

University of Georgia

Palmer amaranth programs in Roundup Ready Flex Cotton

Trial ID: C2-07

Study Dir.: Stanley Culpepper

Location: Small Jones Farm

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 Unit	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code	Amt to Product Measure	Plot No. By Rep					
										1	2	3	4		
1	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx	101	215	311	418
	PARRLAY	8	#/G		SC	1.33	LB A/A	2	If	C	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	bloom		E	22.52 ml/mx				
2	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx	102	207	313	408
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
	PARRLAY	8	#/G		SC	1.33	LB A/A	8	If	D	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	bloom		E	22.52 ml/mx				
3	REFLEX	2	#/G		EC	0.25	LB A/A	PRE		B	16.89 ml/mx	103	214	302	415
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx				
	PARRLAY	8	#/G		SC	1.33	LB A/A	2	If	C	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
4	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	bloom		E	22.52 ml/mx	104	218	312	403
	REFLEX	2	#/G		EC	0.25	LB A/A	PRE		B	16.89 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
5	PARRLAY	8	#/G		SC	1.33	LB A/A	8	If	D	22.46 ml/mx	105	213	316	401
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	bloom		E	22.52 ml/mx				
	COTORAN 4	4	#/G		SC	1.0	LB A/A	PRE		B	33.78 ml/mx				
6	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx	106	209	301	412
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
	PARRLAY	8	#/G		SC	1.33	LB A/A	8	If	D	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	bloom		E	22.52 ml/mx				
7	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx	107	201	309	417
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
	PARRLAY	8	#/G		SC	1.33	LB A/A	2	If	C	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	bloom		E	22.52 ml/mx				
8	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx	108	211	317	414
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx				
	PARRLAY	8	#/G		SC	1.33	LB A/A	8	If	D	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	bloom		E	22.52 ml/mx				
9	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx	109	202	303	413
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
	PARRLAY	8	#/G		SC	1.33	LB A/A	2	If	C	22.46 ml/mx				
	DIREX	4	#/G		SC	0.3	LB A/A	PD		F	10.13 ml/mx				
10	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	2	If	C	22.52 ml/mx	110	216	310	416
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	8	If	D	22.52 ml/mx				
	PARRLAY	8	#/G		SC	1.33	LB A/A	8	If	D	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE	SL	0.75	LB AE/A	PD		F	22.52 ml/mx				
	DIREX	4	#/G		SC	0.3	LB A/A	PD		F	10.13 ml/mx				

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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 Unit	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep			
										1	2	3	4
11	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	2 If	C	22.52 ml/mx	111	208	307	411
	PARRLAY	8	#/G	SC	1.33	LB A/A	2 If	C	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	8 If	D	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	PD	F	22.52 ml/mx				
	VALOR SX	51	%	WG	0.064	LB A/A	PD	F	2.032 g/mx				
12	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	2 If	C	22.52 ml/mx	112	206	308	404
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	8 If	D	22.52 ml/mx				
	PARRLAY	8	#/G	SC	1.33	LB A/A	8 If	D	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	PD	F	22.52 ml/mx				
	VALOR SX	51	%	WG	0.064	LB A/A	PD	F	2.032 g/mx				
13	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	2 If	C	22.52 ml/mx	113	217	314	407
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	8 If	D	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	bloom	E	22.52 ml/mx				
14	COTORAN 4	4	#/G	SC	1.0	LB A/A	PRE	B	33.78 ml/mx	114	210	315	406
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	2 If	C	22.52 ml/mx				
	Dual Magnum	7.62	#/G	SC	1.33	LB A/A	2 If	C	23.58 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	8 If	D	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	bloom	E	22.52 ml/mx				
15	DIREX	4	#/G	SC	1.0	LB A/A	PRE	B	33.78 ml/mx	115	205	304	402
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	2 If	C	22.52 ml/mx				
	Dual Magnum	7.62	#/G	SC	1.33	LB A/A	2 If	C	23.58 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	8 If	D	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	bloom	E	22.52 ml/mx				
16	Reflex	2		L	1	PT/A	PRE	B	16.89 ml/mx	116	212	306	409
	Direx	4	#/G	SC	1.0	LB A/A	PRE	B	33.78 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	2 If	C	22.52 ml/mx				
	PARRLAY	8	#/G	SC	1.33	LB A/A	2 If	C	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	8 If	D	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	bloom	E	22.52 ml/mx				
17	Reflex	2		L	0.75	PT/A	PRE	B	12.67 ml/mx	117	203	305	410
	Direx	4	#/G	SC	1.5	LB A/A	PRE	B	50.67 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	2 If	C	22.52 ml/mx				
	PARRLAY	8	#/G	SC	1.33	LB A/A	2 If	C	22.46 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	8 If	D	22.52 ml/mx				
	ROUNDUP WEATHERMAX	4.5	#/G	AE SL	0.75	LB AE/A	bloom	E	22.52 ml/mx				
18	Non-treated									118	204	318	405

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
1,435.659	ml	ROUNDUP WEATHERMAX	4.5	SL	
393.117	ml	PARRLAY	8	SC	
42.225	ml	REFLEX	2	EC	
126.676	ml	COTORAN 4	4	SC	
10.160	g	VALOR SX	51	WG	
173.124	ml	DIREX	4	SC	
58.960	ml	Dual Magnum	7.62	SC	
36.947	ml	Reflex	2	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.

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Trial ID: C2-07

Study Dir.: Stanley Culpepper

Location: Small Jones Farm

Investigator: Stanley Culpepper

Trial Comments

OBJECTIVE: Determine the most effective program for the management of glyphosate-sensitive Palmer amaranth in dryland cotton.

Note: 2007 was an extreme drought in Georgia including where this trial was located. At times, cotton did not grow for weeks and never closed the row middles challenging the herbicide programs.

Cotton Response:

1. Because of the dry weather, residual herbicides did injure cotton.
2. Post applications of glyphosate + Dual or Parrlay caused 10% or less speckling with quick cotton recovery.
3. Directed applications did not injure the cotton as the cotton stem was barky from top to bottom.

Palmer response:

1. Prior to the 2 leaf applications which was actually 57 DAT, Reflex + Direx was generally the most effective herbicide treatment for visual control. Cotoran, Direx or Reflex PRE and Valor preplant were generally 8 to 10% less effective but still provided good to excellent control. When counting pigweeds per plot no difference in these residual herbicides were noted.
2. Excellent control was observed throughout mid-season with all programs as glyphosate or glyphosate mixtures were being applied. However, at time of the 8 leaf application at least 25 pigweed per 60 sq feet were noted in all plots without residual herbicides being previously applied. At 15 days after the 8 leaf application, greater than 10 plants per 60 sq feet were only noted in the glyphosate-only plots and in the non-treated control.
3. During late season, visual control was greater than 90% with all systems except for the glyphosate only program because of continual pigweed emergence even in dry land cotton growing in an extreme drought.

Large crabgrass:

1. Reflex and Valor provided poor residual control by 57 DAT. Cotoran and Direx were more effective providing at least 70% control.
2. Glyphosate provided excellent control throughout the season with little late emerging plants.

Smallflower morningglory:

1. Reflex provided poor control; Valor provided fair control; Direx and Cotoran provided good control; Reflex plus Direx provided excellent control.
2. Good to excellent control was noted with glyphosate POST but programs with residual herbicides applied at planting were more consistent.
3. Late-season control was less than 90% in programs that included glyphosate, metolachlor, and or fomesafen.

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Weed Code		AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA		
Rating Data Type		%	%	%	%	%	# per	# per		
Rating Unit		control	control	control	control	control	60 sqft	60 sq ft		
Rating Date		Jun-13-07	Jul-01-07	Jul-27-07	Aug-10-07	Sep-07-07	Jun-13-07	Jul-07-07		
Trt-Eval Interval		57 DA-B	18 DA-C	15 DA-D	14 DA-F	42 DA-F	57 DA-B	24 DA-C		
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7
1	ROUNDUP WEATHERMAX	0.75	LB AE/A	0 d	99 a	99 a	99 a	99 a	83 a	0 d
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
2	ROUNDUP WEATHERMAX	0.75	LB AE/A	0 d	99 a	99 a	99 a	97 ab	82 a	2 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
3	REFLEX	0.25	LB A/A	94 ab	99 a	99 a	99 a	94 ab	4 b	0 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
4	REFLEX	0.25	LB A/A	92 ab	99 a	99 a	99 a	96 ab	4 b	1 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
5	COTORAN 4	1.0	LB A/A	85 c	99 a	99 a	99 a	92 ab	8 b	0 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
6	COTORAN 4	1.0	LB A/A	91 bc	99 a	99 a	99 a	99 a	4 b	0 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
7	VALOR SX	0.064	LB A/A	90 bc	99 a	99 a	99 a	99 a	6 b	0 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
8	VALOR SX	0.064	LB A/A	90 bc	99 a	99 a	99 a	99 a	7 b	1 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
9	ROUNDUP WEATHERMAX	0.75	LB AE/A	0 d	99 a	99 a	99 a	99 a	90 a	0 d
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	DIREX	0.3	LB A/A							
10	ROUNDUP WEATHERMAX	0.75	LB AE/A	0 d	99 a	99 a	99 a	99 a	81 a	25 c
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	DIREX	0.3	LB A/A							

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Weed Code		AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA		
Rating Data Type		%	%	%	%	%	# per	# per		
Rating Unit		control	control	control	control	control	60 sqft	60 sqft		
Rating Date		Jun-13-07	Jul-01-07	Jul-27-07	Aug-10-07	Sep-07-07	Jun-13-07	Jul-07-07		
Trt-Eval Interval		57 DA-B	18 DA-C	15 DA-D	14 DA-F	42 DA-F	57 DA-B	24 DA-C		
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7
11	ROUNDUP WEATHERMAX	0.75	LB AE/A	0 d	99 a	96 a	99 a	98 ab	85 a	1 d
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	VALOR SX	0.064	LB A/A							
12	ROUNDUP WEATHERMAX	0.75	LB AE/A	0 d	99 a	99 a	99 a	99 a	84 a	50 b
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	VALOR SX	0.064	LB A/A							
13	ROUNDUP WEATHERMAX	0.75	LB AE/A	0 d	99 a	90 b	98 b	90 b	83 a	45 bc
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
14	COTORAN 4	1.0	LB A/A	90 bc	99 a	99 a	99 a	98 ab	7 b	0 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	Dual Magnum	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
15	DIREX	1.0	LB A/A	92 ab	99 a	99 a	99 a	97 ab	5 b	1 d
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	Dual Magnum	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
16	Reflex	1	PT/A	98 a	99 a	99 a	99 a	96 ab	1 b	0 d
	Direx	1.0	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
17	Reflex	0.75	PT/A	98 a	99 a	99 a	99 a	99 a	1 b	0 d
	Direx	1.5	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
18	Non-treated			0 d	0 b	0 c	0 c	0 c	90 a	450 a
LSD (P=.05)				5.7	0.0	4.1	0.7	7.4	11.3	20.5
Standard Deviation				4.0	0.0	2.9	0.5	5.2	8.0	14.5
CV				7.83	0.0	3.14	0.5	5.69	19.89	45.37
Bartlett's X2				14.29	0.0	14.908	0.0	20.615	64.59	74.13
P(Bartlett's X2)				0.112	.	0.001*	.	0.008*	0.001*	0.001*

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

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Weed Code			AMAPA	DIGSA	DIGSA	DIGSA	DIGSA	DIGSA	IAQTA
Rating Data Type			# per	%	%	%	%	%	%
Rating Unit			60 sqft	control	control	control	control	control	control
Rating Date			Jul-27-07	Jun-13-07	Jul-01-07	Jul-27-07	Aug-10-07	Sep-07-07	Jun-13-07
Trt-Eval Interval			15 DA-D	57 DA-B	18 DA-C	15 DA-D	29 DA-D	42 DA-F	57 DA-B
Trt No.	Treatment Name	Rate Rate Unit	8	9	10	11	12	13	14
1	ROUNDUP WEATHERMAX	0.75 LB AE/A	0 c	0 d	99 a	99 a	99 a	99 a	0 f
	PARRLAY	1.33 LB A/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
2	ROUNDUP WEATHERMAX	0.75 LB AE/A	0 c	0 d	99 a	99 a	99 a	99 a	0 f
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	PARRLAY	1.33 LB A/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
3	REFLEX	0.25 LB A/A	0 c	44 c	99 a	99 a	99 a	98 a	38 e
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	PARRLAY	1.33 LB A/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
4	REFLEX	0.25 LB A/A	0 c	47 bc	99 a	99 a	99 a	98 a	46 e
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	PARRLAY	1.33 LB A/A							
5	COTORAN 4	1.0 LB A/A	0 c	74 a	99 a	99 a	99 a	97 a	75 cd
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	PARRLAY	1.33 LB A/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
6	COTORAN 4	1.0 LB A/A	0 c	86 a	99 a	99 a	99 a	99 a	78 bcd
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	PARRLAY	1.33 LB A/A							
7	VALOR SX	0.064 LB A/A	0 c	58 b	99 a	99 a	99 a	99 a	75 cd
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	PARRLAY	1.33 LB A/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
8	VALOR SX	0.064 LB A/A	0 c	49 bc	99 a	99 a	99 a	99 a	66 d
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	PARRLAY	1.33 LB A/A							
9	ROUNDUP WEATHERMAX	0.75 LB AE/A	0 c	0 d	99 a	99 a	99 a	96 a	0 f
	PARRLAY	1.33 LB A/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	DIREX	0.3 LB A/A							
10	ROUNDUP WEATHERMAX	0.75 LB AE/A	0 c	0 d	98 b	99 a	99 a	97 a	0 f
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	PARRLAY	1.33 LB A/A							
	DIREX	0.3 LB A/A							
11	ROUNDUP WEATHERMAX	0.75 LB AE/A	2 c	0 d	99 a	99 a	99 a	99 a	0 f
	PARRLAY	1.33 LB A/A							
	ROUNDUP WEATHERMAX	0.75 LB AE/A							
	VALOR SX	0.064 LB A/A							

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Weed Code	AMAPA	DIGSA	DIGSA	DIGSA	DIGSA	DIGSA	IAQTA			
Rating Data Type	# per	%	%	%	%	%	%			
Rating Unit	60 sqft	control	control	control	control	control	control			
Rating Date	Jul-27-07	Jun-13-07	Jul-01-07	Jul-27-07	Aug-10-07	Sep-07-07	Jun-13-07			
Trt-Eval Interval	15 DA-D	57 DA-B	18 DA-C	15 DA-D	29 DA-D	42 DA-F	57 DA-B			
Trt No.	Treatment Name	Rate	Unit	8	9	10	11	12	13	14
12	ROUNDUP WEATHERMAX	0.75	LB AE/A	0 c	0 d	99 a	99 a	99 a	99 a	0 f
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	VALOR SX	0.064	LB A/A							
13	ROUNDUP WEATHERMAX	0.75	LB AE/A	21 b	0 d	99 a	99 a	99 a	96 a	0 f
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
14	COTORAN 4	1.0	LB A/A	0 c	73 a	99 a	99 a	99 a	99 a	85 abc
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	Dual Magnum	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
15	DIREX	1.0	LB A/A	0 c	80 a	99 a	99 a	99 a	98 a	87 abc
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	Dual Magnum	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
16	Reflex	1	PT/A	0 c	79 a	99 a	99 a	99 a	97 a	97 a
	Direx	1.0	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
17	Reflex	0.75	PT/A	0 c	85 a	99 a	99 a	99 a	98 a	92 ab
	Direx	1.5	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	PARRLAY	1.33	LB A/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
	ROUNDUP WEATHERMAX	0.75	LB AE/A							
18	Non-treated			450 a	0 d	0 c	0 b	0 b	2 b	0 f
LSD (P=.05)				14.3	13.3	1.0	0.0	0.0	3.2	13.0
Standard Deviation				10.1	9.4	0.7	0.0	0.0	2.2	9.2
CV				38.52	25.03	0.76	0.0	0.0	2.41	22.45
Bartlett's X2				30.82	21.259	0.0	0.0	0.0	24.996	15.939
P(Bartlett's X2)				0.001*	0.012*	.	.	.	0.023*	0.068

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

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Weed Code			IAQTA	IAQTA	IAQTA	IAQTA
Rating Data Type			%	%	%	%
Rating Unit			control	control	control	control
Rating Date			Jul-01-07	Jul-27-07	Aug-10-07	Sep-07-07
Trt-Eval Interval			18 DA-C	15 DA-D	29 DA-D	57 DA-D
Trt No.	Treatment Name	Rate Rate Unit	15	16	17	18
1	ROUNDUP WEATHERMAX	0.75 LB AE/A	87 a	88 a	95 ab	83 d
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
2	ROUNDUP WEATHERMAX	0.75 LB AE/A	81 a	89 a	94 ab	85 cd
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
3	REFLEX	0.25 LB A/A	90 a	93 a	96 ab	86 bcd
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
4	REFLEX	0.25 LB A/A	91 a	94 a	96 ab	89 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
5	COTORAN 4	1.0 LB A/A	87 a	92 a	92 ab	91 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
6	COTORAN 4	1.0 LB A/A	99 a	98 a	99 a	91 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
7	VALOR SX	0.064 LB A/A	96 a	95 a	99 a	92 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
8	VALOR SX	0.064 LB A/A	92 a	93 a	98 ab	93 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
9	ROUNDUP WEATHERMAX	0.75 LB AE/A	89 a	97 a	99 a	96 abc
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	DIREX	0.3 LB A/A				
10	ROUNDUP WEATHERMAX	0.75 LB AE/A	94 a	95 a	99 a	96 abc
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	DIREX	0.3 LB A/A				
11	ROUNDUP WEATHERMAX	0.75 LB AE/A	96 a	94 a	99 a	94 a-d
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	VALOR SX	0.064 LB A/A				

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Weed Code			IAQTA	IAQTA	IAQTA	IAQTA
Rating Data Type			%	%	%	%
Rating Unit			control	control	control	control
Rating Date			Jul-01-07	Jul-27-07	Aug-10-07	Sep-07-07
Trt-Eval Interval			18 DA-C	15 DA-D	29 DA-D	57 DA-D
Trt No.	Treatment Name	Rate Rate Unit	15	16	17	18
12	ROUNDUP WEATHERMAX	0.75 LB AE/A	85 a	89 a	99 a	90 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	VALOR SX	0.064 LB A/A				
13	ROUNDUP WEATHERMAX	0.75 LB AE/A	85 a	92 a	91 b	88 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
14	COTORAN 4	1.0 LB A/A	91 a	97 a	99 a	91 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	Dual Magnum	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
15	DIREX	1.0 LB A/A	98 a	98 a	99 a	94 a-d
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	Dual Magnum	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
16	Reflex	1 PT/A	99 a	96 a	99 a	97 ab
	Direx	1.0 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
17	Reflex	0.75 PT/A	93 a	99 a	99 a	98 a
	Direx	1.5 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	PARRLAY	1.33 LB A/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
	ROUNDUP WEATHERMAX	0.75 LB AE/A				
18	Non-treated		0 b	0 b	0 c	0 e
LSD (P=.05)			14.9	9.1	6.2	9.5
Standard Deviation			10.5	6.4	4.4	6.7
CV			12.22	7.24	4.8	7.77
Bartlett's X2			21.821	19.222	11.954	23.031
P(Bartlett's X2)			0.082	0.204	0.063	0.113

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

University of Georgia

Palmer amaranth programs in Roundup Ready Flex Cotton

Trial ID: C2-07 Study Dir.: Stanley Culpepper
 Location: Small Jones Farm 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: Tifton **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** good
Postal Code: 31794 **Initiation Date:** Apr-08-07
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.	DIGSA	large crabgrass	
2.	IAQTA	smallflower morningglory	
3.	AMAPA	palmer amaranth	

Crop 1: GOSHI COTTON, SHORT STAPLE **Variety:** DP 143 B2 RF
Planting Date: Apr-16-07 **Planting Method:** hill drop
Rate: 2 8 in **Depth:** 0.75 in **Perennial Age:** ____
Row Spacing: 36 in **Spacing Within Row:** ____ **Seed Bed:** strip till
Soil Temperature: 53 F **Soil Moisture:** moist **Emergence Date:** Apr-23-07

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: Jones Farm
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: 95	% OM: 0.67	Texture: Sand
% Silt: 2	pH: 5.8	Soil Name: Tifton sandy loam
% Clay: 3	CEC: _____	Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: drought

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A	B	C	D	E	F
Application Date:	Apr-08-07	Apr-17-07	Jun-13-07	Jul-12-07	Jul-27-07	Jul-27-07
Time of Day:	4:00 pm	8:00 am	8:00 am	8:00 am	8:00 am	8:00 am
Application Method:	broadcast	broadcast	broadcast	broadcast	broadcast	broadcast
Application Timing:	preplant	PRE	2 leaf	8 leaf	bloom	PD
Applic. Placement:	on soil	on soil	overtop	overtop	overtop	directed
Air Temp., Unit:	58 F	64 F	77 F	83 F	84 F	84 F
% Relative Humidity:	28	38	65	70	78	78
Wind Velocity, Unit:	2 mph	0 mph	2 mph	0 mph	0 mph	0 mph
Dew Presence (Y/N):	N	Y	Y	Y	N	N
Water Hardness:						
Soil Temp., Unit:	58 F	56 F	81 F	85 F	81 F	81 F
Soil Moisture:	dry	moist	moist	moist	moist	moist
% Cloud Cover:	0	0	0	0	0	0

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	GOSHI PREPLANT	GOSHI PRE	GOSHI 2 leaf	GOSHI 8 leaf	GOSHI bloom
Stage Scale:	not up	not up	2-3 leaf	10 leaf	12 leaf
Height, Unit:	0 inch	0 inch	2 inch	11 in	20 in
	F				
Crop 1 Code, Stage:	GOSHI PD				
Stage Scale:	12 leaf				
Height, Unit:	20 in				

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WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	DIGSA prepalnt	DIGSA PRE	DIGSA 2 leaf	DIGSA 8 leaf	DIGSA bloom
Stage Scale:	0 inch	0 inch	<3 inch	< 3 inch	< 3 inch
Density, Unit:	0 ydsq	0 ydsq	20 ydsq	5 ydsq	0.25 ydsq
Weed 2 Code, Stage:	IAQTA prepalnt	IAQTA PRE	IAQTA 2 leaf	IAQTA 8 leaf	IAQTA bloom
Stage Scale:	0 inch	0 inch	< 3 inch	< 7 inch	< 7 inch
Density, Unit:	0 ydsq	0 ydsq	6 ydsq	6 ydsq	6 ydsq
Weed 3 Code, Stage:	AMAPA prepalnt	AMAPA PRE	AMAPA 2 leaf	AMAPA 8 leaf	AMAPA bloom
Stage Scale:	0 inch	0 inch	< 4 inch	< 4 inch	< 4 inch
Density, Unit:	0 ydsq	0 ydsq	see data	see data	see data
	F				
Weed 1 Code, Stage:	DIGSA PD				
Stage Scale:	< 3 inch				
Density, Unit:	0.25 ydsq				
Weed 2 Code, Stage:	IAQTA PD				
Stage Scale:	< 7 inch				
Density, Unit:	6 ydsq				
Weed 3 Code, Stage:	AMAPA PD				
Stage Scale:	< 4 inch				
Density, Unit:	see data				

APPLICATION EQUIPMENT

	A	B	C	D	E	F
Appl. Equipment:	backpack	backpack	backpack	backpack	backpack	backpack
Operating Pressure:	24	24	24	24	24	26
Nozzle Type:	flat fan	flat fan	flat fan	flat fan	flatfan	floodjet
Nozzle Size:	11002	11002	11002	11002	11002	TK2
Nozzle Spacing, Unit:	18 in	18 in	18 in	18 in	18 in	36 in
Nozzles/Row:	2	2	2	2	2	1
Band Width, Unit:						
Boom Length, Unit:	4.5 ft	4.5 ft	4.5 ft	4.5 ft	4.5 ft	
Boom Height, Unit:	15 in	15 in	15 in	15 in	15 in	12 in
Ground Speed, Unit:	3 mph	3 mph	3 mph	3 mph	3 mph	3 mph
Incorporation Equip.:						
Hours to Incorp.:						
Incorp. Depth, Unit:						
Carrier:	water	water	water	water	water	water
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA	15 GPA	15 GPA	15 GPA
Spray pH:						
Propellant:	CO2	CO2	CO2	CO2	CO2	CO2
Tank Mix (Y/N):	Y	Y	Y	Y	Y	Y

Trt No	Treatment Application Comment