

RyzUp SmartGrass® and Surfactants on Big Bluestem

Study ID: 222109201601

County: Lancaster

Soil Type: Aksarben silty clay loam

Harvest Date: 7/13/16

Reps: 4

Herbicides: 1.33 pt/ac LoVol 6 2,4-D on 5/15/16

Seed Treatment: None

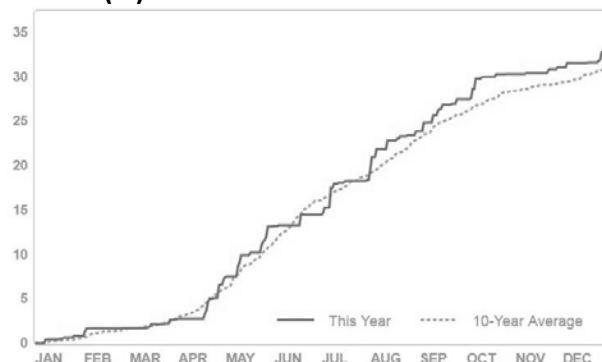
Foliar Insecticides: None

Foliar Fungicides: None

Fertilizer: Granular nitrogen

Irrigation: None

Rainfall (in):



Introduction: The objective of this study was to evaluate the effect of RyzUp SmartGrass® applied in combinations with various surfactants on plant growth and forage production. RyzUp SmartGrass was applied at a rate of 0.3 oz/acre and 0.9 oz/acre in combination with various surfactants and uptake enhancers, including ClassAct® NG® 2.5%, BioLink® Spreader-Sticker, and AnnGro®. Treatment combinations are listed in the results table below. All treatments were applied on the afternoon of May 10, 2016. The big bluestem was approximately 12 inches tall and 28 gpa solution was used for applications. RyzUp SmartGrass active ingredients are shown below. This is a small plot study conducted on-farm.



Product information from:

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

Results:

| | Natural Height (in) | | | | | | | |
|--|----------------------|--------|--------|--------|--------|--------|--------|--------|
| | 5/18 | 5/25 | 6/1 | 6/8 | 6/15 | 6/22 | 6/29 | 7/6 |
| Check | 9.8 A* | 13.2 A | 17.2 A | 19.9 A | 22.1 A | 24.2 A | 26.9 A | 28.4 A |
| BioLink Spreader-Sticker (3.36 oz) | 9.8 A | 12.9 A | 17.1 A | 19.5 A | 22.1 A | 22.9 A | 27.0 A | 27.3 A |
| RyzUp SmartGrass (0.3 oz) + BioLink Spreader-Sticker | 9.7 A | 13.3 A | 17.2 A | 19.2 A | 21.5 A | 23.3 A | 25.9 A | 28.1 A |
| RyzUp SmartGrass (0.3 oz) + ClassAct NG 2.5% | 10.1 A | 13.8 A | 17.7 A | 19.1 A | 21.7 A | 24.0 A | 26.7 A | 28.0 A |
| RyzUp SmartGrass (0.9 oz) + ClassAct NG 2.5% | 10.4 A | 14.1 A | 18.2 A | 20.0 A | 21.7 A | 23.4 A | 26.4 A | 27.3 A |
| RyzUp SmartGrass (0.3 oz) + ClassAct 2.5% + BioLink Spreader-Sticker | 10.2 A | 14.0 A | 18.3 A | 19.4 A | 22.5 A | 24.1 A | 26.4 A | 27.4 A |
| RyzUp SmartGrass (0.3 oz) + AnnGro | 9.7 A | 13.2 A | 17.9 A | 19.4 A | 21.9 A | 23.5 A | 27.0 A | 27.5 A |
| RyzUp SmartGrass (0.3 oz) + AnnGro + ClassAct 2.5% | 9.7 A | 13.2 A | 17.3 A | 19.3 A | 21.4 A | 23.2 A | 26.4 A | 27.0 A |
| P-Value | 0.5165 | 0.2822 | 0.0522 | 0.5545 | 0.7252 | 0.4588 | 0.8668 | 0.9067 |
| | Extended Height (in) | | | | | | | |
| | 5/18 | 5/25 | 6/1 | 6/8 | 6/15 | 6/22 | 6/29 | 7/6 |
| Check | 13.5 A | 17.6 A | 22.3 A | 25.3 A | 28.2 A | 31.3 A | 34.6 A | 36.9 A |
| BioLink Spreader-Sticker (3.36 oz) | 13.3 A | 17.4 A | 22.7 A | 25.2 A | 28.4 A | 30.0 A | 34.1 A | 34.8 A |
| RyzUp SmartGrass (0.3 oz) + BioLink Spreader-Sticker | 13.5 A | 17.3 A | 22.4 A | 24.5 A | 27.9 A | 31.0 A | 32.9 A | 36.7 A |
| RyzUp SmartGrass (0.3 oz) + ClassAct NG 2.5% | 13.1 A | 17.9 A | 23.0 A | 25.7 A | 29.2 A | 30.9 A | 34.5 A | 36.7 A |
| RyzUp SmartGrass (0.9 oz) + ClassAct NG 2.5% | 13.9 A | 18.8 A | 23.6 A | 25.1 A | 28.7 A | 31.2 A | 34.5 A | 35.3 A |
| RyzUp SmartGrass (0.3 oz) + ClassAct 2.5% + BioLink Spreader-Sticker | 13.6 A | 18.4 A | 23.6 A | 25.6 A | 29.2 A | 31.1 A | 34.6 A | 36.5 A |
| RyzUp SmartGrass (0.3 oz) + AnnGro | 13.0 A | 17.5 A | 23.2 A | 25.4 A | 28.6 A | 30.6 A | 35.0 A | 36.4 A |
| RyzUp SmartGrass (0.3 oz) + AnnGro + ClassAct 2.5% | 13.1 A | 17.5 A | 22.5 A | 25.1 A | 28.4 A | 30.3 A | 33.5 A | 35.6 A |
| P-Value | 0.3056 | 0.1299 | 0.2149 | 0.8366 | 0.8138 | 0.8118 | 0.4749 | 0.6327 |

| | Yield (lb hay/ac)† | Marginal Net Return‡ (\$/ac) |
|--|-----------------------|---------------------------------|
| Check | 4,968 A | 189.01 |
| BioLink Spreader-Sticker (3.36 oz) | 4,972 A | 181.34 |
| RyzUp SmartGrass (0.3 oz) + BioLink Spreader-Sticker | 4,677 A | 166.67 |
| RyzUp SmartGrass (0.3 oz) + ClassAct NG 2.5% | 4,850 A | 166.96 |
| RyzUp SmartGrass (0.9 oz) + ClassAct NG 2.5% | 4,427 A | 143.97 |
| RyzUp SmartGrass (0.3 oz) + ClassAct 2.5% + BioLink Spreader-Sticker | 4,588 A | 155.99 |
| RyzUp SmartGrass (0.3 oz) + AnnGro | 4,622 A | 165.13 |
| RyzUp SmartGrass (0.3 oz) + AnnGro + ClassAct 2.5% | 4,622 A | 158.28 |
| P-Value | 0.5382 | N/A |

†Yield standardized to 10% moisture.

*Values with the same letter are not significantly different at a 90% confidence level.

‡Marginal net return based on \$76.09/ton hay, \$6.82/ac application cost, \$1/ac BioLink Spreader-Sticker, \$11.50/oz RyzUp SmartGrass, and \$7.29/ac ClassAct 2.5%. AnnGro costs not available as the product is not on the market, so this cost is not included in these treatments.

Summary: Plant height was recorded at eight different times during the growing season; there were no differences in plant height among the treatments tested. Yield was determined on July 13, 2016. None of the treatment combinations resulted in a yield increase above the untreated check.

Sponsored by:



In Partnership with:

Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln cooperating with the Counties and the United States Department of Agriculture. University of Nebraska–Lincoln Extension educational programs abide with the nondiscrimination policies of the University of Nebraska–Lincoln and the United States Department of Agriculture.