

LSU Northeast Research Station

Cutleaf eveningprimrose control with 2,4-D alone and in combination with select herbicides

Trial ID: SJ07B011

Protocol ID: SJ07B011

Location:

Study Director:

Investigator: Bill Williams

General Trial Information

Investigator: Bill Williams

Pest Description

Pest 1 Type: W **Code:** OEOLA *Oenothera laciniata*
Common Name: Cutleaf eveningprimrose

Pest 2 Type: W **Code:** LAMAM *Lamium amplexicaule*
Common Name: Henbit

Pest 3 Type: W **Code:** POAAN *Poa annua*
Common Name: Annual bluegrass

Pest 4 Type: W **Code:** COPDI *Coronopus didymus*
Common Name: Swinecress

Pest 5 Type: W **Code:** STEME *Stellaria media*
Common Name: Common chickweed

Pest 6 Type: W **Code:** HPPVU *Hippuris vulgaris*
Common Name: Common mare's-tail

Pest 7 Type: W **Code:** VERAA *Veronica anagallis-aquatica*
Common Name: Blue water speedwell

Site and Design

Plot Width, Unit: 6.67 FT **Site Type:** FIELD
Plot Length, Unit: 15 FT **Tillage Type:** CONVENTIONAL-TILL
Replications: 3 **Study Design:** Factorial

Soil Description

Description Name: Garden cut
% Sand: 34 **% OM:** 0.6 **Texture:** Silt loam
% Silt: 54 **pH:** 5.3 **Soil Name:** Commerce Silt loam
% Clay: 12 **CEC:** 6.3 **Fert. Level:** EXCELLENT

Moisture and Weather Conditions

Overall Moisture Conditions: Dry

Closest Weather Station: Northeast Research Station

	Date	Amount	Unit
1.	21/Feb/07	0.01	IN
2.	24/Feb/07	0.65	IN
3.	25/Feb/07	0.01	IN
4.	1/Mar/07	1.17	IN
5.	27/Mar/07	0.01	IN
6.	31/Mar/07	0.63	IN

7. 1/Apr/07 0.01 IN
 8. 2/Apr/07 0.01 IN
 9. 3/Apr/07 0.09 IN
 10. 4/Apr/07 0.19 IN
 11. 7/Apr/07 0.14 IN
 12. 8/Apr/07 0.1 IN
 13. 10/Apr/07 1.01 IN
 14. 14/Apr/07 0.39 IN
 15. 18/Apr/07 0.11 IN
 16. 25/Apr/07 1.37 IN
 17. 26/Apr/07 0.41 IN
 18. 2/May/07 0.04 IN
 19. 3/May/07 1.24 IN
 20. 15/May/07 0.02 IN
 21. 16/May/07 0.01 IN
 22. 17/May/07 0.01 IN
 23. 3/Jun/07 0.02 IN
 24. 16/Jun/07 0.01 IN
 25. 18/Jun/07 0.02 IN
 26. 19/Jun/07 0.4 IN
 27. 2/Jul/07 0.3 IN
 28. 3/Jul/07 0.06 IN
 29. 4/Jul/07 1.14 IN
 30. 5/Jul/07 0.31 IN
 31. 6/Jul/07 0.27 IN
 32. 7/Jul/07 1.39 IN
 33. 9/Jul/07 0.36 IN
 34. 10/Jul/07 0.01 IN
 35. 11/Jul/07 0.27 IN
 36. 13/Jul/07 0.3 IN
 37. 14/Jul/07 1.96 IN
 38. 15/Jul/07 2.8 IN
 39. 17/Jul/07 1.56 IN
 40. 20/Jul/07 0.93 IN
 41. 21/Jul/07 0.1 IN
 42. 22/Jul/07 0.01 IN
 43. 30/Jul/07 2.35 IN

Application Description

A

Application Date: 7/Mar/07
Time of Day: 2:00
Application Method: Spray
Application Timing: 2WPP
Application Placement: BROFOL
Applied By: BW
Air Temperature, Unit: 74 F
% Relative Humidity: 38
Wind Velocity, Unit: 5 MPH
Wind Direction: S
Soil Temperature, Unit: 62 F
Soil Moisture: DAMP
% Cloud Cover: 0

Pest Stage At Each Application

A

Pest 1 Code, Disc., Scale: OEOLA W
Stage Majority, Percent: FLOWER
Stage Minimum, Percent: 7"
Pest 2 Code, Disc., Scale: LAMAM W
Stage Minimum, Percent: 4"
Stage Maximum, Percent: 8"
Pest 3 Code, Disc., Scale: POAAN W

Stage Majority, Percent: FLOWER
Stage Minimum, Percent: 4"
Pest 4 Code, Disc., Scale: COPDI W
Stage Minimum, Percent: 4"
Pest 5 Code, Disc., Scale: STEME W
Stage Majority, Percent: FLOWER
Stage Minimum, Percent: 4"
Stage Maximum, Percent: 5"
Pest 6 Code, Disc., Scale: HPPVU W
Stage Minimum, Percent: 4"
Pest 7 Code, Disc., Scale: VERAA W
Stage Majority, Percent: 6-7"

Application Equipment

A

Appl. Equipment: Backpack
Operating Pressure, Unit: 31 psi
Nozzle Type: Greenleaf
Nozzle Size: 11002
Nozzle Spacing, Unit: 20 in
Nozzles/Row: 2
Ground Speed, Unit: 2.8 mph
Carrier: water
Spray Volume, Unit: 15 GAL/AC
Propellant: CO2

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Trial ID: SJ07B011

Protocol ID: SJ07B011

Location:

Study Director:

Investigator: Bill Williams

Pest Type

Pest Code

Rating Date

Trt-Eval Interval

OEOLA	OEOLA	OEOLA	COPDI	COPDI	COPDI
15/Mar/07	22/Mar/07	3/Apr/07	15/Mar/07	22/Mar/07	3/Apr/07
8 DA-A	15 DA-A	27 DA-A	8 DA-A	15 DA-A	27 DA-A

Trt No.	Treatment Name	Rate	Unit	Growth Stage	1	2	3	5	6	7	
1	Roundup Original	max 22	OZ/App	60	e	90	a92	a70	cd 90	a92	a
	2,4-D Ester	4	OZ/App								
	2,4-D alone										
2	Roundup Original	max 22	OZ/App	83	abc	93	a93	a83	ab 95	a93	a
	2,4-D Ester	4	OZ/App								
	Atrazine	1.5	PT/A pp								
3	Roundup Original	max 22	OZ/App	75	cd	78	a93	a78	abc 92	a93	a
	2,4-D Ester	4	OZ/App								
	dicamba	4	OZ/App								
4	Roundup Original	max 22	OZ/App	85	ab	95	a93	a80	ab 95	a93	a
	2,4-D Ester	4	OZ/App								
	dicamba	8	OZ/App								
5	Roundup Original	max 22	OZ/App	73	d	88	a93	a83	ab 95	a93	a
	2,4-D Ester	8	OZ/App								
	2,4-D alone										
6	Roundup Original	max 22	OZ/App	90	a	95	a93	a70	cd 95	a93	a
	2,4-D Ester	8	OZ/App								
	Atrazine	1.5	PT/A pp								
7	Roundup Original	max 22	OZ/App	80	bcd	93	a93	a83	ab 90	a88	a
	2,4-D Ester	8	OZ/App								
	dicamba	4	OZ/App								
8	Roundup Original	max 22	OZ/App	82	bc	93	a93	a82	ab 95	a93	a
	2,4-D Ester	8	OZ/App								
	dicamba	8	OZ/App								
9	Roundup Original	max 22	OZ/App	80	bcd	85	a93	a73	bcd 95	a93	a
	2,4-D Ester	16	OZ/App								
	2,4-D alone										
10	Roundup Original	max 22	OZ/App	83	abc	95	a93	a82	ab 90	a93	a
	2,4-D Ester	16	OZ/App								
	Atrazine	1.5	PT/A pp								
11	Roundup Original	max 22	OZ/App	78	bcd	90	a93	a82	ab 95	a93	a
	2,4-D Ester	16	OZ/App								
	dicamba	4	OZ/App								
12	Roundup Original	max 22	OZ/App	77	bcd	90	a93	a87	a 93	a93	a

2,4-D Ester	16	OZ/App							
dicamba	8	OZ/App							
13 Roundup Originalmax	22	OZ/App	80	bcd90	a93	a73	bcd95	a93	a
2,4-D Ester	24	OZ/App							
2,4-D alone									
14 Roundup Originalmax	22	OZ/App	83	abc 95	a93	a82	ab 95	a93	a
2,4-D Ester	24	OZ/App							
Atrazine	1.5	PT/A pp							
15 Roundup Originalmax	22	OZ/App	83	abc 93	a93	a67	d 90	a93	a
2,4-D Ester	24	OZ/App							
dicamba	4	OZ/App							
16 Roundup Originalmax	22	OZ/App	77	bcd87	a93	a77	abc 95	a93	a
2,4-D Ester	24	OZ/App							
dicamba	8	OZ/App							
LSD (P=.10)			4.5	9.4	1.0	5.8	5.6	3.1	
Standard Deviation			3.3	6.8	0.7	4.2	4.1	2.2	
CV			4.13	7.5	0.77	5.4	4.34	2.41	
Grand Mean			79.38	90.73	93.23	78.23	93.44	92.92	
Bartlett's X2			3.833	11.913	0.0	8.901	2.556	5.402	
P(Bartlett's X2)			0.975	0.37	1.00	0.837	0.768	0.988	
Replicate F			8.301	0.820	241.000	14.942	5.803	21.667	
Replicate Prob(F)			0.0014	0.4500	0.0001	0.0001	0.0074	0.0001	
Treatment F			12.311	1.342	1.000	5.830	0.911	1.000	
Treatment Prob(F)			0.0001	0.2391	0.4801	0.0001	0.5614	0.4801	

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Pest Type						
Pest Code		OEOLA	OEOLA	OEOLA	COPDI	COPDI
Rating Date		15/Mar/07	22/Mar/07	3/Apr/07	15/Mar/07	22/Mar/07
Trt-Eval Interval		8 DA-A	15 DA-A	27 DA-A	8 DA-A	15 DA-A
Trt Treatment						
No.	Name	Rate	Unit	Stage	1	2
					3	5
					6	7

Means followed by same letter do not significantly differ (P=.10, Student-Newman-Keuls)

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

Atrazine	1.5	PT/A pp								
15 Roundup Originalmax	22	OZ/App	83	a95	a93	a82	a95	a93	a	
2,4-D Ester	24	OZ/App								
dicamba	4	OZ/App								
16 Roundup Originalmax	22	OZ/App	83	a93	a93	a83	a93	a93	a	
2,4-D Ester	24	OZ/App								
dicamba	8	OZ/App								
LSD (P=.10)			7.3	1.8	1.0	8.2	1.8	1.0		
Standard Deviation			5.3	1.3	0.7	5.9	1.3	0.7		
CV			6.55	1.36	0.77	7.43	1.36	0.77		
Grand Mean			80.63	94.69	93.23	79.79	94.69	93.23		
Bartlett's X2			12.646	0.0	0.0	8.499	0.0	0.0		
P(Bartlett's X2)			0.555	.	1.00	0.902	.	1.00		
Replicate F			16.343	0.000	241.000	16.779	0.000	241.000		
Replicate Prob(F)			0.0001	1.0000	0.0001	0.0001	1.0000	0.0001		
Treatment F			1.030	0.813	1.000	0.787	0.813	1.000		
Treatment Prob(F)			0.4542	0.6566	0.4801	0.6819	0.6566	0.4801		

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Pest Type						
Pest Code		STEME	STEME	STEME	POAAN	POAAN
Rating Date		15/Mar/07	22/Mar/07	3/Apr/07	15/Mar/07	22/Mar/07
Trt-Eval Interval		8 DA-A	15 DA-A	27 DA-A	8 DA-A	15 DA-A
Trt Treatment						
No.	Name	Rate	Unit	Stage	9	10
					11	13
					14	15

Means followed by same letter do not significantly differ (P=.10, Student-Newman-Keuls)

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Pest Type								
Pest Code		LAMAM LAMAMVERPE VERPE						
Rating Date		22/Mar/07 3/Apr/07 22/Mar/07 3/Apr/07						
Trt-Eval Interval		15 DA-A 27 DA-A 15 DA-A 27 DA-A						
Trt No.	Treatment	Rate	Growth	17	18	20	21	
	Name	Unit	Stage					
1	Roundup Original	max 22	OZ/App	90	a92	a95	a92	a
	2,4-D Ester	4	OZ/App					
	2,4-D alone							
2	Roundup Original	max 22	OZ/App	93	a93	a95	a93	a
	2,4-D Ester	4	OZ/App					
	Atrazine	1.5	PT/A pp					
3	Roundup Original	max 22	OZ/App	90	a93	a95	a93	a
	2,4-D Ester	4	OZ/App					
	dicamba	4	OZ/App					
4	Roundup Original	max 22	OZ/App	95	a93	a95	a93	a
	2,4-D Ester	4	OZ/App					
	dicamba	8	OZ/App					
5	Roundup Original	max 22	OZ/App	87	a93	a87	a93	a
	2,4-D Ester	8	OZ/App					
	2,4-D alone							
6	Roundup Original	max 22	OZ/App	95	a93	a95	a93	a
	2,4-D Ester	8	OZ/App					
	Atrazine	1.5	PT/A pp					
7	Roundup Original	max 22	OZ/App	95	a93	a95	a93	a
	2,4-D Ester	8	OZ/App					
	dicamba	4	OZ/App					
8	Roundup Original	max 22	OZ/App	90	a93	a95	a93	a
	2,4-D Ester	8	OZ/App					
	dicamba	8	OZ/App					
9	Roundup Original	max 22	OZ/App	95	a93	a95	a93	a
	2,4-D Ester	16	OZ/App					
	2,4-D alone							
10	Roundup Original	max 22	OZ/App	87	a93	a95	a93	a
	2,4-D Ester	16	OZ/App					
	Atrazine	1.5	PT/A pp					
11	Roundup Original	max 22	OZ/App	93	a93	a95	a93	a
	2,4-D Ester	16	OZ/App					
	dicamba	4	OZ/App					
12	Roundup Original	max 22	OZ/App	93	a93	a93	a93	a
	2,4-D Ester	16	OZ/App					
	dicamba	8	OZ/App					
13	Roundup Original	max 22	OZ/App	92	a93	a95	a93	a
	2,4-D Ester	24	OZ/App					
	2,4-D alone							
14	Roundup Original	max 22	OZ/App	95	a93	a95	a93	a
	2,4-D Ester	24	OZ/App					

	Atrazine	1.5	PT/A pp					
15	Roundup Originalmax	22	OZ/App	92	a93	a95	a93	a
	2,4-D Ester	24	OZ/App					
	dicamba	4	OZ/App					
16	Roundup Originalmax	22	OZ/App	90	a93	a93	a93	a
	2,4-D Ester	24	OZ/App					
	dicamba	8	OZ/App					
LSD (P=.10)				7.2	1.0	5.3	1.0	
Standard Deviation				5.2	0.7	3.8	0.7	
CV				5.66	0.77	4.03	0.77	
Grand Mean				91.98	93.23	94.27	93.23	
Bartlett's X2				11.39	0.0	6.563	0.0	
P(Bartlett's X2)				0.328	1.00	0.038*	1.00	
Replicate F				13.000	241.000	0.577	241.000	
Replicate Prob(F)				0.0001	0.0001	0.5677	0.0001	
Treatment F				0.912	1.000	0.921	1.000	
Treatment Prob(F)				0.5610	0.4801	0.5524	0.4801	

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Pest Type					
Pest Code		LAMAM	LAMAM	VERPE	VERPE
Rating Date		22/Mar/07	3/Apr/07	22/Mar/07	3/Apr/07
Trt-Eval Interval		15 DA-A	27 DA-A	15 DA-A	27 DA-A
Trt Treatment					
No.	Name	Rate	Unit	Stage	
				17	18
					20
					21

Means followed by same letter do not significantly differ ($P=0.10$, Student-Newman-Keuls)

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