

University of Georgia

**RR Flex cotton response to Roundup, Roundup + Dual, or Roundup + Staple mixed
with insecticides.**

Trial ID: C40-06

Study Dir.: Culpepper, Roberts

Location: ABAC

Investigator: Stanley Culpepper

Reps: 3

Plots: 6 by 40 feet

Spray vol: 14.8 gal/ac

Mix size: 1.5 liters (min .92602)

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep		
									1	2	3
1	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	101	224	302
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
2	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	102	203	314
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
3	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	103	206	310
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
4	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	104	225	326
	Dimethoate		L	8	OZ/A	1-3	If A	6.334 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dimethoate		L	8	OZ/A	7-9	If B	6.334 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
5	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	105	216	321
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	Dimethoate		L	8	OZ/A	1-3	If A	6.334 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Dimethoate		L	8	OZ/A	7-9	If B	6.334 ml/mx			
6	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	106	217	312
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	Dimethoate		L	8	OZ/A	1-3	If A	6.334 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	Dimethoate		L	8	OZ/A	7-9	If B	6.334 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
7	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	107	210	305
	Orthene	97	DF	0.5	LB/A	1-3	If A	6.072 g/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Orthene	97	DF	0.5	LB/A	7-9	If B	6.072 g/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
8	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	108	218	316
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	Orthene	97	DF	0.5	LB/A	1-3	If A	6.072 g/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Orthene	97	DF	0.5	LB/A	7-9	If B	6.072 g/mx			
9	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	109	215	307
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	Orthene	97	DF	0.5	LB/A	1-3	If A	6.072 g/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	Orthene	97	DF	0.5	LB/A	7-9	If B	6.072 g/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			

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Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep		
									1	2	3
10	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	110	213	306
	Bidrin		L	6	OZ/A	1-3	If A	4.751 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Bidrin		L	6	OZ/A	7-9	If B	4.751 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
11	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	111	214	313
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	Bidrin		L	6	OZ/A	1-3	If A	4.751 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Bidrin		L	6	OZ/A	7-9	If B	4.751 ml/mx			
12	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	112	230	318
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	Bidrin		L	6	OZ/A	1-3	If A	4.751 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	Bidrin		L	6	OZ/A	7-9	If B	4.751 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
13	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	113	201	323
	Mustang Max		L	3.6	OZ/A	1-3	If A	2.851 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Mustang Max		L	3.6	OZ/A	7-9	If B	2.851 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
14	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	114	228	324
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	Mustang Max		L	3.6	OZ/A	1-3	If A	2.851 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Mustang Max		L	3.6	OZ/A	7-9	If B	2.851 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
15	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	115	227	325
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	Mustang Max		L	3.6	OZ/A	1-3	If A	2.851 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	Mustang Max		L	3.6	OZ/A	7-9	If B	2.851 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
16	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	116	208	311
	Vydate		L	17	OZ/A	1-3	If A	13.46 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Vydate		L	17	OZ/A	7-9	If B	13.46 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
17	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	117	211	328
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	Vydate		L	17	OZ/A	1-3	If A	13.46 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Vydate		L	17	OZ/A	7-9	If B	13.46 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			

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									1	2	3
18	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	118	202	303
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	Vydate		L	17	OZ/A	1-3	If A	13.46 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	Vydate		L	17	OZ/A	7-9	If B	13.46 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
19	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	119	204	315
	Diamond		L	9	OZ/A	1-3	If A	7.126 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Diamond		L	9	OZ/A	7-9	If B	7.126 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
20	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	120	223	330
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	Diamond		L	9	OZ/A	1-3	If A	7.126 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Diamond		L	9	OZ/A	7-9	If B	7.126 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
21	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	121	219	329
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	Diamond		L	9	OZ/A	1-3	If A	7.126 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	Diamond		L	9	OZ/A	7-9	If B	7.126 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
22	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	122	221	320
	Tri-Max		L	1.5	OZ/A	1-3	If A	1.188 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Tri-Max		L	1.5	OZ/A	7-9	If B	1.188 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
23	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	123	229	301
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	Tri-Max		L	1.5	OZ/A	1-3	If A	1.188 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Tri-Max		L	1.5	OZ/A	7-9	If B	1.188 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
24	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	124	209	319
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	Tri-Max		L	1.5	OZ/A	1-3	If A	1.188 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	Tri-Max		L	1.5	OZ/A	7-9	If B	1.188 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
25	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	125	226	304
	Tracer		L	2.1	OZ/A	1-3	If A	1.663 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Tracer		L	2.1	OZ/A	7-9	If B	1.663 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			

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									1	2	3
26	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	126	207	308
	Dual Magnum	7.62	L	1	PT/A	1-3	If A	12.67 ml/mx			
	Tracer		L	2.1	OZ/A	1-3	If A	1.663 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Tracer		L	2.1	OZ/A	7-9	If B	1.663 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
27	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	127	220	317
	Staple	3.2	L	1.7	OZ/A	1-3	If A	1.346 ml/mx			
	Tracer		L	2.1	OZ/A	1-3	If A	1.663 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Staple	3.2	L	1.7	OZ/A	7-9	If B	1.346 ml/mx			
	Tracer		L	2.1	OZ/A	7-9	If B	1.663 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
28	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	128	222	309
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	Pix		L	8	OZ/A	7-9	If B	6.334 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
29	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	129	205	322
	Dual Magnum	7.62	L	1	PT/A	7-9	If B	12.67 ml/mx			
	Pix		L	8	OZ/A	7-9	If B	6.334 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 ml/mx			
30	WMax	4.5	L	1	LB A/A	1-3	If A	22.52 ml/mx	130	212	327
	Staple	85	WP	0.8	OZ/A	7-9	If B	0.6072 g/mx			
	Pix		L	8	OZ/A	7-9	If B	6.334 ml/mx			
	WMax	4.5	L	1	LB A/A	7-9	If B	22.52 ml/mx			
	WMax	4.5	L	1	LB A/A	12-14	If C	22.52 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
2,533.514	ml	WMax	4.5	L	
300.855	ml	Dual Magnum	7.62	L	
30.287	ml	Staple	3.2	L	
47.509	ml	Dimethoate		L	
45.542	g	Orthene	97	DF	
35.631	ml	Bidrin		L	
21.379	ml	Mustang Max		L	
100.956	ml	Vydate		L	
53.447	ml	Diamond		L	
8.908	ml	Tri-Max		L	
12.471	ml	Tracer		L	
23.754	ml	Pix		L	
0.759	g	Staple	85	WP	

* '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.

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**RR Flex cotton response to Roundup, Roundup + Dual, or Roundup + Staple mixed
with insecticides.**

Trial ID: C40-06

Study Dir.: Culpepper, Roberts

Location: ABAC

Investigator: Stanley Culpepper

Trial Comments

OBJECTIVE: Determine impact of mixing insecticides with herbicides applied overtop of RR Flex cotton

VISUAL COTTON INJURY:

1. Visual injury ratings are primarily leaf burn (Dual mixtures) or leaf burn plus chlorosis (Staple mixtures).
2. When mixed with Roundup alone, only Dimethoate increased visual injury 6% at 2 d after the 2 leaf treatment. Cotton recovered very quickly. No other Roundup/Insecticide application caused more injury than Wmax alone.
3. Mixing Dual Magnum with WMax increased injury up to 8% compared to WMax applied alone.
4. Mixing Staple with WMax increased injury up to 17% compared to WMax applied alone.
5. When mixed with Roundup plus Dual Magnum, Diamond, Dimethoate, Mustang Max, and Tracer significantly increased injury as much as 11% when compared to Roundup plus Dual applied alone.
6. When mixed with WMax plus Staple, Dimethoate and Mustang Max increased injury after each application. After the second application, greater injury was also noted with the Diamond mixtures as compared to WMax plus Staple applied alone.

SEED COTTON YIELD:

1. Yield was not impacted by any herbicide system.

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Weed Code								Seed Yld	Seed Yld
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI
Rating Data Type	injury	injury	injury	injury	injury	injury	per plot	YIELD	
Rating Unit	%	%	%	%	%	%	wt/lb	LB/A	
Rating Date	May-26-06	May-29-06	Jun-03-06	Jun-16-06	Jun-23-06	Aug-10-06	Aug-11-06	Aug-11-06	
Assessed By	PR	SC	SC	SC	SC	SC			
Trt-Eval Interval	2 DA-A	5 DA-A	10 DA-A	7 DA-B	14 DA-B	45 DA-C			
ARM Action Codes									TY1
# Subsamples, Dec.									1
Trt Treatment									
No. Name Rate Unit	1	2	3	4	5	6	7	8	
30 WMax 1 LB A/A	0 g	0 h	2 ghi	5 bc	0 a	0 a	23 a	4213.2 a	
Staple 0.8 OZ/A									
Pix 8 OZ/A									
WMax 1 LB A/A									
WMax 1 LB A/A									
LSD (P=.05)	5.1	3.6	4.3	5.4	0.0	0.0	4.2	769.10	
Standard Deviation	3.1	2.2	2.6	3.3	0.0	0.0	2.6	470.97	
CV	43.48	23.53	61.09	94.7	0.0	0.0	11.61	11.62	
Bartlett's X2	19.24	12.889	13.381	18.176	0.0	0.0	33.041	33.039	
P(Bartlett's X2)	0.442	0.744	0.819	0.695	.	.	0.276	0.276	

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

Column 8: TY1 = 181.5*[7]

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

SOIL DESCRIPTION

% Sand: 90 % OM: 1.2 Texture: sandy loam
 % Silt: 8 pH: 6.3 Soil Name: _____
 % Clay: 2 CEC: _____ Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: _____

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A	B	C
Application Date:	May-24-06	Jun-09-06	Jun-26-06
Time of Day:	8:00 am	8:00 am	8:00 am
Application Method:	broadcast	broadcast	broadcast
Application Timing:	POST 1	POST 2	POST 3
Applic. Placement:	overtop	overtop	overtop
Air Temp., Unit:	76 F	76 F	81 F
% Relative Humidity:	68	54	55
Wind Velocity, Unit:	2 mph	1 mph	3 mph
Dew Presence (Y/N):	n	n	n
Water Hardness:			
Soil Temp., Unit:	76 F	78 F	77 F
Soil Moisture:	fair	moist	moist
% Cloud Cover:	0	0	0

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GOSHI POST 1	GOSHI POST 2	GOSHI POST 3
Stage Scale:	4 leaf	9 leaf	14 leaf
Height, Unit:	3.5 inch	12 inch	20 inch

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:			
Stage Scale:			
Density, Unit:			

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APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	backpack	backpack	backpack
Operating Pressure:	24	24	24
Nozzle Type:	flat fan	flat fan	flat fan
Nozzle Size:	11002	11002	11002
Nozzle Spacing, Unit:	18 inch	18 inch	18 inch
Nozzles/Row:	2	2	2
Band Width, Unit:			
Boom Length, Unit:	4.5 ft	4.5 ft	4.5 ft
Boom Height, Unit:	15 in	15 in	15 in
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