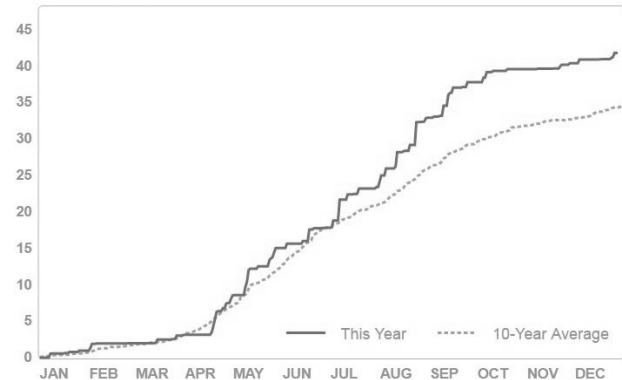


RyzUp SmartGrass® on Winter Wheat

Study ID: 368109201601
County: Lancaster
Soil Type: Aksarben silty clay loam
Harvest Date: 6/28/16
Hybrid: SY Wolf
Reps: 5
Tillage: Disked prior to drilling
Fertilizer: 80 lb/ac actual N applied as 46-0-0 on 3/23/16

Irrigation: None
Rainfall (in):



Soil Test:

Soil pH = 6.3 Organic matter = 3.8% Lbs. nitrate/acre (0-8") = 69

Parts per million (ppm)

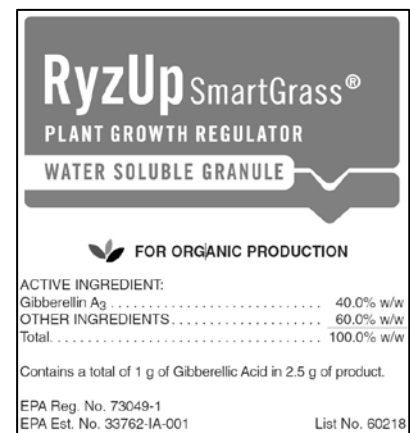
P	K	Ca	Mg	Na	Sulfate	Zn	Fe	Mn	Cu
123	471	2404	348	13	19	1.47	58.6	12.1	1.00

Introduction: RyzUp SmartGrass® 40WDG (active ingredient = gibberellic acid 3, Valent USA) was recently registered for many grass-type crops, including wheat (product information at right). RyzUp SmartGrass has been reported to enhance the yield potential of wheat as well as increase vigor and plant health in weak stands. In addition, it can potentially overcome slow growth from cold conditions, winter injury, or post emergent herbicide when applied during tillering but before stem elongation. Gibberellic acid, the active ingredient in the product, is a plant hormone that causes cells and subsequently leaves and stems to elongate, thus resulting in increased forage availability for many cool season grasses.

While increasing early season forage production is important for wheat producers that also graze wheat prior to seed head formation, many producers grow wheat only for seed production. The effect(s) of RyzUp SmartGrass on Nebraska wheat production has not been robustly evaluated and documented.

This experiment was initiated to determine winter wheat growth and yield responses to an application of RyzUp SmartGrass, and to evaluate the economics of this product in eastern Nebraska when combined with a highly effective surfactant.

Treatments were applied in 15 gallons/acre of solution with an Apache AS720 sprayer equipped with AIXR nozzles 15 in spacings. Plots were 60 feet wide, and approximately 1,662 feet long. The treatment was



Product information from:
<http://www.valent.com/agriculture/products/ryzupsmartgrass/label-msds.cfm>

replicated four times in this experiment, alternating with untreated strips on which the sprayer did not traverse.

Plots were sampled on March 22 and 29 for natural heights and plant widths. Ten samples were obtained from each plot. Height samples were obtained by placing a ruler in the wheat row, and noting the last height that was no longer obscured by wheat foliage. Sampling on March 22 for plant width went to the leaf tips, while March 29 width sampling recorded the distance across foliage through which the ruler was no longer visible (narrower than leaf tips).

Plots were harvested on June 28 with a John Deere 9670 STS combine with 625F HydroFlex 25 ft head. Two 25 ft. swaths per treatment strip were harvested, and transferred to a Kinze 640 weigh wagon equipped with a DigiStar E2150 electronic scale which measured in 20 lb increments from which weights were recorded.

Small sub-samples (approximately 1 pint) of combine harvest wheat from each plot were delivered to the University of Nebraska-Lincoln Department of Agronomy and Horticulture for protein, moisture and seed counts/pound determinations.

Results:

	March 22, 2016		March 29, 2016	
	Height (in)	Width (in)	Height (in)	Width (in)
Check	6.9	5.3	8.1	4.2
RyzUp SmartGrass 0.5 oz/ac + ClassAct® NG® 1.9%	8.2	5.6	9.0	4.6
P-Value	N/A	N/A	N/A	N/A

	Moisture (%)	Protein (%)	Seeds per lb	Seeds/ac	Yield (bu/ac)†	Marginal Net Return‡ (\$/ac)
Check	12.8	12.8	13,459	66,974,125	83	\$240.70
RyzUp SmartGrass 0.5 oz/ac + ClassAct NG 1.9%	12.7	13.8	14,444	74,661,965	86	\$233.43
P-Value	N/A	N/A	N/A	N/A	N/A	N/A

†Bushels per acre are corrected to 14% moisture.

‡Marginal net return based on \$2.90/bu wheat, \$8.72 product cost, and \$7.25 application cost.

Summary: Plots were replicated but not randomized, therefore a statistical analysis was not performed and conclusions could not be drawn. Treatment means are provided in the results table.

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