

# North Carolina State University

## TOLERANCE OF SEEDLING YUKON BERMUDAGRASS TO VARIOUS POSTEMERGENCE HERBICIDES

Trial ID: 03-T43  
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 YUKON 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:** UCONN  
**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:** TEST 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
<b>Crop 1 Code, BBCH Scale:</b>	CYNDA BGRM	CYNDA BGRM
<b>Stage Scale Used:</b>	BBCH	BBCH
<b>Stage Majority, Percent:</b>	3"STOLON 75	MOWED 100
<b>Height, Unit:</b>	0.5 IN	0.75 IN

### Application Equipment

	A	B
<b>Appl. Equipment:</b>	BACPSR	BACPSR
<b>Operating Pressure:</b>	35	35
<b>Pressure Unit:</b>	PSI	PSI
<b>Nozzle Type:</b>	FLAT FAN	FLAT FAN
<b>Nozzle Size:</b>	XR 8002VS	XR 8002VS
<b>Nozzle Spacing, Unit:</b>	10 IN	10 IN
<b>Band Width, Unit:</b>	40 IN	40 IN
<b>Boom Length, Unit:</b>	40 IN	40 IN
<b>Boom Height, Unit:</b>	10 IN	10 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume:</b>	32.5	32.5
<b>Volume Unit:</b>	GPA	GPA
<b>Propellant:</b>	COMCO2	COMCO2
<b>Tank Mix (Y/N):</b>	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	67.5 a	5.3 f	5.3 g	16.8 f
2	BUENO 6	6.0	L	1.0	lb ai/a		AUG 1	A	6.3 def	37.5 b-e	56.3 a-d	88.3 ab
	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	2.5 ef	63.8 ab	75.0 ab	89.5 ab
	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	12.5 cde	43.8 bcd	47.5 b-e	82.0 a-d
	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	16.7 bcd	18.3 def	21.7 efg	55.0 de
6	CONFRONT	3.0	SL	2.0	pt/a		AUG 1	A	27.5 b	10.0 ef	9.3 fg	45.0 ef
7	DRIVE	75	DF	0.75	lb ai/a		AUG 1	A	23.8 bc	27.5 def	35.0 def	62.5 b-e
	DYNE-AMIC		L	1.5	pt/a		AUG 1	A				
8	MILLENNIUM ULTRA	3.75	L	1.25	pt/a		AUG 1	A	13.3 cde	35.0 cde	38.3 de	58.3 cde
9	MILLENNIUM ULTRA	3.75	L	2.5	pt/a		AUG 1	A	12.5 cde	45.0 bcd	55.0 bcd	80.0 a-d
10	MONUMENT	75	WG	0.47	oz wt/a		AUG 1	A	12.5 cde	35.0 cde	46.3 b-e	70.0 a-e
	X-77 SPREADER		L	0.25	% v/v		AUG 1	A				
11	REVOLVER	0.19	L	17.42	fl oz/a		AUG 1	A	6.3 def	60.0 abc	61.3 a-d	85.8 abc
12	TRIMEC CLASSIC	2.72	L	1.75	pt/a		AUG 1	A	12.5 cde	56.3 abc	67.5 abc	93.8 a
13	TRIMEC CLASSIC	2.72	L	3.5	pt/a		AUG 1	A	18.8 bc	36.3 b-e	45.0 cde	85.0 abc
14	CHECK								0.0 f	76.3 a	85.0 a	96.5 a
LSD (P=.05)							11.96	27.71	28.94	29.44		
Standard Deviation							8.37	19.39	20.25	20.60		
CV							50.37	49.36	43.74	28.6		
Grand Mean							16.61	39.27	46.3	72.02		
Bartlett's X2							13.185	19.446	21.135	33.112		
P(Bartlett's X2)							0.356	0.11	0.07	0.002*		
Replicate F							0.447	1.325	2.229	2.190		
Replicate Prob(F)							0.7209	0.2808	0.1010	0.1056		
Treatment F							15.528	4.402	5.273	4.725		
Treatment Prob(F)							0.0001	0.0002	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	Rate	Rate Unit	Other Rate Unit	Growth Stage	Appl Code	
1	AATREX	4.0	L	1.0	lb ai/a		AUG 1	A	31.3 d
2	BUENO 6	6.0	L	1.0	lb ai/a		AUG 1	A	88.8 ab
	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	85.0 ab
	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	83.8 ab
	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	71.7 abc
6	CONFRONT	3.0	SL	2.0	pt/a		AUG 1	A	60.0 c
7	DRIVE	75	DF	0.75	lb ai/a		AUG 1	A	70.0 bc
	DYNE-AMIC		L	1.5	pt/a		AUG 1	A	
8	MILLENNIUM ULTRA	3.75	L	1.25	pt/a		AUG 1	A	71.7 abc
9	MILLENNIUM ULTRA	3.75	L	2.5	pt/a		AUG 1	A	89.5 ab
10	MONUMENT	75	WG	0.47	oz wt/a		AUG 1	A	75.0 abc
	X-77 SPREADER		L	0.25	% v/v		AUG 1	A	
11	REVOLVER	0.19	L	17.42	fl oz/a		AUG 1	A	89.5 ab
12	TRIMEC CLASSIC	2.72	L	1.75	pt/a		AUG 1	A	90.0 ab
13	TRIMEC CLASSIC	2.72	L	3.5	pt/a		AUG 1	A	87.5 ab
14	CHECK								93.8 a
LSD (P=.05)							22.61		
Standard Deviation							15.82		
CV							20.37		
Grand Mean							77.67		
Bartlett's X2							27.415		
P(Bartlett's X2)							0.011*		
Replicate F							2.663		
Replicate Prob(F)							0.0621		
Treatment F							4.433		
Treatment Prob(F)							0.0002		

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 INJURY SYMPTOMS OF CYNDA IN PLOTS TREATED WITH MONUMENT 75WG + X-77 SPREADER CONSISTED OF LEAF CHLOROSIS (5 - 20% PHYTO)