

# EVALUATION OF APOGEE ON KENTUCKY BLUEGRASS, 1999

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## Abstract

The growth regulator Apogee (BASF) was evaluated on a commercial Kentucky bluegrass seed field (var. 'Geronimo') near Madras, Oregon. Three rates were applied early and late, or as a split application. The greatest reduction in plant height was from split applications of Apogee at the high and medium rates. Lodging was controlled best with a late application of Apogee at the medium and high rates. Yields were the greatest for plots treated at the high rate of Apogee applied on the earlier date.

## Introduction

Research evaluating another growth regulator, Palisade, on ryegrass in the Willamette Valley during the 1997-1998 seasons indicated reduced lodging and increased yields with application of the growth regulator. Although lodging is not generally a problem in Kentucky bluegrass grown in central Oregon, a cost-effective method of increasing yields would generate interest in the industry for Palisade and similar growth regulators such as Apogee.

## Methods and Materials

Plots 10 ft x 25 ft were replicated four times in a randomized complete block design in a commercial 'Geronimo' Kentucky bluegrass field near Madras, Oregon. Apogee was applied at 14.5 oz/a, 22.1 oz/a, and 29.0 oz/a to one set of plots on May 19 at late boot stage and to a second set of plots on May 27 when the tops of the heads were even with the flag leaf. A split application at half the rate of 7.3 oz/a, 11.0 oz/a, and 14.5 oz/a was applied on both dates to a third set of plots. Silgard 309 at 4 percent v/v (1 qt/100 gal) was applied in combination with all Apogee treatments.

Treatments were applied with a CO<sub>2</sub>-pressurized, hand-held boom sprayer at 40 psi and 20 gal/a water. TwinJet 8002 nozzles were used to improve coverage. Plots were evaluated for plant height on May 20 and then again on June 17. Lodging was evaluated on June 25.

Prior to harvest, a Jan mower was used to cut 3-foot alleyways across the front and back of each row of plots. A 3-foot by 22-foot portion of each plot was harvested with a research-sized swather on July 12. Samples were placed in large bags and hung in an equipment shed to dry, and then transported to Corvallis for combining with a stationary Hege 180 at the Hyslop Farm. The seed then was cleaned at the seed-conditioning lab at the National Forage Seed Production Research Center.

## Results and Discussion

There were no statistical differences between treatments for any of the parameters evaluated (Table 1). However, application of Apogee produced the greatest reduction in plant height with split applications at the high (14.5 oz/a) and medium (11.0 oz/a) rates. Application at the low (14.5 oz/a) rates tended to have the greatest increase in plant height. Apogee at the high (29 oz/a) rate applied late (May 27) produced the lowest rate of lodging, while the low rate (14.5 oz/a) applied early (May 19) had similar lodging to the untreated plots. Apogee applied on the earlier date (May 19) at the high rate (29 oz/a) produced a yield of 2,670 lb/a, followed by a split application at the high rate (14.5 oz/a) with 2,549 lb/a. This compares to 2,107 lb/a for the untreated plots.

Table 1. Results of Apogee growth regulator application to Kentucky bluegrass, Madras, OR, 1999.

Treatment	Application timing		Height			Yield		
	Early	Late	Original	Final	Increase	Lodging	Clean	Increase
	(oz product/a)		(in.)	(in.)	(%)	(%)	(lb/a)	(%)
Untreated			14.8	28.5	93.6	98.8	2,107	
Apogee	14.5		15.2	29.3	93.8	95.3	2,294	9
Apogee	22.1		15.0	28.2	87.7	75.8	2,318	10
Apogee	29.0		14.5	27.5	90.9	85.0	2,670	27
Apogee		14.5	13.8	28.0	103.4	62.5	2,241	6
Apogee		22.1	14.8	27.7	89.2	73.8	2,190	4
Apogee		29.0	15.3	30.1	82.0	60.0	2,371	12
Apogee	7.3	7.3	14.8	27.8	89.7	83.3	2,367	12
Apogee	11.0	11.0	15.7	27.3	75.4	62.5	2,289	9
Apogee	14.5	14.5	15.3	26.7	74.4	69.0	2,549	21
			ns	ns	ns	ns		

Means in the same column with different letters are significantly different at  $P < 0.05$ .