

North Carolina State University

POSTEMERGENCE HENBIT CONTROL IN COMMON BERMUDAGRASS USING SULFONYLUREA HERBICIDES

Trial ID: 04-T14
Location: UNIVERSITY CLUB

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: RALEIGH **Trial Status:** COMPLETED
State/Prov.: NC **Initiation Date:** 3-10-04
Country: USA
Directions:

Objectives:

TO EVALUATE SULFONYLUREA HERBICIDES FOR POSTEMERGENCE WINTER ANNUAL BROADLEAF WEED CONTROL IN COMMON BERMUDAGRASS

Conclusions:

Cooperator/Landowner

Cooperator: KYLE KEEPERS **Country:** USA
Organization: NCSU UNIVERSITY CLUB **Phone No:** 336/971-5163
City: RALEIGH
State/Prov: NC

Crop Description

Crop 1: CYNDA Cynodon dactylon Bermuda grass
Variety: COMMON
BBCH Scale: BGRM

Pest Description

Pest 1 Type: W **Code:** LAMAM Lamium amplexicaule
Common Name: Henbit

Site and Design

Plot Width, Unit: 4 FT **Site Type:** TURF - GOLF COURSE
Plot Length, Unit: 7.5 FT **Tillage Type:** NA
Replications: 4 **Study Design:** Randomized Complete Block

Trial Initiation Comments:

Field Prep./Maintenance:

Soil Description

% OM: 0.92 **Texture:** CLAY LOAM
pH: 5.2
CEC: 6.8 **Fert. Level:** FAIR TO GOOD

Moisture Conditions

Overall Moisture Conditions: MAR 3.40"; APR 2.65"; MAY 3.46"
Closest Weather Station: REEDY CREEK FIELD LABORATORY **Distance:** 2 **Unit:** MI

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Application Description

	A
Application Date:	3-10-04
Time of Day:	4:00 PM
Application Method:	SPRAY
Application Timing:	POST
Application Placement:	BROFOL
Applied By:	L.S. WARREN
Air Temperature, Unit:	51 F
% Relative Humidity:	52
Wind Velocity, Unit:	9.2 MPH
Dew Presence (Y/N):	N
Soil Temperature, Unit:	51 F
Soil Moisture:	MOIST
% Cloud Cover:	70

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	CYNDA BGRM
Stage Scale Used:	BBCH
Stage Majority, Percent:	DORMANT 98
Height, Unit:	1.0 IN

Pest Stage At Each Application

	A
Pest 1 Code, Disc., Scale:	LAMAM W
Stage Majority, Percent:	FLOWER 55
Height, Unit:	1.5 IN
Density, Unit:	1 FT2

Application Equipment

	A
Appl. Equipment:	BACSPR
Operating Pressure:	28
Pressure Unit:	PSI
Nozzle Type:	FLAT FAN
Nozzle Size:	XR 8002VS
Nozzle Spacing, Unit:	10 IN
Band Width, Unit:	40 IN
Boom Length, Unit:	40 IN
Boom Height, Unit:	10 IN
Ground Speed, Unit:	3 MPH
Carrier:	WATER
Spray Volume:	32.5
Volume Unit:	GPA
Propellant:	COMCO2
Tank Mix (Y/N):	Y

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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		LAMAM	LAMAM	LAMAM	LAMAM	LAMAM
Rating Date		3-16-04	3-24-04	4-1-04	4-7-04	4-21-04
Rating Data Type		INJURY	INJURY	INJURY	CONTROL	CONTROL
Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Assessed By		L.S. WARREN	L.S. WARREN	L.S. WARREN	L.S. WARREN	L.S. WARREN
Days After Last Applic.		6	14	22	28	42
Trt-Eval Interval		6 DA-A	14 DA-A	22 DA-A	28 DA-A	42 DA-A
ARM Action Codes		P	P	P	P	P
Trt Treatment No. Name	Form Conc	Form Type	Rate	Other Rate	Growth Stage	Appl Code
1 DPX-F5384 X-77 SPREADER	60 DF L		1.67 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
2 DPX-F6025 X-77 SPREADER	25 WG L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
3 DPX-W4189 X-77 SPREADER	75 DF L		5.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
4 DPX-T6376 X-77 SPREADER	60 DF L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
5 DPX-V9360 X-77 SPREADER	75 WG L		1.33 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
6 DPX-E9636 X-77 SPREADER	25 DF L		2.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
7 DPX-T5648 X-77 SPREADER	75 WG L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
8 DPX-M6316 X-77 SPREADER	75 DF L		0.75 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
9 DPX-66037 X-77 SPREADER	50 DF L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
10 DPX-00747 DPX-M6316 X-77 SPREADER	75 DF 75 DF L		0.75 oz wt/a 0.375 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A MAR 10 A	
11 DPX-00747 X-77 SPREADER	75 DF L		0.75 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
12 DPX-KU253 X-77 SPREADER	42 DF L		0.5 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
13 DPX-T6376 DPX-F6025 X-77 SPREADER	60 DF 25 WG L		0.104 oz wt/a 0.64 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A MAR 10 A	
14 DPX-F5384 DPX-T6376 X-77 SPREADER	60 DF 60 DF L		1.33 oz wt/a 0.104 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A MAR 10 A	
15 DPX-G8311 X-77 SPREADER	75 DF L		0.5 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
16 DPX-KV141 X-77 SPREADER	75 DF L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
17 DPX-R9674 X-77 SPREADER	75 DF L		0.75 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A	
18 DPX-T6376 DPX-M6316 DPX-L5300 X-77 SPREADER	60 DF 75 DF 75 DF L		0.125 oz wt/a 0.25 oz wt/a 0.125 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A MAR 10 A MAR 10 A	
19 SPEED ZONE	2.2 L		3.0 pt/a		MAR 10 A	
20 CHECK						
LSD (P=.05)			3.77		7.69	24.98
Standard Deviation			2.67		5.44	17.66
CV			203.17		52.1	43.14
Grand Mean			1.31		10.44	40.94
Bartlett's X2			7.223		20.057	20.245
P(Bartlett's X2)			0.513		0.33	0.319
Friedman's X2			14.35		32.839	34.529
P(Friedman's X2)			0.763		0.025	0.016
Replicate F			1.216		6.296	1.684
Replicate Prob(F)			0.3123		0.0009	0.1806
Treatment F			3.745		2.520	3.180
Treatment Prob(F)			0.0001		0.0038	0.0004

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

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HERBICIDES**

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Rating Data Type	INJURY	INJURY	INJURY	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Assessed By	L.S. WARREN	L.S. WARREN	L.S. WARREN	L.S. WARREN	L.S. WARREN
Days After Last Applic.	6	14	22	28	42
Trt-Eval Interval	6 DA-A	14 DA-A	22 DA-A	28 DA-A	42 DA-A
ARM Action Codes	P	P	P	P	P

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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					W Weed	W Weed	W Weed
					TRFRE	TRFRE	VERAR
					4-21-04	5-7-04	5-7-04
					CONTROL	CONTROL	CONTROL
					PERCENT	PERCENT	PERCENT
					L.S. WARREN	L.S. WARREN	L.S. WARREN
					42	58	58
					42 DA-A	58 DA-A	58 DA-A
					P	P	P
Trt	Treatment	Form	Rate	Other	Growth	Appl	
No.	Name	Type	Unit	Rate	Unit	Stage	Code
1	DPX-F5384	60 DF	1.67 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						2.5 e	6.3 c
2	DPX-F6025	25 WG	1.0 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						0.0 e	0.0 c
3	DPX-W4189	75 DF	5.0 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						94.3 a	100.0 a
4	DPX-T6376	60 DF	1.0 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						99.3 a	100.0 a
5	DPX-V9360	75 WG	1.33 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						50.0 b	95.5 a
6	DPX-E9636	25 DF	2.0 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						5.0 de	0.0 c
7	DPX-T5648	75 WG	1.0 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						90.0 a	99.3 a
8	DPX-M6316	75 DF	0.75 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						0.0 e	0.0 c
9	DPX-66037	50 DF	1.0 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						2.5 e	6.3 c
10	DPX-00747	75 DF	0.75 oz wt/a		MAR 10 A		
	DPX-M6316	75 DF	0.375 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						16.3 de	6.3 c
11	DPX-00747	75 DF	0.75 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						37.5 bc	98.0 a
12	DPX-KU253	42 DF	0.5 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						0.0 e	0.0 c
13	DPX-T6376	60 DF	0.104 oz wt/a		MAR 10 A		
	DPX-F6025	25 WG	0.64 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						91.5 a	100.0 a
14	DPX-F5384	60 DF	1.33 oz wt/a		MAR 10 A		
	DPX-T6376	60 DF	0.104 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						87.0 a	97.5 a
15	DPX-G8311	75 DF	0.5 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						100.0 a	100.0 a
16	DPX-KV141	75 DF	1.0 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						8.3 de	0.0 c
17	DPX-R9674	75 DF	0.75 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						23.3 cd	8.3 c
18	DPX-T6376	60 DF	0.125 oz wt/a		MAR 10 A		
	DPX-M6316	75 DF	0.25 oz wt/a		MAR 10 A		
	DPX-L5300	75 DF	0.125 oz wt/a		MAR 10 A		
	X-77 SPREADER	L	0.25 % v/v		MAR 10 A		
						88.3 a	98.8 a
19	SPEED ZONE	2.2 L	3.0 pt/a		MAR 10 A		
						89.7 a	63.3 b
20	CHECK					0.0 e	0.0 c
LSD (P=.05)					19.72	12.51	8.82
Standard Deviation					13.80	8.76	6.23
CV					31.17	17.88	108.42
Grand Mean					44.28	48.98	5.75
Bartlett's X2					29.369	41.261	8.226
P(Bartlett's X2)					0.009*	0.001*	0.144
Friedman's X2					65.089	61.382	23.293
P(Friedman's X2)					0.001	0.001	0.225
Replicate F					0.772	0.749	0.536
Replicate Prob(F)					0.5151	0.5280	0.6595
Treatment F					37.850	120.992	31.019
Treatment Prob(F)					0.0001	0.0001	0.0001

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

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Pest Type	W Weed	W Weed	W Weed
Pest Code	TRFRE	TRFRE	VERAR
Rating Date	4-21-04	5-7-04	5-7-04
Rating Data Type	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT
Assessed By	L.S. WARREN	L.S. WARREN	L.S. WARREN
Days After Last Applic.	42	58	58
Trt-Eval Interval	42 DA-A	58 DA-A	58 DA-A
ARM Action Codes	P	P	P

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Trial Comments

03-10-04: TEST AREA RECENTLY MOWED WHICH CUT DOWN THE LAMAM FLOWERING STALKS; MANY LAMAM PLANTS NOT AFFECTED BY THE MOWING

03-16-04 AND 03-18-04: LAMAM INJURY BY SULFONYLUREA HERBICIDES CONSISTED OF VERY SLIGHT DISCOLORATION LAMAM INJURY BY SPEED ZONE 2.2L CONSISTED OF SLIGHT LEAF CURL AND STEM TWISTING

03-24-04: LAMAM INJURY BY SULFONYLUREA HERBICIDES CONSISTED OF SLIGHTLY MORE NOTICEABLE DISCOLORATION (DULL GREEN APPEARANCE)

05-07-04: CYNDA IN ALL PLOTS 100% GREEN EXCEPT IN PLOTS TREATED WITH DPX-T5648 (5% GREEN)