University of Georgia

Watermelon tolerance to Sandea, Reflex, Alanap, and Sinbar prior to transplant.

Study Dir.: Trial ID: Veg19-03

Location: RDC Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Title: Ext. Weed Science Study Director: Stanley Culpepper

**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 Trial Reliability: good State/Prov.: Ga Initiation Date: Postal Code: 31794 Apr-02-03

Country: U.S.A.

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

Crop 1: CITLA watermelon Variety: AU Producer

Planting Date: Apr-09-03 Planting Method: transplant

Rate: 1 4 foot Depth: 1 in
Row Spacing: 6 foot Spacing Within Row: 4 feet Seed Bed: bedded

Soil Temperature: 76 F Soil Moisture: drip

SITE AND DESIGN

Plot Width, Unit: 6 FT Plot Length, Unit: 25 FT Reps: 4

Site Type: research station

Tillage Type: conventional Study Design: SPLIT-PLOT

SOIL DESCRIPTION

% Sand: 88 % OM: 1.1 % Silt: 10 pH: 5.9 **Texture:** sand

**pH:** 5.9 **CEC:** 0. Soil Name: Tifton sandy loam

% Clay: 2

### APPLICATION DESCRIPTION

		A		В
Application Date:	Apr-	-02-03	Apr	-09-03
Time of Day:	10:00am		7:00am	
Application Method:	Broadcast		Broadcast	
Application Timing:	7 d	prior	0 d	prior
Applic. Placement:	unde	erplas	unde	erplas
Air Temp., Unit:	76	F	66	F
% Relative Humidity:	25		49	
Wind Velocity, Unit:	1	mph	1	mph
Dew Presence (Y/N):	N		N	
Soil Temp., Unit:	74	F	68	F
Soil Moisture:	fair	r	wet	
% Cloud Cover:	0		100	

### CROP STAGE AT EACH APPLICATION

	A	В
Crop 1 Code, Stage:	CITLA prior	CITLA prior
Stage Scale:		•
Height, Unit:	0	0

# **University of Georgia**

### APPLICATION EQUIPMENT

	III I I I I I I I I I I I I I I I I I			
	A			В
Appl. Equipment:	backpack		backpack	
Operating Pressure:	22		22	
Nozzle Type:	flat	fan	flat	fan
Nozzle Size:	11002		11002	
Nozzle Spacing, Unit:	18	inch	18	inch
Nozzles/Row:	4		4	
Boom Length, Unit:	4.5	feet	4.5	feet
Boom Height, Unit:	15	inch	15	inch
Ground Speed, Unit:	3	mph	3	mph
Carrier:	water		water	
Spray Volume, Unit:	14.8	GPA	14.8	GPA
Propellant:	CO2		CO2	
Tank Mix (Y/N):	Y		Y	

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Watermelon tolerance to Sandea, Reflex, Alanap, and Sinbar prior to transplant.

Trial ID: Veg19-03 Study Dir.:

Location: RDC Investigator: Stanley Culpepper

Rating Data Type stunting Rating Unit stunting percent percent percent	HOCACION. NDC	THVE	stigator.	beamiey c
Rating Unit Rating Date   Trt-Eval Interval   Trt Treatment   Rate   No. Name   Rate   Unit   1   2   3				CITLA
Rating Date   Trt-Eval Interval   Trt   Treatment   Rate   No. Name   Rate   Unit   1   2   3		stunting	stunting	stunting
Trt-Eval Interval         Rate No. Name         Rate Unit         1         2         3           1 Non-treated 7 d prior to transplant         0.0         0.0         0.0         0.0           2 Non-treated 2-4 hr prior to transplan         0.75 oz/a         21.3         17.0         10.5           3 Sandea 2-4 hr prior to transplant         0.75 oz/a         32.5         27.5         14.8           2-4 hr prior to transplant         1.5 oz/a         41.3         40.0         19.3           5 Sandea 3-7 d prior to transplant         1.5 oz/a         37.5         45.0         21.0           2-4 hr prior to transplant         1 pt/a         1.5 o.0         0.0           7 Reflex 3-7 d prior to transplant         1 pt/a         1.5 o.0         0.0           8 Reflex 3-7 d prior to transplant         1 pt/a         1.5 o.0         0.0           9 Alanap 5 qt/a         5 qt/a         5.5 0.0         0.0           7 d prior to transplant         5 qt/a         11.3 0.0         0.0           10 Alanap 2-4 hr prior to transplant         5 qt/a         11.3 0.0         0.0				percent
Trt         Treatment         Rate         Unit         1         2         3           1 Non-treated 7 d prior to transplant         0.0         0.0         0.0         0.0           2 Non-treated 2-4 hr prior to transplan         0.75 oz/a         21.3         17.0         10.5           3 Sandea 2-4 hr prior to transplant         0.75 oz/a         32.5         27.5         14.8           2-4 hr prior to transplant         1.5 oz/a         41.3         40.0         19.3           5 Sandea 3 1.5 oz/a 2-4 hr prior to transplant         1.5 oz/a         37.5         45.0         21.0           2-4 hr prior to transplant         1 pt/a         1.5 oz/a         2.5 oz/a         0.0         0.0           8 Reflex 1 pt/a 2-4 hr prior to transplant         1 pt/a         12.8         2.5 oz/a         0.0         0.0           9 Alanap 7 d prior to transplant         5 qt/a         5.5 oz/a         0.0 oz/a         0.0         0.0           10 Alanap 2-4 hr prior to transplant         5 qt/a         11.3 oz/a         0.0 oz/a         0.0         0.0	Rating Date		May-29-03	Jun-18-03
No.         Name         Rate         Unit         1         2         3           1         Non-treated 7 d prior to transplant         0.0         0.0         0.0         0.0           2         Non-treated 2-4 hr prior to transplan         0.75 oz/a         21.3         17.0         10.5           3         Sandea 7 d prior to transplant         0.75 oz/a         32.5         27.5         14.8           2-4 hr prior to transplant         1.5 oz/a         41.3         40.0         19.3           7 d prior to transplant         1.5 oz/a         37.5         45.0         21.0           2-4 hr prior to transplant         1 pt/a         1.5         0.0         0.0           8         Reflex 1 pt/a         1.5         0.0         0.0           7 d prior to transplant         5 qt/a         5.5         0.0         0.0           9         Alanap 7 d prior to transplant         5 qt/a         5.5         0.0         0.0           10         Alanap 2-4 hr prior to transplant         5 qt/a         11.3         0.0         0.0		31 DA-A		
1 Non-treated       0.0       0.0       0.0         7 d prior to transplant       0.0       0.0       0.0         2 Non-treated       0.0       0.0       0.0         2-4 hr prior to transplant       0.75 oz/a       21.3       17.0       10.5         7 d prior to transplant       32.5       27.5       14.8         2-4 hr prior to transplant       40.0       19.3         5 Sandea       1.5 oz/a       41.3       40.0       19.3         7 d prior to transplant       1.5 oz/a       37.5       45.0       21.0         2-4 hr prior to transplant       1 pt/a       1.5       0.0       0.0         7 d prior to transplant       1 pt/a       12.8       2.5       0.0         9 Alanap       5 qt/a       5.5       0.0       0.0         7 d prior to transplant       10 Alanap       5 qt/a       11.3       0.0       0.0         10 Alanap       5 qt/a       11.3       0.0       0.0	Trt Treatment Rate			
7 d prior to transplant       2 Non-treated       0.0       0.0       0.0         2-4 hr prior to transplan       0.75 oz/a       21.3       17.0       10.5         3 Sandea       0.75 oz/a       21.3       17.0       10.5         7 d prior to transplant       32.5       27.5       14.8         2-4 hr prior to transplant       40.0       19.3         5 Sandea       1.5 oz/a       41.3       40.0       19.3         7 d prior to transplant       1.5 oz/a       37.5       45.0       21.0         2-4 hr prior to transplant       1 pt/a       1.5       0.0       0.0         7 d prior to transplant       1 pt/a       12.8       2.5       0.0         9 Alanap       5 qt/a       5.5       0.0       0.0         7 d prior to transplant       5 qt/a       11.3       0.0       0.0         10 Alanap       5 qt/a       11.3       0.0       0.0		1	2	3
2 Non-treated       0.0       0.0       0.0         2-4 hr prior to transplan       0.75 oz/a       21.3       17.0       10.5         3 Sandea       0.75 oz/a       21.3       17.0       10.5         4 Sandea       0.75 oz/a       32.5       27.5       14.8         2-4 hr prior to transplan       1.5 oz/a       41.3       40.0       19.3         7 d prior to transplant       1.5 oz/a       37.5       45.0       21.0         2-4 hr prior to transplant       1 pt/a       1.5       0.0       0.0         7 d prior to transplant       1 pt/a       12.8       2.5       0.0         9 Alanap       5 qt/a       5.5       0.0       0.0         7 d prior to transplant       5 qt/a       5.5       0.0       0.0         10 Alanap       5 qt/a       11.3       0.0       0.0	1 Non-treated	0.0	0.0	0.0
2-4 hr prior to transplan       3 Sandea       0.75 oz/a       21.3       17.0       10.5         7 d prior to transplant       0.75 oz/a       32.5       27.5       14.8         2-4 hr prior to transplan       1.5 oz/a       41.3       40.0       19.3         7 d prior to transplant       1.5 oz/a       37.5       45.0       21.0         2-4 hr prior to transplan       1 pt/a       1.5       0.0       0.0         7 d prior to transplant       1 pt/a       12.8       2.5       0.0         8 Reflex       1 pt/a       12.8       2.5       0.0         2-4 hr prior to transplant       5 qt/a       5.5       0.0       0.0         7 d prior to transplant       5 qt/a       11.3       0.0       0.0         10 Alanap       5 qt/a       11.3       0.0       0.0         2-4 hr prior to transplant       11.3       0.0       0.0	7 d prior to transplant			
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7 d prior to transplant  4 Sandea 0.75 oz/a 32.5 27.5 14.8 2-4 hr prior to transplan  5 Sandea 1.5 oz/a 41.3 40.0 19.3 7 d prior to transplant  6 Sandea 1.5 oz/a 37.5 45.0 21.0 2-4 hr prior to transplant  7 Reflex 1 pt/a 1.5 0.0 0.0 7 d prior to transplant  8 Reflex 1 pt/a 12.8 2.5 0.0 2-4 hr prior to transplan  9 Alanap 5 qt/a 5.5 0.0 0.0 7 d prior to transplant  10 Alanap 5 qt/a 11.3 0.0 0.0 2-4 hr prior to transplan	2-4 hr prior to transplan			
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2-4 hr prior to transplan       1.5 oz/a       41.3       40.0       19.3         7 d prior to transplant       1.5 oz/a       37.5       45.0       21.0         2-4 hr prior to transplan       1 pt/a       1.5       0.0       0.0         7 d prior to transplant       1 pt/a       12.8       2.5       0.0         8 Reflex       1 pt/a       12.8       2.5       0.0         2-4 hr prior to transplant       5 qt/a       5.5       0.0       0.0         7 d prior to transplant       5 qt/a       11.3       0.0       0.0         10 Alanap       5 qt/a       11.3       0.0       0.0         2-4 hr prior to transplan       5 qt/a       11.3       0.0       0.0	7 d prior to transplant			
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7 d prior to transplant 6 Sandea 1.5 oz/a 37.5 45.0 21.0 2-4 hr prior to transplan 7 Reflex 1 pt/a 1.5 0.0 0.0 7 d prior to transplant 8 Reflex 1 pt/a 12.8 2.5 0.0 2-4 hr prior to transplan 9 Alanap 5 qt/a 5.5 0.0 0.0 7 d prior to transplant 10 Alanap 5 qt/a 11.3 0.0 0.0 2-4 hr prior to transplan				
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7 Reflex       1 pt/a       1.5       0.0       0.0         7 d prior to transplant       1 pt/a       12.8       2.5       0.0         2-4 hr prior to transplan       5 qt/a       5.5       0.0       0.0         7 d prior to transplant       5 qt/a       11.3       0.0       0.0         10 Alanap       5 qt/a       11.3       0.0       0.0         2-4 hr prior to transplan       1 1.3       0.0       0.0	6 Sandea 1.5 oz/a	37.5	45.0	21.0
7 d prior to transplant  8 Reflex				
8 Reflex       1 pt/a       12.8       2.5       0.0         2-4 hr prior to transplan       5 qt/a       5.5       0.0       0.0         9 Alanap       5 qt/a       5.5       0.0       0.0         7 d prior to transplant       5 qt/a       11.3       0.0       0.0         2-4 hr prior to transplan       11.3       0.0       0.0		1.5	0.0	0.0
2-4 hr prior to transplan         9 Alanap       5 qt/a       5.5       0.0       0.0         7 d prior to transplant       5 qt/a       11.3       0.0       0.0         2-4 hr prior to transplan       0.0       0.0       0.0				
9 Alanap 5 qt/a 5.5 0.0 0.0 7 d prior to transplant 5 qt/a 11.3 0.0 0.0 2-4 hr prior to transplan		12.8	2.5	0.0
7 d prior to transplant  10 Alanap 5 qt/a 11.3 0.0 0.0 2-4 hr prior to transplan				
10 Alanap 5 qt/a 11.3 0.0 0.0 2-4 hr prior to transplan	9 Alanap 5 qt/a	5.5	0.0	0.0
2-4 hr prior to transplan	7 d prior to transplant			
		11.3	0.0	0.0
11 Sinbar 1.5 oz/a 3.0 0.0 0.0				
	11 Sinbar 1.5 oz/a	3.0	0.0	0.0
7 d prior to transplant				
12 Sinbar 1.5 oz/a 8.0 2.8 0.0	12 Sinbar 1.5 oz/a	8.0	2.8	0.0
2-4 hr prior to transplan				
	LSD (P=.05)		4.65	3.29
			3.22	2.28
				41.76
	Bartlett's X2			2.017
P(Bartlett's X2) 0.086 0.21 0.569	P(Bartlett's X2)	0.086	0.21	0.569

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

### **Trial Comments**

GENERAL COMMENTS: Telone was applied over entire trial. Plots were destroyed late in the season due to disease infestation (gummy stem kicked butt). Plant death was so erratic late in the season the trial was not harvested.

## Visual Injury:

- 1) Injury from Sandea ranged from 21 to 41% at 3 WAT. Applying 2 to 4 hrs prior to transplant was generally more injourious than applying 7 days ahead of transplant. Addationally, there was a rate response.
- 2) Injuryfrom Sandea remained throughout the season.
- 3) Injury from other herbicides was less than 13% and transient.

#### CONCLUSION:

1) A study needs to be conducted on bare ground with treatments containing rainfall or no rainfall occuring after the Sandea application and prior to transplanting.