

# University of Georgia

## Watermelon response to preplant applications of 2,4-D.

Trial ID: Veg14-05(24-D) Study Dir.: Stanley Culpepper  
 Location: Ponder farm (5139) Investigator: Stanley Culpepper

Reps: 3 Plots: 6 by 25 feet  
 Spray vol: 14.8 gal/ac Mix size: 1 liters (min .57876)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	Amt to Measure	Product	Plot No. 1	Plot No. 2	Plot No. 3
1	Non-treated									101	204	303
2	2,4-D 14 DBP	4 L		1 pt/a			A A	8.445 ml/mx		102	205	302
3	2,4-D 14 DBP	4 L		2 pt/a			A A	16.89 ml/mx		103	201	305
4	2,4-D 7 DBP	4 L		1 pt/a			B B	8.445 ml/mx		104	202	304
5	2,4-D 7 DBP	4 L		2 pt/a			B B	16.89 ml/mx		105	203	301
6	2,4-D 0 DBP	4 L		1 pt/a			C C	8.445 ml/mx		106	206	306

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Lot Code
73.894	ml	2,4-D 4 L	

\* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1 liters (mix size basis).  
 \* Product amount calculations increased 25 % for overage adjustment.

### Trial Comments

OBJECTIVE: Evaluate the potential for applying 2,4-D in conservation tillage watermelon prior to transplanting.

**RESULTS:**

- At 12 DAT, injury was greater than 5% only when watermelon were planted on the same day that 1 pt/A of 2,4-D was applied.
- Runner length of five plants per plot were measured on two occasions. There tended to be a little stunting with 2,4-D applied on day 0 and 2 pt of 2,4-D applied 7 days before planting.

**CONCLUSIONS:**

- Results from this trial suggest it may be possible to use 2,4-D as a burndown before transplanting watermelon, especially if one waits 2 weeks or so.

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Weed Code	watermel	watermel	watermel	plant 1	plant 2	plant 3	plant 4	plant 5	Avg5plan
Crop Code	watermel	watermel	watermel	watermel	watermel	watermel	watermel	watermel	watermel
Rating Data Type	injury	injury	injury	dt	dt	dt	dt	dt	watermel
Rating Unit	percent	percent	percent	cm	cm	cm	cm	cm	cm
Rating Date	Apr-05-05	Apr-15-05	May-16-05	Apr-18-05	Apr-18-05	Apr-18-05	Apr-18-05	Apr-18-05	Apr-18-05
Trt-Eval Interval	26 DA-A	36 DA-A	67 DA-A	39 DA-A	39 DA-A	39 DA-A	39 DA-A	39 DA-A	39 DA-A
ARM Action Codes									T1
# Subsamples, Dec.									1
Trt No.	1	2	3	4	5	6	7	8	9
Treatment Name									
Rate									
Unit									
1 Non-treated	0	0	4	9	7	11	12	12	10.2
2 2,4-D 14 DBP 1 pt/a	0	0	7	11	12	13	12	12	12.1
3 2,4-D 14 DBP 2 pt/a	0	0	8	12	11	10	8	12	10.6
4 2,4-D 7 DBP 1 pt/a	3	0	7	10	10	11	11	10	10.3
5 2,4-D 7 DBP 2 pt/a	4	0	16	10	8	9	9	10	9.2
6 2,4-D 0 DBP 1 pt/a	13	3	0	5	4	10	9	10	7.8
LSD (P=.05)	7.2	4.3	12.4	4.5	6.5	2.2	4.3	4.2	2.97
Standard Deviation	4.0	2.4	6.8	2.5	3.6	1.2	2.4	2.3	1.63
CV	123.45	424.26	96.91	25.89	40.74	11.51	23.1	21.25	16.24

Means followed by same letter do not significantly differ (P=.05, LSD)

Column 9: T1 = @AVG([4],[8])

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Weed Code	plant 1	plant 2	plant 3	plant 4	plant 5	Avg5plan		
Crop Code	watermel	watermel	watermel	watermel	watermel	watermel		
Rating Data Type	dt	dt	dt	dt	dt	dt		
Rating Unit	cm	cm	cm	cm	cm	cm		
Rating Date	May-11-05	May-11-05	May-11-05	May-11-05	May-11-05	May-11-05		
Trt-Eval Interval	62 DA-A	62 DA-A	62 DA-A	62 DA-A	62 DA-A	62 DA-A		
ARM Action Codes						T2		
# Subsamples, Dec.						1		
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate		
		Unit	Unit	Unit	Unit	Unit		
		10	11	12	13	14	15	
1	Non-treated		37	31	30	31	39	33.7
2	2,4-D 14 DBP	1 pt/a	40	43	38	31	40	38.5
3	2,4-D 14 DBP	2 pt/a	38	29	35	15	30	29.1
4	2,4-D 7 DBP	1 pt/a	25	21	40	36	45	33.4
5	2,4-D 7 DBP	2 pt/a	28	21	16	19	15	19.9
6	2,4-D 0 DBP	1 pt/a	23	22	30	24	23	24.5
LSD (P=.05)			17.0	14.6	13.8	17.4	14.2	6.17
Standard Deviation			9.3	8.0	7.6	9.6	7.8	3.39
CV			29.33	28.88	24.1	36.75	24.29	11.37

Means followed by same letter do not significantly differ (P=.05, LSD)

Column 15: T2 = @AVG([10].[14])

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Trial ID: Veg14-05(24-D) Study Dir.: Stanley Culpepper  
 Location: Ponder farm (5139) Investigator: Stanley Culpepper

### GENERAL TRIAL INFORMATION

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

### TRIAL LOCATION

**City:** TyTy **Trial Status:** completed  
**State/Prov.:** GA **Trial Reliability:** good  
**Postal Code:** 31794 **Initiation Date:** Mar-10-05  
**Country:** USA **Planned Completion Date:** \_\_\_\_\_  
**E-Longitude of LL Corner °:** \_\_\_\_\_ **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.	.		

**Crop 1:** CITLA watermelon **Variety:** millionaire  
**Planting Date:** Mar-24-05 **Planting Method:** transplant  
**Rate:** 1 3 ft **Depth:** 1 in **Perennial Age:** \_\_\_\_\_  
**Row Spacing:** 12 feet **Spacing Within Row:** 3 feet **Seed Bed:** flat bareground  
**Soil Temperature:** 54 F **Soil Moisture:** moist **Emergence Date:** \_\_\_\_\_

### SITE AND DESIGN

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

**Trial Initiation Comments:**

	Previous Crops	Previous Pesticides	Year
1.			

### MAINTENANCE

**Field Prep./Maintenance:**

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No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

**SOIL DESCRIPTION**

% Sand: 94      % OM: 1.1      Texture: sand  
 % Silt: 2        pH: 6.4        Soil Name: Tifton sandy loam  
 % Clay: 4        CEC: \_\_\_\_\_      Fert. Level: \_\_\_\_\_

**ADDITIONAL MEASURED ELEMENTS**

Element	Quantity	Unit

**MOISTURE CONDITIONS**

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: irrigated

Closest Weather Station: \_\_\_\_\_ Distance: \_\_\_\_\_ Unit: \_\_

**APPLICATION DESCRIPTION**

	A	B	C
Application Date:	Mar-10-05	Mar-18-05	Mar-24-05
Time of Day:	9 am	2 pm	10 am
Application Method:	broadcast	broadcast	broadcast
Application Timing:	14DBP	7 DBP	0 DBP
Applic. Placement:	on soil	on soil	on soil
Air Temp., Unit:	52 F	48 F	72 F
% Relative Humidity:	44	42	72
Wind Velocity, Unit:	2 mph	2 mph	1 mph
Dew Presence (Y/N):	n	n	n
Water Hardness:			
Soil Temp., Unit:	52 F	54 F	54 F
Soil Moisture:	moist	wet	moist
% Cloud Cover:	0	0	0

**CROP STAGE AT EACH APPLICATION**

	A	B	C
Crop 1 Code, Stage:	CITLA 14 DBP	CITLA 7 DBP	CITLA 0 DBP
Stage Scale:	not plant	not plant	not plant
Height, Unit:	0 in	0 in	0 in

**WEED STAGE AT EACH APPLICATION**

	A	B	C
Weed 1 Code, Stage:	.		
Stage Scale:	.		
Density, Unit:	.	.	

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## APPLICATION EQUIPMENT

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

Trt No	Treatment Application Comment