



EFFECT OF MOBILIZER ON BEAN GROWTH

Test Block - M Russell Hastings New Zealand
March 2013

BACKGROUND

The majority of growers interested in improving soil and plant nutrition will now be familiar with humic acid. Fulvic acid is, in essence, the principal 'active' ingredient in humic acid. It is the driving force behind the performance of all humate-based materials and arguably the most valuable input in biological agriculture.

Fulvic acid is a powerful organic electrolyte; a powerful detoxifier; has capacity to dissolve insoluble materials; highly efficient chelating agent; relieves oxygen deficiency and increases metabolic activity during fruiting periods; improved drought resistance; accumulation of soluble sugars (high brix); improved seed germination and many other benefits can be seen through the use of Mobilizer.

MATERIAL AND METHODS

- Compare plots of Mobilizer treated French beans with Control plots in relation to bean yield, bean weight and bush fresh weight.

The field experiment was conducted over the dry summer of 2013 in Hawkes Bay New Zealand on field growing French beans which were being irrigated.

The crop was planted on 1st January 2013.

Leaf analysis was submitted to Hill laboratories prior to the commencement of trial to establish that the young beans were nutritionally fine ensuring that no major deficiencies existed which would impact negatively on plant health and yield.

Blocks were fertilised and managed in the same way. It was shown through tissue analysis that the beans did have deficient levels of boron early in the season, unfortunately they were not treated due to time constraints, improved Boron levels had the potential to directly increase yield attained for the grower.

The Block was divided into two sections; French Bean 1 (**Mobilizer treated**) and French Bean 2 (**Control**). On 19th February 2 L/ Ha of Mobilizer was applied to French bean block one.

It is normally preferable that two applications of Mobilizer are applied; one at planting to assist with seed germination and another one prior to critical flowering phase.

On the 25th February, 2 lots of 10 plants each from the control and treatment blocks were chosen by randomised measuring of plants. Only those plants that had reached the height of 460mm and 490mm from each plot were picked from both the treatment block and the control and assessed for yield, bean weight and fresh bush weight.

Crop was machine harvested on 14th March 2013 and all plant material left was rotary hoed back into the soil.



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RESULTS & DISCUSSION

The yield weights for each replicate of Mobilizer treated blocks were substantially above those of the control. Fresh bean weights were also significantly higher in treatment blocks over control as were fresh bush weights as per Table 1 below.

TABLE 1. EFFECT OF MOBILIZER ON FIELD GROWN BEANS - PLOT ONE

MOBILE TREATMENT ONE	YIELD PER BUSH	FRESH BEAN WEIGHT	FRESH BUSH WEIGHT
460MM	NUMBER	GRAMS	GRAMS
	10	26.8	18
	33	65.2	39.4
	5	8.8	12.6
	40	96.2	77
	27	59	50
	23	51	39
	31	59.2	43.6
	26	53.6	34.2
	27	53.4	32
	30	62.6	41.2
TOTAL	252	535.8	387
AVERAGE	25.2	53.58	38.7

TABLE 2. CONTROL - PLOT ONE

CONTROL ONE	YIELD PER BUSH	FRESH BEAN WEIGHT	FRESH BUSH WEIGHT
460MM	NUMBER	GRAMS	GRAMS
	11	20.4	18.8
	29	52.8	40.2
	15	38.4	28.4
	21	32.6	33
	18	29.2	30.6
	15	13.6	32
	14	22	20.6
	10	39.6	16.2
	19	26	31.6
	16	22.3	24
TOTAL	168	296.9	275.4
	16.8	29.69	27.54

FRENCH BEAN MOBILIZER PLOT 1 AVERAGES

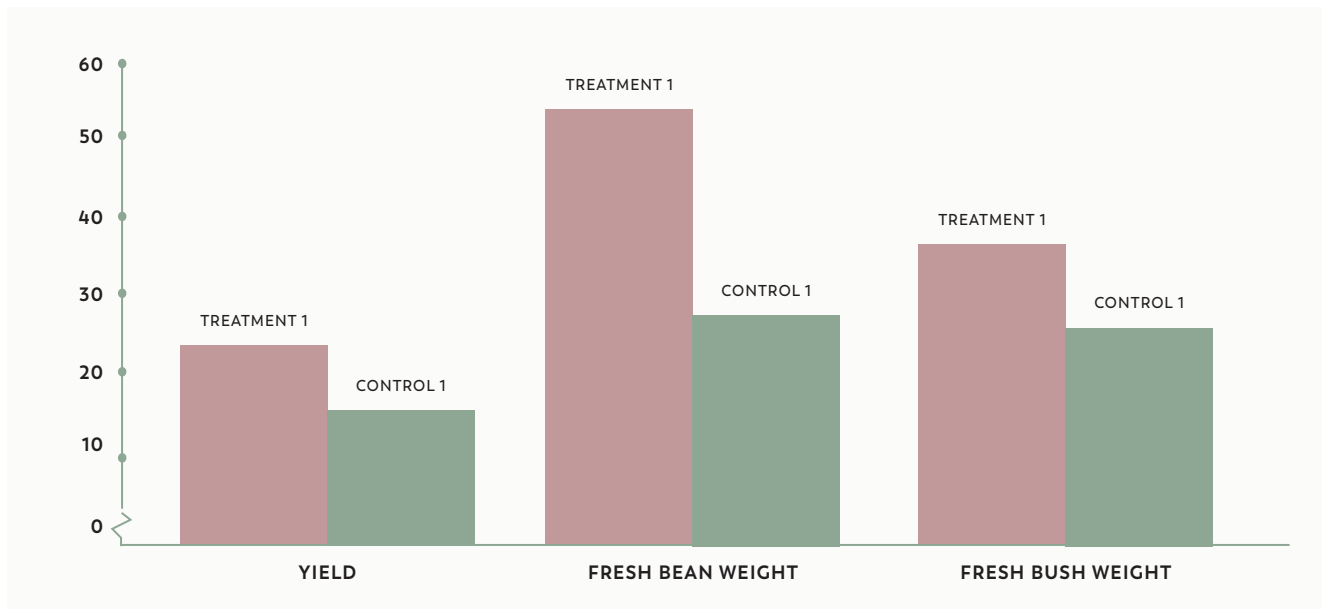


TABLE 3. EFFECT OF MOBILIZER ON FIELD GROWN BEANS - PLOT TWO

MOBILE TREATMENT TWO	YIELD PER BUSH	FRESH BEAN WEIGHT	FRESH BUSH WEIGHT
490MM	NUMBER	GRAMS	GRAMS
	39	101.2	71
	29	76.8	48.8
	22	67.2	41.2
	15	34.2	20.6
	22	65.6	42
	24	66.8	45.2
	25	81	51.6
	18	56.4	39.2
	24	86	46
	28	70.6	51.2
TOTAL	246	705.8	456.8
AVERAGE	24.6	70.58	45.68

TABLE 4. CONTROL - PLOT TWO

CONTROL TWO	YIELD PER BUSH	FRESH BEAN WEIGHT	FRESH BUSH WEIGHT
490MM	NUMBER	GRAMS	GRAMS
	13	28.4	20.6
	27	68.2	49.6
	27	77.2	54.2
	24	67.8	58.2
	13	38.2	30.4
	28	72.8	52.8
	7	21.4	52.8
	18	42.2	21.4
	20	51.2	35.8
	31	89	34
TOTAL	208	556.4	419.2
AVERAGE	20.8	55.64	41.92

FRENCH BEAN MOBILIZER PLOT 2 AVERAGES

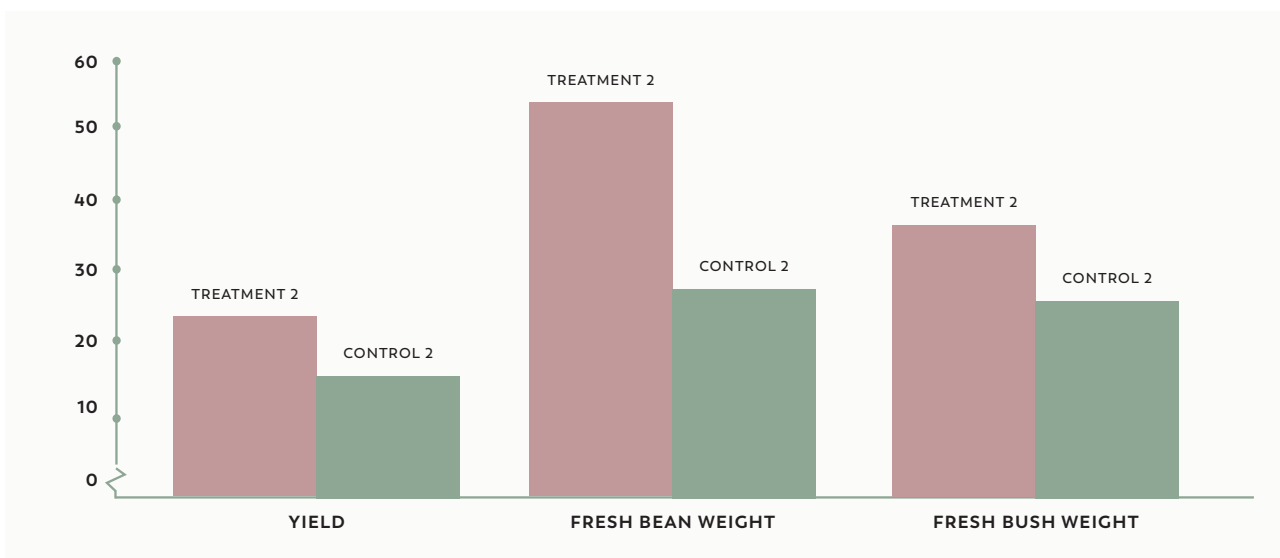


Table 5 below shows a combined average of the two plots, Treatment and Control. Mobilizer increased all components of this trial.

Bean numbers increased by 24%, yield weight increased by a very significant 46% and plant fresh weight increased by 18% over control with one application of Mobilizer applied at 2L/ Ha.

Growers are paid on bean weight receiving approximately \$420-\$430 per tonne. This particular crop reached 15.3 tonne/Ha which was excellent under such dry conditions. A 46% increase in yield weight production has the potential to earn growers significant financial rewards.

TABLE 5

PLOTS	YIELD PER BUSH	FRESH BEAN WEIGHT	FRESH BUSH WEIGHT
TREATMENT	24.9	64.08	42.19
CONTROL	18.8	42.66	34.73
	24%	46%	18%

