

University of Georgia

Controlling glyphosate-resistant Palmer amaranth in conventional and strip tillage cotton.

Trial ID: C26-06

Study Dir.: Kichler, Culpepper

Location: Macon (paved rd)

Investigator: Stanley Culpepper

Reps: 4

Plots: 12 by 45 feet

Spray vol: 14.8 gal/ac

Mix size: 3 liters (min 2.778)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Form Rate	Form Unit	Rate Unit	Grow Stg	Appl Code	Amt to Measure	Product	Plot No. By Rep			
												1	2	3	4
1	Conventional No in crop herbicide								A			101	204	302	405
2	Conventional Prowl H20	3.8		L	2.5	PT/A	PRE	A		63.34 ml/mx		102	207	301	403
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B		34.84 ml/mx					
	Dual Magnum	7.62		L	16	OZ/A	3-5 leaf	B		25.34 ml/mx					
	Direx	4		L	32	OZ/A	layby	C		50.68 ml/mx					
	MSMA	6		L	2	LB A/A	layby	C		67.56 ml/mx					
	NIS			L	0.25	% V/V	layby	C		7.499 ml/mx					
3	Conventional Prowl H20	3.8		L	2.5	PT/A	PRE	A		63.34 ml/mx		103	202	303	408
	Reflex	2	2	L	16	OZ/A	PRE	A		25.34 ml/mx					
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B		34.84 ml/mx					
	Dual Magnum	7.62		L	16	OZ/A	3-5 leaf	B		25.34 ml/mx					
	Direx	4		L	32	OZ/A	layby	C		50.68 ml/mx					
	MSMA	6		L	2	LB A/A	layby	C		67.56 ml/mx					
	NIS			L	0.25	% V/V	layby	C		7.499 ml/mx					
4	Conventional Prowl H20	3.8		L	2.5	PT/A	PRE	A		63.34 ml/mx		104	203	307	407
	Cotoran	4	2	L	40	OZ/A	PRE	A		63.34 ml/mx					
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B		34.84 ml/mx					
	Dual Magnum	7.62		L	16	OZ/A	3-5 leaf	B		25.34 ml/mx					
	Direx	4		L	32	OZ/A	layby	C		50.68 ml/mx					
	MSMA	6		L	2	LB A/A	layby	C		67.56 ml/mx					
	NIS			L	0.25	% V/V	layby	C		7.499 ml/mx					
5	Conventional Prowl H20	3.8		L	2.5	PT/A	PRE	A		63.34 ml/mx		105	208	305	401
	Staple	3.2	2	L	1.7	OZ/A	PRE	A		2.692 ml/mx					
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B		34.84 ml/mx					
	Dual Magnum	7.62		L	16	OZ/A	3-5 leaf	B		25.34 ml/mx					
	Direx	4		L	32	OZ/A	layby	C		50.68 ml/mx					
	MSMA	6		L	2	LB A/A	layby	C		67.56 ml/mx					
	NIS			L	0.25	% V/V	layby	C		7.499 ml/mx					
6	Conventional Prowl H20	3.8		L	2.5	PT/A	PRE	A		63.34 ml/mx		106	206	308	404
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B		34.84 ml/mx					
	Staple	3.2		L	1.7	OZ/A	3-5 leaf	B		2.692 ml/mx					
	Direx	4		L	32	OZ/A	layby	C		50.68 ml/mx					
	MSMA	6		L	2	LB A/A	layby	C		67.56 ml/mx					
	NIS			L	0.25	% V/V	layby	C		7.499 ml/mx					
7	Conventional Prowl H20	3.8		L	2.5	PT/A	PRE	A		63.34 ml/mx		107	205	304	402
	Reflex	2	2	L	16	OZ/A	PRE	A		25.34 ml/mx					
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B		34.84 ml/mx					
	Staple	3.2		L	1.7	OZ/A	3-5 leaf	B		2.692 ml/mx					
	Direx	4		L	32	OZ/A	layby	C		50.68 ml/mx					
	MSMA	6		L	2	LB A/A	layby	C		67.56 ml/mx					
	NIS			L	0.25	% V/V	layby	C		7.499 ml/mx					

University of Georgia

Reps: 4

Plots: 12 by 45 feet

Spray vol: 14.8 gal/ac

Mix size: 3 liters (min 2.778)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep			
										1	2	3	4
8	Conventional									108	201	306	406
	Prowl H20	3.8		L	2.5	PT/A	PRE	A	63.34 ml/mx				
	Cotoran	4	2	L	40	OZ/A	PRE	A	63.34 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B	34.84 ml/mx				
	Staple	3.2		L	1.7	OZ/A	3-5 leaf	B	2.692 ml/mx				
	Direx	4		L	32	OZ/A	layby	C	50.68 ml/mx				
	MSMA	6		L	2	LB A/A	layby	C	67.56 ml/mx				
	NIS			L	0.25	% V/V	layby	C	7.499 ml/mx				
9	Strip Till (Wheat Cover)									109	209	310	413
	No in crop herbicide							A					
10	Strip Till (Wheat Cover)									110	213	314	411
	Prowl H20	3.8		L	2.5	PT/A	PRE	A	63.34 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B	34.84 ml/mx				
	Dual Magnum	7.62		L	16	OZ/A	3-5 leaf	B	25.34 ml/mx				
	Direx	4		L	32	OZ/A	layby	C	50.68 ml/mx				
	MSMA	6		L	2	LB A/A	layby	C	67.56 ml/mx				
	NIS			L	0.25	% V/V	layby	C	7.499 ml/mx				
11	Strip Till (Wheat Cover)									111	215	313	410
	Prowl H20	3.8		L	2.5	PT/A	PRE	A	63.34 ml/mx				
	Reflex	2	2	L	16	OZ/A	PRE	A	25.34 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B	34.84 ml/mx				
	Dual Magnum	7.62		L	16	OZ/A	3-5 leaf	B	25.34 ml/mx				
	Direx	4		L	32	OZ/A	layby	C	50.68 ml/mx				
	MSMA	6		L	2	LB A/A	layby	C	67.56 ml/mx				
	NIS			L	0.25	% V/V	layby	C	7.499 ml/mx				
12	Strip Till (Wheat Cover)									112	216	315	412
	Prowl H20	3.8		L	2.5	PT/A	PRE	A	63.34 ml/mx				
	Cotoran	4	2	L	40	OZ/A	PRE	A	63.34 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B	34.84 ml/mx				
	Dual Magnum	7.62		L	16	OZ/A	3-5 leaf	B	25.34 ml/mx				
	Direx	4		L	32	OZ/A	layby	C	50.68 ml/mx				
	MSMA	6		L	2	LB A/A	layby	C	67.56 ml/mx				
	NIS			L	0.25	% V/V	layby	C	7.499 ml/mx				
13	Strip Till (Wheat Cover)									113	211	309	416
	Prowl H20	3.8		L	2.5	PT/A	PRE	A	63.34 ml/mx				
	Staple	3.2	2	L	1.7	OZ/A	PRE	A	2.692 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B	34.84 ml/mx				
	Dual Magnum	7.62		L	16	OZ/A	3-5 leaf	B	25.34 ml/mx				
	Direx	4		L	32	OZ/A	layby	C	50.68 ml/mx				
	MSMA	6		L	2	LB A/A	layby	C	67.56 ml/mx				
	NIS			L	0.25	% V/V	layby	C	7.499 ml/mx				
14	Strip Till (Wheat Cover)									114	212	316	415
	Prowl H20	3.8		L	2.5	PT/A	PRE	A	63.34 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B	34.84 ml/mx				
	Staple	3.2		L	1.7	OZ/A	3-5 leaf	B	2.692 ml/mx				
	Direx	4		L	32	OZ/A	layby	C	50.68 ml/mx				
	MSMA	6		L	2	LB A/A	layby	C	67.56 ml/mx				
	NIS			L	0.25	% V/V	layby	C	7.499 ml/mx				
15	Strip Till (Wheat Cover)									115	210	311	414
	Prowl H20	3.8		L	2.5	PT/A	PRE	A	63.34 ml/mx				
	Reflex	2	2	L	16	OZ/A	PRE	A	25.34 ml/mx				
	Roundup WeatherMax	4.5		L	22	OZ/A	3-5 leaf	B	34.84 ml/mx				
	Staple	3.2		L	1.7	OZ/A	3-5 leaf	B	2.692 ml/mx				
	Direx	4		L	32	OZ/A	layby	C	50.68 ml/mx				
	MSMA	6		L	2	LB A/A	layby	C	67.56 ml/mx				
	NIS			L	0.25	% V/V	layby	C	7.499 ml/mx				

University of Georgia

Reps: 4 Plots: 12 by 45 feet
 Spray vol: 14.8 gal/ac Mix size: 3 liters (min 2.778)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep			
									1	2	3	4
16	Strip Till (Wheat Cover)								116	214	312	409
	Prowl H20	3.8	L		2.5 PT/A	PRE	A	63.34 ml/mx				
	Cotoran	4	2	L	40 OZ/A	PRE	A	63.34 ml/mx				
	Roundup WeatherMax	4.5		L	22 OZ/A	3-5 leaf	B	34.84 ml/mx				
	Staple	3.2		L	1.7 OZ/A	3-5 leaf	B	2.692 ml/mx				
	Direx	4		L	32 OZ/A	layby	C	50.68 ml/mx				
	MSMA	6		L	2 LB A/A	layby	C	67.56 ml/mx				
	NIS			L	0.25 % V/V	layby	C	7.499 ml/mx				

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
1,108.413	ml	Prowl H20	3.8	L	
609.693	ml	Roundup WeatherMax	4.5	L	
253.379	ml	Dual Magnum	7.62	L	
886.826	ml	Direx	4	L	
1,182.308	ml	MSMA	6	L	
131.236	ml	NIS		L	
126.689	ml	Reflex	2	L	L
316.724	ml	Cotoran	4	L	L
6.730	ml	Staple	3.2	L	L
20.191	ml	Staple	3.2	L	

- * 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 3 liters (mix size basis).
- * Product amount calculations increased 25 % for overage adjustment.
- * 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 3 liters.

Trial Comments

OBJECTIVE: Determine the impact of conservation tillage on our ability to control glyphosate-resistant Palmer amaranth.

VISUAL COTTON INJURY:

1. Roundup + Staple caused 10 to 15% chlorosis at 4 DAT. Cotton recovered quickly.
2. Little injury was noted from Dual mixtures.

PALMER POPULATION:

1. 75% fewer Palmer amaranth emerged in the strip till non-treated control plots as compared to the conventional non-treated control plots (counts made from twice per plot in a square yard and then averaged).

PALMER CONTROL (late-season):

1. Palmer control was greater in ALL strip tillage systems when compared to the respective herbicide program in conventional systems.
2. Within the conventional system, Prowl + Reflex fb Roundup + Dual Magnum or Staple fb Direx + MSMA were the most effective systems.
3. Within the strip tillage system.
 - A. Reflex, Cotoran or Staple PRE increased control no more than 13% compared to Prowl alone when Roundup plus Dual was applied POST. No difference in the PRE treatments was noted when Roundup + Staple was applied POST.
 - B. Roundup + Staple POST systems were the most effective systems, likely because the PRE herbicide treatments never contacted the soil.

SEE COTTON YIELD:

1. Ten row feet of two rows was hand harvested.

University of Georgia

2. Yields from strip-tillage systems were greater than the respective herbicide system in conventional tillage.
3. Within conventional tillage, Prowl + Reflex systems had the greatest yields.
4. Within strip-tillage, yields were similar with systems using Dual or Staple mixed with glyphosate POST.

GENERAL COMMENTS:

1. On May 4, 3 pt/A of Gramoxone Inteon + NIS was applied over the strip till area.
2. Residue samples from three locations from the conservation tillage plots.

Location 1 - 11,543 lbs/acre

Location 2 - 9,240 lbs/acre

Location 3 - 8,497 lbs/acre

Avg - 9760 lbs/acre

Assuming 100% DM.

University of Georgia

Controlling glyphosate-resistant Palmer amaranth in conventional and strip tillage cotton.

Trial ID: C26-06

Study Dir.: Kichler, Culpepper

Location: Macon (paved rd)

Investigator: Stanley Culpepper

Weed Code			AMAPA	AMAPA	AMAPA	AMAPA	AMAPA		
Crop Code		GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI		
Rating Data Type		injury	injury	control	control	control	control		
Rating Unit		%	%	%	%	%	%		
Rating Date		Jun-01-06	Jun-08-06	Jun-01-06	Jun-08-06	Jun-20-06	Jun-29-06	Jul-09-06	
Assessed By		SC	AD	SC	AD	SC	SC	SC	
Trt-Eval Interval		29 DA-A	36 DA-A	29 DA-A	36 DA-A	48 DA-A	57 DA-A	67 DA-A	
ARM Action Codes									
# Subsamples, Dec.									
Trt No.	Treatment Name	Rate							
		Rate Unit	1	2	3	4	5	6	7
1	Conventional No in crop herbicide		0 c	0 b	0 f	0 j	0 g	0 i	0 f
2	Conventional Prowl H20 2.5 PT/A Roundup WeatherMax 22 OZ/A Dual Magnum 16 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V		0 c	4 ab	37 e	21 i	25 f	53 g	25 e
3	Conventional Prowl H20 2.5 PT/A Reflex 16 OZ/A Roundup WeatherMax 22 OZ/A Dual Magnum 16 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V		1 c	0 b	87 a	83 de	75 b	77 de	77 b
4	Conventional Prowl H20 2.5 PT/A Cotoran 40 OZ/A Roundup WeatherMax 22 OZ/A Dual Magnum 16 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V		0 c	1 ab	68 b	48 g	38 e	58 g	36 d
5	Conventional Prowl H20 2.5 PT/A Staple 1.7 OZ/A Roundup WeatherMax 22 OZ/A Dual Magnum 16 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V		0 c	0 b	88 a	79 e	66 c	75 ef	74 b
6	Conventional Prowl H20 2.5 PT/A Roundup WeatherMax 22 OZ/A Staple 1.7 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V		14 ab	4 ab	61 c	51 g	38 e	53 g	30 de

University of Georgia

Weed Code			AMAPA	AMAPA	AMAPA	AMAPA	AMAPA			
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI			
Rating Data Type	injury	injury	control	control	control	control	control			
Rating Unit	%	%	%	%	%	%	%			
Rating Date	Jun-01-06	Jun-08-06	Jun-01-06	Jun-08-06	Jun-20-06	Jun-29-06	Jul-09-06			
Assessed By	SC	AD	SC	AD	SC	SC	SC			
Trt-Eval Interval	29 DA-A	36 DA-A	29 DA-A	36 DA-A	48 DA-A	57 DA-A	67 DA-A			
ARM Action Codes										
# Subsamples, Dec.										
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7
7	Conventional			15 a	3 ab	90 a	90 a-d	77 b	84 cd	89 a
	Prowl H20	2.5	PT/A							
	Reflex	16	OZ/A							
	Roundup WeatherMax	22	OZ/A							
	Staple	1.7	OZ/A							
	Direx	32	OZ/A							
	MSMA	2	LB A/A							
	NIS	0.25	% V/V							
8	Conventional			14 ab	3 ab	71 b	70 f	54 d	68 f	59 c
	Prowl H20	2.5	PT/A							
	Cotoran	40	OZ/A							
	Roundup WeatherMax	22	OZ/A							
	Staple	1.7	OZ/A							
	Direx	32	OZ/A							
	MSMA	2	LB A/A							
	NIS	0.25	% V/V							
9	Strip Till (Wheat Cover) No in crop herbicide			0 c	0 b	47 d	38 h	34 e	35 h	27 de
10	Strip Till (Wheat Cover)			0 c	0 b	90 a	86 cde	75 b	91 abc	91 a
	Prowl H20	2.5	PT/A							
	Roundup WeatherMax	22	OZ/A							
	Dual Magnum	16	OZ/A							
	Direx	32	OZ/A							
	MSMA	2	LB A/A							
	NIS	0.25	% V/V							
11	Strip Till (Wheat Cover)			0 c	4 ab	90 a	88 bcd	78 b	93 abc	92 a
	Prowl H20	2.5	PT/A							
	Reflex	16	OZ/A							
	Roundup WeatherMax	22	OZ/A							
	Dual Magnum	16	OZ/A							
	Direx	32	OZ/A							
	MSMA	2	LB A/A							
	NIS	0.25	% V/V							
12	Strip Till (Wheat Cover)			1 c	0 b	94 a	90 a-d	77 b	87 bc	87 a
	Prowl H20	2.5	PT/A							
	Cotoran	40	OZ/A							
	Roundup WeatherMax	22	OZ/A							
	Dual Magnum	16	OZ/A							
	Direx	32	OZ/A							
	MSMA	2	LB A/A							
	NIS	0.25	% V/V							
13	Strip Till (Wheat Cover)			0 c	5 ab	91 a	89 bcd	80 b	93 abc	88 a
	Prowl H20	2.5	PT/A							
	Staple	1.7	OZ/A							
	Roundup WeatherMax	22	OZ/A							
	Dual Magnum	16	OZ/A							
	Direx	32	OZ/A							
	MSMA	2	LB A/A							
	NIS	0.25	% V/V							

University of Georgia

Weed Code			AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	
Rating Data Type	injury	injury	control	control	control	control	control	
Rating Unit	%	%	%	%	%	%	%	
Rating Date	Jun-01-06	Jun-08-06	Jun-01-06	Jun-08-06	Jun-20-06	Jun-29-06	Jul-09-06	
Assessed By	SC	AD	SC	AD	SC	SC	SC	
Trt-Eval Interval	29 DA-A	36 DA-A	29 DA-A	36 DA-A	48 DA-A	57 DA-A	67 DA-A	
ARM Action Codes								
# Subsamples, Dec.								
Trt Treatment	Rate							
No. Name	Rate Unit	1	2	3	4	5	6	7
14 Strip Till (Wheat Cover)		10 b	5 ab	93 a	95 abc	90 a	96 ab	97 a
Prowl H20	2.5 PT/A							
Roundup WeatherMax	22 OZ/A							
Staple	1.7 OZ/A							
Direx	32 OZ/A							
MSMA	2 LB A/A							
NIS	0.25 % V/V							
15 Strip Till (Wheat Cover)		11 b	5 ab	93 a	96 ab	89 a	98 a	97 a
Prowl H20	2.5 PT/A							
Reflex	16 OZ/A							
Roundup WeatherMax	22 OZ/A							
Staple	1.7 OZ/A							
Direx	32 OZ/A							
MSMA	2 LB A/A							
NIS	0.25 % V/V							
16 Strip Till (Wheat Cover)		11 b	6 a	93 a	98 a	90 a	98 a	98 a
Prowl H20	2.5 PT/A							
Cotoran	40 OZ/A							
Roundup WeatherMax	22 OZ/A							
Staple	1.7 OZ/A							
Direx	32 OZ/A							
MSMA	2 LB A/A							
NIS	0.25 % V/V							
LSD (P=.05)		3.6	4.6	6.7	7.9	8.7	8.7	9.7
Standard Deviation		2.5	3.2	4.7	5.5	6.1	6.1	6.8
CV		52.56	132.65	6.27	7.89	9.88	8.45	10.19
Bartlett's X2		11.152	6.53	17.492	18.285	16.742	21.46	24.795
P(Bartlett's X2)		0.132	0.686	0.231	0.194	0.27	0.09	0.037*

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

University of Georgia

Weed Code	AMAPA	AMAPA	AMAPA	SEED YLD	SEED YLD			
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI			
Rating Data Type	control	control	# plants	YIELD	YIELD			
Rating Unit	%	%	sq yd	LB/10 ft	LB/A			
Rating Date	Jul-21-06	Sep-12-06	Nov-17-06	Oct-17-06	Oct-17-06			
Assessed By	AD	SC						
Trt-Eval Interval	79 DA-A	132 DA-A						
ARM Action Codes					TY1			
# Subsamples, Dec.					1			
Trt No.	Treatment Name	Rate	Rate Unit	8	9	10	11	12
1	Conventional No in crop herbicide			0 e	0 f	33 a	0 f	0.0 f
2	Conventional Prowl H20 2.5 PT/A Roundup WeatherMax 22 OZ/A Dual Magnum 16 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V			0 e	0 f		0 f	0.0 f
3	Conventional Prowl H20 2.5 PT/A Reflex 16 OZ/A Roundup WeatherMax 22 OZ/A Dual Magnum 16 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V			68 c	61 c		2 c	2501.1 c
4	Conventional Prowl H20 2.5 PT/A Cotoran 40 OZ/A Roundup WeatherMax 22 OZ/A Dual Magnum 16 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V			0 e	3 f		0 f	108.9 f
5	Conventional Prowl H20 2.5 PT/A Staple 1.7 OZ/A Roundup WeatherMax 22 OZ/A Dual Magnum 16 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V			25 d	30 d		1 d	1760.6 d
6	Conventional Prowl H20 2.5 PT/A Roundup WeatherMax 22 OZ/A Staple 1.7 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V			0 e	3 f		0 f	83.5 f
7	Conventional Prowl H20 2.5 PT/A Reflex 16 OZ/A Roundup WeatherMax 22 OZ/A Staple 1.7 OZ/A Direx 32 OZ/A MSMA 2 LB A/A NIS 0.25 % V/V			76 bc	62 c		2 c	2508.3 c

University of Georgia

Weed Code	AMAPA	AMAPA	AMAPA	SEED YLD	SEED YLD			
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI			
Rating Data Type	control	control	# plants	YIELD	YIELD			
Rating Unit	%	%	sq yd	LB/10 ft	LB/A			
Rating Date	Jul-21-06	Sep-12-06	Nov-17-06	Oct-17-06	Oct-17-06			
Assessed By	AD	SC						
Trt-Eval Interval	79 DA-A	132 DA-A						
ARM Action Codes					TY1			
# Subsamples, Dec.					1			
Trt No.	Treatment Name	Rate	Unit	8	9	10	11	12
8	Conventional			25 d	13 e		1 e	900.2 e
	Prowl H20	2.5	PT/A					
	Cotoran	40	OZ/A					
	Roundup WeatherMax	22	OZ/A					
	Staple	1.7	OZ/A					
	Direx	32	OZ/A					
	MSMA	2	LB A/A					
	NIS	0.25	% V/V					
9	Strip Till (Wheat Cover)			28 d	0 f	9 b	0 f	214.2 f
	No in crop herbicide							
10	Strip Till (Wheat Cover)			73 bc	60 c		2 bc	3081.9 bc
	Prowl H20	2.5	PT/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	16	OZ/A					
	Direx	32	OZ/A					
	MSMA	2	LB A/A					
	NIS	0.25	% V/V					
11	Strip Till (Wheat Cover)			81 ab	74 b		3 a	3862.3 a
	Prowl H20	2.5	PT/A					
	Reflex	16	OZ/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	16	OZ/A					
	Direx	32	OZ/A					
	MSMA	2	LB A/A					
	NIS	0.25	% V/V					
12	Strip Till (Wheat Cover)			69 bc	66 bc		2 ab	3582.8 ab
	Prowl H20	2.5	PT/A					
	Cotoran	40	OZ/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	16	OZ/A					
	Direx	32	OZ/A					
	MSMA	2	LB A/A					
	NIS	0.25	% V/V					
13	Strip Till (Wheat Cover)			81 ab	73 b		3 a	3757.1 a
	Prowl H20	2.5	PT/A					
	Staple	1.7	OZ/A					
	Roundup WeatherMax	22	OZ/A					
	Dual Magnum	16	OZ/A					
	Direx	32	OZ/A					
	MSMA	2	LB A/A					
	NIS	0.25	% V/V					
14	Strip Till (Wheat Cover)			92 a	85 a		3 a	3974.9 a
	Prowl H20	2.5	PT/A					
	Roundup WeatherMax	22	OZ/A					
	Staple	1.7	OZ/A					
	Direx	32	OZ/A					
	MSMA	2	LB A/A					
	NIS	0.25	% V/V					

University of Georgia

Weed Code	AMAPA	AMAPA	AMAPA	SEED YLD	SEED YLD
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI
Rating Data Type	control	control	# plants	YIELD	YIELD
Rating Unit	%	%	sq yd	LB/10 ft	LB/A
Rating Date	Jul-21-06	Sep-12-06	Nov-17-06	Oct-17-06	Oct-17-06
Assessed By	AD	SC			
Trt-Eval Interval	79 DA-A	132 DA-A			
ARM Action Codes					TY1
# Subsamples, Dec.					1
Trt Treatment					
No. Name	8	9	10	11	12
Rate Unit					
15 Strip Till (Wheat Cover)	92 a	88 a		3 ab	3709.9 ab
Prowl H20	2.5 PT/A				
Reflex	16 OZ/A				
Roundup WeatherMax	22 OZ/A				
Staple	1.7 OZ/A				
Direx	32 OZ/A				
MSMA	2 LB A/A				
NIS	0.25 % V/V				
16 Strip Till (Wheat Cover)	93 a	89 a		3 a	3927.7 a
Prowl H20	2.5 PT/A				
Cotoran	40 OZ/A				
Roundup WeatherMax	22 OZ/A				
Staple	1.7 OZ/A				
Direx	32 OZ/A				
MSMA	2 LB A/A				
NIS	0.25 % V/V				
LSD (P=.05)	11.4	9.0	11.9	0.4	615.77
Standard Deviation	8.0	6.3	5.3	0.3	430.89
CV	15.97	14.31	25.71	20.29	20.29
Bartlett's X2	4.597	13.825	5.253	30.917	30.918
P(Bartlett's X2)	0.949	0.312	0.022*	0.003*	0.003*

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

Column 12: TY1 = 1452.0*[11]

University of Georgia

Controlling glyphosate-resistant Palmer amaranth in conventional and strip tillage cotton.

Trial ID: C26-06

Study Dir.: Kichler, Culpepper

Location: Macon (paved rd)

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: Macon Co.

Trial Status: completed

State/Prov.: GA

Trial Reliability: excellent

Postal Code: _____

Initiation Date: May-03-06

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.	AMAPA	Palmer amaranth	

Crop 1: GOSHI cotton

Variety: ST 6565 BRflex

Planting Date: May-03-06

Planting Method: hill drop

Rate: 2 8 in.

Depth: _____

Perennial Age: _____

Row Spacing: 36 inch Spacing Within Row: _____ Seed Bed: flat

Soil Temperature: 86 F Soil Moisture: moist

Emergence Date: May-08-06

SITE AND DESIGN

Plot Width, Unit: 12 FT Plot Length, Unit: 45 FT Reps: 4

Site Type: on farm

Tillage Type: see plot plan

Study Design: SPLIT-PLOT

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

MAINTENANCE

Field Prep./Maintenance:

University of Georgia

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

SOIL DESCRIPTION

% Sand: 82 % OM: 2.0 Texture: loamy sand
 % Silt: 14 pH: 6.3 Soil Name: _____
 % Clay: 4 CEC: _____ Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	May-05-06		1	in			
2.	May-07-06		2.5	in			
3.	May-10-06		2	in			
4.	Jun-20-06		0.4	in			

Overall Moisture Conditions: dryland, very dry after POST applications

Closest Weather Station: _____ **Distance:** _____ **Unit:** _____

APPLICATION DESCRIPTION

	A	B	C
Application Date:	May-04-06	May-28-06	Jun-20-06
Time of Day:	9 am	11 am	7 pm
Application Method:	broadcast	broadcast	broadcast
Application Timing:	PRE	POST	Layby
Applic. Placement:	soil/cove	overtop	directed
Air Temp., Unit:	89 F	92 F	90 F
% Relative Humidity:	40	45	59
Wind Velocity, Unit:	3 mph	2 mph	2 mph
Dew Presence (Y/N):	n	n	n
Water Hardness:			
Soil Temp., Unit:	86 F	105 F	94 F
Soil Moisture:	fair	fair	fair
% Cloud Cover:	20	5	95

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GOSHI PRE	GOSHI POST	GOSHI layby
Stage Scale:	not up	3-5 leaf	10 leaf
Height, Unit:	0 inch	4 inch	9 inch

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	AMAPA PRE	AMAPA POST	AMAPA layby
Stage Scale:	not up	3 inch	up to 15"
Density, Unit:	see data	see data	see data

University of Georgia

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	backpack	backpack	backpack
Operating Pressure:	23	23	19
Nozzle Type:	flat fan	flat fan	flat fan
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	18 inch	18 inch	12 inch
Nozzles/Row:	2	2	3
Band Width, Unit:			
Boom Length, Unit:	4.5 feet	4.5 feet	2 feet
Boom Height, Unit:	15 inch	15 inch	12 inch
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