

University of Georgia

Response of primrose and other winter weeds to numerous glyphosate formulations.

Trial ID: C1-10

Study Dir.: Stanley Culpepper

Location: Small Jones Farm

Investigator: Stanley Culpepper

Use 2 liters(s) per treatment mixture to spray 14.8 gal/ac

Plots: 6 by 25 feet

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	Amt Product to Measure	Plot No.	By Rep	1	2	3	4
1	RU WeatherMax	4.5	SL	0.5	lb ae/a	POST	A	15.01 ml/mx	101	203	302	405		
2	MON 76398	4.5	SL	0.5	lb ae/a	POST	A	15.01 ml/mx	102	204	303	408		
3	MON 76337	4.5	SL	0.5	lb ae/a	POST	A	15.01 ml/mx	103	202	309	407		
4	MON 76435	4.5	SL	0.5	lb ae/a	POST	A	15.01 ml/mx	104	201	304	409		
5	MON 79790	4.5	SL	0.5	lb ae/a	POST	A	15.01 ml/mx	105	206	307	406		
6	MON 76441	4.5	SL	0.5	lb ae/a	POST	A	15.01 ml/mx	106	209	308	403		
7	MON 76417	4.5	SL	0.5	lb ae/a	POST	A	15.01 ml/mx	107	208	301	402		
8	MON 76439	4.5	SL	0.5	lb ae/a	POST	A	15.01 ml/mx	108	207	305	401		
9	Non-treated control						A		109	205	306	404		
10	RU WeatherMax	4.5	SL	0.75	lb ae/a	POST	A	22.52 ml/mx	110	216	311	418		
11	MON 76398	4.5	SL	0.75	lb ae/a	POST	A	22.52 ml/mx	111	212	318	416		
12	MON 76337	4.5	SL	0.75	lb ae/a	POST	A	22.52 ml/mx	112	214	313	414		
13	MON 76435	4.5	SL	0.75	lb ae/a	POST	A	22.52 ml/mx	113	215	316	415		
14	MON 79790	4.5	SL	0.75	lb ae/a	POST	A	22.52 ml/mx	114	210	312	411		
15	MON 76441	4.5	SL	0.75	lb ae/a	POST	A	22.52 ml/mx	115	211	315	413		
16	MON 76417	4.5	SL	0.75	lb ae/a	POST	A	22.52 ml/mx	116	218	310	412		
17	MON 76439	4.5	SL	0.75	lb ae/a	POST	A	22.52 ml/mx	117	213	317	410		
18	Non-treated control						A		118	217	314	417		

Sort Order: Treatment

Trial Comments

OBJECTIVE: Evaluate cutleaf eveningprimrose response to numerous glyphosate formulations applied at two rates.

Primrose Response:

1. The study was designed for primrose since the weed is naturally tolerant to glyphosate.
2. At 21 d, control ranged from 45 to 62% with 0.5 lb ae and 74 to 77% with 0.75 lb ae; no differences were noted when comparing formulations.
3. By 32 d, regrowth began to occur. Even with regrowth at 32 and 49 DAT, no differences in control were noted when comparing treatments.

Other Weeds:

1. Vetch, chickweed, red sorrel, and burclover were also present in the study. No real differences in control were noted when comparing formulations.

University of Georgia

Response of primrose and other winter weeds to numerous glyphosate formulations.

Trial ID: C1-10 Study Dir.: Stanley Culpepper
Location: Small Jones Farm Investigator: Stanley Culpepper

Weed Code	OEOLA	OEOLA	OEOLA	OEOLA	OEOLA	VICSS	VICSS	VICSS
Rating Data Type	control	control	control	control	control	control	control	control
Rating Unit	%	%	%	%	%	%	%	%
Rating Date	4/8/2010	4/17/2010	4/22/2010	5/3/2010	5/20/2010	4/17/2010	4/17/2010	4/22/2010
Trt-Eval Interval	7 DA-A	16 DA-A	21 DA-A	32 DA-A	49 DA-A	16 DA-A	16 DA-A	21 DA-A

Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7	8	9							
1	RU WeatherMax	0.5	lb ae/a	17.5	a	47.5	c	60.0	b	52.8	c	36.3	c	41.3	b	72.5	ab	75.0	bcd
2	MON 76398	0.5	lb ae/a	17.5	a	48.8	bc	61.3	b	53.0	c	37.5	c	40.0	b	73.8	ab	76.3	bc
3	MON 76337	0.5	lb ae/a	17.5	a	45.0	c	56.3	b	50.3	c	41.3	c	41.3	b	69.5	abc	70.0	d
4	MON 76435	0.5	lb ae/a	17.5	a	47.5	c	56.3	b	51.5	c	43.8	c	41.3	b	68.8	abc	70.0	d
5	MON 79790	0.5	lb ae/a	17.5	a	48.8	bc	56.3	b	55.3	c	36.3	c	40.0	b	66.0	abc	71.3	cd
6	MON 76441	0.5	lb ae/a	17.5	a	48.8	bc	59.0	b	52.8	c	42.5	c	40.0	b	63.8	bc	71.3	cd
7	MON 76417	0.5	lb ae/a	17.5	a	46.3	c	60.0	b	53.8	c	43.8	c	40.0	b	60.0	c	72.5	bcd
8	MON 76439	0.5	lb ae/a	17.5	a	48.8	bc	58.8	b	52.5	c	41.3	c	40.0	b	62.5	bc	77.5	b
9	Non-treated control			0.0	b	0.0	d	0.0	c	0.0	d	0.0	d	0.0	c	0.0	d	0.0	e
10	RU WeatherMax	0.75	lb ae/a	17.5	a	57.5	a	77.0	a	83.8	ab	76.3	a	48.8	a	72.8	ab	90.0	a
11	MON 76398	0.75	lb ae/a	17.5	a	55.0	ab	77.5	a	84.3	ab	72.5	ab	48.8	a	72.5	ab	90.0	a
12	MON 76337	0.75	lb ae/a	17.5	a	56.3	a	73.5	a	77.5	b	66.3	b	48.8	a	75.8	a	90.0	a
13	MON 76435	0.75	lb ae/a	17.5	a	58.8	a	75.0	a	82.3	ab	66.3	b	47.5	a	70.3	abc	90.0	a
14	MON 79790	0.75	lb ae/a	17.5	a	61.5	a	73.8	a	83.3	ab	77.5	a	48.8	a	71.3	abc	90.0	a
15	MON 76441	0.75	lb ae/a	17.5	a	57.8	a	71.8	a	80.3	ab	68.8	ab	48.8	a	76.5	a	90.0	a
16	MON 76417	0.75	lb ae/a	17.5	a	55.0	ab	77.0	a	85.3	a	75.0	ab	48.8	a	70.0	abc	90.0	a
17	MON 76439	0.75	lb ae/a	17.5	a	59.0	a	77.0	a	84.0	ab	72.5	ab	48.8	a	72.5	ab	90.0	a
18	Non-treated control			0.0	b	0.0	d	0.0	c	0.0	d	0.0	d	0.0	c	0.0	d	0.0	e
LSD (P=.05)				1.32		6.92		6.30		6.81		9.72		.	2.19		11.82		5.04
Standard Deviation				0.93		4.90		4.46		4.82		6.88		.	1.55		8.35		3.56
CV				6.0		10.47		7.5		8.01		13.79		.	3.91		13.45		4.92
Bartlett's X2				0.0		16.68		12.253		16.395		16.044		.	0.114		15.417		0.807
P(Bartlett's X2)				1.00		0.338		0.586		0.356		0.379		.	1.00		0.35		0.997
Replicate F				136.000		0.187		1.240		6.495		3.888			12.557		6.111		6.816
Replicate Prob(F)				0.0001		0.9048		0.3048		0.0008		0.0141			0.0001		0.0012		0.0006
Treatment F				147.000		52.671		108.341		119.235		48.695			372.477		30.388		241.593
Treatment Prob(F)				0.0001		0.0001		0.0001		0.0001		0.0001			0.0001		0.0001		0.0001

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

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code				VICSS	VICSS		STEME	STEME	STEME	STEME	STEME		RUMAA			
Rating Data Type				control	control		control	control	control	control	control		control			
Rating Unit				%	%		%	%	%	%	%		%			
Rating Date				5/3/2010	5/20/2010		4/8/2010	4/17/2010	4/22/2010	5/3/2010	5/20/2010		4/8/2010			
Trt-Eval Interval				32 DA-A	49 DA-A		7 DA-A	16 DA-A	21 DA-A	32 DA-A	49 DA-A		7 DA-A			
Trt No.	Treatment Name	Rate	Unit	10	11	12	13	14	15	16	17	18	19			
1	RU WeatherMax	0.5	lb ae/a	99.0	a	99.0	a	35.0 c	92.5	b	99.0	a	99.0	a	20.0	a
2	MON 76398	0.5	lb ae/a	99.0	a	99.0	a	41.3 bc	92.5	b	99.0	a	99.0	a	20.0	a
3	MON 76337	0.5	lb ae/a	99.0	a	99.0	a	35.0 c	94.8	b	99.0	a	99.0	a	20.0	a
4	MON 76435	0.5	lb ae/a	99.0	a	99.0	a	40.0 c	92.3	b	99.0	a	99.0	a	22.5	a
5	MON 79790	0.5	lb ae/a	99.0	a	99.0	a	38.8 c	92.5	b	99.0	a	99.0	a	20.0	a
6	MON 76441	0.5	lb ae/a	99.0	a	99.0	a	36.3 c	93.5	b	99.0	a	99.0	a	20.0	a
7	MON 76417	0.5	lb ae/a	99.0	a	99.0	a	36.3 c	92.5	b	99.0	a	99.0	a	20.0	a
8	MON 76439	0.5	lb ae/a	99.0	a	99.0	a	36.3 c	92.5	b	99.0	a	99.0	a	20.0	a
9	Non-treated control			0.0	b	0.0	b	0.0 d	0.0	c	0.0	b	0.0	b	0.0	b
10	RU WeatherMax	0.75	lb ae/a	99.0	a	99.0	a	50.0 a	98.0	a	99.0	a	99.0	a	22.5	a
11	MON 76398	0.75	lb ae/a	99.0	a	99.0	a	50.0 a	99.0	a	99.0	a	99.0	a	22.5	a
12	MON 76337	0.75	lb ae/a	99.0	a	99.0	a	51.3 a	99.0	a	99.0	a	99.0	a	22.5	a
13	MON 76435	0.75	lb ae/a	99.0	a	99.0	a	50.0 a	98.0	a	99.0	a	99.0	a	22.5	a
14	MON 79790	0.75	lb ae/a	99.0	a	99.0	a	50.0 a	99.0	a	99.0	a	99.0	a	22.5	a
15	MON 76441	0.75	lb ae/a	99.0	a	99.0	a	51.3 a	99.0	a	99.0	a	99.0	a	22.5	a
16	MON 76417	0.75	lb ae/a	99.0	a	99.0	a	47.5 ab	99.0	a	99.0	a	99.0	a	22.5	a
17	MON 76439	0.75	lb ae/a	99.0	a	99.0	a	50.0 a	99.0	a	99.0	a	99.0	a	22.5	a
18	Non-treated control			0.0	b	0.0	b	0.0 d	0.0	c	0.0	b	0.0	b	0.0	b
LSD (P=.05)				0.00	0.00	.	6.80	3.07	0.00	0.00	0.00	.	3.64			
Standard Deviation				0.00	0.00	.	4.80	2.17	0.00	0.00	0.00	.	2.57			
CV				0.0	0.0	.	12.38	2.55	0.0	0.0	0.0	.	13.52			
Bartlett's X2				0.0	0.0	.	8.734	3.781	0.0	0.0	0.0	.	0.0			
P(Bartlett's X2)				.	.	.	0.557	0.925	.	.	.	.	0.001*			
Replicate F				0.000	0.000		6.191	4.776	0.000	0.000	0.000		17.000			
Replicate Prob(F)				1.0000	1.0000		0.0011	0.0052	1.0000	1.0000	1.0000		0.0001			
Treatment F				0.000	0.000		41.578	823.041	0.000	0.000	0.000		29.840			
Treatment Prob(F)				1.0000	1.0000		0.0001	0.0001	1.0000	1.0000	1.0000		0.0001			

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Weed Code				RUMAA	RUMAA	RUMAA	RUMAA		MEDAB	MEDAB	MEDAB	MEDAB					
Rating Data Type				control	control	control	control		control	control	control	control					
Rating Unit				%	%	%	%		%	%	%	%					
Rating Date				4/17/2010	4/22/2010	5/3/2010	5/20/2010		4/8/2010	4/17/2010	4/22/2010	5/3/2010					
Trt-Eval Interval				16 DA-A	21 DA-A	32 DA-A	49 DA-A		7 DA-A	16 DA-A	21 DA-A	32 DA-A					
Trt No.	Treatment Name	Rate	Unit	20	21	22	23	24	25	26	27	28					
1	RU WeatherMax	0.5	lb ae/a	84.0	cd	99.0	a	99.0	a	20.0	a	70.0	b	99.0	a	99.0	a
2	MON 76398	0.5	lb ae/a	84.0	cd	99.0	a	99.0	a	20.0	a	70.0	b	99.0	a	99.0	a
3	MON 76337	0.5	lb ae/a	87.5	a-d	99.0	a	99.0	a	20.0	a	70.0	b	99.0	a	99.0	a
4	MON 76435	0.5	lb ae/a	83.8	d	99.0	a	99.0	a	20.0	a	70.0	b	99.0	a	99.0	a
5	MON 79790	0.5	lb ae/a	84.0	cd	99.0	a	99.0	a	20.0	a	70.0	b	99.0	a	99.0	a
6	MON 76441	0.5	lb ae/a	86.3	bcd	99.0	a	99.0	a	20.0	a	70.0	b	98.0	ab	99.0	a
7	MON 76417	0.5	lb ae/a	86.3	bcd	99.0	a	99.0	a	20.0	a	70.0	b	96.8	b	99.0	a
8	MON 76439	0.5	lb ae/a	86.3	bcd	99.0	a	99.0	a	20.0	a	70.0	b	99.0	a	99.0	a
9	Non-treated control			0.0	e	0.0	b	0.0	b	0.0	b	0.0	c	0.0	c	0.0	b
10	RU WeatherMax	0.75	lb ae/a	89.0	abc	99.0	a	99.0	a	20.0	a	90.0	a	99.0	a	99.0	a
11	MON 76398	0.75	lb ae/a	89.0	abc	99.0	a	99.0	a	20.0	a	90.0	a	99.0	a	99.0	a
12	MON 76337	0.75	lb ae/a	88.5	a-d	99.0	a	99.0	a	20.0	a	90.0	a	99.0	a	99.0	a
13	MON 76435	0.75	lb ae/a	89.3	ab	99.0	a	99.0	a	20.0	a	90.0	a	99.0	a	99.0	a
14	MON 79790	0.75	lb ae/a	92.3	a	99.0	a	99.0	a	20.0	a	90.0	a	99.0	a	99.0	a
15	MON 76441	0.75	lb ae/a	88.3	a-d	99.0	a	99.0	a	20.0	a	90.0	a	99.0	a	99.0	a
16	MON 76417	0.75	lb ae/a	90.0	ab	99.0	a	99.0	a	20.0	a	90.0	a	99.0	a	99.0	a
17	MON 76439	0.75	lb ae/a	87.8	a-d	99.0	a	99.0	a	20.0	a	90.0	a	99.0	a	99.0	a
18	Non-treated control			0.0	e	0.0	b	0.0	b	0.0	b	0.0	c	0.0	c	0.0	b
LSD (P=.05)				5.15	0.00	0.00	0.00	.	0.00	0.00	1.61	0.00					
Standard Deviation				3.64	0.00	0.00	0.00	.	0.00	0.00	1.14	0.00					
CV				4.69	0.0	0.0	0.0	.	0.0	0.0	1.29	0.0					
Bartlett's X2				10.38	0.0	0.0	0.0	.	0.0	0.0	1.772	0.0					
P(Bartlett's X2)				0.795	.	.	.	.	.	.	0.183	.					
Replicate F				7.247	0.000	0.000	0.000		0.000	0.000	1.822	0.000					
Replicate Prob(F)				0.0004	1.0000	1.0000	1.0000		1.0000	1.0000	0.1549	1.0000					
Treatment F				241.920	0.000	0.000	0.000		0.000	0.000	3170.005	0.000					
Treatment Prob(F)				0.0001	1.0000	1.0000	1.0000		1.0000	1.0000	0.0001	1.0000					

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Weed Code MEDAB
 Rating Data Type control
 Rating Unit %
 Rating Date 5/20/2010
 Trt-Eval Interval 49 DA-A

Trt No.	Treatment Name	Rate	Unit	29	
1	RU WeatherMax	0.5	lb ae/a	99.0	a
2	MON 76398	0.5	lb ae/a	99.0	a
3	MON 76337	0.5	lb ae/a	99.0	a
4	MON 76435	0.5	lb ae/a	99.0	a
5	MON 79790	0.5	lb ae/a	99.0	a
6	MON 76441	0.5	lb ae/a	99.0	a
7	MON 76417	0.5	lb ae/a	99.0	a
8	MON 76439	0.5	lb ae/a	99.0	a
9	Non-treated control			0.0	b
10	RU WeatherMax	0.75	lb ae/a	99.0	a
11	MON 76398	0.75	lb ae/a	99.0	a
12	MON 76337	0.75	lb ae/a	99.0	a
13	MON 76435	0.75	lb ae/a	99.0	a
14	MON 79790	0.75	lb ae/a	99.0	a
15	MON 76441	0.75	lb ae/a	99.0	a
16	MON 76417	0.75	lb ae/a	99.0	a
17	MON 76439	0.75	lb ae/a	99.0	a
18	Non-treated control			0.0	b
LSD (P=.05)				0.00	
Standard Deviation				0.00	
CV				0.0	
Bartlett's X2				0.0	
P(Bartlett's X2)				.	
Replicate F				0.000	
Replicate Prob(F)				1.0000	
Treatment F				0.000	
Treatment Prob(F)				1.0000	

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Response of primrose and other winter weeds to numerous glyphosate formulations.

Trial ID: C1-10 Study Dir.: Stanley Culpepper
Location: Small Jones Farm Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: University of Georgia
Postal Code: 31793
Investigator: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: University of Georgia
Postal Code: 31793

TRIAL LOCATION

City: Tifton **Trial Status:** completed
State/Prov.: Georgia **Trial Reliability:** good
Postal Code: 31794 **Initiation Date:** 4/1/2010
Country: USA

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

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. STEME	common chickweed	
2. OEOLA	cutleaf eveningprimrose	
3. VICSS	common vetch	
4. RUMAA	redsorrel	
5. MEDAB	burclover	

Crop 1: none non-crop **Variety:** .

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: Small Jones Farm
Tillage Type: Conventional **Study Design:** SPLIT-BLOCK

SOIL DESCRIPTION

% Sand: 95 **% OM:** 0.67 **Texture:** sand
% Silt: 2 **pH:** 5.8 **Soil Name:** Tifton sandy loam
% Clay: 3

Overall Moisture Conditions: moist

Closest Weather Station: Tifton Campus or Lang Farm **Distance:** 1 **Unit:** mi

APPLICATION DESCRIPTION

A
Application Date: 4/1/2010
Time of Day: 9 am
Application Method: broadcast
Application Timing: POST
Applic. Placement: overtop
Air Temp., Unit: 61 F
% Relative Humidity: 70
Wind Velocity, Unit: 1 mph
Dew Presence (Y/N): n
Soil Temp., Unit: 57 F
Soil Moisture: moist
% Cloud Cover: 0

CROP STAGE AT EACH APPLICATION

A
Crop 1 Code, Stage: none none
Stage Scale: no crop
Height, Unit: 0 inch

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WEED STAGE AT EACH APPLICATION

A

Weed 1 Code, Stage: STEME POST
Stage Scale: 10",bloom
Density, Unit: 5 ydsq
Weed 2 Code, Stage: OEOLA POST
Stage Scale: 6"
Density, Unit: 8 ydsq
Weed 3 Code, Stage: VICSS POST
Stage Scale: 8"
Density, Unit: 2 ydsq
Weed 4 Code, Stage: RUMAA POST
Stage Scale: 12"
Density, Unit: 3 ydsq
Weed 5 Code, Stage: MEDAB POST
Stage Scale: 4"
Density, Unit: 1 ydsq

APPLICATION EQUIPMENT

A

Appl. Equipment: backpack
Operating Pressure: 26
Nozzle Type: flat fan
Nozzle Size: 11002
Nozzle Spacing, Unit: 18 in
Nozzles/Row: 2
Boom Length, Unit: 4.5 ft
Boom Height, Unit: 15 inch
Ground Speed, Unit: 3 mph
Carrier: water
Spray Volume, Unit: 14.8 GPA
Propellant: CO2
Tank Mix (Y/N): Y