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2002 Crop Results

Vitazyme on Wheat

Research Farm: Nowlin Farm *Location*: Coolidge, Arizona *Variety*: a pastry wheat variety
Previous crop: unknown *Soil type*: unknown *Planting date*: unknown
Experimental design: A large field was divided into two sections: Vitazyme treated with a reduced input of certain fertilizers (101 acres), and full fertilizer without Vitazyme (86 acres).

1. Control + full fertilizer **2. Vitazyme + 50% of some fertilizers**

Fertilization: 400 lb/acre N plus other inputs over all areas. At the beginning of grain filling the control area received a foliar application of 4 lb/acre of urea, 14 oz/acre of phosphorus, 36 oz/acre of ViGorator, 1.5 oz/acre of cobalt, 0.75 oz/acre of Xcite, and 0,8 oz/acre of silica. The Vitazyme treated area received Vitazyme (see below) plus 4 lb/acre of urea, 14 oz/acre of phosphorus, 18 oz/acre of ViGorator, 8 oz/acre of sulfur, and 1.5 oz/acre of silica.

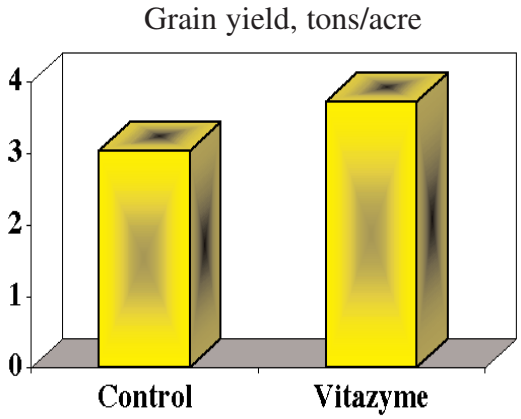
Vitazyme application : 13 oz/acre to the foliage at the beginning of grain fill

Harvest results: The last days of May the crop was harvested, and the various loads of grain were weighed from each area. These load weights were tallied for both areas. In addition, the bushel weights and protein levels for the loads were determined and averaged for the two areas.

Grain Yield

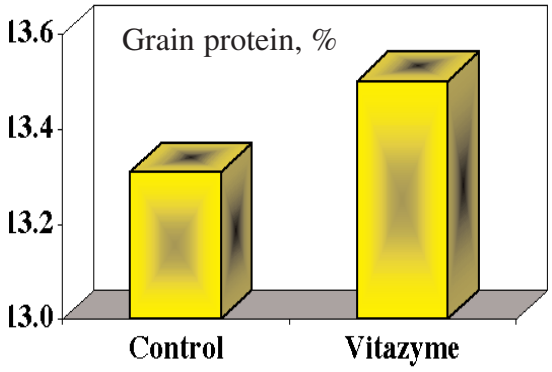
	Control*	Vitazyme**	Change
		tons/acre	
Grain yield	3.025	3.715	0.690 (**+23%**)

*Eight loads weighed; **12 loads weighed.



Vitazyme with reduced fertility inputs, applied late in the crop cycle, brought about a dramatic 23% increase in wheat yield in this study.

Grain Protein



	Control*	Vitazyme**	Change
		percent	
Grain protein	13.31	13.50	0.19

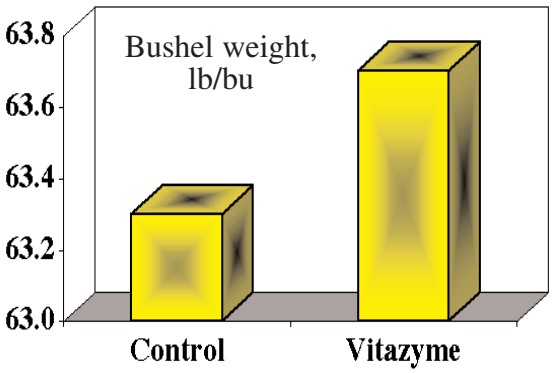
*Eight loads measured; **12 loads measured.

The protein of the grain was boosted by 0.19 percentage point by Vitazyme, despite the fact that some foliar applied fertility inputs were reduced by 50%. The plants were stimulated to make better use of the nitrogen and minerals available to them.

Bushel Weight

	Control*	Vitazyme**	Change
		lb/bushel	
Bushel weight	63.3	63.7	0.4

*Eight loads measured; **12 loads measured.



The Vitazyme treatment increased the density of the wheat grain by 0.4 lb/bushel, probably due to a higher concentration of minerals within the grain.

Increase in grain yield: 23%
Increase in grain protein: 0.19 percentage point
Increase in bushel weight: 0.4 lb/bu

Income results: Because the wheat was 13.0% protein or above , the grower received a premium price of $2.00/cwt over the usual price for the wheat. This premium price amounted to $7.50/cwt.

	Control	Vitazyme	Change
		$/acre	
Crop income	453.75	557.25	224.50

Increase in income: $103.50/acre

Conclusions: Vitazyme together with a reduced rate of certain foliar fertilizers, applied at the beginning of grain filling, brought about an improvement in all parameters measured in this Arizona pastry wheat study. Yield was boosted by 23%, grain protein by 0.19 percentage point, bushel weight by 0.4 lb/bu, and income by $103.50/acre. These effects resulted from Vitazyme's ability to stimulate rhizosphere microflora, allowing the plant to better utilize native and applied nutrients and to generate more its own nitrogen and growth enhancing compounds in the root zone such as growth regulators, antibiotics, various mineral-dissolving acids, and so forth.