

## Dimension and Barricade Granular Fall/Spring Timing Study

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**Background/Objective:** How does Dimension granular compare to Barricade granular for crabgrass control in fall and spring applications?

### Site Information

<b>Location:</b>	William H. Daniel Research and Diagnostic Center
<b>Soil Type:</b>	Starks-Fincastle silt loam
<b>Soil pH:</b>	7.2
<b>Turfgrass Species:</b>	Kentucky bluegrass blend
<b>Turf Condition:</b>	fair
<b>Turf Management:</b>	<b>Mowing Height cm (in):</b> 2.5 (1)
	<b>Fertilization:</b> 1 lb N/M/YR
	<b>Irrigation:</b> To prevent moisture stress
<b>Testing on Site Previous Year:</b>	none
<b>Target Pest:</b>	Crabgrass ( <i>Digitaria</i> sp.)
<b>Growth Stage:</b>	pregermination

### Application Information

<b>Application Date:</b>	Oct 16, 06	Nov 17, 06	March 21, 07
<b>Application Time:</b>	10:30 am	2:00 pm	12:00 pm
<b>Air Temperature C<sup>o</sup>(F<sup>o</sup>):</b>	12.3 (54)	3.5 (38)	19.5 (67)
<b>Relative Humidity(%):</b>	48	62	68
<b>Wind Speed m s<sup>-1</sup> (mph):</b>	1.8 (4)	0.4 (1)	1.8 (4)
<b>Soil Temperature(7.6 cm depth) C<sup>o</sup>(F<sup>o</sup>):</b>	9.4 (49)	4.4 (40)	7.8 (46)
<b>Soil Moisture:</b>	moist	wet	wet
<b>Application Date:</b>	April 17, 07	May 15, 07	June 11, 07
<b>Application Time:</b>	9:00 am	10:00 am	10:30 am
<b>Air Temperature C<sup>o</sup>(F<sup>o</sup>):</b>	10.2 (50)	23.7 (75)	26.4 (80)
<b>Relative Humidity(%):</b>	43	43	50
<b>Wind Speed m s<sup>-1</sup> (mph):</b>	calm	3.1 (7)	0.4 (1)
<b>Soil Temperature(7.6 cm depth) C<sup>o</sup>(F<sup>o</sup>):</b>	6.5 (44)	17.8 (64)	21.1 (70)
<b>Soil Moisture:</b>	moist	moist	dry
<b>Spray Volume L ha<sup>-1</sup> (gal 1000 ft<sup>-2</sup>):</b>	NA		
<b>Spray Pressure:</b>	NA		
<b>Spray Nozzle:</b>	NA		
<b>Spray Equipment:</b>	shaker bottle		
<b>Irrigation After Application:</b>	None		
<b>Experimental Design:</b>	Randomized complete block		
<b>Replications:</b>	3		
<b>Plot Size m (ft):</b>	1.5 X 1.5 (5 X 5)		

**Results:**

- Natural crabgrass pressure on this area was extreme and was enhanced by this summer's extremely hot weather in Indiana.
- By 12 July, most of the treatments maintained crabgrass cover at 10% or less (Table 1)
- Single applications of Dimension applied on 16 Oct or 17 Nov afforded excellent control by 12 July, much better than applications of Barricade made on the same dates.
- Dimension at 0.5 lb ai/A on 17 Nov plus 0.25 lb ai/A on 15 May provided the lowest crabgrass cover by 30 Aug. Dimension applied at 0.5 lbs ai/A on 21 Mar or 17 Apr also provided 15% or less cover by 30 Aug, but the crabgrass cover from these two treatments was statistically equivalent to that from a number of other treatments.
- As expected, spring applications of these fertilizer-herbicide combinations improved color as rated 11 June (Table 2).
- This study will be repeated in 2007-2008.

**Table 1.** Crabgrass cover<sup>a</sup> and control<sup>b</sup> after applications of Dimension or Barricade on fertilizer carriers at various times in fall and spring.

Treatment	Rate of application	Application timing	11 June	12 July	30 Aug	11 June	12 July	30 Aug
	lb a.i./A	Timing						
Dimension on 19-0-6 0.103G	0.5	Oct 16	0	4	45	100	95	54
Barricade on 19-0-5 0.21G	0.65	Oct 16	3	27	87	77	65	11
Dimension on 19-0-6 0.103G	0.5	Nov 17	1	3	30	92	96	69
Barricade on 19-0-5 0.21G	0.65	Nov 17	6	30	87	54	62	11
Dimension on 19-0-6 0.103G	0.5	Nov 17	0	0	3	100	100	97
Dimension on 19-0-6 0.103G	0.25	May 15						
Barricade on 19-0-5 0.21G	0.65	Nov 17	1	3	30	92	96	69
Barricade on 19-0-5 0.21G	0.25	May 15						
Dimension on 19-0-6 0.103G	0.38	March 21	0	2	30	100	97	69
Dimension on 19-0-6 0.103G	0.5	March 21	0	3	15	100	96	85
Barricade on 19-0-5 0.21G	0.65	March 21	2	11	50	85	86	49
Dimension on 19-0-6 0.103G	0.38	April 17	0	3	25	100	96	74
Dimension on 19-0-6 0.103G	0.5	April 17	0	3	11	100	96	89
Barricade on 19-0-5 0.21G	0.65	April 17	1	6	25	92	92	74
Dimension on 19-0-6 0.103G	0.38	May 15	3	5	38	77	94	61
Dimension on 19-0-6 0.103G	0.5	May 15	1	3	25	92	96	74
Barricade on 19-0-5 0.21G	0.65	May 15	5	18	85	62	77	13
Dimension on 19-0-6 0.103G	0.38	June 11	-	30	92	-	62	6
Dimension on 19-0-6 0.103G	0.5	June 11	-	18	88	-	77	10
Barricade on 19-0-5 0.21G	0.65	June 11	-	85	96	-	0	2
Check			13	78	98	0	0	0
LSD (0.05)			4	15	16			

<sup>a</sup> Percent of the plot area covered by crabgrass.

<sup>b</sup> 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.

**Table 2.** Color<sup>a</sup> after applications of Dimension or Barricade on fertilizer carrier at various times in fall and spring.

Treatment	Rate of application	Application timing	11 June
	lb a.i./A	Timing	
Dimension on 19-0-6 0.103G	0.5	Oct 16	6
Barricade on 19-0-5 0.21G	0.65	Oct 16	6
Dimension on 19-0-6 0.103G	0.5	Nov 17	5
Barricade on 19-0-5 0.21G	0.65	Nov 17	6
Dimension on 19-0-6 0.103G	0.5	Nov 17	8
Dimension on 19-0-6 0.103G	0.25	May 15	
Barricade on 19-0-5 0.21G	0.65	Nov 17	6
Barricade on 19-0-5 0.21G	0.25	May 15	
Dimension on 19-0-6 0.103G	0.38	March 21	6
Dimension on 19-0-6 0.103G	0.5	March 21	7
Barricade on 19-0-5 0.21G	0.65	March 21	6
Dimension on 19-0-6 0.103G	0.38	April 17	6
Dimension on 19-0-6 0.103G	0.5	April 17	6
Barricade on 19-0-5 0.21G	0.65	April 17	5
Dimension on 19-0-6 0.103G	0.38	May 15	7
Dimension on 19-0-6 0.103G	0.5	May 15	8
Barricade on 19-0-5 0.21G	0.65	May 15	7
Dimension on 19-0-6 0.103G	0.38	June 11	-
Dimension on 19-0-6 0.103G	0.5	June 11	-
Barricade on 19-0-5 0.21G	0.65	June 11	-
Check			5
LSD (0.05)			1

<sup>a</sup> Color was rated on a scale of 1 to 9 with 9 = ideal green.