

# Selective Removal of Creeping Bentgrass from Kentucky Bluegrass with Sulfosulfuron

Marcus A. Jones and Nick E. Christians

## Introduction

Sulfosulfuron is a sulfonylurea herbicide marketed by Monsanto that provides control of annual and perennial broadleaves and grasses in wheat and non crop areas. Recent studies demonstrate that sulfosulfuron exhibits herbicidal activity on annual bluegrass and tall fescue, but Kentucky bluegrass and perennial ryegrass are tolerant of the herbicide at low application rates. The goal of this study is to determine if Certainty<sup>®</sup> has the capability of selectively removing creeping bentgrass from Kentucky Bluegrass. Our three objectives are:

- 1) Determine the best time of application that provides for selective postemergence control of creeping bentgrass in Kentucky bluegrass,
- 2) Determine the rate of application for selective postemergence control of creeping bentgrass in Kentucky bluegrass, and
- 3) Observe detrimental effects to the Kentucky bluegrass from the herbicide applications.

## Materials and Methods

The trial was initiated during the fall of 2004. Research was conducted at Coldwater Golf Links in Ames, IA on a mixed stand of L-93 creeping bentgrass and Sure Shot Kentucky bluegrass maintained at a height of one inch. Sure Shot is a Kentucky bluegrass blend containing Nuglade, Bluemoon, Award, Rugby II, and Rambo cultivars.

The randomized complete block trial was replicated three times and received weekly applications of sulfosulfuron applied with a non-ionic surfactant beginning the fourth week of September and concluding the third week of November (Table 1). Weekly turfgrass quality data was recorded on a scale of 1 to 9 (1 = Worst, 6 = Acceptable, 9 = Best) and grid counts were performed to determine percentage creeping bentgrass kill. Data were analyzed using the Statistical Analysis System Software and the Analysis of Variance procedure. Fisher's LSD ( $\alpha=0.05$ ) was used to determine treatment effects.

## Results and Discussion

Sulfosulfuron failed to provide effective postemergence control of creeping bentgrass at 0.25 and 0.5 oz/A (Table 1). Reductions in creeping bentgrass coverage were observed, but we believe these reductions were due to winter injury and not sulfosulfuron treatments as percentage bentgrass kill was reduced 19% in untreated controls. In addition, the 0.5 oz/A rate did not prove more effective compared with the 0.25 oz/A rate (Table 1). Turfgrass quality was unaffected by sulfosulfuron applications. Fall applications of sulfosulfuron at 0.25 and 0.5 oz/A did not control creeping bentgrass in Kentucky bluegrass in this trial.

**Table 1.** Influence of sulfosulfuron rate and timing on creeping bentgrass control. Percentage reduction was determined by using a modified grid. Grids were performed directly prior to initiation of treatments and again the following spring in order to quantify creeping bentgrass kill. Values represent means of three replications

Treatment	Timing	Rate (oz/A)	C. bentgrass reduction (%)
1	Control	Control	19
2	4 <sup>th</sup> week Sept.	0.25	10
3		0.5	9
4	5 <sup>th</sup> week Sept.	0.25	15
5		0.5	+6
6	1 <sup>st</sup> week Oct.	0.25	12
7		0.5	21
8	2 <sup>nd</sup> week Oct.	0.25	12
9		0.5	+5
10	3 <sup>rd</sup> week Oct.	0.25	0
11		0.5	+4
12	4 <sup>th</sup> week Oct.	0.25	11
13		0.5	9
14	1 <sup>st</sup> week Nov.	0.25	+3
15		0.5	1
16	2 <sup>nd</sup> week Nov.	0.25	+2
17		0.5	+5
18	3 <sup>rd</sup> week Nov.	0.25	+3
19		0.5	10
<b>LSD</b>			25