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2012 Crop Results

Vitazyme and Soil Respiration

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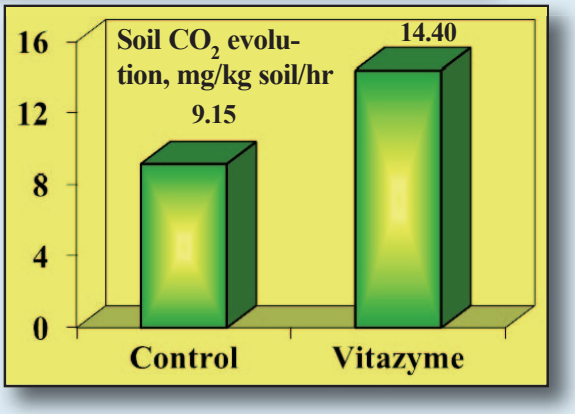
Location of study: Sondveld Region, Western Cape Province, South Africa *Soil type*: sand
Experimental design: On an organic farm, very sandy soil was collected, some of which was treated with Vitazyme at 1 liter/ha (13 oz/acre). The respiration of soil organisms was measured on three samples of the Vitazyme treated soil, and on three samples of untreated soil. The methodology of determining CO_2 evolution was not indicated in the report.

1. Control **2. Vitazyme**

Vitazyme application: No details were given.
Respiration results:

Treatment	Sample weight	Sampling time	CO_2 evolved	Change in CO_2
	grams, average	minutes	mg/kg of soil/hour	mg/kg of soil/hour
1. Control	20.004	30	9.15 b	—
2. Vitazyme	20.006	30	14.40 a	5.25 (+57%)
Block P	0.1577			
Treatment P	0.0034**			
Model P	0.0099**			
$CV_{0.10}$	3.20%			
$LSD_{0.10}$	1.33 mg/kg of soil/hour			

Increase in soil respiration with Vitazyme: 57%



A great burst of CO_2 evolution resulted from Vitazyme application to this very sandy soil, showing that the product's active agents aggressively stimulate soil microbiota.

Conclusions: This South African study on soil respiration shows that Vitazyme greatly increased (+57%) CO_2 evolution in a very sandy organically treated soil in Western Cape Province. The product's active agents interacted with these bacteria, fungi, and other microbes to stimulate metabolic activity quite profoundly. Average conventionally treated Sandvold soils release from 3 to 5 mg/kg of soil/hr of CO_2, while the non-Vitazyme treated soils of this organic farm released much more than that — 9.15 mg/kg of soil/hr — and Vitazyme treatment boosted CO_2 release far above this higher level.