EVALUATION OF APOGEE® ON KENTUCKY AND ROUGH BLUEGRASS, 2002

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Abstract

The growth regulator, Apogee® (BASF) was evaluated on a commercial Kentucky bluegrass seed field (var. 'Geronimo') and a rough bluegrass seed field (var. 'Laser') near Madras, Oregon. There were no significant differences between Apogee and untreated plots for either Kentucky or rough bluegrass. The trend was for Apogee, applied to rough bluegrass either on May 7 (second node detectable) or May 21 (very few heads visible), to increase yields by 10-15 percent. There was no advantage from including 2 percent ammonium sulfate (AMS) with Apogee treatments. The growth regulator Palisade® increased Kentucky bluegrass yields by 24 percent.

Introduction

Research to evaluate Apogee on Kentucky bluegrass was conducted during 1999 and 2001. In 1999 three rates were applied early and late, or as a split application. The greatest reduction in plant height was from split applications at 11 oz/acre or 14.5 oz/acre. Lodging was best controlled with a late application at 22 oz/acre or 29 oz/acre. Yields showed the greatest increase with an early application at 29 oz/acre. The 2001 data provide mixed results due to weather conditions affecting grass seed yields in general.

Methods and Materials

Plots 10 ft by 25 ft were replicated four times in a randomized complete block design in commercial fields of 'Geronimo' Kentucky bluegrass and 'Laser' rough bluegrass near Madras, Oregon. Apogee was applied at 1.1 lb/acre, with and without two percent ammonium sulfate (AMS) on the first application date and at 1.1 lb/acre with AMS on the second application date. Treatments were applied to rough bluegrass on May 7 (second node detectable) and May 21 (very few heads visible), and to Kentucky bluegrass on April 30 (second node detectable) and May 10 (very few heads visible).

Treatments were applied with a CO_2-pressurized, hand-held boom sprayer at 40 psi and 20-gal/acre water using TeeJet 8002 nozzles. Prior to harvest, a Jari mower was used to cut 3-ft alleyways across the front and back of each row of plots. A research-sized swather was used to harvest a 40-inch by 22-ft portion of Kentucky bluegrass plots July 5 and of rough bluegrass July 8. Samples were placed in large bags and hung in an equipment shed to dry, and then transported to Corvallis, Oregon for combining with a Hege 180 at the Hyslop Farm. Thousand-seed counts were conducted using the seed-conditioning lab at the National Forage Seed Production Research Center in Corvallis, and germination testing was done at the Central Oregon Agricultural Research Center in Madras.

Results and Discussion

At a 90 percent confidence level, there were no significant differences between Apogee and the untreated plots for either Kentucky bluegrass (Table 1) or rough bluegrass (Table 2). However, the trend was for Apogee, applied either on May 7 (second node detectable) or May 21 (very few heads visible), to increase yields by 10-15 percent on rough bluegrass. Palisade applied April 30 (second node detectable) increased yields on Kentucky bluegrass by 24 percent. Apogee treatments on Kentucky bluegrass produced similar yields to untreated plots. There didn’t appear to be any advantage from including 2 percent ammonium sulfate (AMS) with Apogee applications. Palisade increased Kentucky bluegrass yields by 24 percent. Untreated plots produced the lowest yield for rough bluegrass, but not Kentucky bluegrass.

Table 1. Effect of Apogee® growth regulator on Kentucky bluegrass, Madras, Oregon, 2002.

Treatment	Application timing April 30	May 10	Seed yield		Biomass	1,000-seed weight	Germination
	----product/acre----		lb/acre	% check	ton/acre	--g--	--%--
Apogee	14.5 oz	----	2,185[1] ab	109	4.9 b	0.3223 ab	76 ab
Apogee+AMS[2]	14.5 oz	----	1,854 b	93	5.3 ab	0.3228 ab	69 b
Apogee+AMS	----	14.5 oz	2,008 b	101	5.2 ab	0.3269 a	82 a
Palisade	2.1 pt	----	2,483 a	124	5.9 a	0.3204 ab	74 ab
Palisade	----	2.1 pt	2,227 ab	111	5.8 a	0.3214 ab	84 a
Untreated	----	----	1,999 b	100	5.3 ab	0.3100 b	67 b

[1]Mean separation with LSD P $\leq$ 0.1.
[2]AMS= two percent ammonium sulfate.

Table 2. Effect of Apogee® growth regulator on rough bluegrass, Madras, Oregon, 2002.

Treatment	Application timing May 7	May 21	Seed yield		Biomass	1,000-seed weight	Germination
	----product/acre----		lb/acre	% check	ton/acre	--g--	--%--
Apogee	14.5 oz	----	1,233	112	3.5	0.2120	97[1] a
Apogee+AMS[2]	14.5 oz	----	1,209	110	3.5	0.2123	92 b
Apogee+AMS	----	14.5 oz	1,260	115	3.5	0.2105	95 ab
Palisade	2.1 pt	----	1,119	102	3.3	0.2110	97 a
Palisade		2.1 pt	1,131	103	3.4	0.2049	98 a
Untreated	----	----	1,097	100	3.3	0.2090	95 ab
			NS		NS	NS	

[1]Mean separation with LSD P $\leq$ 0.1.
[2]AMS= two percent ammonium sulfate.