

# The Ohio State University

## Evaluation of pre and post soybean products

Trial ID: 13 PREPOS2  
Protocol ID: 13 PREPOS2  
Project ID: USHES0Y004, DAS showcase

Location: Western Branch  
Investigator: Dr. Mark M. Loux  
Study Director: Bryan Reeb  
Sponsor Contact: Dain Bruns, Syngenta; Brad Hopkins, Dow

Trial Year: 2013

### General Trial Information

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

**Latitude of LL Corner °:** 3951.62 N  
**Longitude of LL Corner °:** 8340.35 W

### Crop Description

**Crop 1:** GLXMA Glycine max Soybean  
**Variety:** Seed Consultants 9362      **BBCH Scale:** BSOY  
**Description:** Roundup Ready  
**Planting Rate, Unit:** 140000      S/A  
**Depth, Unit:** 0.75 IN  
**Row Spacing, Unit:** 15 IN  
**Soil Moisture:** GOOD      good  
**Seed Bed:** FINE      fine  
**Planting Date:** May-15-2013  
**Planting Method:** PLANTD planted  
**Planting Equipment:** PP      Plot Planter  
**Emergence Date:** May-23-2013  
**Harvested Width, Unit:** 6.25 FT  
**Harvested Length, Unit:** 40 FT

### Pest Description

**Pest 1 Type:** W      **Code:** AMBTR Ambrosia trifida  
**Common Name:** Giant ragweed  
**Pest 2 Type:** W      **Code:** SETFA Setaria faberi  
**Common Name:** Giant foxtail  
**Pest 3 Type:** W      **Code:** CHEAL Chenopodium album  
**Common Name:** Common lambsquarters  
**Pest 4 Type:** W      **Code:** AMARE Amaranthus retroflexus  
**Common Name:** Redroot pigweed

### Site and Design

**Treated Plot Width:** 6.67 FT  
**Treated Plot Length:** 40 FT  
**Treated Plot Area:** 266.8 FT2      **Treatments:** 12  
**Replications:** 4  
**Site Type:** FIELD      field  
**Experimental Unit:** 1      PLOT      plot  
**Tillage Type:** CONTIL      conventional-till  
**Study Design:** RACOBL Randomized Complete Block (RCB)

### Soil Description

**Description Name:** F-7 West  
**% OM:** 3.1      **Texture:** SICL      silty clay loam  
**pH:** 7.1      **Soil Name:** Kokomo Silty Clay Loam  
**CEC:** 22.2      **Fert. Level:** G      good  
**Soil Drainage:** G      good

### Application Description

	A	B
<b>Application Date:</b>	May-16-2013	Jun-12-2013
<b>Appl. Start Time:</b>	8:30	8:30 AM
<b>Appl. Stop Time:</b>	8:45 AM	
<b>Application Method:</b>	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	POST
<b>Application Placement:</b>	BROS0I	BROFOL
<b>Air Temperature, Unit:</b>	67.8 F	75.1 F
<b>% Relative Humidity:</b>	78.4	82.2
<b>Wind Velocity, Unit:</b>	1.9 MPH	2.3 MPH
<b>Wind Direction:</b>	NNW	SSW
<b>Dew Presence (Y/N):</b>		N no
<b>Soil Temperature, Unit:</b>	62 F	68 F
<b>Soil Moisture:</b>	NORMAL	MOIST
<b>% Cloud Cover:</b>	100	
<b>Next Moisture Occurred On:</b>	May-17-2013	Jun-13-2013

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### Crop Stage At Each Application

	A	B
<b>Crop 1 Code, BBCH Scale:</b>	GLXMA BSOY	GLXMA BSOY
<b>Stage Scale Used:</b>		BBCH
<b>Stage Majority, Percent:</b>		13
<b>Height, Unit:</b>		8 IN
<b>Height Minimum, Maximum:</b>		7 9

### Pest Stage At Each Application

	A	B
<b>Pest 1 Code, Type, Scale:</b>	AMBTR W	AMBTR W
<b>Stage Majority, Percent:</b>		19 100
<b>Stage Minimum, Percent:</b>		19 100
<b>Stage Maximum, Percent:</b>		19 100
<b>Height, Unit:</b>		8 IN
<b>Height Minimum, Maximum:</b>		8 12
<b>Density, Unit:</b>		28 M2
<b>Pest 2 Code, Type, Scale:</b>	SETFA W	SETFA W
<b>Height, Unit:</b>		3 IN
<b>Height Minimum, Maximum:</b>		3 11
<b>Density, Unit:</b>		252 M2
<b>Pest 3 Code, Type, Scale:</b>	CHEAL W	CHEAL W
<b>Stage Majority, Percent:</b>		19 100
<b>Stage Minimum, Percent:</b>		19 100
<b>Stage Maximum, Percent:</b>		19 100
<b>Height, Unit:</b>		3 IN
<b>Height Minimum, Maximum:</b>		3 6
<b>Density, Unit:</b>		28 M2
<b>Pest 4 Code, Type, Scale:</b>	AMARE W	AMARE W
<b>Stage Majority, Percent:</b>		19 100
<b>Stage Minimum, Percent:</b>		19 100
<b>Stage Maximum, Percent:</b>		19 100
<b>Height, Unit:</b>		3 IN
<b>Height Minimum, Maximum:</b>		3 8
<b>Density, Unit:</b>		16 M2

### Application Equipment

	A	B
<b>Appl. Equipment:</b>	Backpack	Backpack
<b>Equipment Type:</b>	SPRBAC	SPRBAC
<b>Operation Pressure, Unit:</b>	48 PSI	48 PSI
<b>Nozzle Type:</b>	AIXR	AIXR
<b>Nozzle Size:</b>	110015	110015
<b>Nozzle Spacing, Unit:</b>	18 IN	18 IN
<b>Boom Length, Unit:</b>	6 FT	6 FT
<b>Boom Height, Unit:</b>	18 IN	18 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Carrier:</b>	WATER	WATER
<b>Spray Volume, Unit:</b>	15 gal/ac	15 gal/ac
<b>Mix Size, Unit:</b>	1 Liters	1 Liters
<b>Propellant:</b>	COMCO2	COMCO2

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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-10-201	Oct-10-201	Oct-10-201		
	3	3	3		
Rating Type	MOICON	WEIGHT	YIELD		
Rating Unit	%	LBS	BU		
Number of Subsamples	1	1	1		
SE Group No.	20	21	22		
Days After First/Last Applic.	147 120	147 120	147 120		
Trt-Eval Interval					
Plant-Eval Interval	148 DP-1	148 DP-1	148 DP-1		
Days After Emergence	140 DE-1	140 DE-1	140 DE-1		
ARM Action Codes			TY1		
Number of Decimals	1	1	1		

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	19	20	21
1	Prefix	2 pt/a		PRE	A	11.4 a	22.2 ab	65.6 ab
1	Touchdown Total	24 oz/a		POST	B			
1	N-pak ams	1.5 qt/a		POST	B			
2	Boundary	1.75 pt/a		PRE	A	11.4 a	22.1 ab	65.4 ab
2	Touchdown Total	24 oz/a		POST	B			
2	N-pak ams	1.5 qt/a		POST	B			
3	Boundary	1.5 pt/a		PRE	A	11.7 a	22.2 ab	65.3 ab
3	Flexstar GT 3.5	3.5 pt/a		POST	B			
3	MSO	0.6 qt/a		POST	B			
3	N-pak ams	1.5 qt/a		POST	B			
4	Prefix	2 pt/a		PRE	A	11.5 a	24.7 a	73.0 a
4	Sharpen	1 oz/a		PRE	A			
4	Touchdown Total	24 oz/a		POST	B			
4	N-pak ams	1.5 qt/a		POST	B			
5	Prefix	2 pt/a		PRE	A	11.2 a	23.9 a	70.9 a
5	Touchdown Total	24 oz/a		POST	B			
5	Sequence	1 pt/a		POST	B			
5	N-pak ams	1.5 qt/a		POST	B			
6	Fierce	3 oz/a		PRE	A	12.0 a	17.4 c	51.2 c
6	Touchdown Total	24 oz/a		POST	B			
6	N-pak ams	1.5 qt/a		POST	B			
7	Anthem	5 oz/a		PRE	A	11.6 a	19.8 bc	58.4 bc
7	Touchdown Total	24 oz/a		POST	B			
7	N-pak ams	1.5 qt/a		POST	B			
8	OpTill	2 oz/a		PRE	A	11.7 a	24.5 a	72.2 a
8	Outlook	10 oz/a		PRE	A			
8	Touchdown Total	24 oz/a		POST	B			
8	N-pak ams	1.5 qt/a		POST	B			
9	Sonic	3 oz/a		PRE	A	11.5 a	23.5 a	69.4 a
9	Durango DMA	24 oz/a		POST	B			
9	N-pak ams	1.5 qt/a		POST	B			

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				
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-10-201	Oct-10-201	Oct-10-201	
	3	3	3	
Rating Type	MOICON	WEIGHT	YIELD	
Rating Unit	%	LBS	BU	
Number of Subsamples	1	1	1	
SE Group No.	20	21	22	
Days After First/Last Applic.	147 120	147 120	147 120	
Trt-Eval Interval				
Plant-Eval Interval	148 DP-1	148 DP-1	148 DP-1	
Days After Emergence	140 DE-1	140 DE-1	140 DE-1	
ARM Action Codes			TY1	
Number of Decimals	1	1	1	

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	19	20	21
10	Sonic	4.5 oz/a		PRE	A	11.2 a	22.8 ab	67.7 ab
10	Durango DMA	24 oz/a		POST	B			
10	N-pak ams	1.5 qt/a		POST	B			
11	Sonic	6 oz/a		PRE	A	11.4 a	25.5 a	75.3 a
11	Durango DMA	24 oz/a		POST	B			
11	N-pak ams	1.5 qt/a		POST	B			
12	Sonic	4.5 oz/a		PRE	A	11.4 a	22.7 ab	67.3 ab
12	Sencor DF	4 oz/a		PRE	A			
12	Durango DMA	24 oz/a		POST	B			
12	N-pak ams	1.5 qt/a		POST	B			
LSD (P=.05)						0.56	3.46	10.37
Standard Deviation						0.39	2.40	7.18
CV						3.38	10.6	10.75
Bartlett's X2						17.746	15.642	15.56
P(Bartlett's X2)						0.088	0.155	0.158
Skewness						0.1712	-1.0061*	-1.0169*
Kurtosis						3.2213*	0.9899	1.0506
Replicate F						0.866	0.816	0.830
Replicate Prob(F)						0.4687	0.4943	0.4868
Treatment F						1.314	3.441	3.415
Treatment Prob(F)						0.2604	0.0029	0.0030

Crop Code  
GLXMA, BSOY, Glycine max, = US

Rating Type  
MOICON = moisture content  
WEIGHT = weight  
YIELD = yield

Rating Unit  
% = percent  
BU = bushel

Plant-Eval Interval  
148 DP-1 = 1 GLXMA May-15-2013

ARM Action Codes  
TY1 = 2.904\*[20]\*(100-[19])/87