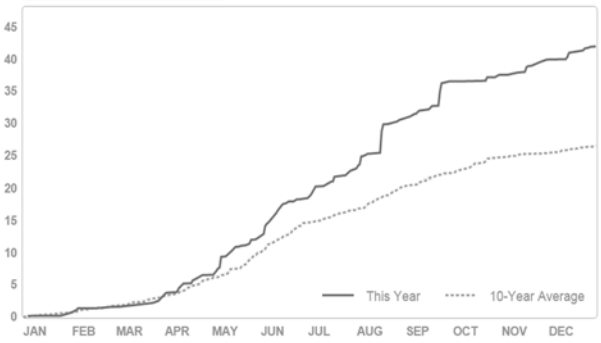
Nebraska On-Farm Research Network

Fall Applied RyzUp SmartGrass® on Smooth Brome

Study ID: 224023201501
County: Butler
Soil Type: Hastings silt loam;
Harvest Date: 10/22/15
Reps: 4

Rainfall (in.):



Introduction: Increasing fall forage production is of interest to many area livestock producers. Utilizing fall grazing provides great benefit for area livestock producers, as natural utilization of existing forage can provide financial savings when producers do not have to purchase food stuffs and utilize machinery to mix and feed livestock. Having additional grass and extended grazing on smooth brome also can provide a 'forage bridge" until fall corn stalks are available for grazing after harvest. Additional grass forage availability is also very attractive and essential for success of the grass-fed beef industry.

Local UNL extension experimentation during 2012-2015 had noted that RyzUp SmartGrass® (active ingredient = Gibberellic acid 3; Valent USA) applications resulted in increased spring growth of smooth brome (Bromus inermis), with growth responses often evident with 7 days of application.

Experimentation in the fall of both 2013 and 2014 documented increased smooth brome growth in response to RyzUp SmartGrass® application. Fall smooth brome growth differed from that of spring applications in that untreated smooth brome had little fall growth. Data from the fall 2013 experiment also indicated that applications should be initiated several weeks sooner than in 2013 (first application Sept. 21) to realize greater grass growth differences and increase potential economic benefit. While previous fall experimentation had documented smooth brome yield and quality in response to a single rate of RyzUp SmartGrass® application at various fall dates, the objective of this experiment was to evaluate two rates as well as sequential applications.

While this product is fairly inexpensive (expected price for this product at 0.3 oz./acre is $7 + surfactant and application cost), there are no known Nebraska fall smooth brome forage/hay yield, quality or economic data for higher rates nor for sequential applications. This experiment was initiated to create some data for producers to evaluate in their decision making in future years.

Results: All RyzUp SmartGrass® applications were made with ClassAct NG surfactant at 0.7 gal/ac. Following the first application of RyzUp SmartGrass® on Sept. 3, measurements were taken on Sept. 17, prior to the second application later in the day (Table 1). Following the addition of the 2nd application on Sept. 17, height measurements were taken on Oct. 14 and 21 and yield on Oct. 22 (Table 2 and 3).

Table 1: Height measurements following Sept. 3 application.

Sept. 3 Application	Sept. 17 Natural Height (in.)	Sept. 17 Extended Leaf Height (in.)
Check (0.0 oz/ac RyzUp)	10.3 A*	12.9 AB
RyzUp 0.3 oz/ac	10.7 A	14.4 A
RyzUp 0.6 oz/ac	11.1 A	14.3 A
ClassAct NG on 9/3	10.3 A	12.7 B
P-Value	0.4495	0.0325

Table 2: Height measurements for 10 treatment combinations following both application dates.

		Natural Height (in.)		Extended Leaf Height (in.)	
Sept. 3 Application	Sept. 17 Application	Oct. 14	Oct. 21	Oct. 14	Oct. 21
0 oz/ac RyzUp (Check)	0 oz/ac RyzUp (Check)	9.7 AB	8.1 A	12.3 BC	12.1 CD
0.3 oz/ac RyzUp	0 oz/ac RyzUp	10.7 A	8.6 A	13.9 AB	12.3 BCD
0 oz/ac RyzUp	0.3 oz/ac RyzUp	10.1 AB	8.7 A	14.9 A	13.5 ABCD
0.3 oz/ac RyzUp	0.3 oz/ac RyzUp	10.4 A	8.2 A	14.5 AB	12.8 BCD
0.6 oz/ac RyzUp	0 oz/ac RyzUp	10.9 A	8.8 A	14.1 AB	13.4 ABCD
0 oz/ac RyzUp	0.6 oz/ac RyzUp	10.1 AB	8.9 A	14.9 A	14.4 ABC
0.6 oz/ac RyzUp	0.6 oz/ac RyzUp	9.7 AB	8.7 A	14.7 A	15.6 A
0.3 oz/ac RyzUp	0.6 oz/ac RyzUp	11.5 A	8.7 A	16.0 A	14.1 ABC
0.6 oz/ac RyzUp	0.3 oz/ac RyzUp	10.5 A	9.3 A	15.4 A	14.6 AB
Class Act 0.7 gal	0	8.3 B	7.6 A	10.5 C	11.2 D
	P-Value	*0.004*	*0.3808*	*<.0001*	*0.0002*

Table 3: Yield and treatment costs for subsequent RyzUp SmartGrass® applications at two rates.

	Yield (lb/ac) Oct. 22	Treatment Cost† ($/ac)
Check	2,193 A	0
RyzUp 0.3 oz/ac on 9/3	2,475 A	24.22
RyzUp 0.3 oz/ac on 9/17	2,358 A	24.22
RyzUp 0.3 oz/ac on 9/3 and 9/17	2,656 A	48.44
RyzUp 0.6 oz/ac on 9/3	2,490 A	31.22
RyzUp 0.6 oz/ac on 9/17	2,523 A	31.22
RyzUp 0.6 oz/ac on 9/3 and 9/17	2,460 A	62.44
RyzUp 0.3 oz/ac on 9/3 and 0.6 oz/ac on 9/17	2,613 A	55.44
RyzUp 0.6 oz/ac on 9/3 and 0.3 oz/ac on 9/17	2,476 A	55.44
ClassAct NG on 9/3	1,873 A	17.22
P-Value	0.6391	

*Values with the same letter are not significantly different at a 90% confidence level.
‡Treatment cost includes product cost and $8.12/ac application cost.

Summary: Data collected on Sept. 17, following the first application, showed no treatment having greater natural or extended forage height than the untreated check.

Following the second application on Sept. 17, height data was collected on Oct. 14 and 21. None of the treatment combinations resulted in greater natural height than the check, however, there were several treatments that resulted in greater extended height than the check on both Oct. 14 and 21 (see results table). None of the treatments resulted in greater hay yield (lb/ac) than the untreated check.

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