

2006 Crabgrass Control: Preemergence Herbicides Applied Prior to Emergence or Postemergence Herbicides Applied at 1-2 Tiller Stage
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Background/Objective: Determine crabgrass control by commercially available and experimental herbicides when applied prior to germination and/or at 1 to 2 tiller growth stage.

Site Information

Location:	William H. Daniel Research and Diagnostic Center
Soil Type:	Starks-Fincastle silt loam
Soil pH:	7.2
Turfgrass Species:	Kentucky bluegrass blend
Turf Condition:	fair
Turf Management: Mowing Height cm (in):	1.3 (1)
Fertilization:	1 lb N/M/YR
Irrigation:	To prevent moisture stress
Testing on Site Previous Year:	none
Target Pest:	Crabgrass (<i>Digitaria</i> sp.)
Growth Stage:	Preemergent and 1 to 2 tiller

Application Information

Application Date:	20 April	31 May	27 June
Application Time:	9:00 a.m.	9:00 a.m.	10:30 a.m.
Air Temperature C⁰(F⁰):	15.8 (60)	23.5 (74)	22.1 (72)
Relative Humidity(%):	61	84	57
Wind Speed m s⁻¹ (mph):	1.3 (3)	1.8 (5)	2.2 (4)
Soil Temperature(7.6 cm depth) C⁰(F⁰):	12.8 (55)	23.9 (75)	22.2 (72)
Soil Moisture:	moist	moist	dry
Spray Volume L ha⁻¹ (gal 1000 ft⁻²):	813 (2)		
Spray Pressure:	30psi		
Spray Nozzle:	8001.5		
Spray Equipment:	CO ₂ backpack and shaker bottle		
Irrigation After Application:	None		
Experimental Design:	Randomized complete block		
Replications:	3		
Plot Size m (ft):	1.5 X 1.5 (5 X 5)		

Report:

- This was a difficult test for crabgrass control with Kentucky bluegrass mowed at 1” and an unusually warm and wet July conducive to late crabgrass germination. This is reflected in the results where crabgrass exceeded 25% cover in our standard treatments like Dimension or Pendimethalin 60WDG (Table 1).
- The split applications of Pendulum provided the lowest amount of crabgrass cover by Aug and Sept. The unusually hot and humid weather in late July and early August caused a late flush of crabgrass germination and development and the residual concentration of the single April application was probably too low concentration to be effective.
- All three Pendulum treatments including sequentials provided statistically equivalent cover.
- Only Pendulum at 1.5+1.5 provided lower cover than the check by Sept.
- No phytotoxicity was observed at any time from any of the treatments.

Table 1. Percent^a crabgrass cover following application of herbicides prior to germination and/or at the 1 to 2 tiller stage of growth.

Treatment	Rate of application	28 June	2 Aug	15 Sept
	lb a.i./A			
Pendulum 3.8CS	3.0	3.3	50.0	24.7
Pendulum 3.8CS ^b	1.5	12.0	18.3	7.7
Pendulum 3.8CS	1.5			
Pendulum 3.8CS ^b	2.0	1.3	21.7	14.3
Pendulum 3.8CS	1.5			
Pendulum 3.8CS ^b	1.5	0.7	26.3	16.0
Pendulum 3.8CS	2.0			
Dimension Ultra 40WP	0.5	1.3	46.7	44.3
Pendimethalin 60WDG	3.0	13.7	35.0	25.0
Dimension 1EC	0.5	2.0	51.7	45.0
Barricade 4FL	0.5	1.3	15.0	9.3
Dimension Ultra 40WP ^c	0.5	1.7	3.7	3.0
Check		7.7	40.0	43.3
LSD (0.05)		NS	32.5	34.4

^a Percent of the plot area covered by crabgrass.

^b Indicates a split application with the first application 20 April and the second 31 May.

^c Application was made at the 1 to 2 tiller stage of crabgrass growth on 27 June.