

University of Georgia

Winter weed response to ET mixtures.

Trial ID: C25-08
Location: Jones Farm

Study Dir.: Davis, Culpepper
Investigator: Stanley Culpepper

Reps: 4 Plots: 6 by 30 feet
Spray vol: 14.8 gal/ac Mix size: 1 liters (min .92602)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	Amt to Product Measure	Plot No. By Rep			
										1	2	3	4
1	ET	0.21	L	L	0.5	OZ/A	BD	A	0.2639 ml/mx	101	211	305	410
	COC			L	1	QT/A	BD	A	16.89 ml/mx				
2	ET	0.21	L	L	0.75	OZ/A	BD	A	0.3959 ml/mx	102	210	307	412
	COC			L	1	QT/A	BD	A	16.89 ml/mx				
3	ET	0.21	L	L	0.5	OZ/A	BD	A	0.2639 ml/mx	103	209	304	408
	COC			L	1	QT/A	BD	A	16.89 ml/mx				
	CT-301			L	1.2	OZ/A	BD	A	0.6334 ml/mx				
4	ET	0.21	L	L	0.75	OZ/A	BD	A	0.3959 ml/mx	104	212	306	411
	COC			L	1	QT/A	BD	A	16.89 ml/mx				
	CT-301			L	2.4	OZ/A	BD	A	1.267 ml/mx				
5	Roundup WeatherMax	4.5	L	L	0.38	LB A/A	BD	A	5.705 ml/mx	105	214	312	414
6	Roundup WeatherMax	4.5	L	L	0.38	LB A/A	BD	A	5.705 ml/mx	106	202	314	409
	ET	0.21	L	L	0.75	OZ/A	BD	A	0.3959 ml/mx				
7	Non-treated									107	205	303	405
8	Roundup WeatherMax	4.5	L	L	0.38	LB A/A	BD	A	5.705 ml/mx	108	206	309	401
	ET	0.21	L	L	0.75	OZ/A	BD	A	0.3959 ml/mx				
	CT-301			L	1.2	OZ/A	BD	A	0.6334 ml/mx				
9	NAI-1500	0.21	L	L	8	OZ/A	BD	A	4.223 ml/mx	109	203	313	406
	COC			L	1	QT/A	BD	A	16.89 ml/mx				
10	NAI-1500	0.21	L	L	8	OZ/A	BD	A	4.223 ml/mx	110	213	302	407
	COC			L	1	QT/A	BD	A	16.89 ml/mx				
	Roundup WeatherMax	4.5	L	L	0.38	LB A/A	BD	A	5.705 ml/mx				
11	Roundup WeatherMax	4.5	L	L	0.75	LB A/A	BD	A	11.26 ml/mx	111	201	308	402
12	Roundup WeatherMax	4.5	L	L	0.75	LB A/A	BD	A	11.26 ml/mx	112	207	311	403
	ET	0.21	L	L	0.75	OZ/A	BD	A	0.3959 ml/mx				
13	Roundup WeatherMax	4.5	L	L	0.75	LB A/A	BD	A	11.26 ml/mx	113	208	301	413
	2,4-D	4	L	L	0.5	PT/A	BD	A	4.223 ml/mx				
14	Firestorm	3	L	L	1.5	PT/A	BD	A	12.67 ml/mx	114	204	310	404
	Diuron	4	L	L	1.5	PT/A	BD	A	12.67 ml/mx				
	COC			L	1	QT/A	BD	A	16.89 ml/mx				

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
3.134	ml	ET	0.21	L	
147.788	ml	COC		L	
3.167	ml	CT-301		L	
70.751	ml	Roundup WeatherMax	4.5	L	
10.557	ml	NAI-1500	0.21	L	
5.278	ml	2,4-D	4	L	
15.834	ml	Firestorm	3	L	
15.834	ml	Diuron	4	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.

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Trial Comments

OBJECTIVE: Determine potential use of ET to control winter annual weeds for burndown.

Primrose response:

1. ET alone or mixed with CT-301 provided poor control.
2. Roundup provided fair control at 22 DAT with little benefit from the addition of ET. Roundup + ET was more effective than Roundup + ET + CT-301.
3. NAI-1500 provided good control at 14 DAT but poor control by 22 DAT; however, NAI-1500 mixed with Roundup provided fair to good control throughout.
4. Roundup + 2,4-D and Firestorm + Diuron were the most effective options.

Red sorrel response:

1. Any Roundup mixture and the Firestorm mixture provided excellent control.
2. ET provided poor control while NA-1500 provided fair control by 22 DAT.

False dandelion response:

1. ET provide an initial burn but the plants recovered quickly.
2. Roundup at 0.38 lb provided only fair control, the addition of ET improved control to 97% at 22 DAT.
3. NAI-1500 provided poor to fair control but when mixed with Roundup control was complete.
3. Some plants did regrow from the Roundup + 2,4-D (antagonism with the 2,4-D) and the Firestorm + diuron treatments.

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Weed Code		OEOLA	OEOLA	OEOLA	OEOLA	RUMAA	RUMAA	RUMAA	PYHCA	
Rating Data Type		control	control	control	control	control	control	control	control	
Rating Unit		%	%	%	%	%	%	%	%	
Rating Date		Apr-15-08	Apr-23-08	May-01-08	May-15-08	Apr-15-08	Apr-23-08	May-01-08	Apr-15-08	
Trt-Eval Interval		6 DA-A	14 DA-A	22 DA-A	36 DA-A	6 DA-A	14 DA-A	22 DA-A	6 DA-A	
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	
			1	2	3	4	5	6	7	
			8							
1	ET COC	0.5 OZ/A 1 QT/A	10 e	0 d	9 ef	0 e	25 cd	13 cd	10 d	38 ef
2	ET COC	0.75 OZ/A 1 QT/A	13 e	0 d	10 ef	3 e	20 cd	16 cd	25 c	48 def
3	ET COC CT-301	0.5 OZ/A 1 QT/A 1.2 OZ/A	13 e	0 d	10 ef	4 e	13 cde	18 c	30 c	35 fg
4	ET COC CT-301	0.75 OZ/A 1 QT/A 2.4 OZ/A	24 c	1 d	15 e	3 e	28 cd	15 cd	25 c	55 cd
5	Roundup WeatherMax	0.38 LB A/A	6 ef	84 ab	76 c	61 c	11 de	97 a	98 a	20 h
6	Roundup WeatherMax ET	0.38 LB A/A 0.75 OZ/A	13 e	88 ab	82 bc	63 c	30 c	98 a	98 a	60 bcd
7	Non-treated		0 f	0 d	0 f	0 e	0 e	0 d	0 e	0 i
8	Roundup WeatherMax ET CT-301	0.38 LB A/A 0.75 OZ/A 1.2 OZ/A	14 de	53 c	60 d	43 d	28 cd	78 b	97 a	69 bc
9	NAI-1500 COC	8 OZ/A 1 QT/A	68 b	88 ab	53 d	33 d	58 b	90 ab	78 b	73 b
10	NAI-1500 COC Roundup WeatherMax	8 OZ/A 1 QT/A 0.38 LB A/A	76 b	95 ab	87 abc	74 bc	89 a	99 a	99 a	93 a
11	Roundup WeatherMax	0.75 LB A/A	8 ef	78 b	76 c	75 bc	15 cde	97 a	98 a	21 gh
12	Roundup WeatherMax ET	0.75 LB A/A 0.75 OZ/A	14 de	95 ab	85 bc	80 b	30 c	97 a	99 a	53 de
13	Roundup WeatherMax 2,4-D	0.75 LB A/A 0.5 PT/A	23 cd	98 a	92 ab	98 a	23 cd	99 a	98 a	45 def
14	Firestorm Diuron COC	1.5 PT/A 1.5 PT/A 1 QT/A	91 a	99 a	99 a	99 a	96 a	99 a	99 a	95 a
LSD (P=.05)			8.9	16.5	12.0	13.6	15.9	15.2	7.0	14.2
Standard Deviation			6.2	11.5	8.4	9.5	11.2	10.7	4.9	9.9
CV			23.45	20.82	15.66	21.02	33.72	16.3	7.23	19.79
Bartlett's X2			15.17	58.211	36.272	20.14	8.725	46.978	43.544	14.639
P(Bartlett's X2)			0.175	0.001*	0.001*	0.028*	0.726	0.001*	0.001*	0.20

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

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Weed Code			PYHCA	PHYCA
Rating Data Type			control	control
Rating Unit			%	%
Rating Date			Apr-23-08	May-01-08
Trt-Eval Interval			14 DA-A	22 DA-A
Trt No.	Treatment Name	Rate Rate Unit	9	10
1	ET COC	0.5 OZ/A 1 QT/A	14 e	13 f
2	ET COC	0.75 OZ/A 1 QT/A	21 de	26 e
3	ET COC CT-301	0.5 OZ/A 1 QT/A 1.2 OZ/A	19 e	33 e
4	ET COC CT-301	0.75 OZ/A 1 QT/A 2.4 OZ/A	30 d	30 e
5	Roundup WeatherMax	0.38 LB A/A	83 b	75 cd
6	Roundup WeatherMax ET	0.38 LB A/A 0.75 OZ/A	90 ab	97 a
7	Non-treated		0 f	0 g
8	Roundup WeatherMax ET CT-301	0.38 LB A/A 0.75 OZ/A 1.2 OZ/A	92 ab	95 ab
9	NAI-1500 COC	8 OZ/A 1 QT/A	59 c	70 d
10	NAI-1500 COC Roundup WeatherMax	8 OZ/A 1 QT/A 0.38 LB A/A	99 a	99 a
11	Roundup WeatherMax	0.75 LB A/A	89 ab	98 a
12	Roundup WeatherMax ET	0.75 LB A/A 0.75 OZ/A	97 a	99 a
13	Roundup WeatherMax 2,4-D	0.75 LB A/A 0.5 PT/A	99 a	84 bc
14	Firestorm Diuron COC	1.5 PT/A 1.5 PT/A 1 QT/A	85 b	84 bc
LSD (P=.05)			9.9	11.2
Standard Deviation			6.9	7.8
CV			11.04	12.16
Bartlett's X2			16.595	36.874
P(Bartlett's X2)			0.055	0.001*

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

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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: Tifton sandy loam
% Silt: 2	pH: 5.8	Soil Name: _____
% 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: moist

Closest Weather Station: _____ Distance: _____ Unit: ____

APPLICATION DESCRIPTION

	A
Application Date:	Apr-09-08
Time of Day:	8:30 am
Application Method:	broadcast
Application Timing:	BD
Applic. Placement:	overtop
Air Temp., Unit:	66 F
% Relative Humidity:	74
Wind Velocity, Unit:	4 mph
Dew Presence (Y/N):	Y
Water Hardness:	
Soil Temp., Unit:	65 F
Soil Moisture:	moist
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

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

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WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	OEOLA blooming
Stage Scale:	18 in
Density, Unit:	5 ydsq
Weed 2 Code, Stage:	RUMAA blooming
Stage Scale:	18 in
Density, Unit:	15 ydsq
Weed 3 Code, Stage:	PHYCA .
Stage Scale:	10 in
Density, Unit:	3 ydsq

APPLICATION EQUIPMENT

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

Trt No	Treatment Application Comment