

# University of Georgia

## Fiber quality responses to glyphosate applications.

Trial ID: C38-03  
Location: RDC Pivot

Study Dir.: Culpeper, Bednarz, May  
Investigator: Stanley Culpeper

### GENERAL TRIAL INFORMATION

**Study Director:** Bednarz, Culpeper, May      **Title:** UGA  
**Affiliation:** University of Georgia  
**Postal Code:** 31794  
**Investigator:** Stanley Culpeper      **Title:** Ext. Weed Science  
**Affiliation:** University of Georgia  
**Postal Code:** 31794

### TRIAL LOCATION

**City:** TyTy      **Trial Status:** completed  
**State/Prov.:** GA      **Trial Reliability:** good  
**Postal Code:** 31794      **Initiation Date:** May-01-03  
**Country:** USA

**Conducted Under GLP (Y/N):** N

**Conducted Under GEP (Y/N):** N

**Crop 1:** GOSHI cotton      **Variety:** DP 555 B/RR  
**Planting Date:** May-09-02      **Planting Method:** conventional  
**Rate:** 3 seed/ft      **Depth:** 0.75 in  
**Row Spacing:** 36 inch      **Seed Bed:** bedded  
**Soil Temperature:** 68 F      **Soil Moisture:** fair      **Emergence Date:** May-06-03

### SITE AND DESIGN

**Plot Width, Unit:** 18 FT      **Plot Length, Unit:** 40 FT      **Reps:** 4  
**Site Type:** research station  
**Tillage Type:** conventional      **Study Design:** RANDOMIZED COMPLETE BLOCK

### SOIL DESCRIPTION

**% Sand:** 88      **% OM:** 1.1      **Texture:** sand  
**% Silt:** 10      **pH:** 5.9      **Soil Name:** Tifton sandy loam  
**% Clay:** 2

### APPLICATION DESCRIPTION

	A	B	C	D	E
<b>Application Date:</b>	May-03-03	May-10-03	May-20-03	Jun-08-03	Jun-16-03
<b>Time of Day:</b>	11 am	8 am	8 am	7 pm	4 pm
<b>Application Method:</b>	broadcast	broadcast	broadcast	broadcast	broadcast
<b>Application Timing:</b>	PRE	cot.	3 leaf	9 leaf	layby
<b>Applic. Placement:</b>	on soil	overtop	overtop	overtop	directed
<b>Air Temp., Unit:</b>	74 F	77 F	77 F	85 F	92 F
<b>% Relative Humidity:</b>	66	69	69	58	55
<b>Wind Velocity, Unit:</b>	2 mph	2 mph	3 mph	2 mph	3 mph
<b>Dew Presence (Y/N):</b>	n	n	n	n	n
<b>Soil Temp., Unit:</b>	72 F	74 F	74 F	88 F	94 F
<b>Soil Moisture:</b>	wet	moist	moist	fair	moist
<b>% Cloud Cover:</b>	100	100	100	0	20

### CROP STAGE AT EACH APPLICATION

	A	B	C	D
<b>Crop 1 Code, Stage:</b>	GOSHI PRE	GOSHI cot.	GOSHI 3 leaf	GOSHI 9 leaf
<b>Stage Scale:</b>	.	V0	V3	V9
<b>Height, Unit:</b>	0. .	1 inch	3.5 inch	15 inch
	E			
<b>Crop 1 Code, Stage:</b>	GOSHI layby			
<b>Stage Scale:</b>	V12			
<b>Height, Unit:</b>	21 inch			

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## APPLICATION EQUIPMENT

	A	B	C	D	E
<b>Appl. Equipment:</b>	backpack	backpack	backpack	backpack	backpack
<b>Operating Pressure:</b>	24	24	24	24	19
<b>Nozzle Type:</b>	flat fan	flat fan	flat fan	flat fan	flat fan
<b>Nozzle Size:</b>	11002	11002	11002	11002	11002
<b>Nozzle Spacing, Unit:</b>	18 inch	18 inch	18 inch	18 inch	12 inch
<b>Nozzles/Row:</b>	2	2	2	2	3
<b>Boom Length, Unit:</b>	4.5 feet	4.5 feet	4.5 feet	4.5 feet	24 inch
<b>Boom Height, Unit:</b>	15 inch	15 inch	15 inch	15 inch	15 inch
<b>Ground Speed, Unit:</b>	3 mph	3 mph	3 mph	3 mph	3 mph
<b>Carrier:</b>	water	water	water	water	water
<b>Spray Volume, Unit:</b>	14.8 GPA	14.8 GPA	14.8 GPA	14.8 GPA	14.8 GPA
<b>Propellant:</b>	CO2	CO2	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	Y	Y	Y	Y	Y

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Trial ID: C38-03

Study Dir.: Culpeper, Bednarz, May

Location: RDC Pivot

Investigator: Stanley Culpepper

Weed Code			GOSHI	GOSHI	node 5-9	node 5-9	nod10-14	nod10-14	nod15-19	
Crop Code			injury	injury	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	
Rating Data Type			percent	percent	boll	boll	boll	boll	boll	
Rating Unit					1st pos	2nd pos	1st pos	2nd pos	1st pos	
Rating Date			May-14-03	May-25-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03	
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7
1	Prowl	2	pt/a	0.0	0.0	3.0	1.3	2.7	1.1	1.9
	Cotoran	2	pt/a							
	Staple	0.8	oz/a							
	Staple	1.2	oz/a							
	NIS	0.25	% v/v							
	Direx	1	qt/a							
	MSMA	2.5	pt/a							
2	Prowl	2	pt/a	0.0	0.0	3.2	1.7	3.0	1.6	2.3
	Roundup WeatherMax	1.6	pt/a							
	Roundup WeatherMax	1.6	pt/a							
3	Prowl	2	pt/a	0.0	0.0	2.7	1.7	3.0	1.5	1.5
	Roundup WeatherMax	1.6	pt/a							
	Roundup WeatherMax	1.6	pt/a							
	Roundup WeatherMax	1.6	pt/a							
4	Roundup WeatherMax	1.6	pt/a	0.0	0.0	2.9	1.7	3.2	1.4	1.5
	Roundup WeatherMax	1.6	pt/a							
	Roundup WeatherMax	1.6	pt/a							
	Roundup WeatherMax	1.6	pt/a							
	Roundup WeatherMax	1.6	pt/a							
	LSD (P=.05)			0.00	0.00	0.52	0.96	0.58	1.09	1.26
	Standard Deviation			0.00	0.00	0.32	0.60	0.37	0.68	0.79
	CV			0.0	0.0	11.14	37.38	12.34	49.25	43.98
	Bartlett's X2			0.0	0.0	1.099	0.825	3.891	1.188	6.173
	P(Bartlett's X2)			.	.	0.777	0.844	0.273	0.756	0.104

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

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Weed Code		nod15-19	nod20-24	nod20-24					
Crop Code		GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI		
Rating Data Type		boll	boll	boll	node	total	seed/ylt		
Rating Unit		2nd pos	1st pos	2nd pos	1st boll	node	lb plot		
Rating Date		Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-16-03		
Trt No.	Treatment Name	Rate	Unit	8	9	10	11	12	13
1	Prowl	2	pt/a	0.9	0.5	0.1	5.6	19.9	33.7
	Cotoran	2	pt/a						
	Staple	0.8	oz/a						
	Staple	1.2	oz/a						
	NIS	0.25	% v/v						
	Direx	1	qt/a						
	MSMA	2.5	pt/a						
2	Prowl	2	pt/a	0.9	0.3	0.0	6.1	19.2	32.2
	Roundup WeatherMax	1.6	pt/a						
	Roundup WeatherMax	1.6	pt/a						
3	Prowl	2	pt/a	0.3	0.3	0.0	6.1	18.1	29.9
	Roundup WeatherMax	1.6	pt/a						
	Roundup WeatherMax	1.6	pt/a						
	Roundup WeatherMax	1.6	pt/a						
4	Roundup WeatherMax	1.6	pt/a	0.4	0.2	0.1	6.3	17.8	31.7
	Roundup WeatherMax	1.6	pt/a						
	Roundup WeatherMax	1.6	pt/a						
	Roundup WeatherMax	1.6	pt/a						
	LSD (P=.05)			0.75	0.47	0.09	0.53	2.84	3.40
	Standard Deviation			0.47	0.29	0.06	0.33	1.78	2.13
	CV			79.48	94.36	230.94	5.56	9.49	6.67
	Bartlett's X2			4.544	2.919	0.0	3.629	1.793	2.455
	P(Bartlett's X2)			0.208	0.404	1.00	0.304	0.616	0.484

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

### Trial Comments

OBJECTIVE: Determine cotton fiber response to aggressive glyphosate programs.

**Visual Injury:**

1) No visual injury was noted from topical applications.

**Plant Mapping Results:**

- 1) Treatments did not affect the cotton fruit set profile.
- 2) Treatments did not affect total number of nodes produced.
- 3) Treatments did not affect position of first fruiting branch setting fruit.

**Seed Cotton Yield:**

1) Treatments did not affect yield.

**Fiber Quality:**

1) Cotton has been sent to Mississippi for all fiber measurements.