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Impact of strip-tillage on Valor's ability to control Palmer amaranth.

Trial ID: C22-08 Study Dir.: Stanley Culpepper
 Location: Macon County Investigator: Stanley Culpepper

Reps: 3 Plots: 6 by 25 feet
 Spray vol: 14.8 gal/ac Mix size: 1 liters (min .57876)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Form Rate	Grow Unit	Stg	Appl Code	Amt to Measure	Product	Plot No. 1	Plot No. 2	Plot No. 3	By Rep
1	None Strip Tillage										101	205	306	
2	None No-tillage										102	207	307	
3	Valor Strip Tillage	51		DG	1	OZ/A	PREPLANT A		0.506 g/mx		103	206	301	
4	Valor No-tillage	51		DG	1	OZ/A	PREPLANT A		0.506 g/mx		104	210	302	
5	Valor Strip Tillage	51		DG	2	OZ/A	PREPLANT A		1.012 g/mx		105	208	303	
6	Valor No-tillage	51		DG	2	OZ/A	PREPLANT A		1.012 g/mx		110	209	304	
7	Valor Strip Tillage	51		DG	3	OZ/A	PREPLANT A		1.518 g/mx		106	203	308	
8	Valor No-tillage	51		DG	3	OZ/A	PREPLANT A		1.518 g/mx		107	204	309	
9	Valor Strip Tillage	51		DG	4	OZ/A	PREPLANT A		2.024 g/mx		108	201	310	
10	Valor No-tillage	51		DG	4	OZ/A	PREPLANT A		2.024 g/mx		109	202	305	

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
12.651	g	Valor	51	DG	

* '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: Determine the impact of strip tillage on residual Palmer amaranth control by Valor.

Palmer Response:

1. Main effects were significant.
2. At 14 DAT (9 d after strip till), control was similar among all Valor treated systems.
3. By 21 DAT, Valor at 2, 3, and 4 oz/A was more effective than Valor at 1 oz.
4. By 30 DAT, control where tillage was not implemented was 18% greater than when performing a strip-tillage operation when pooled over rates.
5. By 40 DAT, control where tillage was not implemented was 27% greater than when performing a strip-tillage operation when pooled over rates.
6. Late in the season, Valor at 1 oz per acre was less effective than Valor at 2, 3, and 4 oz/A. Little differences were noted when comparing Valor at 2, 3, or 4 oz/A.

GENERAL COMMENTS:

1. April 18, 2008 - treatments were applied.
2. April 23, 2008 - strip till operation was performed for those treatments requiring strip tillage.
3. May 14, 2008 - Oversprayed trial with 22 oz/A Roundup PowerMax.

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4. May 28, 2008 - Oversprayed trial with 22 oz/A WMax.

5. Rainfall that occurred throughout the trial included:

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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Weed Code	AMAPA	AMAPA	AMAPA	AMAPA		
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI		
Rating Data Type	control	control	control	control		
Rating Unit	%	%	%	%		
Rating Date	May-02-08	May-09-08	May-18-08	May-28-08		
Trt-Eval Interval	14 DA-A	21 DA-A	30 DA-A	40 DA-A		
Trt No.	Treatment Name	Rate	Rate	Rate		
		Unit	Unit	Unit		
		1	2	3		
		4				
1	None Strip Tillage	0 b	0 c	0 e	0 c	
2	None No-tillage	0 b	0 c	0 e	0 c	
3	Valor Strip Tillage	1 OZ/A	97 a	83 b	33 d	13 c
4	Valor No-tillage	1 OZ/A	99 a	88 ab	63 c	50 b
5	Valor Strip Tillage	2 OZ/A	100 a	96 ab	69 bc	60 b
6	Valor No-tillage	2 OZ/A	100 a	98 a	86 ab	81 a
7	Valor Strip Tillage	3 OZ/A	100 a	93 ab	73 bc	53 b
8	Valor No-tillage	3 OZ/A	100 a	99 a	92 a	86 a
9	Valor Strip Tillage	4 OZ/A	100 a	93 ab	73 bc	53 b
10	Valor No-tillage	4 OZ/A	100 a	98 a	96 a	89 a
LSD (P=.05)		3.1	12.1	16.6	14.7	
Standard Deviation		1.8	7.1	9.7	8.6	
CV		2.29	9.44	16.54	17.66	
Bartlett's X2		6.32	21.202	8.317	2.471	
P(Bartlett's X2)		0.012*	0.003*	0.305	0.929	

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

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 Location: Macon County 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: Macon Co.	Trial Status: completed
State/Prov.: GA	Trial Reliability: good
Postal Code: 31794	Initiation Date: Apr-18-08
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.	AMAPA	Palmer amaranth	

Crop 1: none no crop Variety: none
 Planting Date: Nov-03-08 Planting Method: hill drop
 Rate: _____ Depth: _____ Perennial Age: _____
 Row Spacing: 36 in Spacing Within Row: _____ Seed Bed: _____
 Soil Temperature: 82 F Soil Moisture: moist Emergence Date: _____

SITE AND DESIGN

Plot Width, Unit: 6 FT Plot Length, Unit: 25 FT Reps: 3
 Site Type: On Farm
 Tillage Type: see plot plan Study Design: SPLIT-PLOT

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: 2	Texture: loamy sand
% Silt: 14	pH: 6.4	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: see comments

Closest Weather Station: _____ Distance: _____ Unit: ____

APPLICATION DESCRIPTION

	A
Application Date:	Apr-18-08
Time of Day:	8:00 am
Application Method:	broadcast
Application Timing:	preplant
Applic. Placement:	on soil
Air Temp., Unit:	67 F
% Relative Humidity:	47
Wind Velocity, Unit:	0 mph
Dew Presence (Y/N):	N
Water Hardness:	
Soil Temp., Unit:	61 F
Soil Moisture:	dry
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	none .
Stage Scale:	.
Height, Unit:	

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	AMAPA A
Stage Scale:	preplant
Density, Unit:	30 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 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