

Increased kumara yields with the application of biostimulants Mycorrcin and Digester

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Key words

Kumara, Mycorrcin, increased yield

Overview

A commercial grower trial was conducted in association with Peter Windust to in an endeavor to follow up on the positive results obtained from a previous trial in the previous season, but not subjected to the rigors of a commercial grading process. We wanted to show any benefit in terms of overall yield and the proportions of grade variations going through the pack house and how these factors influenced grower return.

To obtain an even representation of the growing conditions for the trial the grower treated 16 rows and left the next 16 untreated as a control, treated the next 16 rows and the next 16 were once again untreated.

The rows were 210m long and 750mm between centers giving the block of 16 rows an area of 2520m sq.

The kumara from the treated and untreated areas were harvested separately in to field bins and then leveled. Bins were then transported into storage sheds.

A number of bins of both treated and untreated were sent for washing, grading and packing a few days after harvest.



Mycorrcin treatment being harvested

Results



Jumbo



Rejects

Results

Total number of 525kg bins per treatment.

	Untreated	Treated	%increase
Number of bins per 5040m ²	35	44	25%

Pack out analysis total treated area (5040m²).

Grade	Untreated	Treated	% increase
Premium	6,595kg	8,649kg	+31%
Number 1	2,727kg	3,319kg	+22%
Jumbo	4,859kg	5,984kg	+23%
SM	1,540kg	2,175kg	+41%
Gourmet	233kg	220kg	-6%
Tail end	2,275kg	4,056kg	+78%
Total weight	18,229kg	24,404kg	+34%

Return on investment

Return on investment is calculated on a per hectare basis.

	Untreated	Treated
Premium (\$1.80/kg)	\$23,741	\$31,136
Number 1 (\$1.60/kg)	\$8,727	\$10,622
Jumbo (\$1.60/kg)	\$15,549	\$19,149
SM (\$1.80/kg)	\$5,544	\$7,831
Gourmet (\$1.80/kg)	\$840	\$792
Tail (\$0.50/kg)	\$2,275	\$4,056
Gross return/ha	\$56,676	\$73,585
Cost of Mycorrcin/ha		\$270
Net return/ha		\$73,315
Difference/ha		\$16,640

Conclusion

Digester and Mycorrcin applications took no extra time to make except to add them to current operations; either the herbicide tank the water cart or the insecticide tank.

The program applied to the root zone right from planting has improved the biological environment causing an increase in the yield giving an overall increase in yield of 25%.