

University of Georgia

Winter annual weed response to Firestorm and Gramoxone.

Trial ID: C3-06

Study Dir.: Stanley Culpepper

Location: Jones Farm

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	Code	Amt Product to Measure	Plot No. By Rep			
										1	2	3	4
1	Firestorm NIS	3	L	L	0.48 LB	A/A	BD	A	10.81 ml/mx	101	208	304	401
					0.25 % V/V	BD	A	2.5 ml/mx					
2	Gramoxone Max NIS	3	L	L	0.48 LB	A/A	BD	A	10.81 ml/mx	102	220	321	419
					0.25 % V/V	BD	A	2.5 ml/mx					
3	Gramoxone Inteon NIS	2	L	L	0.48 LB	A/A	BD	A	16.21 ml/mx	103	205	302	410
					0.25 % V/V	BD	A	2.5 ml/mx					
4	Firestorm NIS	3	L	L	0.65 LB	A/A	BD	A	14.64 ml/mx	104	203	317	408
					0.25 % V/V	BD	A	2.5 ml/mx					
5	Gramoxone Max NIS	3	L	L	0.65 LB	A/A	BD	A	14.64 ml/mx	105	216	308	412
					0.25 % V/V	BD	A	2.5 ml/mx					
6	Gramoxone Inteon NIS	2	L	L	0.65 LB	A/A	BD	A	21.96 ml/mx	106	202	318	415
					0.25 % V/V	BD	A	2.5 ml/mx					
7	Firestorm NIS Direx	3	L	L	0.48 LB	A/A	BD	A	10.81 ml/mx	107	222	306	402
					0.25 % V/V	BD	A	2.5 ml/mx					
					0.75 LB	A/A	BD	A	12.67 ml/mx				
8	Gramoxone Max NIS Direx	3	L	L	0.48 LB	A/A	BD	A	10.81 ml/mx	108	204	311	409
					0.25 % V/V	BD	A	2.5 ml/mx					
					0.75 LB	A/A	BD	A	12.67 ml/mx				
9	Gramoxone Inteon NIS Direx	2	L	L	0.48 LB	A/A	BD	A	16.21 ml/mx	109	212	314	421
					0.25 % V/V	BD	A	2.5 ml/mx					
					0.75 LB	A/A	BD	A	12.67 ml/mx				
10	Firestorm NIS Direx	3	L	L	0.65 LB	A/A	BD	A	14.64 ml/mx	110	211	305	404
					0.25 % V/V	BD	A	2.5 ml/mx					
					0.75 LB	A/A	BD	A	12.67 ml/mx				
11	Gramoxone Max NIS Direx	3	L	L	0.65 LB	A/A	BD	A	14.64 ml/mx	111	209	322	418
					0.25 % V/V	BD	A	2.5 ml/mx					
					0.75 LB	A/A	BD	A	12.67 ml/mx				
12	Gramoxone Inteon NIS Direx	2	L	L	0.65 LB	A/A	BD	A	21.96 ml/mx	112	214	320	416
					0.25 % V/V	BD	A	2.5 ml/mx					
					0.75 LB	A/A	BD	A	12.67 ml/mx				
13	Roundup	4.5	L	L	0.75 LB	A/A	BD	A	11.26 ml/mx	113	218	312	405
14	Roundup 2,4-D	4.5	L	L	0.75 LB	A/A	BD	A	11.26 ml/mx	114	201	319	414
					0.5 LB	A/A	BD	A	8.445 ml/mx				
15	Non-treated									115	207	303	413
16	Ignite	2.34	L	L	29 OZ/A	BD	A	A	15.31 ml/mx	116	206	315	407
17	Ignite Clarity	2.34	L	L	29 OZ/A	BD	A	A	15.31 ml/mx	117	213	307	406
					8 OZ/A	BD	A	4.223 ml/mx					
18	Roundup Clarity	4.5	L	L	0.75 LB	A/A	BD	A	11.26 ml/mx	118	210	309	411
					8 OZ/A	BD	A	4.223 ml/mx					
19	Ignite	2.34	L	L	22 OZ/A	BD	A	A	11.61 ml/mx	119	217	313	403
20	Roundup Reflex	4.5	L	L	0.75 LB	A/A	BD	A	11.26 ml/mx	120	215	316	422
					0.5 PT/A	BD	A	4.223 ml/mx					
21	Roundup Reflex	4.5	L	L	0.75 LB	A/A	BD	A	11.26 ml/mx	121	219	310	417
					0.5 PT/A	BD	A	4.223 ml/mx					
22	Reflex NIS	2	L	L	0.5 PT/A	BD	A	A	4.223 ml/mx	122	221	301	420
					0.25 % V/V	BD	A	2.5 ml/mx					

Sort Order: Treatment

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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 Rate	Form Unit	Rate Stg	Grow Code	Appl to Measure	Amt Product 1	Plot No. 2	By Rep 3	4
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Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
63.619	ml	Firestorm	3	L	
40.621	ml	NIS		L	
63.619	ml	Gramoxone Max	3	L	
95.429	ml	Gramoxone Inteon	2	L	
95.007	ml	Direx	4	L	
70.375	ml	Roundup	4.5	L	
10.556	ml	2,4-D	4	L	
52.787	ml	Ignite	2.34	L	
10.557	ml	Clarity	4	L	
15.834	ml	Reflex	2	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.
- * 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 1 liters.

Trial Comments

OBJECTIVE: Compare various burndown herbicide options for the control of cutleaf eveningprimrose and red sorrel.

Primrose Control:

1. Primrose was blooming at time of application.
2. All paraquat treatments provided excellent and similar control.
3. Roundup provided only 77% control at 35 DAT.
4. Mixing 2,4-D or clarity with glyphosate provided excellent control with the trend for more late season control with 2,4-D as a tank mix partner.
5. Ignite provided excellent control regardless of rate up to 22 DAT. By 35 DAT, Ignite at 29 oz was more effective than 22 oz/A. Combinations of Clarity with Ignite provided excellent control.
6. Reflex provided poor control, mixing Reflex with Roundup did improve control over either product alone but control was less than noted with many other treatments.

Red Sorrel:

1. All paraquat and glyphosate applications provided excellent control.
2. Ignite provided excellent initial control but regrowth was present by 22 DAT. Control was higher than in previous studies likely in response to the plant was in bloom.
3. Reflex alone provided poor control.
4. By 22 DAT, all glyphosate treatments provided excellent control.

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Winter annual weed response to Firestorm and Gramoxone.

Trial ID: C3-06

Study Dir.: Stanley Culpepper

Location: Jones Farm

Investigator: Stanley Culpepper

Weed Code		RUMAA	RUMAA	RUMAA	OEOLA	OEOLA	OEOLA	
Rating Data Type		control	control	control	control	control	control	
Rating Unit		%	%	%	%	%	%	
Rating Date		Apr-29-06	May-12-06	May-25-06	Apr-29-06	May-12-06	May-25-06	
Assessed By		SC	SC	SC	SC	SC	SC	
Trt-Eval Interval		9 DA-A	22 DA-A	35 DA-A	9 DA-A	22 DA-A	35 DA-A	
Trt No.	Treatment Name	Rate						
		Rate Unit	1	2	3	4	5	
							6	
1	Firestorm NIS	0.48 LB A/A 0.25 % V/V	100 a	98 a	99 a	98 a	99 a	98 a
2	Gramoxone Max NIS	0.48 LB A/A 0.25 % V/V	100 a	93 a	98 a	96 a	98 a	98 a
3	Gramoxone Inteon NIS	0.48 LB A/A 0.25 % V/V	100 a	99 a	99 a	94 a	99 a	99 a
4	Firestorm NIS	0.65 LB A/A 0.25 % V/V	100 a	99 a	99 a	97 a	98 a	98 a
5	Gramoxone Max NIS	0.65 LB A/A 0.25 % V/V	100 a	99 a	99 a	99 a	99 a	99 a
6	Gramoxone Inteon NIS	0.65 LB A/A 0.25 % V/V	100 a	99 a	99 a	95 a	99 a	99 a
7	Firestorm NIS Direx	0.48 LB A/A 0.25 % V/V 0.75 LB A/A	100 a	99 a	99 a	99 a	99 a	99 a
8	Gramoxone Max NIS Direx	0.48 LB A/A 0.25 % V/V 0.75 LB A/A	100 a	99 a	99 a	99 a	99 a	99 a
9	Gramoxone Inteon NIS Direx	0.48 LB A/A 0.25 % V/V 0.75 LB A/A	100 a	99 a	99 a	99 a	99 a	99 a
10	Firestorm NIS Direx	0.65 LB A/A 0.25 % V/V 0.75 LB A/A	100 a	99 a	99 a	99 a	99 a	99 a
11	Gramoxone Max NIS Direx	0.65 LB A/A 0.25 % V/V 0.75 LB A/A	100 a	99 a	99 a	98 a	99 a	99 a
12	Gramoxone Inteon NIS Direx	0.65 LB A/A 0.25 % V/V 0.75 LB A/A	100 a	99 a	99 a	99 a	99 a	99 a
13	Roundup	0.75 LB A/A	81 d	99 a	99 a	63 d	77 c	77 e
14	Roundup 2,4-D	0.75 LB A/A 0.5 LB A/A	83 d	97 a	97 a	67 cd	84 bc	99 a
15	Non-treated		0 f	0 d	0 d	0 f	0 e	0 g
16	Ignite	29 OZ/A	96 abc	86 b	85 b	98 a	99 a	99 a
17	Ignite Clarity	29 OZ/A 8 OZ/A	98 a	96 a	94 a	99 a	98 a	97 a
18	Roundup Clarity	0.75 LB A/A 8 OZ/A	85 cd	99 a	99 a	74 bc	89 ab	93 ab
19	Ignite	22 OZ/A	95 abc	85 b	85 b	95 a	97 a	90 bc
20	Roundup Reflex	0.75 LB A/A 0.5 PT/A	86 bcd	99 a	99 a	70 cd	83 bc	85 cd
21	Roundup Reflex	0.75 LB A/A 0.5 PT/A	96 ab	98 a	99 a	79 b	75 c	81 de

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Weed Code		RUMAA	RUMAA	RUMAA	OEOLA	OEOLA	OEOLA		
Rating Data Type		control	control	control	control	control	control		
Rating Unit		%	%	%	%	%	%		
Rating Date		Apr-29-06	May-12-06	May-25-06	Apr-29-06	May-12-06	May-25-06		
Assessed By		SC	SC	SC	SC	SC	SC		
Trt-Eval Interval		9 DA-A	22 DA-A	35 DA-A	9 DA-A	22 DA-A	35 DA-A		
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6
22	Reflex NIS	0.5 0.25	PT/A % V/V	69 e	50 c	55 c	54 e	33 d	24 f
LSD (P=.05)		10.1		6.3	7.2	8.2	9.2	6.0	
Standard Deviation		7.2		4.4	5.1	5.8	6.5	4.3	
CV		7.91		4.9	5.59	6.79	7.44	4.85	
Bartlett's X2		28.618		19.022	17.461	82.706	36.056	31.592	
P(Bartlett's X2)		0.001*		0.008*	0.004*	0.001*	0.001*	0.001*	

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

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Winter annual weed response to Firestorm and Gramoxone.

Trial ID: C3-06 Study Dir.: Stanley Culpepper
 Location: Jones Farm 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: Tifton **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** good
Postal Code: 31794 **Initiation Date:** Apr-20-06
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.	OEOLA	cutleaf eveningprimrose	
2.	RUMAA	red sorrel	

Crop 1: none non crop **Variety:** .
Planting Date: Sep-05-06 **Planting Method:** .
Rate: 0. **Depth:** 0. **Perennial Age:** 0. .
Row Spacing: 0. **Spacing Within Row:** 0. **Seed Bed:** .
Soil Temperature: ____ **Soil Moisture:** _____ **Emergence Date:** _____

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: Jones Farm
Tillage Type: none **Study Design:** RANDOMIZED COMPLETE BLOCK

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: 95	% OM: 0.67	Texture: sand	
% Silt: 2	pH: 5.8	Soil Name: Tifton sandy loam	
% Clay: 3	CEC: _____	Fert. Level: _____	

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

No.	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: wet

Closest Weather Station: _____ Distance: _____ Unit: ____

APPLICATION DESCRIPTION

	A
Application Date:	Apr-20-06
Time of Day:	7:00am
Application Method:	broadcast
Application Timing:	BD+14
Applic. Placement:	overtop
Air Temp., Unit:	75 F
% Relative Humidity:	66
Wind Velocity, Unit:	0 mph
Dew Presence (Y/N):	Y
Water Hardness:	
Soil Temp., Unit:	74 F
Soil Moisture:	fair
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	none .
Stage Scale:	.
Height, Unit:	0. .

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	OEOLA BD
Stage Scale:	8-16"blom
Density, Unit:	4 ydsq
Weed 2 Code, Stage:	RUMAA BD
Stage Scale:	18-20"blm
Density, Unit:	8 ydsq

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APPLICATION EQUIPMENT

	A
Appl. Equipment:	backpack
Operating Pressure:	23
Nozzle Type:	flat fan
Nozzle Size:	11002
Nozzle Spacing, Unit:	18 inch
Nozzles/Row:	
Band Width, Unit:	
Boom Length, Unit:	4.5 feet
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