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Primrose response to burndown promgrams in March and April.

Study Dir.: Stanley Culpepper Trial ID: C2-03 Location: Jones farm Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Stanley Culpepper Title: Ext. Weed Science

**Affiliation:** University of Georgia

31794 Postal Code:

Investigator: Stanley Culpepper Title: Ext. Weed Science

**Affiliation:** University of Georgia

Postal Code: 31794

TRIAL LOCATION

City: Tifton Trial Status: completed Trial Reliability: excellent State/Prov.: GA Initiation Date: Mar-07-03 Postal Code: 31794

Country:

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

## CROP AND WEED DESCRIPTION

Wee	ed	Code	Common Name	Scientific Name
1	,	OEOLA	cutleaf eveningprimrose	

Variety: .

SITE AND DESIGN

Plot Width, Unit: 6 FT Plot Length, Unit: 25 FT Reps: 4

Site Type: researach station

Tillage Type: stale seedbed Study Design: SPLIT-PLOT

SOIL DESCRIPTION

% Sand: 92 % OM: 1

pH: 5.8 Soil Name % Silt: 4 Soil Name: Tifton sandy loam

% Clay: 4

Overall Moisture Conditions: wet

## APPLICATION DESCRIPTION

			O111 T C		
		A		В	
Application Date:	Mar-	-07-03	Mar-	29-03	
Time of Day:	10 a	am	10 a	m	
Application Method:	broa	dcast	broa	dcast	
Application Timing:	burr	ndown	burn	.down	
Applic. Placement:	over	top	overtop		
Air Temp., Unit:	69	F	74	F	
% Relative Humidity:	35		44		
Wind Velocity, Unit:	2	mph	2	mph	
Dew Presence (Y/N):	n		n		
Soil Temp., Unit:	62	F	74	F	
Soil Moisture:	wet		wet		
% Cloud Cover:	90		85		

## CROP STAGE AT EACH APPLICATION

	A	В
Crop 1 Code, Stage:	none .	none
Stage Scale:	•	

## WEED STAGE AT EACH APPLICATION

	A	В		
Weed 1 Code, Stage:	OEOLA 6-9"diam	OEOLA 12-20"dia		
Stage Scale:	pre-bloom	fullbloom		
Density, Unit:	12 ydsq			

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## APPLICATION EQUIPMENT

		A	В	
Appl. Equipment:	back	pack	backpack	
Operating Pressure:	23		23	
Nozzle Type:	flat	fan	flat	fan
Nozzle Size:	11002		11002	
Nozzle Spacing, Unit:	18	inch	18	inch
Boom Length, Unit:	4.5	feet	4.5	feet
Boom Height, Unit:	15	inch	15	inch
Ground Speed, Unit:	3	mph	3	mph

# University of Georgia Primrose response to burndown promgrams in March and April.

Trial ID: C2-03 Location: Jones farm Study Dir.: Stanley Culpepper Investigator: Stanley Culpepper

	tion: Jones farm			Investigator: Stanley Culpepper						
	d Code			OEOLA	OEOLA	OEOLA	OEOLA	OEOLA	OEOLA	
Ratii	ng Data Type			control	control	control	control	control	control	
Ratii	ng Unit			percent	percent	percent	percent	percent	percent	
Ratii	ng Date			Mar-16-03	Mar-24-03	Apr-02-03	Apr-11-03	Apr-23-03	Apr-30-03	
Trt-E	Eval Interval			9 DA-A	17 DA-A	26 DA-A	35 DA-A	47 DA-A	47 DA-A	
Trt	Treatment		Rate							
	Name	Rate		1	2	3	4	5	6	
	Caparol		qt/a	86.3	84.8	83.8	79.0	74.0	71.3	
	Gramoxone Max		pt/a	00.0	01.0	00.0	7 0.0			
	COC		% v/v							
	early March application		70 <b>V</b> / V							
2	Caparol	1	qt/a	0.0	0.0	61.8	98.5	99.0	99.0	
	Gramoxone Max		pt/a	0.0	0.0	01.0	90.5	99.0	99.0	
	COC		μια % v/v							
		1	70 V/V							
2	early April application		~#/~	04.2	04.0	00.5	02.0	04.0	05.0	
3	Direx		qt/a	84.3	91.8	90.5	93.0	84.3	85.0	
	Gramoxone Max		pt/a							
	COC	1	% v/v							
	early March application									
4	Direx		qt/a	0.0	0.0	59.3	98.8	99.0	99.0	
	Gramoxone Max		pt/a							
	COC	1	% v/v							
	early April application									
5	Gramoxone Max		pt/a	77.5	73.5	67.5	63.5	43.8	35.0	
	COC	1	% v/v							
	early March application									
6	Gramoxone Max	2	pt/a	0.0	0.0	76.5	91.5	92.0	86.5	
	COC	1	% v/v							
	early April application									
7	2,4-D	1	pt/a	31.3	66.8	95.5	99.5	99.5	100.0	
	early March application		•							
8	2,4-D	1	pt/a	0.0	0.0	28.8	63.8	85.5	100.0	
	early April application		•							
9	2,4-D	0.75	nt/a	32.3	65.8	93.3	94.5	99.5	100.0	
	early March application	00	P	02.0	00.0	33.3	00	00.0		
10	2,4-D	0.75	nt/a	0.0	0.0	25.0	68.3	78.0	97.5	
	early April application	0.70	puu	0.0	0.0	20.0	00.0	70.0	07.0	
11	2,4-D	0.5	pt/a	28.0	60.0	90.8	98.5	99.3	100.0	
	early March application	0.5	pua	20.0	00.0	30.0	30.5	33.5	100.0	
12	2,4-D	0.5	pt/a	0.0	0.0	25.5	48.0	78.3	95.8	
12		0.5	ρυa	0.0	0.0	25.5	40.0	10.3	95.6	
40	early April application	0.25	nt/c	16.0	42.0	92.0	01.0	00.5	00.0	
13	2,4-D	0.25	ρι⁄a	16.3	43.8	82.0	81.0	99.5	99.8	
4.4	early March application	0.05	m#/-	0.0	0.0	04.0	00.5	F4 F	00.5	
14	2,4-D	0.25	pt/a	0.0	0.0	21.3	23.5	54.5	92.5	
4 =	early April application		. 17	0.1.0	00.0	00.0	00.0	00.0	00.0	
15	Caparol		qt/a	91.0	98.3	99.0	99.3	99.3	99.0	
	Gramoxone Max		pt/a							
	COC		% v/v							
	2,4-D	0.25	pt/a							
	early March application									
16	Caparol	1		0.0	0.0	63.8	98.8	99.3	99.0	
	Gramoxone Max		pt/a							
	COC		% v/v							
	2,4-D	0.25	pt/a							
	early April application		-							
17	Roundup WeatherMax	21.3	oz/a	11.8	56.3	60.3	68.0	64.5	61.3	
1	early March application					22.0			2 2	
18	Roundup WeatherMax	21.3	oz/a	0.0	0.0	0.0	22.5	53.5	65.0	
.	early April application			0.0	0.0	5.5		20.0	20.0	
<u> </u>	,p application									

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Wee	ed Code			OEOLA	OEOLA	OEOLA	OEOLA	OEOLA	OEOLA
Rating Data Type			control	control	control	control	control	control	
Rating Unit			percent	percent	percent	percent	percent	percent	
Rating Date			Mar-16-03	Mar-24-03	Apr-02-03	Apr-11-03	Apr-23-03	Apr-30-03	
Trt-I	Eval Interval			9 DA-A	17 DA-A	26 DA-A	35 DA-A	47 DA-A	47 DA-A
Trt	Treatment		Rate						
No.	Name	Rate	Unit	1	2	3	4	5	6
19	Roundup WeatherMax		oz/a	41.3	71.0	87.0	96.8	99.3	100.0
	2,4-D	0.5	pt/a						
	early March application		•						
20	Roundup WeatherMax	21.3	oz/a	0.0	0.0	37.5	63.8	81.3	100.0
	2,4-D	0.5	pt/a						
	early April application		•						
21	Roundup WeatherMax	21.3	oz/a	37.5	68.3	75.3	91.0	99.3	100.0
	2,4-D	0.25	pt/a						
	early March application		•						
22	Roundup WeatherMax	21.3	oz/a	0.0	0.0	26.3	55.8	77.5	100.0
	2,4-D	0.25	pt/a						
	early April application								
23	Roundup WeatherMax	21.3	oz/a	83.3	90.3	88.5	85.8	80.3	78.3
	Valor	1	oz/a						
	early March application								
24	Roundup WeatherMax	21.3	oz/a	0.0	0.0	43.8	79.0	87.5	91.0
	Valor	1	oz/a						
	early April application								
25	Roundup WeatherMax	21.3	oz/a	87.0	95.0	99.0	99.0	98.0	100.0
	Valor	1	oz/a						
	2,4-D	0.25	pt/a						
	early March application								
26	Roundup WeatherMax	21.3	oz/a	0.0	0.0	45.0	80.8	98.5	100.0
	Valor		oz/a						
	2,4-D	0.25	pt/a						
	early April application								
27	Liberty	28	oz/a	91.5	91.3	90.3	90.8	82.5	80.0
	early March application								
28	Liberty	28	oz/a	0.0	0.0	55.0	98.0	98.8	99.0
	early April application								
29	Liberty	32	oz/a	96.3	95.3	98.3	93.3	98.0	95.3
	early March application								
30	Liberty	32	oz/a	0.0	0.0	63.8	97.8	99.0	100.0
	early April application								
	(P=.05)			4.25	7.68	8.24	11.60	10.59	4.81
	ndard Deviation			3.00	5.43	5.83	8.20	7.49	3.40
CV				10.07	14.14	9.04	10.16	8.63	3.74
	lett's X2			19.314	44.431	43.823	112.02	159.875	49.494
P(B	artlett's X2)			0.153	0.001*	0.016*	0.001*	0.001*	0.001*

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

## **Trial Comments**

OBJECTIVE: Determine primrose response to various burndown herbicide treatments at two timings.

## RESULTS:

1) Primrose was completely controlled by all rates of 2,4-D when applied in early spring. Control was also excellent with the late application and a 100% control from each treatement would have likely been noted if an additional rating had been conducted. The lowest rate, 0.25 pt/A took at least 10 days longer than other rate to achieve complete control in early spring. A 0.5 pt/A rate alone is satisfactory for primrose control regardless of application timing.

2) Roundup plus 0.25 or 0.5 pt/A of 2,4-D provided complete primrose control.

3) Roundup alone provided poor control.

4) Mixing Direx or Caparol with Gramoxone and applied prebloom improved control by 6 to 40% compared to Gramoxone alone. Mixtures with Direx tended to be more effective than those with Caparol in early spring. These treatments applied post-bloom were much more effective providing complete control.

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  5) Roundup plus Valor, without an adjuvant provided good control with 86% control at one month after the early timing. Similar results were noted with the late timing.
- 6) Liberty at 32 oz/A provided excellent control of primrose regardless of timing.
- 7) Liberty at 28 oz/A provided better control when applied post-bloom compared to prebloom.
- 8) Mixing 0.25 pt/A of 2,4-D with any other combination provided complete control of primrose.

## CONCLUSIONS:

- 1) Apply Gramoxone combinations after bloom.
- 2) Liberty will be more effective after bloom.3) The addition of an adjuvant with Valor plus Roundup is recommended.
- 4) 0.5 pt/A of 2,4-D alone or 0.25 pt/A of 2,4-D mixed with any tank mix partner will provide complete primrose control regardless of application timing.

## **GENERAL COMMENTS:**

Liberty provided only suppression of cudweed, oxalis, geranium, red sorrel. Little to no control of radish.