

Seeding into Preemergence Herbicides with the Triwave Seeder
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This study was conducted at 2 locations, John Seaton Anderson Turf Center outside Mead, NE, and Lochland Country Club Hastings, NE.

Treatments (Barricade 4FL, Dimension 2EW, Tenacity, or Velocity) were applied 16 August 4 weeks before seeding (4 WBS), 30 August, 2 weeks before seeding (2 WBS), and 13 September, At Seeding (AS). At time of the 2 WBS and AS applications roundup was applied to kill off existing vegetation. Perennial ryegrass (PRYE) at 5lb/1000ft² and Kentucky bluegrass (KBG) at 3lb/1000ft² were seeded at both sites, and tall fescue (TF) at 8 lbs/1000ft² and creeping bentgrass (CBG) at 1lb/1000ft² were seeded at the Mead location. Plots were seeded with the Turfco Triwave seeder following the AS application. Starter fertilizer was applied at 1lb P2O5 using 11-52-0 fertilizer AS and on 8 October.

Lochland

PRYE: PRYE resulted in no differences between treatments on the 9 October rating although by the 26 November rating Dimension and Barricade applied AS reduced PRYE cover to \leq 65% cover compared to 90 % cover in the untreated plots (Table 1).

KBG: Treatments of Dimension or Barricade applied 2WBS and AS reduced KBG cover compared to the untreated plots on the 9 October rating. On the 26 November rating all Dimension and Barricade treatments applied 2WBS and AS except Barricade Half Rate 2 WBS & AS resulted in reduced KBG cover (10-33%) compared to the control (57%) (Table 1).

Mead

PRYE: On the 10 October rating Barricade at a full rate 2 WBS and Dimension or Barricade applied AS reduced PRYE cover compared to the untreated plots (Table 2). By the 18 November rating all Dimension or Barricade AS apps resulted in less PRYE cover (0-10%) than the untreated (45%) with Barricade applied 2WBS also resulting in lower PRYE cover than the untreated plots (Table 2).

KBG: Similar to PRYE all AS apps of Dimension or Barricade resulted in reduced cover of KBG compared to the untreated plots on both rating dates. Additionally, Barricade applied 2WBS also reduced KBG cover compared to the untreated on the 18 November rating.

TF: On the 10 October rating Barricade at a full rate 2 WBS and Dimension or Barricade applied AS reduced TF cover compared to the untreated plots. Similar to PRYE and KBG all AS apps of Dimension or Barricade resulted in reduced cover of TF compared to the untreated plots on 18 November rating. Additionally, Barricade applied 2WBS also reduced TF cover (75-83%) compared to the untreated plots (92%) (Table 2).

CBG: On both rating dates applications of Barricade or Dimension made 2 WBS or AS reduced CBG cover (1-30%) compared to the untreated plots (63-93%) (Table 3).

Conclusions: When seeding larger seeded species of grass such as PRYE or TF, our results indicate that when using the Triwave overseeder, applications of preemergence herbicides can be made prior to seeding with minimal negative effects as long as they are made at least 2 weeks before seeding. When seeding the smaller seeded species of KBG or CBG, our results indicate that when using the Triwave overseeder applications of preemergence herbicides can be made prior to seeding with minimal negative effects as long as they are made at least 4 weeks before seeding. Additionally, treatments of Tenacity on PRYE, KBG, or TF, and Velocity on CBG are safe to seedings when applied at any time during our study

Table 1. Percent cover of PRYE or KBG seeded into herbicides applied 4WBS, 2WBS or AS at Lochland Country Club

Crop Name			PRYE	PRYE	KBG	KBG	
Description			Lochland	Lochland	Lochland	Lochland	
Rating Date			10/9/2013	11/26/2013	10/9/2013	11/26/2013	
Rating Type			cover	cover	cover	cover	
Rating Unit			%	%	%	%	
Trt Treatment	Rate	Appl					
No Name	Rate	Unit	Code	1	3	2	4
1 Untreated Check				63 a	90 a	35 ab	57 abc
2 Dimension Full Rate 4 WBS	0.5 lb ai/a	A		55 a	92 a	30 a-d	50 a-d
3 Dimension Half Rate 4 WBS	0.25 lb ai/a	A		58 a	88 a	30 a-d	47 a-d
4 Barricade Full Rate 4 WBS	0.75 lb ai/a	A		53 a	83 a	25 a-e	40 cd
5 Barricade Half Rate 4 WBS	0.38 lb ai/a	A		58 a	87 a	30 a-d	50 a-d
6 Dimension Full Rate 2 WBS	0.5 lb ai/a	B		53 a	88 a	17 d-g	33 def
7 Dimension Half Rate 2 WBS	0.25 lb ai/a	B		60 a	92 a	17 d-g	30 d-g
8 Barricade Full Rate 2 WBS	0.75 lb ai/a	B		58 a	85 a	20 b-g	33 def
9 Barricade Half Rate 2 WBS	0.38 lb ai/a	B		55 a	85 a	27 a-d	40 cd
10 Dimension Full Rate AS	0.5 lb ai/a	C		43 a	65 bc	9 efg	14 efg
11 Dimension Half Rate AS	0.25 lb ai/a	C		48 a	82 ab	4 g	12 fg
12 Barricade Full Rate AS	0.75 lb ai/a	C		35 a	62 c	7 fg	10 g
13 Barricade Half Rate AS	0.38 lb ai/a	C		53 a	80 ab	17 d-g	35 cde
14 Tenacity Full Rate 4 WBS	4 fl oz/a	A		57 a	77 abc	37 a	67 a
15 Tenacity Half Rate 4 WBS	8 fl oz/a	A		53 a	83 a	33 abc	63 ab
16 Tenacity Full Rate 2 WBS	4 fl oz/a	B		62 a	92 a	18 c-g	43 bcd
17 Tenacity Half Rate 2 WBS	8 fl oz/a	B		58 a	92 a	23 a-e	50 a-d
18 Tenacity Full rate AS	4 fl oz/a	C		58 a	83 a	18 c-g	42 bcd
19 Tenacity Half rate AS	8 fl oz/a	C		62 a	92 a	22 a-f	47 a-d
LSD (P=.05)				15.8	17.64	16.18	22.19
Standard Deviation				9.57	10.69	9.81	13.45
Treatment Prob(F)				0.1415	0.0478	0.0049	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. Percent cover of PRYE, KBG, or TF seeded into herbicides applied 4WBS, 2WBS or AS at Mead

Crop Name			PRYE	PRYE	KBG	KBG	TF	TF	
Description			Mead	Mead	Mead	Mead	Mead	Mead	
Rating Date			10/10/2013	11/18/2013	10/10/2013	11/18/2013	10/10/2013	11/18/2013	
Rating Type			cover	cover	cover	cover	cover	cover	
Rating Unit			%	%	%	%	%	%	
Trt Treatment	Rate	Appl							
No Name	Rate	Unit	Code	5	9	6	10	7	11
1 Untreated Check				88 a	45 bc	33 bcd	98 a	72 ab	92 a
2 Dimension Full Rate 4 WBS	0.5 lb ai/a	A		90 a	63 a	48 a	98 a	75 a	92 a
3 Dimension Half Rate 4 WBS	0.25 lb ai/a	A		90 a	62 ab	50 a	98 a	73 a	90 ab
4 Barricade Full Rate 4 WBS	0.75 lb ai/a	A		90 a	47 ab	40 ab	98 a	75 a	90 ab
5 Barricade Half Rate 4 WBS	0.38 lb ai/a	A		88 a	55 ab	48 a	98 a	73 a	92 a
6 Dimension Full Rate 2 WBS	0.5 lb ai/a	B		90 a	28 cd	20 de	98 a	70 ab	88 ab
7 Dimension Half Rate 2 WBS	0.25 lb ai/a	B		88 a	50 ab	38 abc	97 ab	75 a	93 a
8 Barricade Full Rate 2 WBS	0.75 lb ai/a	B		70 c	22 de	25 cd	85 c	53 c	75 c
9 Barricade Half Rate 2 WBS	0.38 lb ai/a	B		80 abc	27 de	22 de	88 bc	63 b	83 b
10 Dimension Full Rate AS	0.5 lb ai/a	C		4 e	0 f	1 f	7 f	4 e	7 f
11 Dimension Half Rate AS	0.25 lb ai/a	C		35 d	2 f	1 f	70 d	32 d	60 d
12 Barricade Full Rate AS	0.75 lb ai/a	C		25 d	1 f	1 f	32 e	12 e	15 e
13 Barricade Half Rate AS	0.38 lb ai/a	C		77 bc	10 ef	10 ef	85 c	47 c	73 c
14 Tenacity Full Rate 4 WBS	4 fl oz/a	A		90 a	60 ab	48 a	98 a	75 a	93 a
15 Tenacity Half Rate 4 WBS	8 fl oz/a	A		90 a	62 ab	48 a	98 a	73 a	93 a
16 Tenacity Full Rate 2 WBS	4 fl oz/a	B		90 a	63 a	50 a	98 a	75 a	93 a
17 Tenacity Half Rate 2 WBS	8 fl oz/a	B		87 ab	52 ab	42 ab	95 ab	72 ab	90 ab
18 Tenacity Full rate AS	4 fl oz/a	C		90 a	60 ab	48 a	98 a	75 a	93 a
19 Tenacity Half rate AS	8 fl oz/a	C		90 a	63 a	50 a	98 a	75 a	92 a
LSD (P=.05)				10.45	17.45	13.88	9.12	9.14	7.74
Standard Deviation				6.33	10.57	8.41	5.52	5.54	4.69
Treatment Prob(F)				0.0001	0.0001	0.0001	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.

Crop Name			CBG	CBG
Description			Mead	Mead
Rating Date			10/10/2013	11/18/2013
Rating Type			cover	cover
Rating Unit			%	%
Trt Treatment	Rate	Appl		
No Name	Rate	Unit	Code	
			8	12
1 Untreated Check			63 ab	93 a
2 Dimension Full Rate 4 WBS	0.5 lb ai/a	A	38 abc	70 a
3 Dimension Half Rate 4 WBS	0.25 lb ai/a	A	45 ab	67 ab
4 Barricade Full Rate 4 WBS	0.75 lb ai/a	A	42 abc	62 ab
5 Barricade Half Rate 4 WBS	0.38 lb ai/a	A	43 abc	70 a
6 Dimension Full Rate 2 WBS	0.5 lb ai/a	B	1 d	0 c
7 Dimension Half Rate 2 WBS	0.25 lb ai/a	B	14 cd	30 bc
8 Barricade Full Rate 2 WBS	0.75 lb ai/a	B	1 d	3 c
9 Barricade Half Rate 2 WBS	0.38 lb ai/a	B	4 d	17 c
10 Dimension Full Rate AS	0.5 lb ai/a	C	1 d	0 c
11 Dimension Half Rate AS	0.25 lb ai/a	C	1 d	0 c
12 Barricade Full Rate AS	0.75 lb ai/a	C	1 d	0 c
13 Barricade Half Rate AS	0.38 lb ai/a	C	1 d	0 c
14 Velocity Full Rate 4 WBS	6 oz/a	A	38 abc	58 ab
15 Velocity Half Rate 4 WBS	3 oz/a	A	68 a	93 a
16 Velocity Full Rate 2 WBS	6 oz/a	B	67 ab	92 a
17 Velocity Half Rate 2 WBS	3 oz/a	B	63 ab	92 a
18 Velocity Full rate AS	6 oz/a	C	37 bc	57 ab
19 Velocity Half rate AS	3 oz/a	C	37 bc	62 ab
LSD (P=.05)			30.13	39.18
Standard Deviation			18.26	23.75
Treatment Prob(F)			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.