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2003 Crop Results

Vitazyme on Winter Wheat

Researcher: David Schemm *Location*: Arrow S Farms, Sharon Springs, Kansas
Variety: Jagger *Planting rate*: 120 lb/acre *Soil type*: Keith sandy clay loam
Previous crop: corn *Planting date*: September 20, 2002

Experimental design: A center pivot covering 120 acres was divided into halves, the north side treated with Vitazyme and the south half left untreated. All other treatments were the same across the pivot area.

1. Control **2. Vitazyme**

Fertilization: 18 lb/acre of N as a 28% ammonia solution on about January 20, 2003, when the wheat was all germinated. Total available N: about 60 to 70 lb/acre due to residual N from a failed corn crop in 2002.

Vitazyme application: 13 oz/acre applied with the 28% N solution on January 20

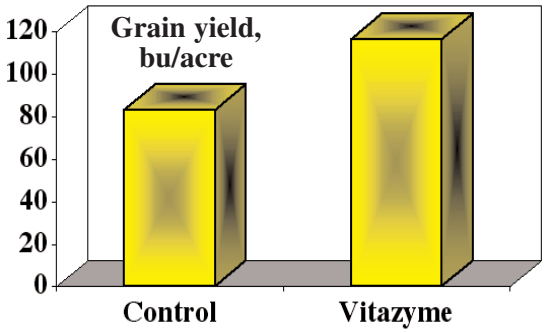
Irrigation: 550 gal/minute well, and 8 inches applied to the crop

Weather: An 8-inch moisture deficit existed for 2002, and by October of 2003 another 4.5-inch deficit had accumulated.

Harvest date: July 20 to 25, 2003

Yield results: The yield of the two 60-acre parcels was estimated closely by bin volume during combining.

Treatment	Grain yield	Change
	bu/acre	bu/acre
Control	83	—
Vitazyme	116	33(+40%)



Increase in grain yield: 40%

Income results: The average price for winter wheat in western Kansas in October of 2003 was $3.10/bu. At that price, the extra income per acre resulting from Vitazyme applications was 33 bu/acre X $3.10/bu =$102.30/acre. Using a cost of $4.00/13 oz of product the return from Vitazyme was $25.58 for every dollar invested.

Increased return: $102.30/acre **Cost:benefit ratio: 25.58:1**

Conclusions: The average of this wheat yield was **100 bu/acre** across all 120 acres of the center pivot test area, which was **the highest yield of wheat for the entire county during 2003.** An *average* yield of irrigated wheat is 60 bu/acre for western Kansas, and a *good* irrigated yield is 80 bu/acre.

Vitazyme not only increased the yield of the wheat by 40%, but also **improved the standability of the wheat** due to greater stem strength (more cellulose, callose, and lignin deposition). **The grower estimated that the treated wheat had 20 to 30% more plants standing at harvest than did the untreated control. This benefit resulted in an income increase of $102.30/acre, with a cost:benefit ratio of about 25:1.**