

# The Ohio State University

## Evaluation of pre and post emergence herbicide efficacy in soybeans

Trial ID: 14 PREPOS1  
Protocol ID: 14 PREPOS1  
Project ID: FOMME1401,FOMME1402, DAS

Location: Western Branch  
Investigator: Dr. Mark M. Loux  
Study Director: Bryan Reeb  
Sponsor Contact: Tom Hayden, Cheminova; Leah Granke,Dow

Trial Year: 2014

### General Trial Information

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

Latitude of LL Corner °: 39.86017 N  
Longitude of LL Corner °: 83.67165 W

### 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: 170000 S/A  
Depth, Unit: 1 IN  
Row Spacing, Unit: 15 IN

Planting Date: 5/8/2014  
Planting Method: PLANTD planted  
Planting Equipment: FE Field Equipment  
Emergence Date: 5/19/2014  
Harvested Width, Unit: 6.25 FT  
Harvested Length, Unit: 30 FT

Seed Bed: SMOTRA smooth/trashy

### Pest Description

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

Pest 2 Type: W Code: CHEAL Chenopodium album  
Common Name: Common lambsquarters

Pest 3 Type: W Code: AMARE Amaranthus retroflexus  
Common Name: Redroot pigweed

Pest 4 Type: W Code: ABUTH Abutilon theophrasti  
Common Name: velvetleaf

Pest 5 Type: W Code: SETFA Setaria faberi  
Common Name: Giant foxtail

### Site and Design

Treated Plot Width: 6.67 FT  
Treated Plot Length: 30 FT  
Treated Plot Area: 200.1 FT2  
Replications: 4

Site Type: FIELD field  
Experimental Unit: 1 PLOT plot  
Tillage Type: CONTIL conventional-till  
Study Design: RACOB� Randomized Complete Block (RCB)

### Soil Description

Description Name: F-8 West  
% OM: 3.1 Texture: SICL silty clay loam  
pH: 6.3 Soil Name: Kokomo  
CEC: 20 Fert. Level: G good  
Soil Drainage: G good

### Application Description

	A	B	C
Application Date:	5/8/2014	5/27/2014	6/14/2014
Appl. Start Time:	7:10 PM	9:00 AM	8:30 AM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	1-2" WDS	4-6" WDS
Application Placement:	BROSOI	BROFOL	BROFOL
Air Temperature, Unit:	84 F	76 F	63.3 F
% Relative Humidity:	49.2	72	69.5
Wind Velocity, Unit:	10 MPH	6 MPH	2.7 MPH
Wind Direction:	SSW	W	SSW
Dew Presence (Y/N):	N no	N no	N no
Soil Temperature, Unit:	67 F	68 F	58 F
Soil Moisture:	DRY	SLIDRY	SLIDRY
% Cloud Cover:	10	25	1
Next Moisture Occurred On:	5/10/2014	6/2/2014	6/16/2014
Time to Next Moisture, Unit:	2 DAY	6 DAY	2 DAY

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	Crop Stage At Each Application					
	A		B		C	
Crop 1 Code, BBCH Scale:	GLXMA	BSOY	GLXMA	BSOY	GLXMA	BSOY
Stage Scale Used:	BBCH		BBCH		BBCH	
Stage Majority, Percent:	11	100	13	100	13	100
Height, Unit:	2	IN	4	IN	4	IN
Height Minimum, Maximum:	1	3	3	5	3	5

	Pest Stage At Each Application					
	A		B		C	
Pest 1 Code, Type, Scale:	AMBTR	W	AMBTR	W	AMBTR	W
Stage Majority, Percent:	14	100	16	100	16	100
Height, Unit:	2	IN	6	IN	6	IN
Height Minimum, Maximum:	1	4	6	8	6	8
Density, Unit:	18	M2				
Pest 2 Code, Type, Scale:	CHEAL	W	CHEAL	W	CHEAL	W
Stage Majority, Percent:	14	100	16	100	16	100
Height, Unit:	0.75	IN	3	IN	3	IN
Height Minimum, Maximum:	0.5	1.5	3	3.5	3	3.5
Density, Unit:	28	M2				
Pest 3 Code, Type, Scale:	AMARE	W	AMARE	W	AMARE	W
Stage Majority, Percent:	12	100	12	100	12	100
Height, Unit:	0.5	IN	0.25	IN	0.25	IN
Height Minimum, Maximum:	0.5	1	0.25	0.50	0.25	0.50
Density, Unit:	49	M2				
Pest 4 Code, Type, Scale:	ABUTH	W	ABUTH	W	ABUTH	W
Stage Majority, Percent:	12	100				
Height, Unit:	0.5	IN				
Height Minimum, Maximum:	0.5	1				
Density, Unit:	2	M2				
Pest 5 Code, Type, Scale:	SETFA	W	SETFA	W	SETFA	W
Stage Majority, Percent:			13	100	13	100
Height, Unit:			6	IN	6	IN
Height Minimum, Maximum:			6	7	6	7
Density, Unit:	85	M2				

	Application Equipment					
	A		B		C	
Appl. Equipment:	6'	BACKPACK	6'	BACKPACK	6'	BACKPACK
Equipment Type:	BACCAI		BACCAI		BACCAI	
Operation Pressure, Unit:	50	PSI	50	PSI	50	PSI
Nozzle Type:	AIXR		AIXR		AIXR	
Nozzle Size:	11015		11015		11015	
Nozzle Spacing, Unit:	18	IN	18	IN	18	IN
Nozzles/Row:	4		4		4	
Boom Length, Unit:	6.67	FT	6.67	FT	6.67	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	gal/ac	15	gal/ac	15	gal/ac
Mix Size, Unit:	2	liters	1	liters	1	liters
Propellant:	COMCO2		COMCO2		COMCO2	

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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.	169 132	169 132	169 132	169 132
Plant-Eval Interval	169 DP-1	169 DP-1	169 DP-1	169 DP-1
Days After Emergence	158 DE-1	158 DE-1	158 DE-1	158 DE-1
ARM Action Codes			TY1	
Number of Decimals			1	

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	27	28	29	30
1	Statement	1.31 lb ai/a		32 oz/a		PRE	A	13.44540 a	16.288 a	50.0 a	52.9705 abc
2	Prefix	1.32 lb ai/a		32 oz/a		PRE	A	16.40398 a	16.535 a	60.9 a	52.6325 bc
3	Statement	1.31 lb ai/a		32 oz/a		1-2" WDS B		17.20313 a	16.755 a	63.8 a	54.0855 ab
3	Glyfos X-tra	0.75 lb ae/a		32 oz/a		1-2" WDS B					
3	N-pak ams	3 % v/v		1.8 qt/a		1-2" WDS B					
4	Rhythm	0.375 lb ai/a		25.5 oz/a		1-2" WDS B		15.92893 a	16.640 a	59.1 a	53.9203 ab
4	Glyfos X-tra	0.75 lb ae/a		32 oz/a		1-2" WDS B					
4	N-pak ams	3 % v/v		1.8 qt/a		1-2" WDS B					
5	Prefix	1.32 lb ai/a		32 oz/a		1-2" WDS B		16.81183 a	17.763 a	61.5 a	54.5108 a
5	Glyfos X-tra	0.75 lb ae/a		32 oz/a		1-2" WDS B					
5	N-pak ams	3 % v/v		1.8 qt/a		1-2" WDS B					
6	Sonic	0.131 lb ai/a		3 oz/a		PRE	A	17.39900 a	16.305 a	64.7 a	53.8030 ab
6	Durango DMA	0.75 lb ae/a		24 oz/a		4-6" WDS C					
6	N-pak ams	2.5 % v/v		1.5 qt/a		4-6" WDS C					
7	Sonic	0.197 lb ai/a		4.5 oz/a		PRE	A	16.84615 a	16.763 a	62.3 a	54.3428 a
7	Durango DMA	0.75 lb ae/a		24 oz/a		4-6" WDS C					
7	N-pak ams	2.5 % v/v		1.5 qt/a		4-6" WDS C					
8	Sonic	0.263 lb ai/a		6.0 oz/a		PRE	A	16.12090 a	17.058 a	59.5 a	54.0455 ab
8	Durango DMA	0.75 lb ae/a		24 oz/a		4-6" WDS C					
8	N-pak ams	2.5 % v/v		1.5 qt/a		4-6" WDS C					
9	Sonic	0.131 lb ai/a		3 oz/a		PRE	A	17.96323 a	18.318 a	65.3 a	54.5365 a
9	Durango DMA	0.75 lb ae/a		24 oz/a		4-6" WDS C					
9	Firstrate	0.0158 lb ai/a		0.3 oz/a		4-6" WDS C					
9	N-pak ams	2.5 % v/v		1.5 qt/a		4-6" WDS C					
10	Surveil co-pack @ 2.4 oz							17.92133 a	16.825 a	66.3 a	53.9088 ab
10	Firstrate	0.021 lb ai/a		0.4 oz/a		PRE	A				
10	Valor SX	0.064 lb ai/a		2 oz/a		PRE	A				
10	Durango DMA	0.75 lb ae/a		24 oz/a		4-6" WDS C					
10	N-pak ams	2.5 % v/v		1.5 qt/a		4-6" WDS C					

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 Name				
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BBCH Scale		BSOY	BSOY	BSOY BSOY
Crop Scientific Name		Glycine max	Glycine max	Glycine max Glycine max
Crop Name		Soybean	Soybean	Soybean Soybean
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Rating Type		WEIGHT	MOICON	YIELD WEITES
Rating Unit		LBS	%	BU LBS
Number of Subsamples		1	1	1 1
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Days After Emergence		158 DE-1	158 DE-1	158 DE-1 158 DE-1
ARM Action Codes				TY1
Number of Decimals				1

Trt Treatment	Rate	Other	Other	Growth	Appl	27	28	29	30
No. Name	Rate	Unit	Rate	Rate	Unit Stage	Code			
11 Surveil co-pack @ 3.6 oz							16.84150 a	16.855 a	62.3 a 54.0215 ab
11 Firstrate	0.0315 lb ai/a		0.6 oz/a		PRE	A			
11 Valor SX	0.096 lb ai/a		3.0 oz/a		PRE	A			
11 Durango DMA	0.75 lb ae/a		24 oz/a		4-6" WDS	C			
11 N-pak ams	2.5 % v/v		1.5 qt/a		4-6" WDS	C			
12 UTC							15.06483 a	16.415 a	55.9 a 51.3475 c
LSD (P=.05)							2.963971	1.4493	10.55 1.68541
Standard Deviation							2.052736	1.0037	7.31 1.16725
CV							12.44	5.95	11.98 2.17
Bartlett's X2							6.682	4.291	7.308 40.403
P(Bartlett's X2)							0.824	0.961	0.774 0.001*
Replicate F							1.822	1.065	1.781 2.120
Replicate Prob(F)							0.1624	0.3771	0.1700 0.1165
Treatment F							1.525	1.438	1.524 2.521
Treatment Prob(F)							0.1695	0.2027	0.1698 0.0198

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  
 169 DP-1 = 1 GLXMA 5/8/2014

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