

# University of GA Coop Ext Service

## Herbicide Systems for Poa Annu Control in Overseeded Bermudagrass

Trial ID: Turf58-03

Study Dir.: Bill Nutt

Location: Griffin

Investigator: Tim R Murphy

### GENERAL TRIAL INFORMATION

**Study Director:** Bill Nutt**Title:** ARC I**Affiliation:** UGA-CAES**Investigator:** Tim R Murphy**Title:** Weed Scientist**Affiliation:** UGA-CAES

### TRIAL LOCATION

**City:** Griffin**Trial Status:** MULTI-YEAR/FINAL**State/Prov.:** GA**Initiation Date:** 9-19-03**Completion Date:** 6-1-04

### COOPERATOR/LANDOWNER

**Cooperator:** Laurence Mudge**Org:** Bayer ES**City:** Camden**State/Prov:** SC

### CROP AND WEED DESCRIPTION

**Weed 1:** POAAN Bluegrass, Annual/*Poa annua* L.**Crop 1:** CYNDA Bermudagrass/*Cynodon Dactylon* **Variety:** Tifway**Crop 2:** LOLPE Ryegrass, Perennial/*Lolium Perenne* **Variety:** Sunrise Primo Blend**Planting Date:** 10-3-03**Planting Method:** broadcast **Rate:** 10 LB/1000FT<sup>2</sup>

### SITE AND DESIGN

**Plot Width, Unit:** 6 FT **Plot Length, Unit:** 10 FT **Reps:** 3**Site Type:** Simulated golf course fairway**Study Design:** RANDOMIZED COMPLETE BLOCK

### MAINTENANCE

**Field Prep./Maintenance:** Irrigated site maintained at 0.5 inch with "Triplex-type" reel mower.

### APPLICATION DESCRIPTION

	A	B	C	D
<b>Application Date:</b>	9-19-03	11-3-03	12-1-03	1-13-04
<b>Time of Day:</b>	2:15 pm	3:00 pm	3:00 pm	4:15 pm
<b>Application Method:</b>	Broadcast	Broadcast	Broadcast	Broadcast
<b>Application Timing:</b>	Pre	Pre	Pre/Post	Pre/Post
<b>Applic. Placement:</b>	Folr/Soil	Soil	Soil	Folr/Soil
<b>Air Temp., Unit:</b>	88 F	80 F	65 F	61 F
<b>% Relative Humidity:</b>	40	30	35	38
<b>Wind Velocity, Unit:</b>	3.5 mph	3.5 mph	5 mph	3 mph
<b>Dew Presence (Y/N):</b>	N	N	N	N
<b>Soil Temp., Unit:</b>	76 F	72 F	53 F	50 F
<b>Soil Moisture:</b>	Good	Good	Good	Good
<b>% Cloud Cover:</b>	40	0	0	30

**Herbicide Systems for Poa Annua Control in Overseeded Bermudagrass****CROP STAGE AT EACH APPLICATION**

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Crop 1 Code, Stage:</b>	CYNDA	CYNDA	CYNDA	CYNDA
<b>Stage Scale:</b>	Active Growth	Green	Dormant 90%	Dormant
<b>Height, Unit:</b>	0.5 inch	0.5 inch	0.5 inch	0.65 inch
<b>Crop 2 Code, Stage:</b>	LOLPE	LOLPE	LOLPE	LOLPE
<b>Stage Scale:</b>		2-3 Leaf	4 Leaf	1-2 Tiller
<b>Height, Unit:</b>		0.5 inch	1.0 inch	0.65 inch

**WEED STAGE AT EACH APPLICATION**

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Weed 1 Code, Stage:</b>	POANN	POANN	POANN	POANN
<b>Stage Scale:</b>				1-2 Tiller
<b>Density, Unit:</b>				10 %

**APPLICATION EQUIPMENT**

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Appl. Equipment:</b>	Backpack*	**By Hand	Backpack	Backpack
<b>Operating Pressure:</b>	33 psi		33 psi	33 psi
<b>Nozzle Type:</b>	8008		8008	8008
<b>Nozzle Size:</b>	Flat fan		Flat fan	Flat fan
<b>Nozzle Spacing, Unit:</b>	20 inch		20 inch	20 inch
<b>Boom Length, Unit:</b>	5 feet		5 feet	5 feet
<b>Boom Height, Unit:</b>	20 inch		20 inch	20 inch
<b>Ground Speed, Unit:</b>	3 mph		3 mph	3 mph
<b>Carrier:</b>	Water		Water	Water
<b>Spray Volume, Unit:</b>	50 gpa		50 gpa	50 gpa
<b>Propellant:</b>	CO2		CO2	CO2
<b>Tank Mix (Y/N):</b>	N		N	N

<b>Application</b>	<b>Treatment Application Comment</b>
*A	Applied after mowing. WBS = Weeks before seeding.(9-19-03) CO2 Regulator = 33 psi and Down pipe = 24.5 psi, while spraying. 458 ml/tip in 30 seconds (20 inch spacing).
**B	All treatments were granular; mixed with dry sand and watered in by hand. Watered in during pm with 0.5 inch irrigation.(11-3-03)

**Trial Comments****WEED DENSITY RATINGS FOR UNTREATED CONTROL CHECK**

	<u>101</u>	<u>207</u>	<u>304</u>
POAAN,3-2-04	20	25	25
POAAN,4-2-04	30	35	35
POAAN,4-29-04	40	35	25

12-1-03	Not able to see Poa annua yet.
12-23-03	Broadcast 16-4-8 slow release fertilizer at 3.5 - 4.0 lbs product per 1000 sq. ft.
2-3-204	Perennial Ryegrass, LOLPE, consist of combined densities of ryegrass and Annual Bluegrass, POANN. It was too difficult to distinguish between the two at this time.
3-3-04	Applied fertilizer to entire test area with 1 lb N/ 1000 sq. ft. as 10-10-10.
4-29-04	Poa annua, POAAN, stand is maturing and declining and maybe reflected in control ratings.

								LOLPE	LOLPE	LOLPE	LOLPE
								Foliag	Foliag	Foliag	Foliag
								Density	Density	Density	Density
								0-100	0-100	0-100	0-100
								11-4-03	12-2-03	1-5-04	2-3-04
								46 DA-A	74 DA-A	108 DA-A	137 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated Check							45 a	60 a	57 ab	60 ab
2	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	45 a	60 a	57 ab	57 b
	Ronstar fb	2	GR	75	lb/a	4 WOS	B				
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
3	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	45 a	60 a	60 ab	62 ab
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
4	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	43 a	57 a	58 ab	58 b
	Ronstar	2	GR	75	lb/a	4 WOS	B				
5	Ronstar fb	2	GR	75	lb/a	4 WOS	B	45 a	55 a	57 ab	57 b
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
6	Revolver	0.19	SC	17.4	fl oz/a	2 WBS	A	47 a	60 a	58 ab	60 ab
7	Ronstar	2	GR	75	lb/a	4 WOS	B	42 a	55 a	53 b	55 b
8	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C	43 a	58 a	58 ab	58 b
9	Prograss fb	1.5	EC	0.67	gal/a	7-8WOS	C	43 a	60 a	62 a	62 ab
	Prograss	1.5	EC	0.67	gal/a	11-12WOS	D				
10	TranXit	25	DF	2.0	oz/a	2WBS	A	47 a	58 a	63 a	67 a
	Non Ionic Surfactant			0.25	% v/v	2WBS	A				
LSD (P=.05)								7.6	8.8	6.6	6.8
Standard Deviation								4.4	5.1	3.9	4.0
CV								9.98	8.74	6.62	6.71

								LOLPE	LOLPE	LOLPE	LOLPE
								Foliag	Foliag	Foliag	Foliag
								Density	Density	Density	Color
								0-100	0-100	0-100	0-10
								3-2-04	4-2-04	5-27-04	12-2-03
								165 DA-A	196 DA-A	251 DA-A	74 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated Check							65 d	62 c	25 d	8 a
2	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	73 bc	78 ab	40 ab	8 a
	Ronstar fb	2	GR	75	lb/a	4 WOS	B				
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
3	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	78 ab	85 a	33 bcd	8 a
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
4	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	75 abc	78 ab	30 cd	8 a
	Ronstar	2	GR	75	lb/a	4 WOS	B				
5	Ronstar fb	2	GR	75	lb/a	4 WOS	B	72 c	80 ab	42 ab	8 a
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
6	Revolver	0.19	SC	17.4	fl oz/a	2 WBS	A	77 abc	80 ab	30 cd	8 a
7	Ronstar	2	GR	75	lb/a	4 WOS	B	65 d	60 c	25 d	8 a
8	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C	73 bc	77 b	40 ab	8 a
9	Prograss fb	1.5	EC	0.67	gal/a	7-8WOS	C	75 abc	77 b	45 a	8 a
	Prograss	1.5	EC	0.67	gal/a	11-12WOS	D				
10	TranXit	25	DF	2.0	oz/a	2WBS	A	80 a	78 ab	37 abc	8 a
	Non Ionic Surfactant			0.25	% v/v	2WBS	A				
LSD (P=.05)								5.4	7.2	8.8	0.0
Standard Deviation								3.1	4.2	5.2	0.0
CV								4.27	5.54	14.87	0.0

Crop Code								LOLPE	LOLPE	LOLPE	LOLPE
Part Rated								Foliag	Foliag	Foliag	Foliag
Rating Data Type								Color	Color	Color	Color
Rating Unit								0-10	0-10	0-10	0-10
Rating Date								1-5-04	2-3-04	3-2-04	4-2-04
Trt-Eval Interval								108 DA-A	137 DA-A	165 DA-A	196 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated Check							8.5 a	8.2 ab	9.0 a	10.0 a
2	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	8.5 a	7.7 bc	8.7 a	10.0 a
	Ronstar fb	2	GR	75	lb/a	4 WOS	B				
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
3	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	8.5 a	8.2 ab	9.0 a	10.0 a
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
4	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	8.5 a	8.2 ab	9.0 a	10.0 a
	Ronstar	2	GR	75	lb/a	4 WOS	B				
5	Ronstar fb	2	GR	75	lb/a	4 WOS	B	8.5 a	7.7 bc	9.0 a	10.0 a
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C				
6	Revolver	0.19	SC	17.4	fl oz/a	2 WBS	A	8.5 a	8.2 ab	9.0 a	10.0 a
7	Ronstar	2	GR	75	lb/a	4 WOS	B	8.5 a	7.5 c	7.3 b	10.0 a
8	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C	8.5 a	8.0 abc	9.0 a	10.0 a
9	Prograss fb	1.5	EC	0.67	gal/a	7-8WOS	C	8.5 a	8.2 ab	9.0 a	10.0 a
	Prograss	1.5	EC	0.67	gal/a	11-12WOS	D				
10	TranXit	25	DF	2.0	oz/a	2WBS	A	8.5 a	8.5 a	9.0 a	10.0 a
	Non Ionic Surfactant			0.25	% v/v	2WBS	A				
LSD (P=.05)								0.00	0.49	0.33	0.00
Standard Deviation								0.00	0.28	0.19	0.00
CV								0.0	3.54	2.21	0.0

Crop Code								LOLPE	CYNDA	Turf
Part Rated								Foliag	Foliag	Quality
Rating Data Type								Color	Density	Quality
Rating Unit								0-10	0-100	0-10
Rating Date								4-29-04	5-27-04	5-27-04
Trt-Eval Interval								223 DA-A	251 DA-A	251 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated Check							8.8 c	75 a	6.8 c
2	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	9.7 ab	60 bcd	7.5 abc
	Ronstar fb	2	GR	75	lb/a	4 WOS	B			
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C			
3	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	9.5 abc	67 abc	7.7 abc
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C			
4	Revolver fb	0.19	SC	17.4	fl oz/a	2 WBS	A	9.3 abc	70 ab	7.7 abc
	Ronstar	2	GR	75	lb/a	4 WOS	B			
5	Ronstar fb	2	GR	75	lb/a	4 WOS	B	9.7 ab	58 cd	7.0 bc
	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C			
6	Revolver	0.19	SC	17.4	fl oz/a	2 WBS	A	9.3 abc	70 ab	7.2 abc
7	Ronstar	2	GR	75	lb/a	4 WOS	B	8.8 c	75 a	7.3 abc
8	Prograss	1.5	EC	1.0	gal/a	7-8WOS	C	9.8 ab	60 bcd	8.0 ab
9	Prograss fb	1.5	EC	0.67	gal/a	7-8WOS	C	10.0 a	55 d	8.2 a
	Prograss	1.5	EC	0.67	gal/a	11-12WOS	D			
10	TranXit	25	DF	2.0	oz/a	2WBS	A	9.2 bc	60 bcd	7.7 abc
	Non Ionic Surfactant			0.25	% v/v	2WBS	A			
LSD (P=.05)								0.65	9.0	0.99
Standard Deviation								0.38	5.3	0.58
CV								4.05	8.09	7.71

**Herbicide Systems for Poa Annua Control in Overseeded Bermudagrass**

Weed Code								POANN	POANN	POANN
Name								Poa annua	Poa annua	Poa annua
Rating Data Type								Control	Control	Control
Rating Unit								0-100	0-100	0-100
Rating Date								3-2-04	4-2-04	4-29-04
Trt-Eval Interval								165 DA-A	196 DA-A	223 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated Check							0 d	0 e	0 d
2	Revolver fb	0.19	SC	17.4 fl oz/a		2 WBS	A	99 a	98 a	98 a
	Ronstar fb	2	GR	75 lb/a		4 WOS	B			
	Prograss	1.5	EC	1.0 gal/a		7-8WOS	C			
3	Revolver fb	0.19	SC	17.4 fl oz/a		2 WBS	A	100 a	98 a	98 a
	Prograss	1.5	EC	1.0 gal/a		7-8WOS	C			
4	Revolver fb	0.19	SC	17.4 fl oz/a		2 WBS	A	83 b	65 c	75 b
	Ronstar	2	GR	75 lb/a		4 WOS	B			
5	Ronstar fb	2	GR	75 lb/a		4 WOS	B	100 a	97 a	97 a
	Prograss	1.5	EC	1.0 gal/a		7-8WOS	C			
6	Revolver	0.19	SC	17.4 fl oz/a		2 WBS	A	87 b	72 bc	85 ab
7	Ronstar	2	GR	75 lb/a		4 WOS	B	28 c	27 d	37 c
8	Prograss	1.5	EC	1.0 gal/a		7-8WOS	C	100 a	82 ab	92 ab
9	Prograss fb	1.5	EC	0.67 gal/a		7-8WOS	C	100 a	96 a	96 a
	Prograss	1.5	EC	0.67 gal/a		11-12WOS	D			
10	TranXit	25	DF	2.0 oz/a		2WBS	A	88 ab	68 bc	83 ab
	Non Ionic Surfactant			0.25 % v/v		2WBS	A			
LSD (P=.05)								10.5	14.8	17.1
Standard Deviation								6.1	8.6	9.9
CV								7.82	12.3	13.07

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)