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Applying Valor preplant burndown for the residual control of glyphosate-resistant Palmer amaranth.

Trial ID: C2-08 Study Dir.: Stanley Culpepper
Location: Macon Co. 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	Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep 1	2	3	4
1	Valor Lat January Green cover	51		DG	2	OZ/A	preplant	A	1.012 g/mx	109	213	311	409
2	Valor Lat January Dead cover	51		DG	2	OZ/A	preplant	A	1.012 g/mx	110	214	312	410
3	Valor Late March Green cover	51		DG	2	OZ/A	preplant	B	1.012 g/mx	103	201	307	411
4	Valor Late March Dead cover	51		DG	2	OZ/A	preplant	B	1.012 g/mx	104	202	308	412
5	Valor Late April Green cover	51		DG	2	OZ/A	preplant	C	1.012 g/mx	105	215	309	407
6	Valor Late April Dead cover	51		DG	2	OZ/A	preplant	C	1.012 g/mx	106	216	310	408
7	Valor Lat January Green cover	51		DG	4	OZ/A	preplant	A	2.024 g/mx	111	209	313	405
8	Valor Lat January Dead cover	51		DG	4	OZ/A	preplant	A	2.024 g/mx	112	210	314	406
9	Valor Late March Green cover	51		DG	4	OZ/A	preplant	B	2.024 g/mx	101	205	315	403
10	Valor Late March Dead cover	51		DG	4	OZ/A	preplant	B	2.024 g/mx	102	206	316	404
11	Valor Late April Green cover	51		DG	4	OZ/A	preplant	C	2.024 g/mx	107	207	301	413
12	Valor Late April Dead cover	51		DG	4	OZ/A	preplant	C	2.024 g/mx	108	208	302	414
13	No herbicide Green cover									113	203	303	415
14	No herbicide Dead cover									114	204	304	416

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
22.771	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.

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Trial Comments

OBJECTIVE: Determine the most effective time of season to apply Valo for residual Palmer control when a wheat cover crop is present.

Palmer Response:
1. At planting, pigweed was present only in the two systems and the control where the cover crop was killed in Jan. This likely had nothing to do with Valor but likely was a result for increased sunlight and warming of the soil.
2. By 2 and 5 wk after planting, little differences were noted. A tendency for greater control with the high rate April application was noted.

Cotton Injury:
1. A strip till unit was run prior to planting. Injury was minor but was greater when applications were made to dead cover in March and April than with other treatments.

CONCLUSIONS:
1. It does not matter when or how the Valor is applied if a strip unit is run after Valor application and before planting as pigweed control in the drill will be poor. Either the strip till unit should be run prior to making the Valor application or a PRE herbicide treatment must be applied after running the strip till unit.

GENERAL COMMENTS
1. The "dead" cover treatments were obtained by applying Roundup to the wheat cover crop on Jan 18.
1. When cotton reached the 4 leaf stage, the trial was oversprayed trial with 22 oz. WMax plus Parrlay at 1.3 pt.
2. Layby herbicide applications could not be made because of the lack of weed control.
3. All three Valor treatments in this trial received rainfall within 5 days. Additional rainfall during times when herbicides were applied after planting.:

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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Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5
	Weed Code			AMAPA	AMAPA	AMAPA	GOSHI	GOSHI
	Crop Code							
	Rating Data Type			control	control	control	injury	injury
	Rating Unit			%	%	%	%	%
	Rating Date			Apr-25-08	May-13-08	May-30-08	May-13-08	May-30-08
	Trt-Eval Interval			14 DA-C	32 DA-C	49 DA-C	14 DA-C	32 DA-C
1	Valor Lat January Green cover	2	OZ/A	100 a	73 a	64 a-d	0 d	0 a
2	Valor Lat January Dead cover	2	OZ/A	25 c	69 a	51 d	1 cd	0 a
3	Valor Late March Green cover	2	OZ/A	100 a	79 a	78 ab	6 bcd	0 a
4	Valor Late March Dead cover	2	OZ/A	100 a	75 a	66 a-d	8 abc	0 a
5	Valor Late April Green cover	2	OZ/A	100 a	77 a	51 d	5 cd	0 a
6	Valor Late April Dead cover	2	OZ/A	100 a	78 a	69 a-d	13 ab	0 a
7	Valor Lat January Green cover	4	OZ/A	100 a	71 a	61 bcd	3 cd	0 a
8	Valor Lat January Dead cover	4	OZ/A	50 b	71 a	56 cd	0 d	0 a
9	Valor Late March Green cover	4	OZ/A	100 a	75 a	80 ab	1 cd	0 a
10	Valor Late March Dead cover	4	OZ/A	100 a	75 a	73 abc	13 ab	0 a
11	Valor Late April Green cover	4	OZ/A	100 a	86 a	81 a	5 cd	0 a
12	Valor Late April Dead cover	4	OZ/A	100 a	81 a	75 ab	14 a	0 a
13	No herbicide Green cover			100 a	18 b	0 e	0 d	0 a
14	No herbicide Dead cover			0 d	8 b	0 e	0 d	0 a
	LSD (P=.05)			11.0	15.0	16.4	6.1	0.0
	Standard Deviation			7.7	10.5	11.5	4.3	0.0
	CV			9.19	15.74	19.95	88.43	0.0
	Bartlett's X2			0.0	21.922	22.613	11.543	0.0
	P(Bartlett's X2)			.	0.057	0.02*	0.173	.

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

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Location: Macon Co. Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: University of Georgia
Postal Code: 31794

Investigator: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: University of Georgia
Postal Code: 31794

TRIAL LOCATION

City: Macon Co. **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** good
Postal Code: 31068 **Initiation Date:** Jan-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.	TRZAW	Winter wheat	Triticum aestivum (winter)
2.	AMAPA	Palmer amaranth	Amaranthus palmeri

Crop 1: GOSHI COTTON, SHORT STAPLE **Variety:** WFR 485
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 in **Seed Bed:** strip till
Soil Temperature: 85 F **Soil Moisture:** moist **Emergence Date:** Apr-30-08

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: On Farm
Tillage Type: Strip Tillage **Study Design:** FACTORIAL

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

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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: 82 **% OM:** 6.4 **Texture:** loamy sand
% Silt: 14 **pH:** 2.0 **Soil Name:** _____
% Clay: 4 **CEC:** _____ **Fert. Level:** _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: see comments
Closest Weather Station: _____ **Distance:** _____ **Unit:** __

APPLICATION DESCRIPTION

	A	B	C
Application Date:	Jan-18-08	Mar-25-08	Apr-11-08
Time of Day:	9:00 am	9:00 am	8:00 am
Application Method:	broadcast	broadcast	broadcast
Application Timing:	Appl A	Appl B	Appl C
Applic. Placement:	overtop	overtop	overtop
Air Temp., Unit:	65 F	40 F	64 F
% Relative Humidity:	40	53	45
Wind Velocity, Unit:	3 mph	0 mph	3 mph
Dew Presence (Y/N):	n	Y	Y
Water Hardness:			
Soil Temp., Unit:	48 F	45 F	66 F
Soil Moisture:	moist	moist	moist
% Cloud Cover:	0	0	20

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GOSHI A	GOSHI B	GOSHI C
Stage Scale:	preplant	preplant	PRE
Height, Unit:	0 inch	0 inch	0 inch

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	TRZAW A	TRZAW B	TRZAW C
Stage Scale:	15 in	30 in	35 in
Density, Unit:	. ydsq	. ydsq	. ydsq
Weed 2 Code, Stage:	AMAPA A	AMAPA B	AMAPA C
Stage Scale:	preplan	preplan	preplan
Density, Unit:	0 ydsq	0 ydsq	0 ydsq

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APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	backpack	backpack	backpack
Operating Pressure:	24	24	24
Nozzle Type:	flat fan	flat fan	flat fan
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	18 in	18 in	18 in
Nozzles/Row:	2	2	2
Band Width, Unit:			
Boom Length, Unit:	4.5 ft	4.5 ft	4.5 ft
Boom Height, Unit:	15 in	15 in	15 in
Ground Speed, Unit:	3 mph	3 mph	3 mph
Incorporation Equip.:			
Hours to Incorp.:			
Incorp. Depth, Unit:			
Carrier:	water	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA	14.8 GPA
Spray pH:			
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	y	y	y

Trt No	Treatment Application Comment