

# North Carolina State University

## TOLERANCE OF SEEDLING RIVIERA BERMUDAGRASS TO VARIOUS POSTEMERGENCE HERBICIDES

Trial ID: 03-T41  
Location: SANDHILLS STATION

Study Director: L.S. WARREN  
Investigator: Fred Yelverton

### General Trial Information

**Study Director:** L.S. WARREN **Title:** RESEARCH ASSOCIATE  
**Affiliation:** NORTH CAROLINA STATE UNIVERSITY  
**Postal Code:** 27695 **E-mail:** leon\_warren@ncsu.edu  
**Investigator:** FRED YELVERTON **Title:** PROFESSOR  
**Affiliation:** NORTH CAROLINA STATE UNIVERSITY  
**Postal Code:** 27695 **E-mail:** fred\_yelverton@ncsu.edu

### Trial Location

**City:** JACKSON SPRINGS **Trial Status:** COMPLETED  
**State/Prov.:** NC **Initiation Date:** 8-1-03  
**Country:** USA  
**Directions:**

### Objectives:

TO EVALUATE VARIOUS POSTEMERGENCE HERBICIDES FOR TOLERANCE TO SEEDLING RIVIERA BERMUDAGRASS

### Conclusions:

### Cooperator/Landowner

**Cooperator:** MARK THOMPSON **Country:** USA  
**Organization:** SANDHILLS RESEARCH STATION **Phone No:** 910/974-4673  
**City:** JACKSON SPRINGS  
**State/Prov:** NC

### Crop Description

**Crop 1:** CYNDA Cynodon dactylon Bermuda grass  
**Variety:** RIVIERA  
**BBCH Scale:** BGRM  
**Planting Method:** SEEDED

### Site and Design

**Plot Width, Unit:** 3.33 FT **Site Type:** TURF - RESEARCH  
**Plot Length, Unit:** 6 FT **Tillage Type:** NA  
**Replications:** 4 **Study Design:** Randomized Complete Block

**Trial Initiation Comments:**

**Field Prep./Maintenance:**

### Soil Description

**Fert. Level:** EXCELLENT

### Moisture Conditions

**Overall Moisture Conditions:** TESTA AREA WAS IRRIGATED AS NEEDED

### Application Description

	A	B
<b>Application Date:</b>	8-1-03	8-7-03
<b>Time of Day:</b>	3:45 PM	11:45 AM
<b>Application Method:</b>	SPRAY	SPRAY
<b>Application Timing:</b>	EARLYPOST	6 DAYS
<b>Application Placement:</b>	BROFOL	BROFOL
<b>Applied By:</b>	L.S. WARREN	L.S. WARREN
<b>Air Temperature, Unit:</b>	89 F	82 F
<b>% Relative Humidity:</b>	61	76
<b>Wind Velocity, Unit:</b>	3.8 MPH	2.7 MPH
<b>Dew Presence (Y/N):</b>	N	N
<b>Soil Temperature, Unit:</b>	89 F	80 F
<b>Soil Moisture:</b>	MOIST	MOIST
<b>% Cloud Cover:</b>	80	85

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### Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	CYNDA BGRM	CYNDA BGRM
Stage Scale Used:	BBCH	BBCH
Stage Majority, Percent:	3"STOLON 75	MOWED 100
Height, Unit:	0.75 IN	0.75 IN

### Application Equipment

	A	B
Appl. Equipment:	BACSPR	BACSPR
Operating Pressure:	35	35
Pressure Unit:	PSI	PSI
Nozzle Type:	FLAT FAN	FLAT FAN
Nozzle Size:	XR 8002VS	XR 8002VS
Nozzle Spacing, Unit:	10 IN	10 IN
Band Width, Unit:	40 IN	40 IN
Boom Length, Unit:	40 IN	40 IN
Boom Height, Unit:	10 IN	10 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume:	32.5	32.5
Volume Unit:	GPA	GPA
Propellant:	COMCO2	COMCO2
Tank Mix (Y/N):	Y	Y

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Crop Code							CYND	CYND	CYND	CYND		
BBCH Scale							BGRM	BGRM	BGRM	BGRM		
Rating Date							8-7-03	8-15-03	8-19-03	9-3-03		
Rating Data Type							INJURY	COVERAGE	COVERAGE	COVERAGE		
Rating Unit							PERCENT	PERCENT	PERCENT	PERCENT		
Assessed By							L.S. WARREN	L.S. WARREN	L.S. WARREN	L.S. WARREN		
Days After Last Applic.							0	8	12	27		
Trt-Eval Interval							6 DA-A	8 DA-B	12 DA-B	27 DA-B		
ARM Action Codes							P	P	P	P		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Other Rate Unit	Growth Stage	Appl Code				
1	AATREX	4.0	L	1.0	lb ai/a		AUG 1	A	60.0 a	13.3 c	15.3 c	63.3 b
2	BUENO 6	6.0	L	1.0	lb ai/a		AUG 1	A	1.3 e	88.3 ab	96.0 a	98.0 a
	BUENO 6	6.0	L	1.0	lb ai/a		AUG 7	B				
3	BUENO 6	6.0	L	1.5	lb ai/a		AUG 1	A	3.8 de	87.0 ab	94.5 a	98.0 a
	BUENO 6	6.0	L	1.5	lb ai/a		AUG 7	B				
4	BUENO 6	6.0	L	2.0	lb ai/a		AUG 1	A	7.5 cde	83.3 ab	93.3 a	98.0 a
	BUENO 6	6.0	L	2.0	lb ai/a		AUG 7	B				
5	CONFRONT	3.0	SL	1.0	pt/a		AUG 1	A	8.8 cde	75.0 ab	92.0 a	98.0 a
6	CONFRONT	3.0	SL	2.0	pt/a		AUG 1	A	26.3 b	76.3 ab	87.0 ab	98.0 a
7	DRIVE	75	DF	0.75	lb ai/a		AUG 1	A	17.5 bcd	70.8 ab	76.5 ab	97.3 a
	DYNE-AMIC		L	1.5	pt/a		AUG 1	A				
8	MILLENNIUM ULTRA	3.75	L	1.25	pt/a		AUG 1	A	5.0 de	87.0 ab	95.3 a	98.0 a
9	MILLENNIUM ULTRA	3.75	L	2.5	pt/a		AUG 1	A	17.5 bcd	62.0 ab	82.5 ab	97.3 a
10	MONUMENT	75	WG	0.47	oz wt/a		AUG 1	A	3.8 de	58.3 b	65.8 b	94.5 a
	X-77 SPREADER		L	0.25	% v/v		AUG 1	A				
11	REVOLVER	0.19	L	17.42	fl oz/a		AUG 1	A	1.3 e	92.0 a	97.3 a	98.0 a
12	TRIMEC CLASSIC	2.72	L	1.75	pt/a		AUG 1	A	3.3 de	63.3 ab	79.3 ab	97.0 a
13	TRIMEC CLASSIC	2.72	L	3.5	pt/a		AUG 1	A	20.0 bc	68.8 ab	77.3 ab	97.3 a
14	CHECK								0.0 e	90.8 a	96.0 a	97.3 a
LSD (P=.05)							14.92	30.23	26.06	10.87		
Standard Deviation							10.44	21.15	18.24	7.61		
CV							83.12	29.15	22.24	8.01		
Grand Mean							12.56	72.57	81.99	94.99		
Bartlett's X2							41.799	23.985	57.57	54.452		
P(Bartlett's X2)							0.001*	0.031*	0.001*	0.001*		
Replicate F							2.973	7.998	4.527	0.808		
Replicate Prob(F)							0.0441	0.0003	0.0084	0.4976		
Treatment F							9.299	3.737	5.529	5.794		
Treatment Prob(F)							0.0001	0.0008	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.

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Crop Code								CYNDA	
BBCH Scale								BGRM	
Rating Date								9-15-03	
Rating Data Type								COVERAGE	
Rating Unit								PERCENT	
Assessed By								L.S. WARREN	
Days After Last Applic.								39	
Trt-Eval Interval								39 DA-B	
ARM Action Codes								P	
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Other Rate Unit	Growth Stage	Appl Code	
1	AATREX	4.0	L	1.0	lb ai/a		AUG 1	A	78.3 b
2	BUENO 6	6.0	L	1.0	lb ai/a		AUG 1	A	97.3 a
	BUENO 6	6.0	L	1.0	lb ai/a		AUG 7	B	
3	BUENO 6	6.0	L	1.5	lb ai/a		AUG 1	A	95.0 a
	BUENO 6	6.0	L	1.5	lb ai/a		AUG 7	B	
4	BUENO 6	6.0	L	2.0	lb ai/a		AUG 1	A	97.3 a
	BUENO 6	6.0	L	2.0	lb ai/a		AUG 7	B	
5	CONFRONT	3.0	SL	1.0	pt/a		AUG 1	A	96.5 a
6	CONFRONT	3.0	SL	2.0	pt/a		AUG 1	A	96.5 a
7	DRIVE	75	DF	0.75	lb ai/a		AUG 1	A	97.3 a
	DYNE-AMIC		L	1.5	pt/a		AUG 1	A	
8	MILLENNIUM ULTRA	3.75	L	1.25	pt/a		AUG 1	A	96.5 a
9	MILLENNIUM ULTRA	3.75	L	2.5	pt/a		AUG 1	A	96.5 a
10	MONUMENT	75	WG	0.47	oz wt/a		AUG 1	A	94.5 a
	X-77 SPREADER		L	0.25	% v/v		AUG 1	A	
11	REVOLVER	0.19	L	17.42	fl oz/a		AUG 1	A	96.5 a
12	TRIMEC CLASSIC	2.72	L	1.75	pt/a		AUG 1	A	96.0 a
13	TRIMEC CLASSIC	2.72	L	3.5	pt/a		AUG 1	A	95.8 a
14	CHECK								95.3 a
LSD (P=.05)								5.57	
Standard Deviation								3.90	
CV								4.11	
Grand Mean								94.93	
Bartlett's X2								47.285	
P(Bartlett's X2)								0.001*	
Replicate F								2.374	
Replicate Prob(F)								0.0858	
Treatment F								6.197	
Treatment Prob(F)								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.

### Trial Comments

09-03-03: VISUAL CYNDA INJURY SYMPTOMS IN PLOTS TREATED WITH MONUMENT 75WG + X-77 SPREADER CONSISTED OF SLIGHT LEAF CHLOROSIS (< 5% PHYTO)