

University of Georgia

Transplant watermelon tolerance to Sandea, Reflex, Alanap, and Sinbar applied

PRE or PPI underplastic.

Trial ID: Veg24-03

Study Dir.: Lewis/Jennings

Location: Crisp County

Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Ken Lewis

Title: Ext. Coordinator

Affiliation: UGA

Postal Code: .

Investigator: Stanley Culpepper

Title: Ext. Weed Science

Affiliation: University of Georgia

Postal Code: 31794

TRIAL LOCATION

City: Cordele

Trial Status: completed

State/Prov.: GA

Trial Reliability: good

Postal Code: .

Initiation Date: Apr-17-03

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Crop 1: CITLA watermelon

Variety: Au Producer

Planting Date: Apr-17-03

Planting Method: transplant

Rate: 1 4 feet

Depth: 1 in

Row Spacing: 36 inch

Spacing Within Row: 4 feet

Seed Bed: flat

Soil Temperature: 80 F

Soil Moisture: irrigated

SITE AND DESIGN

Plot Width, Unit: 12 FT

Plot Length, Unit: 25 FT

Reps: 4

Site Type: on farm

Tillage Type: conventional

Study Design: FACTORIAL

SOIL DESCRIPTION

% Sand: 0. % OM: 0. Texture: .

% Silt: 0. pH: 0. Soil Name: .

% Clay: 0.

APPLICATION DESCRIPTION

A	
Application Date:	Apr-17-03
Time of Day:	11 am
Application Method:	broadcast
Application Timing:	PPI/PRE
Applic. Placement:	underplas
Air Temp., Unit:	85 F
% Relative Humidity:	40
Wind Velocity, Unit:	5 mph
Dew Presence (Y/N):	n
Soil Temp., Unit:	80 F
Soil Moisture:	moist
% Cloud Cover:	50

CROP STAGE AT EACH APPLICATION

A	
Crop 1 Code, Stage:	CITLA PPI/PRE
Stage Scale:	.
Height, Unit:	0. .

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APPLICATION EQUIPMENT

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

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Transplant watermelon tolerance to Sandea, Reflex, Alanap, and Sinbar applied

PRE or PPI underplastic.

Trial ID: Veg24-03

Study Dir.: Lewis/Jennings

Location: Crisp County

Investigator: Stanley Culpepper

Weed Code				indiv	indiv	indiv	indiv	indiv	indiv			
Crop Code	watermel	watermel	watermel	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA			
Rating Data Type	injury	injury	injury	<10 lb	<10 lb	<10 lb	<10 lb	<10 lb	<10 lb			
Rating Unit	percent	percent	percent	lbs	lbs	lbs	lbs	lbs	lbs			
Rating Date	May-11-03	May-27-03	Jun-17-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03			
Trt-Eval Interval	24 DA-A	40 DA-A	61 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A			
ARM Action Codes												
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7	8	9
1	Non-treated PPI			0.0	0.0	0.0	4.3	2.9	5.1	5.8	4.4	2.3
2	Non-treated PRE			0.0	0.0	0.0	2.7	3.9	5.1	6.5	7.5	5.9
3	Sandea PPI	0.75 oz/a		12.0	4.0	0.0	3.9	4.2	5.9	6.2	4.2	1.7
4	Sandea PRE	0.75 oz/a		6.0	4.0	0.0	2.7	4.5	5.0	6.2	3.8	4.2
5	Sandea PPI	1.5 oz/a		17.8	9.5	0.0	4.0	7.1	8.0	5.8	3.5	1.4
6	Sandea PRE	1.5 oz/a		17.8	8.5	0.0	1.7	4.2	5.6	6.4	8.0	8.7
7	Reflex PPI	1 pt/a		1.3	3.8	0.0	2.4	3.4	5.2	6.6	7.2	7.7
8	Reflex PRE	1 pt/a		1.5	0.0	0.0	3.4	6.1	4.7	5.5	6.2	2.0
9	Alanap PPI	5 qt/a		2.5	2.0	0.0	3.6	6.3	6.7	5.0	5.9	4.2
10	Alanap PRE	5 qt/a		0.0	3.0	0.0	2.8	4.8	6.0	6.5	6.8	5.3
11	Sinbar PPI	1.5 oz/a		0.8	0.0	0.0	4.4	5.2	7.8	5.9	6.6	6.8
12	Sinbar PRE	1.5 oz/a		4.5	0.0	0.0	2.8	4.5	5.8	6.9	7.4	7.9
LSD (P=.05)				5.73	6.03	0.00	2.98	3.39	3.99	4.75	5.08	5.42
Standard Deviation				3.97	4.18	0.00	2.06	2.35	2.76	3.29	3.52	3.75
CV				74.44	144.23	0.0	64.28	49.49	47.01	54.09	59.27	77.84
Bartlett's X2				14.75	8.898	0.0	13.708	6.706	11.79	14.22	20.302	13.373
P(Bartlett's X2)				0.064	0.179	.	0.25	0.822	0.38	0.221	0.041*	0.27

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

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Weed Code	indiv CITLA	indiv CITLA	indiv CITLA	indiv CITLA	indiv CITLA	indiv CITLA	indiv CITLA	indiv CITLA	indiv CITLA	indiv CITLA		
Crop Code	<10 lb	<10 lb	<10 lb	<10 lb	<10 lb	<10 lb	<10 lb	<10 lb	<10 lb	<10 lb		
Rating Data Type	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs		
Rating Unit	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03		
Rating Date	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A		
Trt-Eval Interval	ARM Action Codes											
Trt No.	Treatment Name	Rate	Unit	10	11	12	13	14	15	16	17	18
1	Non-treated PPI			2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Non-treated PRE			6.3	6.7	4.5	4.7	4.8	2.4	2.5	0.0	0.0
3	Sandea PPI	0.75 oz/a		1.8	2.0	2.1	2.1	2.2	2.2	2.2	2.4	0.0
4	Sandea PRE	0.75 oz/a		1.9	2.1	2.3	0.0	0.0	0.0	0.0	0.0	0.0
5	Sandea PPI	1.5 oz/a		1.4	1.6	1.7	2.0	2.1	2.1	2.2	2.3	2.3
6	Sandea PRE	1.5 oz/a		9.0	6.9	4.6	2.2	2.2	2.3	2.4	0.0	0.0
7	Reflex PPI	1 pt/a		8.3	8.7	2.3	2.3	2.3	0.0	0.0	0.0	0.0
8	Reflex PRE	1 pt/a		2.1	2.2	2.5	2.5	0.0	0.0	0.0	0.0	0.0
9	Alanap PPI	5 qt/a		1.9	2.0	2.3	2.4	0.0	0.0	0.0	0.0	0.0
10	Alanap PRE	5 qt/a		5.6	3.7	4.1	4.3	4.6	2.4	0.0	0.0	0.0
11	Sinbar PPI	1.5 oz/a		2.2	2.3	2.4	2.4	0.0	0.0	0.0	0.0	0.0
12	Sinbar PRE	1.5 oz/a		8.4	6.5	4.2	4.4	4.8	2.5	2.5	0.0	0.0
LSD (P=.05)				5.09	5.42	6.17	6.31	5.45	4.68	4.32	2.62	1.88
Standard Deviation				3.53	3.75	4.27	4.37	3.78	3.24	2.99	1.81	1.30
CV				82.91	101.48	156.54	180.4	199.2	283.12	308.08	467.39	692.82
Bartlett's X2				12.941	6.711	0.708	0.46	0.546	0.14	0.088	0.012	0.0
P(Bartlett's X2)				0.297	0.752	1.00	1.00	0.997	1.00	0.999	0.912	.

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

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Weed Code		total	total	in. melo	in. melo	in. melo	in. melo	in. melo	in. melo	in. melo
Crop Code		CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA
Rating Data Type		<10 lb	<10 lb	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs
Rating Unit		number	wt/lbs	number	number	number	number	number	number	number
Rating Date		Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03
Trt-Eval Interval		81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A
ARM Action Codes			T1							
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit
1	Non-treated PPI	4.3	27.2	10.1	10.6	11.7	12.6	12.8	13.6	14.1
2	Non-treated PRE	9.3	63.3	11.4	12.1	12.5	13.1	13.5	14.1	14.5
3	Sandea PPI	0.75 oz/a	6.0	42.9	10.5	10.8	11.6	12.0	12.4	13.3
4	Sandea PRE	0.75 oz/a	4.8	32.5	12.9	11.2	13.0	13.2	13.6	14.1
5	Sandea PPI	1.5 oz/a	6.8	47.1	10.2	11.0	11.5	11.8	12.6	13.6
6	Sandea PRE	1.5 oz/a	9.3	63.8	10.9	11.1	11.6	12.5	12.9	13.6
7	Reflex PPI	1 pt/a	8.8	56.0	10.5	11.3	11.8	11.9	12.2	12.9
8	Reflex PRE	1 pt/a	5.5	36.9	10.7	11.2	12.1	12.8	13.7	14.1
9	Alanap PPI	5 qt/a	6.0	40.1	10.4	11.1	11.7	11.9	12.3	12.8
10	Alanap PRE	5 qt/a	8.8	56.8	10.4	10.7	10.8	11.2	11.6	12.2
11	Sinbar PPI	1.5 oz/a	6.3	45.8	10.3	10.8	11.3	11.7	12.3	13.1
12	Sinbar PRE	1.5 oz/a	9.8	68.3	10.2	10.7	12.2	13.3	13.5	15.2
	LSD (P=.05)	5.12	34.82	2.15	1.36	2.10	2.16	2.34	3.04	4.49
	Standard Deviation	3.55	24.11	1.49	0.94	1.45	1.50	1.62	2.11	3.11
	CV	49.95	49.86	13.96	8.56	12.32	12.17	12.69	15.57	23.68
	Bartlett's X2	7.176	9.396	67.676	16.994	19.876	21.126	19.595	24.113	40.079
	P(Bartlett's X2)	0.785	0.585	0.001*	0.108	0.047*	0.032*	0.051	0.012*	0.001*

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

Column 20: T1 = [C4]+[C5]+[C6]+[C7]+[C8]+[C9]+[C10]+[C11]+[C12]+[C13]+[C14]+[C15]+[C16]+[C17]+[C18]

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Weed Code	in. melo	in. melo	in. melo	in. melo	in. melo	in. melo	in. melo	in. melo	in. melo	in. melo		
Crop Code	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA		
Rating Data Type	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs		
Rating Unit	number	number	number	number	number	number	number	number	number	number		
Rating Date	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03		
Trt-Eval Interval	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A		
ARM Action Codes												
Trt No.	Treatment Name	Rate	Unit	29	30	31	32	33	34	35	36	37
1	Non-treated PPI			15.5	16.5	16.8	17.0	12.7	13.1	8.4	8.8	4.4
2	Non-treated PRE			15.0	11.3	12.1	12.7	13.1	8.7	4.7	4.8	0.0
3	Sandea PPI	0.75 oz/a		15.1	15.8	16.1	17.0	12.4	12.7	13.7	0.0	0.0
4	Sandea PRE	0.75 oz/a		10.1	10.7	10.9	11.7	7.5	8.1	8.8	4.5	4.5
5	Sandea PPI	1.5 oz/a		16.2	12.1	13.5	13.9	9.3	0.0	0.0	0.0	0.0
6	Sandea PRE	1.5 oz/a		15.4	16.8	17.5	13.7	15.4	4.9	0.0	0.0	0.0
7	Reflex PPI	1 pt/a		14.4	14.8	15.9	17.0	7.9	8.1	3.7	3.8	3.9
8	Reflex PRE	1 pt/a		14.8	15.1	16.2	12.7	8.1	8.5	9.0	4.4	4.5
9	Alanap PPI	5 qt/a		13.7	15.4	16.1	16.8	17.4	13.2	9.2	4.9	0.0
10	Alanap PRE	5 qt/a		13.0	13.2	14.2	14.9	15.7	16.6	12.3	3.9	4.7
11	Sinbar PPI	1.5 oz/a		13.8	14.5	14.8	15.3	15.8	16.2	16.5	17.4	13.2
12	Sinbar PRE	1.5 oz/a		11.0	11.6	12.5	8.0	8.4	8.7	9.1	4.6	4.7
LSD (P=.05)				4.85	7.00	7.42	9.20	11.23	10.87	11.94	10.47	10.00
Standard Deviation				3.36	4.85	5.14	6.37	7.78	7.53	8.27	7.25	6.93
CV				24.06	34.75	34.98	44.89	65.07	76.24	104.2	152.8	209.09
Bartlett's X2				32.776	45.243	43.499	29.132	20.272	14.707	9.43	5.855	0.147
P(Bartlett's X2)				0.001*	0.001*	0.001*	0.002*	0.042*	0.143	0.399	0.663	1.00

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

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Weed Code	in. melo	in. melo	in. melo	in. melo	in. melo	Total	Total	in. melo	in. melo			
Crop Code	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA			
Rating Data Type	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20 lbs	10-20lbs	10-20lbs	>20lbs	>20lbs			
Rating Unit	number	number	number	number	number	number	wt/lbs	number	number			
Rating Date	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03			
Trt-Eval Interval	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A			
ARM Action Codes							T2					
Trt No.	Treatment Name	Rate	Unit	38	39	40	41	42	43	44	46	47
1	Non-treated PPI			4.6	4.9	0.0	0.0	0.0	14.3	218.6	21.5	16.2
2	Non-treated PRE			0.0	0.0	0.0	0.0	0.0	12.0	225.1	22.8	17.8
3	Sandea PPI	0.75 oz/a		0.0	0.0	0.0	0.0	0.0	13.3	214.1	15.2	17.1
4	Sandea PRE	0.75 oz/a		0.0	0.0	0.0	0.0	0.0	11.8	185.7	16.0	18.3
5	Sandea PPI	1.5 oz/a		0.0	0.0	0.0	0.0	0.0	10.8	184.9	16.7	11.2
6	Sandea PRE	1.5 oz/a		0.0	0.0	0.0	0.0	0.0	11.8	217.0	11.0	6.0
7	Reflex PPI	1 pt/a		4.0	4.7	4.9	0.0	0.0	13.5	227.3	15.8	11.7
8	Reflex PRE	1 pt/a		4.7	4.8	5.0	0.0	0.0	13.5	218.2	16.0	10.4
9	Alanap PPI	5 qt/a		0.0	0.0	0.0	0.0	0.0	13.5	214.9	16.8	12.2
10	Alanap PRE	5 qt/a		5.0	0.0	0.0	0.0	0.0	14.5	236.4	16.4	12.1
11	Sinbar PPI	1.5 oz/a		4.0	4.2	4.2	4.5	4.6	17.0	272.7	15.6	18.4
12	Sinbar PRE	1.5 oz/a		4.9	0.0	0.0	0.0	0.0	11.8	225.3	22.5	17.1
LSD (P=.05)				9.20	7.83	6.98	3.71	3.79	4.26	72.83	13.42	16.65
Standard Deviation				6.37	5.42	4.84	2.57	2.63	2.95	50.44	9.29	11.53
CV				282.26	351.59	412.98	692.82	692.82	22.5	22.93	54.14	82.3
Bartlett's X2				0.263	0.092	0.098	0.0	0.0	12.181	10.534	19.753	0.428
P(Bartlett's X2)				0.998	0.993	0.952	.	.	0.35	0.483	0.049*	1.00

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

Column 43: T2 =

[C22]+[C23]+[C24]+[C25]+[C26]+[C27]+[C28]+[C29]+[C20]+[C31]+[C32]+[C33]+[C34]+[C35]+[C36]+[C37]+[C38]+[C39]+[C40]+[C41]+[C42]

University of Georgia

Weed Code	in. melo	in. melo	in. melo	in. melo	in. melo	total	total	TOTAL	TOTAL		
Crop Code	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA	CITLA		
Rating Data Type	>20lbs	>20lbs	>20lbs	>20lbs	>20lbs	>20lbs	>20lbs	all	all		
Rating Unit	number	number	number	number	number	number	lb/wt	number	wt/lbs		
Rating Date	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03	Jul-07-03		
Trt-Eval Interval	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A	81 DA-A		
ARM Action Codes								T4	T5		
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate		
Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit		
48			49		50		51		52		
53			54		55		56				
1	Non-treated PPI	17.6	13.0	0.0	0.0	0.0	3.0	68.2	21.5	314.0	
2	Non-treated PRE	5.4	5.7	0.0	0.0	0.0	2.3	51.6	23.5	340.0	
3	Sandea PPI	0.75 oz/a	17.7	12.3	13.3	7.7	0.0	3.5	83.2	22.8	340.1
4	Sandea PRE	0.75 oz/a	19.0	12.5	6.5	6.5	6.8	3.8	85.4	20.3	303.5
5	Sandea PPI	1.5 oz/a	5.6	6.5	0.0	0.0	0.0	1.8	39.9	19.3	271.8
6	Sandea PRE	1.5 oz/a	0.0	0.0	0.0	0.0	0.0	0.8	17.0	21.8	297.8
7	Reflex PPI	1 pt/a	5.4	5.6	0.0	0.0	0.0	1.8	38.5	24.0	321.8
8	Reflex PRE	1 pt/a	11.5	11.7	5.8	5.9	0.0	2.8	61.1	21.8	316.2
9	Alanap PPI	5 qt/a	7.1	0.0	0.0	0.0	0.0	1.5	36.1	21.0	291.0
10	Alanap PRE	5 qt/a	6.2	7.5	0.0	0.0	0.0	1.8	42.1	25.0	335.2
11	Sinbar PPI	1.5 oz/a	0.0	0.0	0.0	0.0	0.0	1.5	34.0	24.8	352.4
12	Sinbar PRE	1.5 oz/a	11.1	13.1	0.0	0.0	0.0	2.8	63.8	24.3	357.3
LSD (P=.05)		15.91	17.48	10.06	9.97	5.63	2.66	61.70	6.06	78.91	
Standard Deviation		11.02	12.11	6.96	6.90	3.90	1.85	42.73	4.20	54.65	
CV		124.36	165.57	328.38	414.28	692.82	82.0	82.66	18.68	17.08	
Bartlett's X2		0.425	0.6	0.249	0.217	0.0	8.589	9.274	2.348	4.967	
P(Bartlett's X2)		1.00	1.00	0.883	0.897	.	0.66	0.597	0.997	0.933	

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

Column 53: T4 = [C19]+[C43]+[C53]

Column 54: T5 = [C20]+[C44]+[C54]

Trial Comments

GENERAL COMMENTS: PPI were incorporated 1 to 2 inch prior to laying a flat bed of plastic with a 16 inch bed top. PRE treatments were applied and then plastic was laid immediately. The trial was maintained weed free throughout the study.

VISUAL STUNTING:

- 1) Stunting from Sandea ranged from 6 to 19% at 3.5 WAT. Injury was generally a rate response and PPI applications tended to be a little more severe. By 6 WAT injury was less than 10% with Sandea treatments and injury continued to dissipate over time.
- 2) Reflex, Alanap, and Sinbar did not injure melons greater than 4%.

YIELD:

- 1) Herbicide treatments did not affect melon number or weight for those less than 10 lbs, between 10 and 20 lbs, and greater than 20 lbs.
- 2) Total yield number and weight was not affected. CV for total yield were very good (17-18%). FINALLY!!!!!!!!!!!!!!!