

North Carolina State University

POST PURPLE NUTSEDGE CONTROL IN COMMON BERMUDAGRASS USING FLAZASULFURON AND OTHER SULFONYLUREA HERBICIDES AS WELL AS INDUSTRY STANDARDS

Trial ID: 03-T18
Location: PLYMOUTH C.C.

Study Dir.: 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
Investigator: Fred Yelverton **Title:** PROFESSOR
Affiliation: NORTH CAROLINA STATE UNIVERSITY
Postal Code: 27695

TRIAL LOCATION

City: PLYMOUTH **Trial Status:** COMPLETED
State/Prov.: NC **Initiation Date:** 5-8-03
Country: USA

COOPERATOR/LANDOWNER

Cooperator: CHRIS KELLY **Country:** USA
Org: PLYMOUTH COUNTRY CLUB **Phone No:** 252/793-3034
City: PLYMOUTH
State/Prov: NC

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

Objective: TO EVALUATE FLAZASULFURON AND OTHER SULFONYLUREA HERBICIDES AS WELL AS INDUSTRY STANDARDS FOR POST PURPLE NUTSEDGE CONTROL IN COMMON BERMUDAGRASS

CROP AND WEED DESCRIPTION

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

Crop 1: CYNDA BERMUDAGRASS **Variety:** COMMON

SITE AND DESIGN

Plot Width, Unit: 5 FT **Plot Length, Unit:** 10 FT **Reps:** 4
Site Type: TURF - GOLF COURSE FAIRWAY
Tillage Type: NA **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% OM: 0.51
pH: 5.9
CEC: 7.9 **Fert. Level:** GOOD

Overall Moisture Conditions: TEST AREA WAS IRRIGATED AS NEEDED

APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	5-8-03	5-14-03	5-27-03	6-19-03	7-21-03
Time of Day:	11:00 AM	12:30 PM	10:45 AM	3:30 PM	5:45 PM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	6 LEAF	6 DAY	19 DAY	42 DAY	74 DAY
Applic. Placement:	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	84 F	77 F	65 F	82 F	88 F
% Relative Humidity:	69	38	82	78	76
Wind Velocity, Unit:	2.2 MPH	2.8 MPH	2.3 MPH	0.8 MPH	2.1 MPH
Dew Presence (Y/N):	N	N	Y	N	N
Soil Temp., Unit:	77 F	79 F	71 F	84 F	88 F
Soil Moisture:	MOIST	MOIST	WET	MOIST	MOIST
% Cloud Cover:	60	5	90	75	30

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	CYNDA MOWED	CYNDA MOWED	CYNDA MOWED	CYNDA MOWED	CYNDA MOWED
Stage Scale:	NA	NA	NA	NA	NA
Height, Unit:	0.5 IN	0.5 IN	0.5 IN	0.5 IN	0.5 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	CYPRO 4-8 LEAF	CYPRO 4-8 LEAF	CYPRO 4-8 LEAF	CYPRO 4-8+LEAF	CYPRO 4-8+LEAF
Stage Scale:	0.5 INCH	0.5 INCH	1.5 INCH	0.75 INCH	1.0 INCH
Density, Unit:	10+ FT2	10+ FT2	10+ FT2	10+ FT2	10+ FT2

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APPLICATION EQUIPMENT

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

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										CYPRO	CYPRO	CYPRO		
										CONTROL PERCENT 5-27-03 L.S. WARREN 19 DA-A P	CONTROL PERCENT 6-19-03 L.S. WARREN 42 DA-A P	CONTROL PERCENT 6-30-03 L.S. WARREN 53 DA-A P		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Unit	Grow Stg	Appl Code	Spray Volume			
1	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0 0.25	oz wt/a % v/v				MAY 8 MAY 8	A A		99.0 a	96.5 ab	93.3 a
2	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	3.0 0.25 3.0 0.25	oz wt/a % v/v oz wt/a % v/v				MAY 8 MAY 8 MAY 27 MAY 27	A A C C		98.0 a	99.0 ab	97.8 a
3	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	2.25 0.25 2.25 0.25	oz wt/a % v/v oz wt/a % v/v				MAY 8 MAY 8 MAY 27 MAY 27	A A C C		97.0 a	99.0 ab	92.0 ab
4	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	1.5 0.25 1.5 0.25	oz wt/a % v/v oz wt/a % v/v				MAY 8 MAY 8 MAY 27 MAY 27	A A C C		95.5 a	96.5 ab	81.3 bc
5	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L 25 L	DG	1.5 0.25 1.5 0.25 1.5 0.25	oz wt/a % v/v oz wt/a % v/v oz wt/a % v/v				MAY 8 MAY 8 MAY 27 MAY 27 JUN 19 JUN 19	A A C C D D		97.3 a	99.0 ab	98.0 a
6	SULFOSULFURON X-77 SPREADER	75 L	WG	1.5 0.25	oz wt/a % v/v				MAY 8 MAY 8	A A		92.3 a	99.3 a	97.8 a
7	SULFOSULFURON X-77 SPREADER SULFOSULFURON X-77 SPREADER	75 L 75 L	WG	1.33 0.25 1.33 0.25	oz wt/a % v/v oz wt/a % v/v				MAY 8 MAY 8 JUL 21 JUL 21	A A E E		96.5 a	99.3 a	99.0 a
8	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47 0.25	oz wt/a % v/v				MAY 8 MAY 8	A A		96.8 a	98.8 ab	98.5 a
9	TRIFLOXYSULFURON X-77 SPREADER TRIFLOXYSULFURON X-77 SPREADER	75 L 75 L	WG	0.47 0.25 0.47 0.25	oz wt/a % v/v oz wt/a % v/v				MAY 8 MAY 8 JUN 19 JUN 19	A A D D		99.0 a	99.0 ab	99.0 a
10	MANAGE X-77 SPREADER	75 L	WG	1.33 0.5	oz wt/a % v/v				MAY 8 MAY 8	A A		97.3 a	88.5 ab	73.3 c
11	MANAGE X-77 SPREADER MANAGE X-77 SPREADER	75 L 75 L	WG	1.33 0.5 1.33 0.5	oz wt/a % v/v oz wt/a % v/v				MAY 8 MAY 8 JUN 19 JUN 19	A A D D		92.3 a	87.5 b	98.8 a
12	BUENO 6 BUENO 6	6.0 6.0	L	2.0 2.0	lb ai/a lb ai/a				MAY 8 MAY 14	A B		22.5 b	27.5 c	25.0 d
13	IMAGE 70DG BUENO 6 X-77 SPREADER	70 6.0 L	DG	0.5 2.0 0.25	lb ai/a lb ai/a % v/v				MAY 8 MAY 8 MAY 8	A A A		99.3 a	99.0 ab	90.8 ab
14	CHECK											0.0 c	0.0 d	0.0 e
LSD (P=.05)											8.60	11.71	11.91	
Standard Deviation											6.02	8.19	8.34	
CV											7.12	9.65	10.2	
Grand Mean											84.46	84.91	81.73	
Bartlett's X2											56.967	57.929	54.192	
P(Bartlett's X2)											0.001*	0.001*	0.001*	
Replicate F											1.633	0.220	1.148	
Replicate Prob(F)											0.1974	0.8819	0.3420	
Treatment F											108.950	56.769	54.160	
Treatment Prob(F)											0.0001	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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										CYPRO	CYPRO	CYPRO		
										CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT		
										7-21-03	8-4-03	8-21-03		
										L.S. WARREN	L.S. WARREN	L.S. WARREN		
										74 DA-A	88 DA-A	105 DA-A		
										P	P	P		
Weed Code														
Crop Code														
Rating Data Type														
Rating Unit														
Rating Date														
Assessed By														
Trt-Eval Interval														
ARM Action Codes														
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate	Unit	Grow Stg	Appl Code	Spray Volume			
1	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0	oz wt/a				MAY 8	A		70.0 bc	56.3 de	72.5 abc
				0.25	% v/v				MAY 8	A				
2	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0	oz wt/a				MAY 8	A		76.3 abc	66.3 bcd	48.8 c-f
				0.25	% v/v				MAY 8	A				
	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0	oz wt/a				MAY 27	C				
				0.25	% v/v				MAY 27	C				
3	FLAZASULFURON X-77 SPREADER	25 L	DG	2.25	oz wt/a				MAY 8	A		56.3 cd	28.8 fg	35.0 def
				0.25	% v/v				MAY 8	A				
	FLAZASULFURON X-77 SPREADER	25 L	DG	2.25	oz wt/a				MAY 27	C				
				0.25	% v/v				MAY 27	C				
4	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5	oz wt/a				MAY 8	A		57.5 cd	38.8 ef	53.8 b-e
				0.25	% v/v				MAY 8	A				
	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5	oz wt/a				MAY 27	C				
				0.25	% v/v				MAY 27	C				
5	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5	oz wt/a				MAY 8	A		81.3 ab	63.8 cd	36.3 def
				0.25	% v/v				MAY 8	A				
	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5	oz wt/a				MAY 27	C				
				0.25	% v/v				MAY 27	C				
	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5	oz wt/a				JUN 19	D				
				0.25	% v/v				JUN 19	D				
6	SULFOSULFURON X-77 SPREADER	75 L	WG	1.5	oz wt/a				MAY 8	A		88.8 ab	87.3 abc	37.5 def
				0.25	% v/v				MAY 8	A				
7	SULFOSULFURON X-77 SPREADER	75 L	WG	1.33	oz wt/a				MAY 8	A		96.0 a	99.0 a	97.8 a
				0.25	% v/v				MAY 8	A				
	SULFOSULFURON X-77 SPREADER	75 L	WG	1.33	oz wt/a				JUL 21	E				
				0.25	% v/v				JUL 21	E				
8	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47	oz wt/a				MAY 8	A		93.5 a	88.5 ab	87.0 ab
				0.25	% v/v				MAY 8	A				
9	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47	oz wt/a				MAY 8	A		98.0 a	99.0 a	97.5 a
				0.25	% v/v				MAY 8	A				
	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47	oz wt/a				JUN 19	D				
				0.25	% v/v				JUN 19	D				
10	MANAGE X-77 SPREADER	75 L	WG	1.33	oz wt/a				MAY 8	A		32.5 ef	36.3 efg	28.8 efg
				0.5	% v/v				MAY 8	A				
11	MANAGE X-77 SPREADER	75 L	WG	1.33	oz wt/a				MAY 8	A		85.0 ab	88.8 ab	68.8 a-d
				0.5	% v/v				MAY 8	A				
	MANAGE X-77 SPREADER	75 L	WG	1.33	oz wt/a				JUN 19	D				
				0.5	% v/v				JUN 19	D				
12	BUENO 6	6.0 L	L	2.0	lb ai/a				MAY 8	A		15.0 fg	12.5 gh	18.8 fg
		6.0 L	L	2.0	lb ai/a				MAY 14	B				
13	IMAGE 70DG BUENO 6	6.0 L	DG	0.5	lb ai/a				MAY 8	A		43.8 de	36.3 efg	17.5 fg
				2.0	lb ai/a				MAY 8	A				
	X-77 SPREADER	L	L	0.25	% v/v				MAY 8	A				
14	CHECK											0.0 g	0.0 h	0.0 g
LSD (P=.05)											22.03	24.50	34.53	
Standard Deviation											15.42	17.14	24.16	
CV											24.15	29.96	48.34	
Grand Mean											63.84	57.23	49.98	
Bartlett's X2											44.415	21.532	31.445	
P(Bartlett's X2)											0.001*	0.018*	0.002*	
Replicate F											2.878	0.691	5.409	
Replicate Prob(F)											0.0482	0.5628	0.0033	
Treatment F											16.292	14.442	6.502	
Treatment Prob(F)											0.0001	0.0001	0.0001	

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Trial ID: 03-T18
Location: PLYMOUTH C.C.

Study Dir.: L.S. WARREN
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										CYPRO	ELEIN	ELEIN	
										CONTROL PERCENT 9-4-03 L.S. WARREN 119 DA-A P	CONTROL PERCENT 6-30-03 L.S. WARREN 53 DA-A P	CONTROL PERCENT 7-21-03 L.S. WARREN 74 DA-A P	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Spray Volume			
1	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0 0.25	oz wt/a % v/v			MAY 8 MAY 8	A A		68.8 ab	77.5 a	81.3 abc
2	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	3.0 0.25 3.0 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 MAY 8 MAY 27 MAY 27	A A C C		70.0 ab	82.5 a	80.0 abc
3	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	2.25 0.25 2.25 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 MAY 8 MAY 27 MAY 27	A A C C		30.0 cd	90.0 a	86.3 a
4	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	1.5 0.25 1.5 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 MAY 8 MAY 27 MAY 27	A A C C		41.3 bc	87.5 a	83.8 ab
5	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L 25 L	DG	1.5 0.25 1.5 0.25 1.5 0.25	oz wt/a % v/v oz wt/a % v/v oz wt/a % v/v			MAY 8 MAY 8 MAY 27 MAY 27 JUN 19 JUN 19	A A C C D D		27.5 cd	72.5 ab	82.5 abc
6	SULFOSULFURON X-77 SPREADER	75 L	WG	1.5 0.25	oz wt/a % v/v			MAY 8 MAY 8	A A		27.5 cd	0.0 d	31.3 de
7	SULFOSULFURON X-77 SPREADER SULFOSULFURON X-77 SPREADER	75 L 75 L	WG	1.33 0.25 1.33 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 MAY 8 JUL 21 JUL 21	A A E E		91.0 a	22.5 cd	57.5 bcd
8	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47 0.25	oz wt/a % v/v			MAY 8 MAY 8	A A		76.3 ab	47.5 bc	55.0 cd
9	TRIFLOXYSULFURON X-77 SPREADER TRIFLOXYSULFURON X-77 SPREADER	75 L 75 L	WG	0.47 0.25 0.47 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 MAY 8 JUN 19 JUN 19	A A D D		84.8 a	65.0 ab	82.5 abc
10	MANAGE X-77 SPREADER	75 L	WG	1.33 0.5	oz wt/a % v/v			MAY 8 MAY 8	A A		15.0 cd	0.0 d	37.5 d
11	MANAGE X-77 SPREADER MANAGE X-77 SPREADER	75 L 75 L	WG	1.33 0.5 1.33 0.5	oz wt/a % v/v oz wt/a % v/v			MAY 8 MAY 8 JUN 19 JUN 19	A A D D		68.8 ab	0.0 d	6.3 ef
12	BUENO 6 BUENO 6	6.0 6.0	L	2.0 2.0	lb ai/a lb ai/a			MAY 8 MAY 14	A B		20.0 cd	12.5 d	41.3 d
13	IMAGE 70DG BUENO 6 X-77 SPREADER	70 6.0 L	DG	0.5 2.0 0.25	lb ai/a lb ai/a % v/v			MAY 8 MAY 8 MAY 8	A A A		25.0 cd	92.5 a	72.5 abc
14	CHECK										0.0 d	0.0 d	0.0 f
LSD (P=.05)											37.99	28.13	27.90
Standard Deviation											26.58	19.68	19.52
CV											57.63	42.4	34.27
Grand Mean											46.13	46.43	56.96
Bartlett's X2											9.036	33.367	33.589
P(Bartlett's X2)											0.70	0.001*	0.001*
Replicate F											3.416	0.378	5.924
Replicate Prob(F)											0.0266	0.7694	0.0020
Treatment F											4.882	15.364	9.162
Treatment Prob(F)											0.0001	0.0001	0.0001

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											ELEIN	ELEIN	ELEIN
											CONTROL PERCENT	CONTROL PERCENT	CONTROL PERCENT
											8-4-03	8-21-03	9-4-03
											L.S. WARREN	L.S. WARREN	L.S. WARREN
											88 DA-A	105 DA-A	119 DA-A
											P	P	P
Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Assessed By	Trt-Eval Interval	ARM Action Codes						
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Stg	Appl Code	Spray Volume				
1	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0 0.25	oz wt/a % v/v		MAY 8	A		82.5 ab	66.3 abc	65.0 a	
2	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0 0.25	oz wt/a % v/v		MAY 8	A		85.0 ab	70.0 ab	63.8 a	
	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0 0.25	oz wt/a % v/v		MAY 27	C					
3	FLAZASULFURON X-77 SPREADER	25 L	DG	2.25 0.25	oz wt/a % v/v		MAY 8	A		85.0 ab	67.5 abc	55.0 ab	
	FLAZASULFURON X-77 SPREADER	25 L	DG	2.25 0.25	oz wt/a % v/v		MAY 27	C					
4	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5 0.25	oz wt/a % v/v		MAY 8	A		85.0 ab	78.8 a	56.3 ab	
	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5 0.25	oz wt/a % v/v		MAY 27	C					
5	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5 0.25	oz wt/a % v/v		MAY 8	A		87.5 a	73.8 ab	56.3 ab	
	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5 0.25	oz wt/a % v/v		MAY 27	C					
	FLAZASULFURON X-77 SPREADER	25 L	DG	1.5 0.25	oz wt/a % v/v		JUN 19	D					
6	SULFOSULFURON X-77 SPREADER	75 L	WG	1.5 0.25	oz wt/a % v/v		MAY 8	A		7.5 ef	15.0 ef	0.0 d	
7	SULFOSULFURON X-77 SPREADER	75 L	WG	1.33 0.25	oz wt/a % v/v		MAY 8	A		57.5 bc	62.5 abc	46.3 abc	
	SULFOSULFURON X-77 SPREADER	75 L	WG	1.33 0.25	oz wt/a % v/v		JUL 21	E					
8	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47 0.25	oz wt/a % v/v		MAY 8	A		27.5 def	33.8 c-f	15.0 cd	
9	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47 0.25	oz wt/a % v/v		MAY 8	A		78.8 ab	72.5 ab	41.3 abc	
	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47 0.25	oz wt/a % v/v		JUN 19	D					
10	MANAGE X-77 SPREADER	75 L	WG	1.33 0.5	oz wt/a % v/v		MAY 8	A		33.8 cde	42.5 b-e	35.0 a-d	
11	MANAGE X-77 SPREADER	75 L	WG	1.33 0.5	oz wt/a % v/v		MAY 8	A		22.5 ef	25.0 def	10.0 cd	
	MANAGE X-77 SPREADER	75 L	WG	1.33 0.5	oz wt/a % v/v		JUN 19	D					
12	BUENO 6	6.0 L	L	2.0	lb ai/a		MAY 8	A		56.3 bcd	57.5 a-d	18.8 bcd	
	BUENO 6	6.0 L	L	2.0	lb ai/a		MAY 14	B					
13	IMAGE 70DG BUENO 6	70 L	DG	0.5	lb ai/a		MAY 8	A		77.5 ab	71.3 ab	53.8 ab	
	X-77 SPREADER	6.0 L	L	2.0	lb ai/a		MAY 8	A					
	X-77 SPREADER		L	0.25	% v/v		MAY 8	A					
14	CHECK									0.0 f	0.0 f	0.0 d	
LSD (P=.05)											29.21	33.79	38.17
Standard Deviation											20.44	23.65	26.71
CV											36.4	44.97	72.44
Grand Mean											56.16	52.59	36.88
Bartlett's X2											28.847	10.459	14.084
P(Bartlett's X2)											0.004*	0.576	0.228
Replicate F											1.542	0.750	0.748
Replicate Prob(F)											0.2189	0.5289	0.5301
Treatment F											9.658	4.461	3.120
Treatment Prob(F)											0.0001	0.0001	0.0030

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

POST PURPLE NUTSEdge CONTROL IN COMMON BERMUDAGRASS USING FLAZASULFURON AND
OTHER SULFONYLUREA HERBICIDES AS WELL AS INDUSTRY STANDARDS

Trial ID: 03-T18
Location: PLYMOUTH C.C.

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

Weed Code											CYNDA	CYNDA	CYNDA
Crop Code											INJURY	INJURY	INJURY
Rating Data Type											PERCENT	PERCENT	PERCENT
Rating Unit											5-27-03	6-19-03	6-30-03
Rating Date											L.S. WARREN	L.S. WARREN	L.S. WARREN
Assessed By											19 DA-A	42 DA-A	53 DA-A
Trt-Eval Interval											P	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	Spray Volume			
1	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0 0.25	oz wt/a % v/v			MAY 8 A MAY 8 A	A A		0.0 b	2.5 c	1.3 cd
2	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	3.0 0.25 3.0 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 A MAY 8 A MAY 27 C MAY 27 C	A A C C		0.0 b	11.3 a	6.3 a
3	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	2.25 0.25 2.25 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 A MAY 8 A MAY 27 C MAY 27 C	A A C C		0.0 b	7.5 ab	3.8 abc
4	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L	DG	1.5 0.25 1.5 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 A MAY 8 A MAY 27 C MAY 27 C	A A C C		0.0 b	3.8 bc	2.5 bcd
5	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 L 25 L	DG	1.5 0.25 1.5 0.25 1.5 0.25	oz wt/a % v/v oz wt/a % v/v oz wt/a % v/v			MAY 8 A MAY 8 A MAY 27 C MAY 27 C JUN 19 D JUN 19 D	A A C C D D		0.0 b	2.5 c	6.3 a
6	SULFOSULFURON X-77 SPREADER	75 L	WG	1.5 0.25	oz wt/a % v/v			MAY 8 A MAY 8 A	A A		0.0 b	0.0 c	0.0 d
7	SULFOSULFURON X-77 SPREADER SULFOSULFURON X-77 SPREADER	75 L 75 L	WG	1.33 0.25 1.33 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 A MAY 8 A JUL 21 E JUL 21 E	A A E E		0.0 b	0.0 c	0.0 d
8	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47 0.25	oz wt/a % v/v			MAY 8 A MAY 8 A	A A		0.0 b	0.0 c	0.0 d
9	TRIFLOXYSULFURON X-77 SPREADER TRIFLOXYSULFURON X-77 SPREADER	75 L 75 L	WG	0.47 0.25 0.47 0.25	oz wt/a % v/v oz wt/a % v/v			MAY 8 A MAY 8 A JUN 19 D JUN 19 D	A A D D		0.0 b	0.0 c	2.5 bcd
10	MANAGE X-77 SPREADER	75 L	WG	1.33 0.5	oz wt/a % v/v			MAY 8 A MAY 8 A	A A		0.0 b	0.0 c	0.0 d
11	MANAGE X-77 SPREADER MANAGE X-77 SPREADER	75 L 75 L	WG	1.33 0.5 1.33 0.5	oz wt/a % v/v oz wt/a % v/v			MAY 8 A MAY 8 A JUN 19 D JUN 19 D	A A D D		0.0 b	0.0 c	0.0 d
12	BUENO 6 BUENO 6	6.0 L 6.0 L	L	2.0 2.0	lb ai/a lb ai/a			MAY 8 A MAY 14 B	A B		0.0 b	0.0 c	0.0 d
13	IMAGE 70DG BUENO 6 X-77 SPREADER	70 L 6.0 L	DG	0.5 2.0 2.0 0.25	lb ai/a lb ai/a % v/v			MAY 8 A MAY 8 A MAY 8 A	A A A		26.3 a	7.5 ab	5.0 ab
14	CHECK										0.0 b	0.0 c	0.0 d
LSD (P=.05)											2.40	4.23	3.19
Standard Deviation											1.68	2.96	2.23
CV											89.68	118.29	113.73
Grand Mean											1.88	2.5	1.96
Bartlett's X2											0.0	3.337	2.91
P(Bartlett's X2)											.	0.648	0.82
Replicate F											1.000	1.770	5.367
Replicate Prob(F)											0.4031	0.1689	0.0034
Treatment F											69.632	6.267	4.761
Treatment Prob(F)											0.0001	0.0001	0.0001

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North Carolina State University

POST PURPLE NUTSEdge CONTROL IN COMMON BERMUDAGRASS USING FLAZASULFURON AND
OTHER SULFONYLUREA HERBICIDES AS WELL AS INDUSTRY STANDARDS

Trial ID: 03-T18
Location: PLYMOUTH C.C.

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

Weed Code											CYND	CYND	CYND
Crop Code											INJURY	INJURY	INJURY
Rating Data Type											PERCENT	PERCENT	PERCENT
Rating Unit											7-21-03	8-4-03	8-21-03
Rating Date											L.S. WARREN	L.S. WARREN	L.S. WARREN
Assessed By											74 DA-A	88 DA-A	105 DA-A
Trt-Eval Interval											P	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	Spray Volume			
1	FLAZASULFURON X-77 SPREADER	25 L	DG	3.0 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A	A		0.0 c	0.0 b	0.0 a
2	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 DG	DG	3.0 oz wt/a 0.25 % v/v 3.0 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A MAY 27 C MAY 27 C	A A C C		5.0 bc	0.0 b	0.0 a
3	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 DG	DG	2.25 oz wt/a 0.25 % v/v 2.25 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A MAY 27 C MAY 27 C	A A C C		3.8 bc	0.0 b	0.0 a
4	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 DG	DG	1.5 oz wt/a 0.25 % v/v 1.5 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A MAY 27 C MAY 27 C	A A C C		3.8 bc	0.0 b	0.0 a
5	FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER FLAZASULFURON X-77 SPREADER	25 L 25 DG 25 DG	DG	1.5 oz wt/a 0.25 % v/v 1.5 oz wt/a 0.25 % v/v 1.5 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A MAY 27 C MAY 27 C JUN 19 D JUN 19 D	A A C C D D		12.5 a	2.5 b	0.0 a
6	SULFOSULFURON X-77 SPREADER	75 L	WG	1.5 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A	A A		0.0 c	0.0 b	0.0 a
7	SULFOSULFURON X-77 SPREADER SULFOSULFURON X-77 SPREADER	75 L 75 WG	WG	1.33 oz wt/a 0.25 % v/v 1.33 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A JUL 21 E JUL 21 E	A A E E		2.5 bc	2.5 b	0.0 a
8	TRIFLOXYSULFURON X-77 SPREADER	75 L	WG	0.47 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A	A A		1.3 c	0.0 b	0.0 a
9	TRIFLOXYSULFURON X-77 SPREADER TRIFLOXYSULFURON X-77 SPREADER	75 L 75 WG	WG	0.47 oz wt/a 0.25 % v/v 0.47 oz wt/a 0.25 % v/v				MAY 8 A MAY 8 A JUN 19 D JUN 19 D	A A D D		7.5 ab	7.5 a	0.0 a
10	MANAGE X-77 SPREADER	75 L	WG	1.33 oz wt/a 0.5 % v/v				MAY 8 A MAY 8 A	A A		0.0 c	0.0 b	0.0 a
11	MANAGE X-77 SPREADER MANAGE X-77 SPREADER	75 L 75 WG	WG	1.33 oz wt/a 0.5 % v/v 1.33 oz wt/a 0.5 % v/v				MAY 8 A MAY 8 A JUN 19 D JUN 19 D	A A D D		0.0 c	0.0 b	0.0 a
12	BUENO 6 BUENO 6	6.0 L 6.0 L	L	2.0 lb ai/a 2.0 lb ai/a				MAY 8 A MAY 14 B	A B		0.0 c	0.0 b	0.0 a
13	IMAGE 70DG BUENO 6 X-77 SPREADER	70 L 6.0 L	DG	0.5 lb ai/a 2.0 lb ai/a 0.25 % v/v				MAY 8 A MAY 8 A MAY 8 A	A A A		0.0 c	0.0 b	0.0 a
14	CHECK										0.0 c	0.0 b	0.0 a
LSD (P=.05)											5.82	2.95	0.00
Standard Deviation											4.08	2.06	0.00
CV											157.4	231.12	0.0
Grand Mean											2.59	0.89	0.0
Bartlett's X2											6.61	1.013	0.0
P(Bartlett's X2)											0.358	0.603	.
Replicate F											0.672	0.699	0.000
Replicate Prob(F)											0.5744	0.5584	1.0000
Treatment F											3.327	4.161	0.000
Treatment Prob(F)											0.0018	0.0003	1.0000

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North Carolina State University

POST PURPLE NUTSEDGE CONTROL IN COMMON BERMUDAGRASS USING FLAZASULFURON AND
OTHER SULFONYLUREA HERBICIDES AS WELL AS INDUSTRY STANDARDS

Trial ID: 03-T18

Study Dir.: L.S. WARREN

Location: PLYMOUTH C.C.

Investigator: Fred Yelverton

Trial Comments

05-27-03: PLOTS TREATED WITH IMAGE 70DG + BUENO 6 + X-77 SPREADER CONTAINED STUNTED CYNDA THAT HAD ACCEPTABLE GREEN COLOR

06-19-03: CYNDA INJURY CONSISTED OF SLIGHT CHLOROSIS (YELLOWISH-GREEN APPEARANCE) AND WAS NOT CONSIDERED OBJECTIONABLE

06-30-03: CYNDA INJURY CONSISTED OF SLIGHT CHLOROSIS EXCEPT FOR PLOTS TREATED WITH IMAGE 70DG + BUENO 6 + X-77 SPREADER WHICH ALSO CONTAINED SLIGHTED STUNTED CYNDA
NONE OF THE INJURED PLOTS WERE CONSIDERED OBJECTIONABLE