

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 C^o(F^o):	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) C^o(F^o):	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).
- Though preemergence applications of Dimension performed poorly, the single application of Dimension Ultra 40WP applied at the 1-2 tiller stage was extremely effective in reducing crabgrass cover.
- 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			
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 ^b	0.5	1.7	3.7	3.0
Mesotrione 4SC ^{bc}	0.25	5.0	4.3	5.0
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 Application was made at the 1 to 2 tiller stage of crabgrass growth on 27 June.

^c Application included a NIS at the rate of 0.25 percent volume per volume.