

# North Carolina State University

## POSTEMERGENCE PURPLE NUTSEDGE CONTROL IN A BERMUDAGRASS PASTURE

Trial ID: 02-P3

Study Dir.: LEON WARREN

Location: ONSLOW COUNTY

Investigator: Crop Science Department

### GENERAL TRIAL INFORMATION

**Study Director:** LEON WARREN

**Title:** RESEARCH ASSOCIATE

**Affiliation:** NORTH CAROLINA STATE UNIVERSITY

**Postal Code:** 27695

**Investigator:** F.H. YELVERTON

**Title:** PROFESSOR

**Affiliation:** NORTH CAROLINA STATE UNIVERSITY

**Postal Code:** 27695

### TRIAL LOCATION

**City:** MAYSVILLE

**Trial Status:** COMPLETED

**State/Prov.:** NC

**Postal Code:** 28555

**Initiation Date:** 05-31-02

**Country:** USA

**Angle y-axis to North °:** 0.00

### COOPERATOR/LANDOWNER

**Cooperator:** DOUG JORDAN

**Country:** USA

**Org:** NUHOFF FARMS

**Phone No:** 910/449-5167

**Address 1:** 2350 BELGRADE-SWANSBORO ROAD

**City:** MAYSVILLE

**State/Prov:** NC

**Postal Code:** 28555

**Conducted Under GLP (Y/N):** N

**Conducted Under GEP (Y/N):** N

**Objective:** TO EVALUATE THE EFFICACY OF PLATEAU 2AS ON PURPLE NUTSEDGE IN A BERMUDAGRASS PASTURE; TO EVALUATE THE TOLERANCE OF BERMUDAGRASS TO PLATEAU 2AS APPLICATIONS

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	CYPRO	NUTSEDGE, PURPLE	CYPERUS ROTUNDUS L.

**Crop 1:** CYNDA BERMUDAGRASS PASTURE

**Variety:** UNKNOWN

**Planting Date:** 04-01-95

### SITE AND DESIGN

**Plot Width, Unit:** 12 FT

**Plot Length, Unit:** 20 FT

**Reps:** 4

**Site Type:** PASTURE

**Tillage Type:** NA

**Study Design:** RANDOMIZED COMPLETE BLOCK

### SOIL DESCRIPTION

**% OM:** 1.37

**Texture:** SANDY LOAM

**pH:** 6.3

**CEC:** 10.5

**Fert. Level:** EXCELLENT

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### MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	05-14-02		0.51	IN	RAINFALL	17	DBT
2.	05-18-02		0.39	IN	RAINFALL	13	DBT
3.	05-29-02		0.57	IN	RAINFALL	2	DBT
4.	06-02-02		0.13	IN	RAINFALL	2	DAT
5.	06-03-02		0.20	IN	RAINFALL	3	DAT
6.	06-07-02		0.32	IN	RAINFALL	7	DAT
7.	06-14-02		0.45	IN	RAINFALL	14	DAT
8.	06-15-02		0.60	IN	RAINFALL	15	DAT
9.	06-18-02		0.30	IN	RAINFALL	18	DAT
10.	06-23-02		0.80	IN	RAINFALL	23	DAT

**Overall Moisture Conditions:** APR 2.39"; MAY 3.06"; JUN 3.69"

**Closest Weather Station:** HOFMANN FOREST

**Distance:** 5

**Unit:** MI

### APPLICATION DESCRIPTION

	A
Application Date:	05-31-02
Time of Day:	11:00 AM
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	82 F
% Relative Humidity:	77
Wind Velocity, Unit:	1.8 MPH
Dew Presence (Y/N):	N
Soil Temp., Unit:	78 F
Soil Moisture:	MOIST
% Cloud Cover:	75

### CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	CYNDA CLIPPED
Stage Scale:	NONE
Height, Unit:	2 IN

### WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	CYPRO 5-8 LEAF
Stage Scale:	2-4 INCH
Density, Unit:	1-10 FT2

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### APPLICATION EQUIPMENT

	<b>A</b>
<b>Appl. Equipment:</b>	BACSPR
<b>Operating Pressure:</b>	42 PSI
<b>Nozzle Type:</b>	FLAT FAN
<b>Nozzle Size:</b>	XR11002VS
<b>Nozzle Spacing, Unit:</b>	18 IN
<b>Boom Length, Unit:</b>	72 IN
<b>Boom Height, Unit:</b>	16 IN
<b>Ground Speed, Unit:</b>	3 MPH
<b>Carrier:</b>	WATER
<b>Spray Volume, Unit:</b>	20 GPA
<b>Propellant:</b>	COMCO2
<b>Tank Mix (Y/N):</b>	Y

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Weed Code								CYND A	CYND A		
Crop Code								C-PHYTO	C-COVERAGE		
Rating Data Type								PERCENT	PERCENT		
Rating Unit								06-13-02	06-13-02		
Rating Date								13 DA-A	13 DA-A		
Trt-Eval Interval								P	P		
ARM Action Codes											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	PLATEAU X-77 SPREADER	2.0	AS L	2.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		5.0 ab	1.8 b
2	PLATEAU X-77 SPREADER	2.0	AS L	3.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		8.8 a	1.3 b
3	PLATEAU X-77 SPREADER	2.0	AS L	4.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		6.3 ab	1.8 b
4	PLATEAU X-77 SPREADER	2.0	AS L	6.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		7.5 a	1.3 b
5	PLATEAU X-77 SPREADER	2.0	AS L	8.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		8.8 a	1.8 b
6	CHECK									0.0 b	5.0 a
LSD (P=.05)								6.96	2.90		
Standard Deviation								4.62	1.93		
CV								76.42	90.62		
Bartlett's X2								5.11	23.931		
P(Bartlett's X2)								0.164	0.001*		
Replicate F								0.961	0.551		
Replicate Prob(F)								0.4367	0.6555		
Treatment F								2.042	2.204		
Treatment Prob(F)								0.1304	0.1081		

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

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Weed Code								CYNDA	CYNDA		
Crop Code								C-COVERAGE	C-COVERAGE		
Rating Data Type								PERCENT	PERCENT		
Rating Unit								07-01-02	07-17-02		
Rating Date								31 DA-A	47 DA-A		
Trt-Eval Interval								P	P		
ARM Action Codes											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code		
1	PLATEAU X-77 SPREADER	2.0	AS L	2.0	FL OZ/A	0.25	% V/V	MAY 31 A	MAY 31 A	5.8 a	7.8 a
2	PLATEAU X-77 SPREADER	2.0	AS L	3.0	FL OZ/A	0.25	% V/V	MAY 31 A	MAY 31 A	6.3 a	9.5 a
3	PLATEAU X-77 SPREADER	2.0	AS L	4.0	FL OZ/A	0.25	% V/V	MAY 31 A	MAY 31 A	4.0 a	4.0 a
4	PLATEAU X-77 SPREADER	2.0	AS L	6.0	FL OZ/A	0.25	% V/V	MAY 31 A	MAY 31 A	2.5 a	4.3 a
5	PLATEAU X-77 SPREADER	2.0	AS L	8.0	FL OZ/A	0.25	% V/V	MAY 31 A	MAY 31 A	4.5 a	4.5 a
6	CHECK									3.8 a	4.5 a
LSD (P=.05)								6.06	6.20		
Standard Deviation								4.02	4.12		
CV								90.18	71.57		
Bartlett's X2								3.635	11.799		
P(Bartlett's X2)								0.603	0.038*		
Replicate F								1.852	1.427		
Replicate Prob(F)								0.1812	0.2740		
Treatment F								0.467	1.252		
Treatment Prob(F)								0.7952	0.3343		

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Weed Code								CYNDA	CYPRO		
Crop Code								C-COVERAGE	P-INJURY		
Rating Data Type								PERCENT	PERCENT		
Rating Unit								08-22-02	06-13-02		
Rating Date								83 DA-A	13 DA-A		
Trt-Eval Interval								P	P		
ARM Action Codes											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	PLATEAU X-77 SPREADER	2.0	AS L	2.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		11.0 a	17.5 ab
2	PLATEAU X-77 SPREADER	2.0	AS L	3.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		9.8 a	11.3 b
3	PLATEAU X-77 SPREADER	2.0	AS L	4.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		4.8 a	18.8 a
4	PLATEAU X-77 SPREADER	2.0	AS L	6.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		3.8 a	21.3 a
5	PLATEAU X-77 SPREADER	2.0	AS L	8.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		3.0 a	18.8 a
6	CHECK									2.3 a	0.0 c
LSD (P=.05)								12.41	6.50		
Standard Deviation								8.24	4.31		
CV								143.24	29.58		
Bartlett's X2								20.525	7.559		
P(Bartlett's X2)								0.001*	0.109		
Replicate F								1.098	1.269		
Replicate Prob(F)								0.3804	0.3208		
Treatment F								0.806	13.388		
Treatment Prob(F)								0.5627	0.0001		

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								CYPRO	CYPRO		
								P-CONTROL	P-CONTROL		
								PERCENT	PERCENT		
								07-01-02	07-17-02		
								31 DA-A	47 DA-A		
								P	P		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	PLATEAU X-77 SPREADER	2.0	AS L	2.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		88.8 c	87.5 c
2	PLATEAU X-77 SPREADER	2.0	AS L	3.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		90.0 c	92.3 bc
3	PLATEAU X-77 SPREADER	2.0	AS L	4.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		92.0 bc	94.5 ab
4	PLATEAU X-77 SPREADER	2.0	AS L	6.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		96.0 ab	98.3 a
5	PLATEAU X-77 SPREADER	2.0	AS L	8.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		97.3 a	99.0 a
6	CHECK									0.0 d	0.0 d
LSD (P=.05)								4.24	4.85		
Standard Deviation								2.81	3.22		
CV								3.63	4.1		
Bartlett's X2								3.005	10.622		
P(Bartlett's X2)								0.391	0.014*		
Replicate F								0.127	2.065		
Replicate Prob(F)								0.9429	0.1479		
Treatment F								732.300	579.290		
Treatment Prob(F)								0.0001	0.0001		

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Location: ONSLOW COUNTY

Investigator: Crop Science Department

Weed Code								CYPRO	LOLMU		
Crop Code								P-CONTROL	P-CONTROL		
Rating Data Type								PERCENT	PERCENT		
Rating Unit								08-22-02	06-13-02		
Rating Date								83 DA-A	13 DA-A		
Trt-Eval Interval								P	P		
ARM Action Codes											
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code		
1	PLATEAU X-77 SPREADER	2.0	AS L	2.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		55.0 b	71.3 b
2	PLATEAU X-77 SPREADER	2.0	AS L	3.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		93.5 a	81.3 ab
3	PLATEAU X-77 SPREADER	2.0	AS L	4.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		96.0 a	81.3 ab
4	PLATEAU X-77 SPREADER	2.0	AS L	6.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		98.0 a	85.0 a
5	PLATEAU X-77 SPREADER	2.0	AS L	8.0	FL OZ/A 0.25 % V/V			MAY 31 A MAY 31 A		99.0 a	82.5 a
6	CHECK									0.0 c	0.0 c
LSD (P=.05)								19.07	10.74		
Standard Deviation								12.66	7.12		
CV								17.2	10.65		
Bartlett's X2								26.973	6.756		
P(Bartlett's X2)								0.001*	0.149		
Replicate F								1.515	4.070		
Replicate Prob(F)								0.2512	0.0267		
Treatment F								39.459	86.319		
Treatment Prob(F)								0.0001	0.0001		

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Investigator: Crop Science Department

Weed Code								LOLMU		
Crop Code										
Rating Data Type								P-CONTROL		
Rating Unit								PERCENT		
Rating Date								07-01-02		
Trt-Eval Interval								31 DA-A		
ARM Action Codes								P		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code	
1	PLATEAU X-77 SPREADER	2.0	AS L	2.0	FL OZ/A			MAY 31 A	A	93.8 b
				0.25	% V/V			MAY 31 A	A	
2	PLATEAU X-77 SPREADER	2.0	AS L	3.0	FL OZ/A			MAY 31 A	A	98.8 a
				0.25	% V/V			MAY 31 A	A	
3	PLATEAU X-77 SPREADER	2.0	AS L	4.0	FL OZ/A			MAY 31 A	A	100.0 a
				0.25	% V/V			MAY 31 A	A	
4	PLATEAU X-77 SPREADER	2.0	AS L	6.0	FL OZ/A			MAY 31 A	A	100.0 a
				0.25	% V/V			MAY 31 A	A	
5	PLATEAU X-77 SPREADER	2.0	AS L	8.0	FL OZ/A			MAY 31 A	A	100.0 a
				0.25	% V/V			MAY 31 A	A	
6	CHECK									0.0 c
LSD (P=.05)								2.25		
Standard Deviation								1.49		
CV								1.82		
Bartlett's X2								0.0		
P(Bartlett's X2)								1.00		
Replicate F								0.625		
Replicate Prob(F)								0.6098		
Treatment F								2921.250		
Treatment Prob(F)								0.0001		

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### Trial Comments

05-31-02: TREATMENTS APPLIED AT 11:00 AM; 0.5 INCH OF RAIN OCCURRED AT NIGHT

06-06-02: CYNDA STAND EXTREMELY SPARSE THROUGHOUT TEST AREA DUE TO CYPRO AND LOLMU DENSITY

- CYPRO AND LOLMU HAD DULL YELLOWISH-GREEN APPEARANCE IN ALL TREATED PLOTS

06-13-02: TEST AREA DRY AND STRESSED

07-01-02: CYNDA ACTIVELY GROWING BUT STILL NOT CLIPPED; NO COLOR DIFFERENCES WERE OBSERVED

07-17-02: CYNDA HAD BEEN CLIPPED AND BALED; CYNDA COVERAGE STILL EXTREMELY SPARSE IN PLATEAU TREATED PLOTS DUE TO ORIGINAL CYPRO COMPETITION

10-08-02: SLIT-SEEDED STRIPS WITH MATAWAY OVERSEEDER  
TWO STRIPS IN FRONT OF PLOTS WITH NKC 9704 WHEAT  
TWO STRIPS IN MIDDLE OF PLOTS WITH WRENS ABRUZZI RYE  
TWO STRIPS IN BACK OF PLOTS WITH GULF ANNUAL RYEGRASS