

Crabgrass control with various rates and formulations of of Dimension
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 Cooperator: Dow

Application Description	A	B
Application Date:	4/26/2013	6/25/2013
Time of Day:	9am	9am
Application Method:	spread	spread
Application Timing:	pre	post
Application Placement:	broad	broad
Air Temperature, Unit:	65 F	74
% Relative Humidity:	62	80
Wind Velocity, Unit:	3.6 mph	5.4 mph
Soil Temperature, Unit:	51 F	75 F
Soil Moisture:	NORMAL	NORMAL
Site and Design		
Plot Width, Unit:	5	FT
Plot Length, Unit:	5	FT
Plot Area, Unit:	25	FT ²
Replications:	4	
Study Design:Randomized Complete Block (RCB)		

This study was done at the John Seaton Anderson Research Center at Mead, NE on a Kentucky bluegrass stand with high populations of large crabgrass. The stand was mowed at 1.5 inches to encourage crabgrass growth and irrigated to prevent drought stress. Plots were sprayed with a CO2 backpack sprayer using a 3 nozzle boom with 8002vs tips at 30 PSI or spread with a shaker can for granular applications. Initial application took place on 26 April followed by 25 June application made at the 3-5 leaf stage of crabgrass. Following applications plots were irrigated with 0.25 inches within 24 hours.

Results:

All applications of Dimension resulted in less crabgrass cover than the untreated (15-30%) during the final two ratings except treatment 9 (Dimension on 20-0-4 at 0.18 lb ai/A) (Table 1). Applications of Dimension made ≥ 0.38 lb/ai resulted in <4 % cover of crabgrass throughout this study (Table 1), and thus the two highest rates (0.38, 0.25 + 0.25, and 0.5) provided the highest crabgrass control (Table 2). No damage/phytotoxicity was observed throughout this study to Kentucky bluegrass.

Very few differences in crabgrass cover or calculated crabgrass control surfaced between the formulations at each rate. All four products provided excellent sason-long control when applied at rates >0.18 lbs ai/A. However, this was a relatively mild summer in Nebraska which resulted in moderate crabgrass pressure even though this study was mowed at 1.5 inches. This study will continue for at least one more year.

Conclusion: Both fertilizers formulated with Dimension prove to be a viable option for crabgrass control working as good or better than Dimension 2 EW or 40 WSP.

Table 1. Effect of various formulations and rates of Dimension on percent cover of large crabgrass

Description				Large Crabgrass	Large Crabgrass	Large Crabgrass
Rating Date				7/12/2013	7/24/2013	8/19/2013
Rating Type				Cover	Cover	Cover
Rating Unit				%	%	%
Days After First/Last Applic.				77 17	89 29	115 55
Trt	Treatment	Rate	Appl			
No.	Name	Rate	Code Description	1	2	3
14	Dimension 2 EW	0.18 lb ai/a	A April	1 a	3.3 cde	6.8 cde
15	Dimension 2 EW	0.25 lb ai/a	A April	1 a	5 b-e	8 cde
16	Dimension 2 EW	0.38 lb ai/a	A April	1 a	1.8 e	3.3 cde
17	Dimension 2 EW	0.25 lb ai/a	AB April +6-8wk	1 a	1.5 e	1.8 e
21	Dimension 2 EW	0.5 lb ai/a	A April	1 a	1 e	1.5 e
1	DIMENSION ON 15-3-5 FERTILIZER	0.18 lb ai/a	A April	2.3 a	7.8 bcd	11.5 bcd
2	DIMENSION ON 15-3-5 FERTILIZER	0.25 lb ai/a	A April	1.8 a	3.8 cde	6.8 cde
3	DIMENSION ON 15-3-5 FERTILIZER	0.38 lb ai/a	A April	1 a	1.5 e	2.3 e
4	DIMENSION ON 15-3-5 FERTILIZER	0.25 lb ai/a	AB April +6-8wk	1 a	1.3 e	1.5 e
18	DIMENSION ON 15-3-5 FERTILIZER	0.5 lb ai/a	A April	1 a	1 e	1 e
9	DIMENSION ON 20-0-4 FERTILIZER	0.18 lb ai/a	A April	2.5 a	10.3 ab	19.5 b
10	DIMENSION ON 20-0-4 FERTILIZER	0.25 lb ai/a	A April	1 a	2.3 e	4.3 cde
11	DIMENSION ON 20-0-4 FERTILIZER	0.38 lb ai/a	A April	1 a	1.3 e	1 e
12	DIMENSION ON 20-0-4 FERTILIZER	0.25 lb ai/a	AB April +6-8wk	1 a	2.5 de	3 de
20	DIMENSION ON 20-0-4 FERTILIZER	0.5 lb ai/a	A April	1 a	1 e	1.3 e
5	Dimension WSP	0.18 lb ai/a	A April	3.5 a	8.3 bc	12 bc
6	Dimension WSP	0.25 lb ai/a	A April	1 a	1.8 e	3 de
7	Dimension WSP	0.38 lb ai/a	A April	1 a	1 e	1.5 e
8	Dimension WSP	0.25 lb ai/a	AB April +6-8wk	1 a	1 e	1.3 e
19	Dimension WSP	0.5 lb ai/a	A April	1 a	1 e	1.3 e
13	Untreated Check		April	4.3 a	15 a	30 a
LSD (P=.05)				2.05	5.48	8.91
Standard Deviation				1.45	3.87	6.3
Treatment Prob(F)				0.0757	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Table 2. Effect of various formulations and rates of Dimension on percent control of large crabgrass

Description				Large Crabgrass	Large Crabgrass	Large Crabgrass
Rating Date				7/12/2013	7/24/2013	8/19/2013
Rating Type				CONTRO	CONTRO	CONTRO
Rating Unit				%UNCK	%UNCK	%UNCK
Days After First/Last Applic.				77 17	89 29	115 55
Trt	Eval Interval	Rate	Appl			
No.	Name	Rate	Code Description	4	5	6
14	2 EW	0.18 lb ai/a	A April	54 a	71 a-d	72 a-d
15	2 EW	0.25 lb ai/a	A April	54 a	52 cde	69 bcd
16	2 EW	0.38 lb ai/a	A April	54 a	89 ab	89 abc
17	2 EW	0.25 lb ai/a	AB April +6-8wk	54 a	88 ab	94 ab
21	2 EW	0.5 lb ai/a	A April	54 a	92 a	95 a
1	DIMENSION ON 15-3-5 FERTILIZER	0.18 lb ai/a	A April	39 ab	43 de	55 de
2	DIMENSION ON 15-3-5 FERTILIZER	0.25 lb ai/a	A April	54 a	68 a-d	77 a-d
3	DIMENSION ON 15-3-5 FERTILIZER	0.38 lb ai/a	A April	54 a	89 ab	93 ab
4	DIMENSION ON 15-3-5 FERTILIZER	0.25 lb ai/a	AB April +6-8wk	54 a	91 a	95 a
18	DIMENSION ON 15-3-5 FERTILIZER	0.5 lb ai/a	A April	54 a	92 a	96 a
9	DIMENSION ON 20-0-4 FERTILIZER	0.18 lb ai/a	A April	30 b	30 e	35 e
10	DIMENSION ON 20-0-4 FERTILIZER	0.25 lb ai/a	A April	54 a	86 ab	87 abc
11	DIMENSION ON 20-0-4 FERTILIZER	0.38 lb ai/a	A April	54 a	90 a	96 a
12	DIMENSION ON 20-0-4 FERTILIZER	0.25 lb ai/a	AB April +6-8wk	54 a	81 abc	90 abc
20	DIMENSION ON 20-0-4 FERTILIZER	0.5 lb ai/a	A April	54 a	92 a	96 a
5	Dimension WSP	0.18 lb ai/a	A April	41 ab	61 bcd	67 cd
6	Dimension WSP	0.25 lb ai/a	A April	54 a	86 ab	89 abc
7	Dimension WSP	0.38 lb ai/a	A April	54 a	92 a	95 ab
8	Dimension WSP	0.25 lb ai/a	AB April +6-8wk	54 a	92 a	95 ab
19	Dimension WSP	0.5 lb ai/a	A April	54 a	92 a	96 a
13	Untreated Check		April	0 c	0 f	0 f
LSD (P=.05)				16.9	28.5	25.9
Standard Deviation				11.9	20.1	18.3
Treatment Prob(F)				0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Rating Type
 CONTRO = control / burndown or knockdown
 Rating Unit
 % = percent
 %UNCK = percent of untreated check