

**Vital Earth Resources**

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**2003 Crop Results**

**Vitazyme on Potatoes**

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Test location: Zamora de Hidalgo, Michoacan, Mexico

Variety: Alpha

Planting date: August 10, 2002 Soil type: unknown

Row spacing: unknown

Previous crop: unknown

Experimental design: A 10-acre field of potatoes was split into two equal parts, one half treated with Vitazyme and the other half left untreated. All input parameters except for Vitazyme for both sides were equal.

**1. Control**

**2. Vitazyme**

Fertilization: At planting, 100 kg/ha 18-46-0 (%N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O), 100 kg/ha 16-16-16, 150 kg/ha 0-50-18, 100 kg/ha 22-22-4, and 100 kg/ha sulfur.

Vitazyme treatments : Two applications at 1 liter/ha, sprayed on each time, a few weeks after planting and at the hook stage

Harvest date: December 20, 2002

Yield results: At harvest time, two samples of 1 meter<sup>2</sup> each were collected from each of the two treatments. These two values for each treatments have been arranged for all of the yield figures below. The tubers were sorted according to size into five categories.

Yield and size distribution results:

**Yield and Tuber Size Data**

Treatment	Tuber size									
	1 A (large)		2 A (medium)		3 A (small)		4 A (very small)		5 A (extremely small)	
	number	kg/m <sup>2</sup>	number	kg/m <sup>2</sup>	number	kg/m <sup>2</sup>	number	kg/m <sup>2</sup>	number	kg/m <sup>2</sup>
Control	6.5	0.91	7.5	0.75	16.5	0.83	8.5	0.17	2.5	0.07
Vitazyme	10.5	1.48 (+63%)	14.0	1.43 (+91%)	10.5	0.53 (-36%)	14.5	0.30 (+0.76)	11.5	0.12 (+71%)

The Vitazyme treatment produced tubers that were considerably larger than for the untreated plants. The weights for the large and medium sizes were 63 and 91% greater, respectively, with Vitazyme than without it.

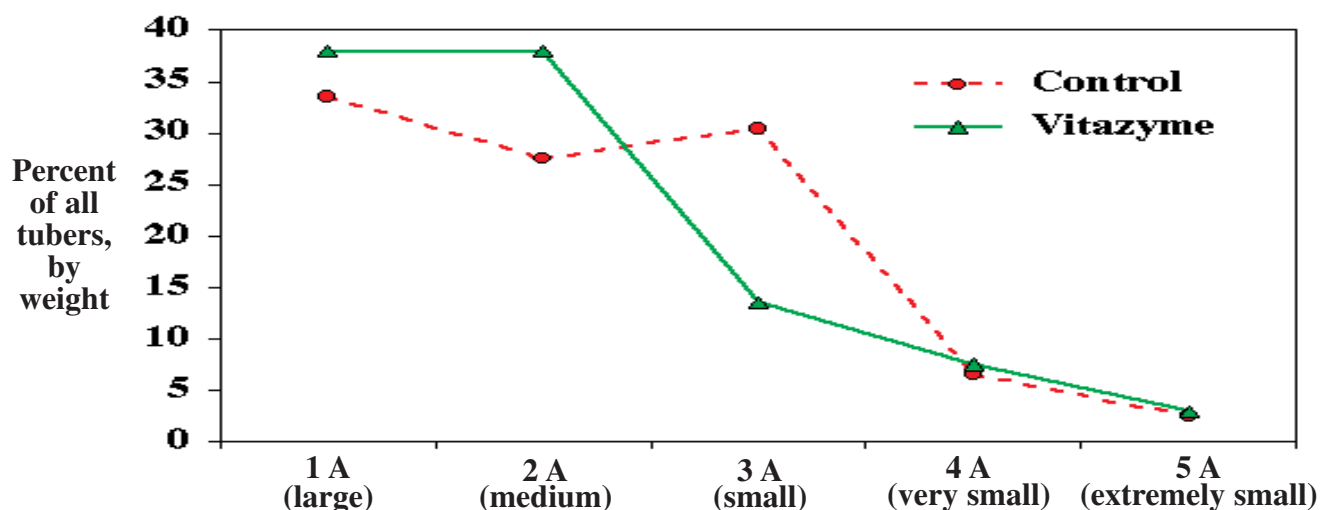
Treatment	Total Tubers	Total weight	Total yield
	number	kg/m <sup>2</sup>	tons/ha
Control	41.5	2.72	28.016
Vitazyme	61.0 (+47%)	3.84 (+41%)	39.552 (+41%)

The Vitazyme treatment produced 2.91 kg/m<sup>2</sup> out of a total of 3.84 kg/m<sup>2</sup>, or 76% of the total tuber weight, whereas the control produced 1.66 kg/m<sup>2</sup> out of a total of 2.72 kg/m<sup>2</sup>, which was 61% of the total tuber weight. Total tuber production was 71% higher with Vitazyme.

**Tuber yield increase with Vitazyme: 41%**

Increase in tuber size (large and medium) with Vitazyme: 15% above the control

**Tuber Size Distribution, By Weight**



*Income results:* Prices used in calculating these values are according to tuber size, using the following schedule. 9 pesos = 1 dollar.

Size 1 A — 8.0 pesos/kg	Size 4 A — 5.0 pesos/kg
Size 2 A — 7.0 pesos/kg	Size 5 A — 5.0 pesos/kg
Size 3 A — 6.5 pesos/kg	

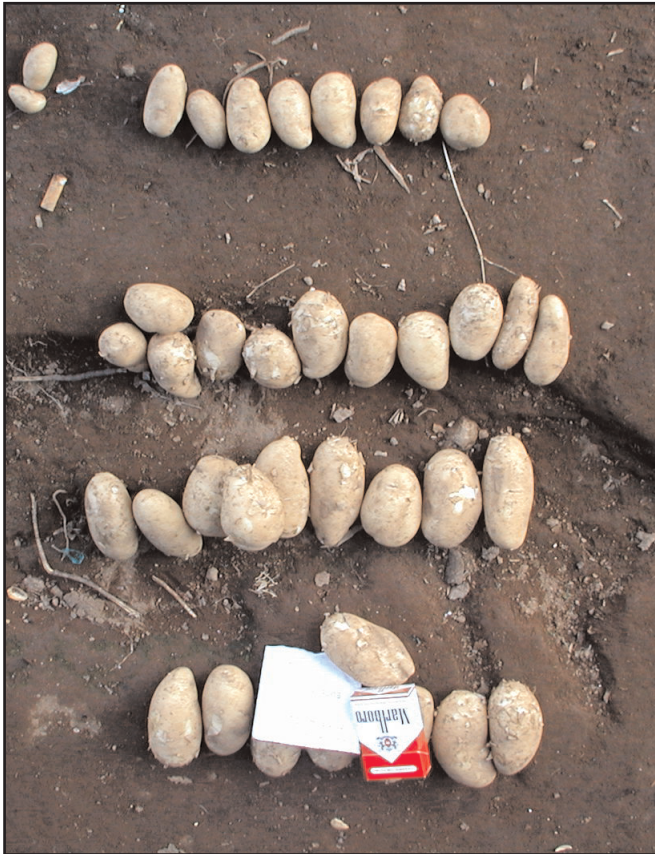
Treatment	Size 1 A			Size 2 A		
	Yield	Value		Yield	Value	
	kg/ha	Pesos/ha	\$/ha	kg/ha	Pesos/ha	\$/ha
Control	9,385.4 (33.5%)	75,083.2	8,342.58	7,704.4 (27.5%)	53,930.8	5,992.31
Vitazyme	15,029.8 (38.0%)	120,238.4	13,359.82	15,029.8 (38.0%)	105,208.3	11,689.81

Treatment	Size 3 A			Size 4 A		
	Yield	Value		Yield	Value	
	kg/ha	Pesos/ha	\$/ha	kg/ha	Pesos/ha	\$/ha
Control	8,544.9 (30.5%)	55,541.7	6,171.30	1,821.0 (6.5%)	9,105.2	1,011.69
Vitazyme	5,339.5 (13.5%)	34,706.9	3,856.32	2,966.4 (7.5%)	14,832.0	1,648.00

Treatment	Size 5 A			Total Value			
	Yield	Value		Pesos/ha	\$/ha	change, Pesos/ha	change, \$/ha
	kg/ha	Pesos/ha	\$/ha				
Control	700.4 (2.5%)	3,502.0	389.11	197,162.9	21,906.99	—	—
Vitazyme	1,186 (3.0%)	5,933.0	659.22	280,918.6	31,213.17	+83,755.7	+9,306.19

**Increase in income: 83,755.7 pesos/ha  
9,306.19 \$/ha**

*Conclusions:* Vitazyme greatly improved the performance of this potato crop in Mexico, as determined by a split-field design. The tubers were larger on average with Vitazyme, the 1 A and 2A classes being increased by 15% above the controls in terms of percentage of the total weight. The total yield of tubers with Vitazyme was 41% greater than for the control, and total income was increased by 83,755.7 pesos/ha (\$9,306.19/ha) using this highly effective crop biostimulant.



**Control**



**Vitazyme**