



# Green Beans with Vitazyme application

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**Research organization:** Agricenter International, Memphis, Tennessee  
**Location:** Memphis, Tennessee  
**Variety:** Blue Lake  
**Soil type:** Falaya silty loam; good fertility and drainage; pH = 6.3  
**Planting date:** July 5, 2018  
**Row spacing:** 30 inches  
**Experimental design:** A small-plot replicated green bean trial was conducted with Vitazyme and Bio Seed to evaluate the effects of these product, alone and together, on the yield of green beans. Plots were 10 x 30 ft, with four replications.

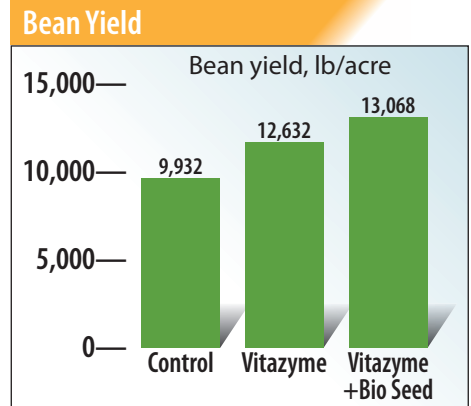
- 1 Control
- 2 Vitazyme
- 3 Vitazyme + Bio Seed

**Fertilization:** unknown  
**Vitazyme application:** (1) 16 oz/acre (1.2 liters/ha) in-furrow at planting; (2) 16 oz/acre (1.2 liters/ha) sprayed on the leaves and soil at mid-bloom (E-M stage)  
**Bio Seed application:** 50 grams/acre in-furrow mixed with Vitazyme at planting. Bio Seed is a combination of fungi and bacteria for rhizosphere population.

**Yield results:** The beans were hand harvested on October 14, on a 2.5 x 5.0 ft area.

Treatment	Yield <sup>1</sup> lb/acre	Yield change lb/acre
1. Control	9,932 b	—
2. Vitazyme	12,632 a	2,701 (+27%)
3. Vitazyme + Bio Seed	13,068 a	3,136 (+32%)
Standard error	290	

<sup>1</sup>Means followed by the same letter are not significantly different at P=0.05



**Increase in bean yield with Vitazyme: 27%**

**Increase in bean yield with Vitazyme + Bio Seed: 32%**

**Income results:**

Treatment	Added income \$/acre	Added cost \$/acre	Added profit \$/acre	Return on investment
1. Vitazyme only	203	21	182	8.67:1
2. Vitazyme + Bio Seed	235	34	201	5.91:1

**Conclusions:** A small-plot replicated green bean trial in Tennessee proved that Vitazyme, applied at 16 oz/acre (1.2 liters/ha) in-furrow and again at mid-bloom, significantly increased the yield of beans by 2,701 lb/acre (27%). This increase produced an increase in profit of \$182/acre, and a return on investment of \$8.67 for every dollar invested in Vitazyme. By adding Bio Seed to the in-furrow treatment, the yield of beans was increased even more, by 3,136 lb/acre (32%), giving a net profit increase of \$201/acre, and a return on investment of 5.91:1. These results show not only a fine increase in yield and profitability of green bean production using Vitazyme, but also a synergism between Vitazyme and Bio Seed, though the difference between the Vitazyme and Vitazyme + Bio Seed treatments was not significant at P=0.05. These results reveal the great benefit of both products for green bean production.