Smooth Bromegrass control from Tenacity

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Site and Design						
Plot Width, Unit:	5	FT				
Plot Length, Unit:	5	FT				
Plot Area, Unit:	25	FT2				
Replications:	4					
Randomized Complete Block (R						
Application Description				**2nd application timing New site**		
	A	B	C	D	E	F
Application Date:	5/30/2013	6/11/2013	6/20/201	7/12/2013	7/22/2013	8/2/2013
Application Metho	Spray	Spray	Spray	Spray	Spray	Spray
Application Timing:	post	post	post	post	post	post
Application Placem	Broad	Broad	Broad	Broad	Broad	Broad
Air Temperature, U	71 F	75 F	83	80 F	85 F	75 F
% Relative Humidit	84	75	69	67	74	79
Soil Temperature, L	66 F	70 F	77 F	81 F	83 F	76

This study was conducted at the John Seaton Anderson Turf Center outside Mead, NE in 2013. Treatments were initiated on 30 May with a second study on different plots starting on 12 July. Treatments were applied to a mixed stand of smooth bromegrass and Kentucky bluegrass with no maintenance other than mowing to 3.5" biweekly or as needed throughout the season. At start of each, study the stand averaged 30% bromegrass in the May study and 20 % in the July Study. Cover ratings of bromegrass were taken on a 0-100% range and control was calculated as % control compared to the untreated check.

May Study: Both Tenacity treatments reduced bromegrass cover (2-8%) compared to the untreated plots (23-33%) throughout this study (Table 1). Both treatments also resulted in similar control (69-91%) compared to the untreated plots throughout this study.

July Study: Applications starting in July proved to be less effective than treatments applied earlier in the year with Tenacity at 8 oz. applied twice being the only treatment to result in lower bromegrass cover than the untreated check on the 2 September rating (Table 3). Both Tenacity treatments resulted in bromegrass control on the 2 September rating resulting in (38-60%), although by the 2 October rating Tenacity at 8 oz. applied twice was the only treatment with better control over the untreated plots (Table 4).

Conclusions: Although this is a 1 year study, it appears that Tenacity applied at both rates and intervals will aid in controlling smooth bromegrass if applications start earlier (June-1) rather than later (July-15). This study will be repeated throughout the year in 2014 to further explore smooth bromegrass control in desired turf.

Table 1. Percent Cover of smooth brome following various applications of Tenacity starting on May 30

Description					Bromegrass	Bromegrass	Bromegrass	Bromegrass	Bromegrass
Rating Date					5/30/2013	6/19/2013	7/3/2013	8/2/2013	9/2/2013
Rating Type					ground	ground	ground	ground	ground
Rating Unit					%	%	%	%	%
Tr Treatment		Rate	Appl	Appl					
No Name	Rate	Unit	Code	Description	1	2	3	4	5
1 Untreated Check					28 b	33 a	29 a	23 a	24 a
2 Tenacity	8	fl oz/a	AB	Initial+10dait	36 a	5 b	3 b	2 b	4 b
NIS Induce	0.25	% v/v	AB	Initial+10dait					
3 Tenacity	5	fl oz/a	ABC	Initial+10dait+20dait	34 a	6 b	3 b	5 b	8 b
NIS Induce	0.25	% v/v	ABC	Initial+10dait+20dait					
LSD (P=.05)					5	3	3	8	14
Standard Deviation					3	2	2	5	8
Treatment Prob(F)					0.0156	0.0001	0.0001	0.0016	0.0264

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 Control of smooth brome following various applications of Tenacity starting on May 30

Description					Bromegrass	Bromegrass	Bromegrass	Bromegrass
Rating Date					6/19/2013	7/3/2013	8/2/2013	9/2/2013
Rating Type					CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit					%UNCK	%UNCK	%UNCK	%UNCK
Tr Treatment		Rate	Appl	Appl				
No Name	Rate	Unit	Code	Description	6	7	8	9
1 Untreated Check					0 b	0 b	0 b	0 b
2 Tenacity	8	fl oz/a	AB	Initial+10dait	86 a	90 a	91 a	85 a
NIS Induce	0.25	% v/v	AB	Initial+10dait				
3 Tenacity	5	fl oz/a	ABC	Initial+10dait+20dait	81 a	89 a	78 a	69 a
NIS Induce	0.25	% v/v	ABC	Initial+10dait+20dait				
LSD (P=.05)					9	11	34	48
Standard Deviation					5	6	19	28
Treatment Prob(F)					0.0001	0.0001	0.0012	0.0107

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 3. Percent Cover of smooth brome following various applications of Tena 2nd application timing on new site

Description					Bromegrass	Bromegrass	Bromegrass	Bromegrass	Bromegrass
Rating Date					7/12/2013	7/22/2013	8/2/2013	9/2/2013	10/2/2013
Rating Type					ground	ground	ground	ground	ground
Rating Unit					%	%	%	%	%
Tr Treatment		Rate	Appl	Appl					
N Name	Rate	Unit	Code	Description	10	11	12	13	14
1 Untreated Check					18 a	20 a	20 a	19 a	20 a
2 Tenacity	8	fl oz/a	AB	Initial+10dait	21 a	16 a	14 a	8 b	14 a
NIS Induce	0.25	% v/v	AB	Initial+10dait					
3 Tenacity	5	fl oz/a	ABC	Initial+10dait+20dait	23 a	18 a	17 a	14 ab	18 a
NIS Induce	0.25	% v/v	ABC	Initial+10dait+20dait					
LSD (P=.05)					5	5	10	7	5
Standard Deviation					3	3	6	4	3
Treatment Prob(F)					0.0963	0.2746	0.3683	0.0231	0.067

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 4. Percent Control of smooth brome following various applications of Tenacity starting on July 12

Description					Bromegrass	Bromegrass	Bromegrass	Bromegrass
Rating Date					7/22/2013	8/2/2013	9/2/2013	10/2/2013
Rating Type					CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit					%UNCK	%UNCK	%UNCK	%UNCK
Tr Treatment		Rate	Appl	Appl				
N Name	Rate	Unit	Code	Description	15	16	17	18
1 Untreated Check					0 a	0 a	0 b	0 b
2 Tenacity	8	fl oz/a	AB	Initial+10dait	16 a	38 a	60 a	31 a
NIS Induce	0.25	% v/v	AB	Initial+10dait				
3 Tenacity	5	fl oz/a	ABC	Initial+10dait+20dait	13 a	28 a	38 a	20 ab
NIS Induce	0.25	% v/v	ABC	Initial+10dait+20dait				
LSD (P=.05)					26	44	33	21
Standard Deviation					15	25	19	12
Treatment Prob(F)					0.3332	0.1705	0.0112	0.0276

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.