

# University of Georgia

## Fomesafen rate comparison for PRE cotton injury.

Trial ID: C13-06

Study Dir.: Chris Main

Location: Ponder (5156)

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	Form Rate	Rate Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No. By Rep			
										1	2	3	4
1	No PRE									101	206	307	411
2	Reflex	2		L	0.125	LB A/A	PRE	A	8.445 ml/mx	102	212	311	402
3	Reflex	2		L	0.1875	LB A/A	PRE	A	12.67 ml/mx	103	211	302	408
4	Reflex	2		L	0.25	LB A/A	PRE	A	16.89 ml/mx	104	208	309	404
5	Reflex	2		L	0.312	LB A/A	PRE	A	21.08 ml/mx	105	210	305	409
6	Reflex	2		L	0.375	LB A/A	PRE	A	25.34 ml/mx	106	204	306	405
7	Reflex	2		L	0.437	LB A/A	PRE	A	29.52 ml/mx	107	202	308	412
8	Reflex	2		L	0.5	LB A/A	PRE	A	33.78 ml/mx	108	205	303	410
9	Reflex	2		L	0.75	LB A/A	PRE	A	50.67 ml/mx	109	203	301	407
10	Cotoran	4		L	1	LB A/A	PRE	A	33.78 ml/mx	110	201	312	406
11	Staple LX	3.2		L	0.0525	LB A/A	PRE	A	2.217 ml/mx	111	207	304	403
12	Dual Magnum	7.62		L	0.95	LB A/A	PRE	A	16.85 ml/mx	112	209	310	401

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
247.989	ml	Reflex	2	L	
42.225	ml	Cotoran	4	L	
2.771	ml	Staple LX	3.2	L	
21.057	ml	Dual Magnum	7.62	L	

\* '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.

### Trial Comments

OBJECTIVE: Determine cotton response to numerous rates of Reflex applied at planting.

#### VISUAL COTTON STUNTING:

- As the rate of Reflex increased the degree of stunting increased at 18 DAT. Greater than 10% stunting was noted with all rates above 0.375 lb ai/A. By 27 days, injury was greater than 10% only with Reflex at 0.5 lb ai/A or higher.
- Stunting from Staple and Cotoran were minimal at 18 DAT but ranged from 13 to 15% at 27 DAT.

#### STAND COUNTS:

- Six foot of the middle two rows were counted. Treatments did not impact cotton stand.

#### COTTON HEIGHTS:

- Height of 10 plants per plot were measured twice.
- At 27 DAT, only Reflex at 0.125, 0.1875, and 0.25 lb as well as Cotoran did not reduce plant height. Staple, Dual, and the higher rates of Reflex reduced plant growth as much as 20%.
- By 39 DAT, no impact on crop stunting was noted statistically; however, a trend for shorter cotton was noted with Staple and with Dual Magnum.

#### SEED COTTON YIELD:

- No impact on seed cotton yield was noted.

#### WEED RESPONSE:

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1. A very light infestation of sicklepod emerged with the crop. Just prior to the early Roundup application to remove all weeds sicklepod was rated.
2. Only Reflex at 0.75 lb ai/A and Staple provided greater than 70% control (75 to 78%) at 27 DAT.

## GENERAL COMMENTS:

1. Prowl H20 at 1 qt/A applied PRE over trial area.
2. Herbicide treatments activated with 0.5 inch of irrigation 2 hours after treatment.
3. Two days after applying herbicides 1.55 inches of rain fell in 30 minutes.
4. WeatherMax + Orthene applied overtop of 3 leaf cotton.

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Study Dir.: Chris Main

Location: Ponder (5156)

Investigator: Stanley Culpepper

Weed Code		GOSHI	GOSHI	GOSHI	CASOB	GOSHI	GOSHI	GOSHI	plant 1
Crop Code		injury	injury	injury	ctrol	stand cts6'	stand cts6'	standcts6'	GOSHI
Rating Data Type		%	%	%	%	row 2	row 3	avg2rows	ht
Rating Unit									cm
Rating Date		May-12-06	May-21-06	Jun-15-06	May-21-06	May-12-06	May-12-06	May-12-06	May-21-06
Assessed By		SC	SC	SC	SC				
Trt-Eval Interval		18 DA-A	27 DA-A	52 DA-A	27 DA-A	18 DA-A	18 DA-A	18 DA-A	27 DA-A
ARM Action Codes								T4	
# Subsamples, Dec.									
Trt Treatment	Rate								
No. Name	Rate Unit	1	2	3	4	5	6	7	8
1 No PRE		0 e	0 f	0 a	0 d	19 a	15 b	34 a	6 ab
2 Reflex	0.125 LB A/A	1 e	3 ef	0 a	25 cd	18 a	18 ab	36 a	9 a
3 Reflex	0.1875 LB A/A	3 de	5 c-f	1 a	21 cd	18 a	20 ab	38 a	6 ab
4 Reflex	0.25 LB A/A	8 cd	8 b-e	2 a	28 cd	19 a	20 ab	39 a	6 ab
5 Reflex	0.312 LB A/A	9 c	9 bcd	3 a	46 bc	19 a	22 a	40 a	5 b
6 Reflex	0.375 LB A/A	12 bc	7 cde	3 a	40 c	18 a	20 ab	38 a	5 b
7 Reflex	0.437 LB A/A	12 bc	9 bc	0 a	53 abc	18 a	17 ab	35 a	7 ab
8 Reflex	0.5 LB A/A	16 ab	11 abc	2 a	48 abc	18 a	18 ab	36 a	5 b
9 Reflex	0.75 LB A/A	18 a	15 a	2 a	75 ab	17 a	18 ab	35 a	5 b
10 Cotoran	1 LB A/A	0 e	3 def	2 a	29 cd	18 a	17 ab	35 a	7 ab
11 Staple LX	0.0525 LB A/A	4 de	13 ab	4 a	78 a	19 a	18 ab	37 a	5 b
12 Dual Magnum	0.95 LB A/A	7 cd	15 a	5 a	31 cd	18 a	18 ab	36 a	5 b
LSD (P=.05)		4.6	5.1	5.0	28.0	2.7	4.8	6.0	2.4
Standard Deviation		3.2	3.5	3.4	19.4	1.9	3.3	4.2	1.6
CV		44.12	43.19	187.95	49.27	10.4	18.02	11.46	28.02
Bartlett's X2		16.022	6.928	4.892	18.252	7.868	24.036	15.566	10.94
P(Bartlett's X2)		0.066	0.732	0.769	0.051	0.725	0.013*	0.158	0.448

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

Column 7: T4 = [C5]+[C6]

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Weed Code	plant 2	plant 3	plant 4	plant 5	plant 6	plant 7	plant 8	plant 9			
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI			
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht			
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm			
Rating Date	May-21-06	May-21-06	May-21-06	May-21-06	May-21-06	May-21-06	May-21-06	May-21-06			
Assessed By											
Trt-Eval Interval	27 DA-A	27 DA-A	27 DA-A	27 DA-A	27 DA-A	27 DA-A	27 DA-A	27 DA-A			
ARM Action Codes											
# Subsamples, Dec.											
Trt No.	Treatment Name	Rate	Unit	9	10	11	12	13	14	15	16
1	No PRE			6 a	6 abc	7 a	7 ab	6 a	6 a	8 a	6 a-d
2	Reflex	0.125	LB A/A	7 a	7 ab	7 a	7 a	6 a	6 a	6 abc	6 a-d
3	Reflex	0.1875	LB A/A	7 a	6 abc	6 a	6 abc	5 a	5 a	5 bc	6 a-d
4	Reflex	0.25	LB A/A	5 a	5 c	6 a	6 ab	6 a	6 a	6 abc	5 bcd
5	Reflex	0.312	LB A/A	5 a	5 bc	6 a	6 abc	5 a	5 a	6 abc	7 abc
6	Reflex	0.375	LB A/A	5 a	5 c	6 a	6 abc	5 a	5 a	6 abc	7 ab
7	Reflex	0.437	LB A/A	5 a	6 abc	6 a	5 bc	6 a	5 a	4 c	5 d
8	Reflex	0.5	LB A/A	6 a	7 abc	5 a	5 bc	5 a	5 a	6 abc	5 d
9	Reflex	0.75	LB A/A	5 a	5 bc	6 a	5 bc	5 a	5 a	5 abc	5 d
10	Cotoran	1	LB A/A	7 a	8 a	7 a	6 ab	6 a	6 a	7 ab	8 a
11	Staple LX	0.0525	LB A/A	5 a	5 bc	5 a	3 d	4 a	4 a	5 bc	5 cd
12	Dual Magnum	0.95	LB A/A	5 a	5 bc	6 a	4 cd	4 a	4 a	4 c	5 d
LSD (P=.05)				2.2	1.8	2.3	1.8	2.1	2.3	2.2	1.6
Standard Deviation				1.5	1.3	1.6	1.3	1.5	1.6	1.5	1.1
CV				27.91	21.83	26.99	23.8	27.97	30.36	27.37	19.12
Bartlett's X2				6.698	7.426	16.434	9.177	9.514	11.505	3.442	3.943
P(Bartlett's X2)				0.823	0.764	0.126	0.606	0.575	0.402	0.984	0.972

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

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Weed Code	plant 10	avg10pla	plant 1	plant 2	plant 3	plant 4	plant 5	plant 6			
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI			
Rating Data Type	ht	ht	ht	ht	ht	ht	ht	ht			
Rating Unit	cm	cm	cm	cm	cm	cm	cm	cm			
Rating Date	May-21-06	May-21-06	Jun-02-06	Jun-02-06	Jun-02-06	Jun-02-06	Jun-02-06	Jun-02-06			
Assessed By											
Trt-Eval Interval	27 DA-A	27 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.											
Trt No.	Treatment Name	Rate	Unit	17	18	19	20	21	22	23	24
1	No PRE			7 ab	6 ab	24 ab	24 ab	25 ab	24 abc	26 ab	27 a
2	Reflex	0.125	LB A/A	7 a	7 a	28 a	25 a	24 abc	24 abc	27 a	25 a
3	Reflex	0.1875	LB A/A	6 ab	6 abc	22 b	24 ab	21 bc	26 ab	23 ab	24 a
4	Reflex	0.25	LB A/A	6 ab	6 a-d	23 ab	24 ab	26 ab	26 ab	26 ab	25 a
5	Reflex	0.312	LB A/A	5 b	5 bcd	22 b	24 ab	21 bc	24 abc	24 ab	25 a
6	Reflex	0.375	LB A/A	6 ab	5 bcd	22 b	26 a	25 ab	27 ab	24 ab	25 a
7	Reflex	0.437	LB A/A	5 ab	5 bcd	23 b	26 a	25 ab	24 abc	24 ab	23 a
8	Reflex	0.5	LB A/A	5 ab	5 cd	26 ab	22 ab	25 abc	23 abc	22 ab	23 a
9	Reflex	0.75	LB A/A	5 ab	5 cd	25 ab	22 ab	26 ab	23 abc	19 b	24 a
10	Cotoran	1	LB A/A	6 ab	7 a	26 ab	26 a	28 a	27 a	25 ab	27 a
11	Staple LX	0.0525	LB A/A	5 b	4 d	21 b	20 b	22 bc	20 c	21 ab	23 a
12	Dual Magnum	0.95	LB A/A	5 b	5 cd	22 b	22 ab	20 c	21 bc	23 ab	21 a
LSD (P=.05)				2.0	1.0	4.7	4.6	4.6	5.0	6.5	6.0
Standard Deviation				1.4	0.7	3.3	3.2	3.2	3.4	4.5	4.2
CV				25.36	12.58	13.92	13.44	13.27	14.39	19.24	17.3
Bartlett's X2				10.495	14.204	18.379	10.582	12.228	15.654	11.99	13.535
P(Bartlett's X2)				0.486	0.222	0.073	0.479	0.347	0.154	0.364	0.26

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

Column 18: T1 = @AVG([C8].[C17])

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Weed Code	plant 7	plant 8	plant 9	plant 10	avg10pla	Seed Yld	Seed Yld		
Crop Code	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI	GOSHI		
Rating Data Type	ht	ht	ht	ht	ht	wt/lb	YIELD		
Rating Unit	cm	cm	cm	cm	cm	per plot	LB/A		
Rating Date	Jun-02-06	Jun-02-06	Jun-02-06	Jun-02-06	Jun-02-06	Sep-05-06	Sep-05-06		
Assessed By									
Trt-Eval Interval	39 DA-A	39 DA-A	39 DA-A	39 DA-A	39 DA-A	134 DA-A	134 DA-A		
ARM Action Codes					T2		TY3		
# Subsamples, Dec.							1		
Trt Treatment	Rate	Rate	Rate	Rate	Rate	Rate	Rate		
No. Name	Rate	Unit	25	26	27	28	29	30	31
1 No PRE			25 ab	27 a	29 abc	26 a	26 ab	14 abc	4046.7 abc
2 Reflex	0.125 LB A/A		29 a	27 ab	26 abc	27 a	26 a	14 ab	4206.4 ab
3 Reflex	0.1875 LB A/A		23 ab	26 ab	25 abc	25 a	24 abc	15 a	4306.6 a
4 Reflex	0.25 LB A/A		24 ab	24 ab	27 abc	24 a	25 abc	14 ab	4146.9 ab
5 Reflex	0.312 LB A/A		26 ab	26 ab	26 abc	29 a	25 abc	14 abc	4110.6 abc
6 Reflex	0.375 LB A/A		25 ab	24 ab	25 abc	28 a	25 abc	14 abc	3963.2 abc
7 Reflex	0.437 LB A/A		24 ab	21 b	32 a	26 a	25 abc	14 abc	4032.2 abc
8 Reflex	0.5 LB A/A		25 ab	24 ab	25 abc	23 a	24 abc	14 abc	4087.4 abc
9 Reflex	0.75 LB A/A		24 ab	25 ab	22 c	23 a	23 abc	13 bc	3855.1 bc
10 Cotoran	1 LB A/A		27 ab	25 ab	31 ab	26 a	27 a	14 abc	3993.0 abc
11 Staple LX	0.0525 LB A/A		21 b	25 ab	23 bc	23 a	22 c	13 c	3712.8 c
12 Dual Magnum	0.95 LB A/A		19 b	23 ab	24 abc	26 a	22 bc	13 bc	3810.0 bc
LSD (P=.05)			6.8	4.8	6.5	5.5	3.3	1.3	363.90
Standard Deviation			4.7	3.3	4.5	3.8	2.3	0.9	252.03
CV			19.38	13.41	17.39	15.09	9.51	6.27	6.27
Bartlett's X2			10.038	15.483	13.488	11.857	13.107	18.171	18.171
P(Bartlett's X2)			0.527	0.161	0.263	0.375	0.286	0.078	0.078

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

Column 29: T2 = @AVG([C19].[C28])

Column 31: TY3 = 290.4\*[C30]



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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 loamy sand  
 % 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
Application Date:	Apr-24-06
Time of Day:	2:00 pm
Application Method:	broadcast
Application Timing:	PRE
Applic. Placement:	on soil
Air Temp., Unit:	87 F
% Relative Humidity:	31
Wind Velocity, Unit:	3 mph
Dew Presence (Y/N):	n
Water Hardness:	
Soil Temp., Unit:	81 F
Soil Moisture:	moist
% Cloud Cover:	0

**CROP STAGE AT EACH APPLICATION**

	A
Crop 1 Code, Stage:	GOSHI PRE
Stage Scale:	not up
Height, Unit:	0 inch

**WEED STAGE AT EACH APPLICATION**

	A
Weed 1 Code, Stage:	CASOB PRE
Stage Scale:	not up
Density, Unit:	2 ydsq



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## APPLICATION EQUIPMENT

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

Trt No	Treatment Application Comment