

University of Georgia

Fiber quality responses to glyphosate applications.

Trial ID: C37-03
Location: Ponder farm

Study Dir.: Bednarz, May, Culpeper
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-02-03

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Crop 1: GOSHI cotton **Variety:** DP 555 B/RR
Planting Date: May-02-03 **Planting Method:** conventional
Rate: 3 seed/ft **Depth:** 0.75 in
Row Spacing: 36 inch **Seed Bed:** bedded
Emergence Date: May-07-03

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 100 FT **Reps:** 4
Site Type: research station
Tillage Type: conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 94 **% OM:** 1.2 **Texture:** sand
% Silt: 2 **pH:** 5.9 **Soil Name:** Tifton sandy loam
% Clay: 4

APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	May-03-03	May-10-03	May-21-03	Jun-08-03	Jun-16-03
Time of Day:	11 am	8 am	4 pm	7 pm	4 pm
Application Method:	broadcast	broadcast	broadcast	broadcast	broadcast
Application Timing:	PRE	cot.	3 leaf	9 leaf	layby
Applic. Placement:	on soil	overtop	overtop	overtop	directed
Air Temp., Unit:	74 F	77 F	80 F	85 F	92 F
% Relative Humidity:	66	69	52	58	55
Wind Velocity, Unit:	2 mph	2 mph	3 mph	2 mph	3 mph
Dew Presence (Y/N):	n	n	n	n	n
Soil Temp., Unit:	72 F	74 F	81 F	88 F	94 F
Soil Moisture:	wet	moist	moist	fair	moist
% Cloud Cover:	100	100	100	0	20

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	GOSHI PRE	GOSHI cot.	GOSHI 3 leaf	GOSHI 9 leaf
Stage Scale:	.	V0	V3	V8-V10
Height, Unit:	0. .	1 inch	3.5 inch	15 inch
	E			
Crop 1 Code, Stage:	GOSHI layby			
Stage Scale:	V10-V13			
Height, Unit:	19 inch			

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APPLICATION EQUIPMENT

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

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Weed Code			5-9	5-9	10-14	10-14	15-19			
Crop Code		GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI			
Rating Data Type		injury	injury	boll	boll	boll	boll			
Rating Unit		percent	percent	1st pos	2nd pos	1st pos	2nd pos			
Rating Date		May-14-03	May-25-03	Oct-03-03	Oct-03-03	Oct-03-03	Oct-03-03			
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7
1	Prowl	2	pt/a	0.0	0.0	2.7	1.4	2.9	1.2	1.8
	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	2.8	1.9	3.4	1.2	1.4
	Roundup WeatherMax	1.6	pt/a							
	Roundup WeatherMax	1.6	pt/a							
3	Prowl	2	pt/a	0.0	0.0	2.6	1.3	3.4	1.5	1.8
	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	2.7	1.1	3.2	0.8	1.4
	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	0.68	1.29	1.07	0.92	1.02
	Standard Deviation			0.00	0.00	0.43	0.81	0.67	0.57	0.64
	CV			0.0	0.0	16.01	57.74	20.94	50.44	40.43
	Bartlett's X2			0.0	0.0	0.699	5.517	8.391	1.154	5.405
	P(Bartlett's X2)			.	.	0.874	0.138	0.039*	0.764	0.144

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

University of Georgia

Weed Code		15-19	20-24	20-24	GOSHI	GOSHI	GOSHI		
Crop Code		GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI		
Rating Data Type		boll	boll	boll	node	total	seed yld		
Rating Unit		2nd pos	1st pos	2nd pos	1st boll	node	lb/plot		
Rating Date		Oct-03-03	Oct-03-03	Oct-03-03	Oct-03-03	Oct-03-03	Oct-15-03		
Trt No.	Treatment Name	Rate	Unit	8	9	10	11	12	13
1	Prowl	2	pt/a	0.4	0.4	0.1	5.0	20.9	44.8
	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	0.5	0.7	0.1	6.4	20.5	44.1
	Roundup WeatherMax	1.6	pt/a						
	Roundup WeatherMax	1.6	pt/a						
3	Prowl	2	pt/a	0.6	0.9	0.3	6.8	21.4	46.1
	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	0.3	0.1	6.6	19.4	44.6
	Roundup WeatherMax	1.6	pt/a						
	Roundup WeatherMax	1.6	pt/a						
	Roundup WeatherMax	1.6	pt/a						
LSD (P=.05)				0.45	1.20	0.39	2.67	3.27	6.50
Standard Deviation				0.28	0.75	0.24	1.67	2.05	4.06
CV				61.97	139.81	194.14	27.07	9.96	9.05
Bartlett's X2				1.739	4.072	4.399	8.268	5.593	4.524
P(Bartlett's X2)				0.628	0.254	0.221	0.041*	0.133	0.21

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 RESPONSE:

1) No injury was detected.

PLANT MAPPING (10 plants per plot):

- 1) Treatments had no impact throughout the cottonfruiting profile.
- 2) Treatments did not affect number of 1st fruiting position although there was a trend for higher fruit set for the more aggressive glyphosate programs.
- 3) The number of total nodes produced was not impacted.

SEEDCOTTON YIELD:

1) Seed cotton yields were not impacted by treatment.

COTTON FIBER RESULTS:

1) Seed cotton has been sent to Mississippi for all fiber quality measurements.