

University of Georgia

Tomato response to Reflex applied PRE under plastic.

Trial ID: Veg43-03
 Location: Ponder farm

Study Dir.:
 Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanely 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: 31974	

TRIAL LOCATION

City: TyTy	Trial Status: completed
State/Prov.: Ga	Trial Reliability: excellent
Postal Code: 31794	Initiation Date: Jul-15-03
Country: U.S.A	

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

Crop 1: LYPES TOMATO	Variety: Amelia
Planting Date: Aug-06-03	Planting Method: transplant
Rate: 1 18 inch	Depth: 1.5 in
Row Spacing: 6 feet	Spacing Within Row: 18 inch Seed Bed: plastic
Soil Temperature: 92 F	Soil Moisture: drip

SITE AND DESIGN

Plot Width, Unit: 6 FT	Plot Length, Unit: 25 FT	Reps: 3
Site Type: research station		
Tillage Type: plasticulture	Study Design: RANDOMIZED COMPLETE BLOCK	

SOIL DESCRIPTION

% Sand: 94	% OM: 1.1	Texture: sand
% Silt: 2	pH: 6.4	Soil Name: Tifton sandy loam
% Clay: 4		

APPLICATION DESCRIPTION

A	
Application Date:	Jul-28-03
Time of Day:	1:30pm
Application Method:	broadcast
Application Timing:	PRE
Applic. Placement:	un plasti
Air Temp., Unit:	91 f
% Relative Humidity:	58
Wind Velocity, Unit:	0 F
Dew Presence (Y/N):	n
Soil Temp., Unit:	90 F
Soil Moisture:	drip
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

A	
Crop 1 Code, Stage:	LYPES .
Stage Scale:	.
Height, Unit:	0. .

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APPLICATION EQUIPMENT

	A
Appl. Equipment:	superbedd
Operating Pressure:	29
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	12 inch
Nozzles/Row:	5
Boom Length, Unit:	6 feet
Boom Height, Unit:	12 inch
Ground Speed, Unit:	3 mph
Carrier:	water
Spray Volume, Unit:	27.4 GPA
Propellant:	CO2
Tank Mix (Y/N):	Y

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Tomato response to Reflex applied PRE under plastic.

Trial ID: Veg43-03
 Location: Ponder farm

Study Dir.:
 Investigator: Stanley Culpepper

Weed Code	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato			
Crop Code	injury	injury	cypes	cypro	ht	ht	ht	ht			
Rating Data Type	percent	percent	percent	percent	cm	cm	cm	cm			
Rating Unit											
Rating Date	Aug-19-03	Sep-05-03	Sep-05-03	Sep-05-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03			
Trt-Eval Interval	39 DA-A	39 DA-A	39 DA-A	39 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A			
ARM Action Codes											
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7	8
1	No herbicide			0.0	0.0	0.0	0.0	16.3	16.3	16.7	16.3
2	Reflex	1	pt/a	0.0	0.0	91.7	70.0	16.3	17.0	17.3	16.3
3	Reflex	2	pt/a	0.0	3.3	92.7	73.3	16.0	17.7	16.3	15.7
LSD (P=.05)				0.00	7.56	3.89	13.62	2.00	7.11	4.78	4.95
Standard Deviation				0.00	3.33	1.72	6.01	0.88	3.14	2.11	2.19
CV				0.0	300.0	2.79	12.58	5.44	18.45	12.57	13.57
Bartlett's X2				0.0	0.0	0.035	1.166	0.408	1.545	3.792	0.417
P(Bartlett's X2)				.	.	0.852	0.28	0.816	0.462	0.15	0.812

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

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Weed Code							AVG10pla	
Crop Code	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm
Rating Date	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-13-03	Aug-25-03
Trt-Eval Interval	16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	28 DA-A
ARM Action Codes							T1	
Trt Treatment								
No. Name Rate Unit	9	10	11	12	13	14	15	16
1 No herbicide	15.0	17.3	16.7	15.0	16.3	15.3	16.1	28.3
2 Reflex 1 pt/a	16.7	17.0	16.7	15.0	18.3	18.3	16.9	27.0
3 Reflex 2 pt/a	15.7	15.7	18.3	17.0	18.0	16.7	16.7	27.3
LSD (P=.05)	5.37	3.82	3.54	5.70	4.21	2.56	2.54	6.97
Standard Deviation	2.37	1.68	1.56	2.52	1.86	1.13	1.12	3.07
CV	15.01	10.1	9.08	16.06	10.57	6.74	6.77	11.15
Bartlett's X2	2.958	1.152	0.417	3.233	0.873	2.735	0.055	0.879
P(Bartlett's X2)	0.228	0.562	0.812	0.072	0.646	0.255	0.973	0.644

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

Column 15: T1 = @AVG([5].[14])

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Weed Code									
Crop Code	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm	cm
Rating Date	Aug-25-03	Aug-25-03	Aug-25-03	Aug-25-03	Aug-25-03	Aug-25-03	Aug-25-03	Aug-25-03	Aug-25-03
Trt-Eval Interval	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A
ARM Action Codes									
Trt Treatment									
No. Name Rate Unit	17	18	19	20	21	22	23	24	
1 No herbicide	29.0	31.3	29.3	25.3	27.3	24.0	24.3	26.3	
2 Reflex 1 pt/a	27.0	27.3	27.0	27.3	27.0	26.3	25.7	28.3	
3 Reflex 2 pt/a	25.7	26.7	26.7	25.7	27.0	27.3	28.7	28.3	
LSD (P=.05)	7.78	12.05	5.63	2.00	10.37	10.16	5.97	6.14	
Standard Deviation	3.43	5.32	2.48	0.88	4.58	4.48	2.64	2.71	
CV	12.61	18.69	8.98	3.38	16.88	17.32	10.05	9.79	
Bartlett's X2	0.305	2.528	5.238	0.495	0.019	3.068	3.897	0.067	
P(Bartlett's X2)	0.859	0.282	0.073	0.781	0.991	0.216	0.142	0.967	

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

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Weed Code		AVG10pla							
Crop Code	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm	cm
Rating Date	Aug-25-03	Aug-25-03	Sep-04-03	Sep-04-03	Sep-04-03	Sep-04-03	Sep-04-03	Sep-04-03	Sep-04-03
Trt-Eval Interval	28 DA-A	28 DA-A	38 DA-A	38 DA-A	38 DA-A	38 DA-A	38 DA-A	38 DA-A	38 DA-A
ARM Action Codes		T2							
Trt Treatment	Rate								
No. Name	Rate Unit	25	26	27	28	29	30	31	32
1 No herbicide		25.7	27.1	39.3	43.7	41.0	37.7	39.0	42.7
2 Reflex	1 pt/a	27.7	27.1	40.7	40.3	39.3	41.3	41.7	40.3
3 Reflex	2 pt/a	25.3	26.9	40.3	40.0	39.0	40.7	39.3	37.0
LSD (P=.05)		9.14	4.89	11.80	12.35	11.87	13.78	5.85	10.91
Standard Deviation		4.03	2.16	5.21	5.45	5.24	6.08	2.58	4.81
CV		15.39	7.99	12.98	13.18	13.17	15.24	6.45	12.03
Bartlett's X2		1.948	2.083	1.792	0.125	0.08	1.67	2.683	0.385
P(Bartlett's X2)		0.378	0.353	0.408	0.939	0.961	0.434	0.261	0.825

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

Column 26: T2 = @AVG([16].[25])

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Weed Code					AVG10pla				
Crop Code	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht	ht
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm	cm
Rating Date	Sep-04-03	Sep-04-03	Sep-04-03	Sep-04-03	Sep-04-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03
Trt-Eval Interval	38 DA-A	38 DA-A	38 DA-A	38 DA-A	38 DA-A	59 DA-A	59 DA-A	59 DA-A	59 DA-A
ARM Action Codes					T3				
Trt Treatment									
No. Name Rate Unit	33	34	35	36	37	38	39	40	
1 No herbicide	44.3	40.0	40.7	39.0	40.7	89.0	80.0	87.3	
2 Reflex 1 pt/a	37.7	39.0	42.0	41.3	40.4	87.7	86.0	87.3	
3 Reflex 2 pt/a	40.7	35.7	40.7	39.3	39.3	86.3	84.3	84.3	
LSD (P=.05)	11.80	12.16	5.37	9.95	6.04	8.73	17.48	13.85	
Standard Deviation	5.21	5.36	2.37	4.39	2.66	3.85	7.71	6.11	
CV	12.73	14.04	5.76	11.01	6.64	4.39	9.24	7.08	
Bartlett's X2	1.573	0.1	5.005	2.199	2.743	1.225	0.723	1.939	
P(Bartlett's X2)	0.456	0.951	0.082	0.333	0.254	0.542	0.697	0.379	

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

Column 37: T3 = @AVG([27].[36])

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Weed Code	tomato	tomato	tomato	tomato	tomato	tomato	tomato	Avg10pla			
Crop Code	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato			
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht			
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm			
Rating Date	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03	Sep-25-03			
Trt-Eval Interval	59 DA-A	59 DA-A	59 DA-A	59 DA-A	59 DA-A	59 DA-A	59 DA-A	59 DA-A			
ARM Action Codes								T4			
Trt No.	Treatment Name	Rate	Unit	41	42	43	44	45	46	47	48
1	No herbicide			80.3	82.3	85.3	88.0	86.3	85.3	83.7	84.8
2	Reflex	1	pt/a	87.7	88.3	88.3	91.0	86.7	86.3	81.0	87.0
3	Reflex	2	pt/a	87.0	85.7	88.0	86.7	86.0	84.7	85.3	85.8
LSD (P=.05)				9.66	15.34	10.82	9.42	14.81	9.82	7.23	6.45
Standard Deviation				4.26	6.77	4.77	4.16	6.53	4.33	3.19	2.85
CV				5.01	7.92	5.47	4.69	7.57	5.07	3.83	3.31
Bartlett's X2				0.087	6.596	2.975	2.513	2.47	4.469	1.808	4.877
P(Bartlett's X2)				0.957	0.037*	0.226	0.285	0.291	0.107	0.405	0.087

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

Column 48: T4 = @AVG([38].[47])

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Weed Code	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato	tomato		
Crop Code	jumbo	jumbo	large	large	medium	medium	small	small	small		
Rating Data Type	#/plot	lb/plot	#/plot	lb/plot	#/plot	lb/plot	#/plot	lb/plot	lb/plot		
Rating Unit	Oct-30-03	Oct-30-03	Oct-30-03	Oct-30-03	Oct-30-03	Oct-30-03	Oct-30-03	Oct-30-03	Oct-30-03		
Rating Date	94 DA-A	94 DA-A	94 DA-A	94 DA-A	94 DA-A	94 DA-A	94 DA-A	94 DA-A	94 DA-A		
Trt-Eval Interval											
ARM Action Codes											
Trt No.	Treatment Name	Rate	Unit	49	50	51	52	53	54	55	56
1	No herbicide			10.3	5.4	9.7	3.6	9.0	2.5	41.3	5.5
2	Reflex	1	pt/a	19.3	12.3	11.0	4.5	16.3	4.6	67.3	9.2
3	Reflex	2	pt/a	17.3	9.8	8.3	2.8	17.0	4.2	73.7	9.3
LSD (P=.05)				11.63	7.09	14.37	6.02	11.98	3.57	22.45	2.96
Standard Deviation				5.13	3.13	6.34	2.66	5.29	1.58	9.91	1.31
CV				32.75	34.07	65.56	73.34	37.46	41.97	16.3	16.33
Bartlett's X2				5.066	9.703	8.166	8.571	2.24	3.348	0.41	0.16
P(Bartlett's X2)				0.079	0.008*	0.017*	0.014*	0.326	0.188	0.815	0.923

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

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Weed Code			Total	Total
Crop Code	tomato	tomato	tomato	tomato
Rating Data Type	cull	cull	fruit	fruit
Rating Unit	#/plot	lb/plot	#/plot	lb/plot
Rating Date	Oct-30-03	Oct-30-03	Jan-17-04	Jan-17-04
Trt-Eval Interval	94 DA-A	94 DA-A	173 DA-A	173 DA-A
ARM Action Codes			T5	T6
Trt No.	Treatment Name	Rate	Unit	
57				60
1	No herbicide	6.0	2.1	70.3
2	Reflex 1 pt/a	5.3	7.2	114.0
3	Reflex 2 pt/a	4.3	1.3	116.3
LSD (P=.05)	4.00	11.19	17.03	4.37
Standard Deviation	1.76	4.94	7.51	1.93
CV	33.78	138.83	7.5	7.85
Bartlett's X2	1.187	8.312	1.927	3.284
P(Bartlett's X2)	0.552	0.016*	0.382	0.194

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

Column 59: T5 = [49]+[51]+[53]+[55]

Column 60: T6 = [50]+[52]+[54]+[56]

Trial Comments

OBJECTIVE: Evaluate tomato and nutsedge response to Reflex applied under plastic.

VISUAL INJURY

1. Reflex did not visually impact tomato growth.

TOMATO HEIGHTS (10 plants per plot):

1. Reflex had noeffect on tomato heights.

TOMATO YIELDS (10 plants per plot once over):

1. Yields were greater in plots treated with Reflex than the non-treated control due to the reduction in nutsedge pressure.

NUTSEDGE CONTROL:

1. Reflex provided excellent control of yellow nutsedge (92-93%) at 28 days after planting.
2. Reflex provided fair control of purple nutsedge (70-73%) at 28 days after planting.

GENERAL COMMENTS:

1. Applied Telone C35 at 22 GPA on July 15.
2. Laid plastic on July 28.