

North Carolina State University

POSTEMERGENCE ANNUAL BLUEGRASS CONTROL IN COMMON BERMUDAGRASS USING SULFONYLUREA HERBICIDES

Trial ID: 04-T13

Study Director: L.S. WARREN

Location: THORNDALE COUNTRY CLUB

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

Objectives:

TO EVALUATE SULFONYLUREA HERBICIDES FOR POSTEMERGENCE POAAN CONTROL IN COMMON BERMUDAGRASS

Conclusions:

Cooperator/Landowner

Cooperator: BRUCE STONE **Country:** USA
Organization: THORNDALE COUNTRY CLUB **Phone No:** 919/693-7404
City: OXFORD
State/Prov: NC

Crop Description

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

Pest Description

Pest 1 Type: W **Code:** POAAN Poa annua
Common Name: Annual bluegrass

Site and Design

Plot Width, Unit: 5 FT **Site Type:** TURF - GOLF COURSE FAIRWAY
Plot Length, Unit: 10 FT **Tillage Type:** NA
Replications: 4 **Study Design:** Randomized Complete Block

Trial Initiation Comments:

Field Prep./Maintenance:

Soil Description

% OM: 0.71 **Texture:** SANDY CLAY LOAM
pH: 4.7
CEC: 3.5 **Fert. Level:** FAIR

Moisture Conditions

Overall Moisture Conditions: MAR 1.00"; APR 2.27"; MAY 3.14"
Closest Weather Station: OXFORD, AG **Distance:** 0.5 **Unit:** MI

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Application Description

	A
Application Date:	3-10-04
Time of Day:	12 NOON
Application Method:	SPRAY
Application Timing:	POST
Application Placement:	BROFOL
Applied By:	L.S. WARREN
Air Temperature, Unit:	50 F
% Relative Humidity:	47
Wind Velocity, Unit:	7.8 MPH
Dew Presence (Y/N):	N
Soil Temperature, Unit:	51 F
Soil Moisture:	MOIST
% Cloud Cover:	60

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	CYNDA BGRM
Stage Scale Used:	BBCH
Stage Majority, Percent:	DORMANT 98
Height, Unit:	0.5 IN

Pest Stage At Each Application

	A
Pest 1 Code, Disc., Scale:	POAAN W
Stage Majority, Percent:	TILLER 100
Height, Unit:	0.75 IN
Density, Unit:	10 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	POAAN	POAAN	POAAN	POAAN	POAAN									
Crop Code														
BBCH Scale														
Crop Name														
Rating Date	3-16-04	3-24-04	4-1-04	4-7-04	4-21-04									
Rating Data Type	PHYTO	PHYTO	PHYTO	PHYTO	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 No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Unit	Growth Stage	Appl Code					
1	DPX-V9360 X-77 SPREADER	75	WG	1.33 oz	wt/a			MAR 10 A		6.3 ab	6.3 a	25.0 bc	70.0 ab	97.3 a
2	DPX-E9636 X-77 SPREADER	25	DF	1.0 oz	wt/a			MAR 10 A		2.5 bc	2.5 a	31.3 ab	66.3 bc	92.5 b
3	DPX-T5648 X-77 SPREADER	75	WG	1.0 oz	wt/a			MAR 10 A		1.3 bc	3.8 a	41.3 a	76.3 a	98.0 a
4	DPX-66037 X-77 SPREADER	50	DF	1.0 oz	wt/a			MAR 10 A		0.0 c	2.5 a	5.0 de	6.3 e	0.0 c
5	DPX-00747 DPX-M6316 X-77 SPREADER	75	DF	0.75 oz	wt/a			MAR 10 A		0.0 c	2.5 a	32.5 ab	76.3 a	98.0 a
6	DPX-00747 X-77 SPREADER	75	DF	0.75 oz	wt/a			MAR 10 A		0.0 c	1.3 a	22.5 bc	68.8 abc	97.3 a
7	DPX-G8311 X-77 SPREADER	75	DF	0.5 oz	wt/a			MAR 10 A		10.0 a	2.5 a	17.5 cd	17.5 d	0.0 c
8	DPX-KV141 X-77 SPREADER	75	DF	1.0 oz	wt/a			MAR 10 A		3.8 bc	6.3 a	28.8 abc	71.3 ab	96.5 a
9	MONUMENT X-77 SPREADER	75	WG	0.33 oz	wt/a			MAR 10 A		0.0 c	1.3 a	26.3 bc	61.3 c	96.5 a
10	CHECK									0.0 c	0.0 a	0.0 e	0.0 e	0.0 c
LSD (P=.05)										5.03	4.89	13.11	8.04	1.90
Standard Deviation										3.47	3.37	9.04	5.54	1.31
CV										145.94	117.26	39.29	10.79	1.94
Grand Mean										2.38	2.88	23.0	51.38	67.6
Bartlett's X2										3.049	4.247	8.589	4.785	1.97
P(Bartlett's X2)										0.384	0.834	0.378	0.78	0.741
Friedman's X2										11.345	8.182	23.564	30.273	27.832
P(Friedman's X2)										0.253	0.516	0.005	0.001	0.001
Replicate F										0.191	1.081	1.408	5.175	1.935
Replicate Prob(F)										0.9018	0.3736	0.2619	0.0059	0.1477
Treatment F										3.867	1.473	7.741	121.874	5059.685
Treatment Prob(F)										0.0030	0.2082	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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Pest Type							W Weed			
Pest Code							POAAN			
Crop Code								CYNDA	CYNDA	
BBCH Scale								BGRM	BGRM	
Crop Name								Bermuda grass	Bermuda grass	
Rating Date							5-4-04	5-4-04	5-17-04	
Rating Data Type							CONTROL	GREENUP	GREENUP	
Rating Unit							PERCENT	PERCENT	PERCENT	
Assessed By							L.S. WARREN	L.S. WARREN	L.S. WARREN	
Days After Last Applic.							55	55	68	
Trt-Eval Interval							55 DA-A	55 DA-A	68 DA-A	
ARM Action Codes							P	P	P	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate Unit	Growth Stage	Appl Code			
1	DPX-V9360 X-77 SPREADER	75 WG L		1.33 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A		100.0 a	100.0 a	100.0 a
2	DPX-E9636 X-77 SPREADER	25 DF L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A		68.8 b	100.0 a	100.0 a
3	DPX-T5648 X-77 SPREADER	75 WG L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A		99.5 a	0.0 b	1.0 b
4	DPX-66037 X-77 SPREADER	50 DF L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A		0.0 c	100.0 a	100.0 a
5	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		99.3 a	100.0 a	100.0 a
6	DPX-00747 X-77 SPREADER	75 DF L		0.75 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A		96.5 a	100.0 a	100.0 a
7	DPX-G8311 X-77 SPREADER	75 DF L		0.5 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A		0.0 c	100.0 a	100.0 a
8	DPX-KV141 X-77 SPREADER	75 DF L		1.0 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A		71.3 b	100.0 a	100.0 a
9	MONUMENT X-77 SPREADER	75 WG L		0.33 oz wt/a 0.25 % v/v		MAR 10 A MAR 10 A		96.0 a	100.0 a	100.0 a
10	CHECK							0.0 c	100.0 a	100.0 a
LSD (P=.05)							10.48	0.00	0.00	
Standard Deviation							7.22	0.00	0.00	
CV							11.44	0.0	0.0	
Grand Mean							63.13	90.0	90.1	
Bartlett's X2							32.789	0.0	0.0	
P(Bartlett's X2)							0.001*	.	.	
Friedman's X2							32.673	9.818	9.818	
P(Friedman's X2)							0.001	0.365	0.365	
Replicate F							1.640	0.000	0.000	
Replicate Prob(F)							0.2035	1.0000	1.0000	
Treatment F							155.433	0.000	0.000	
Treatment Prob(F)							0.0001	1.0000	1.0000	

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

Trial Comments

03-16-04 AND 03-24-04: POAAN PHYTO CONSISTED OF SLIGHT YELLOWISH-GREEN APPEARANCE

04-01-04 AND 04-07-04: POAAN PHYTO CONSISTED OF DISTINCTIVE YELLOWISH-GREEN APPEARANCE

05-04-04: CYNDA 100% DORMANT (BROWN) IN ALL PLOTS TREATED WITH DPX-T5648; ALL OTHER PLOTS 100% GREENUP

05-17-04: CYNDA GREENUP ONLY 1 - 2% IN ALL PLOTS TREATED WITH DPX-T5648