

# University of Georgia

## Liberty + Staple mixtures overtop of WRF cotton.

Trial ID: C36-14

Study Dir.: Stanley Culpepper

Location: Ponder Farm

Investigator: Stanley Culpepper

Use 1.5 liters(s) per treatment mixture to spray 14.8 gal/ac  
Plots: 6 by 30 feet

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No.	By Rep	1	2	3	4
1	Liberty	2.34	L	29	oz/a	POST 1	A	22.96 ml/mx	101	202	301	403		
	Roundup WMAX	4.5	L	32	oz/a	POST 2	B	25.34 ml/mx						
	Dual Magnum	7.64	L	16	oz/a	POST 2	B	12.67 ml/mx						
2	Liberty	2.34	L	29	oz/a	POST 1	A	22.96 ml/mx	102	206	303	401		
	Staple	3.2	L	2	oz/a	POST 1	A	1.583 ml/mx						
	Roundup WMAX	4.5	L	32	oz/a	POST 2	B	25.34 ml/mx						
	Dual Magnum	7.64	L	16	oz/a	POST 2	B	12.67 ml/mx						
3	Liberty	2.34	L	36	oz/a	POST 1	A	28.5 ml/mx	103	201	304	405		
	Roundup WMAX	4.5	L	32	oz/a	POST 2	B	25.34 ml/mx						
	Dual Magnum	7.64	L	16	oz/a	POST 2	B	12.67 ml/mx						
4	Liberty	2.34	L	36	oz/a	POST 1	A	28.5 ml/mx	104	205	302	406		
	Staple	3.2	L	2	oz/a	POST 1	A	1.583 ml/mx						
	Roundup WMAX	4.5	L	32	oz/a	POST 2	B	25.34 ml/mx						
	Dual Magnum	7.64	L	16	oz/a	POST 2	B	12.67 ml/mx						
5	Roundup WMAX	4.5	L	32	oz/a	POST 1	A	25.34 ml/mx	105	203	305	404		
	Staple	3.2	L	2	oz/a	POST 1	A	1.583 ml/mx						
	Roundup WMAX	4.5	L	32	oz/a	POST 2	B	25.34 ml/mx						
	Dual Magnum	7.64	L	16	oz/a	POST 2	B	12.67 ml/mx						
6	Roundup WMAX	4.5	L	32	oz/a	POST 1	A	25.34 ml/mx	106	204	306	402		
	Roundup WMAX	4.5	L	32	oz/a	POST 2	B	25.34 ml/mx						

Sort Order: Treatment

### Trial Comments

**OBJECTIVE:** Evaluate Liberty + Staple over Widestrike Cotton.**VISUAL INJURY:**

- At 3 DAT: Injury ranged from 16 to 20% with Liberty alone or mixed with Staple; Roundup + Staple caused 13% injury.
- At 6 DAT: Injury ranged from 6 to 15% with Liberty alone or mixed with Staple; Staple mixed with Liberty was more injurious than Liberty alone. Roundup + Staple caused 9% injury.
- Roundup plus Dual applied POST 2 caused 11 to 14% damage but recovered quickly.

**PLANT HEIGHTS:**

- Plant heights were taken twice during the season.
- At 11 d after POST 1, no height differences were noted.
- Late in the season, all Liberty + Staple or Roundup + Staple systems had heights similar to the Roundup only control. of interest, the two Liberty only POST 1 systems had cotton heights slightly taller than the control.

**SEED COTTON YIELDS:**

- Cotton yields were high and not influenced by treatment.

**GENERAL COMMENTS:**

- 5/6/14: PRE application made with 1.5 pt Roundup + 12 oz Direx + 12 oz Reflex.
- 7/2/14: layby application made with 1.5 pt/A Roundup + 1.5 pt/A Direx.
- Study maintained weed free.

# University of Georgia

## Liberty + Staple mixtures overtop of WRF cotton.

Trial ID: C36-14  
Location: Ponder Farm

Study Dir.: Stanley Culpepper  
Investigator: Stanley Culpepper

Weed Code		GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	AVG20PLA	AVG10PLA	SEED COT
Crop Code		GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI
Rating Data Type		INJURY	INJURY	INJURY	INJURY	INJURY	HEIGHTS	HEIGHTS	YIELD
Rating Unit		%	%	%	%	%	CM	CM	LB/A
Rating Date		5/30/2014	6/2/2014	6/10/2014	6/23/2014	6/30/2014	6/6/2014	9/22/2014	9/22/2014
Crop Stage							AVERAGE	AVERAGE	
Crop Stage Scale									
Assessed By		SC							
ARM Action Codes							T1	T2	TY3
# Subsamples, Dec.							2	2	1

Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	27	40	44								
1	Liberty	29	oz/a	16.3	ab	6.0	c	0.0	b	13.8	a	0.0	a	21.89	a	110.30	ab	3303.3	a
	Roundup WMAX	32	oz/a																
	Dual Magnum	16	oz/a																
2	Liberty	29	oz/a	18.0	a	10.5	b	0.0	b	12.5	a	0.0	a	22.64	a	103.25	bc	3291.7	a
	Staple	2	oz/a																
	Roundup WMAX	32	oz/a																
	Dual Magnum	16	oz/a																
3	Liberty	36	oz/a	15.8	ab	7.5	bc	0.0	b	11.3	a	0.0	a	22.40	a	114.18	a	3194.4	a
	Roundup WMAX	32	oz/a																
	Dual Magnum	16	oz/a																
4	Liberty	36	oz/a	20.3	a	15.3	a	3.8	a	13.8	a	0.0	a	21.60	a	105.40	bc	3129.1	a
	Staple	2	oz/a																
	Roundup WMAX	32	oz/a																
	Dual Magnum	16	oz/a																
5	Roundup WMAX	32	oz/a	12.8	b	8.8	bc	0.0	b	13.8	a	0.0	a	22.01	a	100.90	c	3124.7	a
	Staple	2	oz/a																
	Roundup WMAX	32	oz/a																
	Dual Magnum	16	oz/a																
6	Roundup WMAX	32	oz/a	0.0	c	0.0	d	0.0	b	0.0	b	0.0	a	23.63	a	102.08	c	3188.6	a
	Roundup WMAX	32	oz/a																
LSD (P=.05)				5.02	3.12	1.54	3.18	0.00	1.883	7.917	282.98								
Standard Deviation				3.33	2.07	1.02	2.11	0.00	1.249	5.254	187.80								
CV				24.1	25.92	163.3	19.46	0.0	5.59	4.96	5.86								
Bartlett's X2				8.642	4.765	0.0	0.096	0.0	1.457	1.901	2.433								
P(Bartlett's X2)				0.071	0.312	.	0.999	.	0.918	0.863	0.786								
Replicate F				1.150	0.853	1.000	2.500	0.000	0.807	2.879	9.084								
Replicate Prob(F)				0.3612	0.4867	0.4199	0.0991	1.0000	0.5095	0.0708	0.0011								
Treatment F				18.762	23.744	9.000	26.250	0.000	1.333	3.903	0.676								
Treatment Prob(F)				0.0001	0.0001	0.0004	0.0001	1.0000	0.3034	0.0182	0.6484								

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

# University of Georgia

**Liberty + Staple mixtures overtop of WRF cotton.**

Trial ID: C36-14  
Location: Ponder Farm

Study Dir.: Stanley Culpepper  
Investigator: Stanley Culpepper

## GENERAL TRIAL INFORMATION

<b>Study Director:</b> Stanley Culpepper <b>Affiliation:</b> University of Georgia <b>Postal Code:</b> 31794 <b>Investigator:</b> Stanley Culpepper <b>Affiliation:</b> University of Georgia <b>Postal Code:</b> 31794	<b>Title:</b> Ext. Weed Science  <b>Title:</b> Ext. Weed Science
--	--

## TRIAL LOCATION

<b>City:</b> Tyty <b>State/Prov.:</b> GA <b>Postal Code:</b> 31795 <b>Country:</b> USA	<b>Trial Status:</b> COMPLETED <b>Trial Reliability:</b> EXCELLENT <b>Initiation Date:</b> 5/6/2014
---	---

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

<b>Crop 1:</b> GOSHI COTTON, SHORT STAPLE <b>Planting Date:</b> 5/6/2014 <b>Rate:</b> 2 SEED/8.25" <b>Row Spacing:</b> 36 IN <b>Soil Temperature:</b> 87 F	<b>Variety:</b> PHY 499 WRF <b>Planting Method:</b> HILL DROP <b>Depth:</b> 0.75 IN <b>Spacing Within Row:</b> 8.25 IN <b>Soil Moisture:</b> MOIST <b>Seed Bed:</b> strip tillage <b>Emergence Date:</b> 5/10/2014
--	--

## SITE AND DESIGN

<b>Plot Width, Unit:</b> 6 FT <b>Site Type:</b> UGA Ponder Research Farm <b>Tillage Type:</b> CONVENTIONAL	<b>Plot Length, Unit:</b> 30 FT <b>Study Design:</b> RANDOMIZED COMPLETE BLOCK	<b>Reps:</b> 4
--	---	----------------

## SOIL DESCRIPTION

<b>% Sand:</b> 83.6 <b>% Silt:</b> 14 <b>% Clay:</b> 2.4	<b>% OM:</b> 0.64 <b>pH:</b> 5.8 <b>CEC:</b> 3.4	<b>Texture:</b> LOAMY SAND
--	--	----------------------------

**Overall Moisture Conditions:** MOIST

**Closest Weather Station:** [www.griffin.uga.edu/aemn/](http://www.griffin.uga.edu/aemn/)

**Distance:** 250 **Unit:** yd

## APPLICATION DESCRIPTION

	A	B
<b>Application Date:</b>	5/27/2014	6/18/2014
<b>Time of Day:</b>	10:00am	5:30pm
<b>Application Method:</b>	BROADCAST	BROADCAST
<b>Application Timing:</b>	POST 1	POST 2
<b>Applic. Placement:</b>	OVERTOP	OVERTOP
<b>Air Temp., Unit:</b>	85 F	97 F
<b>% Relative Humidity:</b>	75	53
<b>Wind Velocity, Unit:</b>	4 MPH	1 MPH
<b>Dew Presence (Y/N):</b>	N	N
<b>Soil Temp., Unit:</b>	82 F	100 F
<b>Soil Moisture:</b>	FAIR	MOIST
<b>% Cloud Cover:</b>	15	40

## CROP STAGE AT EACH APPLICATION

	A	B
<b>Crop 1 Code, Stage:</b>	GOSHI	GOSHI
<b>Stage Scale:</b>	3-4 LEAF	10 LEAF
<b>Height, Unit:</b>	5.5 IN	22 IN

# University of Georgia

## APPLICATION EQUIPMENT

	<b>A</b>	<b>B</b>
<b>Appl. Equipment:</b>	BACKPACK	BACKPACK
<b>Operating Pressure:</b>	26	26
<b>Nozzle Type:</b>	AIXR	AIXR
<b>Nozzle Size:</b>	11002	11002
<b>Nozzle Spacing, Unit:</b>	18 IN	18 IN
<b>Nozzles/Row:</b>	4	4
<b>Boom Length, Unit:</b>	4.5 FT	4.5 FT
<b>Boom Height, Unit:</b>	16 IN	16 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	15 GPA	15 GPA
<b>Propellant:</b>	CO2	CO2
<b>Tank Mix (Y/N):</b>	Y	Y