

Ohio State University Horticulture and Crop Science

FALL VS SPRING TREATMENTS OF RESIDUAL HERBICIDES FOR MARESTAIL CONTROL

Title No. 2:
 Trial ID: 11FALLBURN2 Protocol ID: 11FALLBURN2
 Location: Western Branch F-10W Study Director: Bryan Reeb
 Project ID: 11FALLBURN2 Investigator: Dr. Mark M. Loux
 Sponsor Contact: JOHN WILLIS

General Trial Information

Study Director: Bryan Reeb **Title:** Research Technician
Investigator: Dr. Mark M. Loux **Title:** Professor

Trial Location

City: South Charleston **Latitude of LL Corner °:** 39.85873 N
State/Prov.: Ohio **Longitude of LL Corner °:** -83.67236 W
Postal Code: 45368
Country: USA

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: AG 3631 **Description:** Round Up Ready
BBCH Scale: BSOY **Planting Date:** May-14-2011
Planting Method: PLANTD planted **Rate, Unit:** 197000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 15 IN
Seed Bed: MEDTRA medium/trashy
Soil Moisture: SLIWET slightly wet
Harvested Width, Unit: 6.25 FT **Harvested Length, Unit:** 30 FT

Pest Description

- Pest 1 Type:** W **Code:** LAMPU *Lamium purpureum*
Common Name: Purple deadnettel
- Pest 2 Type:** W **Code:** TAROF *Taraxacum officinale*
Common Name: Common dandelion
- Pest 3 Type:** W **Code:** STEME *Stellaria media*
Common Name: Common chickweed
- Pest 4 Type:** W **Code:** ERICA *Conyza canadensis*
Common Name: Canada horseweed
- Pest 5 Type:** W **Code:** ERPSS *Erophila sp.*
Common Name: Whitlowgrass
- Pest 6 Type:** W **Code:** ERYRE *Erysimum repandum*
Common Name: Bushy wallflower
- Pest 7 Type:** W **Code:** CAPBP *Capsella bursa-pastoris*
Common Name: Shepherd's purse
- Pest 8 Type:** W **Code:** VERAG *Veronica agrestis*
Common Name: Field speedwell
- Pest 9 Type:** W **Code:** CARPE *Cardamine pensylvanica*
Common Name: Pennsylvania bittercress
- Pest10 Type:** W **Code:** SETFA *Setaria faberi*
Common Name: Giant foxtail
- Pest11 Type:** W **Code:** AMBTR *Ambrosia trifida*
Common Name: Giant ragweed
- Pest12 Type:** W **Code:** AMBEL *Ambrosia artemisiifolia*
Common Name: Common ragweed
- Pest13 Type:** W **Code:** ABUTH *Abutilon theophrasti*
Common Name: Velvetleaf

Site and Design

Plot Width, Unit: 6.67 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT **Experimental Unit:** 1 PLOT plot
Plot Area, Unit: 200.1 FT² **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOBL Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

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No. Previous Crop Year
 1. Soybean 2010

Soil Description

Description Name: G-7 West
% OM: 1.7 **Texture:** SIL silt loam
pH: 6.1 **Soil Name:** Crosby Silt Loam
CEC: 12.8 **Fert. Level:** G good
Soil Drainage: G good

Application Description

	A	B	C	D
Application Date:	Nov-9-2010	Apr-1-2011	Apr-21-2011	Jun-9-2011
Time of Day:	12:30 PM	1:45 PM	9:00 AM	8:30 am
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	FALL	30 EPP	7 EPP	POST
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Air Temperature, Unit:	71 F	54 F	43 F	81 F
% Relative Humidity:	35	41.7	64	58
Wind Velocity, Unit:	2.4 MPH	8 MPH	6 MPH	2.5 MPH
Wind Direction:	SSW	NW	NNE	SW
Dew Presence (Y/N):	N no	N no	N no	N no
Soil Temperature, Unit:	48 F	41 F	42 F	72 F
Soil Moisture:	DRY	GOOD	VERWET	DRY
% Cloud Cover:	0	25	5	5
Next Rain Occurred On:	Nov-14-2010	Apr-2-2011	Apr-22-2011	Jun-10-2011

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:				DESC
Stage Majority, Percent:				12 100
Height, Unit:				4 IN
Height Minimum, Maximum:				3 4

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Pest Type								
Pest Code								
Pest Scientific Name								
Pest Name								
Crop Code				GLXMA	GLXMA	GLXMA		
BBCH Scale				BSOY	BSOY	BSOY		
Crop Scientific Name				Glycine max	Glycine max	Glycine max		
Crop Name				Soybean	Soybean	Soybean		
Rating Date				Oct-11-2011	Oct-11-2011	Oct-11-2011		
Rating Type				YIELD	YIELD	YIELD		
Rating Unit				LB	%	BU		
Number of Subsamples				1	1	1		
Days After First/Last Applic.				336 124	336 124	336 124		
Plant-Eval Interval				150 DP-1	150 DP-1	150 DP-1		
ARM Action Codes						TY1		
Number of Decimals				1	1	1		

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	23	24	25
1	2,4-D Amine	0.5 lb ai/a		0.5 qt/a		B	16.1 a	11.7 a	63.7 a
1	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		B			
1	N-pak ams	5 % v/v		3 qt/a		B			
1	Firstrate	0.0158 lb ai/a		0.3 oz/a		D			
1	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		D			
1	N-pak ams	5 % v/v		3 qt/a		D			
2	Sharpen	0.0223 lb ai/a		1 oz/a		C	16.5 a	13.1 a	64.2 a
2	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		C			
2	N-pak ams	5 % v/v		3 qt/a		C			
2	MSO	1 % v/v		0.6 qt/a		C			
2	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		D			
2	N-pak ams	5 % v/v		3 qt/a		D			
3	Valor XLT @ 3oz						17.6 a	12.7 a	68.7 a
3	Valor SX	0.056 lb ai/a		1.76 oz/a		A			
3	Classic	0.0194 lb ai/a		1.24 oz/a		A			
3	Express	0.00313 lb ai/a		0.1 oz/a		A			
3	2,4-D Amine	0.5 lb ai/a		0.5 qt/a		A			
3	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		A			
3	N-pak ams	5 % v/v		3 qt/a		A			
3	Coc	1 % v/v		0.6 qt/a		A			
3	Sharpen	0.0223 lb ai/a		1 oz/a		C			
3	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		C			
3	N-pak ams	5 % v/v		3 qt/a		C			
3	MSO	1 % v/v		0.6 qt/a		C			
3	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		D			
3	N-pak ams	5 % v/v		3 qt/a		D			
4	Valor XLT @ 3oz						15.1 a	13.0 a	58.9 a
4	Valor SX	0.056 lb ai/a		1.76 oz/a		B			
4	Classic	0.0194 lb ai/a		1.24 oz/a		B			
4	Express	0.00313 lb ai/a		0.1 oz/a		B			
4	2,4-D Amine	0.5 lb ai/a		0.5 qt/a		B			
4	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		B			
4	N-pak ams	5 % v/v		3 qt/a		B			
4	Coc	1 % v/v		0.6 qt/a		B			
4	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		D			
4	N-pak ams	5 % v/v		3 qt/a		D			
5	Authority MTZ	0.31 lb ai/a		11 oz/a		A	15.3 a	12.4 a	60.1 a
5	Express	0.00313 lb ai/a		0.1 oz/a		A			
5	2,4-D Amine	0.5 lb ai/a		0.5 qt/a		A			
5	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		A			
5	N-pak ams	5 % v/v		3 qt/a		A			

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Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code		GLXMA	GLXMA	GLXMA
BBCH Scale		BSOY	BSOY	BSOY
Crop Scientific Name		Glycine max	Glycine max	Glycine max
Crop Name		Soybean	Soybean	Soybean
Rating Date		Oct-11-2011	Oct-11-2011	Oct-11-2011
Rating Type		YIELD	YIELD	YIELD
Rating Unit		LB	%	BU
Number of Subsamples		1	1	1
Days After First/Last Applic.		336 124	336 124	336 124
Plant-Eval Interval		150 DP-1	150 DP-1	150 DP-1
ARM Action Codes				TY1
Number of Decimals		1	1	1

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	23	24	25
5	Coc	1 %	v/v	0.6	qt/a	A			
5	Sharpen	0.0223	lb ai/a	1	oz/a	C			
5	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	C			
5	N-pak ams	5 %	v/v	3	qt/a	C			
5	MSO	1 %	v/v	0.6	qt/a	C			
5	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	D			
5	N-pak ams	5 %	v/v	3	qt/a	D			
6	Authority MTZ	0.31	lb ai/a	11	oz/a	B	15.6 a	13.2 a	60.7 a
6	Express	0.00313	lb ai/a	0.1	oz/a	B			
6	2,4-D Amine	0.5	lb ai/a	0.5	qt/a	B			
6	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	B			
6	N-pak ams	5 %	v/v	3	qt/a	B			
6	Coc	1 %	v/v	0.6	qt/a	B			
6	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	D			
6	N-pak ams	5 %	v/v	3	qt/a	D			
7	Authority	0.156	lb ai/a	5	oz/a	A	16.7 a	12.9 a	64.9 a
7	Classic	0.0195	lb ai/a	1.25	oz/a	A			
7	Express	0.00313	lb ai/a	0.1	oz/a	A			
7	2,4-D Amine	0.5	lb ai/a	0.5	qt/a	A			
7	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	A			
7	N-pak ams	5 %	v/v	3	qt/a	A			
7	Coc	1 %	v/v	0.6	qt/a	A			
7	Sharpen	0.0223	lb ai/a	1	oz/a	C			
7	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	C			
7	N-pak ams	5 %	v/v	3	qt/a	C			
7	MSO	1 %	v/v	0.6	qt/a	C			
7	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	D			
7	N-pak ams	5 %	v/v	3	qt/a	D			
8	Authority	0.156	lb ai/a	5	oz/a	B	15.6 a	12.8 a	60.8 a
8	Classic	0.0195	lb ai/a	1.25	oz/a	B			
8	Express	0.00313	lb ai/a	0.1	oz/a	B			
8	2,4-D Amine	0.5	lb ai/a	0.5	qt/a	B			
8	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	B			
8	N-pak ams	5 %	v/v	3	qt/a	B			
8	Coc	1 %	v/v	0.6	qt/a	B			
8	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	D			
8	N-pak ams	5 %	v/v	3	qt/a	D			
9	Express	0.00313	lb ai/a	0.1	oz/a	A	14.8 a	12.7 a	57.7 a
9	Mon 63410	1.125	lb ai/a	48	oz/a	A			
9	2,4-D Amine	0.5	lb ai/a	0.5	qt/a	A			
9	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	A			
9	N-pak ams	5 %	v/v	3	qt/a	A			

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Pest Type					
Pest Code					
Pest Scientific Name					
Pest Name					
Crop Code		GLXMA	GLXMA	GLXMA	
BBCH Scale		BSOY	BSOY	BSOY	
Crop Scientific Name		Glycine max	Glycine max	Glycine max	
Crop Name		Soybean	Soybean	Soybean	
Rating Date		Oct-11-2011	Oct-11-2011	Oct-11-2011	
Rating Type		YIELD	YIELD	YIELD	
Rating Unit		LB	%	BU	
Number of Subsamples		1	1	1	
Days After First/Last Applic.		336 124	336 124	336 124	
Plant-Eval Interval		150 DP-1	150 DP-1	150 DP-1	
ARM Action Codes				TY1	
Number of Decimals		1	1	1	

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Unit	Appl Code	23	24	25
9	Sharpen	0.0223	lb ai/a	1	oz/a	C			
9	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	C			
9	N-pak ams	5 %	v/v	3	qt/a	C			
9	MSO	1 %	v/v	0.6	qt/a	C			
9	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	D			
9	N-pak ams	5 %	v/v	3	qt/a	D			
10	Express	0.00313	lb ai/a	0.1	oz/a	B	15.5 a	13.6 a	60.1 a
10	Mon 63410	1.125	lb ai/a	48	oz/a	B			
10	2,4-D Amine	0.5	lb ai/a	0.5	qt/a	B			
10	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	B			
10	N-pak ams	5 %	v/v	3	qt/a	B			
10	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	D			
10	N-pak ams	5 %	v/v	3	qt/a	D			
11	Authority First	0.282	lb ai/a	6.45	oz/a	A	16.7 a	13.3 a	64.7 a
11	Express	0.00313	lb ai/a	0.1	oz/a	A			
11	2,4-D Amine	0.5	lb ai/a	0.5	qt/a	A			
11	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	A			
11	N-pak ams	5 %	v/v	3	qt/a	A			
11	Coc	1 %	v/v	0.6	qt/a	A			
11	Sharpen	0.0223	lb ai/a	1	oz/a	C			
11	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	C			
11	N-pak ams	5 %	v/v	3	qt/a	C			
11	MSO	1 %	v/v	0.6	qt/a	C			
11	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	D			
11	N-pak ams	5 %	v/v	3	qt/a	D			
12	Authority First	0.282	lb ai/a	6.45	oz/a	B	16.6 a	12.6 a	64.9 a
12	Express	0.00313	lb ai/a	0.1	oz/a	B			
12	2,4-D Amine	0.5	lb ai/a	0.5	qt/a	B			
12	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	B			
12	N-pak ams	5 %	v/v	3	qt/a	B			
12	Coc	1 %	v/v	0.6	qt/a	B			
12	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	D			
12	N-pak ams	5 %	v/v	3	qt/a	D			
13	Express	0.00313	lb ai/a	0.1	oz/a	A	15.7 a	13.3 a	60.7 a
13	Gangster @ 2.4oz								
13	Firstrate	0.021	lb ai/a	0.4	oz/a	A			
13	Valor SX	0.064	lb ai/a	2	oz/a	A			
13	2,4-D Amine	0.5	lb ai/a	0.5	qt/a	A			
13	Roundup Power Max	0.75	lb ae/a	21.3	oz/a	A			
13	N-pak ams	5 %	v/v	3	qt/a	A			
13	Coc	1 %	v/v	0.6	qt/a	A			
13	Sharpen	0.0223	lb ai/a	1	oz/a	C			

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Pest Code					
Pest Scientific Name					
Pest Name					
Crop Code		GLXMA	GLXMA	GLXMA	
BBCH Scale		BSOY	BSOY	BSOY	
Crop Scientific Name		Glycine max	Glycine max	Glycine max	
Crop Name		Soybean	Soybean	Soybean	
Rating Date		Oct-11-2011	Oct-11-2011	Oct-11-2011	
Rating Type		YIELD	YIELD	YIELD	
Rating Unit		LB	%	BU	
Number of Subsamples		1	1	1	
Days After First/Last Applic.		336 124	336 124	336 124	
Plant-Eval Interval		150 DP-1	150 DP-1	150 DP-1	
ARM Action Codes				TY1	
Number of Decimals		1	1	1	

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	23	24	25
13	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		C			
13	N-pak ams	5 % v/v		3 qt/a		C			
13	MSO	1 % v/v		0.6 qt/a		C			
13	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		D			
13	N-pak ams	5 % v/v		3 qt/a		D			
14	Gangster @ 2.4oz						16.9 a	12.3 a	66.2 a
14	Firstrate	0.021 lb ai/a		0.4 oz/a		B			
14	Valor SX	0.064 lb ai/a		2 oz/a		B			
14	Express	0.00313 lb ai/a		0.1 oz/a		B			
14	2,4-D Amine	0.5 lb ai/a		0.5 qt/a		B			
14	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		B			
14	N-pak ams	5 % v/v		3 qt/a		B			
14	Coc	1 % v/v		0.6 qt/a		B			
14	Roundup Power Max	0.75 lb ae/a		21.3 oz/a		D			
14	N-pak ams	5 % v/v		3 qt/a		D			
LSD (P=.05)							1.78	1.85	6.72
Standard Deviation							1.06	1.10	4.00
CV							6.61	8.57	6.39
Bartlett's X2							14.975	13.161	15.504
P(Bartlett's X2)							0.309	0.435	0.277
Replicate F							3.617	0.736	4.524
Replicate Prob(F)							0.0411	0.4886	0.0206
Treatment F							1.658	0.593	1.875
Treatment Prob(F)							0.1320	0.8378	0.0837

Crop Code
 GLXMA, BSOY, Glycine max, = US
Rating Type
 YIELD = yield
Rating Unit
 LB = pound
 % = percent
 BU = bushel
Plant-Eval Interval
 150 DP-1 = 1 May-14-2011
ARM Action Codes
 TY1 = 3.872*[23]*(100-[24])/86.5

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