

Preemergent Crabgrass Control with Commercially Available and Experimental Herbicides

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Background/Objective: Evaluate commercially available and experimental herbicides for preemergent control of crabgrass.

Site Information

Location:	William H. Daniel Research and Diagnostic Center
Turfgrass Species:	Kentucky bluegrass blend
Turf Condition:	good
Turf Management:	Mowing Height in: 2.5
	Fertilization: 1 lb N/M/yr
	Irrigation: To prevent moisture stress
Target Pest:	Crabgrass (<i>Digitaria sp</i>)
Growth Stage:	pre-germination

Application Information

Application Dates: in 2005	20 April	17 June
Spray Volume gal 1000 ft⁻²:	2	
Spray Equipment:	CO ₂ backpack	
Experimental Design:	Randomized complete block	
Replications:	3	
Plot Size ft:	5 X 5	

Results:

- This experiment was on a difficult site in that the Kentucky bluegrass was mowed at one inch and there is significant crabgrass seed in the soil. This was compounded by an unusually warm year in Indiana. This is indicated by the check plots having >90% crabgrass cover on the Aug and Sep rating dates.
- All treatments limited crabgrass cover when rated on 23 May and 20 June (Table 1).
- Though all treatments reduced crabgrass cover compared to the check plots by July 14, a number of the treatments were showing breakthrough.
- By Aug 16, only 16 of the 19 treatments reduced crabgrass populations and plots treated with Dimension 1EC at 0.5 lb ai/A and Dimension 0.15G at 180 or 240 lbs/A having the least crabgrass cover.
- By 8 Sep, 14 of the 19 treatments still reduced crabgrass cover compared to the check. Plots treated with Dimension 1EC at 0.5 lb ai/A, Dimension 0.15G at 240 lbs/A, Pendulum 3.8CS at 1.5 + 1.5 lbs ai/A provided most reduction in crabgrass cover.
- None of the treatments caused detectable herbicide damage at any time during the study (data not shown)

Table 1. Percent crabgrass cover in plots treated with preemergence herbicides in 2005.

Treatment	Rate of application	May 23	June 20	July 14	Aug 10	Sep 8
	lb ai/A	-----% crabgrass cover ^a -----				
Pendulum 3.3 EC	2.0	0	0.0	5.0	36.7	41.7
Pendulum 3.3 EC ^b	1.5					
Pendulum 3.3 EC	1.5	0	0.3	16.3	51.7	43.3
Pendulum 3.3 EC ^b	1.5					
Pendulum 3.8 CS	2.0	0	0.0	7.0	38.3	38.7
Pendulum 3.8 CS ^b	1.5					
Pendulum 3.8 CS	1.5	0	0.0	3.0	31.7	26.7
Pendulum 3.8 CS ^b	1.5					
Barricade 65WDG	0.25	0	1.7	14.3	55.0	65.0
Barricade 65WDG ^b	0.25					
Pendimethalin 60 WG	3.0	0	0.0	4.0	31.7	43.3
Dimension 0.15G	180 ^c	0	0.7	7.7	25.0	43.3
Dimension 0.15G	240 ^c	0	0.7	6.0	25.0	23.3
Stonewall 0.2G	250 ^c	0	1.0	11.7	43.3	51.7
Barricade 65WDG	0.38	0	0.0	12.3	58.3	63.3
Pendimethalin 60 WG	2.0	0	0.0	3.7	41.7	15.0
Check		0	7.7	43.3	96.7	92.3
Dimension Ultra 2EW	0.25	0	0.0	4.7	60.0	71.7
Dimension Ultra 2EW	0.5	0	0.0	7.7	36.7	30.0
Dimension 1EC	0.25	0	0.0	8.7	66.7	52.7
Dimension 1EC	0.5	0	0.0	1.0	21.7	18.3
LSD (0.05)		NS	2.0	13.8	34.6	39.5

^a Percent of the plot area covered by crabgrass.

^b Application timing was an eight week split with the first application on 20 April and second on 17 June.

^c Rate of application was pounds product/acre.