

## 2003 Crabgrass Control Trial

*Luke Dant and Nick E. Christians*

### Introduction

The purpose of this study was to evaluate the efficacy of several preemergence and postemergence herbicides for control of crabgrass. The study was conducted at the Iowa State University Research Facility on 'Park' Kentucky bluegrass. To ensure uniformity, the plot area was seeded with crabgrass in early April 2003.

### Material and Methods

The trial was arranged as a randomized complete block in which each treatment was replicated three times. Each plot measured five feet by five feet. Treatments 2 through 10 were screened for Syngenta, 11-15 for Dow Agrosciences, 16-22 for The Scotts Company and treatments 23 and 24 were products of The Andersons Company.

All liquid treatments were applied using a carbon dioxide backpack sprayer with #8002 flat fan TeeJet nozzles at 30-40 psi and diluted to a total spray volume of 3 gal per 1000 sq. ft. Granular materials were applied using 'shaker dispensers' in order to provide uniform application. The initial preemergence application took place on April 28, 2003. On June 5, the 1-3 leaf stage application was made. The 4-6 leaf stage application took place on July 11. Treatments 11 and 14 required that an application be made 6-8 weeks AIT (after initial treatment). This 6-8 week AIT reapplication took place on July 2, 2003.

Turf quality was taken on May 27, 2003, on a scale of 1-9, with 1 being the worst, 6 being acceptable and 9 being excellent. On August 7, 2003, the number of crabgrass plants in each plot were recorded. Percent crabgrass cover data was taken on August 28, 2003. This percentage is reported as the percentage of the plot covered by crabgrass (0% = No crabgrass present and 100% being entirely covered with crabgrass).

Data were analyzed using Statistical Analysis System and the Analysis of Variance procedure. Treatments effects were tested using the Least Significant Difference (LSD) test.

### Results

None of the products damaged the turf. The higher quality ratings on some plots were due to the presence of fertilizer in these products.

Mesotrione is an experimental product from Syngenta that provides some postemergence control of crabgrass in Kentucky bluegrass. In our study, this product was combined with the preemergence material, Barricade 4FL. The most effective application timings of these two materials was a postemergence application at the 1 to 3 leaf stage of crabgrass, followed by an additional application at the 4 to 6 leaf stage (treatments 8 and 9; Table 1). Treatment 10, which included an application of Barricade at the 1 to 3 leaf stage followed by Barricade and Mesotrione at the 4 to 6 leaf stage, was also highly effective.

Dimension Ultra 40 WP and Dimension 2 EW were most effective when applied before crabgrass germination at the 0.5 lb ai/A rate. The 0.25 lb ai/A rates, applied both before crabgrass germination and again 6 to 8 weeks later were not as effective.

Of the dry commercial products tested for the Scott's company, all provided significant reductions in crabgrass cover with the exception of Miracle-Gro Lawn Fertilizer and Bayer Advanced.

The Anderson's Dimension product was effective at controlling crabgrass at the 0.25 lb ai/A rate, but not at the 0.15 lb ai/A rate.

**Table 1.** Turf quality, the number of crabgrass plants per plot and percentage cover of crabgrass for the 2003 Iowa State University crabgrass control trial. Percent Crabgrass Cover is reported as the percentage of the plot covered by crabgrass (0% = No crabgrass present and 100% being entirely covered with crabgrass).

Trt.	Material	Application Timing	Rate <i>lb a.i./A</i>	Turf Quality	Number of Crabgrass Plants per Plot	Percent Crabgrass Cover
				May 27	Aug 7	Aug 28
1	Untreated Control	N/A	N/A	4.7	73	26
2	Barricade 4 FL*	Preemergence	0.65	5.3	23	7
3	Barricade 4 FL*	Preemergence	0.65	5.0	6	7
	Mesotrione		0.187			
4	Barricade 4 FL*	1-3 leaf stage	0.65	5.3	73	33
5	Barricade 4 FL*	1-3 leaf stage	0.65	5.3	45	11
	Mesotrione		0.0624			
6	Barricade 4 FL*	1-3 leaf stage	0.65	5.7	39	11
	Mesotrione		0.125			
7	Barricade 4 FL*	1-3 leaf stage	0.65	5.3	23	11
	Mesotrione		0.187			
8	Barricade 4 FL*	1-3 leaf stage	0.65	5.3	4	1
	Mesotrione		0.125			
9	Barricade 4 FL*	4-6 leaf stage	0.65	5.7	1	0
	Mesotrione		0.187			
10	Barricade 4 FL*	1-3 leaf stage	0.65	5.3	7	1
	Mesotrione		0.25			
11	Dimension Ultra 40 WP	Preemergence	0.25	5.7	15	12
	Dimension Ultra 40 WP	6-8 weeks AIT	0.25			
12	Dimension Ultra 40 WP	Preemergence	0.5	5.0	1	0
13	Barricade 65 WG	Preemergence	0.5	5.3	13	8
14	Dimension 2 EW	Preemergence	0.25	5.3	78	38
	Dimension 2 EW	6-8 weeks AIT	0.25			
15	Dimension 2 EW	Preemergence	0.5	5.3	33	4
16	Scotts Turf Builder with HALTS	Preemergence	1.5	7.0	20	6
17	Sta-Green Premium Crab-Ex	Preemergence	0.252	8.0	19	3
18	Vigoro Ultra Turf	Preemergence	0.252	8.0	19	3
19	Miracle-Gro Lawn Fertilizer	Preemergence	1.5	8.0	35	13
20	Bayer Advanced	Preemergence	0.39	7.3	60	27
21	Pree'n Green Lawns	Preemergence	3.03	6.3	9	8
22	S-10833	Preemergence	4.0	7.7	3	0
23	Anderson's Dimension	Preemergence	0.15	6.3	47	23
24	Anderson's Dimension	Preemergence	0.25	6.3	6	3
<b>LSD 0.05</b>				0.96	33.78	17.89

\* Denotes that X-77 non-ionic surfactant was used at a rate of 0.25 percent volume by volume