

University of GA Coop Ext Service

Efficacy of Pendulum for Preemergence Crabgrass Control in Common Bermudagrass

Trial ID: Turf15-03

Study Dir.: Bill Nutt

Location: Griffin

Investigator: Tim R Murphy

GENERAL TRIAL INFORMATION

Study Director: Bill Nutt

Title: ARC I

Affiliation: UGA-CAES

Investigator: Tim R Murphy

Title: Weed Scientist

Affiliation: UGA-CAES

TRIAL LOCATION

City: Griffin

Trial Status: ARCHIVED

State/Prov.: GA

Initiation Date: 2-20-2003

Planned Completion Date: 8-28-2003

COOPERATOR/LANDOWNER

Cooperator: Kyle Miller

Org: BASF

City: Chesterfield

State/Prov: VA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	DIGIS	SMOOTH CRABGRASS	<i>DIGITARIA ISCHAEMUM</i>
2.	COPDI	SWINECRESS	<i>CORONOPUS DIDYMUS</i>
3.	APHAR	PIERT, PARSLEY	<i>APHANES ARVENISIS L.</i>

Crop 1: CYNDA Bermudagrass/*Cynodon Dactylon* **Variety:** Mixed hybrid/Common **Perennial Age:** 20 yr

SITE AND DESIGN

Plot Width, Unit: 6 FT Plot Length, Unit: 8 FT Reps: 4

Site Type: simulated golf course fairway Study Design: RANDOMIZED COMPLETE BLOCK

MAINTENANCE

Field Prep./Maintenance: Site mowed at 0.5 inch. Irrigated as needed to prevent wilt.

APPLICATION DESCRIPTION

	A	B
Application Date:	2-20-2003	4-16-2003
Time of Day:	3:00 pm	2:00 pm
Application Method:	Broadcast	Broadcast
Application Timing:	Pre	Pre
Applic. Placement:	soil	soil
Air Temp., Unit:	70 F	80 F
% Relative Humidity:	45	48
Wind Velocity, Unit:	2.2 mph	4.0 mph
Dew Presence (Y/N):	N	N
Soil Temp., Unit:	59 F	78 F
Soil Moisture:	High	Fair
% Cloud Cover:	40	60

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CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	CYNDA Dormant	CYNDA Green 60%
Height, Unit:	0.5 inch	0.5 inch

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	DIGIS	DIGIS 1-2 Leaf
Density, Unit:	0 PERCE (0-100 Index/Scale)	5 PERCE (0-100 Index/Scale)

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	Backpack	Backpack
Operating Pressure:	26 psi	26 psi
Nozzle Type:	Flat fan	Flat fan
Nozzle Size:	8004	8004
Nozzle Spacing, Unit:	20 inch	20 inch
Boom Length, Unit:	5 feet	5 feet
Boom Height, Unit:	19 inch	19 inch
Ground Speed, Unit:	3 mph	3 mph
Carrier:	Water	Water
Spray Volume, Unit:	25 gpa	25 gpa
Propellant:	CO2	CO2
Tank Mix (Y/N):	N	N

Trial Comments

4-9-03

For greenup ratings for Bermudagrass, CYNDA, some plots predominately Common Bermudagrass, others plots were predominately Hybrid Bermudagrass they are as follows: 101 - 103, 114, 201, 213 - 301, 306, 307, 313, 314, 405 - 407, 413, 414

6-26-03 and 7-29-03

No herbicide injury observed in any plot.

7-29-03

Broadcast 1 lb N/1000 sq.ft. as 34-0-0 fertilizer over entire area.

WEED DENSITY RATINGS FOR UNTREATED CONTROL CHECK PLOTS

	<u>114</u>	<u>213</u>	<u>301</u>	<u>405</u>
COPDI,4-21-03	10	.	.	.
APHAR	15	.	.	.
DIGIS,5-20-03	30	10	35	15

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Weed Code							CYDA	CYDA	COPDI	APHAR
Crop Code							Greenup	Greenup	Control	Control
Rating Data Type							0-100	0-100	0-100	0-100
Rating Unit							4-9-2003	4-21-2003	4-21-2003	4-21-2003
Rating Date							48 DA-A	60 DA-A	60 DA-A	60 DA-A
Trt-Eval Interval										
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Stg	Appl Code				
1	Dimension Ultra WSP fb	40 WP	WP	0.5 lb ai/a	Mar. 1	A	29 e	49 d	100 a	94 a
	Dimension Ultra WSP	40 WP	WP	0.25 lb ai/a	May 1	B				
2	Dimension Ultra WSP	40 WP	WP	0.5 lb ai/a	Mar. 1	A	43 cde	54 bcd	96 ab	80 abc
3	Dimension Ultra WSP	40 WP	WP	0.75 lb ai/a	Mar. 1	A	34 de	50 cd	100 a	90 ab
4	Barricade fb	65 WG	WG	0.38 lb ai/a	Mar. 1	A	49 bcd	56 a-d	15 ef	38 cde
	Barricade	65 WG	WG	0.38 lb ai/a	May 1	B				
5	Barricade	65 WG	WG	0.75 lb ai/a	Mar. 1	A	45 b-e	60 a-d	28 def	30 de
6	Pendulum fb	3.3 EC	EC	1.5 lb ai/a	Mar. 1	A	58 abc	60 a-d	71 abc	79 abc
	Pendulum	3.3 EC	EC	1.5 lb ai/a	May 1	B				
7	Pendulum fb	3.3 EC	EC	2.0 lb ai/a	Mar. 1	A	48 b-e	55 bcd	81 abc	60 a-d
	Pendulum	3.3 EC	EC	2.0 lb ai/a	May 1	B				
8	Pendulum fb	3.3 EC	EC	1.0 lb ai/a	Mar. 1	A	65 ab	63 abc	60 bcd	48 bcd
	Pendulum	3.3 EC	EC	2.0 lb ai/a	May 1	B				
9	Pendulum	3.3 EC	EC	3.0 lb ai/a	Mar. 1	A	55 abc	59 a-d	84 abc	35 cde
10	Pendulum fb	3.8 CS	CS	1.5 lb ai/a	Mar. 1	A	55 abc	60 a-d	48 cde	44 cde
	Pendulum	3.8 CS	CS	1.5 lb ai/a	May 1	B				
11	Pendulum fb	3.8 CS	CS	2.0 lb ai/a	Mar. 1	A	56 abc	63 abc	68 abc	30 de
	Pendulum	3.8 CS	CS	2.0 lb ai/a	May 1	B				
12	Pendulum fb	3.8 CS	CS	1.0 lb ai/a	Mar. 1	A	48 b-e	64 ab	45 cde	40 cde
	Pendulum	3.8 CS	CS	2.0 lb ai/a	May 1	B				
13	Pendulum	3.8 CS	CS	3.0 lb ai/a	Mar. 1	A	51 bcd	58 a-d	73 abc	38 cde
14	Untreated Check						71 a	69 a	0 f	0 e
	LSD (P=.05)						17.1	10.8	34.3	39.2
	Standard Deviation						12.0	7.5	24.0	27.4
	CV						23.74	12.88	38.73	54.53

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Weed Code								DIGIS	DIGIS	DIGIS	DIGIS
Crop Code											
Rating Data Type								Control	Control	Control	Control
Rating Unit								0-100	0-100	0-100	0-100
Rating Date								5-20-2003	6-26-2003	7-29-2003	8-25-2003
Trt-Eval Interval								89 DA-A	126 DA-A	159 DA-A	186 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Stg	Appl Code					
1	Dimension Ultra WSP fb	40	WP	0.5 lb ai/a	Mar. 1	A	100 a	100 a	100 a	100 a	
	Dimension Ultra WSP	40	WP	0.25 lb ai/a	May 1	B					
2	Dimension Ultra WSP	40	WP	0.5 lb ai/a	Mar. 1	A	100 a	98 ab	96 ab	95 ab	
3	Dimension Ultra WSP	40	WP	0.75 lb ai/a	Mar. 1	A	100 a	100 a	100 a	100 a	
4	Barricade fb	65	WG	0.38 lb ai/a	Mar. 1	A	100 a	100 a	97 ab	94 ab	
	Barricade	65	WG	0.38 lb ai/a	May 1	B					
5	Barricade	65	WG	0.75 lb ai/a	Mar. 1	A	100 a	97 b	93 b	89 b	
6	Pendulum fb	3.3	EC	1.5 lb ai/a	Mar. 1	A	100 a	100 a	99 ab	98 ab	
	Pendulum	3.3	EC	1.5 lb ai/a	May 1	B					
7	Pendulum fb	3.3	EC	2.0 lb ai/a	Mar. 1	A	100 a	100 a	98 ab	97 ab	
	Pendulum	3.3	EC	2.0 lb ai/a	May 1	B					
8	Pendulum fb	3.3	EC	1.0 lb ai/a	Mar. 1	A	100 a	100 a	100 a	99 a	
	Pendulum	3.3	EC	2.0 lb ai/a	May 1	B					
9	Pendulum	3.3	EC	3.0 lb ai/a	Mar. 1	A	100 a	96 b	96 ab	89 b	
10	Pendulum fb	3.8	CS	1.5 lb ai/a	Mar. 1	A	100 a	100 a	100 a	100 a	
	Pendulum	3.8	CS	1.5 lb ai/a	May 1	B					
11	Pendulum fb	3.8	CS	2.0 lb ai/a	Mar. 1	A	100 a	100 a	100 a	99 a	
	Pendulum	3.8	CS	2.0 lb ai/a	May 1	B					
12	Pendulum fb	3.8	CS	1.0 lb ai/a	Mar. 1	A	100 a	100 a	100 a	98 ab	
	Pendulum	3.8	CS	2.0 lb ai/a	May 1	B					
13	Pendulum	3.8	CS	3.0 lb ai/a	Mar. 1	A	100 a	100 a	96 ab	93 ab	
14	Untreated Check						0 b	0 c	0 c	0 c	
LSD (P=.05)							0.5	2.2	5.6	8.0	
Standard Deviation							0.4	1.6	3.9	5.6	
CV							0.39	1.7	4.32	6.28	

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Weed Code								DIGIS	DIGIS	DIGIS
Crop Code								Density	Density	Density
Rating Data Type								0-100	0-100	0-100
Rating Unit								6-26-2003	7-29-2003	7-29-2003
Rating Date								126 DA-A	159 DA-A	159 DA-A
Trt-Eval Interval										
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Stg	Appl Code				
1	Dimension Ultra WSP fb	40	WP	0.5 lb ai/a	Mar. 1	A	0 b	0 b	0 b	
	Dimension Ultra WSP	40	WP	0.25 lb ai/a	May 1	B				
2	Dimension Ultra WSP	40	WP	0.5 lb ai/a	Mar. 1	A	1 b	3 b	4 b	
3	Dimension Ultra WSP	40	WP	0.75 lb ai/a	Mar. 1	A	0 b	0 b	0 b	
4	Barricade fb	65	WG	0.38 lb ai/a	Mar. 1	A	0 b	1 b	4 b	
	Barricade	65	WG	0.38 lb ai/a	May 1	B				
5	Barricade	65	WG	0.75 lb ai/a	Mar. 1	A	2 b	4 b	8 b	
6	Pendulum fb	3.3	EC	1.5 lb ai/a	Mar. 1	A	0 b	1 b	2 b	
	Pendulum	3.3	EC	1.5 lb ai/a	May 1	B				
7	Pendulum fb	3.3	EC	2.0 lb ai/a	Mar. 1	A	0 b	1 b	2 b	
	Pendulum	3.3	EC	2.0 lb ai/a	May 1	B				
8	Pendulum fb	3.3	EC	1.0 lb ai/a	Mar. 1	A	0 b	0 b	1 b	
	Pendulum	3.3	EC	2.0 lb ai/a	May 1	B				
9	Pendulum	3.3	EC	3.0 lb ai/a	Mar. 1	A	2 b	3 b	8 b	
10	Pendulum fb	3.8	CS	1.5 lb ai/a	Mar. 1	A	0 b	0 b	1 b	
	Pendulum	3.8	CS	1.5 lb ai/a	May 1	B				
11	Pendulum fb	3.8	CS	2.0 lb ai/a	Mar. 1	A	0 b	0 b	1 b	
	Pendulum	3.8	CS	2.0 lb ai/a	May 1	B				
12	Pendulum fb	3.8	CS	1.0 lb ai/a	Mar. 1	A	0 b	0 b	1 b	
	Pendulum	3.8	CS	2.0 lb ai/a	May 1	B				
13	Pendulum	3.8	CS	3.0 lb ai/a	Mar. 1	A	0 b	2 b	5 b	
14	Untreated Check						36 a	44 a	48 a	
LSD (P=.05)								6.9	5.5	8.0
Standard Deviation								4.8	3.8	5.6
CV								164.81	93.53	94.91

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)