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Weed response to diuron, prometryn, fluometuron, metolachlor, pyriithiobac and fomesafen.

Trial ID: C36-06

Study Dir.: Stanley Culpepper

Location: Attapulgus

Investigator: Stanley Culpepper

Reps: 4

Plots: 6 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 1 liters (min .77168)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Grow Unit	Appl Stg	Amt to Measure	Product	Plot No. By Rep			
										1	2	3	4
1	None									101	214	309	414
2	prometryn	4	L		3.2	PT/A	PRE	A	27.02 ml/mx	102	201	307	403
3	fluometuron	4	L		2	PT/A	PRE	A	16.89 ml/mx	103	211	313	411
4	diuron	4	L		1.5	PT/A	PRE	A	12.67 ml/mx	104	209	306	415
5	Parallel PCS	8	L		1	PT/A	PRE	A	8.445 ml/mx	105	208	304	410
6	fluometuron	4	L		1	PT/A	PRE	A	8.445 ml/mx	106	215	311	404
	diuron	4	L		0.75	PT/A	PRE	A	6.334 ml/mx				
7	fluometuron	4	L		1.34	PT/A	PRE	A	11.32 ml/mx	107	205	302	401
	diuron	4	L		1.0	PT/A	PRE	A	8.445 ml/mx				
8	fluometuron	4	L		1	PT/A	PRE	A	8.445 ml/mx	108	203	305	402
	prometryn	4	L		1.6	PT/A	PRE	A	13.51 ml/mx				
9	fluometuron	4	L		1.34	PT/A	PRE	A	11.32 ml/mx	109	210	315	405
	prometryn	4	L		2.14	PT/A	PRE	A	18.07 ml/mx				
10	fluometuron	4	L		1	PT/A	PRE	A	8.445 ml/mx	110	204	310	413
	Parallel PCS	8	L		0.67	PT/A	PRE	A	5.658 ml/mx				
11	fluometuron	4	L		1.34	PT/A	PRE	A	11.32 ml/mx	111	207	301	406
	Parallel PCS	8	L		0.89	PT/A	PRE	A	7.516 ml/mx				
12	diuron	4	L		0.75	PT/A	PRE	A	6.334 ml/mx	112	213	314	407
	prometryn	4	L		1.6	PT/A	PRE	A	13.51 ml/mx				
13	diuron	4	L		1	PT/A	PRE	A	8.445 ml/mx	113	202	312	408
	prometryn	4	L		2.14	PT/A	PRE	A	18.07 ml/mx				
14	Staple	3.2	L		1.7	OZ/A	PRE	A	0.8974 ml/mx	114	206	303	412
15	Reflex	2	L		1	PT/A	PRE	A	8.445 ml/mx	115	212	308	409

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
112.741	ml	prometryn	4	L	
95.218	ml	fluometuron	4	L	
52.782	ml	diuron	4	L	
27.024	ml	Parallel PCS	8	L	
1.122	ml	Staple	3.2	L	
10.556	ml	Reflex	2	L	

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1 liters (mix size basis).

* Product amount calculations increased 25 % for overage adjustment.

Trial Comments

OBJECTIVE: Evaluate residual control of Palmer amaranth by residual herbicides over time.

COTTON RESPONSE:

1. Injury was insignificant throughout the season with all herbicide options.

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PALMER AMARANTH:

1. At 18 d after treatment (DAT), control was excellent except with 1 pt/A of diuron (50% control).
2. By 39 DAT, control was greater than 90% with Reflex, fluometuron plus prometryn, and fluometuron at 1.34 pt + either diuron 1 pt/A or Parallel PCS at 0.89 pt/A.
3. By 75 DAT, control was less than 25% with all treatments.

SICKLEPOD:

1. Evaluating sicklepod was challenging late in the season because of the intense Palmer population.
2. Generally, the most effective treatments included Staple, fluometuron plus diuron (1 pt) or prometryn, fluometuron (2 pt), or prometryn (3.2 pt).

SMALLFLOWER MORNINGGLORY:

1. Evaluating morningglory was challenging at late season because of the intense Palmer population.
2. Excellent control was noted with all treatments except 1.4 pt of diuron at 18 DAT.
3. At 39 DAT, prometryn (3.2 pt), fluometuron (2 pt/A), all fluometuron or diuron mixtures, Staple and Reflex provided good to excellent control.
4. By 75 DAT, no control was noted in any system.

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Study Dir.: Stanley Culpepper

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Weed Code	GOSHI	GOSHI	AMAPA	AMAPA	AMAPA	AMAPA	CASOB	CASOB
Crop Code	injury	injury	control	control	control	control	control	control
Rating Data Type	%	%	%	%	%	%	%	%
Rating Unit								
Rating Date	Jun-06-06	Jun-15-06	Jun-06-06	Jun-15-06	Jun-27-06	Aug-02-06	Jun-06-06	Jun-15-06
Assessed By	SC	SC	SC	SC	AD	AD	SC	SC
Trt-Eval Interval	18 DA-A	27 DA-A	18 DA-A	27 DA-A	39 DA-A	75 DA-A	18 DA-A	27 DA-A
Trt No.	1	2	3	4	5	6	7	8
Treatment Name								
Rate								
Rate Unit								
1 None	0 b	0 a	0 d	0 d	0 f	0 b	0 e	0 g
2 prometryn 3.2 PT/A	0 b	0 a	100 a	98 a	78 bc	0 b	91 a	86 a
3 fluometuron 2 PT/A	0 b	0 a	99 a	94 a	83 abc	0 b	77 abc	76 abc
4 diuron 1.5 PT/A	0 b	0 a	50 c	43 c	18 e	0 b	53 d	48 f
5 Parallel PCS 1 PT/A	0 b	0 a	91 b	81 b	51 d	0 b	46 d	55 ef
6 fluometuron 1 PT/A	0 b	0 a	96 a	94 a	78 bc	0 b	63 cd	64 cde
diuron 0.75 PT/A								
7 fluometuron 1.34 PT/A	0 b	0 a	98 a	98 a	91 ab	0 b	83 ab	84 ab
diuron 1.0 PT/A								
8 fluometuron 1 PT/A	0 b	0 a	99 a	99 a	91 ab	0 b	83 ab	83 ab
prometryn 1.6 PT/A								
9 fluometuron 1.34 PT/A	0 b	0 a	99 a	99 a	96 a	13 ab	91 a	89 a
prometryn 2.14 PT/A								
10 fluometuron 1 PT/A	0 b	0 a	99 a	95 a	80 abc	18 a	56 d	71 bcd
Parallel PCS 0.67 PT/A								
11 fluometuron 1.34 PT/A	0 b	0 a	99 a	99 a	95 a	15 ab	50 d	66 cde
Parallel PCS 0.89 PT/A								
12 diuron 0.75 PT/A	0 b	0 a	99 a	95 a	82 abc	0 b	53 d	58 def
prometryn 1.6 PT/A								
13 diuron 1 PT/A	0 b	0 a	99 a	98 a	83 abc	15 ab	65 bcd	67 cde
prometryn 2.14 PT/A								
14 Staple 1.7 OZ/A	2 a	0 a	91 b	83 b	71 c	0 b	84 ab	75 abc
15 Reflex 1 PT/A	0 b	0 a	99 a	99 a	98 a	23 a	59 d	60 def
LSD (P=.05)	1.5	0.0	4.6	8.4	15.2	12.9	16.9	12.8
Standard Deviation	1.0	0.0	3.2	5.9	10.6	9.0	11.8	9.0
CV	774.6	0.0	3.68	6.96	14.58	164.07	18.69	13.7
Bartlett's X2	0.0	0.0	36.616	15.981	29.281	1.753	13.169	23.584
P(Bartlett's X2)	.	.	0.001*	0.067	0.006*	0.781	0.435	0.023*

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

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Weed Code	CASOB	CASOB	IAQTA	IAQTA	IAQTA			
Crop Code								
Rating Data Type	control	control	control	control	control			
Rating Unit	%	%	%	%	%			
Rating Date	Jun-27-06	Aug-02-06	Jun-06-06	Jun-27-06	Aug-02-06			
Assessed By	AD	AD	SC	AD	AD			
Trt-Eval Interval	39 DA-A	75 DA-A	18 DA-A	39 DA-A	75 DA-A			
Trt No.	Treatment Name	Rate	Unit	9	10	11	12	13
1	None			0 f	0 a	0 d	0 c	0 a
2	prometryn	3.2	PT/A	79 a	0 a	99 a	94 a	0 a
3	fluometuron	2	PT/A	72 ab	0 a	99 a	95 a	0 a
4	diuron	1.5	PT/A	45 e	0 a	85 c	58 b	0 a
5	Parallel PCS	1	PT/A	49 de	0 a	92 b	63 b	0 a
6	fluometuron diuron	1 0.75	PT/A PT/A	59 cd	0 a	99 a	86 a	0 a
7	fluometuron diuron	1.34 1.0	PT/A PT/A	81 a	0 a	97 ab	93 a	0 a
8	fluometuron prometryn	1 1.6	PT/A PT/A	75 a	0 a	95 ab	94 a	0 a
9	fluometuron prometryn	1.34 2.14	PT/A PT/A	79 a	0 a	98 ab	96 a	0 a
10	fluometuron Parallel PCS	1 0.67	PT/A PT/A	63 bc	0 a	96 ab	87 a	0 a
11	fluometuron Parallel PCS	1.34 0.89	PT/A PT/A	62 bc	0 a	99 a	91 a	0 a
12	diuron prometryn	0.75 1.6	PT/A PT/A	56 cd	0 a	97 ab	85 a	0 a
13	diuron prometryn	1 2.14	PT/A PT/A	64 bc	0 a	97 ab	89 a	0 a
14	Staple	1.7	OZ/A	79 a	0 a	95 ab	85 a	0 a
15	Reflex	1	PT/A	63 bc	0 a	99 a	91 a	0 a
LSD (P=.05)		10.7		0.0	5.0	18.4	0.0	
Standard Deviation		7.5		0.0	3.5	12.9	0.0	
CV		12.12		0.0	3.93	16.0	0.0	
Bartlett's X2		19.447		0.0	16.778	46.184	0.0	
P(Bartlett's X2)		0.11		.	0.052	0.001*	.	

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

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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: 84	% OM: 6	Texture: Loamy sand
% Silt: 8	pH: 1.3	Soil Name: _____
% Clay: 8	CEC: _____	Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: overhead irrigation

Closest Weather Station: _____ Distance: _____ Unit: ____

APPLICATION DESCRIPTION

	A
Application Date:	May-19-06
Time of Day:	8 am
Application Method:	broadcast
Application Timing:	preemerge
Applic. Placement:	on soil
Air Temp., Unit:	74 F
% Relative Humidity:	78
Wind Velocity, Unit:	3 mph
Dew Presence (Y/N):	n
Water Hardness:	
Soil Temp., Unit:	78 F
Soil Moisture:	fair
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI PRE
Stage Scale:	not up
Height, Unit:	0 inch

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	AMAPA PRE
Stage Scale:	not up
Density, Unit:	12 ydsq
Weed 2 Code, Stage:	CASOB PRE
Stage Scale:	not up
Density, Unit:	3 ydsq

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APPLICATION EQUIPMENT

	A
Appl. Equipment:	backpack
Operating Pressure:	24
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 inch
Nozzles/Row:	2
Band Width, Unit:	
Boom Length, Unit:	4.5 feet
Boom Height, Unit:	15 inch
Ground Speed, Unit:	3 mph
Incorporation Equip.:	
Hours to Incorp.:	
Incorp. Depth, Unit:	
Carrier:	water
Spray Volume, Unit:	14.8 GPA
Spray pH:	
Propellant:	CO2
Tank Mix (Y/N):	Y

Trt No	Treatment Application Comment