Cotton and weed response to Aim mixtures applied at preplant. Study Dir.: Stanley Culpepper Trial ID: C8-03 Location: Ponder farm (5139) Investigator: Stanley Culpepper GENERAL TRIAL INFORMATION Study Director: Stanley Culpepper Title: Ext. Weed Science Affiliation: University of Georgia Postal Code: 31794 **Investigator:** Stanley Culpepper Title: Ext. Weed Science Affiliation: University of Georgia Postal Code: 31794 TRIAL LOCATION City: TyTy Trial Status: completed Trial Reliability: State/Prov.: GA good Initiation Date: Postal Code: 31794 Apr-30-03 Country: USA Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N CROP AND WEED DESCRIPTION Weed Code Common Name Scientific Name 1. PANTE Texas panicum Crop 1: GOSHI cotton Variety: DP 555 B/RR Planting Date:May-01-03PlantingRate:3seed/ftDepth:0.7in Planting Method: conventional Row Spacing: 36 inch Spacing Within Row: 4 inch Seed Bed: bedded Soil Temperature: 80 F Soil Moisture: moist Emergence Date: May-07-03 SITE AND DESIGN Plot Width, Unit: 6 FT Plot Length, Unit: 25 FT Reps: 4 Site Type: research station Tillage Type: conventional Study Design: RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION% Sand: 94% OM: 1.2Texture: sand% Silt: 2pH: 5.5Soil Name: Tifton sandy loam% Clay: 44

Overall Moisture Conditions: wet

APPLICATION DESCRIPTION

	A		
Application Date:	Apr-30-03		
Time of Day:	9 am		
Application Method:	broadcast		
Application Timing:	Burndown		
Applic. Placement:	1 d prior		
Air Temp., Unit:	60 F		
<pre>% Relative Humidity:</pre>	68		
Wind Velocity, Unit:	2 mph		
Dew Presence (Y/N):	n		
Soil Temp., Unit:	74 F		
Soil Moisture:	moist		
<pre>% Cloud Cover:</pre>	60		

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI preplant
Stage Scale:	•
Height, Unit:	0

WEED STAGE AT EACH APPLICATION

	A		
Weed 1 Code, Stage:	PANTE prelant		
Stage Scale:	1-3 inch		
Density, Unit:	9 ydsq		

APPLICATION EQUIPMENT

	A		
Appl. Equipment:	backpack		
Operating Pressure:	22		
Nozzle Type:	flat fan		
Nozzle Size:	11002		
Nozzle Spacing, Unit:	18 inch		
Nozzles/Row:	4		
Boom Length, Unit:	4.5 feet		
Boom Height, Unit:	15 inch		
Ground Speed, Unit:	3 mph		
Carrier:	water		
Spray Volume, Unit:	14.8 GPA		
Propellant:	CO2		
Tank Mix (Y/N):	Y		

Cotton and weed response to Aim mixtures applied at preplant.									
Trial ID: C8-03 Study Dir.: Stanley Culpepper									
Location: Ponder farm	n (5139)		Invest	iqator: St	anley Cul	pepper			
Weed Code			GOSHI	GOSHI	GOSHI	GOSHI	PANTE	PANTE	PANTE
Crop Code			herbicid	weed com	weed	weed			
Rating Data Type			stunting	stunting	stunting	stunting	control	control	control
Rating Unit			percent	percent	percent	percent	percent	percent	percent
Rating Date			May-13-03	May-19-03	May-28-03	Jun-10-03	May-19-03	May-28-03	Jun-06-03
Trt-Eval Interval			19 DA-A	19 DA-A	23 DA-A	23 DA-A	19 DA-A	23 DA-A	23 DA-A
ARM Action Codes									
# Subsamples, Dec.									
Trt Treatment		Rate							
No. Name	Rate	Unit	1	2	3	4	5	6	7
1 Aim	0.0125	lb ai/a	0.0	27.0	14.0	0.0	17.5	100.0	100.0
COC	1	% v/v							
2 Aim	0.016	lb ai/a	0.0	27.5	15.3	0.0	15.5	100.0	100.0
COC	1	% v/v							
3 Aim	0.025	lb ai/a	0.0	10.3	7.0	0.0	36.3	100.0	100.0
COC	1	% v/v							
4 Aim	0.0125	lb ai/a	0.0	11.8	3.8	0.0	52.5	100.0	100.0
COC	1	% v/v							
Direx	0.75	lb ai/a							
5 Aim	0.016	lb ai/a	0.0	13.8	5.0	0.0	46.3	100.0	100.0
COC	1	% v/v							
Cotoran	0.75	Ib ai/a					100.0	400.0	400.0
6 Aim	0.0125	lb ai/a	0.0	0.5	0.0	0.0	100.0	100.0	100.0
	1	% V/V							
Roundup WeatherMax	(21.3	oz/a	0.0	20.0	47.0	0.0	0.0	100.0	400.0
	0.0405	lla a:/a	0.0	30.3	17.8	0.0	0.0	100.0	100.0
8 AIM	0.0125	ib al/a	15.0	33.0	14.3	0.0	13.0	100.0	100.0
CUU	1	% V/V							
	0.043		455	47.0	0.5	0.0	40.0	100.0	100.0
9 AIM	0.0125		15.5	17.3	8.5	0.0	46.3	100.0	100.0
COU	0.042	% V/V							
Staple	0.043	ib ai/a							
	0.75	id al/a	2.02	10.70	1 1 1	0.00	E 61	0.00	0.00
LSD (P=.05) Standard Doviation			2.93	12.70	4.11	0.00	2.01	0.00	0.00
			2.00	0.70	2.02	0.00	3.04 10 57	0.00	0.00
Cv Bartlatt's X2			0.006	40.01 21 594	29.00	0.0	10.07	0.0	0.0
$Dal u \in (1 S \land Z)$ D(Bartlett's X2)			0.000	21.004	0.009	0.0	2.420 0.876	0.0	0.0
			0.939	0.000	0.413		0.070	•	•

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

		-		
Weed Code			seed	seed
Crop Code			GOSHI	GOSHI
Rating Data Type			yield	yield
Rating Unit	lb/plot	lb/A		
Rating Date			Sep-24-03	Sep-24-03
Trt-Eval Interval			147 DA-A	147 DA-A
ARM Action Codes	5			TY1
# Subsamples, De	C.			1
Trt Treatment		Rate		
No. Name	Rate	Unit	8	9
1 Aim	0.0125	lb ai/a	8.4	2433.6
COC	1	% v/v		
2 Aim	0.016	lb ai/a	8.0	2319.6
COC	1	% v/v		
3 Aim	0.025	lb ai/a	8.0	2312.3
COC	1	% v/v		
4 Aim	0.0125	lb ai/a	9.2	2673.1
COC	1	% v/v		
Direx	0.75	lb ai/a		
5 Aim	0.016	lb ai/a	9.5	2769.0
COC	1	% v/v		
Cotoran	0.75	lb ai/a		
6 Aim	0.0125	lb ai/a	9.9	2880.8
COC	1	% v/v		
Roundup Wea	atherMax 21.3	oz/a		
7 Non-treated			7.4	2152.6
8 Aim	0.0125	lb ai/a	8.9	2572.9
COC	1	% v/v		
Staple	0.043	lb ai/a		
9 Aim	0.0125	lb ai/a	9.7	2814.0
COC	1	% v/v		
Staple	0.043	lb ai/a		
Cotoran	0.75	lb ai/a		
LSD (P=.05)			1.01	294.22
Standard Deviation	ı		0.69	201.60
CV			7.91	7.91
Bartlett's X2			10.266	10.266
P(Bartlett's X2)			0.247	0.247

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT) Column 9: TY1 = 290.4*[8]

Trial Comments

GENERAL COMMENTS: Treatments applied 1 d prior to planting cotton as the fit for Aim would be an application close to cotton planting as there should be no plant back restrictions. Roundup WeatherMax applied overtop of entire trial at the4-leaf stage of cotton on May 19. Caparol + MSMA was applied broadcast layby on June 13 over entire trial.

OBJECTIVE: Determine response of cotton to Aim treatments applied immediately prior to planting.

RESULTS:

- 1) At 6 days after cotton emergence, Aim treatments did not injure cotton.
- 2) At 6 days after cotton emergence, Staple applied prior to planting stunted cotton 15 to 17%.
- 3) By 12 days after emergence, early season weed competition from Texas panicum was causing stunting of cotton in many treatments.
- 4) As expected degree of stunting was correlated with Texas panicum control.
- 5) Only glyphosate treatments provided adequate control of panicum, thus these were the only treatments not observing plant stunting from weed competition.
- 6) The addition of Staple with Aim did not improve panicum control, thus early season competition was not lessened.
- 7) Adding Cotoran or Direx with Aim did improve panicum control (although control was still poor) and plant stunting was less with these combinations.
- 8) After the glyphosate application removed the panicum from the trial, cotton stunting from early season competition slowly disappeared.

Cotton Yield:

1. Yield was extremely interesting and was clearly a response to early season weed competition and not a crop response to the application of Aim. 2. Greatest numerical yield was noted with glyphosate plus Aim which is the only treatment that provided adequate early season control of Texas

panicum.

3. In plots where treatments obtained at least 46% control of panicum during early season, yields were similar to the glyphosate + Aim treatment. For treatments obtaining 36% or less panicum control, yields were reduced 11 to 20% when compared to the glyphosate + Aim treatment.

CONCLUSION:

1) Aim applied immediately prior to planting does not appear to pose a threat for cotton injury.

2) Probably should look at Aim as a PRE treatment mixed with glyphosate for the control of morningglory in strip till cotton.