

University of Georgia

Controlling GR Palmer amaranth at layby without MSMA.

Trial ID: C24-08

Study Dir.: Stanley Culpepper

Location: Macon County

Investigator: Stanley Culpepper

Reps: 4

Plots: 9 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 1.5 liters (min 1.1575)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	Amt to Measure	Product	Plot No. By Rep			
											1	2	3	4
1	(Check)										101	215	311	413
2	Dirax	4		SC	2	PT/A	PDIR	A	25.34 ml/mx		102	216	303	410
	MSMA 6 Plus	6.0		SL	2.5	PT/A	PDIR	A	31.67 ml/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
3	Dirax	4		SC	2	PT/A	PDIR	A	25.34 ml/mx		103	205	313	415
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
4	Dirax	4		SC	2	PT/A	PDIR	A	25.34 ml/mx		104	218	310	411
	Valor SX	51		WG	1.0	OZ/A	PDIR	A	0.759 g/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
5	Dirax	4		SC	2	PT/A	PDIR	A	25.34 ml/mx		105	220	312	416
	Valor SX	51		WG	2.0	OZ/A	PDIR	A	1.518 g/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
6	Valor SX	51		WG	2.0	OZ/A	PDIR	A	1.518 g/mx		106	208	307	408
	MSMA 6 Plus	6.0		SL	2.5	PT/A	PDIR	A	31.67 ml/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
7	Valor SX	51		WG	2.0	OZ/A	PDIR	A	1.518 g/mx		107	206	316	406
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
8	Reflex	2.0		SL	1	PT/A	PDIR	A	12.67 ml/mx		108	209	305	407
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
9	Reflex	2.0		SL	1	PT/A	PDIR	A	12.67 ml/mx		109	207	308	402
	Dirax	4		SC	2	PT/A	PDIR	A	25.34 ml/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
10	Suprend	80		WG	1.25	LB/A	PDIR	A	15.18 g/mx		110	219	314	403
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
11	Suprend	80		WG	1.25	LB/A	PDIR	A	15.18 g/mx		111	212	301	405
	Valor SX	51		WG	2.0	OZ/A	PDIR	A	1.518 g/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
12	Ignite 280	2.34		SL	23	FL OZ/A	PDIR	A	18.21 ml/mx		112	210	319	417
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
13	Ignite 280	2.34		SL	23	FL OZ/A	PDIR	A	18.21 ml/mx		113	201	318	404
	Dirax	4		SC	2	PT/A	PDIR	A	25.34 ml/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
14	Ignite 280	2.34		SL	23	FL OZ/A	PDIR	A	18.21 ml/mx		114	204	320	409
	Valor SX	51		WG	2	OZ/A	PDIR	A	1.518 g/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
15	Cobra	2		SL	12	FL OZ/A	PDIR	A	9.502 ml/mx		115	211	317	420
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
16	Cobra	2		SL	12	FL OZ/A	PDIR	A	9.502 ml/mx		116	213	309	401
	Dirax	4		SC	2	PT/A	PDIR	A	25.34 ml/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
17	Staple LX	3.2		SL	2.6	FL OZ/A	PDIR	A	2.059 ml/mx		117	202	304	414
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
18	Staple LX	3.2		SL	2.6	FL OZ/A	PDIR	A	2.059 ml/mx		118	217	302	412
	Dirax	4		SC	2	PT/A	PDIR	A	25.34 ml/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					
19	Staple LX	3.2		SL	2.6	FL OZ/A	PDIR	A	2.059 ml/mx		119	203	315	419
	Valor SX	51		WG	2	OZ/A	PDIR	A	1.518 g/mx					
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 ml/mx					

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Reps: 4 Plots: 9 by 25 feet
 Spray vol: 14.8 gal/ac Mix size: 1.5 liters (min 1.1575)

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
20	Gramoxone Inteon	2		SL	2	PT/A	PDIR	A	25.34 ml/mx	120	214	306	418
	Direx	4		SC	2	PT/A	PDIR	A	25.34 ml/mx				
	Agridex			EC	1.0	% V/V	PDIR	A	15.0 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
285.021	ml	Direx	4	SC	
79.172	ml	MSMA 6 Plus	6.0	SL	
356.212	ml	Agridex		EC	
12.334	g	Valor SX	51	WG	
31.669	ml	Reflex	2.0	SL	
37.952	g	Suprend	80	WG	
68.294	ml	Ignite 280	2.34	SL	
23.754	ml	Cobra	2	SL	
7.720	ml	Staple LX	3.2	SL	
31.669	ml	Gramoxone Inteon	2	SL	

- * '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.

Trial Comments

OBJECTIVE: Determine the most effective layby option without MSMA.

Palmer amaranth response:

1. Three options provided excellent control including Gramoxone + Direx (hood applicaiton only), Ignite + Direx (LL cotton only) and Ignite plus Valor (LL cotton only).
2. Mixing MSMA with Direx improved control over 30% at 30 DAT.
3. Very poor control was noted with Reflex, Cobra, and Staple (mixed ALS-resistant population).

GENERAL COMMENTS:

Rainfall in Inches:

- Apr 28 1 in
- May 9 0.4 in
- May 11 2.7 in
- May 20 0.2 in
- May 24 0.3 in
- Jun 11 0.9 in
- Jun 17 0.6 in
- Jun 22 1 in
- Jul 5 0.5 in
- Jul 21 1 in

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Trial ID: C24-08

Study Dir.: Stanley Culpepper

Location: Macon County

Investigator: Stanley Culpepper

Weed Code		AMAPA	AMAPA	AMAPA
Crop Code		GOSHI	GOSHI	GOSHI
Rating Data Type		control	control	control
Rating Unit		%	%	%
Rating Date		Aug-06-08	Aug-11-08	Aug-28-08
Trt-Eval Interval		8 DA-A	13 DA-A	30 DA-A
Trt No.	Treatment Name	Rate	Unit	
		1	2	3
1	(Check)	0 i	0 i	0 h
2	Direx	2 PT/A	91 bc	94 ab
	MSMA 6 Plus	2.5 PT/A		82 b
	Agridex	1.0 % V/V		
3	Direx	2 PT/A	79 efg	73 def
	Agridex	1.0 % V/V		50 def
4	Direx	2 PT/A	89 cd	71 d-g
	Valor SX	1.0 OZ/A		46 ef
	Agridex	1.0 % V/V		
5	Direx	2 PT/A	85 cde	80 cd
	Valor SX	2.0 OZ/A		61 c
	Agridex	1.0 % V/V		
6	Valor SX	2.0 OZ/A	80 efg	73 def
	MSMA 6 Plus	2.5 PT/A		55 cde
	Agridex	1.0 % V/V		
7	Valor SX	2.0 OZ/A	82 def	75 cde
	Agridex	1.0 % V/V		59 cd
8	Reflex	1 PT/A	71 h	59 h
	Agridex	1.0 % V/V		23 g
9	Reflex	1 PT/A	75 gh	65 e-h
	Direx	2 PT/A		23 g
	Agridex	1.0 % V/V		
10	Suprend	1.25 LB/A	76 fgh	72 d-g
	Agridex	1.0 % V/V		28 g
11	Suprend	1.25 LB/A	84 de	85 bc
	Valor SX	2.0 OZ/A		60 cd
	Agridex	1.0 % V/V		
12	Ignite 280	23 FL OZ/A	96 ab	94 ab
	Agridex	1.0 % V/V		84 b
13	Ignite 280	23 FL OZ/A	99 a	99 a
	Direx	2 PT/A		96 a
	Agridex	1.0 % V/V		
14	Ignite 280	23 FL OZ/A	99 a	97 a
	Valor SX	2 OZ/A		98 a
	Agridex	1.0 % V/V		
15	Cobra	12 FL OZ/A	71 h	64 fgh
	Agridex	1.0 % V/V		26 g
16	Cobra	12 FL OZ/A	80 efg	72 d-g
	Direx	2 PT/A		26 g
	Agridex	1.0 % V/V		
17	Staple LX	2.6 FL OZ/A	70 h	62 gh
	Agridex	1.0 % V/V		23 g
18	Staple LX	2.6 FL OZ/A	87 cd	86 bc
	Direx	2 PT/A		50 def
	Agridex	1.0 % V/V		

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Weed Code	AMAPA	AMAPA	AMAPA
Crop Code	GOSHI	GOSHI	GOSHI
Rating Data Type	control	control	control
Rating Unit	%	%	%
Rating Date	Aug-06-08	Aug-11-08	Aug-28-08
Trt-Eval Interval	8 DA-A	13 DA-A	30 DA-A
Trt No.			
Treatment Name			
Rate			
Unit			
	1	2	3
19 Staple LX	85 cde	79 cd	42 f
Valor SX			
Agridex			
20 Gramoxone Inteon	99 a	99 a	99 a
Direx			
Agridex			
LSD (P=.05)	6.1	9.5	9.6
Standard Deviation	4.3	6.7	6.8
CV	5.4	8.98	13.25
Bartlett's X2	15.099	22.147	24.475
P(Bartlett's X2)	0.301	0.179	0.107

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

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Location: Macon County

Study Dir.: Stanley Culpepper
Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper
Affiliation: Univ. of Georgia
Postal Code: 31794

Title: Ext. Weed Science

Investigator: Stanley Culpepper
Affiliation: Univ. of Georgia
Postal Code: 31794

Title: Ext. Weed Science

TRIAL LOCATION

City: Macon Co.
State/Prov.: GA
Postal Code: 31794
Country: USA

Trial Status: completed
Trial Reliability: good
Initiation Date: Apr-25-08
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: _____
Org: _____
Address 1: _____
Address 2: _____
City: _____
State/Prov: _____
Postal Code: _____

Country: _____
Phone No: _____
Fax No: _____

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.	AMAPA	Amaranth, Palmer	Amaranthus palmeri

Crop 1: GOSHI COTTON, SHORT STAPLE Variety: DP 161 RR Flex
Planting Date: Apr-25-08 Planting Method: hill dropped
Rate: 2 8 in Depth: _____ Perennial Age: _____
Row Spacing: 36 in Spacing Within Row: 8 inch Seed Bed: raised
Soil Temperature: 85 F Soil Moisture: moist Emergence Date: May-01-08

SITE AND DESIGN

Plot Width, Unit: 9 FT Plot Length, Unit: 25 FT Reps: 4
Site Type: On farm
Tillage Type: Conventional Study Design: RANDOMIZED COMPLETE BLOCK

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

MAINTENANCE

Field Prep./Maintenance:

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

SOIL DESCRIPTION

% Sand: 82 % OM: 6.4 Texture: loamy sand
 % Silt: 14 pH: 2 Soil Name: _____
 % Clay: 4 CEC: _____ Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: _____

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A
Application Date:	Jul-29-08
Time of Day:	2:00 pm
Application Method:	broadcast
Application Timing:	PD
Applic. Placement:	directed
Air Temp., Unit:	94 F
% Relative Humidity:	48
Wind Velocity, Unit:	2 mph
Dew Presence (Y/N):	N
Water Hardness:	
Soil Temp., Unit:	104 F
Soil Moisture:	fair
% Cloud Cover:	20

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI PD
Stage Scale:	14 leaf
Height, Unit:	18 inch

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	AMAPA PD
Stage Scale:	6 in
Density, Unit:	8 ydsq

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APPLICATION EQUIPMENT

	A
Appl. Equipment:	backpack
Operating Pressure:	22
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 in
Nozzles/Row:	3
Band Width, Unit:	
Boom Length, Unit:	24 inch
Boom Height, Unit:	12 in
Ground Speed, Unit:	3 mph
Incorporation Equip.:	
Hours to Incorp.:	
Incorp. Depth, Unit:	
Carrier:	
Spray Volume, Unit:	15 GPA
Spray pH:	
Propellant:	CO2
Tank Mix (Y/N):	

Trt No	Treatment Application Comment