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Tropical spiderwort response to metolachlor formulations.

Trial ID: C39-06
 Location: Grady Co.

Study Dir.: Tim Flanders
 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	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep				
									1	2	3	4	
1	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	101	205	302	405
	Parallel PCS	8		L	1	PT/A	POST	B	16.89 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
2	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	102	215	304	403
	Parallel PCS	8		L	1.33	PT/A	POST	B	22.46 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
3	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	103	209	308	406
	Dual Magnum	7.62		L	1	PT/A	POST	B	16.89 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
4	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	104	214	307	413
	Dual Magnum	7.62		L	1.33	PT/A	POST	B	22.46 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
5	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	105	213	314	411
	Parallel PCS	8		L	1.33	PT/A	POST	B	22.46 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Diuron	4		L	1	PT/A	POST	B	16.89 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
6	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	106	210	315	412
	Dual Magnum	7.62		L	1.33	PT/A	POST	B	22.46 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Diuron	4		L	1	PT/A	POST	B	16.89 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
7	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	107	208	301	410
	Parallel PCS	8		L	1.33	PT/A	POST	B	22.46 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Diuron	4		L	2	PT/A	POST	B	33.78 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
8	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	108	201	313	408
	Dual Magnum	7.62		L	1.33	PT/A	POST	B	22.46 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Diuron	4		L	2	PT/A	POST	B	33.78 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
9	Non-treated								109	207	311	409	
10	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	110	202	312	414
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
11	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	111	204	305	404
	Dual Magnum	7.62		L	1	PT/A	POST	B	16.89 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
12	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	112	203	306	407
	Stalwart	8		L	1	PT/A	POST	B	16.89 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				

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

Trit No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Grow Unit	Appl Stg	Code	Amt Product to Measure	Plot No. By Rep			
										1	2	3	4
13	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	113	206	310	401
	Stalwart	8		L	10	OZ/A	POST	B	10.56 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
	Stalwart	8		L	10	OZ/A	PD	C	10.56 ml/mx				
14	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	114	211	303	402
	Parallel PCS	8		L	10	OZ/A	POST	B	10.56 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
	Parallel PCS	8		L	10	OZ/A	PD	C	10.56 ml/mx				
15	Prowl	3.3		EC	1	QT/A	PRE	A	33.78 ml/mx	115	212	309	415
	Dual Magnum	7.62		L	10	OZ/A	POST	B	10.56 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	POST	B	23.23 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	PD	C	23.23 ml/mx				
	Dual Magnum	7.62		L	10	OZ/A	PD	C	10.56 ml/mx				

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
591.154	ml	Prowl	3.3	EC	
131.746	ml	Parallel PCS	8	L	
783.891	ml	Roundup WeatherMax	4.5	L	
152.858	ml	Dual Magnum	7.62	L	
126.676	ml	Diuron	4	L	
47.506	ml	Stalwart	8	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: Compare metolachlor systems for the control of tropical spiderwort.

Cotton Injury:

1. Injury from glyphosate or glyphosate plus metolachlor mixtures was minimal.
2. Diuron mixed with glyphosate plus metolachlor caused over 50% injury at 8 DAT, over 40% injury at 15 DAT, and over 10% damage at 36 DAT. Cotton was severely delayed in these systems throughout the entire season.

Tropical Spiderwort Control:

1. When comparing Parallel to Dual Magnum when mixed with glyphosate POST and followed by glyphosate PD:
 - A. Control was similar for 45 days.
 - B. At 72 and 115 DAT, Dual Magnum at 1 pt was more effective than Parallel at 1 pt.
 - C. At 72 and 115 DAT, Dual Magnum at 1 pt and Parallel at 1.33 pt provided similar control.
2. Mixing diuron with metolachlor tended to improve control late in the season.
3. Sequential glyphosate only applications provided poor late-season control.
4. Stalwart and Parallel provided similar control.
5. Sequential metolachlor applications provided greater than 90% control throughout the season.

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Weed Code				COMBE	COMBE	COMBE	COMBE	COMBE			
Crop Code	GOSHI	GOSHI	GOSHI	COMBE	COMBE	COMBE	COMBE	COMBE			
Rating Data Type	injury	injury	injury	control	control	control	control	control			
Rating Unit	%	%	%	%	%	%	%	%			
Rating Date	May-30-06	Jun-06-06	Jun-27-06	May-30-06	Jun-06-06	Jun-27-06	Jul-06-06	Aug-02-06			
Assessed By	SC	SC	SC	TF	TF	TF	TF	TF			
Trt-Eval Interval	8 DA-B	15 DA-B	36 DA-B	8 DA-B	15 DA-B	36 DA-B	45 DA-B	72 DA-B			
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7	8
12	Prowl	1	QT/A	0 d	0 c	0 c	94 abc	95 ab	92 a	98 a	83 bcd
	Stalwart	1	PT/A								
	Roundup WeatherMax	22	OZ/A								
	Roundup WeatherMax	22	OZ/A								
13	Prowl	1	QT/A	1 d	0 c	0 c	96 abc	97 a	95 a	97 a	99 a
	Stalwart	10	OZ/A								
	Roundup WeatherMax	22	OZ/A								
	Roundup WeatherMax	22	OZ/A								
	Stalwart	10	OZ/A								
14	Prowl	1	QT/A	1 d	0 c	2 c	96 abc	98 a	95 a	98 a	96 a
	Parallel PCS	10	OZ/A								
	Roundup WeatherMax	22	OZ/A								
	Roundup WeatherMax	22	OZ/A								
	Parallel PCS	10	OZ/A								
15	Prowl	1	QT/A	1 d	0 c	1 c	94 bc	96 a	95 a	98 a	98 a
	Dual Magnum	10	OZ/A								
	Roundup WeatherMax	22	OZ/A								
	Roundup WeatherMax	22	OZ/A								
	Dual Magnum	10	OZ/A								
LSD (P=.05)				13.7	9.5	5.0	4.5	4.8	6.8	4.0	9.9
Standard Deviation				9.6	6.7	3.5	3.2	3.3	4.8	2.8	7.0
CV				51.89	41.11	70.34	3.57	3.72	5.43	3.16	8.44
Bartlett's X2				60.761	21.287	8.27	11.882	25.064	30.645	32.763	31.661
P(Bartlett's X2)				0.001*	0.001*	0.219	0.373	0.015*	0.002*	0.002*	0.003*

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

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Weed Code			COMBE
Crop Code			
Rating Data Type			control
Rating Unit			%
Rating Date			Sep-14-06
Assessed By			SC
Trt-Eval Interval			115 DA-B
Trt No.	Treatment Name	Rate	Unit
			9
1	Prowl	1	QT/A
	Parallel PCS	1	PT/A
	Roundup WeatherMax	22	OZ/A
	Roundup WeatherMax	22	OZ/A
2	Prowl	1	QT/A
	Parallel PCS	1.33	PT/A
	Roundup WeatherMax	22	OZ/A
	Roundup WeatherMax	22	OZ/A
3	Prowl	1	QT/A
	Dual Magnum	1	PT/A
	Roundup WeatherMax	22	OZ/A
	Roundup WeatherMax	22	OZ/A
4	Prowl	1	QT/A
	Dual Magnum	1.33	PT/A
	Roundup WeatherMax	22	OZ/A
	Roundup WeatherMax	22	OZ/A
5	Prowl	1	QT/A
	Parallel PCS	1.33	PT/A
	Roundup WeatherMax	22	OZ/A
	Diuron	1	PT/A
	Roundup WeatherMax	22	OZ/A
6	Prowl	1	QT/A
	Dual Magnum	1.33	PT/A
	Roundup WeatherMax	22	OZ/A
	Diuron	1	PT/A
	Roundup WeatherMax	22	OZ/A
7	Prowl	1	QT/A
	Parallel PCS	1.33	PT/A
	Roundup WeatherMax	22	OZ/A
	Diuron	2	PT/A
	Roundup WeatherMax	22	OZ/A
8	Prowl	1	QT/A
	Dual Magnum	1.33	PT/A
	Roundup WeatherMax	22	OZ/A
	Diuron	2	PT/A
	Roundup WeatherMax	22	OZ/A
9	Non-treated		
			0 g
10	Prowl	1	QT/A
	Roundup WeatherMax	22	OZ/A
	Roundup WeatherMax	22	OZ/A
11	Prowl	1	QT/A
	Dual Magnum	1	PT/A
	Roundup WeatherMax	22	OZ/A
12	Prowl	1	QT/A
	Stalwart	1	PT/A
	Roundup WeatherMax	22	OZ/A
	Roundup WeatherMax	22	OZ/A

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Weed Code	COMBE	
Crop Code		
Rating Data Type	control	
Rating Unit	%	
Rating Date	Sep-14-06	
Assessed By	SC	
Trt-Eval Interval	115 DA-B	
Trt No.	Treatment Name	Rate Unit
		9
13	Prowl	1 QT/A
	Stalwart	10 OZ/A
	Roundup WeatherMax	22 OZ/A
	Roundup WeatherMax	22 OZ/A
	Stalwart	10 OZ/A
14	Prowl	1 QT/A
	Parallel PCS	10 OZ/A
	Roundup WeatherMax	22 OZ/A
	Roundup WeatherMax	22 OZ/A
	Parallel PCS	10 OZ/A
15	Prowl	1 QT/A
	Dual Magnum	10 OZ/A
	Roundup WeatherMax	22 OZ/A
	Roundup WeatherMax	22 OZ/A
	Dual Magnum	10 OZ/A
LSD (P=.05)	9.0	
Standard Deviation	6.3	
CV	8.25	
Bartlett's X2	13.449	
P(Bartlett's X2)	0.414	

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

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

SOIL DESCRIPTION

% Sand: 80 % OM: 5.9 Texture: loamy sand
 % Silt: 12 pH: 2.1 Soil Name: _____
 % Clay: 8 CEC: _____ Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: overhead irrigation

Closest Weather Station: _____ Distance: _____ Unit: __

APPLICATION DESCRIPTION

	A	B	C
Application Date:	May-02-06	May-22-06	Jun-22-06
Time of Day:	8 am	8 am	11 am
Application Method:	broadcast	broadcast	broadcast
Application Timing:	PRE	POST	PD
Applic. Placement:	on soil	overtop	directed
Air Temp., Unit:	71 F	78 F	92 F
% Relative Humidity:	54	70	59
Wind Velocity, Unit:	3 mph	2 mph	2 mph
Dew Presence (Y/N):	n	n	n
Water Hardness:			
Soil Temp., Unit:	74 F	79 F	92 F
Soil Moisture:	moist	fair	fair
% Cloud Cover:	20	0	10

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GOSHI PRE	GOSHI 3 leaf	GOSHI PD
Stage Scale:	not up	2-3 leaf	14 leaf
Height, Unit:	0 inch	3 inch	18 inch

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	COMBE PRE	COMBE POST	COMBE PD
Stage Scale:	not up	1-2lf, 1"	2-8 inch
Density, Unit:	0 inch	45 inch	59 ydsq

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APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	backpack	backpack	backpack
Operating Pressure:	23	23	18
Nozzle Type:	flat fan	flat fan	floodjet
Nozzle Size:	11002	11002	TK2
Nozzle Spacing, Unit:	18 inch	18 inch	36 inch
Nozzles/Row:	2	2	1
Band Width, Unit:			
Boom Length, Unit:	4.5 feet	4.5 feet	
Boom Height, Unit:	15 inch	15 inch	15 inch
Ground Speed, Unit:	3 mph	3 mph	3 mph
Incorporation Equip.:			
Hours to Incorp.:			
Incorp. Depth, Unit:			
Carrier:	water	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA	14.8 GPA
Spray pH:			
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	Y	Y	Y

Trt No	Treatment Application Comment