



# North Carolina State University

## Control of *Poa annua* in Overseeded Bermudagrass with Fall and Spring Treatments

Trial ID: 01-T71

Study Dir.: Jason Hinton

Location: Pinehurst #7

Investigator: Fred Yelverton

### WEED STAGE AT EACH APPLICATION

	A	B	C
<b>Weed 1 Code, Stage:</b>	POAAN 0-3 Till.	POAAN Seedheads	POAAN Seedheads
<b>Stage Scale:</b>	3-14 Leaf	2-8 Till.	2-8 Till.
<b>Density, Unit:</b>	20 Ft <sup>2</sup>	25 Ft <sup>2</sup>	25 Ft <sup>2</sup>

### APPLICATION EQUIPMENT

	A	B	C
<b>Appl. Equipment:</b>	CO2 Spray	CO2 Spray	CO2 Spray
<b>Operating Pressure:</b>	36 PSI	36 PSI	36 PSI
<b>Nozzle Type:</b>	Flat Fan	Flat Fan	Flat Fan
<b>Nozzle Size:</b>	8002 XR	8002 XR	8002 XR
<b>Nozzle Spacing, Unit:</b>	10 Inch	10 Inch	10 Inch
<b>Boom Height, Unit:</b>	10 Inch	10 Inch	10 Inch
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH
<b>Carrier:</b>	Water	Water	Water
<b>Spray Volume, Unit:</b>	32.5 GPA	32.5 GPA	32.5 GPA
<b>Propellant:</b>	Compr.CO2	Compr.CO2	Compr.CO2

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								POAAN	POAAN	POAAN		
								CONTROL	CONTROL	CONTROL		
								%	%	%		
								02-07-02	03-21-02	04-10-02		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Form Unit	Product Rate	Product Unit	Grow Stg	Appl Code			
1	Prograss MON 44951	1.5 EC 75 WG		1.5 LB 0.005 LB	A/A A/A			December March	A B	0.0 a	11.3 ab	0.0 a
2	Prograss MON 44951	1.5 EC 75 WG		1.5 LB 0.01 LB	A/A A/A			December March	A B	0.0 a	5.0 bcd	0.0 a
3	Prograss MON 44951	1.5 EC 75 WG		1.5 LB 0.02 LB	A/A A/A			December March	A B	0.0 a	7.5 a-d	0.0 a
4	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB 0.005 LB 0.5 %	A/A A/A V/V			December March March	A B B	0.0 a	6.3 a-d	6.3 a
5	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB 0.01 LB 0.5 %	A/A A/A V/V			December March March	A B B	0.0 a	8.8 abc	3.8 a
6	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB 0.02 LB 0.5 %	A/A A/A V/V			December March March	A B B	0.0 a	10.0 abc	0.0 a
7	Prograss	1.5 EC		1.5 LB	A/A			December	A	0.0 a	8.8 abc	0.0 a
8	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB 0.005 LB 0.005 LB	A/A A/A A/A			December March 4 Weeks	A B C	0.0 a	7.5 a-d	0.0 a
9	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB 0.01 LB 0.01 LB	A/A A/A A/A			December March 4 Weeks	A B C	0.0 a	2.5 cd	0.0 a
10	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB 0.02 LB 0.02 LB	A/A A/A A/A			December March 4 Weeks	A B C	0.0 a	3.8 bcd	0.0 a
11	Prograss MON 44951 MON 0818 MON 44951 MON 0818	1.5 EC 75 WG L 75 WG L		1.5 LB 0.005 LB 0.5 % 0.005 LB 0.5 %	A/A A/A V/V A/A V/V			December March March 4 Weeks 4 Weeks	A B B C C	0.0 a	11.3 ab	5.0 a
12	Prograss MON 44951 MON 0818 MON 44951 MON 0818	1.5 EC 75 WG L 75 WG L		1.5 LB 0.01 LB 0.5 % 0.01 LB 0.5 %	A/A A/A V/V A/A V/V			December March March 4 Weeks 4 Weeks	A B B C C	0.0 a	13.8 a	0.0 a

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Investigator: Fred Yelverton

Weed Code							POAAN	POAAN	POAAN		
Crop Code							CONTROL	CONTROL	CONTROL		
Rating Data Type							%	%	%		
Rating Unit							02-07-02	03-21-02	04-10-02		
Rating Date											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Unit	Product Rate	Grow Stg	Appl Code			
13	Prograss	1.5 EC		1.5 LB A/A			December	A	0.0 a	6.3 a-d	0.0 a
	MON 44951	75 WG		0.02 LB A/A			March	B			
	MON 0818	L		0.5 % V/V			March	B			
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C			
	MON 0818	L		0.5 % V/V			4 Weeks	C			
14	MON 44951	75 WG		0.005 LB A/A			March	B	0.0 a	0.0 d	6.3 a
15	MON 44951	75 WG		0.01 LB A/A			March	B	0.0 a	0.0 d	0.0 a
16	MON 44951	75 WG		0.02 LB A/A			March	B	0.0 a	0.0 d	0.0 a
17	MON 44951	75 WG		0.005 LB A/A			March	B	0.0 a	0.0 d	0.0 a
	MON 0818	L		0.5 % V/V			March	B			
18	MON 44951	75 WG		0.01 LB A/A			March	B	0.0 a	0.0 d	6.3 a
	MON 0818	L		0.5 % V/V			March	B			
19	MON 44951	75 WG		0.02 LB A/A			March	B	0.0 a	0.0 d	0.0 a
	MON 0818	L		0.5 % V/V			March	B			
20	Prograss	1.5 EC		1.5 LB A/A			March	B	0.0 a	0.0 d	0.0 a
21	MON 44951	75 WG		0.005 LB A/A			March	B	0.0 a	0.0 d	0.0 a
	MON 44951	75 WG		0.005 LB A/A			4 Weeks	C			
22	MON 44951	75 WG		0.01 LB A/A			March	B	0.0 a	0.0 d	0.0 a
	MON 44951	75 WG		0.01 LB A/A			4 Weeks	C			
23	MON 44951	75 WG		0.02 LB A/A			March	B	0.0 a	0.0 d	0.0 a
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C			
24	MON 44951	75 WG		0.005 LB A/A			March	B	0.0 a	0.0 d	0.0 a
	MON 0818	L		0.5 % V/V			March	B			
	MON 44951	75 WG		0.005 LB A/A			4 Weeks	C			
	MON 0818	L		0.5 % V/V			4 Weeks	C			
25	MON 44951	75 WG		0.01 LB A/A			March	B	0.0 a	0.0 d	0.0 a
	MON 0818	L		0.5 % V/V			March	B			
	MON 44951	75 WG		0.01 LB A/A			4 Weeks	C			
	MON 0818	L		0.5 % V/V			4 Weeks	C			
26	MON 44951	75 WG		0.02 LB A/A			March	B	0.0 a	0.0 d	0.0 a
	MON 0818	L		0.5 % V/V			March	B			
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C			
	MON 0818	L		0.5 % V/V			4 Weeks	C			

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								POAAN	POAAN	POAAN	
								CONTROL	CONTROL	CONTROL	
								%	%	%	
								02-07-02	03-21-02	04-10-02	
Trt	Treatment	Form	Form	Rate	Product	Product	Grow	Appl			
No.	Name	Conc	Type	Rate	Rate	Rate	Unit	Stg	Code		
27	Nontreated								0.0 a	0.0 d	0.0 a
LSD (P=.05)								0.00	7.94	6.92	
Standard Deviation								0.00	5.62	4.89	
CV								0.0	147.96	480.31	
Bartlett's X2								0.0	5.78	1.036	
P(Bartlett's X2)								0.00*	0.927	0.904	
Replicate F								0.000	8.070	0.116	
Replicate Prob(F)								1.0000	0.0001	0.9504	
Treatment F								0.000	2.643	0.824	
Treatment Prob(F)								1.0000	0.0005	0.7041	

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

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Weed Code							POAAN	LOLPE	LOLPE		
Crop Code							CONTROL	QUALITY	QUALITY		
Rating Data Type							%	1-9	1-9		
Rating Unit							04-18-02	02-07-02	03-21-02		
Rating Date											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Unit	Grow Stg	Appl Code			
1	Prograss MON 44951	1.5 EC 75 WG		1.5 LB A/A 0.005 LB A/A			December March	A B	0.0 b	7.0 a	7.0 a
2	Prograss MON 44951	1.5 EC 75 WG		1.5 LB A/A 0.01 LB A/A			December March	A B	0.0 b	7.0 a	7.0 a
3	Prograss MON 44951	1.5 EC 75 WG		1.5 LB A/A 0.02 LB A/A			December March	A B	6.3 ab	7.0 a	7.0 a
4	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB A/A 0.005 LB A/A 0.5 % V/V			December March March	A B B	6.3 ab	7.0 a	7.0 a
5	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB A/A 0.01 LB A/A 0.5 % V/V			December March March	A B B	0.0 b	7.0 a	7.0 a
6	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB A/A 0.02 LB A/A 0.5 % V/V			December March March	A B B	12.5 ab	7.0 a	7.0 a
7	Prograss	1.5 EC		1.5 LB A/A			December	A	8.8 ab	7.0 a	7.0 a
8	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB A/A 0.005 LB A/A 0.005 LB A/A			December March 4 Weeks	A B C	0.0 b	7.0 a	7.0 a
9	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB A/A 0.01 LB A/A 0.01 LB A/A			December March 4 Weeks	A B C	0.0 b	7.0 a	7.0 a
10	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB A/A 0.02 LB A/A 0.02 LB A/A			December March 4 Weeks	A B C	12.5 ab	7.0 a	7.0 a
11	Prograss MON 44951 MON 0818 MON 44951 MON 0818	1.5 EC 75 WG L 75 WG L		1.5 LB A/A 0.005 LB A/A 0.5 % V/V 0.005 LB A/A 0.5 % V/V			December March March 4 Weeks 4 Weeks	A B B C C	0.0 b	7.0 a	7.0 a
12	Prograss MON 44951 MON 0818 MON 44951 MON 0818	1.5 EC 75 WG L 75 WG L		1.5 LB A/A 0.01 LB A/A 0.5 % V/V 0.01 LB A/A 0.5 % V/V			December March March 4 Weeks 4 Weeks	A B B C C	0.0 b	7.0 a	7.0 a

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Crop Code							CONTROL	QUALITY	QUALITY		
Rating Data Type							%	1-9	1-9		
Rating Unit							04-18-02	02-07-02	03-21-02		
Rating Date											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Unit	Grow Stg	Appl Code			
13	Prograss	1.5 EC		1.5 LB A/A			December	A	0.0 b	7.0 a	7.0 a
	MON 44951	75 WG		0.02 LB A/A			March	B			
	MON 0818	L		0.5 % V/V			March	B			
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C			
	MON 0818	L		0.5 % V/V			4 Weeks	C			
14	MON 44951	75 WG		0.005 LB A/A			March	B	0.0 b	7.0 a	7.0 a
15	MON 44951	75 WG		0.01 LB A/A			March	B	0.0 b	7.0 a	7.0 a
16	MON 44951	75 WG		0.02 LB A/A			March	B	10.0 ab	7.0 a	7.0 a
17	MON 44951	75 WG		0.005 LB A/A			March	B	0.0 b	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B			
18	MON 44951	75 WG		0.01 LB A/A			March	B	6.3 ab	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B			
19	MON 44951	75 WG		0.02 LB A/A			March	B	6.3 ab	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B			
20	Prograss	1.5 EC		1.5 LB A/A			March	B	0.0 b	7.0 a	7.0 a
21	MON 44951	75 WG		0.005 LB A/A			March	B	0.0 b	7.0 a	7.0 a
	MON 44951	75 WG		0.005 LB A/A			4 Weeks	C			
22	MON 44951	75 WG		0.01 LB A/A			March	B	16.3 a	7.0 a	7.0 a
	MON 44951	75 WG		0.01 LB A/A			4 Weeks	C			
23	MON 44951	75 WG		0.02 LB A/A			March	B	18.8 a	7.0 a	7.0 a
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C			
24	MON 44951	75 WG		0.005 LB A/A			March	B	6.3 ab	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B			
	MON 44951	75 WG		0.005 LB A/A			4 Weeks	C			
	MON 0818	L		0.5 % V/V			4 Weeks	C			
25	MON 44951	75 WG		0.01 LB A/A			March	B	6.3 ab	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B			
	MON 44951	75 WG		0.01 LB A/A			4 Weeks	C			
	MON 0818	L		0.5 % V/V			4 Weeks	C			
26	MON 44951	75 WG		0.02 LB A/A			March	B	8.8 ab	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B			
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C			
	MON 0818	L		0.5 % V/V			4 Weeks	C			

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								CONTROL	QUALITY	QUALITY			
								%	1-9	1-9			
								04-18-02	02-07-02	03-21-02			
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate	Grow Unit	Stg	Appl Code			
27	Nontreated										0.0 b	7.0 a	7.0 a
LSD (P=.05)								12.91	0.00	0.00			
Standard Deviation								9.13	0.00	0.00			
CV								197.22	0.0	0.0			
Bartlett's X2								0.922	0.0	0.0			
P(Bartlett's X2)								1.00	0.00*	0.00*			
Replicate F								0.940	0.000	0.000			
Replicate Prob(F)								0.4253	1.0000	1.0000			
Treatment F								1.545	0.000	0.000			
Treatment Prob(F)								0.0736	1.0000	1.0000			

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

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Crop Code								QUALITY	QUALITY	
Rating Data Type								1-9	1-9	
Rating Unit								04-10-02	04-18-02	
Rating Date										
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Unit	Product Rate	Grow Stg	Appl Code		
1	Prograss MON 44951	1.5 EC 75 WG		1.5 LB A/A 0.005 LB A/A			December March	A B	7.0 a	7.0 a
2	Prograss MON 44951	1.5 EC 75 WG		1.5 LB A/A 0.01 LB A/A			December March	A B	7.0 a	7.0 a
3	Prograss MON 44951	1.5 EC 75 WG		1.5 LB A/A 0.02 LB A/A			December March	A B	7.0 a	7.0 a
4	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB A/A 0.005 LB A/A 0.5 % V/V			December March March	A B B	7.0 a	7.0 a
5	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB A/A 0.01 LB A/A 0.5 % V/V			December March March	A B B	7.0 a	7.0 a
6	Prograss MON 44951 MON 0818	1.5 EC 75 WG L		1.5 LB A/A 0.02 LB A/A 0.5 % V/V			December March March	A B B	7.0 a	7.0 a
7	Prograss	1.5 EC		1.5 LB A/A			December	A	7.0 a	7.0 a
8	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB A/A 0.005 LB A/A 0.005 LB A/A			December March 4 Weeks	A B C	7.0 a	7.0 a
9	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB A/A 0.01 LB A/A 0.01 LB A/A			December March 4 Weeks	A B C	7.0 a	7.0 a
10	Prograss MON 44951 MON 44951	1.5 EC 75 WG 75 WG		1.5 LB A/A 0.02 LB A/A 0.02 LB A/A			December March 4 Weeks	A B C	7.0 a	7.0 a
11	Prograss MON 44951 MON 0818 MON 44951 MON 0818	1.5 EC 75 WG L 75 WG L		1.5 LB A/A 0.005 LB A/A 0.5 % V/V 0.005 LB A/A 0.5 % V/V			December March March 4 Weeks 4 Weeks	A B B C C	7.0 a	7.0 a
12	Prograss MON 44951 MON 0818 MON 44951 MON 0818	1.5 EC 75 WG L 75 WG L		1.5 LB A/A 0.01 LB A/A 0.5 % V/V 0.01 LB A/A 0.5 % V/V			December March March 4 Weeks 4 Weeks	A B B C C	7.0 a	7.0 a

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Crop Code							QUALITY	QUALITY		
Rating Data Type							1-9	1-9		
Rating Unit										
Rating Date							04-10-02	04-18-02		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Unit	Grow Stg	Appl Code		
13	Prograss	1.5 EC		1.5 LB A/A			December	A	7.0 a	7.0 a
	MON 44951	75 WG		0.02 LB A/A			March	B		
	MON 0818	L		0.5 % V/V			March	B		
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C		
	MON 0818	L		0.5 % V/V			4 Weeks	C		
14	MON 44951	75 WG		0.005 LB A/A			March	B	7.0 a	7.0 a
15	MON 44951	75 WG		0.01 LB A/A			March	B	7.0 a	7.0 a
16	MON 44951	75 WG		0.02 LB A/A			March	B	7.0 a	7.0 a
17	MON 44951	75 WG		0.005 LB A/A			March	B	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B		
18	MON 44951	75 WG		0.01 LB A/A			March	B	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B		
19	MON 44951	75 WG		0.02 LB A/A			March	B	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B		
20	Prograss	1.5 EC		1.5 LB A/A			March	B	7.0 a	7.0 a
21	MON 44951	75 WG		0.005 LB A/A			March	B	7.0 a	7.0 a
	MON 44951	75 WG		0.005 LB A/A			4 Weeks	C		
22	MON 44951	75 WG		0.01 LB A/A			March	B	7.0 a	7.0 a
	MON 44951	75 WG		0.01 LB A/A			4 Weeks	C		
23	MON 44951	75 WG		0.02 LB A/A			March	B	7.0 a	7.0 a
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C		
24	MON 44951	75 WG		0.005 LB A/A			March	B	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B		
	MON 44951	75 WG		0.005 LB A/A			4 Weeks	C		
	MON 0818	L		0.5 % V/V			4 Weeks	C		
25	MON 44951	75 WG		0.01 LB A/A			March	B	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B		
	MON 44951	75 WG		0.01 LB A/A			4 Weeks	C		
	MON 0818	L		0.5 % V/V			4 Weeks	C		
26	MON 44951	75 WG		0.02 LB A/A			March	B	7.0 a	7.0 a
	MON 0818	L		0.5 % V/V			March	B		
	MON 44951	75 WG		0.02 LB A/A			4 Weeks	C		
	MON 0818	L		0.5 % V/V			4 Weeks	C		

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Crop Code								QUALITY	QUALITY
Rating Data Type								1-9	1-9
Rating Unit								04-10-02	04-18-02
Rating Date									
Trt	Treatment	Form	Form	Rate	Product	Product	Grow	Appl	
No.	Name	Conc	Type	Rate	Rate	Rate	Unit	Stg	Code
27	Nontreated								
								7.0 a	7.0 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

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

# North Carolina State University

**Control of *Poa annua* in Overseeded Bermudagrass with Fall and Spring Treatments**

Trial ID: 01-T71

Study Dir.: Jason Hinton

Location: Pinehurst #7

Investigator: Fred Yelverton

Trial Comments