

# University of Georgia

Cotton response to diuron applied 7 d prior to strip tilling cotton.

Trial ID: C35-03

Study Director:

Location: Jones

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: Tifton

Trial Status: completed

State/Prov.: Ga

Trial Reliability: excellent

Postal Code: 31794

Initiation Date: May-04-03

Country: U.S.A.

Directions:

Objectives:

Conclusions:

## Crop Description

Crop 1: GOSHI *Gossypium hirsutum*

Cotton, American upland

Variety: DP 555 BRR

BBCH Scale: BCOT

Planting Date: May-06-03

Planting Method: strip tillage

Rate, Unit: 3 seed/ft

Depth, Unit: 0.5 in

Perennial Age, Unit: 0.

Row Spacing, Unit: 36 inch

Spacing Within Row, Unit: 4 in

Seed Bed: flat

Soil Temperature, Unit: 80 F

Soil Moisture: moist

Emergence Date: May-10-03

## Pest Description

Pest 1 Type: W Code: AMAPA *Amaranthus palmeri*

Common Name: Amaranth, Palmer

Pest 2 Type: W Code: RCHSC *Richardia scabra*

Common Name: Pusley, Florida

## Site and Design

Plot Width, Unit: 12 FT

Site Type: Jones farm

Plot Length, Unit: 25 FT

Tillage Type: strip tillage

Replications: 4

Study Design: Randomized Complete Block

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.	none		

Field Prep./Maintenance:

## Soil Description

% Sand: 95

% OM: 0.6

Texture: sand

% Silt: 2

pH: 5.8

Soil Name: Tifton sandy loam

% Clay: 3

## Moisture Conditions

Overall Moisture Conditions: wet

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## Application Description

A	
Application Date:	May-04-03
Time of Day:	7:00pm
Application Method:	Broadcast
Application Timing:	2 d prior
Application Placement:	on soil
Applied By:	Culpepper
Air Temperature, Unit:	84 F
% Relative Humidity:	46
Wind Velocity, Unit:	0 mph
Dew Presence (Y/N):	n
Soil Temperature, Unit:	80 F
Soil Moisture:	moist
% Cloud Cover:	0

## Crop Stage At Each Application

A	
Crop 1 Code, BBCH Scale:	GOSHI BCOT
Stage Scale Used:	BBCH
Stage Majority, Percent:	PRE 100
Stage Minimum, Percent:	0 0
Stage Maximum, Percent:	0 0
Diameter, Unit:	0 in
Height, Unit:	0 in
Height Minimum, Maximum:	0 0

## Pest Stage At Each Application

A	
Pest 1 Code, Disc., Scale:	AMAPA W PRE
Stage Majority, Percent:	0 100
Stage Minimum, Percent:	0 0
Stage Maximum, Percent:	0 0
Diameter, Unit:	0 in
Height, Unit:	0 in
Height Minimum, Maximum:	0 0
Density, Unit:	60 ydsq
Coverage, Unit:	100 %
Pest 2 Code, Disc., Scale:	RCHSC W PRE
Stage Majority, Percent:	0 100
Stage Minimum, Percent:	0 0
Stage Maximum, Percent:	0 0
Diameter, Unit:	0 in
Height, Unit:	0 in
Height Minimum, Maximum:	0 0
Density, Unit:	60 ydsq
Coverage, Unit:	100 %

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## Application Equipment

	<b>A</b>
<b>Appl. Equipment:</b>	backpack
<b>Operating Pressure:</b>	22
<b>Pressure Unit:</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:</b>	14.8
<b>Volume Unit:</b>	GAL/AC
<b>Propellant:</b>	CO2
<b>Tank Mix (Y/N):</b>	Y

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Pest Code				AMAPA	AMAPA	RCHSC	RCHSC			
Crop Code	GOSHI	GOSHI	GOSHI							
BBCH Scale	BCOT	BCOT	BCOT							
Rating Date	May-11-03	May-16-03	May-25-03	May-16-03	May-25-03	May-16-03	May-25-03			
Rating Data Type	injury	injury	injury	control	control	control	control			
Rating Unit	percent	percent	percent	percnet	percent	percent	percent			
Days After Last Applic.	7	12	21	12	21	12	21			
Trt-Eval Interval	12 DA-A	12 DA-A	21 DA-A	12 DA-A	21 DA-A	12 DA-A	21 DA-A			
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7
1	Direx	0	pt/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	WeatherMax	0.75	lb ai/a							
2	Direx	1.5	pt/a	0.0	0.0	0.0	77.3	46.3	58.5	43.8
	WeatherMax	0.75	lb ai/a							
3	Direx	3	pt/a	1.3	3.0	0.0	85.0	71.8	76.8	69.5
	WeatherMax	0.75	lb ai/a							
4	Direx	6	pt/a	6.0	10.8	5.0	87.5	83.3	83.5	79.8
	WeatherMax	0.75	lb ai/a							
LSD (P=.05)				2.45	7.46	5.66	5.20	8.29	17.89	8.66
Standard Deviation				1.53	4.66	3.54	3.25	5.18	11.19	5.42
CV				84.4	135.61	282.84	5.21	10.3	20.45	11.22
Bartlett's X2				0.018	0.387	0.0	3.686	1.623	4.738	1.537
P(Bartlett's X2)				0.893	0.534	.	0.055	0.444	0.094	0.464

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

### Trial Comments

OBJECTIVE: Evaluate the potential to change the Direx label restricting an application for at least 7 days prior to planting when used at burndown.

#### VISUAL COTTON RESPONSE:

- 1) Direx applied at 1.5 pt/A caused no crop injury.
- 2) Direx applied at 3 pt/A caused less than 3% crop injury.
- 3) Direx applied at 6 pt/A caused less than 12% crop injury.

#### WEED CONTROL:

##### Palmer and pusley:

- 1) A rate response was very apparent.
- 2) At 18 d after planting, greater than 80% control was noted with 6 pt/A of Direx, greater than 69% control was noted with 3 pt/A of Direx, and only 44 to 46% control was noted with 1.5 pt/A of Direx.

#### CONCLUSIONS:

- 1) Direx label should not restrict grower to apply at least 7 days prior to planting. However, label should note that strip tillage is required.
- 2) Prowl plus diuron applied as a burndown may help our growers manage pusley more effectively in strip till cotton.

#### GENERAL COMMENTS:

- 1) Glyphosate applied over entire trial on April 16.