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Tropical spiderwort and doveweed response to metolachlor formulations.

Trial ID: C22-07 Study Dir.: Stanley Culpepper
Location: Sunbelt Expo Investigator: Stanley Culpepper

Reps: 4 Plots: 12 by 25 feet
Spray vol: 14.8 gal/ac Mix size: 2 liters (min 1.5434)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep 1	2	3	4
1	Roundup WeatherMax	4.5		L	22	OZ/A	POT	A	23.23 ml/mx	101	205	302	409
	Parallel PCS	8		L	1	PT/A	POT	A	16.89 ml/mx				
2	Roundup WeatherMax	4.5		L	22	OZ/A	POT	A	23.23 ml/mx	102	203	307	404
	Parallel PCS	8		L	1.33	PT/A	POT	A	22.46 ml/mx				
3	Roundup WeatherMax	4.5		L	22	OZ/A	POT	A	23.23 ml/mx	103	201	303	405
	Dual Magnum	7.64		L	1	PT/A	POT	A	16.89 ml/mx				
4	Roundup WeatherMax	4.5		L	22	OZ/A	POT	A	23.23 ml/mx	104	208	301	408
	Dual Magnum	7.64		L	1.33	PT/A	POT	A	22.46 ml/mx				
5	Roundup WeatherMax	4.5		L	22	OZ/A	POT	A	23.23 ml/mx	105	204	306	401
	Parallel PCS	8		L	1.33	PT/A	POT	A	22.46 ml/mx				
	Diuron	4		L	1	PT/A	POT	A	16.89 ml/mx				
6	Roundup WeatherMax	4.5		L	22	OZ/A	POT	A	23.23 ml/mx	106	209	308	403
	Dual Magnum	7.64		L	1.33	PT/A	POT	A	22.46 ml/mx				
	Diuron	4		L	1	PT/A	POT	A	16.89 ml/mx				
7	Roundup WeatherMax	4.5		L	22	OZ/A	POT	A	23.23 ml/mx	107	206	305	402
	Parallel PCS	8		L	1.33	PT/A	POT	A	22.46 ml/mx				
	Diuron	4		L	2	PT/A	POT	A	33.78 ml/mx				
8	Roundup WeatherMax	4.5		L	22	OZ/A	POT	A	23.23 ml/mx	108	202	304	406
	Dual Magnum	7.64		L	1.33	PT/A	POT	A	22.46 ml/mx				
	Diuron	4		L	2	PT/A	POT	A	33.78 ml/mx				
9	Non-treated									109	207	309	407

Sort Order: Treatment

Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
232.264	ml	Roundup WeatherMax	4.5	L	
105.352	ml	Parallel PCS	8	L	
105.352	ml	Dual Magnum	7.64	L	
126.676	ml	Diuron	4	L	

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 2 liters (mix size basis).
* Product amount calculations increased 25 % for overage adjustment.

Trial Comments

OBJECTIVE: Determine cotton and weed response to POT applications of glyphosate, metolachlor, and diuron.

Cotton Response:
1. At 5 DAT, injury from glyphosate + Parallel or Dual Magnum was less than 10%. Injury was the typical speckling noted every time this application is made. No injury was noted by 13 DAT.
2. Any mixture including diuron caused significant cotton injury and the cotton never recovered.

Large crabgrass:
1. All treatments provided complete control of the crabgrass that was emerged at time of application.
2. Residual activity from Parallel at 1.33 pt was greater than with 1 pt of Parallel. Residual activity at this location did not note statistical differences between Dual Magnum and Parallel at equal rates.

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3. Any mixture with diuron provided excellent control.

Pitted morningglory:
1. Mixtures containing diuron provided excellent control initially. By 35 DAT, control was excellent only with mixtures containing diuron at 2 pt/A.

Tropical spiderwort:
1. Tropical spiderwort was less than 2 inches at time of treatment and glyphosate alone provided good to excellent control of emerged plants. The addition of diuron with the glyphosate did further improve control of emerged plants.
2. By 35 DAT, residual control by Parallel and Dual Magnum at 1 pt/A was similar and around 70%. Increasing the rate of these products increased control by at least 11%.
3. Greater than 95% control was noted at 35 DAT when applying diuron at 2 pt, Parallel or Dual Mag at 1.33 pt, and glyphosate.

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Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5	6	7	8
Weed Code							DIGSA	DIGSA	IPOLA	IPOLA	COMBE
Crop Code				cotton	cotton	cotton					
Rating Data Type				%	%	%	%	%	%	%	%
Rating Unit				injury	injury	injury	control	control	control	control	control
Rating Date				Jun-02-07	Jun-10-07	Jul-02-07	Jun-10-07	Jul-02-07	Jun-10-07	Jul-02-07	Jun-10-07
Trt-Eval Interval				5 DA-A	13 DA-A	35 DA-A	13 DA-A	35 DA-A	13 DA-A	35 DA-A	13 DA-A
1	Roundup WeatherMax	22	OZ/A	6 b	0 d	0 c	99 a	81 b	81 c	66 b	90 c
	Parallel PCS	1	PT/A								
2	Roundup WeatherMax	22	OZ/A	6 b	0 d	0 c	99 a	93 a	81 c	70 b	92 c
	Parallel PCS	1.33	PT/A								
3	Roundup WeatherMax	22	OZ/A	7 b	0 d	0 c	99 a	85 b	81 c	70 b	91 c
	Dual Magnum	1	PT/A								
4	Roundup WeatherMax	22	OZ/A	9 b	0 d	0 c	99 a	94 a	85 c	73 b	94 bc
	Dual Magnum	1.33	PT/A								
5	Roundup WeatherMax	22	OZ/A	50 a	73 c	53 b	99 a	91 a	94 b	73 b	98 ab
	Parallel PCS	1.33	PT/A								
	Diuron	1	PT/A								
6	Roundup WeatherMax	22	OZ/A	45 a	76 bc	53 b	99 a	96 a	98 ab	73 b	99 a
	Dual Magnum	1.33	PT/A								
	Diuron	1	PT/A								
7	Roundup WeatherMax	22	OZ/A	46 a	85 ab	74 a	99 a	97 a	99 a	91 a	99 a
	Parallel PCS	1.33	PT/A								
	Diuron	2	PT/A								
8	Roundup WeatherMax	22	OZ/A	58 a	86 a	74 a	99 a	96 a	99 a	90 a	99 a
	Dual Magnum	1.33	PT/A								
	Diuron	2	PT/A								
9	Non-treated			0 b	0 d	0 c	0 b	0 c	0 d	0 c	0 d
LSD (P=.05)				13.9	9.4	10.9	0.0	6.2	4.6	12.4	4.3
Standard Deviation				9.5	6.4	7.4	0.0	4.2	3.2	8.5	2.9
CV				37.89	18.12	26.53	0.0	5.2	3.95	12.61	3.45
Bartlett's X2				43.069	0.429	0.029	0.0	12.724	8.425	12.286	13.604
P(Bartlett's X2)				0.001*	0.934	0.999	.	0.079	0.134	0.092	0.018*

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

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Trt No.	Treatment Name	Rate	Rate Unit	9
	Weed Code			COMBE
	Crop Code			
	Rating Data Type			%
	Rating Unit			control
	Rating Date			Jul-02-07
	Trt-Eval Interval			35 DA-A
1	Roundup WeatherMax	22	OZ/A	71 c
	Parallel PCS	1	PT/A	
2	Roundup WeatherMax	22	OZ/A	82 bc
	Parallel PCS	1.33	PT/A	
3	Roundup WeatherMax	22	OZ/A	71 c
	Dual Magnum	1	PT/A	
4	Roundup WeatherMax	22	OZ/A	88 ab
	Dual Magnum	1.33	PT/A	
5	Roundup WeatherMax	22	OZ/A	82 bc
	Parallel PCS	1.33	PT/A	
	Diuron	1	PT/A	
6	Roundup WeatherMax	22	OZ/A	87 ab
	Dual Magnum	1.33	PT/A	
	Diuron	1	PT/A	
7	Roundup WeatherMax	22	OZ/A	97 a
	Parallel PCS	1.33	PT/A	
	Diuron	2	PT/A	
8	Roundup WeatherMax	22	OZ/A	95 ab
	Dual Magnum	1.33	PT/A	
	Diuron	2	PT/A	
9	Non-treated			0 d
	LSD (P=.05)			13.0
	Standard Deviation			8.9
	CV			11.9
	Bartlett's X2			15.571
	P(Bartlett's X2)			0.029*

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

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Trial ID: C22-07 Study Dir.: Stanley Culpepper
Location: Sunbelt Expo Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Postal Code: 31794

Investigator: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Postal Code: 31794

TRIAL LOCATION

City: Moultrie **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** excellent
Postal Code: 31768 **Initiation Date:** May-08-07
Country: USA **Planned Completion Date:** _____
E-Longitude of LL Corner °: _____ **N-Latitude of LL Corner °:** _____
Altitude of LL Corner: _____ **Unit:** _____ **Angle y-axis to North °:** _____
Directions:

COOPERATOR/LANDOWNER

Cooperator: _____ **Country:** _____
Org: _____ **Phone No:** _____
Address 1: _____ **Fax No:** _____
Address 2: _____
City: _____
State/Prov: _____
Postal Code: _____

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N
Guidelines: _____ **Guideline Description:** _____

Objective:

Conclusions:

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	IPOLA	Morningglory, pitted	Ipomoea lacunosa
2.	DIGSA	Large crabgrass	Digitaria sanguinalis
3.	COMBE	tropical spiderwort	Commelina benghalensis

Crop 1: GOSHI COTTON, SHORT STAPLE **Variety:** DP 555 BRR
Planting Date: May-08-07 **Planting Method:** seeded
Rate: 1 4 inch **Depth:** 0.5 in **Perennial Age:** _____ _____
Row Spacing: 36 in **Spacing Within Row:** 4 inch **Seed Bed:** bedded
Soil Temperature: 78 F **Soil Moisture:** irrigated **Emergence Date:** May-13-07

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: Sunbelt Expo
Tillage Type: Conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

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MAINTENANCE

Field Prep./Maintenance:

No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

SOIL DESCRIPTION

% Sand: 88 **% OM:** 1.2 **Texture:** .
% Silt: 12 **pH:** 6 **Soil Name:** _____
% Clay: 0 **CEC:** _____ **Fert. Level:** _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: irrigated
Closest Weather Station: _____ **Distance:** _____ **Unit:** __

APPLICATION DESCRIPTION

	A
Application Date:	May-28-07
Time of Day:	1:00 pm
Application Method:	broadcast
Application Timing:	POT
Applic. Placement:	overtop
Air Temp., Unit:	84 F
% Relative Humidity:	39
Wind Velocity, Unit:	6 mph
Dew Presence (Y/N):	N
Water Hardness:	
Soil Temp., Unit:	87 F
Soil Moisture:	fair
% Cloud Cover:	35

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI .
Stage Scale:	3 leaf
Height, Unit:	4 in

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WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	IPOLA .
Stage Scale:	1-4 in
Density, Unit:	3 ydsq
Weed 2 Code, Stage:	DIGSA .
Stage Scale:	1-4 in
Density, Unit:	25 yds
Weed 3 Code, Stage:	COMBE .
Stage Scale:	1-2 in
Density, Unit:	8 ydsq

APPLICATION EQUIPMENT

	A
Appl. Equipment:	backpack
Operating Pressure:	24
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 in
Nozzles/Row:	2
Band Width, Unit:	
Boom Length, Unit:	4.5 ft
Boom Height, Unit:	15 in
Ground Speed, Unit:	3 mph
Incorporation Equip.:	
Hours to Incorp.:	
Incorp. Depth, Unit:	
Carrier:	water
Spray Volume, Unit:	15 GPA
Spray pH:	
Propellant:	CO2
Tank Mix (Y/N):	

Trt No	Treatment Application Comment