

CARROT TRIAL USING MOBILIZER PUKEKOHE 2013

A trial was undertaken in Pukekohe to determine if the addition of Mobilizer would give an increase in yield weight and positively influence the size of carrots for improved grower profits.

Mobilizer is a Fulvic acid product extracted from leonardite providing natural plant electrolyte benefits that assist crops under stress conditions such as hot, dry and cold temperatures, buffering plants from wilt and burn.



Mobilizer contains a mixture of macromolecules that can also increase the uptake of mineral nutrients to plants including those minerals tied in the soil. The most pronounced effects occur when used in early season soil treatments followed by post emergence foliar sprays providing increased yields and quality vegetable production.



METHOD

The Carrots were sown on 15th April and Mobilizer was applied at 2L per hectare to the drilled carrot field on the 30th April 2013.

The carrots were sown with 32mm spacing at an estimated 800,000 per hectare.

The second application of Mobilizer was applied in early June again at a rate of 2L per hectare. The carrots were dug and measured on the 12th November 2013.

Five replicated 3 metre plots were dug in the Mobilizer treated area and the Control sites. Carrots were graded into size ranges 30mm, 35mm, 40mm, 45mm and 50mm. Carrots larger than 50mm were graded into 'outsize' range and carrots that were deformed or disease damaged were classed as rejected.





	CONTROL 30 MM SIZE	MOBILIZER 30 MM SIZE	CONTROL 35 MM SIZE	MOBILIZER 35 MM SIZE	CONTROL 40 MM SIZE	MOBILIZER 40 MM SIZE	CONTROL 45 MM SIZE	MOBILIZER 45 MM SIZE	CONTROL 50 MM SIZE	MOBILIZER 50 MM SIZE	CONTROL	MOBILIZER	CONTROL	MOBILIZER
PLOT 1	30		35		40		45		50		OUTSIZE	OUTSIZE	REJECT	REJECT
WEIGHT	1088	1219	1789	1938	3059	4587	4088	3768	2307	3237	389	1590	1078	1621
NO.	16	19	16	19	29	35	23	21	10	14	5	10	9	12
PLOT 2														
WEIGHT	612	773	1714	1668	3762	3597	6423	4780	2059	4451	2195	3109	700	1410
NO.	8	14	17	18	30	27	38	27	9	20	12	8	5	11
PLOT 3														
WEIGHT	692	876	1683	1412	5140	4885	4851	4261	3234	5206	3293	2494	477	1056
NO	9	15	18	15	40	39	26	25	14	23	15	11	4	5
PLOT 4														
WEIGHT	511	790	970	1482	4701	4292	5513	5311	2607	4944	3131	2499	1530	1635
NO.	9	12	9	15	36	31	34	29	12	21	11	9	6	8
PLOT 5														
WEIGHT	663	1283	2170	2424	3508	4649	4688	5598	3864	2554	912	1800	961	462
NO.	13	22	23	25	25	36	27	33	17	12	7	6	6	4
TOTAL WEIGHT	3566	4941	8326	8924	20170	22010	25563	23718	14071	20392	9920	11492	4746	6184
AVG	713.2	988.2	1665.2	1784.8	4034	4402	5112.6	4743.6	2814.2	4078.4	1984	2298.4	949.2	1236.8
TOTAL NO.	39	63	67	73	131	133	125	114	52	76	45	34	21	28
% WEIGHT DIFF	39%		7%		9%		-7%		45%		16%		30%	
TOTAL NO. % DIFF	38%		9%		2%		-9%		46%		-24%		33%	

TABLE 1. ABOVE - TOTAL NUMBER (NO) AND WEIGHT IN GRAMS OF CARROTS IN EACH SIZE RANGE.

Overall carrots treated with Mobilizer recorded larger weights and numbers in all of the above size ranges compared to the control except for the 45mm size range where the control had a slightly greater number and weight recorded.

The greatest difference was recorded in the largest size range of 50mm, with a 45% greater weight recorded in the Mobilizer treatment over the Control.

[Click here](#) to read the full trial paper.

WWW.RD2.CO.NZ



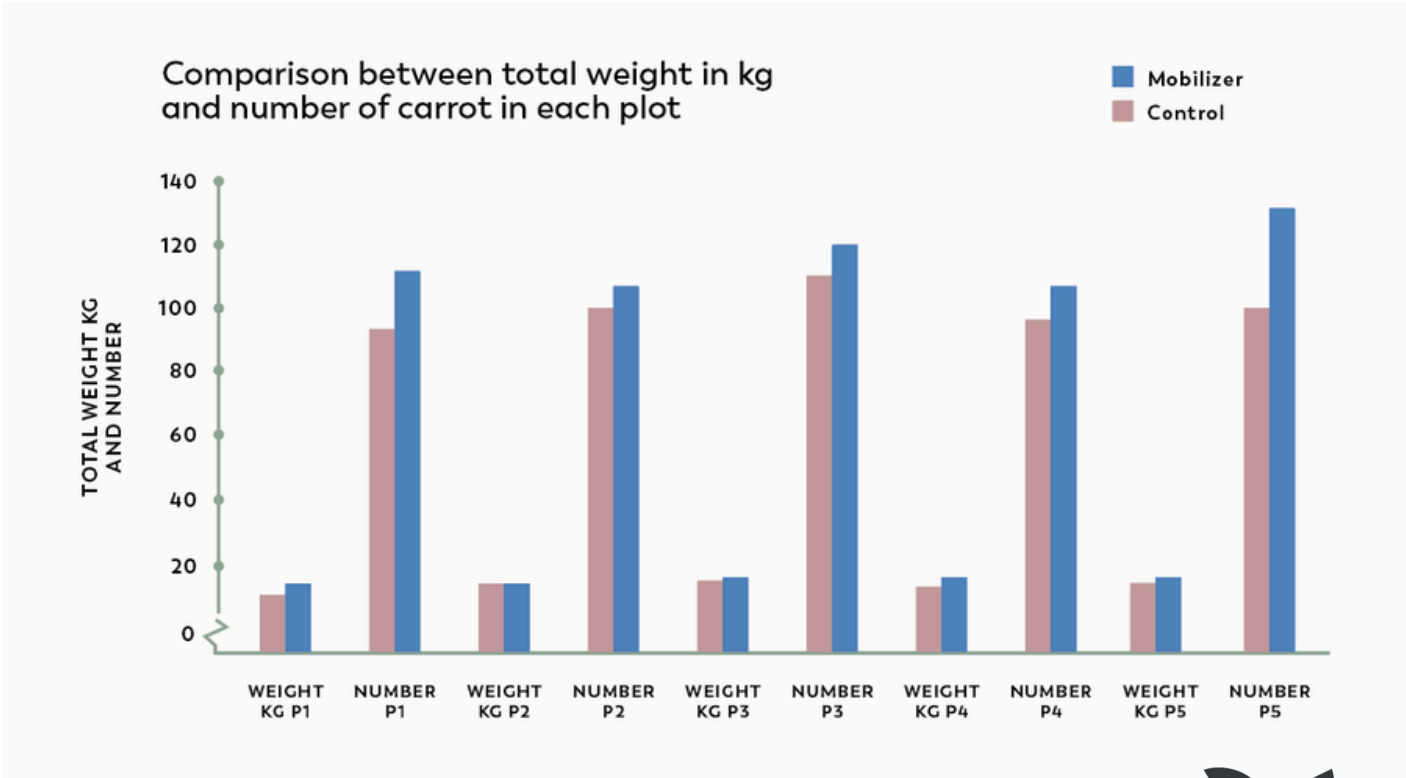


Carrots were rejected if they were misshapen or split. There were a greater number of rejects found in the Mobilizer treated over the control however this was not significant 9 compared with 12.

There was also some very large carrots (outside) recorded in the Mobilizer plots giving a 16% greater weight over the control even though fewer carrots were actually recorded.

TABLE 2. TOTAL NUMBER AND WEIGHTS OF CARROTS IN KG IN EACH OF THE 5 PLOTS (P1-P5).

	CONTROL	MOBILIZER
WEIGHT KG P1	12	15
NUMBER P1	94	108
WEIGHT KG P2	15	15
NUMBER P2	102	106
WEIGHT KG P3	16	17
NUMBER P3	107	117
WEIGHT KG P4	14	17
NUMBER P4	100	108
WEIGHT KG P5	15	17
NUMBER P5	105	128





TOTALS	CONTROL	MOBILIZER	DIFFERENCE
TOTAL WEIGHT GMS	71696	79985	12%
AVERAGE WEIGHT GMS	2867.8	3199.4	12%
TOTAL NUMBER	414	459	11%
TOTAL	81616	91477	12%

TABLE 3. TOTAL AND AVERAGE WEIGHT OF CARROTS IN THE COMBINED REPLICATE PLOTS FOR MOBILIZER AGAINST CONTROL

The above table shows that there was on average increase of 12% in weight yield when Mobilizer was used.

RESULTS OF ANOVA STATISTICAL ANALYSIS:

This is a good result - easily strong enough to base a decision on.

Average result for each treatment

Treatment A-Mobilizer	Treatment B-Control
16.2	14.4

The P-value is between 0.025 and 0.05

This means that the probability of the differences between treatments being due to chance is between 2.5 % and 5% or in other words 95% to 97.5% positive result.

The least significant difference, or LSD (95%) is 1.6. The LSD is the smallest difference between treatments that can be detected.

The '95%' relates to the percentage of times the LSD gives the correct answer.

This is a good result - easily strong enough to base a decision on.

In conclusion two applications of Mobilizer gave an overall increase in size and yield of carrots and an overall increase in profit for the grower.

