University of Georgia

Flex cotton and weed response to Touchdown systems.

Trial ID: C10-06 Study Dir.: Stanley Culpepper
Location: Ponder (5151front) 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 Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep 1	2	3
1	Non-treated									101	202	306
2	Touchdown Total	4.17		L	24	OZ/A	3 lf	A	19.0 ml/mx	102	211	302
	Touchdown Total	4.17		L	24	OZ/A	8 lf	B	19.0 ml/mx			
3	Touchdown HiTech	5		SL	19.2	OZ/A	3 lf	A	15.2 ml/mx	103	206	301
	NIS			L	0.25	% V/V	3 lf	A	3.75 ml/mx			
	Touchdown Total	4.17		L	24	OZ/A	8 lf	B	19.0 ml/mx			
4	Sequence	5.25		EW	40	OZ/A	3 lf	A	31.67 ml/mx	104	207	310
	Touchdown Total	4.17		L	24	OZ/A	8 lf	B	19.0 ml/mx			
5	Roundup WeatherMax	4.5		L	22	OZ/A	3 lf	A	17.42 ml/mx	105	203	311
	Roundup WeatherMax	4.5		L	22	OZ/A	8 lf	B	17.42 ml/mx			
6	Touchdown Total	4.17		L	24	OZ/A	3 lf	A	19.0 ml/mx	106	204	303
	Touchdown HiTech	5		SL	19.2	OZ/A	8 lf	B	15.2 ml/mx			
	NIS			L	0.25	% V/V	8 lf	B	3.75 ml/mx			
7	Touchdown Total	4.17		L	24	OZ/A	3 lf	A	19.0 ml/mx	107	212	307
	Envoke	75		WDG	0.1	OZ/A	8 lf	B	.0759 g/mx			
	NIS			L	0.25	% V/V	8 lf	B	3.75 ml/mx			
8	Touchdown Total	4.17		L	24	OZ/A	3 lf	A	19.0 ml/mx	108	205	304
	Envoke	75		WDG	0.15	OZ/A	8 lf	B	0.1139 g/mx			
	NIS			L	0.25	% V/V	8 lf	B	3.75 ml/mx			
9	Touchdown Total	4.17		L	24	OZ/A	3 lf	A	19.0 ml/mx	109	201	308
	A15292			L	24	OZ/A	8 lf	B	19.0 ml/mx			
	NIS			L	0.25	% V/V	8 lf	B	3.75 ml/mx			
10	Touchdown Total	4.17		L	24	OZ/A	3 lf	A	19.0 ml/mx	110	208	305
	A15292			L	36	OZ/A	8 lf	B	28.51 ml/mx			
	NIS			L	0.25	% V/V	8 lf	B	3.75 ml/mx			
11	Touchdown Total	4.17		L	24	OZ/A	3 lf	A	19.0 ml/mx	111	209	312
	Sequence	5.25		EW	40	OZ/A	8 lf	B	31.67 ml/mx			
12	Touchdown Total	4.17		L	24	OZ/A	3 lf	A	19.0 ml/mx	112	210	309
	Touchdown Total	4.17		L	24	OZ/A	8 lf	B	19.0 ml/mx			
	Envoke	75		WDG	0.1	OZ/A	8 lf	B	.0759 g/mx			
	NIS			L	0.25	% V/V	8 lf	B	3.75 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
285.051	ml	Touchdown Total	4.17	L	
38.007	ml	Touchdown HiTech	5	SL	
32.809	ml	NIS		L	
79.181	ml	Sequence	5.25	EW	
43.550	ml	Roundup WeatherMax	4.5	L	
0.332	g	Envoke	75	WDG	
59.386	ml	A15292		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.
* 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 1.5 liters.

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Trial ID: C10-06 Study Dir.: Stanley Culpepper
Location: Ponder (5151front) Investigator: Stanley Culpepper

Trial Comments

OBJECTIVE: Compare several Touchdown/Envoke herbicide programs.

CROP RESPONSE:
1. Touchdown Total, Touchdown HiTech, and WeatherMax caused no injury with Sequence causing less than 5% injury when applied to 3 leaf cotton.
2. At 4 d after 8 leaf applications: glyphosate only mixtures caused less than 10% spotting; Envoke alone, A 15292, and Sequence caused 12 to 18% injury; Touchdown plus Envoke caused 30% injury.
3. By 13 d after 8 leaf applications: Injury was still greater than 10% for Envoke, Touchdown + Envoke, or A 15292 applications.

WEED RESPONSE:
Pitted morningglory:
1. Glyphosate only systems provided only fair to good control late in the season.
2. Programs including Envoke provided at least 90% control near harvest.

Texas panicum:
1. Sequential glyphosate programs provided excellent mid-season control; however, by late season control was only fair because of continued emergence.
2. Programs using a single glyphosate application followed by Envoke were the least effective programs.
3. The most effective program was glyphosate followed by Sequence which provided some residual activity late in the season.

Palmer amaranth:
1. Sequential glyphosate programs provided excellent control. Control was less in programs using a glyphosate application followed by Envoke.

Bristly starbur:
1. Good to excellent control was provided by all programs.

COTTON YIELD
1. All treatments had a similar early season weed control program; thus as expected, similar seed yields were noted.

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Flex cotton and weed response to Touchdown systems.

Trial ID: C10-06 Study Dir.: Stanley Culpepper
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Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5	6	7	8
Weed Code							IPOLA	IPOLA	PANTE	PANTE	AMAPA
Crop Code				GOSHI	GOSHI	GOSHI					
Rating Data Type				injury	injury	injury	control	control	control	control	control
Rating Unit				%	%	%	%	%	%	%	%
Rating Date				May-25-06	Jun-07-06	Jun-16-06	Jul-06-06	Aug-28-06	Jul-06-06	Aug-28-06	Jul-06-06
Assessed By				AD	AD	AD	AD	AD	AD	SC	AD
Trt-Eval Interval				5 DA-A	18 DA-A	27 DA-A	47 DA-A	100 DA-A	47 DA-A	100 DA-A	47 DA-A
ARM Action Codes											
# Subsamples, Dec.											
1	Non-treated			0 b	0 d	0 c	0 b	0 e	0 c	0 e	0 d
2	Touchdown Total	24	OZ/A	0 b	7 cd	3 bc	62 a	83 cd	92 a	74 bc	100 a
	Touchdown Total	24	OZ/A								
3	Touchdown HiTech	19.2	OZ/A	0 b	8 c	5 bc	67 a	85 bcd	91 a	82 ab	100 a
	NIS	0.25	% V/V								
	Touchdown Total	24	OZ/A								
4	Sequence	40	OZ/A	3 a	7 cd	2 c	73 a	84 cd	95 a	81 ab	100 a
	Touchdown Total	24	OZ/A								
5	Roundup WeatherMax	22	OZ/A	0 b	0 d	0 c	72 a	80 d	95 a	77 bc	100 a
	Roundup WeatherMax	22	OZ/A								
6	Touchdown Total	24	OZ/A	0 b	8 c	6 bc	78 a	85 bcd	94 a	75 bc	100 a
	Touchdown HiTech	19.2	OZ/A								
	NIS	0.25	% V/V								
7	Touchdown Total	24	OZ/A	0 b	13 bc	12 ab	85 a	93 ab	75 b	63 cd	87 c
	Envoke	0.1	OZ/A								
	NIS	0.25	% V/V								
8	Touchdown Total	24	OZ/A	0 b	13 bc	10 ab	65 a	97 a	76 b	58 d	93 b
	Envoke	0.15	OZ/A								
	NIS	0.25	% V/V								
9	Touchdown Total	24	OZ/A	0 b	13 bc	12 ab	75 a	97 a	94 a	82 ab	100 a
	A15292	24	OZ/A								
	NIS	0.25	% V/V								
10	Touchdown Total	24	OZ/A	0 b	18 b	12 ab	77 a	98 a	98 a	79 bc	100 a
	A15292	36	OZ/A								
	NIS	0.25	% V/V								
11	Touchdown Total	24	OZ/A	0 b	17 b	7 bc	79 a	91 abc	100 a	96 a	100 a
	Sequence	40	OZ/A								
12	Touchdown Total	24	OZ/A	0 b	30 a	17 a	82 a	96 a	93 a	80 abc	100 a
	Touchdown Total	24	OZ/A								
	Envoke	0.1	OZ/A								
	NIS	0.25	% V/V								
LSD (P=.05)				2.8	7.2	7.4	27.1	8.0	10.6	14.9	1.9
Standard Deviation				1.7	4.2	4.4	16.0	4.7	6.2	8.8	1.1
CV				600.0	37.7	61.92	23.57	5.75	7.48	12.49	1.27
Bartlett's X2				0.0	6.655	8.373	5.458	20.542	15.624	10.488	3.976
P(Bartlett's X2)				.	0.673	0.301	0.859	0.025*	0.111	0.399	0.137

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

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Trt No.	Treatment Name	Rate	Rate Unit	9	10	11	12	13	14
Weed Code				AMAPA	ACHNI	ACHNI	ACHNI	Plot Yld	Seed Yld
Crop Code								GOSHI	GOSHI
Rating Data Type				control	control	control	control	wt	yield
Rating Unit				%	%	%	%	lb	LB/A
Rating Date				Aug-28-06	Jun-16-06	Jul-06-06	Aug-28-06	Sep-05-06	Sep-05-06
Assessed By				SC	AD	AD	SC		
Trt-Eval Interval				100 DA-A	27 DA-A	47 DA-A	100 DA-A	108 DA-A	108 DA-A
ARM Action Codes									TY1
# Subsamples, Dec.									1
1	Non-treated			0 e	0 b	0 b	0 b	0 b	0.0 b
2	Touchdown Total	24	OZ/A	96 ab	100 a	98 a	89 a	9 a	2706.5 a
	Touchdown Total	24	OZ/A						
3	Touchdown HiTech	19.2	OZ/A	93 b	100 a	100 a	92 a	9 a	2687.2 a
	NIS	0.25	% V/V						
	Touchdown Total	24	OZ/A						
4	Sequence	40	OZ/A	95 ab	100 a	100 a	95 a	9 a	2698.8 a
	Touchdown Total	24	OZ/A						
5	Roundup WeatherMax	22	OZ/A	98 a	100 a	98 a	94 a	10 a	2865.3 a
	Roundup WeatherMax	22	OZ/A						
6	Touchdown Total	24	OZ/A	96 ab	100 a	100 a	88 a	9 a	2671.7 a
	Touchdown HiTech	19.2	OZ/A						
	NIS	0.25	% V/V						
7	Touchdown Total	24	OZ/A	81 d	100 a	97 a	95 a	9 a	2673.6 a
	Envoke	0.1	OZ/A						
	NIS	0.25	% V/V						
8	Touchdown Total	24	OZ/A	89 c	100 a	100 a	95 a	9 a	2546.8 a
	Envoke	0.15	OZ/A						
	NIS	0.25	% V/V						
9	Touchdown Total	24	OZ/A	95 ab	100 a	100 a	92 a	9 a	2551.6 a
	A15292	24	OZ/A						
	NIS	0.25	% V/V						
10	Touchdown Total	24	OZ/A	95 ab	100 a	100 a	96 a	10 a	2824.6 a
	A15292	36	OZ/A						
	NIS	0.25	% V/V						
11	Touchdown Total	24	OZ/A	97 ab	100 a	100 a	97 a	10 a	2902.1 a
	Sequence	40	OZ/A						
12	Touchdown Total	24	OZ/A	96 ab	100 a	100 a	96 a	9 a	2724.0 a
	Touchdown Total	24	OZ/A						
	Envoke	0.1	OZ/A						
	NIS	0.25	% V/V						
LSD (P=.05)				3.5	0.0	3.2	8.0	1.7	508.12
Standard Deviation				2.1	0.0	1.9	4.7	1.0	300.05
CV				2.42	0.0	2.06	5.48	12.06	12.06
Bartlett's X2				3.814	0.0	1.337	6.036	5.827	5.827
P(Bartlett's X2)				0.874	.	0.513	0.643	0.83	0.83

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

Column 14: TY1 = 290.4*[C13]

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Location: Ponder (5151front) Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Postal Code: 31794

Investigator: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Postal Code: 31794

TRIAL LOCATION

City: TyTy **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** good
Postal Code: 31794 **Initiation Date:** Apr-24-06
Country: USA **Planned Completion Date:** _____
E-Longitude of LL Corner °: _____ **N-Latitude of LL Corner °:** _____
Altitude of LL Corner: _____ **Unit:** _____ **Angle y-axis to North °:** _____
Directions:

COOPERATOR/LANDOWNER

Cooperator: _____ **Country:** _____
Org: _____ **Phone No:** _____
Address 1: _____ **Fax No:** _____
Address 2: _____
City: _____
State/Prov: _____
Postal Code: _____

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N
Guidelines: _____ **Guideline Description:** _____

Objective:

Conclusions:

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	IPOLA	pitted morningglory	
2.	PANTE	Texas panicum	
3.	AMAPA	Palmer amaranth	
4.	ACHNI	bristly starbur	

Crop 1: GOSHI cotton **Variety:** ST6565 Flex BG2
Planting Date: Apr-24-06 **Planting Method:** hill drop
Rate: 2 8 inch **Depth:** 0.5 in **Perennial Age:** ____ _____
Row Spacing: 36 inch **Spacing Within Row:** ____ _____ **Seed Bed:** bedded
Soil Temperature: 80 F **Soil Moisture:** moist **Emergence Date:** Apr-30-06

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Site Type: Ponder research farm
Tillage Type: Strip tillage **Study Design:** RANDOMIZED COMPLETE BLOCK

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

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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: 94 **% OM:** 1.3 **Texture:** Loamy sand
% Silt: 2 **pH:** 6.4 **Soil Name:** _____
% Clay: 4 **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	B
Application Date:	May-20-06	Jun-03-06
Time of Day:	8 am	7 pm
Application Method:	broadcast	broadcast
Application Timing:	3 leaf	8 leaf
Applic. Placement:	overtop	overtop
Air Temp., Unit:	73 F	86 F
% Relative Humidity:	67	36
Wind Velocity, Unit:	5 mph	3 mph
Dew Presence (Y/N):	y	n
Water Hardness:		
Soil Temp., Unit:	69 F	86 F
Soil Moisture:	moist	moist
% Cloud Cover:	0	5

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GOSHI 3 leaf	GOSHI 8 leaf
Stage Scale:	2-3 leaf	8 leaf
Height, Unit:	3.5 inch	14 inch

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WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	IPOLA 3 leaf	IPOLA 8 leaf
Stage Scale:	2-5 inch	< 5 inch
Density, Unit:	4 ydsq	4 ydsq
Weed 2 Code, Stage:	PANTE 3 leaf	PANTE 8 leaf
Stage Scale:	2-6 inch	< 2 inch
Density, Unit:	8 ydsq	8 ydsq
Weed 3 Code, Stage:	AMAPA 3 leaf	AMAPA 8 leaf
Stage Scale:	1-4 inch	< 3 inch
Density, Unit:	2 ydsq	2 ydsq
Weed 4 Code, Stage:	ACHNI 3 leaf	ACHNI 8 leaf
Stage Scale:	1-3 inch	< 2 inch
Density, Unit:	2 ydsq	2 ydsq

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	backpack	backpack
Operating Pressure:	23	23
Nozzle Type:	flat fan	flat fan
Nozzle Size:	11002	11002
Nozzle Spacing, Unit:	18 inch	18 inch
Nozzles/Row:	2	2
Band Width, Unit:		
Boom Length, Unit:	4.5 feet	4.5 feet
Boom Height, Unit:	15 inch	15 inch
Ground Speed, Unit:	3 mph	3 mph
Incorporation Equip.:		
Hours to Incorp.:		
Incorp. Depth, Unit:		
Carrier:	water	water
Spray Volume, Unit:	14.8 GPA	14.8 GPA
Spray pH:		
Propellant:	CO2	CO2
Tank Mix (Y/N):	Y	Y

Trt No	Treatment Application Comment