

The Ohio State University

2012/AUTHORITY XL/AUTHORITY MTZ/FALL/SPRING

Trial ID: 13FALLSOY1 Location: Trial Year:
 Protocol ID: 13FALLSOY1 Investigator: Dr. Mark M. Loux
 Project ID: Study Director:
 Sponsor Contact: Joe Reed, FMC

General Trial Information

Investigator: Dr. Mark M. Loux **Title:** Professor

Trial Location

City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368

Crop Description

Crop 1: GLXMA Glycine max
Variety: Seed Consultants SC9362RR
Description: RR

BBCH Scale: BSOY

Planting Rate, Unit: 150000 S/A
Depth, Unit: 0.5 IN
Row Spacing, Unit: 15 IN

Planting Date: May-6-2013
Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter
Emergence Date: May-17-2013
Harvest Date: Sep-24-2013
Harvested Width, Unit: 6.67 FT
Harvested Length, Unit: 30 FT
Harvest Equipment: Massey Ferguson 8 XP
% Standard Moisture: 13.0
Moisture Meter: Harvest Master
Weighing Equipment: Harvest Master

Soil Temperature, Unit: 56 F
Soil Moisture: SLIWET slightly wet, moist
Seed Bed: MEDTRA medium/trashy

Pest Description

- Pest 1 Type:** W **Code:** STEME *Stellaria media*
Common Name: Common chickweed
- Pest 2 Type:** W **Code:** LAMPU *Lamium purpureum*
Common Name: Purple deadnettel
- Pest 3 Type:** W **Code:** AMBTR *Ambrosia trifida*
Common Name: Giant ragweed
- Pest 4 Type:** W **Code:** SENGL *Senecio glabellus*
Common Name: Cressleaf groundsel
- Pest 5 Type:** W **Code:** CAPBP *Capsella bursa-pastoris*
Common Name: Shepherd's purse
- Pest 6 Type:** W **Code:** ERICA *Conyza canadensis*
Common Name: Canada horseweed

Site and Design

Treated Plot Width: 6.67 FT
Treated Plot Length: 30 FT
Treated Plot Area: 200.1 FT2 **Treatments:** 10
Replications: 3
Untreated Arrangement: INCLUDED single control randomized in each block

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: NOTILL no-till
Study Design: RACOBL Randomized Complete Block (RCB)

Soil Description

Description Name: G-8
% OM: 2 **Texture:** SICL silty clay loam
pH: 6.1 **Soil Name:** Kokomo
CEC: 14.9 **Fert. Level:** G good
Soil Drainage: G good

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	Application Description		
	A	B	C
Application Date:	Nov-9-2012	May-7-2013	Jun-4-2013
Appl. Start Time:	10:00 A.M	8:45 AM	9:00 AM
Appl. Stop Time:	10:30 AM	9:00 AM	9:15 AM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	FALL	PRE	POST
Application Placement:	BROFOL	BROFOL	BROFOL
Applied By:	Reeb	Dobbels	DOBBELS
Air Temperature, Unit:	54 F	63 F	61 F
% Relative Humidity:	68	86	58
Wind Velocity, Unit:	5.5 MPH	3 MPH	1 MPH
Wind Direction:	S	E	SE
Dew Presence (Y/N):	N no	N no	Y yes
Soil Temperature, Unit:	40 F	54 F	58 F
Soil Moisture:	MOIST	MOIST	NORMAL
% Cloud Cover:	0	90	10
Next Moisture Occurred On:	Nov-12-2012	May-9-2013	Jun-7-2013
Time to Next Moisture, Unit:		2 DAY	3 DAY

	Crop Stage At Each Application		
	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:			DESC
Stage Majority, Percent:			V3 100
Height, Unit:			10 IN
Height Minimum, Maximum:			8 12

	Pest Stage At Each Application					
	A		B		C	
Pest 1 Code, Type, Scale:	STEME	W	STEME	W	STEME	W
Stage Majority, Percent:	19	100	67	100		
Diameter, Unit:	1.5	IN	6	IN		
Height, Unit:	1	IN	6	IN		
Height Minimum, Maximum:	0.5	1	6	8		
Density, Unit:	21.6	M2				
Pest 2 Code, Type, Scale:	LAMPU	W	LAMPU	W	LAMPU	W
Stage Majority, Percent:	19	80	67	100		
Stage Minimum, Percent:	14	20				
Stage Maximum, Percent:	19	80				
Diameter, Unit:	0.5	IN				
Height, Unit:	1.5	IN	6	IN		
Height Minimum, Maximum:	1.5	3	6	8		
Density, Unit:	21.2	M2				
Pest 3 Code, Type, Scale:	AMBTR	W	AMBTR	W	AMBTR	W
Stage Majority, Percent:			14	100	19	100
Height, Unit:			2	IN	6	IN
Height Minimum, Maximum:			2	3	6	8
Density, Unit:			4	M2	4	M2
Pest 4 Code, Type, Scale:	SENGL	W	SENGL	W	SENGL	W
Stage Majority, Percent:			67	100		
Height, Unit:			20	IN		
Height Minimum, Maximum:			20	20		
Density, Unit:			1	M2		
Pest 5 Code, Type, Scale:	CAPBP	W	CAPBP	W	CAPBP	W
Stage Majority, Percent:			67	100		
Height, Unit:			20	IN		
Height Minimum, Maximum:			20	20		
Density, Unit:			5.3	M2		
Pest 6 Code, Type, Scale:	ERICA	W	ERICA	W	ERICA	W
Stage Majority, Percent:					19	100
Height, Unit:					6	IN
Height Minimum, Maximum:					6	6
Density, Unit:					1.3	M2

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Application Equipment

	A	B	C
Appl. Equipment:	6 foot boom	6 foot boom	10' AI XR
Equipment Type:	SPRBAC	SPRBAC	SPRBAC
Operation Pressure, Unit:	46 PSI	46 PSI	46 PSI
Nozzle Type:	AI XR	AI XR	AI XR
Nozzle Size:	110015	110015	110015
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN
Boom Length, Unit:	6 FT	6 FT	10 FT
Boom Height, Unit:	20 IN	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA
Mix Size, Unit:	1 Liters	1 Liters	0.33 Gallons
Propellant:	CO2	CO2	CO2

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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	Sep-24-201	Sep-24-201	Sep-24-201
	3	3	3
Rating Type	YIELD	MOICON	YIELD
Rating Unit	lb/plot	%	BU
Sample Size, Unit	187.5 FT2	187.5 FT2	187.5 FT2
Collection Basis, Unit	5 ROW	5 ROW	5 ROW
Number of Subsamples	1	1	1
Days After First/Last Applic.	319 112	319 112	319 112
Trt-Eval Interval			
Plant-Eval Interval	141 DP-1	141 DP-1	141 DP-1
Days After Emergence	130 DE-1	130 DE-1	130 DE-1
ARM Action Codes		AL	TY1
Number of Decimals	1	1	1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	16	17	18
1	UNTREATED					17.7 a	16.2 a	61.6 a
2	AUTHORITY XL	4 oz/a		FALL	A	17.6 a	16.2 a	61.4 a
2	WEEDMASTER	1.5 pt/a		FALL	A			
2	COC	1 % v/v		FALL	A			
2	AUTHORITY MTZ	12 oz/a		7 EPP	B			
2	GRAMOXONE INTEON	2.5 pt/a		7 EPP	B			
2	COC	1 % v/v		7 EPP	B			
2	N-PAK AMS	2.5 % v/v		7 EPP	B			
2	ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
2	CADET	0.6 oz/a		28 DAPL	C			
2	N-PAK AMS	2.5 % v/v		28 DAPL	C			
3	AUTHORITY XL	4 oz/a		FALL	A	18.4 a	14.2 a	65.5 a
3	WEEDMASTER	1.5 pt/a		FALL	A			
3	COC	1 % v/v		FALL	A			
3	AUTHORITY MTZ	12 oz/a		7 EPP	B			
3	GRAMOXONE INTEON	2.5 pt/a		7 EPP	B			
3	BUTYRAC 200	12 oz/a		7 EPP	B			
3	COC	1 % v/v		7 EPP	B			
3	N-PAK AMS	2.5 % v/v		7 EPP	B			
3	ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
3	CADET	0.6 oz/a		28 DAPL	C			
3	N-PAK AMS	2.5 % v/v		28 DAPL	C			
4	AUTHORITY XL	4 oz/a		FALL	A	17.5 a	16.1 a	60.3 a
4	WEEDMASTER	1.5 pt/a		FALL	A			
4	COC	1 % v/v		FALL	A			
4	AUTHORITY MTZ	12 oz/a		7 EPP	B			
4	SHARPEN	1 oz/a		7 EPP	B			
4	COC	1 % v/v		7 EPP	B			
4	N-PAK AMS	2.5 % v/v		7 EPP	B			
4	ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
4	CADET	0.6 oz/a		28 DAPL	C			
4	N-PAK AMS	2.5 % v/v		28 DAPL	C			

Means followed by same letter do not significantly differ (P=.05, LSD)
 t=Mean descriptions are reported in transformed data units, and are not de-transformed.
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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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	Sep-24-201	Sep-24-201	Sep-24-201
	3	3	3
Rating Type	YIELD	MOICON	YIELD
Rating Unit	lb/plot	%	BU
Sample Size, Unit	187.5 FT2	187.5 FT2	187.5 FT2
Collection Basis, Unit	5 ROW	5 ROW	5 ROW
Number of Subsamples	1	1	1
Days After First/Last Applic.	319 112	319 112	319 112
Trt-Eval Interval			
Plant-Eval Interval	141 DP-1	141 DP-1	141 DP-1
Days After Emergence	130 DE-1	130 DE-1	130 DE-1
ARM Action Codes		AL	TY1
Number of Decimals	1	1	1

Trt Treatment No. Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	16	17	18
5 AUTHORITY XL	4 oz/a		FALL	A	18.2 a	15.5 a	64.0 a
5 WEEDMASTER	1.5 pt/a		FALL	A			
5 COC	1 % v/v		FALL	A			
5 AUTHORITY MTZ	12 oz/a		7 EPP	B			
5 IGNITE 280 SL	32 oz/a		7 EPP	B			
5 COC	1 % v/v		7 EPP	B			
5 N-PAK AMS	2.5 % v/v		7 EPP	B			
5 ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
5 CADET	0.6 oz/a		28 DAPL	C			
5 N-PAK AMS	2.5 % v/v		28 DAPL	C			
6 AUTHORITY XL	4 oz/a		FALL	A	16.9 a	18.3 a	57.3 a
6 WEEDMASTER	1.5 pt/a		FALL	A			
6 COC	1 % v/v		FALL	A			
6 AUTHORITY MTZ	12 oz/a		7 EPP	B			
6 ROUNDUP POWERMAX	32 oz/a		7 EPP	B			
6 COC	1 % v/v		7 EPP	B			
6 N-PAK AMS	2.5 % v/v		7 EPP	B			
6 ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
6 CADET	0.6 oz/a		28 DAPL	C			
6 N-PAK AMS	2.5 % v/v		28 DAPL	C			
7 AUTHORITY MTZ	14 oz/a		FALL	A	16.3 a	16.5 a	56.2 a
7 WEEDMASTER	1.5 pt/a		FALL	A			
7 COC	1 % v/v		FALL	A			
7 N-PAK AMS	2.5 % v/v		FALL	A			
7 AUTHORITY XL	4 oz/a		7 EPP	B			
7 SHARPEN	1 oz/a		7 EPP	B			
7 COC	1 % v/v		7 EPP	B			
7 N-PAK AMS	2.5 % v/v		7 EPP	B			
7 ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
7 CADET	0.6 oz/a		28 DAPL	C			
7 N-PAK AMS	2.5 % v/v		28 DAPL	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	Sep-24-201	Sep-24-201	Sep-24-201
	3	3	3
Rating Type	YIELD	MOICON	YIELD
Rating Unit	lb/plot	%	BU
Sample Size, Unit	187.5 FT2	187.5 FT2	187.5 FT2
Collection Basis, Unit	5 ROW	5 ROW	5 ROW
Number of Subsamples	1	1	1
Days After First/Last Applic.	319 112	319 112	319 112
Trt-Eval Interval			
Plant-Eval Interval	141 DP-1	141 DP-1	141 DP-1
Days After Emergence	130 DE-1	130 DE-1	130 DE-1
ARM Action Codes		AL	TY1
Number of Decimals	1	1	1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	16	17	18
8	AUTHORITY MTZ	14 oz/a		FALL	A	18.0 a	14.4 a	64.2 a
8	WEEDMASTER	1.5 pt/a		FALL	A			
8	COC	1 % v/v		FALL	A			
8	N-PAK AMS	1 % v/v		FALL	A			
8	AUTHORITY XL	4 oz/a		7 EPP	B			
8	ROUNDUP POWERMAX	32 oz/a		7 EPP	B			
8	COC	1 % v/v		7 EPP	B			
8	N-PAK AMS	2.5 % v/v		7 EPP	B			
8	ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
8	CADET	0.6 oz/a		28 DAPL	C			
8	N-PAK AMS	2.5 % v/v		28 DAPL	C			
9	AUTHORITY MTZ	14 oz/a		FALL	A	17.3 a	14.5 a	61.3 a
9	WEEDMASTER	1.5 pt/a		FALL	A			
9	COC	1 % v/v		FALL	A			
9	N-PAK AMS	2.5 % v/v		FALL	A			
9	AUTHORITY XL	4 oz/a		7 EPP	B			
9	IGNITE 280 SL	32 oz/a		7 EPP	B			
9	COC	1 % v/v		7 EPP	B			
9	N-PAK AMS	2.5 % v/v		7 EPP	B			
9	ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
9	CADET	0.6 oz/a		28 DAPL	C			
9	N-PAK AMS	2.5 % v/v		28 DAPL	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	Sep-24-201	Sep-24-201	Sep-24-201
	3	3	3
Rating Type	YIELD	MOICON	YIELD
Rating Unit	lb/plot	%	BU
Sample Size, Unit	187.5 FT2	187.5 FT2	187.5 FT2
Collection Basis, Unit	5 ROW	5 ROW	5 ROW
Number of Subsamples	1	1	1
Days After First/Last Applic.	319 112	319 112	319 112
Trt-Eval Interval			
Plant-Eval Interval	141 DP-1	141 DP-1	141 DP-1
Days After Emergence	130 DE-1	130 DE-1	130 DE-1
ARM Action Codes		AL	TY1
Number of Decimals	1	1	1

Trt Treatment	Other Rate	Other Rate Unit	Growth Stage	Appl Code	16	17	18
10 AUTHORITY MTZ	14 oz/a		FALL	A	17.4 a	16.2 a	60.6 a
10 WEEDMASTER	1.5 pt/a		FALL	A			
10 COC	1 % v/v		FALL	A			
10 N-PAK AMS	2.5 % v/v		FALL	A			
10 AUTHORITY XL	4 oz/a		7 EPP	B			
10 GRAMOXONE INTEON	2.5 pt/a		7 EPP	B			
10 BUTYRAC 200	12 oz/a		7 EPP	B			
10 COC	1 % v/v		7 EPP	B			
10 N-PAK AMS	2.5 % v/v		7 EPP	B			
10 ROUNDUP POWERMAX	32 oz/a		28 DAPL	C			
10 CADET	0.6 oz/a		28 DAPL	C			
10 N-PAK AMS	2.5 % v/v		28 DAPL	C			

LSD (P=.05)	2.21	0.10t	9.01
Standard Deviation	1.29	0.06t	5.25
CV	7.33	4.65	8.58
Bartlett's X2	4.618	3.177	14.355
P(Bartlett's X2)	0.866	0.957	0.11
Skewness	0.4621	0.5746	0.6975
Kurtosis	-0.8405	-0.6416	-0.4204

Replicate F	33.135	16.031	13.262
Replicate Prob(F)	0.0001	0.0001	0.0003
Treatment F	0.655	0.912	0.918
Treatment Prob(F)	0.7375	0.5364	0.5318

Crop Code
 GLXMA, BSOY, Glycine max, = US

Rating Type
 YIELD = yield
 MOICON = moisture content

Rating Unit
 lb/plot = pounds per plot
 % = percent
 BU = bushel

FT2 = square foot

ROW = row
Plant-Eval Interval
 141 DP-1 = 1 GLXMA May-6-2013

ARM Action Codes
 AL = Automatic log transformation of X+1
 TY1 = 3.628186*[16]*(100-[17])/87