

Increased potato yield with the application of biostimulants Mycorrcin Digester and Foliacin

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Key words

Potato, increased yield, Mycorrcin, Digester, 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
- Variety: Agrea
- Program used:
 - 4lt/ha Digester prior to planting (1 Nov 2006)
 - 5lt/ha Mycorrcin Sprout development (6 Dec 2006)
 - 1lt/ha Foliacin Tuber initiation (30 Dec 2007)
 - 1lt/ha Foliacin Tuber bulking (15 Jan 2007)
 - 1lt/ha Foliacin Tuber bulking (1 Feb 2007)
- Prior to harvest 4 plots measuring in total 9.32m² were selected from the treated and untreated areas. The lifted potatoes were weighed and sorted into commercial grade and rejects.



Potatoes being weighed from one of the treated blocks.

Results



Treated commercial grade



Treated rejects

Trial plot harvest

Untreated

Rep	Total No. potatoes	Total weight kg	Marketable No.	Marketable weight kg	Reject No.	Reject weight kg
1	96	13.0	71	11.0	25	2.0
2	111	15.0	78	13.0	33	2.0
3	120	17.5	91	15.0	29	2.5
4	98	14.0	73	12.0	25	2.0
Total	425	59.5	313	51.0	112	8.5

Treated

Rep	Total No. potatoes	Total weight kg	Marketable No.	Marketable weight kg	Reject No.	Reject weight kg
1	112	17.5	79	15.0	33	2.5
2	85	15.0	70	13.0	15	2.0
3	97	17.0	80	15.0	17	2.0
4	102	19.0	81	17.0	21	2.0
Total	396	68.5	310	60.0	86	8.5

Summary

	Untreated	Treated	% increase
Total No.	425	396	-7%
Total weight kg	59.5	68.5	+15%
Average weight kg	0.140	0.173	+24%
Marketable No.	313	310	-1%
Marketable weight kg	51.0	60.0	+18%
Average marketable weight kg	0.163	0.194	+19%
Reject No.	112	86	-23%
Reject weight kg	8.5	8.5	0%
Average reject weight kg	0.076	0.099	+30%

Commercial harvest

	Average No. bins per bed	Total weight per bed kg
Untreated	3.0	2,640
Treated	3.5	3,080
%		+17%

Return on investment

- Return on investment has been extrapolated to a hectare basis

	Control	Treated
Total commercial grade kg/ha	54,721kg	64,377kg
Price/kg	\$0.40	\$0.40
Gross return	\$21,888.00	\$25,750.00
Cost of BioStart program/ha	\$0.00	\$298.00
Net return	\$21,888.00	\$25,452.00
Difference		+\$3,564.00

Conclusion

The Mycorrcin treatment resulted in the following:

- The treatment increased the marketable weight in the sample plots by 18%.
- The sample plot results were confirmed when the block was commercially harvested. The treated beds had a 17% increase in total weight.
- The increase in marketable potatoes has had a significant impact of return on investment.
- The treatment increased net return by \$3,564.00 per hectare.