

USB Systems Study

Trial ID: 15USBSS Location: Western Branch E-2 Trial Year: 2015
Protocol ID: 15USBSS Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

General Trial Information

Investigator: Dr. Mark M. Loux

Trial Location

City: South Charleston Country: USA United States
State/Prov.: Ohio
Postal Code: 45368 Climate Zone: USWARM US Warm Continental

Latitude of LL Corner °: 39.85901 N
Longitude of LL Corner °: -83.66975 W

Conducted Under GLP: No
Conducted Under GEP: No

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: GLXMA Glycine max
Variety: P 34T35L
Description: Pioneer LL

Soybean

Planting Rate, Unit: 175000 S/A
Depth, Unit: 0.75 IN
Row Spacing, Unit: 15 IN

Planting Date: 5-14-2015
Planting Method: PLANTD planted
Planting Equipment: FE Field Equipment
Emergence Date: 5-22-2015
Harvest Date: 10-7-2015
Harvested Width, Unit: 6.25 FT
Harvested Length, Unit: 40 FT
Harvest Equipment: Massey Ferguson 8 XP
% Standard Moisture: 13
Moisture Meter: Harvest Master
Weighing Equipment: Harvest Master

Soil Temperature, Unit: 63 F
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDTRA medium/trashy

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 40 FT
Treated Plot Area: 400 FT2 Treatments: 8
Replications: 4

Site Type: FIELD field
Experimental Unit: 1 PLOT plot

Study Design: RACOBL Randomized Complete Block (RCB)

No. Previous Crop Year
1. Corn 2014

Field Prep./Maintenance:
Spring Tillage was performed on 5-14-15 prior to planting.

Soil Description

Description Name: E-2
% OM: 3.35 Texture: SICL silty clay loam
pH: 6.35 Soil Name: Kokomo
CEC: 22.45 Fert. Level: G good
Soil Drainage: G good

**Application Description**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Application Date:</b>	5-7-2015	5-15-2015	6-11-2015
<b>Appl. Start Time:</b>	9:00 AM	9:00 AM	9:30 AM
<b>Appl. Stop Time:</b>	9:30 AM	9:05 AM	10:00 AM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	7 EPP	PRE	POST
<b>Application Placement:</b>	BROFOL	BROSOI	BROFOL
<b>Applied By:</b>	Dobbels	Ackley	Dobbels
<b>Air Temperature, Unit:</b>	82 F	63 F	80 F
<b>% Relative Humidity:</b>	42	75	53
<b>Wind Velocity, Unit:</b>	8 MPH	3 MPH	8 MPH
<b>Wind Direction:</b>	S	E	WSW
<b>Dew Presence (Y/N):</b>	N no	N no	N no
<b>Soil Temperature, Unit:</b>	70 F	59 F	68 F
<b>Soil Moisture:</b>	MOIST	NORMAL	DRY
<b>% Cloud Cover:</b>	30	80	5
<b>Next Moisture Occurred On:</b>	5-11-2015	5-17-2015	6-12-2015
<b>Time to Next Moisture, Unit:</b>	4 DAY	2 DAY	1 DAY

**Crop Stage At Each Application**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Crop 1 Code, BBCH Scale:</b>	GLXMA	BSOY	GLXMA BSOY
<b>Stage Scale Used:</b>			BBCH
<b>Stage Majority, Percent:</b>			13 100
<b>Height, Unit:</b>			3 IN
<b>Height Minimum, Maximum:</b>			3 4

**Application Equipment**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>Appl. Equipment:</b>	10' AI XR	10' AI XR	10' AI XR
<b>Equipment Type:</b>	SPRBAC	SPRBAC	SPRBAC
<b>Operation Pressure, Unit:</b>	46 PSI	46 PSI	46 PSI
<b>Nozzle Type:</b>	AI XR	AI XR	AI XR
<b>Nozzle Size:</b>	110015	110015	110015
<b>Nozzle Spacing, Unit:</b>	18 IN	18 IN	18 IN
<b>Boom Length, Unit:</b>	10 FT	10 FT	10 FT
<b>Boom Height, Unit:</b>	20 IN	20 IN	20 IN
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH	3 MPH
<b>Carrier:</b>	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	15 GPA	15 GPA	15 GPA
<b>Mix Size, Unit:</b>	2 Liters	2 Liters	2 Liters
<b>Propellant:</b>	CO2	CO2	CO2

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Pest Type				
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	10-7-2015	10-7-2015	10-7-2015	10-7-2015
Rating Type	YIELD	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Sample Size, Unit	1 PLOT		1 A	
Collection Basis, Unit				
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	153 118	153 118	153 118	153 118
Trt-Eval Interval				
Plant-Eval Interval	146 DP-1	146 DP-1	146 DP-1	146 DP-1
Days After Emergence	138 DE-1	138 DE-1	138 DE-1	138 DE-1
ARM Action Codes			TY1	
Number of Decimals	1	1	1	1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	Appl Description	18	19	20	21
1	No-Till Low Input					25.5 a	14.5 a	72.7 a	56.0 a
	1 Roundup PowerMax	32 oz/a		A	7 EPP				
	1 2,4-D Amine	1 pt/a		A	7 EPP				
	1 N PAK AMS	2.5 % v/v		A	7 EPP				
	1 Liberty	29 oz/a		C	POST				
	1 N PAK AMS	48 oz/a		C	POST				
2	NoTill High Input					24.4 a	14.6 a	69.4 a	52.7 a
	2 Roundup PowerMax	32 oz/a		A	7 EPP				
	2 2,4-D Amine	1 pt/a		A	7 EPP				
	2 Valor XLT 3.5 oz								
	2 Valor SX	2.05 oz/a		A	7 EPP				
	2 Classic	1.45 oz/a		A	7 EPP				
	2 N PAK AMS	2.5 % v/v		A	7 EPP				
	2 Liberty	29 oz/a		C	POST				
	2 Warrant	1.5 qt/a		C	POST				
	2 N PAK AMS	48 oz/a		C	POST				
3	Minimum Till Low Input					22.8 a	15.5 a	64.2 a	54.3 a
	3 Liberty	29 oz/a		C	POST				
	3 N PAK AMS	48 oz/a		C	POST				
4	Fall Plow Low Input					20.6 a	15.0 a	58.5 a	49.0 a
	4 Liberty	29 oz/a		C	POST				
	4 N PAK AMS	48 oz/a		C	POST				
5	Fall Plow High Input					23.1 a	16.3 a	64.8 a	56.7 a
	5 Valor XLT 3.5 oz								
	5 Valor SX	2.05 oz/a		B	PRE				
	5 Classic	1.45 oz/a		B	PRE				
	5 Liberty	29 oz/a		C	POST				
	5 Warrant	1.5 qt/a		C	POST				
	5 N PAK AMS	48 oz/a		C	POST				

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.

Pest Type				
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
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Rating Type	YIELD	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Sample Size, Unit	1 PLOT		1 A	
Collection Basis, Unit				
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	153 118	153 118	153 118	153 118
Trt-Eval Interval				
Plant-Eval Interval	146 DP-1	146 DP-1	146 DP-1	146 DP-1
Days After Emergence	138 DE-1	138 DE-1	138 DE-1	138 DE-1
ARM Action Codes			TY1	
Number of Decimals	1	1	1	1

Trt Treatment No. Name	Other Rate	Other Rate Unit	Appl Code	Appl Description	18	19	20	21
6 Cover Crop Low Input					24.5 a	12.9 a	71.1 a	55.3 a
6 Roundup PowerMax	32 oz/a		A	7 EPP				
6 2,4-D Amine	1 pt/a		A	7 EPP				
6 N PAK AMS	2.5 % v/v		A	7 EPP				
6 Liberty	29 oz/a		C	POST				
6 N PAK AMS	48 oz/a		C	POST				
7 Cover Crop Med. Input					25.0 a	13.0 a	72.6 a	54.1 a
7 Roundup PowerMax	32 oz/a		A	7 EPP				
7 2,4-D Amine	1 pt/a		A	7 EPP				
7 Valor XLT 3.5 oz								
7 Valor SX	2.05 oz/a		A	7 EPP				
7 Classic	1.45 oz/a		A	7 EPP				
7 N PAK AMS	2.5 % v/v		A	7 EPP				
7 Liberty	29 oz/a		C	POST				
7 N PAK AMS	48 oz/a		C	POST				
8 Cover Crop High Input					25.1 a	14.3 a	71.8 a	55.4 a
8 Roundup PowerMax	32 oz/a		A	7 EPP				
8 2,4-D Amine	1 pt/a		A	7 EPP				
8 Valor XLT 3.5 oz								
8 Valor SX	2.05 oz/a		A	7 EPP				
8 Classic	1.45 oz/a		A	7 EPP				
8 N PAK AMS	2.5 % v/v		A	7 EPP				
8 Liberty	29 oz/a		C	POST				
8 Warrant	1.5 qt/a		C	POST				
8 N PAK AMS	48 oz/a		C	POST				
LSD P=.05					3.74	4.23	11.11	6.93
Standard Deviation					2.55	2.87	7.56	4.71
CV					10.67	19.82	11.09	8.7
Grand Mean					23.86	14.50	68.15	54.19
Bartlett's X2					16.676	14.242	17.363	33.059
P(Bartlett's X2)					0.02*	0.047*	0.015*	0.001*
Skewness					-1.8854*	1.1432*	-1.9786*	-0.4234
Kurtosis					3.9092*	0.3524	4.3448*	1.9116*
Replicate F					1.835	0.842	1.885	1.529
Replicate Prob(F)					0.1717	0.4859	0.1630	0.2363
Treatment F					1.640	0.644	1.838	1.066
Treatment Prob(F)					0.1790	0.7154	0.1324	0.4184

Crop Code  
 GLXMA, BSOY, Glycine max, = US  
Rating Type  
 YIELD = yield  
 MOICON = moisture content  
 WEITES = weight - test  
Rating Unit  
 % = percent

BU = bushel

PLOT = total plot

A = acre

Plant-Eval Interval

146 DP-1 = 1 GLXMA 5-14-2015

ARM Action Codes

TY1 =  $2.904 * [18] * (100 - [19]) / 87$