University of Georgia

Measuring tropical spiderwort emergence patterns with and without PRE herbicides

Trial ID: C10-03 Study Dir.: Flanders, Webster, Culpepper
Location: Grady Co Loc 2 Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Webster, Culpepper **Title:** ext. weed science
Affiliation: University of Georgia
Postal Code: 31794
Investigator: Tim Flanders **Title:** ext. agent/Cairo
Affiliation: University of Georgia
Postal Code: 31794

TRIAL LOCATION

City: Cairo **Trial Status:** completed
State/Prov.: Ga **Trial Reliability:** good
Initiation Date: May-06-03
Country: U.S.A.

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 5690
Planting Date: May-06-03 **Planting Method:** conventional
Rate: 3 seed/ft **Depth:** 0.5 in
Row Spacing: 36 in **Seed Bed:** bedded
Soil Temperature: 91 F **Soil Moisture:** good **Emergence Date:** May-11-03

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: FIELD
Tillage Type: CONVENTIONAL-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 82 **% OM:** 1.88 **Texture:** Loamy sand
% Silt: 8 **pH:** 5.7
% Clay: 10

APPLICATION DESCRIPTION

	A
Application Date:	May-06-03
Time of Day:	2:00pm
Application Method:	Broadcast
Application Timing:	PRE
Applic. Placement:	on soil
Air Temp., Unit:	91 F
% Relative Humidity:	44
Wind Velocity, Unit:	2 mph
Dew Presence (Y/N):	n
Soil Temp., Unit:	91 F
Soil Moisture:	moist
% Cloud Cover:	45

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI PRE
Stage Scale:	.
Height, Unit:	0. .

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WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	COMBE PRE
Stage Scale:	..
Density, Unit:	. .

APPLICATION EQUIPMENT

	A
Appl. Equipment:	backpack
Operating Pressure:	23
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 inch
Nozzles/Row:	2
Boom Length, Unit:	4.5 feet
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	GOSHI	COMBE	COMBE	COMBE
Crop Code									
Rating Data Type				injury	injury	injury	control	control	control
Rating Unit				percent	percent	percent	percnet	percent	percent
Rating Date				May-24-03	May-28-03	Jun-05-03	May-24-03	May-28-03	Jun-19-03
Trt-Eval Interval				18 DA-A	22 DA-A	30 DA-A	18 DA-A	22 DA-A	30 DA-A
Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5	6
1	Non-treated			0.0	0.0	0.0	0.0	0.0	0.0
2	Dual Magnum	1	pt/a	0.0	0.0	0.0	85.8	99.0	95.5
3	Dual Magnum	1.5	pt/a	0.0	0.0	0.0	96.8	99.0	96.5
4	Zorial	1.75	lb/a	0.0	0.0	0.0	10.0	39.8	33.8
5	Cotoran	2	pt/a	0.0	0.0	0.0	62.0	40.0	44.5
6	Direx	2	pt/a	0.0	0.0	0.0	63.8	29.8	35.0
7	Caparol	2	pt/a	0.0	0.0	0.0	50.5	27.5	37.5
8	Valor	1	oz/a	0.0	0.0	0.0	82.5	65.8	41.3
9	Valor	2	oz/a	0.0	9.0	0.0	81.5	70.0	56.3
10	Command	2	pt/a	0.0	0.0	0.0	76.5	65.0	76.3
11	Staple	0.8	oz/a	0.0	0.0	0.0	20.0	29.5	28.8
12	Cotoran + Zorial	2 + 1.25	pt/a + lb/a	0.0	0.0	0.0	72.8	58.3	55.0
LSD (P=.05)				0.00	4.33	0.00	10.49	9.40	8.92
Standard Deviation				0.00	3.00	0.00	7.27	6.51	6.18
CV				0.0	400.0	0.0	12.42	12.52	12.36
Bartlett's X2				0.0	0.0	0.0	9.544	5.055	25.088
P(Bartlett's X2)				.	.	.	0.389	0.752	0.003*

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

Trial Comments

OBJECTIVE: Determine which cotton herbicides have the most effecitve residual activity on spiderwort.

RESULTS:

Visual crop response:
1. No visual cotton injury was noted at anytime throughout the study.

Spiderwort control:
1. Dual Magnum was clearly the most effective treatment.
2. Command and Valor were a distant second in activity behind Dual.
3. Cotoran, Caparol, and Direx fell in behind the aforementioned products providing only 50 to 64% control at 18 DAT and 35 to 44% at 40 DAT.
4. Staple or Zorial were generally the least effective products.