

# University of Georgia

Grass control with Liberty plus graminicides or Roundup in a N carrier.

Trial ID: C53-03  
Location: Ponder farm

Study Dir.: Culpepper  
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  
**State/Prov.:** GA **Trial Reliability:** good  
**Postal Code:** 31794 **Initiation Date:** Aug-21-03  
**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.	CASOB	sicklepod	
2.	DEDTO	Florida beggarweed	
3.	PANTE	Texas panicum	

## SITE AND DESIGN

**Plot Width, Unit:** 6 FT **Plot Length, Unit:** 22 FT **Reps:** 3  
**Site Type:** Research station  
**Tillage Type:** none **Study Design:** RANDOMIZED COMPLETE BLOCK

## SOIL DESCRIPTION

**% Sand:** 94 **% OM:** 1.3 **Texture:** sand  
**% Silt:** 2 **pH:** 5.8 **Soil Name:** Tifton sandy loam  
**% Clay:** 4

## APPLICATION DESCRIPTION

	A
<b>Application Date:</b>	Aug-21-03
<b>Time of Day:</b>	10 am
<b>Application Method:</b>	broadcast
<b>Application Timing:</b>	burndown
<b>Applic. Placement:</b>	overtop
<b>Air Temp., Unit:</b>	80 F
<b>% Relative Humidity:</b>	90
<b>Wind Velocity, Unit:</b>	3 mph
<b>Dew Presence (Y/N):</b>	n
<b>Soil Temp., Unit:</b>	83 F
<b>Soil Moisture:</b>	moist
<b>% Cloud Cover:</b>	70

## WEED STAGE AT EACH APPLICATION

	A
<b>Weed 1 Code, Stage:</b>	CASOB burndown
<b>Stage Scale:</b>	4-6 inch
<b>Density, Unit:</b>	3 ydsq
<b>Weed 2 Code, Stage:</b>	DEDTO burndwon
<b>Stage Scale:</b>	3-14 inch
<b>Density, Unit:</b>	3 ydsq
<b>Weed 3 Code, Stage:</b>	PANTE burndown
<b>Stage Scale:</b>	4-10 inch
<b>Density, Unit:</b>	12 ydsq

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## APPLICATION EQUIPMENT

	<b>A</b>
<b>Appl. Equipment:</b>	backpack
<b>Operating Pressure:</b>	22
<b>Nozzle Type:</b>	flat fan
<b>Nozzle Size:</b>	11002
<b>Nozzle Spacing, Unit:</b>	18 inch
<b>Nozzles/Row:</b>	2
<b>Boom Length, Unit:</b>	4.5 feet
<b>Boom Height, Unit:</b>	15 inch
<b>Ground Speed, Unit:</b>	3 mph
<b>Carrier:</b>	water
<b>Spray Volume, Unit:</b>	14.8 GPA
<b>Propellant:</b>	CO2
<b>Tank Mix (Y/N):</b>	Y

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Weed Code		PANTE GOSHI percent	PANTE GOSHI percent	PANTE GOSHI percent	DEDTO GOSHI percent	DEDTO GOSHI percent	CASOB GOSHI percent		
Crop Code		Aug-26-03	Sep-07-03	Oct-04-03	Aug-26-03	Sep-07-03	Aug-26-03		
Rating Unit		5 DA-A	17 DA-A	44 DA-A	5 DA-A	17 DA-A	5 DA-A		
Rating Date									
Trt-Eval Interval									
Trt No.	Treatment	Rate	1	2	3	4	5	6	7
1	Non-treated		0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Liberty	32 oz/a	82.7	76.3	68.3	95.0	99.0	97.0	91.7
3	Liberty Select COC	32 oz/a 3 oz/a 1 % v/v	81.7	76.7	76.7	95.0	99.0	97.0	95.0
4	Liberty Select COC	32 oz/a 6 oz/a 1 % v/v	83.7	82.0	75.0	95.0	99.0	97.0	95.0
5	Liberty Select COC	32 oz/a 9 oz/a 1 % v/v	82.7	74.3	71.0	95.0	99.0	97.0	95.0
6	Liberty Fusilade COC	32 oz/a 6 oz/a 1 % v/v	82.0	78.3	76.3	95.0	99.0	97.0	93.0
7	Liberty Fusilade COC	32 oz/a 12 oz/a 1 % v/v	81.7	83.7	83.0	95.0	99.0	97.0	93.3
8	Liberty Fusilade COC	32 oz/a 6 oz/a 1 % v/v	81.3	67.0	71.3	95.7	99.0	97.0	91.0
9	WeatherMax water as carrier	16 oz/a	81.0	94.0	88.3	80.0	92.7	97.0	73.3
10	WeatherMax half water half N as carr	16 oz/a	69.3	92.3	90.3	91.7	99.0	97.0	76.7
11	WeatherMax N as total carrier	16 oz/a	61.7	73.3	65.0	91.7	99.0	97.0	86.7
12	WeatherMax N as total carrier	21 oz/a	65.0	80.3	85.3	95.0	99.0	97.0	95.0
LSD (P=.05)			6.20	14.02	16.65	4.99	2.69	0.00	21.05
Standard Deviation			3.66	8.28	9.83	2.95	1.59	0.00	12.43
CV			5.15	11.31	13.87	3.46	1.76	0.0	15.13
Bartlett's X2			15.513	8.967	16.822	6.284	0.0	0.0	18.974
P(Bartlett's X2)			0.114	0.535	0.078	0.099	.	.	0.004*

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

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Weed Code	CASOB	CASOB		
Crop Code	GOSHI	GOSHI		
Rating Unit	percent	percent		
Rating Date	Sep-07-03	Oct-04-03		
Trt-Eval Interval	17 DA-A	44 DA-A		
Trt No.	Treatment Name	Rate	8	9
		Rate Unit		
1	Non-treated		0.0	0.0
2	Liberty	32 oz/a	96.3	97.0
3	Liberty Select COC	32 oz/a 3 oz/a 1 % v/v	99.0	97.0
4	Liberty Select COC	32 oz/a 6 oz/a 1 % v/v	99.0	97.0
5	Liberty Select COC	32 oz/a 9 oz/a 1 % v/v	99.0	97.0
6	Liberty Fusilade COC	32 oz/a 6 oz/a 1 % v/v	99.0	97.0
7	Liberty Fusilade COC	32 oz/a 12 oz/a 1 % v/v	99.0	97.0
8	Liberty Fusilade COC	32 oz/a 6 oz/a 1 % v/v	99.0	97.0
9	WeatherMax water as carrier	16 oz/a	86.7	97.0
10	WeatherMax half water half N as carr	16 oz/a	89.3	88.7
11	WeatherMax N as total carrier	16 oz/a	93.3	81.7
12	WeatherMax N as total carrier	21 oz/a	99.0	95.3
LSD (P=.05)			9.53	4.65
Standard Deviation			5.63	2.75
CV			6.38	3.16
Bartlett's X2			2.326	3.179
P(Bartlett's X2)			0.508	0.204

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

### Trial Comments

**OBJECTIVE:** Evaluate the potential for antagonism when mixing POST graminicides with Liberty and to evaluate the potential for antagonism when using liquid N as a carrier for glyphosate.

**GENERAL:** Study was designed for Texas panicum, thus, 0.5 pt/A of 2,4-DB was applied 10 days prior to applying treatments to reduce potential for broadleaves impacting results.

#### RESULTS and DISCUSSION:

##### Texas Panicum:

- 1) Mixing graminicides with Liberty had no reffect (data is variable) on control of Texas panicum at 5, 17, or 44 DAT.
- 2) Glyphosate applied in water provided at least 81% control at all evaluation dates.
- 3) Applying glyphosate in water/N reduced control 12% at 5 DAT but not at 17 or 44 DAT when compared to water as the carrier.
- 4) Applying glyphosate in 100% N reduced control 19, 19, and 23% at 5, 17, and 44 DAT, respectively, when compared to water as the carrier.
- 5) Increasing the rate of glyphosate in the N only mixture tended to overcome antagonism.

##### Florida beggarweed (0.5 pt of DB applied 10 d prior to treatments):

- 1) Liberty provided excellent control and mixing a graminicide with Liberty had no effect.

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2) Mixing glyphosate in water was slower in controlling beggarweed than when applied in N or N/water. However control was excellent and similar by 44 DAT.

Sicklepod (0.5 pt of DB applied 10 d prior to treatments):

- 1) Liberty provided excellent control and mixing a graminicide with Liberty had no effect.
- 2) Mixing glyphosate in water was slower in controlling sicklepod than when applied in N or N/water.
- 3) At 44 DAT, applying glyphosate in water was 8 and 15% more effective than applying in water/N or N, respectively.
- 4) Increasing the rate of glyphosate did overcome this antagonistic interaction noted when applying glyphosate in N or water/N.