



# North Carolina State University

## Perennial Ryegrass Tolerance to Poa annua Control Treatments in an Overseeded Bermudagrass Fairway

Trial ID: 01-D65

Study Dir.: Travis Gannon

Location: Prestonwood CC

Investigator: Fred Yelverton

### APPLICATION EQUIPMENT

	A	B	C	D
<b>Appl. Equipment:</b>	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY	CO2 SPRAY
<b>Operating Pressure:</b>	42 PSI	42 PSI	42 PSI	42 PSI
<b>Nozzle Type:</b>	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
<b>Nozzle Size:</b>	VS8002XR	VS8002XR	VS8002XR	VS8002XR
<b>Nozzle Spacing, Unit:</b>	10 INCH	10 INCH	10 INCH	10 INCH
<b>Nozzles/Row:</b>	4	4	4	4
<b>Boom Length, Unit:</b>	40 INCH	40 INCH	40 INCH	40 INCH
<b>Boom Height, Unit:</b>	10 INCH	10 INCH	10 INCH	10 INCH
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH	3 MPH
<b>Carrier:</b>	WATER	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	32.5 GPA	32.5 GPA	32.5 GPA	32.5 GPA
<b>Propellant:</b>	COMP. CO2	COMP. CO2	COMP. CO2	COMP. CO2

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Trial ID: 01-D65

Study Dir.: Travis Gannon

Location: Prestonwood CC

Investigator: Fred Yelverton

Crop Code								CYNDA	LOLPE	LOLPE	LOLPE			
Rating Data Type								PHYTO	COVER	COVER	COVER			
Rating Unit								%	%	%	%			
Rating Date								09-11-01	10-29-01	11-20-01	12-20-01			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Stg	Appl Code					
1	Dimension	1	EC	0.5	LB A/A			AUG 15	A	0.0 a	31.3 b	48.8 b	95.0 a	
2	MON 44940	75	WDG	0.04	LB A/A			AUG 27	B	0.0 a	37.5 ab	57.5 ab	93.8 a	
3	MON 44940	75	WDG	0.06	LB A/A			AUG 27	B	0.0 a	35.0 ab	56.3 ab	93.8 a	
4	MON 44940	75	WDG	0.12	LB A/A			AUG 27	B	0.0 a	35.0 ab	62.5 ab	93.8 a	
5	Rimsulfuron	25	DF	0.03	LB A/A			AUG 27	B	0.0 a	43.8 a	70.0 a	95.0 a	
6	MON 44940	75	WDG	0.04	LB A/A			SEPT 10	C	0.0 a	37.5 ab	65.0 ab	95.0 a	
7	MON 44940	75	WDG	0.06	LB A/A			SEPT 10	C	0.0 a	41.3 ab	71.3 a	93.8 a	
8	MON 44940	75	WDG	0.12	LB A/A			SEPT 10	C	0.0 a	40.0 ab	63.8 ab	95.0 a	
9	Rimsulfuron	25	DF	0.03	LB A/A			SEPT 10	C	0.0 a	41.3 ab	65.0 ab	95.0 a	
10	MON 44940	75	WDG	0.02	LB A/A			OCT 29	D	0.0 a	40.0 ab	16.3 c	82.5 b	
11	MON 44940	75	WDG	0.03	LB A/A			OCT 29	D	0.0 a	38.8 ab	11.3 c	73.8 c	
12	MON 44940	75	WDG	0.04	LB A/A			OCT 29	D	0.0 a	37.5 ab	10.0 c	73.8 c	
13	Nontreated										0.0 a	41.3 ab	67.5 a	95.0 a
14	Nontreated										0.0 a	32.5 b	63.8 ab	93.8 a
LSD (P=.05)								0.00	11.07	16.33	4.20			
Standard Deviation								0.00	7.74	11.43	2.94			
CV								0.0	20.36	21.96	3.24			
Bartlett's X2								0.0	3.572	13.081	11.821			
P(Bartlett's X2)								0.00*	0.995	0.363	0.107			
Replicate F								0.000	0.407	0.414	2.669			
Replicate Prob(F)								1.0000	0.7489	0.7442	0.0609			
Treatment F								0.000	0.861	15.125	28.454			
Treatment Prob(F)								1.0000	0.5974	0.0001	0.0001			

Means followed by same letter do not significantly differ (P=.05, LSD)

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Trial ID: 01-D65

Study Dir.: Travis Gannon

Location: Prestonwood CC

Investigator: Fred Yelverton

Crop Code								LOLPE	LOLPE	LOLPE	LOLPE			
Rating Data Type								COVER	COVER	COVER	COVER			
Rating Unit								%	%	%	%			
Rating Date								01-18-02	02-20-02	03-14-02	04-23-02			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Product Rate	Product Rate	Grow Stg	Appl Code					
1	Dimension	1 EC		0.5 LB	A/A			AUG 15	A	73.8 ab	67.5 a-d	77.5 bcd	60.0 a	
2	MON 44940	75 WDG		0.04 LB	A/A			AUG 27	B	75.0 ab	72.5 ab	81.3 abc	60.0 a	
3	MON 44940	75 WDG		0.06 LB	A/A			AUG 27	B	72.5 ab	68.8 abc	80.0 abc	60.0 a	
4	MON 44940	75 WDG		0.12 LB	A/A			AUG 27	B	76.3 ab	68.8 abc	80.0 abc	60.0 a	
5	Rimsulfuron	25 DF		0.03 LB	A/A			AUG 27	B	80.0 a	73.8 a	85.0 a	60.0 a	
6	MON 44940	75 WDG		0.04 LB	A/A			SEPT 10	C	75.0 ab	75.0 a	82.5 ab	60.0 a	
7	MON 44940	75 WDG		0.06 LB	A/A			SEPT 10	C	76.3 ab	73.8 a	82.5 ab	60.0 a	
8	MON 44940	75 WDG		0.12 LB	A/A			SEPT 10	C	73.8 ab	71.3 ab	82.5 ab	60.0 a	
9	Rimsulfuron	25 DF		0.03 LB	A/A			SEPT 10	C	72.5 ab	73.8 a	83.8 ab	60.0 a	
10	MON 44940	75 WDG		0.02 LB	A/A			OCT 29	D	55.0 c	63.8 bcd	75.0 cde	60.0 a	
11	MON 44940	75 WDG		0.03 LB	A/A			OCT 29	D	48.8 c	58.8 d	72.5 de	60.0 a	
12	MON 44940	75 WDG		0.04 LB	A/A			OCT 29	D	48.8 c	60.0 cd	70.0 e	60.0 a	
13	Nontreated										75.0 ab	72.5 ab	82.5 ab	60.0 a
14	Nontreated										70.0 b	73.8 a	80.0 abc	60.0 a
LSD (P=.05)								9.00	9.06	6.59	0.00			
Standard Deviation								6.30	6.34	4.61	0.00			
CV								9.07	9.11	5.79	0.0			
Bartlett's X2								14.108	8.526	7.306	0.0			
P(Bartlett's X2)								0.366	0.808	0.886	0.00*			
Replicate F								0.976	1.048	0.112	0.000			
Replicate Prob(F)								0.4140	0.3823	0.9527	1.0000			
Treatment F								11.002	2.814	3.632	0.000			
Treatment Prob(F)								0.0001	0.0063	0.0009	1.0000			

Means followed by same letter do not significantly differ (P=.05, LSD)

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## Perennial Ryegrass Tolerance to Poa annua Control Treatments in an Overseeded Bermudagrass Fairway

Trial ID: 01-D65

Study Dir.: Travis Gannon

Location: Prestonwood CC

Investigator: Fred Yelverton

								TURF	TURF	TURF	TURF		
								QUALITY	QUALITY	QUALITY	QUALITY		
								1-9	1-9	1-9	1-9		
								10-29-01	11-20-01	12-20-01	01-18-02		
Crop Code													
Rating Data Type													
Rating Unit													
Rating Date													
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Dimension	1 EC		0.5 LB	A/A			AUG 15	A	7.0 a	6.00 b	7.000 a	7.000 a
2	MON 44940	75 WDG		0.04 LB	A/A			AUG 27	B	7.0 a	6.50 ab	7.000 a	6.938 a
3	MON 44940	75 WDG		0.06 LB	A/A			AUG 27	B	7.0 a	6.25 ab	7.000 a	7.000 a
4	MON 44940	75 WDG		0.12 LB	A/A			AUG 27	B	7.0 a	6.50 ab	7.000 a	7.000 a
5	Rimsulfuron	25 DF		0.03 LB	A/A			AUG 27	B	7.0 a	6.75 a	7.000 a	7.000 a
6	MON 44940	75 WDG		0.04 LB	A/A			SEPT 10	C	7.0 a	6.38 ab	7.000 a	7.000 a
7	MON 44940	75 WDG		0.06 LB	A/A			SEPT 10	C	7.0 a	6.75 a	7.000 a	7.000 a
8	MON 44940	75 WDG		0.12 LB	A/A			SEPT 10	C	7.0 a	6.75 a	7.000 a	6.875 a
9	Rimsulfuron	25 DF		0.03 LB	A/A			SEPT 10	C	7.0 a	6.75 a	7.000 a	7.000 a
10	MON 44940	75 WDG		0.02 LB	A/A			OCT 29	D	7.0 a	3.00 c	6.688 b	5.813 b
11	MON 44940	75 WDG		0.03 LB	A/A			OCT 29	D	7.0 a	3.00 c	6.313 c	5.500 bc
12	MON 44940	75 WDG		0.04 LB	A/A			OCT 29	D	7.0 a	2.88 c	6.313 c	5.125 c
13	Nontreated									7.0 a	6.75 a	7.000 a	7.000 a
14	Nontreated									7.0 a	6.50 ab	7.000 a	7.000 a
LSD (P=.05)								0.00	0.624	0.1580	0.4715		
Standard Deviation								0.00	0.436	0.1105	0.3299		
CV								0.0	7.57	1.61	4.95		
Bartlett's X2								0.0	2.142	0.0	12.111		
P(Bartlett's X2)								0.00*	0.995	1.00	0.017*		
Replicate F								0.000	1.656	1.066	1.832		
Replicate Prob(F)								1.0000	0.1922	0.3748	0.1574		
Treatment F								0.000	49.716	21.141	15.782		
Treatment Prob(F)								1.0000	0.0001	0.0001	0.0001		

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## Perennial Ryegrass Tolerance to Poa annua Control Treatments in an Overseeded Bermudagrass Fairway

Trial ID: 01-D65

Study Dir.: Travis Gannon

Location: Prestonwood CC

Investigator: Fred Yelverton

Crop Code								TURF	TURF	TURF	LOLPE			
Rating Data Type								QUALITY	QUALITY	QUALITY	PHYTO			
Rating Unit								1-9	1-9	1-9	%			
Rating Date								02-20-02	03-14-02	04-23-02	11-20-01			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Dimension	1 EC		0.5 LB	A/A			AUG 15	A	7.000 a	7.000 a	7.0 a	0.0 c	
2	MON 44940	75 WDG		0.04 LB	A/A			AUG 27	B	7.000 a	7.000 a	7.0 a	0.0 c	
3	MON 44940	75 WDG		0.06 LB	A/A			AUG 27	B	7.000 a	7.000 a	7.0 a	0.0 c	
4	MON 44940	75 WDG		0.12 LB	A/A			AUG 27	B	7.000 a	7.000 a	7.0 a	0.0 c	
5	Rimsulfuron	25 DF		0.03 LB	A/A			AUG 27	B	7.000 a	7.000 a	7.0 a	0.0 c	
6	MON 44940	75 WDG		0.04 LB	A/A			SEPT 10	C	7.000 a	7.000 a	7.0 a	0.0 c	
7	MON 44940	75 WDG		0.06 LB	A/A			SEPT 10	C	7.000 a	7.000 a	7.0 a	0.0 c	
8	MON 44940	75 WDG		0.12 LB	A/A			SEPT 10	C	7.000 a	7.000 a	7.0 a	0.0 c	
9	Rimsulfuron	25 DF		0.03 LB	A/A			SEPT 10	C	7.000 a	7.000 a	7.0 a	0.0 c	
10	MON 44940	75 WDG		0.02 LB	A/A			OCT 29	D	6.750 b	6.750 b	7.0 a	75.0 b	
11	MON 44940	75 WDG		0.03 LB	A/A			OCT 29	D	6.688 b	6.563 c	7.0 a	77.5 b	
12	MON 44940	75 WDG		0.04 LB	A/A			OCT 29	D	6.688 b	6.375 d	7.0 a	82.5 a	
13	Nontreated										7.000 a	7.000 a	7.0 a	0.0 c
14	Nontreated										7.000 a	7.000 a	7.0 a	0.0 c
LSD (P=.05)								0.0649	0.1496	0.00	4.06			
Standard Deviation								0.0454	0.1047	0.00	2.84			
CV								0.65	1.52	0.0	16.91			
Bartlett's X2								0.0	0.261	0.0	0.047			
P(Bartlett's X2)								1.00	0.609	0.00*	0.977			
Replicate F								2.167	1.731	0.000	1.477			
Replicate Prob(F)								0.1074	0.1765	1.0000	0.2357			
Treatment F								30.333	14.640	0.000	553.364			
Treatment Prob(F)								0.0001	0.0001	1.0000	0.0001			

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## Perennial Ryegrass Tolerance to Poa annua Control Treatments in an Overseeded Bermudagrass Fairway

Trial ID: 01-D65

Study Dir.: Travis Gannon

Location: Prestonwood CC

Investigator: Fred Yelverton

Crop Code								LOLPE	LOLPE		
Rating Data Type								PHYTO	PHYTO		
Rating Unit								%	%		
Rating Date								12-20-01	02-20-02		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code		
1	Dimension	1	EC	0.5	LB A/A			AUG 15	A	0.0 a	0.0 a
2	MON 44940	75	WDG	0.04	LB A/A			AUG 27	B	0.0 a	0.0 a
3	MON 44940	75	WDG	0.06	LB A/A			AUG 27	B	0.0 a	0.0 a
4	MON 44940	75	WDG	0.12	LB A/A			AUG 27	B	0.0 a	0.0 a
5	Rimsulfuron	25	DF	0.03	LB A/A			AUG 27	B	0.0 a	0.0 a
6	MON 44940	75	WDG	0.04	LB A/A			SEPT 10	C	0.0 a	0.0 a
7	MON 44940	75	WDG	0.06	LB A/A			SEPT 10	C	0.0 a	0.0 a
8	MON 44940	75	WDG	0.12	LB A/A			SEPT 10	C	0.0 a	0.0 a
9	Rimsulfuron	25	DF	0.03	LB A/A			SEPT 10	C	0.0 a	0.0 a
10	MON 44940	75	WDG	0.02	LB A/A			OCT 29	D	0.0 a	0.0 a
11	MON 44940	75	WDG	0.03	LB A/A			OCT 29	D	0.0 a	0.0 a
12	MON 44940	75	WDG	0.04	LB A/A			OCT 29	D	0.0 a	0.0 a
13	Nontreated									0.0 a	0.0 a
14	Nontreated									0.0 a	0.0 a
LSD (P=.05)								0.00	0.00		
Standard Deviation								0.00	0.00		
CV								0.0	0.0		
Bartlett's X2								0.0	0.0		
P(Bartlett's X2)								0.00*	0.00*		
Replicate F								0.000	0.000		
Replicate Prob(F)								1.0000	1.0000		
Treatment F								0.000	0.000		
Treatment Prob(F)								1.0000	1.0000		

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## Perennial Ryegrass Tolerance to *Poa annua* Control Treatments in an Overseeded Bermudagrass Fairway

Trial ID: 01-D65

Study Dir.: Travis Gannon

Location: Prestonwood CC

Investigator: Fred Yelverton

### Trial Comments

10-8-01 - trial area was scalped down and debris was removed prior to broadcast seeding Brightstar II, Chapparral, and Catalina Perennial Ryegrass blend at a rate of 15 lb seed per 1000ft<sup>2</sup>

10-15-01 - Unable to rate trial, limited germination visible and bermudagrass still actively growing.

11-25-01 - POST applications of MON 44940 at all rates tested (treatments 10, 11, 12) killed the ryegrass stand. Because of the trial being located in a fairway, we were forced to seed perennial ryegrass back into these plots.

1-18-02 - Areas that were reseeded are showing some thinning but reseeded ryegrass germinated well. Unable to rate annual bluegrass control for lack of population.

2-20-02 - Unable to rate annual bluegrass control for lack of population.

3-14-02 - Unable to rate annual bluegrass control for lack of population.

4-23-02 - Unable to rate annual bluegrass control for lack of population. Also reduction in perennial ryegrass stand is due to bermudagrass greenup.