

University of Georgia

Morningglory and grass response to ET layby herbicide applications.

Trial ID: C54-05
Location: Moultrie

Study Dir.: Stanley Culpepper
Investigator: Stanley Culpepper

Reps: 4 Plots: 9 by 22 feet
Spray vol: 14.8 gal/ac Mix size: 1.5 liters (min 1.0186)

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	WeatherMax	4.5	L		22 oz/a	layby	A		17.42 ml/mx		101	208	304	409
2	WeatherMax ET	4.5	L		22 oz/a 0.5 oz/a	layby	A		17.42 ml/mx 0.3959 ml/mx		102	209	306	413
3	WeatherMax Aim	4.5	L		22 oz/a 0.5 oz/a	layby	A		17.42 ml/mx 0.3959 ml/mx		103	211	308	412
4	WeatherMax ET	4.5	L		22 oz/a 1 oz/a	layby	A		17.42 ml/mx 0.7918 ml/mx		104	205	303	408
5	ET COC		L		1.5 oz/a 1 % v/v	layby	A		1.188 ml/mx 15.0 ml/mx		105	201	311	402
6	ET COC		L		2 oz/a 1 % v/v	layby	A		1.584 ml/mx 15.0 ml/mx		106	204	305	404
7	ET COC Layby Pro		L		0.5 oz/a 1 % v/v 1.5 pt/a	layby	A		0.3959 ml/mx 15.0 ml/mx 19.0 ml/mx		107	203	301	406
8	ET COC Direx		L		0.5 oz/a 1 % v/v 1.5 pt/a	layby	A		0.3959 ml/mx 15.0 ml/mx 19.0 ml/mx		108	207	312	407
9	Nontreated										109	202	313	401
10	ET MSMA Direx		L		0.25 oz/a 2 pt/a 1.5 pt/a	layby	A		0.198 ml/mx 25.34 ml/mx 19.0 ml/mx		110	213	309	405
11	Aim MSMA Direx		L		0.25 oz/a 2 pt/a 1.5 pt/a	layby	A		0.198 ml/mx 25.34 ml/mx 19.0 ml/mx		111	210	307	410
12	Aim MSMA Direx		L		0.5 oz/a 2 pt/a 1.5 pt/a	layby	A		0.3959 ml/mx 25.34 ml/mx 19.0 ml/mx		112	206	302	403
13	ET MSMA Direx		L		0.5 oz/a 2 pt/a 1.5 pt/a	layby	A		0.3959 ml/mx 25.34 ml/mx 19.0 ml/mx		113	212	310	411

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Lot Code
87.099	ml	WeatherMax 4.5 L	
6.681	ml	ET L	
1.237	ml	Aim L	
74.992	ml	COC L	
23.752	ml	Layby Pro L	
118.759	ml	Direx L	
126.676	ml	MSMA 6 L	

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1.5 liters (mix size basis).

* Product amount calculations increased 25 % for overage adjustment.

* 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 1.5 liters.

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Trial Comments

OBJECTIVE: Compare ET and Aim layby mixtures in cotton.

Crop Response:

1. Stem necrosis was 12% or less throughout the season.
2. Cotton recovered quickly from any stem necrosis.

Weed Response:

Crabgrass:

1. All WeatherMax mixtures provided excellent control of emerged plants.
2. Mixing Aim or ET with WeatherMax caused no antagonism.
3. ET applied alone provided poor control of emerged plants.
4. ET mixed with Layby Pro or Direx provided poor control of emerged plants.
5. ET mixed with MSMA and Direx provided fair control of emerged plants.
6. Grass emergence was intense after application and control 43 DAT was poor by all treatments.

Pitted morningglory:

1. At 21 DAT, most ET or Aim treatments provided good to excellent control.
2. Control by glyphosate plus Aim 0.5 oz or ET 1.0 oz was similar through the season.
3. ET 0.25 oz + MSMA + Direx was less effective than Aim 0.25 oz + MSMA + Direx.

Doveweed:

1. Late-season evaluations were not made because the weed could not be seen due to grass infestations.
2. ET at 1 oz mixed with WeatherMax improved control compared to WeatherMax alone at 21 DAT. All other treatments provided 80% or less control.

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Weed Code		GOSHI	GOSHI	DIGSA	DIGSA	DIGSA	IPOLA	IPOLA	IPOLA	MUNDU	
Crop Code		injury	injury	control	control	control	control	control	control	control	
Rating Data Type		percent	percent	percent	percent	percent	percent	percent	percent	percent	
Rating Unit											
Rating Date		Jun-27-05	Jul-11-05	Jun-27-05	Jul-11-05	Aug-02-05	Jun-27-05	Jul-11-05	Aug-02-05	Jun-27-05	
Trt-Eval Interval		7 DA-A	21 DA-A	7 DA-A	21 DA-A	43 DA-A	7 DA-A	21 DA-A	43 DA-A	7 DA-A	
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
		Unit									
			1	2	3	4	5	6	7	8	9
1	WeatherMax	22 oz/a	2	0	99	88	50	58	77	63	58
2	WeatherMax ET	22 oz/a 0.5 oz/a	11	0	96	88	40	84	88	53	64
3	WeatherMax Aim	22 oz/a 0.5 oz/a	11	0	99	94	49	98	89	65	75
4	WeatherMax ET	22 oz/a 1 oz/a	8	0	97	91	51	92	91	65	79
5	ET COC	1.5 oz/a 1 % v/v	8	0	9	0	0	75	85	74	23
6	ET COC	2 oz/a 1 % v/v	10	0	10	4	0	91	92	77	28
7	ET COC Layby Pro	0.5 oz/a 1 % v/v 1.5 pt/a	8	0	72	45	11	84	87	72	63
8	ET COC Direx	0.5 oz/a 1 % v/v 1.5 pt/a	10	0	56	38	13	82	92	83	61
9	Nontreated		0	0	0	0	0	0	0	0	0
10	ET MSMA Direx	0.25 oz/a 2 pt/a 1.5 pt/a	9	0	79	62	15	99	95	82	74
11	Aim MSMA Direx	0.25 oz/a 2 pt/a 1.5 pt/a	9	0	82	67	24	95	96	98	76
12	Aim MSMA Direx	0.5 oz/a 2 pt/a 1.5 pt/a	12	0	80	68	19	97	97	97	76
13	ET MSMA Direx	0.5 oz/a 2 pt/a 1.5 pt/a	7	0	80	66	21	97	96	88	74
LSD (P=.05)			5.1	0.0	14.3	9.3	13.9	9.6	9.1	10.2	15.3
Standard Deviation			3.6	0.0	10.0	6.5	9.7	6.7	6.4	7.1	10.7
CV			44.71	0.0	15.18	11.91	43.15	8.35	7.62	10.09	18.57

Means followed by same letter do not significantly differ (P=.05, LSD)

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Weed Code	MUNDU		
Crop Code			
Rating Data Type	control		
Rating Unit	percent		
Rating Date	Jul-11-05		
Trt-Eval Interval	21 DA-A		
Trt No.	Treatment Name	Rate	Unit
			10
1	WeatherMax	22 oz/a	73
2	WeatherMax ET	22 oz/a 0.5 oz/a	76
3	WeatherMax Aim	22 oz/a 0.5 oz/a	80
4	WeatherMax ET	22 oz/a 1 oz/a	89
5	ET COC	1.5 oz/a 1 % v/v	0
6	ET COC	2 oz/a 1 % v/v	0
7	ET COC Layby Pro	0.5 oz/a 1 % v/v 1.5 pt/a	15
8	ET COC Direx	0.5 oz/a 1 % v/v 1.5 pt/a	40
9	Nontreated		0
10	ET MSMA Direx	0.25 oz/a 2 pt/a 1.5 pt/a	74
11	Aim MSMA Direx	0.25 oz/a 2 pt/a 1.5 pt/a	75
12	Aim MSMA Direx	0.5 oz/a 2 pt/a 1.5 pt/a	69
13	ET MSMA Direx	0.5 oz/a 2 pt/a 1.5 pt/a	66
LSD (P=.05)	16.2		
Standard Deviation	11.3		
CV	22.45		

Means followed by same letter do not significantly differ (P=.05, LSD)

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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: loamy sand
% 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: _____

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A
Application Date:	Jun-20-05
Time of Day:	9 am
Application Method:	broadcast
Application Timing:	layby
Applic. Placement:	directed
Air Temp., Unit:	78 F
% Relative Humidity:	62
Wind Velocity, Unit:	4 mph
Dew Presence (Y/N):	n
Water Hardness:	
Soil Temp., Unit:	77 F
Soil Moisture:	moist
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI layby
Stage Scale:	10 lf
Height, Unit:	13 inch

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WEED STAGE AT EACH APPLICATION

A	
Weed 1 Code, Stage:	DIGSA POST
Stage Scale:	< 5 inch
Density, Unit:	14 ydsq
Weed 2 Code, Stage:	IPOLA POST
Stage Scale:	< 5 inch
Density, Unit:	4 ydsq
Weed 3 Code, Stage:	MUNDU POST
Stage Scale:	<0.5 inch
Density, Unit:	25 ydsq

APPLICATION EQUIPMENT

A	
Appl. Equipment:	backpack
Operating Pressure:	23
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	12 inch
Nozzles/Row:	3
Band Width, Unit:	
Boom Length, Unit:	1.5 feet
Boom Height, Unit:	12 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