# Wheat (Spring) *with Vitazyme application*

***Researcher:*** V. V. Plotnikov
***Research organization:*** Plant Designs International, Rochester, New York, and Agro Expert International, Kaharlyk, Ukraine
***Location:*** PE AF "Dzvony", Peremyshl District, Lviv Region, Bolotnya Village, Ukraine: western Ukraine (550-750 mm of rain per year)
***Variety:*** Quintus, F2 ***Planting date:*** April 1,2019 ***Planting rate:*** 4.5 million seeds/ha ***Previous crop:*** soybeans
***Tillage:*** disking to 6-8 cm, heavy cultivating to 28 cm, cultivation to 3-4 cm ***Soil type:*** dark-gray podzolic (2.2% organic matter)
***Experimental design:*** A spring wheat field in Ukraine was divided into an untreated control area and a Vitazyme treated area using treated seed to determine the effect of this product on the grain yield and quality.

**1** ***Control*** **2** ***Vitazyme on seeds***

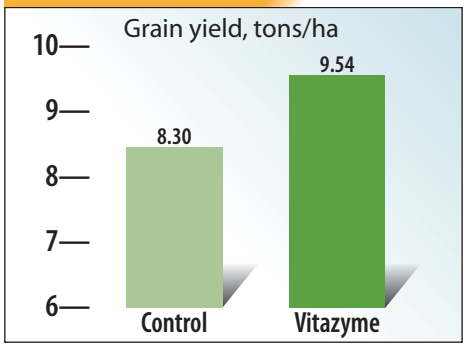
***Fertilization:*** 83 kg/ha of N applied broadcast before planting; 10-26-26 kg/ha of N-$P_2O_5$-$K_2O$ at planting; 32 kg/ha of N applied later
***Vitazyme application:*** 1.0 liter/ton of seed applied March 26, 2019, 6 days before planting

***Yield results:***

| Treatment | Yield | Yield change |
|---|---|---|
| | tons/ha | tons/ha |
| 1. Control | 8.30 | — |
| 2. Vitazyme | 9.54 | 1.24 (+15%) |

***Increase in grain yield with Vitazyme: 15%***

Grain Yield




***Income results:*** The extra 1.24 tons/ha of grain yield resulted in added net income of $361/ha.

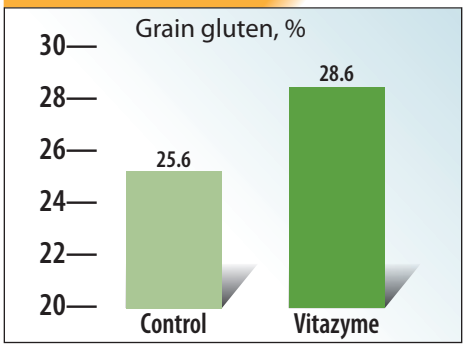
***Gluten and protein results:***

| Treatment | Gluten | Gluten change | Protein | Protein change |
|---|---|---|---|---|
| | % | % | % | % |
| 1. Control | 25.6 | — | 12.8 | — |
| 2. Vitazyme | 28.6 | 3.0 (+12%) | 14.5 | 1.7 (+13%) |

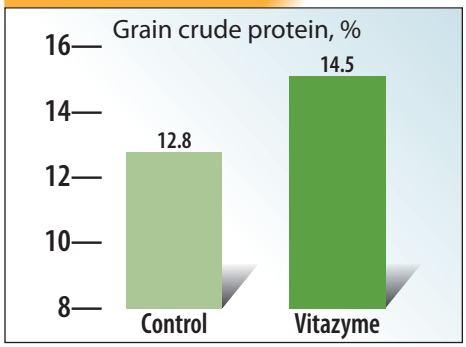
***Increase in grain gluten with Vitazyme: 12%***

***Increase in grain crude protein with Vitazyme: 13%***

Grain Gluten




Grain Protein




***Conclusions:*** A spring wheat field-scale trial in western Ukraine, in which an untreated control area was compared with a Vitazyme treated area, revealed that a 1.0 liter/ton of seed treatment increased the grain yield by 1.24 tons ha (15%), grain gluten by 3.0 percentage-points (12%), and grain crude protein by 1.7 percentage points (13%). The overall economic improvement from the application amounted to a significant $361/ha, showing the great utility of using Vitazyme on spring wheat in Ukraine.

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# 2014 Crop Results

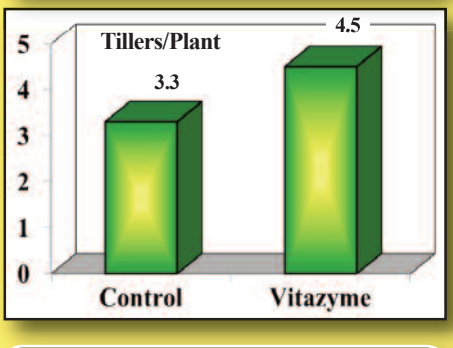
# Vitazyme on Spring Wheat

*Researcher*: Jacob Hesseltine, Vital Grow Distribution LLC, Waterville, Washington
*Farmer*: Ross McCreary *Location*: Quincy, Washington *Variety*: Glee dark northern spring wheat
*Seeding rate*: 134 lb/acre *Planting date*: April 10, 2014 *Seedbed preparation*: conventional
*Previous crop*: alfalfa *Soil type*: silt loam
*Experimental design*: A 55-acre field was divided into a 25-acre Vitazyme treated area and a 30-acre untreated control area. The objective of the study was to determine the effects of the product on wheat growth characteristics.

**1. Control** **2. Vitazyme**

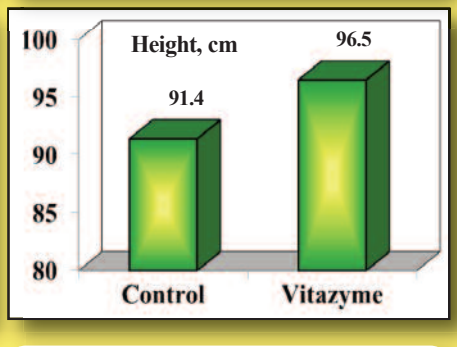
*Fertilization*: unknown
*Vitazyme application*: 13 oz/acre on May 11, 2014
*Growing season weather*: very hot
*Harvest and sampling date*: August 11, 2014
*Plant mapping results*: Ten typical and randomly selected plants were dug from each treatment, and several parameters were measured.

***Tillers Per Plant***



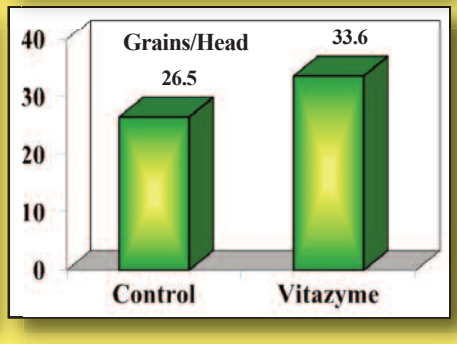

**Increase in tillers per plant with Vitazyme: 36%**

***Plant Height***



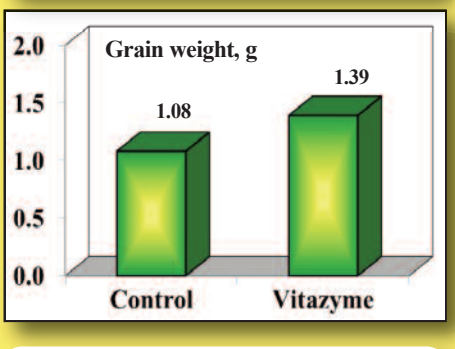

**Increase in plant height with Vitazyme: 6%**

***Grains Per Head***



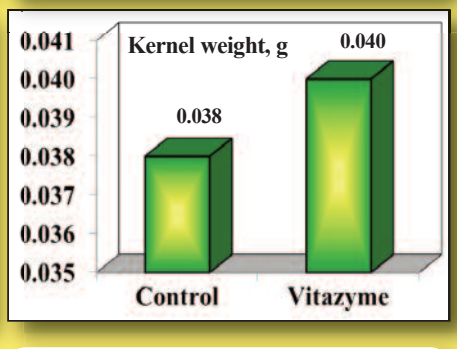

**Increase in grains per head with Vitazyme: 27%**

## Grain Weight Per Head




**Increase in grain weight per head with Vitazyme: 29%**

## Kernel Weight




**Increase in kernel weight with Vitazyme: 5%**

All measured plant parameters displayed sizable improvements with Vitazyme, especially tillers, grains per head, and grain weight per head.

*Conclusions*: This spring wheat trial in central Washington revealed Vitazyme, applied once in early May, stimulated improvements in all measured parameters, increasing tillering by 36%, grains per head by 27%, grain weight per head by 29%, and even kernel weight by 5%. Yield was not able to be measured, but the program increased grain yield by an undetermined amount. The farmer at harvest noted improvements in tillering and head size, and believed the yield was increased by at least 20% with Vitazyme. This program has shown fine potential to enhance spring wheat production in Washington.

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# 2013 Crop Results

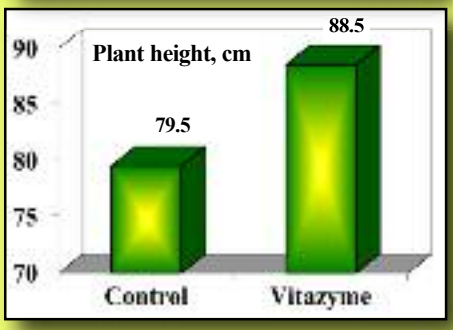
# Vitazyme on Spring Wheat

*Researcher*: Jacob Hesseltine *Farmer*: Brandt Farms *Location*: Waterville, Washington
*Variety*: Louise soft white spring wheat *Previous crop*: wheat *Soil type*: sandy loam
*Tillage*: fall chisel plowing, spring harrowing and cultivation *Planting date*: April 15, 2013
*Planting rate*: 60 lb/acre
*Experimental design*: A spring wheat field was divided in a 25-acre treated area, and the remainder was untreated, to evaluate the effect of Vitazyme on crop growth and yield.

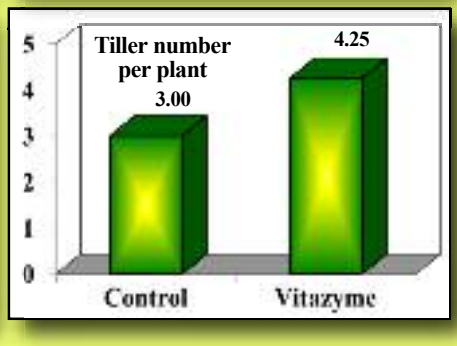
**1. Control** **2. Vitazyme**

*Fertilization*: 40 lb/acre of N and 10 lb/acre of S at planting
*Vitazyme application*: 13 oz/acre (1 liter/ha) along with Solution 32 N and S in the air grain drill at planting; 13 oz/acre sprayed over the plants and soil 5 weeks later (about June 1) along with 2,4-D herbicide
*Weather for 2013*: Excessive late season rain was unfavorable for crop development, and a destructive wind and rain storm occurred on August 10.
*Pre-harvest evaluation*: On August 9, 20 typical plants from each treatment were dug to evaluate several parameters. Values for the 20 plants were averaged.

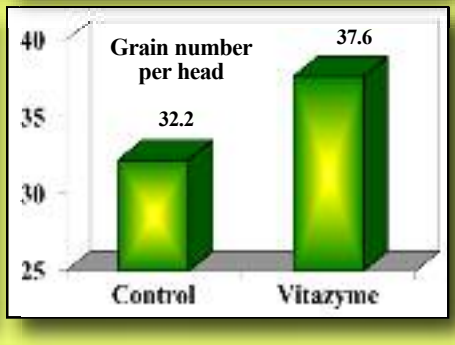
**Plant Height***




**Productive Tillers/Plant**

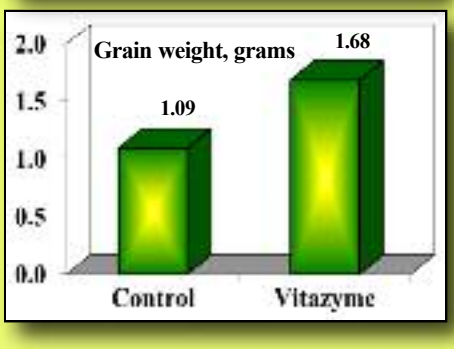



**Grains Per Head**

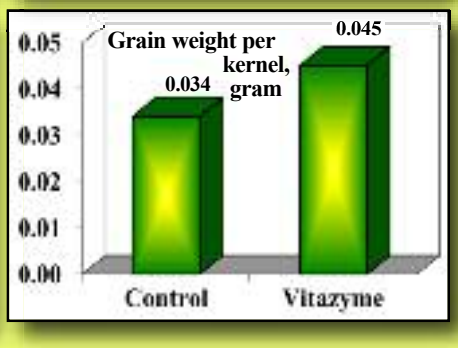



*Measured from soil level to tip of tallest tiller.

**Grain Weight Per Head**




**Grain Weight Per Kernel**



*Yield results*: No yield results were determined due to serious storm damage to both treatments. Reliable measurements could not be made. However, it is clear from the August 9 evaluations that a major yield advantage would have been achieved with Vitazyme had no storm damage occurred. That increase could easily had been 20% or more due to more productive tillers (42%), more grains per head (17%), greater grain weight per head (54%), and greater weight per kernel (32%).

**Increases with Vitazyme:**

| | |
|---|---|
| Plant height | 11% |
| Productive tillers/plant | 42% |
| Grains per head | 17% |
| Grain weight/head | 54% |
| Grain weight/kernel | 32% |

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# 2013 Crop Results

# Vitazyme on Spring Wheat

## Production roundup

**Peter's Production blog (updated regularly): http://www.ontariofarmer.com**

**BY PETER RESCHKE**
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*preschke@bell.net*

### Perfect season produces top spring wheat yields

When the two highest-yielding fields in the province are in close proximity there are two possible explanations. Either these farmers are sharing production secrets or the area was blessed with exceptionally good weather.

In the case of the Ontario Spring Wheat Yield Challenge this year, it turns out the second explanation is the most plausible. "What can you say? We just hit a really good year," says Del Cressman, who topped the competition with a yield of 112.87 bushels from a field of Wilkin by C&M Seeds.

Interestingly, second place was also part of the Listowel-area family farm, with Cressman's daughter Sonya and her husband Mike Arent recording a yield of 95.46 bushels with the same variety. The only reason that field came up short was because it received a heavy windstorm, leaving some of it badly lodged. "We had to combine 40 or 50 acres going just one way," Cressman recalls.

Third spot belonged to Bill and Darlene Nater of Mitchell, whose field of C&M Sable tipped the scales at 88.89 bushels.

The contest was sponsored by Bayer Cropscience and C&M Seeds.

The winning yields were particularly impressive since Cressman readily admits he rarely exceeds 60 bushels with his spring wheat crops, prompting him to ofte reserve his best fields for more consistent crops. In the odd year that the yield moves higher, the sample falls short on protein, he says. "This year it all came together." The crop insurance yield for the whole farm was about 95 bushels and protein came in at 12.2 per cent.

The three components of this year's success were: high fertility, early planting and near-perfect weather, he says. "Getting the crop in early is very important. We just worked the ground once, rolled it and planted. Then we rolled it again."

The field has a history of poultry manure so fertility levels are high, Cressman says. Nevertheless he added another three tonnes of dry turkey manure prior to cultivating.

**Farmers need to pay special attention to getting their crop off to a good start, yield challenge winner says**

He applied Tilt for foliar disease control and later sprayed Caramba at heading. "I'm not sure how much of an effect it had, but disease was never an issue."

Cressman's only unconventional input was an application of Vitazyme, a liquid biostimulant that includes enzyme and vitamins to stimulate crop growth. The distributor's web site says it increases yields and quality while reducing the need for nitrogen.

Whether you subscribe to such inputs or not, Cressman says today's land prices put a greater emphasis on management. That includes driving more slowly at planting, looking after the soil, making sure that the crop gets off to the best possible start.

"Everyone is looking for that extra margin. It means your mentality has to change."