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Large tropical spiderwort response to burndown herbicide treatments.

Trial ID: C55-03 Study Dir.: Tim Flanders
Location: Cairo Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Tim Flanders **Title:** Ext. Agent
Affiliation: Grady County
Postal Code: .
Investigator: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: University of Georgia
Postal Code: 31794

TRIAL LOCATION

City: Cairo **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** excellent
Postal Code: . **Initiation Date:** Sep-23-03
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: none . **Variety:** .
Planting Date: Sep-23-03 **Planting Method:** .
Rate: 0. . **Depth:** 0. . **Perennial Age:** 0. .
Row Spacing: 0. . **Spacing Within Row:** 0. . **Seed Bed:** .
Soil Temperature: 0. . **Soil Moisture:** irrigated

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: on farm
Tillage Type: conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 84 **% OM:** 1.88 **Texture:** Loamy Sand
% Silt: 8 **pH:** 6.0
% Clay: 8

APPLICATION DESCRIPTION

	A
Application Date:	Sep-23-03
Time of Day:	9 am
Application Method:	broadcast
Application Timing:	burndown
Applic. Placement:	overtop
Air Temp., Unit:	74 F
% Relative Humidity:	59
Wind Velocity, Unit:	3 mph
Dew Presence (Y/N):	n
Soil Temp., Unit:	72 F
Soil Moisture:	moist
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	none .
Stage Scale:	.
Height, Unit:	0. .

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WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	COMBE burndown
Stage Scale:	16-18"mat
Density, Unit:	75 ydsq

APPLICATION EQUIPMENT

	A
Appl. Equipment:	backpack
Operating Pressure:	22
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 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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Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5
	Weed Code			COMBE	COMBE	COMBE	COMBE	COMBE
	Rating Data Type			control	control	control	control	control
	Rating Unit			percent	percent	percent	percent	percent
	Rating Date			Sep-30-03	Oct-08-03	Oct-16-03	Oct-23-03	Nov-01-03
	Trt-Eval Interval			9 DA-A	17 DA-A	23 DA-A	30 DA-A	39 DA-A
1	Non-treated			0.0	0.0	0.0	3.8	0.0
2	2,4-D amine	0.5	pt/a	35.0	44.5	47.5	42.5	47.5
3	2,4-D amine	1	pt/a	37.5	50.0	60.0	62.5	68.8
4	2,4-D amine	1.5	pt/a	46.3	57.5	71.3	76.3	82.0
5	2,4-D amine	1	pt/a	44.8	61.3	75.0	78.8	82.5
	WeatherMax	22	oz/a					
6	WeatherMax	22	oz/a	7.3	10.0	21.3	15.0	22.5
7	WeatherMax	22	oz/a	38.8	51.0	47.5	42.5	42.5
	Aim	1	oz/a					
8	WeatherMax	22	oz/a	4.3	7.5	13.8	15.0	20.0
	ET751	0.75	oz/a					
9	WeatherMax	22	oz/a	36.3	64.5	61.3	55.0	47.5
	Valor	1	oz/a					
10	Aim	1.5	oz/a	52.0	66.0	53.8	36.3	30.5
	COC	1	% v/v					
11	ET751	2	oz/a	25.5	17.5	8.8	6.3	7.5
	COC	1	% v/v					
12	Gramoxone Max	1	qt/a	78.3	72.8	61.3	67.5	53.8
	COC	1	% v/v					
13	Gramoxone Max	1	qt/a	83.5	77.8	75.0	80.0	61.5
	COC	1	% v/v					
	Direx	2	pt/a					
14	Direx	2	pt/a	30.5	56.0	56.3	51.3	34.0
	MSMA	2.5	pt/a					
15	Direx	2	pt/a	48.3	63.8	62.5	62.5	48.3
	MSMA	2.5	pt/a					
	Aim	1	oz/a					
16	Direx	2	pt/a	28.5	52.5	48.8	45.0	50.0
	MSMA	2.5	pt/a					
	ET751	0.75	oz/a					
17	Direx	2	pt/a	46.0	64.8	67.5	67.5	53.0
	MSMA	2.5	pt/a					
	Valor	1	oz/a					
18	WeatherMax	22	oz/a	32.5	64.3	67.5	63.8	49.5
	Sencor	0.66	lb/a					
	LSD (P=.05)			12.30	8.50	10.50	11.15	14.23
	Standard Deviation			8.69	6.01	7.42	7.89	10.06
	CV			23.18	12.27	14.86	16.29	22.6
	Bartlett's X2			31.474	9.383	12.139	17.666	18.026
	P(Bartlett's X2)			0.012*	0.897	0.734	0.41	0.261

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

Trial Comments

OBJECTIVE: Determine the most effective herbicide option to control spiderwort in the fall after corn harvest

Spiderwort response:

1) At 1 WAT, Gramoxone options provided 78 to 84% control. Other options were less than 52% effective.
2) By 2 WAT, regrowth was beginning in Gramoxone treated plots but these treatments were still the most effective options.
3) By 3 WAT, greater than 70% control was noted with only 1.5 pt/A of 2,4-D, RU + 2,4-D, and Gramoxone+ Direx.

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4) By 4 WAT, Gramoxone + Direx, RU + 2,4-D, and 2,4-D at 1.5 pt/a were the most effective treatments.
5) By 5 WAT, 2,4-D (82%) and glyphosate + 2,4-D (82%) were the only options providing greater than 62% control.

Conclusions:
1) The field was matted with spiderwort at time of application. Two applications may be needed in this type of situation. 1 qt/A of 2,4-D followed by Gramoxone may be a good option.