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Metolachlor and diuron applied POST in cotton.

Prot (MEC-08-2a)

Trial ID: C36-08

Study Dir.: Culpepper, Harten

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	Form Rate	Rate Unit	Grow Stg	Appl Code	Amt to Measure	Product	Plot No. By Rep			
											1	2	3	4
1	Parallel PCS	8	L	L	1	PT/A	3-4	If A	16.89 ml/mx		101	211	303	405
2	Parallel PCS	8	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx		102	204	313	412
3	Dual Magnum	7.62	L	L	1	PT/A	3-4	If A	16.89 ml/mx		103	205	306	403
4	Dual Magnum	7.62	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx		104	201	309	402
5	Parallel PCS	8	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx		105	213	308	407
	Diuron	4	L	L	1	PT/A	3-4	If A	16.89 ml/mx					
6	Dual Magnum	7.62	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx		106	208	310	409
	Diuron	4	L	L	1	PT/A	3-4	If A	16.89 ml/mx					
7	Parallel PCS	8	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx		107	209	312	411
	Diuron	4	L	L	2	PT/A	3-4	If A	33.78 ml/mx					
8	Non-treated										108	202	305	413
9	Dual Magnum	7.62	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx		109	206	302	404
	Diuron	4	L	L	2	PT/A	3-4	If A	33.78 ml/mx					
10	WeatherMax	4.5	L	L	22	OZ/A	3-4	If A	23.23 ml/mx		110	212	311	408
	Parallel PCS	8	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx					
11	WeatherMax	4.5	L	L	22	OZ/A	3-4	If A	23.23 ml/mx		111	210	307	401
	Dual Magnum	7.62	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx					
12	WeatherMax	4.5	L	L	32	OZ/A	3-4	If A	33.78 ml/mx		112	207	304	410
	Parallel PCS	8	L	L	1.33	PT/A	3-4	If A	22.46 ml/mx					
13	WeatherMax	4.5	L	L	32	OZ/A	3-4	If A	33.78 ml/mx		113	203	301	406
	Dual Magnum	7.62	L	L	1.33	PT/A	3-4	If A	22.46 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
161.512	ml	Parallel PCS	8	L	
161.512	ml	Dual Magnum	7.62	L	
126.676	ml	Diuron	4	L	
142.526	ml	WeatherMax	4.5	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 weed and crop response to metolachlor and diuron systems.

COTTON RESPONSE:

1. Topical applications of Parallel or Dual Magnum alone caused less than 7% injury throughout the season. Mixing glyphosate with these products tended to not increase injury in this study.
2. Diuron mixed with Parallel or Dual Magnum caused severe injury with 56 to 70% at 4 DAT, 57 to 78% at 14 DAT, and 11 to 35% at 24 DAT.

PITTED MORNINGGLORY:

1. Glyphosate mixed with metolachlor provided 70 to 76% control at 14 DAT and 70 to 84% control at 28 DAT. The higher rate of glyphosate did provide greater control by 24 DAT.

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2. Diuron at 1 pt when mixed with metolachlor provided good control at 14 DAT and poor to fair control by 24 DAT. Diuron at 2 pt provided good to excellent control throughout the trial.
3. Morningglory control could not be rated at 42 DAT because of the intense grass pressure that was not controlled in several plots.

TROPICAL SPIDERWORT:

1. Spiderwort was small at time of application; thus, post treatments with diuron provided excellent control and glyphosate treatments provided good control.
2. Similar to morningglory, lack of grass control in some plots made it impossible to evaluate the benefit from the metolachlor on tropical spiderwort late in the season.
3. Additionally, high levels of spiderwort control from diuron treatments may have been partly a response to poor grass control reducing spiderwort growth.

CARPETWEED:

1. All diuron and glyphosate treatments provided excellent control.
2. Metolachlor alone treatments had no impact on growth.

LARGE CRABGRASS:

1. Glyphosate provided complete control of emerged plants.
2. Diuron at 1 pt provided 83 to 84% control of emerged plants (crabgrass was small when treated) while diuron at 2 pt provided 91 to 95% control of emerged plants at 14 DAT. By 28 DAT control was less than 80% and by 41 DAT control was less than 50%. Reduction in control over time was primarily due to plants recovering from the initial spray plus some additional germination.

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Study Dir.: Culpepper, Harten

Location: Sunbelt Expo

Investigator: Stanley Culpepper

Weed Code		GOSHI	GOSHI	GOSHI	IPOLA	IPOLA	COMBE	COMBE	MOLVE	
Crop Code		injury	injury	injury	control	control	control	control	control	
Rating Data Type		%	%	%	%	%	%	%	%	
Rating Unit										
Rating Date		Jun-05-08	Jun-15-08	Jun-25-08	Jun-15-08	Jun-25-08	Jun-15-08	Jun-25-08	Jun-15-08	
Trt-Eval Interval		4 DA-A	14 DA-A	24 DA-A	14 DA-A	24 DA-A	14 DA-A	24 DA-A	14 DA-A	
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	
			1	2	3	4	5	6	7	8
1	Parallel PCS	1 PT/A	4 de	0 d	0 c	0 e	0 e	0 c	0 c	0 c
2	Parallel PCS	1.33 PT/A	6 de	2 d	0 c	0 e	0 e	0 c	0 c	0 c
3	Dual Magnum	1 PT/A	2 de	0 d	0 c	0 e	0 e	0 c	0 c	0 c
4	Dual Magnum	1.33 PT/A	2 de	0 d	0 c	0 e	0 e	0 c	0 c	0 c
5	Parallel PCS	1.33 PT/A	56 c	58 c	11 b	79 c	65 d	96 a	94 a	98 b
	Diuron	1 PT/A								
6	Dual Magnum	1.33 PT/A	63 bc	65 b	19 b	88 b	74 c	98 a	94 a	99 a
	Diuron	1 PT/A								
7	Parallel PCS	1.33 PT/A	70 a	78 a	36 a	96 a	87 b	99 a	96 a	99 a
	Diuron	2 PT/A								
8	Non-treated		0 e	0 d	0 c	0 e	0 e	0 c	0 c	0 c
9	Dual Magnum	1.33 PT/A	69 ab	78 a	30 a	99 a	97 a	99 a	95 a	99 a
	Diuron	2 PT/A								
10	WeatherMax	22 OZ/A	9 d	4 d	0 c	75 cd	75 c	73 b	81 b	99 a
	Parallel PCS	1.33 PT/A								
11	WeatherMax	22 OZ/A	7 de	3 d	0 c	71 cd	73 c	71 b	80 b	99 a
	Dual Magnum	1.33 PT/A								
12	WeatherMax	32 OZ/A	9 d	6 d	0 c	70 d	81 b	70 b	86 b	99 a
	Parallel PCS	1.33 PT/A								
13	WeatherMax	32 OZ/A	5 de	3 d	0 c	76 cd	84 b	74 b	86 b	99 a
	Dual Magnum	1.33 PT/A								
LSD (P=.05)			6.4	7.3	8.0	7.4	5.7	4.6	6.6	0.8
Standard Deviation			4.5	5.1	5.6	5.2	4.0	3.2	4.6	0.6
CV			19.25	22.51	75.6	10.27	8.24	6.14	8.43	0.91
Bartlett's X2			19.951	18.057	3.585	8.006	5.246	13.989	22.735	0.0
P(Bartlett's X2)			0.03*	0.021*	0.31	0.156	0.63	0.007*	0.002*	.

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

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Weed Code	MOLVE	DIGSA	DIGSA	DIGSA			
Crop Code							
Rating Data Type	control	control	control	control			
Rating Unit	%	%	%	%			
Rating Date	Jun-25-08	Jun-15-08	Jun-25-08	Jul-12-08			
Trt-Eval Interval	24 DA-A	14 DA-A	24 DA-A	41 DA-A			
Trt No.	Treatment Name	Rate	Unit	9	10	11	12
1	Parallel PCS	1	PT/A	0 c	0 d	0 e	0 d
2	Parallel PCS	1.33	PT/A	0 c	0 d	0 e	0 d
3	Dual Magnum	1	PT/A	0 c	0 d	0 e	0 d
4	Dual Magnum	1.33	PT/A	0 c	0 d	0 e	0 d
5	Parallel PCS Diuron	1.33 1	PT/A PT/A	97 ab	84 c	68 cd	13 cd
6	Dual Magnum Diuron	1.33 1	PT/A PT/A	98 ab	84 c	61 d	18 c
7	Parallel PCS Diuron	1.33 2	PT/A PT/A	99 a	91 b	74 bc	34 b
8	Non-treated			0 c	0 d	0 e	0 d
9	Dual Magnum Diuron	1.33 2	PT/A PT/A	98 ab	95 ab	78 b	43 b
10	WeatherMax Parallel PCS	22 1.33	OZ/A PT/A	96 b	98 a	96 a	88 a
11	WeatherMax Dual Magnum	22 1.33	OZ/A PT/A	98 ab	99 a	97 a	88 a
12	WeatherMax Parallel PCS	32 1.33	OZ/A PT/A	98 ab	99 a	99 a	91 a
13	WeatherMax Dual Magnum	32 1.33	OZ/A PT/A	98 ab	99 a	97 a	95 a
LSD (P=.05)				2.7	4.9	6.7	12.5
Standard Deviation				1.9	3.4	4.7	8.8
CV				3.1	5.95	9.04	24.33
Bartlett's X2				3.661	8.93	30.255	17.264
P(Bartlett's X2)				0.722	0.063	0.001*	0.008*

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

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**Metolachlor and diuron applied POST in cotton.
Prot (MEC-08-2a)**

Trial ID: C36-08 Study Dir.: Culpepper, Harten
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:** good
Postal Code: 31788 **Initiation Date:** May-05-08
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.	COMBE	Tropical spiderwort	Commelina benghalensis
2.	DIGSA	Digitaria sanguinalis	Digitaria sanguinalis
3.	IPOLA	Morningglory, pitted	Ipomoea lacunosa

Crop 1: GOSHI cotton **Variety:** DP 555 BRR
Planting Date: May-05-08 **Planting Method:** hill drop
Rate: 2 8 in **Depth:** 0.5 in **Perennial Age:** ____ ____
Row Spacing: 36 inch **Spacing Within Row:** 8 in **Seed Bed:** flat
Soil Temperature: 75 F **Soil Moisture:** irrigation **Emergence Date:** May-10-08

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: 6.0	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:	Jun-01-08
Time of Day:	8:00 am
Application Method:	broadcast
Application Timing:	POST
Applic. Placement:	overtop
Air Temp., Unit:	78 F
% Relative Humidity:	72
Wind Velocity, Unit:	3 mph
Dew Presence (Y/N):	N
Water Hardness:	
Soil Temp., Unit:	84 F
Soil Moisture:	moist
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

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

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WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	COMBE A
Stage Scale:	2 in
Density, Unit:	25 ydsq
Weed 2 Code, Stage:	DIGSA A
Stage Scale:	2 in
Density, Unit:	10 ydsq
Weed 3 Code, Stage:	IPOLA A
Stage Scale:	3 in
Density, Unit:	3 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):	y

Trt No	Treatment Application Comment