

# University of Georgia

Cotton response to Valor applied at layby to various cotton sizes.

Trial ID: C20-05

Study Dir.: Stanley Culpepper

Location: Ponder (5115)

Investigator: Stanley Culpepper

Reps: 4

Plots: 12 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 2 liters (min 1.5434)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Rate Stg	Grow	Appl Code	Amt Product to Measure	Plot No. By Rep			
										1	2	3	4
1	Non-treated									101	209	308	403
2	Roundup Original	4	L	1	qt/a	8 in cot	A		33.78 ml/mx	102	203	307	409
	Valor	51	DG	2	oz/a	8 in cot	A		2.024 g/mx				
	NIS		L	0.25	% v/v	8 in cot	A		4.999 ml/mx				
3	Roundup Original	4	L	1	qt/a	8 in cot	A		33.78 ml/mx	103	206	301	402
	Valor	51	DG	2	oz/a	8 in cot	A		2.024 g/mx				
	COC		L	1	pt/a	8 in cot	A		16.89 ml/mx				
4	Roundup Original	4	L	1	qt/a	12 in co	B		33.78 ml/mx	104	205	309	404
	Valor	51	DG	2	oz/a	12 in co	B		2.024 g/mx				
	NIS		L	0.25	% v/v	12 in co	B		4.999 ml/mx				
5	Roundup Original	4	L	1	qt/a	12 in co	B		33.78 ml/mx	105	207	303	407
	Valor	51	DG	2	oz/a	12 in co	B		2.024 g/mx				
	COC		L	1	pt/a	12 in co	B		16.89 ml/mx				
6	Roundup Original	4	L	1	qt/a	16 in co	C		33.78 ml/mx	106	202	306	408
	Valor	51	DG	2	oz/a	16 in co	C		2.024 g/mx				
	NIS		L	0.25	% v/v	16 in co	C		4.999 ml/mx				
7	Roundup Original	4	L	1	qt/a	16 in co	C		33.78 ml/mx	107	204	305	406
	Valor	51	DG	2	oz/a	16 in co	C		2.024 g/mx				
	COC		L	1	pt/a	16 in co	C		16.89 ml/mx				
8	Roundup Original	4	L	1	qt/a	20 in co	D		33.78 ml/mx	108	201	304	401
	Valor	51	DG	2	oz/a	20 in co	D		2.024 g/mx				
	NIS		L	0.25	% v/v	20 in co	D		4.999 ml/mx				
9	Roundup Original	4	L	1	qt/a	20 in co	D		33.78 ml/mx	109	208	302	405
	Valor	51	DG	2	oz/a	20 in co	D		2.024 g/mx				
	COC		L	1	pt/a	20 in co	D		16.89 ml/mx				

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Lot Code
337.802	ml	Roundup Original 4 L	
20.241	g	Valor 51 DG	
24.997	ml	NIS L	
84.451	ml	COC L	

\* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 2 liters (mix size basis).

\* Product amount calculations increased 25 % for overage adjustment.

\* 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 2 liters.

### Trial Comments

OBJECTIVE: Evaluate cotton tolerance to Valor precision directed to cotton when mixed with surfactant or crop oil.

## CROP RESPONSE:

1. Cotton was somewhat barky and "tough" even at the initial application.
2. Precision applications were made.
3. Injury, regardless of application timing or adjuvant, was extremely minor.

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## WEED RESPONSE:

1. Weeds were managed during early season (see general comments).
2. Mixtures of glyphosate plus Valor provided complete control of emerged weeds regardless of application timing.
3. By late season, some Texas panicum had emerged in plots previously treated when cotton was 8 to 10 inches in height.

## SEED YIELD PER ACRE:

1. The trial was maintained essentially weed free until cotton was at least 8 inches so weed competition should have been eliminated. My guess why the non-treated control yielded less than other plots was the late emerging Texas panicum reducing harvesting efficiency.
2. Yields from cotton treated with Valor were similar regardless of application timing or adjuvant used.
3. Harvest data was very uniform with a CV of 8.77.

## GENERAL COMMENTS:

1. Telone II was applied preplant.
2. April 28: Staple plus Reflex applied PRE over the trial area.
3. May 24: Glyphosate was applied over the trial area when cotton was in the 4-leaf stage of growth.

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Location: Ponder (5115)

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Weed Code		GOSHI	GOSHI	GOSHI	PANTE	PANTE	RCHSC	RCHSC	DEDTO	
Crop Code		injury	injury	injury	control	control	control	control	control	
Rating Data Type		percent	percent	percent	percent	percent	percent	percent	percent	
Rating Unit										
Rating Date		Jun-14-05	Jun-22-05	Jul-11-05	Jul-11-05	Sep-06-05	Jul-11-05	Sep-06-05	Jul-11-05	
Trt-Eval Interval		47 DA-A	55 DA-A	74 DA-A	74 DA-A	131 DA-A	74 DA-A	131 DA-A	74 DA-A	
ARM Action Codes										
# Subsamples, Dec.										
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	
			1	2	3	4	5	6	7	
			8							
1	Non-treated		0	0	0	0	0	0	0	
2	Roundup Original	1 qt/a	4	1	3	94	87	99	98	
	Valor	2 oz/a								
	NIS	0.25 % v/v								
3	Roundup Original	1 qt/a	8	4	6	94	89	99	98	
	Valor	2 oz/a								
	COC	1 pt/a								
4	Roundup Original	1 qt/a	0	8	5	99	96	99	97	
	Valor	2 oz/a								
	NIS	0.25 % v/v								
5	Roundup Original	1 qt/a	0	3	2	99	97	99	98	
	Valor	2 oz/a								
	COC	1 pt/a								
6	Roundup Original	1 qt/a	0	5	2	99	98	99	99	
	Valor	2 oz/a								
	NIS	0.25 % v/v								
7	Roundup Original	1 qt/a	0	3	4	99	94	99	99	
	Valor	2 oz/a								
	COC	1 pt/a								
8	Roundup Original	1 qt/a	0	5	5	99	98	99	96	
	Valor	2 oz/a								
	NIS	0.25 % v/v								
9	Roundup Original	1 qt/a	0	7	6	98	99	99	95	
	Valor	2 oz/a								
	COC	1 pt/a								
LSD (P=.05)			2.7	3.8	5.0	3.3	6.8	0.0	3.9	0.0
Standard Deviation			1.9	2.6	3.4	2.2	4.7	0.0	2.7	0.0
CV			144.9	71.45	92.02	2.59	5.56	0.0	3.12	0.0

Means followed by same letter do not significantly differ (P=.05, LSD)

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Weed Code		DEDTO	Seed Yld	Seed Yld
Crop Code			GOSHI	GOSHI
Rating Data Type		control	lb	lb
Rating Unit		percent	plot	acre
Rating Date		Sep-06-05	Sep-21-05	Sep-21-05
Trt-Eval Interval		131 DA-A	146 DA-A	146 DA-A
ARM Action Codes				TY1
# Subsamples, Dec.				1
Trt No.	Treatment Name	Rate	Unit	
		9	10	11
1	Non-treated	0	10	2782.0
2	Roundup Original Valor NIS	1 qt/a 2 oz/a 0.25 % v/v	99	13 3640.2
3	Roundup Original Valor COC	1 qt/a 2 oz/a 1 pt/a	99	14 4061.2
4	Roundup Original Valor NIS	1 qt/a 2 oz/a 0.25 % v/v	99	14 3977.0
5	Roundup Original Valor COC	1 qt/a 2 oz/a 1 pt/a	99	14 4101.9
6	Roundup Original Valor NIS	1 qt/a 2 oz/a 0.25 % v/v	99	13 3651.8
7	Roundup Original Valor COC	1 qt/a 2 oz/a 1 pt/a	99	14 4107.7
8	Roundup Original Valor NIS	1 qt/a 2 oz/a 0.25 % v/v	99	14 3990.1
9	Roundup Original Valor COC	1 qt/a 2 oz/a 1 pt/a	99	13 3887.0
LSD (P=.05)		0.0	1.7	486.55
Standard Deviation		0.0	1.1	333.37
CV		0.0	8.77	8.77

Means followed by same letter do not significantly differ (P=.05, LSD)

Column 11: TY1 = 290.4\*[10]

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Trial ID: C20-05 Study Dir.: Stanley Culpepper  
 Location: Ponder (5115) 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:** TyTy **Trial Status:** completed  
**State/Prov.:** GA **Trial Reliability:** excellent  
**Postal Code:** 31794 **Initiation Date:** Apr-28-05  
**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.	PANTE	Texas panicum	
2.	RCHSC	Florida pusley	
3.	DEDTO	Florida beggarweed	

**Crop 1:** GOSHI cotton **Variety:** DP 555 B/RR  
**Planting Date:** Apr-28-05 **Planting Method:** conventional  
**Rate:** 2 8 inch **Depth:** 0.5 in **Perennial Age:** \_\_\_\_\_  
**Row Spacing:** 36 inch **Spacing Within Row:** 0. . **Seed Bed:** bedded  
**Soil Temperature:** 78 F **Soil Moisture:** 72 **Emergence Date:** May-04-05

**SITE AND DESIGN**

**Plot Width, Unit:** 12 FT **Plot Length, Unit:** 25 FT **Reps:** 4  
**Site Type:** research station  
**Tillage Type:** conservation tillage **Study Design:** RANDOMIZED COMPLETE BLOCK

**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: 94	% OM: 1.3	Texture: sand
% Silt: 2	pH: 5.9	Soil Name: Tifton sandy loam
% Clay: 4	CEC: _____	Fert. Level: _____

### ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

### MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: excellent moisture throughout season

Closest Weather Station: \_\_\_\_\_ Distance: \_\_\_\_\_ Unit: \_\_\_\_

### APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	Jun-07-05	Jun-13-05	Jun-16-05	Jun-20-05
Time of Day:	1 pm	11 am	6 pm	4 pm
Application Method:	broadcast	broadcast	broadcast	broadcast
Application Timing:	8 in PD	12 in PD	16 in PD	20 in PD
Applic. Placement:	directed	directed	directed	directed
Air Temp., Unit:	88 F	88 F	96 F	86 F
% Relative Humidity:	59	54	64	54
Wind Velocity, Unit:	2 mph	2 mph	3 mph	3 mph
Dew Presence (Y/N):	n	n	n	n
Water Hardness:				
Soil Temp., Unit:	91 F	84 F	92 F	88 F
Soil Moisture:	moist	wet	moist	moist
% Cloud Cover:	0	40	0	0

### CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	GOSHI 8 in PD	GOSHI 12 in PD	GOSHI 16 in PD	GOSHI 20 in PD
Stage Scale:	8 leaf	10 leaf	11 leaf	12.5 leaf
Height, Unit:	9.5 inch	12.5 inch	16 inch	20 inch

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## WEED STAGE AT EACH APPLICATION

	A	B	C	D
<b>Weed 1 Code, Stage:</b>	PANTE 8 in PD	PANTE 12 in PD	PANTE 16 in PD	PANTE 20 in PD
<b>Stage Scale:</b>	<2 inch	<3 inch	<4 inch	<5 inch
<b>Density, Unit:</b>	2 ydsq	3 ydsq	5 ydsq	10 ydsq
<b>Weed 2 Code, Stage:</b>	RCHSC 8 in PD	RCHSC 12 in PD	RCHSC 16 in PD	RCHSC 20 in PD
<b>Stage Scale:</b>	<2 inch	<3 inch	<4 inch	<5 inch
<b>Density, Unit:</b>	1 ydsq	1 ydsq	1 ydsq	1 ydsq
<b>Weed 3 Code, Stage:</b>	DEDTO 8 in PD	DEDTO 12 in PD	DEDTO 16 in PD	DEDTO 20 in PD
<b>Stage Scale:</b>	<2 inch	<3 inch	<4 inch	<5 inch
<b>Density, Unit:</b>	1 ydsq	1 ydsq	1 ydsq	1 ydsq

## APPLICATION EQUIPMENT

	A	B	C	D
<b>Appl. Equipment:</b>	backpack	backpack	backpack	backpack
<b>Operating Pressure:</b>	18	18	18	18
<b>Nozzle Type:</b>	flat fan	flat fan	flat fan	flat fan
<b>Nozzle Size:</b>	11002	11002	11002	11002
<b>Nozzle Spacing, Unit:</b>	12 inch	12 inch	12 inch	12 inch
<b>Nozzles/Row:</b>	3	3	3	3
<b>Band Width, Unit:</b>				
<b>Boom Length, Unit:</b>	24 inch	24 inch	24 inch	24 inch
<b>Boom Height, Unit:</b>	12 inch	12 inch	12 inch	12 inch
<b>Ground Speed, Unit:</b>	3 mph	3 mph	3 mph	3 mph
<b>Incorporation Equip.:</b>				
<b>Hours to Incorp.:</b>				
<b>Incorp. Depth, Unit:</b>				
<b>Carrier:</b>	water	water	water	water
<b>Spray Volume, Unit:</b>	14.8 GPA	14.8 GPA	14.8 GPA	14.8 GPA
<b>Spray pH:</b>				
<b>Propellant:</b>	CO2	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	Y	Y	Y	Y

Trt No	Treatment Application Comment