

North Carolina State University

POST EMERGENT CONTROL OF SMOOTH CRABGRASS IN A BERMUDAGRASS ROUGH

Trial ID: 04-D21
Location: PLYMOUTH CC

Study Director: TRAVIS GANNON
Investigator: Fred Yelverton

General Trial Information

Study Director: TRAVIS GANNON **Title:** RESEARCH ASSOCIATE
Affiliation: NORTH CAROLINA STATE UNIVERSITY
Postal Code: 27695 **E-mail:** TRAVIS_GANNON@NCSSU.EDU
Investigator: FRED YELVERTON **Title:** PROFESSOR
Affiliation: NORTH CAROLINA STATE UNIVERSITY
Postal Code: 27695 **E-mail:** FRED_YELVERTON@NCSSU.EDU

Trial Location

City: PLYMOUTH **Trial Status:** COMPLETED
State/Prov.: NC
Postal Code: 27962 **Initiation Date:** 5-12-04
Country: USA
Directions:

Objectives:

Conclusions:

Cooperator/Landowner

Cooperator: CHRIS KELLY **Country:** USA
Organization: PLYMOUTH COUNTRY CLUB **Phone No:** 252.793.4519
Address 1: 301 GOLF RD
City: PLYMOUTH
State/Prov: NC
Postal Code: 27962

Crop Description

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

Pest Description

Pest 1 Type: W **Code:** DIGIS Digitaria ischaemum
Common Name: Crabgrass, smooth

Site and Design

Plot Width, Unit: 5 FT **Site Type:** GOLF COURSE ROUGH
Plot Length, Unit: 6 FT
Replications: 4 **Study Design:** Randomized Complete Block

Trial Initiation Comments:

Field Prep./Maintenance:

Soil Description

% OM: 0.76 **Texture:** MINERAL
pH: 5.9
CEC: 4.3 **Fert. Level:** FAIR

Moisture Conditions

Overall Moisture Conditions: IRRIGATED AS NEEDED

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Application Description

	A
Application Date:	5-12-04
Time of Day:	9-11 AM
Application Method:	SPRAY
Application Timing:	MAY 12
Application Placement:	FOLIAR
Applied By:	T GANNON
Air Temperature, Unit:	81.1 F
% Relative Humidity:	57
Wind Velocity, Unit:	0.8 MPH
Dew Presence (Y/N):	N
Soil Temperature, Unit:	80 F
Soil Moisture:	GOOD
% Cloud Cover:	10

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	CYNDA BGRM
Stage Scale Used:	MOWED
Height, Unit:	2 IN
Height Minimum, Maximum:	1 3

Pest Stage At Each Application

	A
Pest 1 Code, Disc., Scale:	DIGIS W
Stage Majority, Percent:	1 TILL 80
Stage Minimum, Percent:	2 LEAF 10
Stage Maximum, Percent:	2 TILL 10
Height, Unit:	2 IN
Height Minimum, Maximum:	1 3
Density, Unit:	12 FT2
Coverage, Unit:	80 %

Application Equipment

	A
Appl. Equipment:	CO2 SPRAY
Operating Pressure:	25
Pressure Unit:	PSI
Nozzle Type:	FLAT FAN
Nozzle Size:	VS8002XR
Nozzle Spacing, Unit:	10 INCH
Nozzles/Row:	4
Boom Length, Unit:	40 INCH
Boom Height, Unit:	10 INCH
Ground Speed, Unit:	3 MPH
Carrier:	WATER
Spray Volume:	32.5
Volume Unit:	GPA
Propellant:	COMP CO2

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					DIGIS	DIGIS	DIGIS	DIGIS	DIGIS	DIGIS
					5-20-04	5-26-04	6-3-04	6-8-04	6-21-04	7-7-04
					CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
					%	%	%	%	%	%
					8	14	22	27	40	56
					8 DA-A	14 DA-A	22 DA-A	27 DA-A	40 DA-A	56 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate	Growth Stage	Appl Code		
1	DPX-V9360 X-77	75 L	WDG	1.33 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		8.8 b	3.8 c
2	DPX-E9636 X-77	25 L	DF	2 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		6.3 b	7.5 c
3	DPX-T5648 X-77	75 L	WDG	1 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		10.0 b	17.5 b
4	DPX-66037 X-77	50 L	DF	1 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		6.3 b	2.5 c
5	DPX-00747 DPX-M6316 X-77	75 L	DF	0.75 oz/a 0.375 oz/a 0.25 % v/v			MAY 12 A MAY 12 A MAY 12 A		10.0 b	7.5 c
6	DPX-00747 X-77	75 L	DF	0.75 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		10.0 b	3.8 c
7	DPX-G8311 X-77	75 L	DF	0.5 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		5.0 b	6.3 c
8	DPX-KV141 X-77	75 L	DF	1 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		8.8 b	2.5 c
9	DRIVE DYNEAMIC	75 L	WG	0.75 lb ai/a 1 % v/v			MAY 12 A MAY 12 A		62.5 a	71.3 a
10	NONTREATED								0.0 b	0.0 c
LSD (P=.05)					10.64	7.96	7.31	6.05	0.00	3.92
Standard Deviation					7.33	5.49	5.04	4.17	0.00	2.70
CV					57.53	44.78	31.48	79.47	0.0	240.03
Grand Mean					12.75	12.25	16.0	5.25	0.0	1.13
Bartlett's X2					15.856	9.096	3.051	7.886	0.0	0.0
P(Bartlett's X2)					0.044*	0.334	0.88	0.048*	.	.
Friedman's X2					18.75	23.236	26.305	14.891	0.0	5.523
P(Friedman's X2)					0.027	0.006	0.002	0.094	1.00	0.787
Replicate F					0.294	0.969	3.482	1.293	0.000	1.000
Replicate Prob(F)					0.8291	0.4216	0.0295	0.2971	1.0000	0.4079
Treatment F					23.437	60.175	68.365	36.447	0.000	6.943
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	1.0000	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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				DIGIS	DIGIS	TURF	TURF	TURF	TURF	TURF					
				7-21-04	9-29-04	5-20-04	5-26-04	6-3-04	6-8-04	6-21-04					
				CONTROL	CONTROL	QUALITY	QUALITY	QUALITY	QUALITY	QUALITY					
				%	%	1-9	1-9	1-9	1-9	1-9					
				70	140	8	14	22	27	40					
				70 DA-A	140 DA-A	8 DA-A	14 DA-A	22 DA-A	27 DA-A	40 DA-A					
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate	Growth Stage	Appl Code							
1	DPX-V9360 X-77	75 WDG L		1.33 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
2	DPX-E9636 X-77	25 DF L		2 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
3	DPX-T5648 X-77	75 WDG L		1 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
4	DPX-66037 X-77	50 DF L		1 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
5	DPX-00747 DPX-M6316 X-77	75 DF L		0.75 oz/a 0.375 oz/a 0.25 % v/v			MAY 12 A MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
6	DPX-00747 X-77	75 DF L		0.75 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
7	DPX-G8311 X-77	75 DF L		0.5 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
8	DPX-KV141 X-77	75 DF L		1 oz/a 0.25 % v/v			MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
9	DRIVE DYNEAMIC	75 WG L		0.75 lb ai/a 1 % v/v			MAY 12 A MAY 12 A		0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
10	NONTREATED								0.0 a	0.0 a	7.0 a	7.0 a	7.0 a	7.0 a	7.0 a
LSD (P=.05)				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Standard Deviation				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CV				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grand Mean				0.0	0.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Bartlett's X2				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P(Bartlett's X2)				.	.	.	.	.	.	.	.	.	.	.	.
Friedman's X2				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P(Friedman's X2)				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Replicate F				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Replicate Prob(F)				1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Treatment F				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Treatment Prob(F)				1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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

7-7-04 - Unable to further evaluate turf quality, smooth crabgrass has overgrown bermudagrass.