

# University of Georgia

## Tropical spiderwort response to directed herbicides.

Trial ID: C26-03

Study Dir.: Tim Flanders

Location: Grady Co. (Loc 1)

Investigator: Stanley Culpepper

### GENERAL TRIAL INFORMATION

Study Director: Tim Flanders

Title: Grady Ext. Coordinator

Affiliation: UGA

Postal Code: .

Investigator: Stanley Culpepper

Title: Ext. Weed Science

Affiliation: UGA

Postal Code: 31794

### TRIAL LOCATION

City: Cairo

Trial Status: completed

State/Prov.: GA

Trial Reliability: excellent

Postal Code: 31794

Initiation Date: Apr-30-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	COMBE	tropical spiderwort	

Crop 1: GOSHI cotton

Variety: DP 555 B/RR

Planting Date: Apr-30-03

Planting Method: conventional

Rate: 2.5 seed/ft

Depth: 0.75 in

Row Spacing: 36 inch

Seed Bed: bedded

Soil Moisture: irrigated

Emergence Date: Apr-04-03

### SITE AND DESIGN

Plot Width, Unit: 6 FT

Plot Length, Unit: 22 FT

Reps: 4

Site Type: on farm

Tillage Type: conventional

Study Design: RANDOMIZED COMPLETE BLOCK

### SOIL DESCRIPTION

% Sand: 84 % OM: 1.97

Texture: Loamy Sand

% Silt: 8 pH: 6.4

% Clay: 8

Overall Moisture Conditions: .

### APPLICATION DESCRIPTION

	A
Application Date:	Jun-21-03
Time of Day:	10 am
Application Method:	broadcast
Application Timing:	LPD
Applic. Placement:	directed
Air Temp., Unit:	84 F
% Relative Humidity:	57
Wind Velocity, Unit:	2 mph
Dew Presence (Y/N):	n
Soil Temp., Unit:	86 F
Soil Moisture:	wet
% Cloud Cover:	25

### CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI LPD
Stage Scale:	V13
Height, Unit:	25 inch

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## WEED STAGE AT EACH APPLICATION

A	
Weed 1 Code, Stage:	COMBE LPD
Stage Scale:	<5inch
Density, Unit:	100 ydsq

## APPLICATION EQUIPMENT

A	
Appl. Equipment:	backpack
Operating Pressure:	18
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 inch
Nozzles/Row:	3
Boom Length, Unit:	24 inch
Boom Height, Unit:	15 inch
Ground Speed, Unit:	3 mph
Carrier:	water
Spray Volume, Unit:	14.8 GPA
Propellant:	CO2
Tank Mix (Y/N):	Y

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Weed Code			GOSHI	GOSHI	COMBE	COMBE	COMBE	COMBE	
Crop Code			injury	injury	control	control	control	control	
Rating Data Type			percent	percent	percent	percent	percent	percent	
Rating Unit			Jun-26-03	Jul-04-03	Jun-26-03	Jul-04-03	Jul-28-03	Oct-07-03	
Rating Date			5 DA-A	13 DA-A	5 DA-A	13 DA-A	37 DA-A	108 DA-A	
Trt-Eval Interval									
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6
1	Gramoxone Max NIS	0.75 0.25	pt/a % v/v	43.5	32.5	94.5	86.3	84.8	52.5
2	Gramoxone Max NIS	1.5 0.25	pt/a % v/v	51.5	58.8	94.8	86.5	85.0	56.3
3	Gramoxone Max NIS Direx	1.5 0.25 1	pt/a % v/v qt/a	64.0	65.0	97.5	88.8	81.0	48.8
4	Roundup WeatherMax	21.3	oz/a	0.0	2.3	80.8	78.3	78.0	63.8
5	Roundup WeatherMax Aim	21.3 1.5	oz/a oz/a	5.0	0.0	95.0	89.5	87.3	68.8
6	Roundup WeatherMax Valor	21.3 1	oz/a oz/a	0.0	5.5	86.0	86.8	93.0	82.5
7	Roundup WeatherMax ET751	21.3 1	oz/a oz/a	2.5	0.0	86.5	87.5	88.8	61.3
8	Roundup WeatherMax Dual Magnum	21.3 0.75	oz/a pt/a	0.8	0.8	82.5	91.8	96.0	87.5
9	Roundup WeatherMax Aim Dual Magnum	21.3 1.5 0.75	oz/a oz/a pt/a	4.3	5.0	94.0	97.5	94.5	86.3
10	Roundup WeatherMax Valor Dual Magnum	21.3 1 0.75	oz/a oz/a pt/a	6.3	0.0	94.0	98.5	96.5	92.5
11	Roundup WeatherMax ET751 Dual Magnum	21.3 1 0.75	oz/a oz/a pt/a	3.3	2.5	83.5	94.3	93.8	85.0
12	Non-treated			0.0	0.0	0.0	0.0	0.0	0.0
13	2,4-D	1.25	pt/a	0.0	0.0	87.8	95.3	91.8	88.3
LSD (P=.05)				14.02	15.74	5.80	6.09	4.34	7.28
Standard Deviation				9.81	11.02	4.06	4.26	3.03	5.10
CV				70.45	83.13	4.9	5.12	3.69	7.59
Bartlett's X2				28.649	28.532	15.46	35.588	16.935	27.69
P(Bartlett's X2)				0.001*	0.001*	0.116	0.001*	0.11	0.004*

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

### Trial Comments

OBJECTIVE: Evaluate several potential hooded or directed applications in cotton for control of spiderwort. Treatments were applied as directed applications as weed control was the focus of the study. Roundup was applied overtop at the 4to 5 leaf stage of growth.

#### RESULTS:

##### Cotton Injury:

- 1) Gramoxone treatments caused severe injury as expected.
- 2) Injury from other treatments was not significant.

##### Tropical spiderwort control:

- 1) Greater than 90% control was noted at 5 DAT with Gramoxone and Aim treatments as well as Roundup plus Valor plus Dual Magnum.
- 2) By 2 WAT, greater than 90% control was noted with Roundup plus Aim, 2,4-D, and with all treatments including Dual Magnum.
- 3) By 5 WAT, greater than 90% control was noted with Roundup plus Valor, 2,4-D, and any treatment containing Dual Magnum.
- 4) At harvest, greatest control was noted in plots treated with Dual Mangum. Glyphosate plus Valor was similarly effective.

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Conclusions:

1) Good to excellent control of emerged plants was noted with Gramoxone, Aim, Valor, and 2,4-D treatments. Late-season control was poor with all treatments that did not provide residual control. Not sure why control in the 2,4-D plot was so effective at seasons end....may have been an indirect effect making the cotton grow at least 2 foot larger than other plots due to boll loss.