

Increased pumpkin yield using biostimulants Digester, Mycorrcin and Foliacin

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Key words

Pumpkin, increased yield, Digester, Mycorrcin, Foliacin

Overview

- A block was divided into 4 x 11 bed sub blocks (one boom width). Two sub blocks were treated and two were left as a control.
- Program used was:
 - 4lt/ha Digester immediately prior to sowing (18 Oct 2006)
 - 5lt/ha Mycorrcin first true leaf (6 Nov 2006)
 - 1lt/ha Mycorrcin + 1lt/ha Foliacin (11 Dec 2006)
 - 1lt/ha Foliacin (12 Jan 2007)
 - 1lt/ha Foliacin (25 Jan 2007)
 - 1lt/ha Foliacin (15 Feb 2007)
- On the 23 Mar 2007 6 plots measuring 3m x 8.3m (25m²) were selected from the top, mid and lower areas of the treated and untreated areas. The pumpkins were weighed, counted and sorted by weight – small: less than 1.4kg, medium: 1.4kg – 3kg, large: +3kg.



Pumpkin trial lay out

Harvest results

Untreated

	Rep 1	Rep 2	Rep3	Rep 4	Rep 5	Rep6	Total
Number of Pumpkins/25m ²	31	39	31	39	32	43	215
Total weight kg/25m ²	79	107	99	104	74	114	566
Avg Pumpkin weight kg	2.53	2.73	2.89	2.64	2.31	2.65	2.63
Number small (less than 1.4kg)	11	15	11	12	14	16	79
Number medium (1.4-3.0kg)	13	11	10	22	11	15	82
Number large (over 3.0kg)	8	13	10	5	7	12	55

Treated

	Rep 1	Rep 2	Rep3	Rep 4	Rep 5	Rep6	Total
Number of Pumpkins/25m ²	38	31	36	48	32	37	222
Total weight kg/25m ²	104	95	101	127	101	108	636
Avg Pumpkin weight kg	2.74	3.06	2.81	2.65	3.16	2.92	2.89
Number small (less than 1.4kg)	12	4	8	14	9	7	54
Number medium (1.4-3.0kg)	16	19	20	23	10	18	106
Number large (over 3.0kg)	10	8	8	11	13	12	62

Summary

	Untreated	Treated	% increase
Number of Pumpkins/25m ²	215	222	+3%
Total weight kg/25m ²	566	636	+12%
Avg Pumpkin weight kg	2.63	2.89	+10%
Number small (less than 1.4kg)	79	54	-32%
Number medium (1.4-3.0kg)	82	106	+29%
Number large (over 3.0kg)	55	62	+13%



Field weighing left to right: large, medium, small

Return on investment

	Untreated	Treated
Total kg/ha	37,729.00	42,395.00
Total smalls kg/ka	5,266.00	3,599.00
Total marketable crop kg/ha	32,463.00	38,796.00
Price/kg	\$0.60	\$0.60
Gross return	\$19,477.00	\$23,277.00
Cost of BioStart/ha	\$0.00	\$360.00
Net return	\$19,477.00	\$22,917.00
Difference		\$3,440.00

Conclusion

- BioStart treatment has increased total count, total weight and average pumpkin weight.
- The treatment also reduction of the number of smalls and increased in the number of medium and slightly increased the number of large pumpkins.
- The treatment increased net return per ha by \$3,440.00.
- The shift in pumpkin size had a significant impact on the return per hectare.