

# University of Georgia

**Moisture impacts on Resource defoliant programs.**

Trial ID: C17-06  
 Location: Ponder (5161)

Study Dir.: Stanley Culpepper  
 Investigator: Stanley Culpepper

Reps: 4                      Plots: 6 by 25 feet  
 Spray vol: 14.8 gal/ac      Mix size: 1 liters (min .77168)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate	Grow Unit	Appl Stg	Amt Code	Product to Measure	Plot No. By Rep			
										1	2	3	4
1	No defoliant Dry Land									101	207	309	407
2	No defoliant Drip Irrigation									102	208	310	408
3	Resource PREP COC Dry Land	0.86 6	L L L		4 1.33 1	OZ/A PT/A PT/A	defoliant defoliant defoliant	A A A	2.111 ml/mx 11.23 ml/mx 8.445 ml/mx	103	211	311	403
4	Resource PREP COC Drip Irrigation	0.86 6	L L L		4 1.33 1	OZ/A PT/A PT/A	defoliant defoliant defoliant	A A A	2.111 ml/mx 11.23 ml/mx 8.445 ml/mx	104	212	312	404
5	Resource PREP COC Dry Land	0.86 6	L L L		6 1.33 1	OZ/A PT/A PT/A	defoliant defoliant defoliant	A A A	3.167 ml/mx 11.23 ml/mx 8.445 ml/mx	105	203	305	409
6	Resource PREP COC Drip Irrigation	0.86 6	L L L		6 1.33 1	OZ/A PT/A PT/A	defoliant defoliant defoliant	A A A	3.167 ml/mx 11.23 ml/mx 8.445 ml/mx	106	204	306	410
7	Resource PREP COC Dropp SC Dry Land	0.86 6	L L L L		4 1.33 1 1.2	OZ/A PT/A PT/A OZ/A	defoliant defoliant defoliant defoliant	A A A A	2.111 ml/mx 11.23 ml/mx 8.445 ml/mx 0.6334 ml/mx	107	201	307	411
8	Resource PREP COC Dropp SC Drip Irrigation	0.86 6	L L L L		4 1.33 1 1.2	OZ/A PT/A PT/A OZ/A	defoliant defoliant defoliant defoliant	A A A A	2.111 ml/mx 11.23 ml/mx 8.445 ml/mx 0.6334 ml/mx	108	202	308	412
9	Resource PREP COC Dropp SC Dry Land	0.86 6	L L L L		6 1.33 1 1.2	OZ/A PT/A PT/A OZ/A	defoliant defoliant defoliant defoliant	A A A A	3.167 ml/mx 11.23 ml/mx 8.445 ml/mx 0.6334 ml/mx	109	209	303	401
10	Resource PREP COC Dropp SC Drip Irrigation	0.86 6	L L L L		6 1.33 1 1.2	OZ/A PT/A PT/A OZ/A	defoliant defoliant defoliant defoliant	A A A A	3.167 ml/mx 11.23 ml/mx 8.445 ml/mx 0.6334 ml/mx	110	210	304	402
11	Resource PREP COC Resource COC Dry Land	0.86 6	L L L L L		4 1.33 1 4 1	OZ/A PT/A PT/A OZ/A PT/A	defoliant defoliant defoliant defoliant defoliant	A A A B B	2.111 ml/mx 11.23 ml/mx 8.445 ml/mx 2.111 ml/mx 8.445 ml/mx	111	205	301	405

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Reps: 4                      Plots: 6 by 25 feet  
 Spray vol: 14.8 gal/ac      Mix size: 1 liters (min .77168)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Grow Unit	Appl Code	Amt Product to Measure	Plot No. By Rep			
									1	2	3	4
12	Resouce	0.86		L	4	OZ/A	defoliant A	2.111 ml/mx	112	206	302	406
	PREP	6		L	1.33	PT/A	defoliant A	11.23 ml/mx				
	COC			L	1	PT/A	defoliant A	8.445 ml/mx				
	Resource	0.86		L	4	OZ/A	defoliant B	2.111 ml/mx				
	COC			L	1	PT/A	defoliant B	8.445 ml/mx				
	Drip Irrigation											

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
22.435	ml	Resource	0.86	L	
140.399	ml	PREP	6	L	
126.676	ml	COC		L	
14.517	ml	Resouce	0.86	L	
3.167	ml	Dropp SC		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: Determine the impact of irrigation on cotton defoliation with several defoliant systems.

MAIN EFFECTS WERE SIGNIFICANT WITH ALL EVALUATIONS AND ARE REPORTED:

**IMPACT OF IRRIGATION:**

1. Pooled over defoliant options, percent irrigated cotton defoliation was 12, 21, and 17% greater than defoliation of non-irrigated cotton at 7, 14, and 26 d after the initial defoliation.
2. Regrowth was 9 and 13% less on irrigated cotton as compared to non-irrigated cotton at 14 and 26 days after the initial defoliation, respectively.

**COMPARISON OF DEFOLIANTS:**

1. Resource plus Dropp treatments were the most effective defoliant options throughout the trial. These applications were more effective than sequential Resource applications.
2. At 14 d after the initial application, regrowth was less with the sequential Resource system and the Resource 6 oz plus Drop system. By 26 d after the initial application no differences were noted.

**GENERAL COMMENTS:**

1. Irrigation was administered through drip irrigation.

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**Moisture impacts on Resource defoliant programs.**

Trial ID: C17-06  
 Location: Ponder (5161)

Study Dir.: Stanley Culpepper  
 Investigator: Stanley Culpepper

Crop Code		GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	
Rating Data Type		defol	defol	defol	regrowth	regrowth	
Rating Unit		%	%	%	%	%	
Rating Date		Sep-11-06	Sep-18-06	Sep-30-06	Sep-18-06	Sep-30-06	
Assessed By		SC	SC	SC	SC	SC	
Trt-Eval Interval		7 DA-A	14 DA-A	26 DA-A	14 DA-A	26 DA-A	
Trt No.	Treatment Name	Rate					
		Rate Unit	1	2	3	4	5
1	No defoliant Dry Land		0 f	10 g	14 g	19 abc	35 ab
2	No defoliant Drip Irrigation		3 f	25 f	34 f	14 cd	30 b
3	Resource PREP COC Dry Land	4 OZ/A 1.33 PT/A 1 PT/A	30 e	36 ef	45 e	28 a	46 a
4	Resource PREP COC Drip Irrigation	4 OZ/A 1.33 PT/A 1 PT/A	49 cd	58 bc	60 cd	19 abc	30 b
5	Resource PREP COC Dry Land	6 OZ/A 1.33 PT/A 1 PT/A	36 de	41 de	53 de	25 ab	46 a
6	Resource PREP COC Drip Irrigation	6 OZ/A 1.33 PT/A 1 PT/A	54 bc	61 bc	65 c	16 bcd	36 ab
7	Resouce PREP COC Dropp SC Dry Land	4 OZ/A 1.33 PT/A 1 PT/A 1.2 OZ/A	64 ab	56 bcd	61 cd	26 ab	49 a
8	Resouce PREP COC Dropp SC Drip Irrigation	4 OZ/A 1.33 PT/A 1 PT/A 1.2 OZ/A	73 a	78 a	79 a	8 cd	30 b
9	Resouce PREP COC Dropp SC Dry Land	6 OZ/A 1.33 PT/A 1 PT/A 1.2 OZ/A	57 bc	54 bcd	54 de	18 a-d	43 ab
10	Resource PREP COC Dropp SC Drip Irrigation	6 OZ/A 1.33 PT/A 1 PT/A 1.2 OZ/A	71 a	81 a	75 ab	9 cd	29 b
11	Resouce PREP COC Resource COC Dry Land	4 OZ/A 1.33 PT/A 1 PT/A 4 OZ/A 1 PT/A	30 e	45 cde	51 de	13 cd	39 ab

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Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI			
Rating Data Type	defol	defol	defol	regrowth	regrowth			
Rating Unit	%	%	%	%	%			
Rating Date	Sep-11-06	Sep-18-06	Sep-30-06	Sep-18-06	Sep-30-06			
Assessed By	SC	SC	SC	SC	SC			
Trt-Eval Interval	7 DA-A	14 DA-A	26 DA-A	14 DA-A	26 DA-A			
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5
12	Resouce	4	OZ/A	44 cd	68 ab	68 bc	8 d	30 b
	PREP	1.33	PT/A					
	COC	1	PT/A					
	Resource	4	OZ/A					
	COC	1	PT/A					
	Drip Irrigation							
LSD (P=.05)		12.6		14.6	9.3	9.3	13.4	
Standard Deviation		8.7		10.1	6.4	6.4	9.3	
CV		20.47		19.75	11.73	38.52	25.17	
Bartlett's X2		19.503		4.515	11.593	10.336	26.211	
P(Bartlett's X2)		0.034*		0.921	0.313	0.50	0.002*	

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



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

**SOIL DESCRIPTION**

% Sand: 94      % OM: 6.4      Texture: Sand  
 % Silt: 2      pH: 1.3      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: .

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

**APPLICATION DESCRIPTION**

	A	B
Application Date:	Sep-04-06	Sep-11-06
Time of Day:	7:30 am	8:00am
Application Method:	broadcast	broadcast
Application Timing:	defoliati	defoliati
Applic. Placement:	overtop	overtop
Air Temp., Unit:	78 F	74 F
% Relative Humidity:	64	77
Wind Velocity, Unit:	0 mph	1 mph
Dew Presence (Y/N):	y	y
Water Hardness:		
Soil Temp., Unit:	82 F	77 F
Soil Moisture:		moist
% Cloud Cover:	0	0

**CROP STAGE AT EACH APPLICATION**

	A	B
Crop 1 Code, Stage:	GOSHI defoliati	GOSHI dedef 2
Stage Scale:	55% open	65% open
Height, Unit:	40 inch	40 inch

**WEED STAGE AT EACH APPLICATION**

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

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## APPLICATION EQUIPMENT

	A	B
<b>Appl. Equipment:</b>	backpack	backpack
<b>Operating Pressure:</b>	24	24
<b>Nozzle Type:</b>	flat fan	flat fan
<b>Nozzle Size:</b>	11002	11002
<b>Nozzle Spacing, Unit:</b>	18 inch	18 inch
<b>Nozzles/Row:</b>	2	2
<b>Band Width, Unit:</b>		
<b>Boom Length, Unit:</b>	4.5 ft	4.5 ft
<b>Boom Height, Unit:</b>	15 inch	15 inch
<b>Ground Speed, Unit:</b>	3 mph	3 mph
<b>Incorporation Equip.:</b>		
<b>Hours to Incorp.:</b>		
<b>Incorp. Depth, Unit:</b>		
<b>Carrier:</b>	water	water
<b>Spray Volume, Unit:</b>	14.8 GPA	14.8 GPA
<b>Spray pH:</b>		
<b>Propellant:</b>	CO2	CO2
<b>Tank Mix (Y/N):</b>	y	y

Trt No	Treatment Application Comment