

**Control of Dallisgrass with Mesotrione**  
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**Background/Objective:** Determine if mesotrione is a reasonable alternative to MSMA for postemergence dallisgrass control.

**Site Information**

<b>Location:</b>	Bloomington, IN
<b>Turfgrass Species:</b>	mixed stand
<b>Turf Condition:</b>	Poor
<b>Turf Management:</b>	<b>Mowing Height in:</b> 3
	<b>Fertilization:</b> none
	<b>Irrigation:</b> none
<b>Target Pest:</b>	<i>Paspalum dilatatum</i> (Dallisgrass)
<b>Growth Stage:</b>	tillered

**Application Information**

<b>Application Dates:</b> in 2005	3 June	17 June	1 July
<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		

**Results**

- As expected, all treatments caused severe phytotoxicity to dallisgrass measured two weeks after application (Table 1).
- Single applications of mesotrione at all four rates provided short-term reduction in dallisgrass cover similar to a single application of MSMA (Table 2).
- Mesotrione at 0.167 + 0.33 reduced dallisgrass the most of the two application mesotrione treatments, but control from this treatment was less than the two applications of MSMA.
- Three applications of mesotrione were most effective in reducing dallisgrass with mesotrione at 0.25+0.25+0.25 lbs ai/A providing similar reduction as two applications of MSMA. This rate of mesotrione will likely be higher than the labeled rate, so more investigation should be done on three applications of 0.167 lbs ai/A. Earlier applications in the summer and/or closer spacing may improve control.
- Mesotrione is not as effective on dallisgrass as MSMA. However mesotrione is much safer on bluegrass than MSMA and three applications of mesotrione can provide acceptable control of dallisgrass.

**Table 1.** Phytotoxicity<sup>a</sup> on dallisgrass after applications of mesotrione or MSMA.

Treatment <sup>b</sup>	Rate of application	17 June	1 July	12 July
	lb ai/A			
Mesotrione	0.167	4.7	9.0	8.7
Mesotrione	0.25	4.3	8.0	7.7
Mesotrione	0.33	3.3	8.3	8.0
Mesotrione	0.5	3.0	6.3	7.7
Mesotrione	0.167	5.0	3.7	4.7
Mesotrione <sup>c</sup>	0.167			
Mesotrione	0.167	5.7	2.3	2.3
Mesotrione <sup>c</sup>	0.33			
Mesotrione	0.25	4.3	2.3	3.3
Mesotrione <sup>c</sup>	0.25			
Mesotrione	0.33	3.7	2.7	4.7
Mesotrione <sup>c</sup>	0.167			
Mesotrione	0.167	6.0	2.7	2.3
Mesotrione <sup>c</sup>	0.167			
Mesotrione <sup>d</sup>	0.167			
Mesotrione	0.25	4.0	2.7	1.0
Mesotrione <sup>c</sup>	0.25			
Mesotrione <sup>d</sup>	0.25			
MSMA 6.6	2.25	1.3	3.0	5.7
MSMA 6.6	2.25	1.3	1.0	1.0
MSMA 6.6 <sup>c</sup>	2.25			
Check		9.0	9.0	8.7
LSD (0.05)		1.2	2.6	1.4

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

<sup>b</sup> All mesotrione treatment included non-ionic surfactant at 0.25 percent volume per volume and all target treatments included non-ionic surfactant at 1.0 percent volume per volume.

<sup>c</sup> Indicates second application on 17 June.

<sup>d</sup> Indicates third application on 1 July.

**Table 2.** Percent cover<sup>a</sup> of dallisgrass after applications of mesotrione or MSMA.

Treatment <sup>b</sup>	Rate of application	17 June	1 July	12 July	9 Sept
	lb ai/A				
Mesotrione	0.167	40.0	70.0	66.7	73.3
Mesotrione	0.25	28.3	65.0	71.7	68.3
Mesotrione	0.33	16.7	68.3	71.7	68.3
Mesotrione	0.5	16.7	48.3	65.0	65.0
Mesotrione	0.167	43.3	17.3	43.3	60.0
Mesotrione <sup>c</sup>	0.167				
Mesotrione	0.167	46.7	8.3	9.0	48.3
Mesotrione <sup>c</sup>	0.33				
Mesotrione	0.25	30.0	10.0	20.0	55.0
Mesotrione <sup>c</sup>	0.25				
Mesotrione	0.33	21.7	13.3	25.0	65.0
Mesotrione <sup>c</sup>	0.167				
Mesotrione	0.167	48.3	15.0	6.7	38.3
Mesotrione <sup>c</sup>	0.167				
Mesotrione <sup>d</sup>	0.167				
Mesotrione	0.25	25.0	5.7	0.7	2.0
Mesotrione <sup>c</sup>	0.25				
Mesotrione <sup>d</sup>	0.25				
MSMA 6.6	2.25	5.0	20.0	26.7	55.0
MSMA 6.6	2.25	3.0	0.7	0.0	5.3
MSMA 6.6 <sup>c</sup>	2.25				
Check		75.0	70.0	61.7	65.0
LSD (0.05)		17.7	11.4	17.3	20.3

<sup>a</sup> Percent of the plot area covered by green dallisgrass.

<sup>b</sup> All mesotrione treatment included non-ionic surfactant at 0.25 percent volume per volume and all target treatments included non-ionic surfactant at 1.0 percent volume per volume.

<sup>c</sup> Indicates second application on 17 June.

<sup>d</sup> Indicates third application on 1 July.