

Dimension & Barricade Granule Fall/Spring Timing Study.

Zac Reicher and Dan Weisenberger

Dept. of Agronomy

Purdue University

West Lafayette, IN

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Background/Objective: How does Dimension granule compare to Barricade granule for crabgrass control in fall and spring applications.

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:	good
Turf Management:	Mowing Height in: 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:	varying

Application Information

	2007	
Application Date:	15 Oct	19 Nov
Application Time:	1:30pm	2:30pm
Air Temperature F^o:	75	62
Relative Humidity(%):	49	71
Wind Speed mph:	4	6
Soil Temperature(3 in depth) F^o:	65	50
Soil Moisture:	moist	moist

	2008			
Application Date:	14 Mar	17 Apr	15 May	16 Jun
Application Time:	1:00pm	9:30am	8:30am	9:30am
Air Temperature F^o:	54	58	50	71
Relative Humidity(%):	49	53	76	76
Wind Speed mph:	2	3	3	2
Soil Temperature(3 in depth) F^o:	45	48	53	71
Soil Moisture:	wet	moist	moist	moist
Application Equipment:	Shaker bottle			
Irrigation After Application:	None			
Experimental Design:	Randomized complete block			
Replications:	3			
Plot Size ft:	5 X 5			

Results:

This area was intentionally mowed low and under-fertilized, which resulted in extremely high crabgrass populations. This pressure may be higher than what would be expected on the most difficult site for practitioners.

16 June ratings:

Almost all treatments reduced crabgrass cover to less than 10% except for the three 16 June applications of Dimension or Barricade (Table 1). We would not expect Barricade to have much effect on this application date, and it may have been too soon after Dimension application to see dramatic response. However, ensuing ratings indicate these three treatments had little or no effect on crabgrass.

17 July ratings:

Almost all treatments reduced crabgrass cover to 10% or less except for the three 16 June applications of Dimension or Barricade (Table 1). Additionally, Dimension at 0.38 lb ai applied 14 Mar resulted in 40% cover and poor control on this date. The 0.5 lb ai application on this date resulted in only 3% cover demonstrating a dramatic rate effect with this product. The October and November applications provided more than adequate control by this date.

15 August ratings:

All of the treatments providing 26% or less cover on this date were statistically equivalent (Table 1). Almost all Dimension treatments at 0.5 lb ai/A were included in this group except applications on 15 Oct and 16 June. Conversely, almost none of the Dimension treatments at 0.38 lb ai/A were included in this group except for the 15 May treatment. Though the 0.38 lb ai on a granule would normally be sufficient for season-long control, these data clearly indicate that 0.5 lbs ai is far more effective and may be a better rate to recommend.

Summary:

- Dimension at 0.5 lb ai/A provided the lowest crabgrass cover in this year's study and is effective when applied in the fall, especially when a 0.25 lb ai sequential application is made in May.
- Dimension at 0.38 lb ai/A provided overall inadequate control.
- June applications of Dimension granular were ineffective in this year's study almost regardless of application rate.

Table 1. Percent cover and control of crabgrass after fall or spring applications of Dimension and Barricade.

Treatment	Rate of application	Application timing	27 Jun	17 Jul	15 Aug	27 Jun	17 Jul	15 Aug
	a.i./A		-----cover ^a -----			-----control ^b -----		
Dimension on 19-0-6 0.103G	0.5	15 Oct	0	3	30	100	96	68
Barricade on 19-0-5 0.21G	0.65	15 Oct	0	8	47	100	89	51
Dimension on 19-0-6 0.103G	0.5	19 Nov	0	7	18	98	90	81
Barricade on 19-0-5 0.21G	0.65	19 Nov	1	8	40	95	89	58
Dimension on 19-0-6 0.103G	0.5	19 Nov	0	0	0	100	100	100
Dimension on 19-0-6 0.103G	0.25	15 May						
Barricade on 19-0-5 0.21G	0.65	19 Nov	1	11	30	97	85	68
Barricade on 19-0-5 0.21G	0.25	15 May						
Dimension on 19-0-6 0.103G	0.38	14 Mar	7	40	55	69	45	42
Dimension on 19-0-6 0.103G	0.5	14 Mar	0	3	13	100	95	86
Barricade on 19-0-5 0.21G	0.65	14 Mar	0	6	35	98	92	63
Dimension on 19-0-6 0.103G	0.38	17 Apr	0	10	27	98	86	72
Dimension on 19-0-6 0.103G	0.5	17 Apr	0	6	17	100	96	82
Barricade on 19-0-5 0.21G	0.65	17 Apr	0	5	17	100	93	82
Dimension on 19-0-6 0.103G	0.38	15 May	0	1	8	100	98	92
Dimension on 19-0-6 0.103G	0.5	15 May	0	0	0	100	100	100
Barricade on 19-0-5 0.21G	0.65	15 May	1	6	27	95	92	72
Dimension on 19-0-6 0.103G	0.38	16 Jun	10	42	78	54	43	18
Dimension on 19-0-6 0.103G	0.5	16 Jun	13	60	83	38	18	12
Barricade on 19-0-5 0.21G	0.65	16 Jun	18	85	95	15	0	0
Check			22	73	95	0	0	0
LSD (0.05)			6	22	26			

^a Percent of the plot area covered by crabgrass.

^b Percent control is presented for information only and was calculated as [(check plot- treatment plot) / check plot]* 100. Negative control values were set to zero and thus mean separation cannot be used.