

The Ohio State University

No-till burndown residual control for marestail in soybeans

Trial ID: 14 NTBURN
Protocol ID: 14 NTBURN
Project ID: USA-14-296, Sales Support

Location: Western Branch
Investigator: Dr. Mark M. Loux
Study Director: Bryan Reeb
Sponsor Contact: Martin, DuPont; Kraus, BASF; Bruns, Syn

Trial Year: 2014

General Trial Information

Study Director: Bryan Reeb
Investigator: Dr. Mark M. Loux

Contacts

Study Director: Bryan Reeb

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: GLXMA Glycine max
Variety: Asgrow 3533
Description: Roundup Ready

Soybean

Planting Rate, Unit: 140000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 15 IN

Planting Date: 5/5/2014
Planting Method: PLANTD planted
Planting Equipment: FE Field Equipment
Emergence Date: 5/15/2014
Harvested Width, Unit: 6.25 FT
Harvested Length, Unit: 30 FT

Soil Moisture: GOOD good
Seed Bed: NOTILL

Pest Description

Pest 1 Type: W Code: AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 2 Type: W Code: LAMPU Lamium purpureum
Common Name: Purple deadnettel

Pest 3 Type: W Code: ERPSS Erophila sp.
Common Name: Whitlowgrass

Pest 4 Type: W Code: VERAG Veronica agrestis
Common Name: Field speedwell

Pest 5 Type: W Code: CAPBP Capsella bursa-pastoris
Common Name: Shepherd's purse

Pest 6 Type: W Code: ERYRE Erysimum repandum
Common Name: Bushy wallflower

Pest 7 Type: W Code: RANAB Ranunculus abortivus
Common Name: Smallflower buttercup

Pest 8 Type: W Code: SETFA Setaria faberi
Common Name: Giant foxtail

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 30 FT

Site Type: FIELD field
Experimental Unit: 1 PLOT plot

Treated Plot Area: 300 FT2
Replications: 3

Tillage Type: CONTIL conventional-till
Study Design: RACOB� Randomized Complete Block (RCB)

Maintenance

No.	Date	Maintenance Product Name	Form Conc	Form Type	Form Rate	Form Unit
1.	6/4/2014	Roundup Powermax	4.5	SL	32	OZ/A

Soil Description

Description Name: F-10 West

% OM: 1.5
pH: 5.8
CEC: 13
Texture: SIL silt loam
Soil Name: Crosby Silt Loam
Fert. Level: G good
Soil Drainage: G good

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	Application Equipment			
	A	B	C	D
Appl. Equipment:	10' BACKPACK	10' BACKPACK	10' BACKPACK	TRACTOR SPRA
Equipment Type:	BACCAI	BACCAI	BACCAI	TRMOSP
Operation Pressure, Unit:	50 PSI	50 PSI	50 PSI	28 PSI
Nozzle Type:	AIXR	AIXR	AIXR	AI 11002
Nozzle Size:	11015	11015	11015	20 GPA
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN	20 IN
Nozzles/Row:	6	6	6	
Boom Length, Unit:	10 FT	10 FT	10 FT	20 FT
Boom Height, Unit:	20 IN	20 IN	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER
Spray Volume, Unit:	15 gal/ac	15 gal/ac	15 gal/ac	15 gal/ac
Mix Size, Unit:	2 liters	2 liters	2 liters	20 Gallons
Propellant:	COMCO2	COMCO2	COMCO2	PUMROL

Date	By	Notes
7/7/2014	dobbels	maintanance spray of RUP+AMS

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Pest Type	Weight	Moisture	Weight	TestWeight
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean	Soybean
Rating Date	10/24/2014	10/24/2014	10/24/2014	10/24/2014
Rating Type	WEIGHT	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	190 142	190 142	190 142	190 142
Trt-Eval Interval				
Plant-Eval Interval	172 DP-1	172 DP-1	172 DP-1	172 DP-1
Days After Emergence	162 DE-1	162 DE-1	162 DE-1	162 DE-1
ARM Action Codes			TY1	
Number of Decimals			1	

Trt No.	Treatment Name	Rate	Unit	Other Rate	Other Unit	Growth Stage	Appl Code	27	28	29	30
1	Trivence @ 10 oz							19.73934 a	13.260 a	76.2 a	53.8140 a
1	Valor SX	0.08 lb ai/a		2.5 oz/a		14 EPP	A				
1	Classic	0.0244 lb ai/a		1.56 oz/a		14 EPP	A				
1	Sencor DF	0.28 lb ai/a		5.95 oz/a		14 EPP	A				
1	Abundit Extra	1.1 lb ae/a		1.47 qt/a		14 EPP	A				
1	2,4-D	0.5 lb ai/a		1 pt/a		14 EPP	A				
1	COC	1 % v/v		1.2 pt/a		14 EPP	A				
1	N-pak ams	2.5 % v/v		1.5 qt/a		14 EPP	A				
1	Abundit Extra	1.1 lb ae/a		47 oz/a		28 DAPL	D				
1	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				
2	Trivence @ 8 oz							19.41297 a	12.700 a	75.4 a	53.4267 a
2	Valor SX	0.064 lb ai/a		2 oz/a		14 EPP	A				
2	Classic	0.0195 lb ai/a		1.25 oz/a		14 EPP	A				
2	Sencor DF	0.223 lb ai/a		4.76 oz/a		14 EPP	A				
2	Sharpen	0.0334 lb ai/a		1.5 oz/a		14 EPP	A				
2	Abundit Extra	1.1 lb ae/a		1.47 qt/a		14 EPP	A				
2	2,4-D	0.5 lb ai/a		1 pt/a		14 EPP	A				
2	MSO	1 % v/v		0.6 qt/a		14 EPP	A				
2	N-pak ams	2.5 % v/v		1.5 qt/a		14 EPP	A				
2	Abundit Extra	1.1 lb ae/a		47 oz/a		28 DAPL	D				
2	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				
3	Canopy	0.188 lb ai/a		4 oz/a		14 EPP	A	20.01684 a	12.847 a	77.6 a	53.2333 a
3	Sencor DF	0.188 lb ai/a		4 oz/a		14 EPP	A				
3	Abundit Extra	1.1 lb ae/a		1.47 qt/a		14 EPP	A				
3	2,4-D	0.5 lb ai/a		1 pt/a		14 EPP	A				
3	COC	1 % v/v		1.2 pt/a		14 EPP	A				
3	N-pak ams	2.5 % v/v		1.5 qt/a		14 EPP	A				
3	Abundit Extra	1.1 lb ae/a		47 oz/a		28 DAPL	D				
3	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				

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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Pest Type	Weight	Moisture	Weight	TestWeight
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean	Soybean
Rating Date	10/24/2014	10/24/2014	10/24/2014	10/24/2014
Rating Type	WEIGHT	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	190 142	190 142	190 142	190 142
Trt-Eval Interval				
Plant-Eval Interval	172 DP-1	172 DP-1	172 DP-1	172 DP-1
Days After Emergence	162 DE-1	162 DE-1	162 DE-1	162 DE-1
ARM Action Codes			TY1	
Number of Decimals			1	

Trt No.	Treatment Name	Rate	Unit	Other Rate	Other Unit	Growth Stage	Appl Code	27	28	29	30
4	Canopy	0.188 lb ai/a		4 oz/a		14 EPP	A	20.44424 a	12.663 a	79.5 a	53.6503 a
4	Sencor DF	0.188 lb ai/a		4 oz/a		14 EPP	A				
4	Sharpen	0.0334 lb ai/a		1.5 oz/a		14 EPP	A				
4	Abundit Extra	1.1 lb ae/a		1.47 qt/a		14 EPP	A				
4	2,4-D	0.5 lb ai/a		1 pt/a		14 EPP	A				
4	MSO	1 % v/v		0.6 qt/a		14 EPP	A				
4	N-pak ams	2.5 % v/v		1.5 qt/a		14 EPP	A				
4	Abundit Extra	1.1 lb ae/a		47 oz/a		28 DAPL	D				
4	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				
5	OpTill	0.085 lb ai/a		2 oz/a		7 EPP	B	19.93130 a	13.037 a	77.1 a	54.2203 a
5	Outlook	0.47 lb ai/a		10 oz/a		7 EPP	B				
5	Roundup Power Max	1.13 lb ae/a		32 oz/a		7 EPP	B				
5	MSO	1 % v/v		0.6 qt/a		7 EPP	B				
5	N-pak ams	2.5 % v/v		1.5 qt/a		7 EPP	B				
5	Roundup Power Max	1.13 lb ae/a		32 oz/a		28 DAPL	D				
5	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				
6	Zidua	0.106 lb ai/a		2 oz/a		7 EPP	B	19.42860 a	12.843 a	75.4 a	53.7710 a
6	OpTill	0.085 lb ai/a		2 oz/a		7 EPP	B				
6	Roundup Power Max	1.13 lb ae/a		32 oz/a		7 EPP	B				
6	MSO	1 % v/v		0.6 qt/a		7 EPP	B				
6	N-pak ams	2.5 % v/v		1.5 qt/a		7 EPP	B				
6	Roundup Power Max	1.13 lb ae/a		32 oz/a		28 DAPL	D				
6	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				
7	OpTill	0.085 lb ai/a		2 oz/a		7 EPP	B	20.13400 a	12.880 a	78.1 a	54.9143 a
7	Roundup Power Max	1.13 lb ae/a		32 oz/a		7 EPP	B				
7	MSO	1 % v/v		0.6 qt/a		7 EPP	B				
7	N-pak ams	2.5 % v/v		1.5 qt/a		7 EPP	B				
7	Roundup Power Max	1.13 lb ae/a		32 oz/a		28 DAPL	D				
7	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				
8	Sharpen	0.0223 lb ai/a		1 oz/a		7 EPP	B	19.49487 a	12.903 a	75.6 a	56.4117 a
8	Zidua	0.106 lb ai/a		2 oz/a		7 EPP	B				
8	Sencor DF	0.28 lb ai/a		6 oz/a		7 EPP	B				
8	Roundup Power Max	1.13 lb ae/a		32 oz/a		7 EPP	B				
8	MSO	1 % v/v		0.6 qt/a		7 EPP	B				
8	N-pak ams	2.5 % v/v		1.5 qt/a		7 EPP	B				
8	Roundup Power Max	1.13 lb ae/a		32 oz/a		28 DAPL	D				
8	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				

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Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean	Soybean
Rating Date	10/24/2014	10/24/2014	10/24/2014	10/24/2014
Rating Type	WEIGHT	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	190 142	190 142	190 142	190 142
Trt-Eval Interval				
Plant-Eval Interval	172 DP-1	172 DP-1	172 DP-1	172 DP-1
Days After Emergence	162 DE-1	162 DE-1	162 DE-1	162 DE-1
ARM Action Codes			TY1	
Number of Decimals			1	

Trt No.	Treatment Name	Rate	Unit	Other Rate	Other Unit	Growth Stage	Appl Code	27	28	29	30
9	Boundary	1.42 lb ai/a		1.75 pt/a		7 EPP	B	20.05304 a	12.900 a	77.7 a	55.4577 a
9	Sencor DF	0.15 lb ai/a		3.2 oz/a		7 EPP	B				
9	2,4-D	0.5 lb ai/a		1 pt/a		7 EPP	B				
9	Touchdown Total	0.78 lb ae/a		24 oz/a		7 EPP	B				
9	N-pak ams	2.5 % v/v		1.5 qt/a		7 EPP	B				
9	Flexstar GT 3.5	1.25 lb ae/a		3.5 pt/a		28 DAPL	D				
9	MSO	1 % v/v		0.6 qt/a		28 DAPL	D				
9	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				
10	Boundary	1.42 lb ai/a		1.75 pt/a		7 EPP	B	19.32567 a	12.730 a	75.1 a	54.9197 a
10	Sencor DF	0.15 lb ai/a		3.2 oz/a		7 EPP	B				
10	Sharpen	0.0223 lb ai/a		1 oz/a		7 EPP	B				
10	Touchdown Total	0.78 lb ae/a		24 oz/a		7 EPP	B				
10	MSO	1 % v/v		0.6 qt/a		7 EPP	B				
10	N-pak ams	2.5 % v/v		1.5 qt/a		7 EPP	B				
10	Flexstar GT 3.5	1.25 lb ae/a		3.5 pt/a		28 DAPL	D				
10	MSO	1 % v/v		0.6 qt/a		28 DAPL	D				
10	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				
11	Boundary	1.42 lb ai/a		1.75 pt/a		7 EPP	B	21.27467 a	12.840 a	82.5 a	53.3207 a
11	Sencor DF	0.15 lb ai/a		3.2 oz/a		7 EPP	B				
11	Gramoxone Inteon	0.75 lb ai/a		3 pt/a		7 EPP	B				
11	2,4-D	0.5 lb ai/a		1 pt/a		7 EPP	B				
11	N-pak ams	2.5 % v/v		1.5 qt/a		7 EPP	B				
11	Touchdown Total	1.04 lb ae/a		32 oz/a		28 DAPL	D				
11	N-pak ams	2.5 % v/v		1.5 qt/a		28 DAPL	D				

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Pest Type				
Pest Code				
Pest Scientific Name		Weight	Moisture	Weight TestWeight
Pest Name				
Crop Code		GLXMA	GLXMA	GLXMA GLXMA
BBCH Scale		BSOY	BSOY	BSOY BSOY
Crop Scientific Name		Glycine max	Glycine max	Glycine max Glycine max
Crop Name		Soybean	Soybean	Soybean Soybean
Rating Date		10/24/2014	10/24/2014	10/24/2014 10/24/2014
Rating Type		WEIGHT	MOICON	YIELD WEITES
Rating Unit		LBS	%	BU LBS
Number of Subsamples		1	1	1 1
Days After First/Last Applic.		190 142	190 142	190 142 190 142
Trt-Eval Interval				
Plant-Eval Interval		172 DP-1	172 DP-1	172 DP-1 172 DP-1
Days After Emergence		162 DE-1	162 DE-1	162 DE-1 162 DE-1
ARM Action Codes				TY1
Number of Decimals				1

Trt Treatment No. Name	Rate	Other Rate	Other Rate	Growth Stage	Appl Code	27	28	29	30
12 Sencor DF	0.15 lb ai/a	3.2 oz/a		7 EPP	B	20.41394 a	12.887 a	79.1 a	53.0677 a
12 2,4-D	0.5 lb ai/a	1 pt/a		7 EPP	B				
12 Touchdown Total	0.78 lb ae/a	24 oz/a		7 EPP	B				
12 N-pak ams	2.5 % v/v	1.5 qt/a		7 EPP	B				
12 Boundary	1.42 lb ai/a	1.75 pt/a		ATPL	C				
12 Sencor DF	0.15 lb ai/a	3.2 oz/a		ATPL	C				
12 Gramoxone Inteon	0.75 lb ai/a	3 pt/a		ATPL	C				
12 NIS	0.25 % v/v	0.15 qt/a		ATPL	C				
12 N-pak ams	2.5 % v/v	1.5 qt/a		ATPL	C				
12 Touchdown Total	1.04 lb ae/a	32 oz/a		28 DAPL	D				
12 N-pak ams	2.5 % v/v	1.5 qt/a		28 DAPL	D				
LSD (P=.05)						2.411038	0.3311	9.34	2.36847
Standard Deviation						1.423774	0.1955	5.52	1.39864
CV						7.13	1.52	7.12	2.58
Bartlett's X2						12.546	22.438	13.535	14.335
P(Bartlett's X2)						0.324	0.021*	0.26	0.215
Replicate F						0.086	0.940	0.073	1.689
Replicate Prob(F)						0.9176	0.4059	0.9295	0.2078
Treatment F						0.465	1.965	0.470	1.634
Treatment Prob(F)						0.9052	0.0854	0.9023	0.1573

Crop Code
 GLXMA, BSOY, Glycine max, = US

Rating Type
 WEIGHT = weight
 MOICON = moisture content
 YIELD = yield
 WEITES = weight - test

Rating Unit
 % = percent
 BU = bushel

Plant-Eval Interval
 172 DP-1 = 1 GLXMA 5/5/2014

ARM Action Codes
 TY1 = 3.872*[27]*(100-[28])/87