

# The Ohio State University

## USB Row Spacing and Plant Populations Study

Trial ID: 13USBROW      Location: Western Branch E-2      Trial Year: 2013  
 Protocol ID:              Investigator: Dr. Mark M. Loux  
 Project ID:                Study Director:  
                                  Sponsor Contact:

**Crop 1:** GLXMA      Glycine max  
**Variety:** Seed Consultants SC3833LL  
**Description:** Liberty Link

**Crop Description**  
 Soybean

**BBCH Scale:** BSOY

**Planting Date:** May-28-2013  
**Planting Method:** PLANTD planted  
**Planting Equipment:** PP      Plot Planter

**Depth, Unit:** 0.5      IN  
**Soil Temperature, Unit:** 66      F  
**Soil Moisture:** DRY      dry  
**Seed Bed:** MEDIUM      medium

**Pest 1 Type:** W

### Pest Description

### Site and Design

**Treated Plot Width:** 10 FT  
**Treated Plot Length:** 40 FT  
**Treated Plot Area:** 400 FT<sup>2</sup>      **Treatments:** 12  
**Replications:** 4

**Study Design:** SPLPLO Split-Plot

### Application Description

	A	B	C
<b>Application Date:</b>	May-30-2013	Jun-28-2013	Jul-26-2013
<b>Appl. Start Time:</b>	8:00 AM	9:30 AM	9:00 AM
<b>Appl. Stop Time:</b>	9:00 AM	10:00 AM	9:30 AM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	PRE	EPO	POST
<b>Application Placement:</b>	BROSOIL	BROFOL	BROFOL
<b>Applied By:</b>	REEB	Johnson	
<b>Air Temperature, Unit:</b>	72.5 F	73 F	66 F
<b>% Relative Humidity:</b>	69.1	77	88
<b>Wind Velocity, Unit:</b>	4.9 MPH	7 MPH	1 MPH
<b>Wind Direction:</b>	SSW	W	S
<b>Dew Presence (Y/N):</b>	N no	N no	N no
<b>Soil Temperature, Unit:</b>	66 F	69 F	69 F
<b>Soil Moisture:</b>	MOIST	MOIST	DRY
<b>% Cloud Cover:</b>	30	30	5
<b>Next Moisture Occurred On:</b>	May-31-2013	Jun-29-2013	Jul-27-2013
<b>Time to Next Moisture, Unit:</b>	1 DAY	1 DAY	1 DAY

### Crop Stage At Each Application

**Crop 1 Code, BBCH Scale:** GLXMA BSOY GLXMA BSOY GLXMA BSOY

### Pest Stage At Each Application

**Pest 1 Code, Type, Scale:**      A      B      C  
    W      W      W

### Application Equipment

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

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 Protocol ID:            Investigator: Dr. Mark M. Loux  
 Project ID:             Study Director:  
                              Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	AMARE	AMBTR	ABUTH	IPOHE	AMARE
Pest Scientific Name	Amaranthus ret>	Ambrosia trifi>	Abutilon theop>	Ipomoea hедера>	Amaranthus ret>
Pest Name	Redroot pigweed	Giant ragweed	velvetleaf	Ivyleaf mornin>	Redroot pigweed
Rating Date	Jul-18-2013	Jul-18-2013	Jul-18-2013	Jul-18-2013	Aug-7-2013
Number of Subsamples	1	1	1	1	1
SE Group No.	1	2	3	4	5
Days After First/Last Applic.	49 20	49 20	49 20	49 20	69 12
Trt-Eval Interval				20 DA-B	40 DA-B
Plant-Eval Interval	51 DP-1	51 DP-1	51 DP-1	51 DP-1	71 DP-1

Trt Treatment No. Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	1	2	3	4	5
1 15 Inch Rows					93.8	79.3	87.1	58.8	100.0
1 PREFIX	2 pt/a		PRE	A					
1 Dual II Magnum	1.1 pt/a								
1 Reflex	0.95 pt/a								
1 Sencor 75DF	0.5 lb/a		PRE	A					
1 Liberty	29 oz/a		POST	C					
1 N-PAK AMS	2.5 % v/v		POST	C					
1 70,000 Seeds/acre									
2 15 Inch Rows					100.0	86.8	94.7	75.0	100.0
2 PREFIX	2 pt/a		PRE	A					
2 Sencor 75DF	0.5 lb/a		PRE	A					
2 Liberty	29 oz/a		POST	C					
2 N-PAK AMS	2.5 % v/v		POST	C					
2 130,000 Seeds/acre									
3 15 Inch Rows					100.0	98.4	99.7	81.3	100.0
3 PREFIX	2 pt/a		PRE	A					
3 Sencor 75DF	0.5 lb/a		PRE	A					
3 Liberty	29 oz/a		POST	C					
3 N-PAK AMS	2.5 % v/v		POST	C					
3 190,000 Seeds/acre									
4 15 Inch Rows					100.0	96.4	97.6	47.5	100.0
4 PREFIX	2 pt/a		EPO	B					
4 Liberty	29 oz/a		EPO	B					
4 N-PAK AMS	2.5 % v/v		EPO	B					
4 70,000 Seeds/acre									
5 15 Inch Rows					100.0	95.7	94.5	65.0	100.0
5 PREFIX	2 pt/a		EPO	B					
5 Liberty	29 oz/a		EPO	B					
5 N-PAK AMS	2.5 % v/v		EPO	B					
5 130,000 Seeds/acre									
6 15 Inch Rows					100.0	99.7	97.1	70.0	100.0
6 PREFIX	2 pt/a		EPO	B					
6 Liberty	29 oz/a		EPO	B					
6 N-PAK AMS	2.5 % v/v		EPO	B					
6 190,000 Seeds/acre									
7 30 Inch Rows					97.5	69.0	80.8	45.0	97.5
7 PREFIX	2 pt/a		PRE	A					
7 Sencor 75DF	0.5 lb/a		PRE	A					
7 Liberty	29 oz/a		POST	C					
7 N-PAK AMS	2.5 % v/v		POST	C					
7 70,000 Seeds/acre									

t=Mean descriptions are reported in transformed data units, and are not de-transformed.

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	AMARE	AMBTR	ABUTH	IPHOE	AMARE
Pest Scientific Name	Amaranthus ret>	Ambrosia trifi>	Abutilon theop>	Ipomoea heder>	Amaranthus ret>
Pest Name	Redroot pigweed	Giant ragweed	velvetleaf	Ivyleaf mornin>	Redroot pigweed
Rating Date	Jul-18-2013	Jul-18-2013	Jul-18-2013	Jul-18-2013	Aug-7-2013
Number of Subsamples	1	1	1	1	1
SE Group No.	1	2	3	4	5
Days After First/Last Applic.	49 20	49 20	49 20	49 20	69 12
Trt-Eval Interval				20 DA-B	40 DA-B
Plant-Eval Interval	51 DP-1	51 DP-1	51 DP-1	51 DP-1	71 DP-1
Trt Treatment No. Name	Other Rate	Other Rate	Growth Stage	Appl Code	
	1	2	3	4	5
8 30 Inch Rows					
8 PREFIX	2 pt/a				
8 Sencor 75DF	0.5 lb/a				
8 Liberty	29 oz/a				
8 N-PAK AMS	2.5 % v/v				
8 130,000 Seeds/acre					
9 30 Inch Rows					
9 PREFIX	2 pt/a				
9 Sencor 75DF	0.5 lb/a				
9 Liberty	29 oz/a				
9 N-PAK AMS	2.5 % v/v				
9 190,000 Seeds/acre					
10 30 Inch Rows					
10 PREFIX	2 pt/a				
10 Liberty	29 oz/a				
10 N-PAK AMS	2.5 % v/v				
10 70,000 Seeds/acre					
11 30 Inch Rows					
11 PREFIX	2 pt/a				
11 Liberty	29 oz/a				
11 N-PAK AMS	2.5 % v/v				
11 130,000 Seeds/acre					
12 30 Inch Rows					
12 PREFIX	2 pt/a				
12 Liberty	29 oz/a				
12 N-PAK AMS	2.5 % v/v				
12 190,000 Seeds/acre					
LSD (P=.05)	5.44	9.35t	12.45t	15.60	2.11
Standard Deviation	3.73	6.40t	8.53t	10.69	1.44
CV	3.77	8.86	11.58	17.27	1.45
Bartlett's X2	3.434	10.714	7.257	7.564	0.0
P(Bartlett's X2)	0.18	0.468	0.778	0.752	.
Skewness	-4.1949*	-0.2088	-0.2532	-0.4244	-6.9282*
Kurtosis	18.1611*	-0.8351	-1.0273	-0.6157	48.0*
Replicate F	0.450	1.573	14.513	7.058	1.000
Replicate Prob(F)	0.7196	0.2218	0.0001	0.0015	0.4098
Treatment F	1.214	11.660	3.024	3.755	1.000
Treatment Prob(F)	0.3304	0.0001	0.0113	0.0033	0.4744

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Pest Type	W Weed	W Weed	W Weed
Pest Code	AMBTR	ABUTH	IPOHE
Pest Scientific Name	Ambrosia trifida	Abutilon theophrasti	Ipomoea hederacea
Pest Name	Giant ragweed	velvetleaf	Ivyleaf mornin
Rating Date	Aug-7-2013	Aug-7-2013	Aug-7-2013
Number of Subsamples	1	1	1
SE Group No.	6	7	8
Days After First/Last Applic.	69 12	69 12	69 12
Trt-Eval Interval			
Plant-Eval Interval	71 DP-1	71 DP-1	71 DP-1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	6	7	8
1	15 Inch Rows					100.0	96.2	87.8
	1 PREFIX	2 pt/a		PRE	A			
	1 Dual II Magnum	1.1 pt/a						
	1 Reflex	0.95 pt/a						
	1 Sencor 75DF	0.5 lb/a		PRE	A			
	1 Liberty	29 oz/a		POST	C			
	1 N-PAK AMS	2.5 % v/v		POST	C			
	1 70,000 Seeds/acre							
2	15 Inch Rows					100.0	100.0	97.6
	2 PREFIX	2 pt/a		PRE	A			
	2 Sencor 75DF	0.5 lb/a		PRE	A			
	2 Liberty	29 oz/a		POST	C			
	2 N-PAK AMS	2.5 % v/v		POST	C			
	2 130,000 Seeds/acre							
3	15 Inch Rows					99.7	99.7	93.9
	3 PREFIX	2 pt/a		PRE	A			
	3 Sencor 75DF	0.5 lb/a		PRE	A			
	3 Liberty	29 oz/a		POST	C			
	3 N-PAK AMS	2.5 % v/v		POST	C			
	3 190,000 Seeds/acre							
4	15 Inch Rows					99.0	93.8	51.3
	4 PREFIX	2 pt/a		EPO	B			
	4 Liberty	29 oz/a		EPO	B			
	4 N-PAK AMS	2.5 % v/v		EPO	B			
	4 70,000 Seeds/acre							
5	15 Inch Rows					99.4	94.1	70.1
	5 PREFIX	2 pt/a		EPO	B			
	5 Liberty	29 oz/a		EPO	B			
	5 N-PAK AMS	2.5 % v/v		EPO	B			
	5 130,000 Seeds/acre							
6	15 Inch Rows					99.7	99.4	88.8
	6 PREFIX	2 pt/a		EPO	B			
	6 Liberty	29 oz/a		EPO	B			
	6 N-PAK AMS	2.5 % v/v		EPO	B			
	6 190,000 Seeds/acre							
7	30 Inch Rows					99.9	98.1	95.4
	7 PREFIX	2 pt/a		PRE	A			
	7 Sencor 75DF	0.5 lb/a		PRE	A			
	7 Liberty	29 oz/a		POST	C			
	7 N-PAK AMS	2.5 % v/v		POST	C			
	7 70,000 Seeds/acre							

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Pest Type		W Weed	W Weed	W Weed			
Pest Code		AMBTR	ABUTH	IPOHE			
Pest Scientific Name		Ambrosia trifi>	Abutilon theop>	Ipomoea hедера>			
Pest Name		Giant ragweed	velvetleaf	lvyleaf mornin>			
Rating Date		Aug-7-2013	Aug-7-2013	Aug-7-2013			
Number of Subsamples		1	1	1			
SE Group No.		6	7	8			
Days After First/Last Applic.		69 12	69 12	69 12			
Trt-Eval Interval							
Plant-Eval Interval		71 DP-1	71 DP-1	71 DP-1			
Trt Treatment No. Name	Other Rate	Other Rate	Growth Stage	Appl Code	6	7	8
8 30 Inch Rows					99.7	99.0	83.1
8 PREFIX	2 pt/a		PRE	A			
8 Sencor 75DF	0.5 lb/a		PRE	A			
8 Liberty	29 oz/a		POST	C			
8 N-PAK AMS	2.5 % v/v		POST	C			
8 130,000 Seeds/acre							
9 30 Inch Rows					100.0	97.4	89.3
9 PREFIX	2 pt/a		PRE	A			
9 Sencor 75DF	0.5 lb/a		PRE	A			
9 Liberty	29 oz/a		POST	C			
9 N-PAK AMS	2.5 % v/v		POST	C			
9 190,000 Seeds/acre							
10 30 Inch Rows					94.7	82.4	55.5
10 PREFIX	2 pt/a		EPO	B			
10 Liberty	29 oz/a		EPO	B			
10 N-PAK AMS	2.5 % v/v		EPO	B			
10 70,000 Seeds/acre							
11 30 Inch Rows					100.0	64.2	73.5
11 PREFIX	2 pt/a		EPO	B			
11 Liberty	29 oz/a		EPO	B			
11 N-PAK AMS	2.5 % v/v		EPO	B			
11 130,000 Seeds/acre							
12 30 Inch Rows					99.7	96.0	66.4
12 PREFIX	2 pt/a		EPO	B			
12 Liberty	29 oz/a		EPO	B			
12 N-PAK AMS	2.5 % v/v		EPO	B			
12 190,000 Seeds/acre							
LSD (P=.05)		11.49t	14.65t	10.27t			
Standard Deviation		7.87t	10.04t	7.04t			
CV		9.07	12.86	10.9			
Bartlett's X2		6.92	4.889	14.166			
P(Bartlett's X2)		0.437	0.898	0.224			
Skewness		-2.219*	-1.0855*	-0.2078			
Kurtosis		3.8865*	0.4046	-0.5288			
Replicate F		0.697	9.175	2.571			
Replicate Prob(F)		0.5630	0.0003	0.0778			
Treatment F		0.893	4.071	10.863			
Treatment Prob(F)		0.5599	0.0020	0.0001			

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Trial ID: 13USBROW      Location: Western Branch E-2      Trial Year: 2013  
Protocol ID:              Investigator: Dr. Mark M. Loux  
Project ID:                Study Director:  
                                 Sponsor Contact:

### Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

### Pest Code

AMARE, Amaranthus retroflexus, = US

AMBTR, Ambrosia trifida, = US

ABUTH, Abutilon theophrasti, = US

IPOHE, Ipomoea hederacea, = US

### Plant-Eval Interval

51 DP-1 = 1 GLXMA May-28-2013

71 DP-1 = 1 GLXMA May-28-2013