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**Cotton response to mixtures of Staple, Sequence, and glyphosate.  
(08/903)**

Trial ID: C35-08

Study Dir.: Stanley Culpepper

Location: Sunbelt Expo

Investigator: Stanley Culpepper

Reps: 3

Plots: 12 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 1.5 liters (min 1.1575)

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
1	Roundup PowerMax	4.5	L		22 OZ/A	3 lf	A	17.42 ml/mx	101	211	309
2	Touchdown Total	4.17	L		24 OZ/A	3 lf	A	19.0 ml/mx	102	212	303
3	Sequence (GBL6A20T99)	5.25	L		2.5 PT/A	3 lf	A	31.67 ml/mx	103	206	307
4	Roundup PowerMax	4.5	L		22 OZ/A	3 lf	A	17.42 ml/mx	104	207	304
	Dual Magnum	7.62	L		16 OZ/A	3 lf	A	12.67 ml/mx			
5	Touchdown Total	4.17	L		24 OZ/A	3 lf	A	19.0 ml/mx	105	209	305
	Dual Magnum	7.62	L		16 OZ/A	3 lf	A	12.67 ml/mx			
6	Sequence (GBL6A20T99)	5.25	L		2.5 PT/A	3 lf	A	31.67 ml/mx	106	213	306
	Staple LX	3.2	L		1.7 OZ/A	3 lf	A	1.346 ml/mx			
7	Roundup PowerMax	4.5	L		22 OZ/A	3 lf	A	17.42 ml/mx	107	208	313
	Dual Magnum	7.62	L		16 OZ/A	3 lf	A	12.67 ml/mx			
	Staple LX	3.2	L		1.7 OZ/A	3 lf	A	1.346 ml/mx			
8	Touchdown Total	4.17	L		24 OZ/A	3 lf	A	19.0 ml/mx	108	202	310
	Dual Magnum	7.62	L		16 OZ/A	3 lf	A	12.67 ml/mx			
	Staple LX	3.2	L		1.7 OZ/A	3 lf	A	1.346 ml/mx			
9	Roundup PowerMax	4.5	L		22 OZ/A	3 lf	A	17.42 ml/mx	109	210	311
	Staple LX	3.2	L		1.7 OZ/A	3 lf	A	1.346 ml/mx			
10	Roundup PowerMax	4.5	L		22 OZ/A	3 lf	A	17.42 ml/mx	110	201	312
	Staple LX	3.2	L		2.7 OZ/A	3 lf	A	2.138 ml/mx			
11	Touchdown Total	4.17	L		24 OZ/A	3 lf	A	19.0 ml/mx	111	204	301
	Staple LX	3.2	L		1.7 OZ/A	3 lf	A	1.346 ml/mx			
12	Touchdown Total	4.17	L		24 OZ/A	3 lf	A	19.0 ml/mx	112	205	302
	Dual Magnum	7.62	L		16 OZ/A	3 lf	A	12.67 ml/mx			
	Staple LX	3.2	L		1.7 OZ/A	3 lf	A	1.346 ml/mx			
13	Non-treated								113	203	308

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
108.874	ml	Roundup PowerMax	4.5	L	
118.771	ml	Touchdown Total	4.17	L	
79.172	ml	Sequence (GBL6A20T99)	5.25	L	
79.181	ml	Dual Magnum	7.62	L	
12.768	ml	Staple LX	3.2	L	

\* '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.

### Trial Comments

OBJECTIVE: Determine cotton response to Staple/Dual mixtures.

Visual Cotton Response:

1. Injury was at its greatest 4 d after treatment (DAT).
2. Roundup and Touchdown caused no injury.
3. Sequence and Roundup or Touchdown plus Dual Magnum mixtures caused less injury than normal (3% or less).

# University of Georgia

4. At 4 DAT, Roundup or Touchdown plus Staple injured cotton 9 to 12%.
5. At 4 DAT, all combinations of Staple and Dual caused 18 to 20% injury.
6. Cotton recovered rapidly.

#### Large Crabgrass Response:

1. All programs provided complete control of emerged plants.
2. By 32 DAT, residual from Staple was providing at least 20% control while all Dual programs were providing at least 35% control.

#### Pitted Morningglory Response:

1. Roundup provided fair control.
2. The addition of Dual did improve late-season control but all Staple systems provided good to excellent control.

#### Carpetweed:

1. All programs provided excellent control.

#### Tropical Spiderwort:

1. At 11 DAT, only systems including Staple provided greater than 70% control of emerged plants.
2. By 32 DAT, glyphosate alone or glyphosate plus Staple systems provided poor control. Programs including Dual had at least 25% better control than any program without Dual.

# University of Georgia

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Study Dir.: Stanley Culpepper

Location: Sunbelt Expo

Investigator: Stanley Culpepper

Weed Code		GOSHI	GOSHI	GOSHI	DIGSA	DIGSA	DIGSA	IPOLA
Crop Code		injury	injury	injury	control	control	control	control
Rating Data Type		%	%	%	%	%	%	%
Rating Unit								
Rating Date		Jun-05-08	Jun-12-08	Jun-18-08	Jun-12-08	Jun-18-08	Jul-03-08	Jun-12-08
Trt-Eval Interval		4 DA-A	11 DA-A	17 DA-A	11 DA-A	17 DA-A	32 DA-A	11 DA-A
Trt Treatment	Rate							
No. Name	Rate Unit	1	2	3	4	5	6	7
1 Roundup PowerMax	22 OZ/A	0 d	0 e	0 a	99 a	92 bc	50 e	65 c
2 Touchdown Total	24 OZ/A	0 d	0 e	0 a	99 a	89 c	50 e	67 bc
3 Sequence (GBL6A20T99)	2.5 PT/A	0 d	2 de	0 a	99 a	90 c	85 abc	75 ab
4 Roundup PowerMax	22 OZ/A	0 d	2 de	0 a	99 a	93 abc	85 abc	70 abc
Dual Magnum	16 OZ/A							
5 Touchdown Total	24 OZ/A	0 d	0 e	0 a	99 a	91 c	85 abc	70 abc
Dual Magnum	16 OZ/A							
6 Sequence (GBL6A20T99)	2.5 PT/A	18 a	11 a	0 a	99 a	96 abc	93 a	75 ab
Staple LX	1.7 OZ/A							
7 Roundup PowerMax	22 OZ/A	18 ab	9 abc	0 a	99 a	98 ab	95 a	73 abc
Dual Magnum	16 OZ/A							
Staple LX	1.7 OZ/A							
8 Touchdown Total	24 OZ/A	18 ab	12 a	0 a	99 a	94 abc	92 ab	75 ab
Dual Magnum	16 OZ/A							
Staple LX	1.7 OZ/A							
9 Roundup PowerMax	22 OZ/A	10 c	6 bcd	0 a	99 a	96 abc	73 cd	72 abc
Staple LX	1.7 OZ/A							
10 Roundup PowerMax	22 OZ/A	9 c	5 cde	0 a	99 a	95 abc	78 bcd	68 abc
Staple LX	2.7 OZ/A							
11 Touchdown Total	24 OZ/A	12 bc	5 cde	0 a	99 a	96 abc	70 d	76 a
Staple LX	1.7 OZ/A							
12 Touchdown Total	24 OZ/A	20 a	11 ab	0 a	99 a	99 a	92 ab	76 a
Dual Magnum	16 OZ/A							
Staple LX	1.7 OZ/A							
13 Non-treated		0 d	0 e	0 a	0 b	0 d	0 f	0 d
LSD (P=.05)		5.5	4.6	0.0	0.0	6.0	12.2	7.5
Standard Deviation		3.3	2.7	0.0	0.0	3.6	7.2	4.5
CV		40.56	57.38	0.0	0.0	4.12	9.91	6.73
Bartlett's X2		8.594	10.141	0.0	0.0	10.218	9.141	2.199
P(Bartlett's X2)		0.198	0.255	.	.	0.422	0.609	0.995

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

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Weed Code		IPOLA	IPOLA	MOLVE	MOLVE	COMBE	COMBE	COMBE		
Crop Code										
Rating Data Type		control	control	control	control	control	control	control		
Rating Unit		%	%	%	%	%	%	%		
Rating Date		Jun-18-08	Jul-03-08	Jun-12-08	Jun-18-08	Jun-12-08	Jun-18-08	Jul-03-08		
Trt-Eval Interval		17 DA-A	32 DA-A	11 DA-A	17 DA-A	11 DA-A	11 DA-A	32 DA-A		
Trt No.	Treatment Name	Rate	Unit	8	9	10	11	12	13	14
1	Roundup PowerMax	22	OZ/A	77 d	65 ef	99 a	95 a	62 d	77 f	42 b
2	Touchdown Total	24	OZ/A	78 d	63 f	99 a	91 a	63 d	79 ef	43 b
3	Sequence (GBL6A20T99)	2.5	PT/A	82 cd	78 cd	99 a	93 a	65 cd	82 def	82 a
4	Roundup PowerMax Dual Magnum	22 16	OZ/A OZ/A	86 bc	80 bcd	99 a	92 a	67 bcd	88 bcd	82 a
5	Touchdown Total Dual Magnum	24 16	OZ/A OZ/A	82 cd	77 de	99 a	91 a	62 d	84 c-f	82 a
6	Sequence (GBL6A20T99) Staple LX	2.5 1.7	PT/A OZ/A	92 ab	92 abc	99 a	96 a	73 abc	93 ab	80 a
7	Roundup PowerMax Dual Magnum Staple LX	22 16 1.7	OZ/A OZ/A OZ/A	89 b	90 a-d	99 a	96 a	72 abc	89 bcd	88 a
8	Touchdown Total Dual Magnum Staple LX	24 16 1.7	OZ/A OZ/A OZ/A	91 ab	95 a	99 a	93 a	75 ab	91 abc	87 a
9	Roundup PowerMax Staple LX	22 1.7	OZ/A OZ/A	88 bc	87 a-d	99 a	94 a	73 abc	84 c-f	48 b
10	Roundup PowerMax Staple LX	22 2.7	OZ/A OZ/A	90 b	87 a-d	99 a	95 a	72 abc	87 b-e	55 b
11	Touchdown Total Staple LX	24 1.7	OZ/A OZ/A	90 ab	90 a-d	99 a	99 a	78 a	91 abc	52 b
12	Touchdown Total Dual Magnum Staple LX	24 16 1.7	OZ/A OZ/A OZ/A	97 a	93 ab	99 a	96 a	78 a	97 a	90 a
13	Non-treated			0 e	0 g	0 b	0 b	0 e	0 g	0 c
LSD (P=.05)				6.1	11.8	0.0	8.5	7.5	7.2	15.1
Standard Deviation				3.6	7.0	0.0	5.0	4.4	4.3	8.9
CV				4.55	9.15	0.0	5.8	6.88	5.36	13.99
Bartlett's X2				6.139	9.759	0.0	9.03	5.885	6.427	8.328
P(Bartlett's X2)				0.803	0.462	.	0.529	0.881	0.843	0.597

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



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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: 88	% OM: 1.2	Texture: .	
% Silt: 12	pH: 6.0	Soil Name: _____	
% Clay: 0	CEC: _____	Fert. Level: _____	

### ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

### MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: irrigated

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

### APPLICATION DESCRIPTION

	A
Application Date:	Jun-01-08
Time of Day:	8:00 am
Application Method:	broadcast
Application Timing:	POST
Applic. Placement:	overtop
Air Temp., Unit:	78 F
% Relative Humidity:	72
Wind Velocity, Unit:	3 mph
Dew Presence (Y/N):	N
Water Hardness:	
Soil Temp., Unit:	84 F
Soil Moisture:	moist
% Cloud Cover:	0

### CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI A
Stage Scale:	3 leaf
Height, Unit:	4 inch

# University of Georgia

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	COMBE A
Stage Scale:	2 in
Density, Unit:	20 ydsq
Weed 2 Code, Stage:	DIGSA A
Stage Scale:	2 in
Density, Unit:	20 ydsq
Weed 3 Code, Stage:	IPOLA A
Stage Scale:	4 in
Density, Unit:	2 ydsq

## APPLICATION EQUIPMENT

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

Trt No	Treatment Application Comment