.

This means that the probability of the differences between treatments being due to chance is between 0.1% and 0.5%.

The least significant difference, or LSD (95%) is 8.6

**This is a really solid result - you can be confident that treatments differed in these conditions.**

### **Spinach whole plant results**

*Average result for each treatment*

<u>Treatment A</u>	<u>Treatment B</u>
100.8	78

The p-value is between 0.005 and 0.01.

This means that the probability of the differences between treatments being due to chance is between 0.5% and 1%.

The least significant difference, or LSD (95%) is 15

**This is a really solid result - you can be confident that treatments differed in these conditions.**