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Weed response to Envoke, Suprend, and Staple applied PRE.

Trial ID: C37-05

Study Dir.: Culpepper

Location: Attapulcus (big)

Investigator: Stanley Culpepper

Reps: 3

Plots: 12 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 2 liters (min 1.1575)

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
1	Non-treated								101	207	302
2	Envoke NIS	75 DF	L	0.0047	lb ai/a	PRE	A	0.1015 g/mx	102	206	309
3	Envoke NIS	75 DF	L	0.007	lb ai/a	PRE	A	0.1511 g/mx	103	201	303
4	Envoke NIS	75 DF	L	0.0094	lb ai/a	PRE	A	0.2029 g/mx	104	203	310
5	Envoke NIS	75 DF	L	0.0141	lb ai/a	PRE	A	0.3044 g/mx	105	204	307
6	Suprend COC	80 WDG	L	0.5	lb ai/a	PRE	A	10.12 g/mx	106	208	301
7	Suprend COC	80 WDG	L	0.8	lb ai/a	PRE	A	16.19 g/mx	107	202	304
8	Suprend COC	80 WDG	L	1.0	lb ai/a	PRE	A	20.24 g/mx	108	209	305
9	Suprend COC	80 WDG	L	1.2	lb ai/a	PRE	A	24.29 g/mx	109	210	308
10	Staple NIS	85 WP	L	0.064	lb ai/a	PRE	A	1.219 g/mx	110	205	306

Sort Order: Treatment

Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Lot Code
0.950	g	Envoke 75 DF	
31.247	ml	NIS L	
88.554	g	Suprend 80 WDG	
99.989	ml	COC L	
1.524	g	Staple 85 WP	

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 2 liters (mix size basis).

* Product amount calculations increased 25 % for overage adjustment.

* 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 2 liters.

Trial Comments

OBJECTIVE: Evaluate cotton and weed response to Envoke, Suprend, and Staple applied PRE.

Cotton response:

- 1) Irrigation followed by a heavy rain occurred shortly after planting thus herbicides were extremely active.
- 2) All mixtures containing Envoke caused significant injury.
- 3) Staple stunted cotton growth 20% at 12 DAT but cotton quickly recovered. Cotton did not recover in the plots containing Envoke.

Smallflower morningglory:

1. A significant population emerged in Staple plots and control was poor at 12 DAT; however, Staple had excellent "take down" and provided complete control by 23 DAT.
2. Envoke appeared to be more effective on smallflower morningglory PRE than with past POST experiences. By 44 DAT, Envoke at 0.007 and above provided good to excellent control.

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3. Suprend at 0.8 lb ai and above provided good to excellent control at 23 and 44 DAT.

Florida pusley:

1. Staple provided poor control.
2. Envoke provided poor control at 0.0047 lb, fair control at 0.007 and 0.0094 lb, and excellent control at 0.0141 lb.
3. Suprend provided excellent control at 1 or 1.2 lb ai.

Bristly starbur:

1. Staple provided excellent initial control but control dropped quickly as time passed.
2. Control by Envoke was more stable than Staple over time. Good control by Envoke at 0.0047 was noted at 44 DAT.
3. Suprend provided excellent control.

Sicklepod.

1. Staple provided poor control.
2. Envoke is much more effective POST as compared to PRE.
3. Initial control by Envoke was excellent but control was short lived with poor control at 23 DAT.
4. Suprend tended to be more effective than Envoke but 1 to 1.2 lb ai was needed for fair control.

CONCLUSION:

1. Envoke has far more soil activity than previously thought.
2. A tank mix of Envoke + Staple would offer excellent control of many broadleaf herbicides.

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Location: Attapulgus (big)

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Weed Code		cotton	cotton	cotton	IAQTA	IAQTA	IAQTA	RCHSC	RCHSC	
Crop Code		injury	injury	injury	control	control	control	control	control	
Rating Data Type		percent	percent	percent	percent	percent	percent	percent	percent	
Rating Unit		percent	percent	percent	percent	percent	percent	percent	percent	
Rating Date		May-23-05	Jun-03-05	Jun-24-05	May-23-05	Jun-03-05	Jun-24-05	May-23-05	Jun-24-05	
Trt-Eval Interval		12 DA-A	23 DA-A	44 DA-A	12 DA-A	23 DA-A	44 DA-A	12 DA-A	44 DA-A	
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
		Unit								
			1	2	3	4	5	6	7	8
1	Non-treated		0	0	0	0	0	0	0	0
2	Envoke NIS	0.0047 lb ai/a 0.25 % v/v	33	53	33	28	87	74	63	63
3	Envoke NIS	0.007 lb ai/a 0.25 % v/v	58	68	60	43	90	87	99	87
4	Envoke NIS	0.0094 lb ai/a 0.25 % v/v	63	76	67	50	94	94	99	94
5	Envoke NIS	0.0141 lb ai/a 0.25 % v/v	68	77	77	53	94	98	98	98
6	Suprend COC	0.5 lb ai/a 1 % v/v	62	60	31	47	89	80	99	65
7	Suprend COC	0.8 lb ai/a 1 % v/v	63	67	58	58	90	89	99	88
8	Suprend COC	1.0 lb ai/a 1 % v/v	74	75	63	73	94	96	99	96
9	Suprend COC	1.2 lb ai/a 1 % v/v	73	79	80	73	95	99	99	99
10	Staple NIS	0.064 lb ai/a 0.25 % v/v	20	3	0	27	99	100	96	67
LSD (P=.05)			8.9	12.5	12.2	15.6	6.5	6.6	6.8	6.9
Standard Deviation			5.2	7.3	7.1	9.1	3.8	3.8	4.0	4.0
CV			10.05	13.01	15.15	20.05	4.57	4.68	4.69	5.35

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

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Weed Code	RCHSC	ACNHI	ACNHI	ACNHI	CASOB	CASOB			
Crop Code									
Rating Data Type	control	control	control	control	control	control			
Rating Unit	percent	percent	percent	percent	percent	percent			
Rating Date	Jun-03-05	May-23-05	Jun-03-05	Jun-24-05	May-23-05	Jun-03-05			
Trt-Eval Interval	23 DA-A	12 DA-A	23 DA-A	44 DA-A	12 DA-A	23 DA-A			
Trt No.	Treatment Name	Rate	Rate Unit	9	10	11	12	13	14
1	Non-treated			0	0	0	0	0	0
2	Envoke NIS	0.0047 0.25	lb ai/a % v/v	65	90	96	85	78	43
3	Envoke NIS	0.007 0.25	lb ai/a % v/v	75	90	93	90	90	42
4	Envoke NIS	0.0094 0.25	lb ai/a % v/v	73	94	96	94	95	43
5	Envoke NIS	0.0141 0.25	lb ai/a % v/v	94	94	94	94	98	57
6	Suprend COC	0.5 1	lb ai/a % v/v	72	91	99	91	79	53
7	Suprend COC	0.8 1	lb ai/a % v/v	83	92	96	90	90	50
8	Suprend COC	1.0 1	lb ai/a % v/v	92	94	94	94	96	83
9	Suprend COC	1.2 1	lb ai/a % v/v	99	95	94	95	99	85
10	Staple NIS	0.064 0.25	lb ai/a % v/v	53	93	88	62	23	23
LSD (P=.05)				13.3	4.4	9.7	8.3	9.3	12.6
Standard Deviation				7.8	2.5	5.6	4.8	5.4	7.3
CV				11.01	3.04	6.64	6.04	7.27	15.31

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

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Trial ID: C37-05 Study Dir.: Culpepper
Location: Attapulugus (big) 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: Attapulugus **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** excellent
Postal Code: _____ **Initiation Date:** May-11-05
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.	IAQTA	smallflower morningglory	
2.	RCHSC	Florida pusley	
3.	ACNHI	Bristly starbur	
4.	CASOB	sicklepod	

Crop 1: GOSHI cotton **Variety:** DP 555 B/RR
Planting Date: May-11-05 **Planting Method:** seeded
Rate: 3 per ft **Depth:** 0.5 in **Perennial Age:** _____
Row Spacing: 36 inch **Spacing Within Row:** 4 inch **Seed Bed:** flat
Soil Temperature: 82 F **Soil Moisture:** irrigated **Emergence Date:** May-15-05

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 25 FT **Reps:** 3
Site Type: research station
Tillage Type: conventional **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: 84	% OM: 1.3	Texture: loamy sand
% Silt: 8	pH: 5.9	Soil Name: _____
% Clay: 8	CEC: _____	Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: irrigated

Closest Weather Station: _____ Distance: _____ Unit: ____

APPLICATION DESCRIPTION

	A
Application Date:	May-11-05
Time of Day:	11 am
Application Method:	broadcast
Application Timing:	PRE
Applic. Placement:	on soil
Air Temp., Unit:	82 F
% Relative Humidity:	57
Wind Velocity, Unit:	3 mph
Dew Presence (Y/N):	n
Water Hardness:	
Soil Temp., Unit:	84 F
Soil Moisture:	irrigated
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GOSHI PRE
Stage Scale:	not up
Height, Unit:	0 in

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WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	IAQTA PRE
Stage Scale:	not up
Density, Unit:	5 ydsq
Weed 2 Code, Stage:	RCHSC PRE
Stage Scale:	not up
Density, Unit:	5 ydsq
Weed 3 Code, Stage:	ACNHI PRE
Stage Scale:	not up
Density, Unit:	9 ydsq
Weed 4 Code, Stage:	CASOB PRE
Stage Scale:	not up
Density, Unit:	2 ydsq

APPLICATION EQUIPMENT

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

Trt No	Treatment Application Comment