University of Georgia

Transplant cantaloupe tolerance to Reflex and Sinbar.

Trial ID: Veg54-06 Study Dir.: Ken Lewis and Kevin Phillips
Location: Cordele Investigator: Stanley Culpepper

Reps: 4 Plots: 12 by 25 feet
Spray vol: 14.8 gal/ac Mix size: 2 liters (min 1.5434)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep 1	2	3	4
1	Curbit	4		L	1	QT/A	PREPLANT	B	33.78 ml/mx	102	210	302	408
	Mulch												
2	Curbit	4		L	1	QT/A	POST	A	33.78 ml/mx	101	209	301	407
	No Mulch												
3	Curbit	4		L	1	QT/A	PREPLANT	A	33.78 ml/mx	104	204	310	404
	Reflex	2		L	1	PT/A	PREPLANT	A	16.89 ml/mx				
	Mulch												
4	Curbit	4		L	1	QT/A	POST	B	33.78 ml/mx	103	203	309	403
	Reflex	2		L	1	PT/A	PREPLANT	A	16.89 ml/mx				
	No Mulch												
5	Curbit	4		L	1	QT/A	PREPLANT	A	33.78 ml/mx	106	208	308	410
	Sinbar	80		DF	3	OZ/A	PREPLANT	A	3.036 g/mx				
	Mulch												
6	Curbit	4		L	1	QT/A	POST	B	33.78 ml/mx	105	207	307	409
	Sinbar	80		DF	3	OZ/A	PREPLANT	A	3.036 g/mx				
	No Mulch												
7	Curbit	4		L	1	QT/A	PREPLANT	A	33.78 ml/mx	108	206	304	402
	Sinbar	80		DF	6	OZ/A	PREPLANT	A	6.072 g/mx				
	Mulch												
8	Curbit	4		L	1	QT/A	POST	B	33.78 ml/mx	107	205	303	401
	Sinbar	80		DF	6	OZ/A	PREPLANT	A	6.072 g/mx				
	No Mulch												
9	Curbit	4		L	1	QT/A	PREPLANT	A	33.78 ml/mx	110	202	306	406
	Sinbar	80		DF	3	OZ/A	PREPLANT	A	3.036 g/mx				
	Reflex	2		L	1	PT/A	PREPLANT	A	16.89 ml/mx				
	Mulch												
10	Curbit	4		L	1	QT/A	POST	B	33.78 ml/mx	109	201	305	405
	Sinbar	80		DF	3	OZ/A	PREPLANT	A	3.036 g/mx				
	Reflex	2		L	1	PT/A	PREPLANT	A	16.89 ml/mx				
	No Mulch												

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
422.253	ml	Curbit	4	L	
84.451	ml	Reflex	2	L	
30.362	g	Sinbar	80	DF	

* '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.

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Trial ID: Veg54-06 Study Dir.: Ken Lewis and Kevin Phillips
Location: Cordele Investigator: Stanley Culpepper

Trial Comments

OBJECTIVE: Determine cantaloupe tolerance to Sinbar and Reflex in bareground or mulched production systems.

INJURY:
1. Treatments over mulch: no treatment caused more than 5% chlorosis or stunting throughout the season.
2. Treatments on bareground: Sinbar at 3 oz/A caused less than 10% injury. Reflex or Sinbar at 6 oz caused severe injury throughout the season.

WEED CONTROL:
1. Tropic Croton: At 57 DAT, Sinbar 6 oz or Reflex plus Sinbar 3 oz provided excellent control. Reflex alone and Sinbar at 3 oz provided fair control. With systems providing fair control, control was greater on mulch because it allowed the cantaloupe to grow more quickly and be more competitive.
2. Palmer amaranth: At 57 DAT, Curbit provided 60% control or less. Adding 3 oz of Sinbar to Curbit improved control only to 71-80%. Control was excellent with all Reflex systems and with Sinbar at 6 oz/A. With systems providing fair control, control was greater on mulch because it allowed the cantaloupe to grow more quickly and be more competitive.
3. Yellow nutsedge: Curbit provided no control. Sinbar at 3 oz provided poor control while 6 oz provided fair control. Reflex systems were generally the most effective systems.

VINE GROWTH (AVG. 5 PLANT/PLOT):
1. Mulched Plots: Compared to Curbit alone, no treatment impacted vine growth. Trends were apparent for reduced growth with 6 oz/A of Sinbar.
2. Bareground Plots: Compared to Curbit alone, Reflex reduced vine growth 65%, Sinbar 3 oz reduced vine growth 20%, Sinbar 6 oz reduced vine growth 96%, and Reflex plus Sinbar 3 oz reduced vine growth 60%.
3. Vines were 13% longer with mulch as compared to bareground when treated with Curbit.

YIELDS:
1. Totaling harvest 1-3 or 1-7 on mulch: The weight of fruit harvested was increased by all Reflex and Sinbar systems when compared to Curbit alone. The number of fruit harvested was increased by the Reflex systems with similar trends noted with the Sinbar systems.
2. Totaling harvest 1-3 or 1-7 on bareground: Yields were low with all systems. Yields from Curbit alone were similar or better than those of Sinbar 6 oz or Reflex alone because Curbit provided poor weed control while the Sinbar and Reflex caused significant injury. A slight increase in yield was noted over Curbit alone with the Sinbar 3 oz or Sinbar/Reflex system which was likely a balance between weed control and crop injury.
3. Totaling harvest 1-3 or 1-7: With the Curbit only system, yields were 55 to 80% greater from mulch as compared to bareground.

GENERAL COMMENTS:
1. Mulched treatments were applied followed by irrigation 3 hours later. Transplants were planted 1 d later.

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Location: Cordele Investigator: Stanley Culpepper

Trt No.	Treatment Name	Rate	Rate Unit	1	2	3	4	5	6	7	8
Weed Code				CUMMC	CUMMC	CVNGS	CVNGS	AMAPA	AMAPA	CYPES	CYPES
Crop Code											
Rating Data Type				injury	injury	control	control	control	control	control	control
Rating Unit				percent	percent	percent	percent	percent	percent	percent	percent
Rating Date				Apr-25-06	May-09-06	May-09-06	Jun-01-06	May-09-06	Jun-01-06	May-09-06	Jun-01-06
Assessed By				SC	SC	SC	SC	SC	SC	SC	SC
Trt-Eval Interval				20 DA-A	34 DA-A	34 DA-A	57 DA-A	34 DA-A	57 DA-A	34 DA-A	57 DA-A
ARM Action Codes											
# Subsamples, Dec.											
1	Curbit Mulch	1	QT/A	0 d	0 c	0 f	0 e	85 c	60 d	0 e	0 f
2	Curbit No Mulch	1	QT/A	0 d	0 c	0 f	0 e	85 c	53 e	0 e	0 f
3	Curbit Reflex Mulch	1 1	QT/A PT/A	2 cd	0 c	84 cd	80 bc	100 a	100 a	90 a	87 ab
4	Curbit Reflex No Mulch	1 1	QT/A PT/A	18 b	41 b	89 bc	73 c	100 a	100 a	94 a	83 b
5	Curbit Sinbar Mulch	1 3	QT/A OZ/A	3 cd	0 c	76 de	86 b	94 b	80 b	35 c	38 d
6	Curbit Sinbar No Mulch	1 3	QT/A OZ/A	9 c	9 c	69 e	63 d	93 b	71 c	25 d	18 e
7	Curbit Sinbar Mulch	1 6	QT/A OZ/A	3 cd	0 c	91 abc	97 a	100 a	97 a	65 b	69 c
8	Curbit Sinbar No Mulch	1 6	QT/A OZ/A	65 a	88 a	99 ab	100 a	100 a	98 a	63 b	66 c
9	Curbit Sinbar Reflex Mulch	1 3 1	QT/A OZ/A PT/A	5 cd	0 c	91 abc	96 a	100 a	100 a	93 a	92 a
10	Curbit Sinbar Reflex No Mulch	1 3 1	QT/A OZ/A PT/A	18 b	49 b	100 a	97 a	100 a	100 a	96 a	91 a
LSD (P=.05)				6.9	8.0	9.3	7.9	3.6	3.1	5.6	7.4
Standard Deviation				4.8	5.5	6.4	5.4	2.5	2.1	3.9	5.1
CV				39.15	29.65	9.17	7.89	2.58	2.51	6.89	9.44
Bartlett's X2				3.966	6.072	12.568	31.594	12.464	28.451	10.996	19.289
P(Bartlett's X2)				0.784	0.108	0.05	0.001*	0.014*	0.001*	0.139	0.007*

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

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Weed Code Crop Code Rating Data Type Rating Unit Rating Date Assessed By Trt-Eval Interval ARM Action Codes # Subsamples, Dec.	plant 1 CUMMC runner leng cm May-09-06 34 DA-A	plant 2 CUMMC runner leng cm May-09-06 34 DA-A	plant 3 CUMMC runner leng cm May-09-06 34 DA-A	plant 4 CUMMC runner leng cm May-09-06 34 DA-A	plant 5 CUMMC runner leng cm May-09-06 34 DA-A	Avg.5 pl CUMMC runner leng cm May-09-06 34 DA-A T1	Har. 1 CUMMC # per plot Jun-12-06 68 DA-A	Har. 1 CUMMC wt/lb per plot Jun-12-06 68 DA-A
Trt No. Treatment Name Rate Rate Unit	9	10	11	12	13	14	15	16
1 Curbit 1 QT/A Mulch	82 ab	82 ab	93 a	85 ab	92 a	87 ab	38 bc	120 c
2 Curbit 1 QT/A No Mulch	71 ab	82 ab	74 ab	80 ab	70 ab	75 b	16 e	38 de
3 Curbit 1 QT/A Reflex 1 PT/A Mulch	78 ab	74 ab	83 ab	86 ab	92 a	82 ab	53 a	213 a
4 Curbit 1 QT/A Reflex 1 PT/A No Mulch	29 cd	30 c	27 c	22 ef	24 c	26 d	29 cd	110 c
5 Curbit 1 QT/A Sinbar 3 OZ/A Mulch	81 ab	92 a	95 a	100 a	89 ab	91 a	46 ab	184 ab
6 Curbit 1 QT/A Sinbar 3 OZ/A No Mulch	55 bc	60 b	63 b	56 cd	68 b	60 c	20 de	63 d
7 Curbit 1 QT/A Sinbar 6 OZ/A Mulch	71 ab	84 ab	75 ab	81 ab	79 ab	78 ab	51 a	222 a
8 Curbit 1 QT/A Sinbar 6 OZ/A No Mulch	14 d	6 d	0 d	0 f	0 d	4 e	2 f	11 e
9 Curbit 1 QT/A Sinbar 3 OZ/A Reflex 1 PT/A Mulch	93 a	82 ab	87 ab	68 bc	85 ab	83 ab	56 a	208 a
10 Curbit 1 QT/A Sinbar 3 OZ/A Reflex 1 PT/A No Mulch	30 cd	33 c	29 c	35 de	25 c	30 d	37 bc	166 b
LSD (P=.05)	25.5	21.6	22.2	22.7	19.7	13.3	9.8	38.4
Standard Deviation	17.6	14.9	15.3	15.7	13.6	9.2	6.7	26.4
CV	29.13	23.89	24.48	25.63	21.78	14.84	19.48	19.83
Bartlett's X2	22.625	12.147	11.095	13.941	8.654	12.353	17.771	11.279
P(Bartlett's X2)	0.007*	0.205	0.196	0.083	0.372	0.194	0.038*	0.257

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

Column 14: T1 = @AVG([C9].[C13])

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Trt No.	Treatment Name	Rate	Rate Unit	Har. 2 CUMMC # per plot Jun-17-06 73 DA-A 17	Har. 2 CUMMC wt/lb per plot Jun-17-06 73 DA-A 18	Har. 3 CUMMC # per plot Jun-19-06 75 DA-A 19	Har. 3 CUMMC wt/lb per plot Jun-19-06 75 DA-A 20	Har. 4 CUMMC # per plot Jun-22-06 78 DA-A 21	Har. 4 CUMMC wt/lb per plot Jun-22-06 78 DA-A 22	Har. 5 CUMMC # per plot Jun-25-06 81 DA-A 23	Har. 5 CUMMC wt/lb per plot Jun-25-06 81 DA-A 24	Har. 6 CUMMC # per plot Jun-29-06 85 DA-A 25
1	Curbit Mulch	1	QT/A	14 a	47 a	9 ab	22 bcd	4 bc	14 bc	1 bc	2 c	1 bc
2	Curbit No Mulch	1	QT/A	3 b	7 b	7 bc	14 cd	4 bc	11 c	2 bc	3 c	0 c
3	Curbit Reflex Mulch	1 1	QT/A PT/A	12 a	49 a	14 a	60 a	6 abc	27 abc	1 bc	4 c	2 bc
4	Curbit Reflex No Mulch	1 1	QT/A PT/A	1 b	2 b	2 cd	5 cd	3 bc	9 c	11 a	36 b	10 a
5	Curbit Sinbar Mulch	1 3	QT/A OZ/A	11 a	46 a	15 a	57 a	7 abc	23 abc	2 bc	8 c	2 bc
6	Curbit Sinbar No Mulch	1 3	QT/A OZ/A	3 b	9 b	9 ab	26 bc	6 abc	16 bc	2 bc	7 c	2 bc
7	Curbit Sinbar Mulch	1 6	QT/A OZ/A	12 a	49 a	10 ab	41 ab	11 a	46 a	3 bc	10 c	3 b
8	Curbit Sinbar No Mulch	1 6	QT/A OZ/A	0 b	0 b	0 d	0 d	0 c	0 c	0 c	2 c	1 bc
9	Curbit Sinbar Reflex Mulch	1 3 1	QT/A OZ/A PT/A	12 a	54 a	12 ab	51 a	9 ab	38 ab	5 b	10 c	3 b
10	Curbit Sinbar Reflex No Mulch	1 3 1	QT/A OZ/A PT/A	0 b	0 b	2 cd	4 cd	5 abc	19 bc	12 a	58 a	10 a
LSD (P=.05)				5.9	23.5	5.5	20.3	5.9	23.4	3.8	12.5	2.4
Standard Deviation				4.0	16.2	3.8	14.0	4.1	16.1	2.6	8.6	1.7
CV				60.64	61.51	48.31	50.12	75.22	79.85	69.39	62.64	50.67
Bartlett's X2				12.447	20.544	9.515	12.975	13.592	17.08	23.732	20.497	13.564
P(Bartlett's X2)				0.087	0.005*	0.301	0.113	0.093	0.029*	0.005*	0.015*	0.139

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

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Weed Code				Har. 6	Har. 7	Har. 7	Har1-3	Har1-3	Har1-7	Har1-7
Crop Code				CUMMC	CUMMC	CUMMC	CUMMC	CUMMC	CUMMC	CUMMC
Rating Data Type				wt/lb	#	wt/lb	#	wt/lb	#	wt/lb
Rating Unit				per plot	per plot	per plot	per plot	per plot	per plot	per plot
Rating Date				Jun-29-06	Jul-03-06	Jul-03-06	Jul-03-06	Jul-03-06	Jul-03-06	Jul-03-06
Assessed By										
Trt-Eval Interval				85 DA-A	89 DA-A	89 DA-A	89 DA-A	89 DA-A	89 DA-A	89 DA-A
ARM Action Codes							T2	T3	T4	T5
# Subsamples, Dec.							1	1	1	1
Trt No.	Treatment Name	Rate	Rate Unit	26	27	28	30	31	32	33
1	Curbit	1	QT/A	2 d	0 b	0 b	60.5 b	188.5 b	65.8 cd	206.5 c
	Mulch									
2	Curbit	1	QT/A	1 d	0 b	0 b	25.0 c	59.0 de	30.8 e	74.3 de
	No Mulch									
3	Curbit	1	QT/A	9 cd	3 b	13 b	78.8 a	321.9 a	91.0 ab	373.9 ab
	Reflex	1	PT/A							
	Mulch									
4	Curbit	1	QT/A	38 b	2 b	9 b	31.3 c	116.5 cd	57.0 d	208.0 c
	Reflex	1	PT/A							
	No Mulch									
5	Curbit	1	QT/A	8 cd	1 b	3 b	71.3 ab	286.9 a	82.3 bc	328.4 b
	Sinbar	3	OZ/A							
	Mulch									
6	Curbit	1	QT/A	5 d	0 b	0 b	31.8 c	98.0 d	40.5 e	125.8 d
	Sinbar	3	OZ/A							
	No Mulch									
7	Curbit	1	QT/A	18 c	8 a	40 a	72.5 ab	312.0 a	97.0 ab	425.8 a
	Sinbar	6	OZ/A							
	Mulch									
8	Curbit	1	QT/A	2 d	1 b	8 b	2.0 d	11.3 e	4.0 f	22.5 e
	Sinbar	6	OZ/A							
	No Mulch									
9	Curbit	1	QT/A	14 cd	10 a	49 a	79.8 a	312.4 a	106.8 a	423.3 a
	Sinbar	3	OZ/A							
	Reflex	1	PT/A							
	Mulch									
10	Curbit	1	QT/A	51 a	7 a	31 a	38.3 c	170.1 bc	72.8 cd	328.0 b
	Sinbar	3	OZ/A							
	Reflex	1	PT/A							
	No Mulch									
LSD (P=.05)				11.0	3.2	17.5	14.98	61.17	16.22	70.16
Standard Deviation				7.6	2.2	12.1	10.32	42.15	11.18	48.35
CV				51.57	69.16	78.67	21.03	22.47	17.25	19.22
Bartlett's X2				13.847	9.581	16.086	22.799	15.168	11.584	7.837
P(Bartlett's X2)				0.128	0.143	0.013*	0.007*	0.086	0.238	0.551

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)
Column 29: T2 = [C15]+[C17]+[C19]
Column 30: T3 = [C16]+[C18]+[C20]
Column 31: T4 = [C30]+[C21]+[C23]+[C25]+[C27]
Column 32: T5 = [C31]+[C22]+[C24]+[C26]+[C28]

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Trial ID: Veg54-06 Study Dir.: Ken Lewis and Kevin Phillips
Location: Cordele Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Ken Lewis and Kevin Phillips **Title:** _____
Affiliation: Ken Lewis and Kevin Phillips
Postal Code: UGA Extens

Investigator: Univ. of Georgia **Title:** 31794
Affiliation: Stanley Culpepper
Postal Code: Ext. Weed

TRIAL LOCATION

City: Cordele **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** good
Postal Code: _____ **Initiation Date:** Apr-05-06
Country: USA **Planned Completion Date:** _____
E-Longitude of LL Corner °: 452006 **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.	CVNGS	tropic croton	
2.	AMAPA	Palmer amaranth	
3.	CYPES	yellow nutsedge	

Crop 1: CUMMC cantaloupe **Variety:** Athena
Planting Date: Apr-06-06 **Planting Method:** transplant
Rate: 1 3 ft **Depth:** 2 in **Perennial Age:** ____ _____
Row Spacing: 12 ft **Spacing Within Row:** 3 ft **Seed Bed:** flat
Soil Temperature: 65 F **Soil Moisture:** irrigated **Emergence Date:** _____

SITE AND DESIGN

Plot Width, Unit: 12 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: on farm
Tillage Type: conventional **Study Design:** SPLIT-PLOT

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: 86 **% OM:** 2.1 **Texture:** Loamy sand
% Silt: 6 **pH:** 6.0 **Soil Name:** _____
% Clay: 8 **CEC:** _____ **Fert. Level:** _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: _____
Closest Weather Station: _____ **Distance:** _____ **Unit:** __

APPLICATION DESCRIPTION

	A	B
Application Date:	Apr-05-06	Apr-06-06
Time of Day:	10 am	10 am
Application Method:	broadcast	broadcast
Application Timing:	PREPLANT	POST
Applic. Placement:	on soil	over tran
Air Temp., Unit:	62 F	65 F
% Relative Humidity:	35	40
Wind Velocity, Unit:	4 mph	2 mph
Dew Presence (Y/N):	n	n
Water Hardness:		
Soil Temp., Unit:	65 F	68 F
Soil Moisture:	irrigated	irrigated
% Cloud Cover:	0	0

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	CUMMC PREPLANT	CUMMC POST
Stage Scale:	no crop	3lf trans
Height, Unit:	0 inch	3 inch

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WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	CVNGS PREPLANT	CVNGS POST
Stage Scale:	not up	not up
Density, Unit:	15 ydsq	15 ydsq
Weed 2 Code, Stage:	AMAPA PREPLANT	AMAPA POST
Stage Scale:	not up	not up
Density, Unit:	15 ydsq	15 ydsq
Weed 3 Code, Stage:	CYPES PREPLANT	CYPES POST
Stage Scale:	not up	not up
Density, Unit:	10 ydsq	10 ydsq

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	backpack	tractor
Operating Pressure:	23	25
Nozzle Type:	flat fan	flat fan
Nozzle Size:	11002	8002
Nozzle Spacing, Unit:	18 inch	18 inch
Nozzles/Row:	4	4
Band Width, Unit:		
Boom Length, Unit:	4.5 feet	6 feet
Boom Height, Unit:	15 inch	18 inch
Ground Speed, Unit:	3 mph	3 mph
Incorporation Equip.:		
Hours to Incorp.:		
Incorp. Depth, Unit:		
Carrier:	water	water
Spray Volume, Unit:	14.8 GPA	15 GPA
Spray pH:		
Propellant:	CO2	PTO
Tank Mix (Y/N):	Y	Y

Trt No	Treatment Application Comment