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	Gl	yphos	ate-r	esist	ant Pa	almer a	amarai	nth re	sponse to Pi	PI or	PRE	resic	ual herbicides.
Tria	Trial ID: C14-07 Study Dir.: Culpepper												
Loca	ation: Maco	on Coi	inty			Inv	restig	ator:	Stanley Cul	peppe	er		
Reps	s: 3		Plots	:6 by 2	25 feet								
Spra	y vol: 14.8 ga	ıl/ac		Mix siz	ze: 1 lite	ers (min	.57870	6)					
Trt	Treatment	Form	Form	Form		Rate	Grow	Appl	Amt Product	Plot N	o. By I	Rep	
No.	Name	Conc	Unit	Туре	Rate	Unit	Stg	Code	to Measure	1	2	3	
1	Non-treated									101	215	306	
2	V-10204	60		WG	0.053	LB A/A	PPI	Α	0.7152 g/mx	102	214	304	
3	V-10204	60		WG	0.106	LB A/A	PPI	Α	1.43 g/mx	103	212	303	
4	V-10204	60		WG	0.159	LB A/A	PPI	Α	2.146 g/mx	104	211	314	
5	V-10204	60		WG	0.213	LB A/A	PPI	А	2.874 g/mx	105	201	316	
6	Prowl H20	3.8		L	1	LB A/A	PPI	А	17.78 ml/mx	106	216	315	
7	Reflex	2		L	0.25	LB A/A	PPI	А	8.445 ml/mx	107	213	311	
8	Staple	3.2		L	0.043	LB A/A	PPI	A	0.9078 ml/mx	108	210	302	
9	V-10204	60		WG	0.053	LB A/A	PRE	В	0.7152 g/mx	109	207	305	
10	V-10204	60		WG	0.106	LB A/A	PRE	В	1.43 g/mx	110	208	312	
11	V-10204	60		WG	0.159	LB A/A	PRE	В	2.146 g/mx	111	205	309	
12	V-10204	60		WG	0.213	LB A/A	PRE	В	2.874 g/mx	112	209	310	
13	Prowl H20	3.8		L	1	LB A/A	PRE	В	17.78 ml/mx	113	206	313	
14	Reflex	2		L	0.25	LB A/A	PRE	В	8.445 ml/mx	114	203	301	
15	Staple	3.2		L	0.043	LB A/A	PRE	В	0.9078 ml/mx	115	202	307	
16	Cotoran	4		L	0.75	LB A/A	PRE	В	12.67 ml/mx	116	204	308	

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
17.913	g	V-10204	60	WG	
44.448	ml	Prowl H20	3.8	L	
21.113	ml	Reflex	2	L	
2.270	ml	Staple	3.2	L	
15.834	ml	Cotoran	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 glyphosate-resistant Palmer amaranth response to PPI and PRE herbicides.

Note: The first rainfall after applications did not occur for 17 days. The initial pigweed flush contained over 45 plants per yard square thus it was not possible to evaluate control of these herbicides for the second or third Palmer amaranth flush.

Glyphosate-resistant Palmer amaranth response:

1. PPI herbicide applications were far more effective than PRE applications because of no rainfall to activate the PRE herbicides.

2. All PRE herbicide options provided less than 38% control of the initial pigweed flush.

3. PPI herbicides were more effective than PRE applications with Reflex, Staple, and V-10204 at 0.213 lb providing 80 to 90% control at 24 DAT.

4. By 58 DAT, at plant herbicide treatments provided little to no control because of continual Palmer emergence and rapid growth of the initial Palmer flush once it rained at 17 DAT.

Cotton Injury:

### Trial Comments Page 2 of 6

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1. Without rainfall occuring until the cotton already had 2 true leaves, cotton was not injured. This trial should not be considered when determining cotton response to these herbicides because of lack of rainfall at time of cotton emergence.

GENERAL COMMENTS:

May 1: Overspray trial with 88 oz. WeatherMax. May 10: Overspray trial with Roundup WeatherMax @ 88 oz./A.

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G	lyphos	ate-re	sistant Pa	almer amaı	ranth resp	ponse to I	PPI or PRE
Trial ID: C14	L-07			Stud	ly Dir.: C	Culpepper	
Location: Mac	con Cou	inty		Invest	igator: S	Stanley Cu	lpepper
Weed Code			AMAPA	AMAPA	AMAPA	INJURY	INJURY
Crop Code			cotton	cotton	cotton	cotton	cotton
Rating Data Type	е		%	%	%	%	%
Rating Unit			control	control	control	control	control
Rating Date			May-11-07	May-30-07	Jun-14-07	May-11-07	May-30-07
Irt-Eval Interval		_	24 DA-A	43 DA-A	58 DA-A	24 DA-A	43 DA-A
Trt Treatment	<b>D</b> (	Rate		0			_
No. Name	Rate	Unit	1	2	3	4	5
1 Non-treated	1		0 e	0 e	0 a	0 a	0 a
2 V-10204	0.053	LB A/A	23 d	13 de	0 a	0 a	0 a
3 V-10204	0.106	LB A/A	67 bc	28 bc	0 a	0 a	0 a
4 V-10204	0.159	LB A/A	67 bc	37 b	0 a	0 a	0 a
5 V-10204	0.213	LB A/A	85 a	60 a	0 a	0 a	0 a
6 Prowl H20	1	LB A/A	60 c	35 b	0 a	0 a	0 a
7 Reflex	0.25	LB A/A	90 a	60 a	0 a	0 a	0 a
8 Staple	0.043	LB A/A	80 ab	53 a	0 a	0 a	0 a
9 V-10204	0.053	LB A/A	22 d	0 e	0 a	0 a	0 a
10 V-10204	0.106	LB A/A	23 d	0 e	0 a	0 a	0 a
11 V-10204	0.159	LB A/A	20 d	10 de	0 a	0 a	0 a
12 V-10204	0.213	LB A/A	27 d	20 cd	0 a	0 a	0 a
13 Prowl H20	1	LB A/A	20 d	0 e	0 a	0 a	0 a
14 Reflex	0.25	LB A/A	33 d	7 de	0 a	0 a	0 a
15 Staple	0.043	LB A/A	30 d	10 de	0 a	0 a	0 a
16 Cotoran	0.75	LB A/A	37 d	0 e	0 a	0 a	0 a
LSD (P=.05)			16.6	13.7	0.0	0.0	0.0
Standard Deviati	ion		10.0	8.2	0.0	0.0	0.0
CV			23.33	39.57	0.0	0.0	0.0
Bartlett's X2			6.558	4.228	0.0	0.0	0.0
P(Bartlett's X2)			0.885	0.936			

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

Mar-11-08 (C14-07)

# University of Georgia

Glyp	hosate-resistant Palme	er amaranth response to PPI or PR	E residual herbicides.
Trial ID: C14-0	7	Study Dir.: Culpepper	
Location: Macon	County	Investigator: Stanley Culpepper	
	GENERAL TRI	AL INFORMATION	
Study Director: Affiliation: Postal Code:	Culpepper, Davis Univ. of Georgia 31794	Title: Ext. Weed	d Science
Investigator: Affiliation: Postal Code:	Stanley Culpepper Univ. of Georgia 31794	<b>Title:</b> Ext. Weed	d Science
	TRIAL	LOCATION	
City: Mad	con County	Trial Status:	completed
State/Prov.: GA		Trial Reliability:	fair
Postal Code:		Initiation Date:	Apr-17-07
Country: US2	7	Planned Completion Date:	:
E-Longitude of 1	LL Corner °:	N-Latitude of LL Corner °	:
Altitude of LL (	Corner: Unit:	Angle y-axis to North °	:
Directions:			
	COOPERAT	OR / I.ANDOWNER	
Cooperator:	00012111	Country:	
Org:		Phone No:	
Address 1:		Fax No:	
Address 2:			
City:			
State/Prov:			
Postal Code:			
Conducted Under Guidelines: Objective:	GLP (Y/N): N Guideline De	Conducted Under GEP (Y/N): N	
Conclusions:			

			CROP AND WE	ED DES	CRIPTION	1		
Weed	Code	Common Name		Sci	entific	Name		
1.	AMAPA	Palmer amaranth						
Crop	<b>1:</b> GO	SHI COTTON, SI	HORT STAPLE			Variety	DP 555 1	BRR
Plant	ing Da	<b>te:</b> Apr-17-07	P	lantir	ng Method	1: hill drop	Ç	
Rate:	2	8 inch	Depth: 0.	75 ir	1	Perennial A	Age:	
Row S	pacing	: 36 in :	Spacing Wit	hin Ro	w:	See	ed Bed: be	edded
Soil	Temper	ature: 56 F	Soil Moist	ure: n	noist	Emerge	ence Date	: May-23-07
			SITE A	ND DES	SIGN			
Plot	Width,	Unit: 6 F	T Plot	Length	n, Unit:	25 FT	Reps:	3
Site Tilla	Type: ge Typ	Sutton Farms e: Conventional		Study	Design:	RANDOMIZED	COMPLETE	BLOCK

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

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

				SOIL DESCRIPTION	N
% Sa	<b>nd:</b> 82	% OM:	6.3	Texture:	loamy sand
% Si	lt: 14	pH:	2.0	Soil Name:	
% Cl	<b>ay:</b> 4	CEC:		Fert. Level:	

	ADDITIONAL M	EASURED ELEMEN	ITS
Element		Quantity	Unit

#### MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Туре	Interval	Unit
1.							

# Overall Moisture Conditions: \_\_\_\_\_ Distance: \_\_\_\_ Unit: \_\_\_

APPLICATION DESCRIPTION

	A	В
Application Date:	Apr-17-07	Apr-17-07
Time of Day:	8:00 am	10:00 am
Application Method:	broadcast	broadcast
Application Timing:	PPI	PRE
Applic. Placement:	on soil	on soil
Air Temp., Unit:	54 F	65 F
% Relative Humidity:	56	65
Wind Velocity, Unit:	3 mph	5 mph
Dew Presence (Y/N):	N	N
Water Hardness:		
Soil Temp., Unit:	55 F	64 F
Soil Moisture:	moist	moist
% Cloud Cover:	0	0

### CROP STAGE AT EACH APPLICATION

	A	В
Crop 1 Code, Stage:	GOSHI PPI	GOSHI PRE
Stage Scale:	BBCH	BBCH
Height, Unit:	0 in	0 in

### WEED STAGE AT EACH APPLICATION

	A	В
Weed 1 Code, Stage:	AMAPA PPI	AMAPA PRE
Stage Scale:	not up	not up
Density, Unit:	45 ydsq	45 ydsq

### Site Description Page 6 of 6

	APPLICATION EQUIPMEN			
		А		В
Appl. Equipment:	back	pack	back	pack
Operating Pressure:	24		24	
Nozzle Type:	flat	fan	flat	fan
Nozzle Size:	11002	2	1100	2
Nozzle Spacing, Unit:	18	in	18	in
Nozzles/Row:	2		2	
Band Width, Unit:				
Boom Length, Unit:	4.5	ft	4.5	ft
Boom Height, Unit:	15	in	15	in
Ground Speed, Unit:	3	mph	3	mph
Incorporation Equip.:				
Hours to Incorp.:				
Incorp. Depth, Unit:				
Carrier:	water	r	wate	r
Spray Volume, Unit:	15	GPA	15	GPA
Spray pH:				
Propellant:	CO2		CO2	
Tank Mix (Y/N):	Y		Y	

#### APPLICATION EOUIPMENT

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Trt No

Treatment Application Comment