

University of Georgia

Cotton response to V-10169 applied late-season in RR cotton.

Trial ID: C40-05
 Location: Attapulgus

Study Dir.: Stanley Culpepper
 Investigator: Stanley Culpepper

Reps: 3 Plots: 9 by 25 feet
 Spray vol: 14.8 gal/ac Mix size: 1.5 liters (min .86814)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep		
									1	2	3
1	No Layby								101	215	301
2	Valor SX	51	DG	0.063	lb ai/a	LPD	A	1.5 g/mx	102	210	306
	NIS		L	0.25	% v/v	LPD	A	3.75 ml/mx			
3	Valor SX	51	DG	0.063	lb ai/a	LPD	A	1.5 g/mx	103	208	303
4	Valor SX	51	DG	0.063	lb ai/a	LPD	A	1.5 g/mx	104	206	304
	MSMA	6	L	2	lb ai/a	LPD	A	33.78 ml/mx			
	NIS		L	0.25	% v/v	LPD	A	3.75 ml/mx			
5	Valor SX	51	DG	0.063	lb ai/a	LPD	A	1.5 g/mx	105	204	312
	V-10169	0.41	L	0.009	lb ai/a	LPD	A	2.225 ml/mx			
	NIS		L	0.25	% v/v	LPD	A	3.75 ml/mx			
6	Valor SX	51	DG	0.063	lb ai/a	LPD	A	1.5 g/mx	106	202	313
	V-10169	0.41	L	0.018	lb ai/a	LPD	A	4.449 ml/mx			
	NIS		L	0.25	% v/v	LPD	A	3.75 ml/mx			
7	Valor SX	51	DG	0.063	lb ai/a	LPD	A	1.5 g/mx	107	216	314
	V-10169	0.41	L	0.027	lb ai/a	LPD	A	6.674 ml/mx			
	NIS		L	0.25	% v/v	LPD	A	3.75 ml/mx			
8	Valor SX	51	DG	0.063	lb ai/a	LPD	A	1.5 g/mx	108	205	315
	V-10169	0.41	L	0.036	lb ai/a	LPD	A	8.898 ml/mx			
	NIS		L	0.25	% v/v	LPD	A	3.75 ml/mx			
9	Valor SX	51	DG	0.063	lb ai/a	LPD	A	1.5 g/mx	109	213	316
	V-10169	0.41	L	0.072	lb ai/a	LPD	A	17.8 ml/mx			
	NIS		L	0.25	% v/v	LPD	A	3.75 ml/mx			
10	V-10169	0.41	L	0.072	lb ai/a	LPD	A	17.8 ml/mx	110	207	310
	NIS		L	0.25	% v/v	LPD	A	3.75 ml/mx			
11	Roundup OriginalMax	5.5	L	1	lb ai/a	LPD	A	18.43 ml/mx	111	209	302
	V-10169	0.41	L	0.009	lb ai/a	LPD	A	2.225 ml/mx			
12	Roundup OriginalMax	5.5	L	1	lb ai/a	LPD	A	18.43 ml/mx	112	211	307
	V-10169	0.41	L	0.018	lb ai/a	LPD	A	4.449 ml/mx			
13	Roundup OriginalMax	5.5	L	1	lb ai/a	LPD	A	18.43 ml/mx	113	201	311
	V-10169	0.41	L	0.027	lb ai/a	LPD	A	6.674 ml/mx			
14	Roundup OriginalMax	5.5	L	1	lb ai/a	LPOT	B	18.43 ml/mx	114	212	309
	V-10169	0.41	L	0.009	lb ai/a	LPOT	B	2.225 ml/mx			
15	Roundup OriginalMax	5.5	L	1	lb ai/a	LPOT	B	18.43 ml/mx	115	203	305
	V-10169	0.41	L	0.018	lb ai/a	LPOT	B	4.449 ml/mx			
16	No layby								116	214	308

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Lot Code
15.002	g	Valor SX 51 DG	
37.496	ml	NIS L	
42.225	ml	MSMA 6 L	
97.324	ml	V-10169 0.41 L	
115.160	ml	Roundup OriginalMax 5.5 L	

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Reps: 3 Plots: 9 by 25 feet
 Spray vol: 14.8 gal/ac Mix size: 1.5 liters (min .86814)

Trt No.	Tr> N>	Form Conc	Form Type	Plot No. By Rep
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Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Lot Code
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- * 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1.5 liters (mix size basis).
- * Product amount calculations increased 25 % for overage adjustment.
- * 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 1.5 liters.

Trial Comments

OBJECTIVE: Evaluate weed and crop response to V-10169 mixtures.

VISUAL COTTON RESPONSE:

1. Cotton stems were not completely "barky" at time of application.
2. All 10169 directed mixtures, except glyphosate plus 0.009 lb ai of 10169, had at least 15% injury at 6 DAT. Injury of 15-20% noted severe stem necrosis while injury greater than 20% was given when some portion of cotton plants in the plot were "cut" into.
3. By 55 DAT, cotton really had not recovered from the directed V-10169 mixtures.
4. Topical applications of glyphosate + V-10169 killed the cotton for the most part.

WEED RESPONSE:

Bristly Starbur:

1. At 6 or 22 DAT, Valor alone was the only treatment not providing greater than 94% control.
2. By late season, control was less than 90% with Valor alone and when V-10142 was applied topically removing cotton competition.

Texas panicum:

1. Valor alone provided poor control while all other treatments provided excellent control.
2. By late season, control was less than 93% with Valor alone and when V-10142 was applied topically removing cotton competition.

SEED YIELD:

1. Differences in yield were likely impacted by weed control and crop injury.
2. Poor grass control was noted when no Layby or when Valor alone or mixed with NIS was applied, likely reducing cotton yield in the harvesting operation.
3. Obviously there was no cotton to harvest when 10169 was applied topically.
4. When excellent weed control was noted, yields of less than 3000 lbs were only noted when greater than 20% injury was measured during the season.
5. Valor plus MSMA and glyphosate plus V-10169 (0.009 lb) were likely the only two treatments that maximized yield.

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Trial ID: C40-05

Study Dir.: Stanley Culpepper

Location: Attapulgus

Investigator: Stanley Culpepper

Weed Code			GOSHI	GOSHI	GOSHI	ACHNI	ACHNI	ACHNI	PANTE
Crop Code			injury	injury	injury	control	control	control	control
Rating Data Type			percent	percent	percent	percent	percent	percent	percent
Rating Unit									
Rating Date			Jul-18-05	Aug-03-05	Sep-05-05	Jul-18-05	Aug-03-05	Sep-05-05	Jul-18-05
Trt-Eval Interval			6 DA-A	22 DA-A	55 DA-A	6 DA-A	22 DA-A	55 DA-A	6 DA-A
ARM Action Codes									
# Subsamples, Dec.									
Trt No.	Treatment Name	Rate	1	2	3	4	5	6	7
		Unit							
1	No Layby		0	0	0	0	0	0	0
2	Valor SX NIS	0.063 lb ai/a 0.25 % v/v	12	4	0	99	99	96	70
3	Valor SX	0.063 lb ai/a	5	3	1	96	92	89	69
4	Valor SX MSMA NIS	0.063 lb ai/a 2 lb ai/a 0.25 % v/v	5	7	6	99	99	99	87
5	Valor SX V-10169 NIS	0.063 lb ai/a 0.009 lb ai/a 0.25 % v/v	15	16	18	99	99	99	98
6	Valor SX V-10169 NIS	0.063 lb ai/a 0.018 lb ai/a 0.25 % v/v	20	20	21	99	99	99	94
7	Valor SX V-10169 NIS	0.063 lb ai/a 0.027 lb ai/a 0.25 % v/v	21	20	20	99	99	99	98
8	Valor SX V-10169 NIS	0.063 lb ai/a 0.036 lb ai/a 0.25 % v/v	24	21	20	99	99	97	99
9	Valor SX V-10169 NIS	0.063 lb ai/a 0.072 lb ai/a 0.25 % v/v	20	20	21	99	99	99	99
10	V-10169 NIS	0.072 lb ai/a 0.25 % v/v	21	22	21	99	99	99	99
11	Roundup OriginalMax V-10169	1 lb ai/a 0.009 lb ai/a	6	12	3	99	99	97	99
12	Roundup OriginalMax V-10169	1 lb ai/a 0.018 lb ai/a	16	18	15	99	99	97	98
13	Roundup OriginalMax V-10169	1 lb ai/a 0.027 lb ai/a	17	16	15	99	98	97	99
14	Roundup OriginalMax V-10169	1 lb ai/a 0.009 lb ai/a	98	92	99	99	95	63	99
15	Roundup OriginalMax V-10169	1 lb ai/a 0.018 lb ai/a	98	98	100	100	99	77	100
16	No layby		0	0	0	0	0	0	0
LSD (P=.05)			5.8	5.8	5.9	2.2	2.5	13.2	12.3
Standard Deviation			3.5	3.5	3.5	1.3	1.5	7.9	7.4
CV			14.83	15.19	15.63	1.54	1.77	9.68	9.05

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

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Weed Code			PANTE	PANTE	GOSHI	GOSHI
Crop Code					seed yld	seed yld
Rating Data Type			control	control	lb/plot	lb/A
Rating Unit			percent	percent		
Rating Date			Aug-03-05	Sep-05-05	Oct-21-05	Oct-21-05
Trt-Eval Interval			22 DA-A	55 DA-A	101 DA-A	101 DA-A
ARM Action Codes						TY1
# Subsamples, Dec.						1
Trt No.	Treatment Name	Rate Rate Unit	8	9	10	11
1	No Layby		0	0	9	2613.6
2	Valor SX NIS	0.063 lb ai/a 0.25 % v/v	78	71	11	3049.2
3	Valor SX	0.063 lb ai/a	63	68	10	3020.2
4	Valor SX MSMA NIS	0.063 lb ai/a 2 lb ai/a 0.25 % v/v	99	96	13	3631.9
5	Valor SX V-10169 NIS	0.063 lb ai/a 0.009 lb ai/a 0.25 % v/v	94	94	11	3113.1
6	Valor SX V-10169 NIS	0.063 lb ai/a 0.018 lb ai/a 0.25 % v/v	97	94	9	2712.3
7	Valor SX V-10169 NIS	0.063 lb ai/a 0.027 lb ai/a 0.25 % v/v	99	99	10	2973.7
8	Valor SX V-10169 NIS	0.063 lb ai/a 0.036 lb ai/a 0.25 % v/v	99	99	10	2940.8
9	Valor SX V-10169 NIS	0.063 lb ai/a 0.072 lb ai/a 0.25 % v/v	99	97	10	2934.0
10	V-10169 NIS	0.072 lb ai/a 0.25 % v/v	99	96	10	2948.5
11	Roundup OriginalMax V-10169	1 lb ai/a 0.009 lb ai/a	96	97	12	3552.6
12	Roundup OriginalMax V-10169	1 lb ai/a 0.018 lb ai/a	95	93	11	3093.7
13	Roundup OriginalMax V-10169	1 lb ai/a 0.027 lb ai/a	99	97	11	3053.1
14	Roundup OriginalMax V-10169	1 lb ai/a 0.009 lb ai/a	90	7	0	0.0
15	Roundup OriginalMax V-10169	1 lb ai/a 0.018 lb ai/a	88	7	0	0.0
16	No layby		0	0	8	2408.4
LSD (P=.05)			13.5	14.3	1.8	512.14
Standard Deviation			8.1	8.6	1.1	307.17
CV			10.01	12.32	11.69	11.69

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

Column 11: TY1 = 290.4*[10]

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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: 84	% OM: 1.3	Texture: loamy sand
% Silt: 8	pH: 5.9	Soil Name: _____
% Clay: 8	CEC: _____	Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: irrigated

Closest Weather Station: _____ Distance: _____ Unit: ____

APPLICATION DESCRIPTION

	A	B
Application Date:	Jul-12-05	Jul-12-05
Time of Day:	1 pm	1 pm
Application Method:	broadcast	broadcast
Application Timing:	LPD	LPOT
Applic. Placement:	directed	overtop
Air Temp., Unit:	87 F	87 F
% Relative Humidity:	49	49
Wind Velocity, Unit:	3 mph	3 mph
Dew Presence (Y/N):	n	n
Water Hardness:		
Soil Temp., Unit:	90 F	90 F
Soil Moisture:	wet	wet
% Cloud Cover:	25	25

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GOSHI LPD	GOSHI LPOT
Stage Scale:	11 leaf	11 leaf
Height, Unit:	15 inch	15 inch

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	ACHNI LPD	ACHNI LPOT
Stage Scale:	<4 inch	<4 inch
Density, Unit:	2 ydsq	2 ydsq
Weed 2 Code, Stage:	PANTE LPD	PANTE LPOT
Stage Scale:	<4 inch	<4 inch
Density, Unit:	2 ydsq	2 ydsq

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APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	backpack	backpack
Operating Pressure:	23	18
Nozzle Type:	flat fan	flat fan
Nozzle Size:	11002	11002
Nozzle Spacing, Unit:	18 inch	12 inch
Nozzles/Row:	2	3
Band Width, Unit:		
Boom Length, Unit:	4.5 feet	2 feet
Boom Height, Unit:	15 inch	12 inch
Ground Speed, Unit:	3 mph	3 mph
Incorporation Equip.:		
Hours to Incorp.:		
Incorp. Depth, Unit:		
Carrier:	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA
Spray pH:		
Propellant:	CO2	CO2
Tank Mix (Y/N):	Y	Y

Trt No	Treatment Application Comment