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Glyphosate-resistant Palmer amaranth response to Blizzard.

Trial ID: C19-08 Study Dir.: Culpepper, Davis
 Location: Macon County 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	Form Rate	Rate Unit	Grow Stg	Appl Code	Amt to Measure	Product Measure	Plot No. By Rep										
											1	2	3	4							
1	Blizzard	0.91	L	L	0.5	OZ/A	POST 4"	A	0.2639 ml/mx	16.89 ml/mx	101	204	301	401							
	COC														L	1	QT/A	POST 4"	A	0.2639 ml/mx	16.89 ml/mx
2	Blizzard	0.91	L	L	0.5	OZ/A	POST 4"	A	0.2639 ml/mx	16.89 ml/mx	102	201	303	402							
	COC														L	1	QT/A	POST 4"	A	0.2639 ml/mx	16.89 ml/mx
	MSMA														L	2.5	PT/A	POST 4"	A	21.11 ml/mx	
	Diuron														L	1	QT/A	POST 4"	A	16.89 ml/mx	
3	Diuron	4	L	L	1	QT/A	POST 4"	A	16.89 ml/mx	21.11 ml/mx	103	202	302	403							
	MSMA														L	2.5	PT/A	POST 4"	A	21.11 ml/mx	
	COC														L	1	QT/A	POST 4"	A	16.89 ml/mx	
4	Non-treated										104	203	304	404							

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
0.660	ml	Blizzard	0.91	L	
63.338	ml	COC		L	
52.782	ml	MSMA	6	L	
42.225	ml	Diuron	4	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: Determine cotton and glyphosate-resistant Palmer amaranth response to topical applications of Blizzard.

Glyphosate-resistant Palmer amaranth response:

1. Blizzard plus crop oil provided poor control.
2. Diuron plus MSMA provided good control and the addition of Blizzard did not improve control.

Cotton Response:

1. Blizzard completely killed the cotton.
2. Diuron plus MSMA provided good control of cotton but cotton began actively regrowing by 17 DAT.

CONCLUSIONS:

1. Further studies are needed with Blizzard on the control of vol. cotton.

GENERAL COMMENTS:

1. Rainfall while the study was in progress is as follows:

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

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Jun 22	1 in
Jul 5	0.5 in
Jul 21	1 in

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Weed Code	AMAPA	AMAPA	GOSHI	GOSHI
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI
Rating Data Type	control	control	control	control
Rating Unit	%	%	%	%
Rating Date	May-22-08	May-30-08	May-22-08	May-30-08
Trt-Eval Interval	9 DA-A	17 DA-A	9 DA-A	17 DA-A
Trt No.	Treatment Name	Rate	Rate	Rate
		Unit	Unit	Unit
			1	2
			3	4
1	Blizzard	0.5 OZ/A	28 b	10 b
	COC	1 QT/A		100 a
2	Blizzard	0.5 OZ/A	97 a	80 a
	COC	1 QT/A		100 a
	MSMA	2.5 PT/A		
	Diuron	1 QT/A		
3	Diuron	1 QT/A	96 a	76 a
	MSMA	2.5 PT/A		86 b
	COC	1 QT/A		60 b
4	Non-treated		0 c	0 b
			0 c	0 c
LSD (P=.05)			4.1	12.2
Standard Deviation			2.6	7.6
CV			4.72	18.4
Bartlett's X2			6.621	0.13
P(Bartlett's X2)			0.036*	0.937

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

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Study Dir.: Culpepper, Davis
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: 31068 **Initiation Date:** Apr-23-08
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	Amaranth, Palmer	Amaranthus palmeri

Crop 1: GOSHI COTTON, SHORT STAPLE **Variety:** Stoneveill RR Flex 161
Planting Date: Apr-24-08 **Planting Method:** hill dropped
Rate: 2 8 in **Depth:** 0.5 in **Perennial Age:** _____
Row Spacing: 36 in **Spacing Within Row:** 8.5 in **Seed Bed:** flat
Soil Temperature: 85 F **Soil Moisture:** moist **Emergence Date:** Apr-29-08

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: On Farm
Tillage Type: Macon Co. **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: 2.0 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:	May-13-08
Time of Day:	6:00 pm
Application Method:	broadcast
Application Timing:	POST
Applic. Placement:	overtop
Air Temp., Unit:	78 F
% Relative Humidity:	45
Wind Velocity, Unit:	0 mph
Dew Presence (Y/N):	N
Water Hardness:	
Soil Temp., Unit:	82 F
Soil Moisture:	moist
% Cloud Cover:	100

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI A
Stage Scale:	2 leaf
Height, Unit:	2.5 in

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	AMAPA A
Stage Scale:	5 in
Density, Unit:	14 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