

## Creeping Bentgrass Control with Fall Applications of MON 44951

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**Background/Objective:** Creeping bentgrass is shown to encroach collars, roughs, and other golf course sites where it is unwanted. In 2002 and 2003 university and TDM trials, late summer to fall applications of MON 44951 provided excessive injury and sometimes control of creeping bentgrass. The objective of this study is to evaluate the technical fit of fall applications of MON 44951 for selective postemergence control of creeping bentgrass from Kentucky bluegrass.

### Site Information

<b>Location:</b>	William H. Daniel Research and Diagnostic Center		
<b>Turfgrass Species:</b>	L93 Creeping bent	Kentucky blue blend	
<b>Turf Condition:</b>	good	good	
<b>Turf Management:</b>	<b>Mowing Height in:</b>	0.5	2.5
	<b>Fertilization:</b>	2.5 lbs/1000 ft <sup>2</sup> /yr	
	<b>Irrigation:</b>	To prevent moisture stress	
<b>Target Pest:</b>	Creeping bentgrass		
<b>Growth Stage:</b>	mature		

### Application Information

<b>Application Dates:</b> in 2004	26 Oct	12 Nov
<b>Spray Volume gal 1000 ft<sup>-2</sup>:</b>	2	
<b>Spray Equipment:</b>	CO <sub>2</sub> backpack	
<b>Experimental Design:</b>	Randomized complete block	
<b>Replications:</b>	3	
<b>Plot Size ft:</b>	5 X 5	

### Preliminary Results:

Applications on 12 Nov improved bentgrass control over the 26 October applications when measured the following March (Table 1). There was no difference in control between the single and sequential applications, as long as an application was made in November. The November applications also produced the lowest quality and highest phytotoxicity on the Kentucky bluegrass, but this damage is expected not to be permanent (Table 2).

**Table 1.** Control<sup>a</sup> of creeping bentgrass following fall applications of MON 44951.

Treatment <sup>b</sup>	Rate of application	12 Nov 04	3 Dec 04	16 Dec 04	22 March 05
	oz product/A				
MON 44951 <sup>c</sup>	1.0	6.7	7.3	7.0	6.7
MON 44951 <sup>c</sup>	1.5	6.0	7.0	7.0	6.0
MON 44951 <sup>c</sup>	2.0	6.0	6.3	6.3	5.0
MON 44951 <sup>c</sup>	1.0	6.3	5.3	4.7	2.0
MON 44951 <sup>d</sup>	1.0				
MON 44951 <sup>c</sup>	1.5	6.7	5.3	3.7	2.0
MON 44951 <sup>d</sup>	1.0				
MON 44951 <sup>d</sup>	1.0	8.7	7.3	6.0	2.0
MON 44951 <sup>d</sup>	1.5	9.0	7.3	6.0	2.0
MON 44951 <sup>d</sup>	2.0	9.0	7.3	5.3	2.0
Check		9.0	9.0	9.0	9.0
LSD (0.05)		0.7	0.9	1.0	1.1

<sup>a</sup> Control was rated on a scale of 1 to 9 where 1 = completely brown and 9 = no control.

<sup>b</sup> All treatments were tank mixed with MON 0818 at 0.25% v/v.

<sup>c</sup> Applications were made on 26 October.

<sup>d</sup> Applications were made on 12 November.

**Table 2.** Quality<sup>a</sup> of Kentucky bluegrass following fall applications of MON 44951.

Treatment <sup>b</sup>	Rate of application	12 Nov 04	3 Dec 04	16 Dec 04	22 March 05
	oz product/A				
MON 44951 <sup>c</sup>	1.0	8.0	6.7	5.7	5.7
MON 44951 <sup>c</sup>	1.5	8.0	7.3	5.7	6.0
MON 44951 <sup>c</sup>	2.0	8.0	6.3	5.3	5.7
MON 44951 <sup>c</sup>	1.0	8.0	6.0	4.0	4.3
MON 44951 <sup>d</sup>	1.0				
MON 44951 <sup>c</sup>	1.5	8.0	6.0	3.7	4.0
MON 44951 <sup>d</sup>	1.0				
MON 44951 <sup>d</sup>	1.0	8.0	7.7	6.7	4.7
MON 44951 <sup>d</sup>	1.5	8.0	7.7	6.7	4.7
MON 44951 <sup>d</sup>	2.0	8.0	7.7	6.3	5.0
Check		8.0	8.0	8.0	6.0
LSD (0.05)		NS	0.8	1.1	1.0

<sup>a</sup> Quality was rated on a scale of 1 to 9 where 1 = no turf, 5 = acceptable turf, and 9 = ideal quality.

<sup>b</sup> All treatments were tank mixed with MON 0818 at 0.25% v/v.

<sup>c</sup> Applications were made on 26 October.

<sup>d</sup> Applications were made on 12 November.

**Table 3.** Phytotoxicity<sup>a</sup> to Kentucky bluegrass following fall applications of MON 44951.

Treatment <sup>b</sup>	Rate of application	12 Nov 04	3 Dec 04	16 Dec 04
	oz product/A			
MON 44951 <sup>c</sup>	1.0	8.0	6.3	6.3
MON 44951 <sup>c</sup>	1.5	8.3	7.3	6.3
MON 44951 <sup>c</sup>	2.0	8.0	6.0	6.0
MON 44951 <sup>c</sup>	1.0	8.0	5.0	4.3
MON 44951 <sup>d</sup>	1.0			
MON 44951 <sup>c</sup>	1.5	8.0	5.3	4.3
MON 44951 <sup>d</sup>	1.0			
MON 44951 <sup>d</sup>	1.0	9.0	8.7	7.3
MON 44951 <sup>d</sup>	1.5	9.0	8.0	7.0
MON 44951 <sup>d</sup>	2.0	9.0	8.0	6.7
Check		9.0	9.0	9.0
LSD (0.05)		0.3	0.8	1.0

<sup>a</sup> Phytotoxicity was rated on a scale of 1 to 9 where 1 = completely brown turf, 7 = acceptable damage, and 9 = no phytotoxicity.

<sup>b</sup> All treatments were tank mixed with MON 0818 at 0.25% v/v.

<sup>c</sup> Applications were made on 26 October.

<sup>d</sup> Applications were made on 12 November.