

The Ohio State University

Enlist Soybean Showcase

Trial ID: 20SOYSHOW Location: Trial Year: 2020
 Protocol ID: 20SOYSHOW Investigator: Dr. Mark M. Loux
 Project ID: Study Director:
 Sponsor Contact:

General Trial Information

Study Director: Anthony Dobbels
Investigator: Dr. Mark M. Loux

Trial Status: E established

ARM Trial Created On: Mar-27-2020

Initiation Date: May-13-2020

Trial Location

Address (Location): 7721 South Charleston Pike
City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368

Latitude of LL Corner °: 39.86077 N
Longitude of LL Corner °: -83.67025 W
Altitude of LL Corner: 1093.00 FT

Conducted Under GLP: No

Conducted Under GEP: No

Contacts

Study Director: Anthony Dobbels

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: C	GLXMA Glycine max	Soybean	BBCH Scale: BSOY
	Entry Date: May-14-2020		Stage Scale: BBCH
	Variety: Seed Consultants SC7370E		
	Attributes: 2,4-D Choline, Glyphosate, Glufosinate Tol		
	Planting Date: May-13-2020	Planting Rate: 160000	S/A
	Depth: 2 IN		
	Rows per Plot: 8	Planting Method: PLANTD	planted
	Row Spacing: 15 IN	Planting Equipment: FE	field equipment
		Seed Bed: MEDIUM	medium
	Soil Temperature: 62 F	Soil Moisture: NORMAL	normal, adequate
	Emergence Date: May-25-2020		
	Harvest Date: Oct-9-2020	Harvest Equipment: Kincaid 8XP	
	Moisture Meter: Harvest Master	Harvested Width: 6.25 FT	
% Standard Moisture: 13		Harvested Length: 30 FT	
Weighing Equipment: Harvest Master HM800			

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Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: ragweed, giant **Entry Date:** May-14-2020

Pest 2 Type: W **Code:** SETFA Setaria faberi
Common Name: foxtail, giant **Entry Date:** Jun-25-2020

Pest 3 Type: W **Code:** ECHCG Echinochloa crus-galli
Common Name: barnyardgrass **Entry Date:** Jun-25-2020

Pest 4 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: velvetleaf **Entry Date:** Jun-25-2020

Pest 5 Type: W **Code:** CHEAL Chenopodium album
Common Name: lambsquarters, common **Entry Date:** Jun-25-2020

Pest 6 Type: W **Code:** POLPY Polygonum pensylvanicum
Common Name: smartweed, Pennsylvania **Entry Date:** Jun-25-2020

Pest 7 Type: W **Code:** IPOHE Ipomoea hederacea
Common Name: morningglory, ivyleaf **Entry Date:** Jun-25-2020

Pest 8 Type: W **Code:** AMARE Amaranthus retroflexus
Common Name: pigweed, redroot **Entry Date:** Jun-25-2020

Pest 9 Type: W **Code:** SIDSP Sida spinosa
Common Name: sida, prickly **Entry Date:** Jul-9-2020

Pest10 Type: W **Code:** SOLPT Solanum ptychanthum
Common Name: nightshade, eastern black **Entry Date:** Jul-9-2020

Pest11 Type: W **Code:** AMBEL Ambrosia artemisiifolia
Common Name: ragweed, common **Entry Date:** Aug-12-2020

Pest12 Type: W **Code:** HIBTR Hibiscus trionum
Common Name: mallow, Venice **Entry Date:** Aug-12-2020

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 300 FT² **Treatments:** 10 **Tillage Type:** CONTIL conventional-till
Replications: 3 **Study Design:** RACOB� Randomized Complete Block (RCB)

Previous

No. Crop Year
 1. SOYBEAN 2019

Soil Description

Description Name: F-7 East **Texture:** SICL silty clay loam
% Sand: 37 **% OM:** 2.8
% Silt: 48 **pH:** 5.7 **Soil Name:** Crosby
% Clay: 15 **CEC:** 11.8 **Fert. Level:** G good
Soil Drainage: G good

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Trial Year: 2020

Application Description

	A	B
Application Date	May-13-2020	Jun-24-2020
Appl. Start Time	4:00 PM	8:30 AM
Appl. Stop Time	4:30 PM	9:00 AM
Interval to Prev. Appl.		42 DAYS
Application Method	SPRAY	SPRAY
Application Timing	PRE	POST
Application Placement	BROSOI	BROFOL
Applied By	Loux	Loux
Appl. Entry Date	May-14-2020	Jun-25-2020
Air Temperature Start, Stop	65 65 F	66 66 F
% Relative Humidity Start, Stop	32 32	80 80
Wind Velocity+Dir. Start	10 MPH SE	8 MPH W
Wind Velocity+Dir. Stop	10 MPH SE	8 MPH W
Wind Velocity+Dir. Max	11 MPH SE	8 MPH W
Wet Leaves (Y/N)	N no	Y yes
Soil Temperature	62 F	69 F
Soil Moisture	Normal	SLIWET
Soil Surface Condition	MEDIUM	MEDIUM
% Cloud Cover	25	30
Next Moisture Occurred On	May-14-2020	Jun-25-2020
Time to Next Moisture	22 HR	1 DAY
Moisture 6 Hours after Appl.	0 IN	0 IN
Moisture 1 Week after Appl.	2.52 IN	0.09 IN

Crop Stage At Each Application

	A		B	
Crop 1 Code, BBCH Scale	GLXMA	BSOY	GLXMA	BSOY
Days after Emergence	-12		30	
Stage Scale Used	BBCH		BBCH	
Stage Majority, Percent			16	80
Stage Minimum, Percent			14	
Stage Maximum, Percent			17	
Height Average			9	IN
Height Minimum, Maximum			8	12

Pest Stage At Each Application

	A		B	
Pest 1 Code, Type, Scale	AMBTR	W	AMBTR	W
Stage Majority, Percent			19	90
Stage Minimum, Percent			14	10
Stage Maximum, Percent			19	90
Height Average			8	IN
Height Minimum, Maximum			4	18
Density Average			2	PLA/m2
Density Min, Max			0.33	3
Pest 2 Code, Type, Scale	SETFA	W	SETFA	W
Stage Majority, Percent			18	80
Stage Minimum, Percent			14	20
Stage Maximum, Percent			19	20
Height Average			6	IN
Height Minimum, Maximum			2	10
Density Average			75	PLA/m2
Density Min, Max			60	90
Pest 3 Code, Type, Scale	ECHCG	W	ECHCG	W
Stage Majority, Percent			19	80
Stage Minimum, Percent			14	20
Stage Maximum, Percent			19	20
Height Average			4	IN
Height Minimum, Maximum			2	4
Density Average			60	PLA/m2
Density Min, Max			30	105
Pest 4 Code, Type, Scale	ABUTH	W	ABUTH	W
Stage Majority, Percent			14	80
Stage Minimum, Percent			14	
Stage Maximum, Percent			18	
Height Average			6	IN
Height Minimum, Maximum			2	10
Density Average			0.03	PLA/m2
Density Min, Max			0.01	0.06
Pest 5 Code, Type, Scale	CHEAL	W	CHEAL	W
Stage Majority, Percent			16	80
Stage Minimum, Percent			14	
Stage Maximum, Percent			16	

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Height Average	4	IN
Height Minimum, Maximum	2	8
Density Average	16	PLA/m2
Density Min, Max	5	27
Pest 6 Code, Type, Scale	POLPY W	POLPY W
Stage Majority, Percent	16	80
Stage Minimum, Percent	14	
Stage Maximum, Percent	18	
Height Average	4	IN
Height Minimum, Maximum	2	8
Density Average	0.02	PLA/m2
Density Min, Max	0	0.06
Pest 7 Code, Type, Scale	IPOHE W	IPOHE W
Stage Majority, Percent	16	80
Stage Minimum, Percent	14	
Stage Maximum, Percent	19	
Height Average	2	IN
Height Minimum, Maximum	2	4
Density Average	0.03	PLA/m2
Density Min, Max	0	0.06
Pest 8 Code, Type, Scale	AMARE W	AMARE W
Stage Majority, Percent	16	80
Stage Minimum, Percent	14	
Stage Maximum, Percent	19	
Height Average	4	IN
Height Minimum, Maximum	2	8
Density Average	19	PLA/m2
Density Min, Max	6	48
Pest 9 Code, Type, Scale	SIDSP W	SIDSP W
Density Average	8	PLA/m2
Density Min, Max	1	24
Pest10 Code, Type, Scale	SOLPT W	SOLPT W
Density Average	0.09	PLA/m2
Density Min, Max	0	1
Pest11 Code, Type, Scale	AMBEL W	AMBEL W
Density Average	0.03	PLA/m2
Density Min, Max	0	0.09
Pest12 Code, Type, Scale	HIBTR W	HIBTR W
Density Average	0.03	PLA/m2
Density Min, Max	0	0.06

Application Equipment

	A	B
Appl. Equipment	6 Foot TTI	10' AIXR
Equipment Type	BACCAI	BACCAI
Operation Pressure	44 PSI	44 PSI
Nozzle Type	TTI	AIXR
Nozzle Size	110015	110015
Nozzle Spacing	18 IN	18 IN
Boom Length	6.67 FT	10 FT
Boom Height	20 IN	20 IN
Ground Speed	3 MPH	3 MPH
Carrier	WATER	WATER
Application Amount	15 GAL/AC	15 GAL/AC
Mix Size	2 L	2 L
Propellant	COMCO2	COMCO2

Context	Date	By	Notes
STATUS	Mar-27-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Mar-27-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	May-14-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.
STATUS	May-28-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Emergence Date entered.

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Pest Type					
Pest Code					
Pest Scientific Name					
Pest Name					
Crop Type, Code	C GLXMA	C GLXMA	C GLXMA	C GLXMA	C GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean
Rating Date	Oct-9-2020	Oct-9-2020	Oct-9-2020	Oct-9-2020	Oct-9-2020
Rating Type	YIELD	MOICON	YIELD	YIELD	YIELD
Rating Unit	LBS	%	BU	BU	BU
Number of Subsamples	1	1	1	1	1
Data Entry Date	Oct-12-2020	Oct-12-2020			
Days After First/Last Applic.	149 107	149 107	149 107	149 107	149 107
Trt-Eval Interval					
Plant-Eval Interval	149 DP-1	149 DP-1	149 DP-1	149 DP-1	149 DP-1
Days After Emergence	137 DE-1	137 DE-1	137 DE-1	137 DE-1	137 DE-1
ARM Action Codes					TY1
Number of Decimals	2	2			1

Trt No.	Treatment Name	Rate	Unit	Other Rate	Other Unit	Appl Code	47*	48*	49*
1	UTC						8.41 b	11.97 -	32.9 b
2	Zidua Pro	0.144 lb ai/a		4.5 oz/a		A	16.77 a	11.70 -	65.9 a
2	Enlist Duo	1.44 lb ai/a		56 oz/a		B			
2	Zidua	0.0815 lb ai/a		2.5 oz/a		B			
2	N PAK-AMS	2.5 % v/v		2.5 % v/v		B			
3	Zidua Pro	0.144 lb ai/a		4.5 oz/a		A	17.07 a	11.95 -	66.9 a
3	Liberty	0.585 lb ai/a		32 oz/a		B			
3	Roundup Powermax	1.13 lb ae/a		32 oz/a		B			
3	Zidua	0.0815 lb ai/a		2.5 oz/a		B			
3	N PAK-AMS	2.5 % v/v		2.5 % v/v		B			
4	Zidua Pro	0.144 lb ai/a		4.5 oz/a		A	17.04 a	12.04 -	66.7 a
4	Liberty	0.585 lb ai/a		32 oz/a		B			
4	Enlist One	0.95 lb ae/a		32 oz/a		B			
4	Zidua	0.0815 lb ai/a		2.5 oz/a		B			
4	N PAK-AMS	2.5 % v/v		2.5 % v/v		B			
5	Zidua Pro	0.144 lb ai/a		4.5 oz/a		A	17.69 a	12.13 -	69.2 a
5	Liberty	0.585 lb ai/a		32 oz/a		B			
5	Enlist One	0.95 lb ae/a		32 oz/a		B			
5	Roundup Powermax	1.13 lb ae/a		32 oz/a		B			
5	Zidua	0.0815 lb ai/a		2.5 oz/a		B			
5	N PAK-AMS	2.5 % v/v		2.5 % v/v		B			
6	Trivence 8 oz						17.99 a	12.32 -	70.2 a
6	Classic	0.0195 lb ai/a		1.25 oz/a		A			
6	Valor SX	0.064 lb ai/a		2 oz/a		A			
6	Metribuzin	0.223 lb ai/a		4.76 oz/a		A			
6	Durango DMA	1 lb ae/a		32 oz/a		B			
6	Enlist One	0.95 lb ae/a		32 oz/a		B			
6	N PAK-AMS	2.5 % v/v		2.5 % v/v		B			
7	Sonic	0.197 lb ai/a		4.5 oz/a		A	17.43 a	11.71 -	68.5 a
7	Durango DMA	1 lb ae/a		32 oz/a		B			
7	Enlist One	0.95 lb ae/a		32 oz/a		B			
7	N PAK-AMS	2.5 % v/v		2.5 % v/v		B			

Means followed by same letter or symbol do not significantly differ (P=0.05, LSD).
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 * Adjusted means

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Pest Type						
Pest Code						
Pest Scientific Name						
Pest Name						
Crop Type, Code	C	GLXMA	C	GLXMA	C	GLXMA
BBCH Scale		BSOY		BSOY		BSOY
Crop Scientific Name		Glycine max		Glycine max		Glycine max
Crop Name		Soybean		Soybean		Soybean
Rating Date		Oct-9-2020		Oct-9-2020		Oct-9-2020
Rating Type		YIELD		MOICON		YIELD
Rating Unit		LBS		%		BU
Number of Subsamples		1		1		1
Data Entry Date		Oct-12-2020		Oct-12-2020		
Days After First/Last Applic.		149 107		149 107		149 107
Trt-Eval Interval						
Plant-Eval Interval		149 DP-1		149 DP-1		149 DP-1
Days After Emergence		137 DE-1		137 DE-1		137 DE-1
ARM Action Codes						TY1
Number of Decimals		2		2		1

Trt Treatment No. Name	Rate	Other Rate	Other Rate	Appl Unit Code	47*	48*	49*
8 Sonic	0.197 lb ai/a	4.5 oz/a		A	17.70 a	12.28 -	69.1 a
8 EverpreX	0.975 lb ai/a	1 pt/a		B			
8 Durango DMA	1 lb ae/a	32 oz/a		B			
8 Enlist One	0.95 lb ae/a	32 oz/a		B			
8 N PAK-AMS	2.5 % v/v	2.5 % v/v		B			
9 Authority Edge	0.266 lb ai/a	8 oz/a		A	16.46 a	11.88 -	64.6 a
9 Anthem Maxx	0.084 lb ai/a	2.5 oz/a		B			
9 Roundup Powermax	0.77 lb ae/a	22 oz/a		B			
9 Enlist One	0.95 lb ae/a	32 oz/a		B			
9 N Pak AMS	2.5 % v/v	2.5 % v/v		B			
10 Perpetuo	0.108 lb ai/a	6 oz/a		B	17.26 a	12.30 -	67.4 a
10 Scout	0.585 lb ai/a	32 oz/a		B			
10 Enlist One	0.71 lb ae/a	1.5 pt/a		B			
10 N PAK-AMS	2.5 % v/v	2.5 % v/v		B			
LSD P=.05					2.907	0.637	11.59
Standard Deviation					1.695	0.371	6.76
CV					10.35	3.09	10.54
Grand Mean					16.381	12.029	64.13
Levene's F					0.464	0.685	0.441
Levene's Prob(F)					0.882	0.714	0.897
Rank X2					.	.	.
P(Rank X2)					.	.	.
Skewness					-1.6065*	-0.313	-1.606*
Kurtosis					2.1762*	-0.1278	2.166*
Replicate F					3.489	2.963	3.190
Replicate Prob(F)					0.0524	0.0772	0.0652
Treatment F					8.421	1.159	8.084
Treatment Prob(F)					0.0001	0.3753	0.0001

Crop Type, Code

C = EPP0 species (Bayer) codes
 GLXMA, BSOY, Glycine max, Soybean = US

Rating Type

YIELD = yield
 MOICON = moisture content

Rating Unit

% = percent
 BU = bushel

Plant-Eval Interval

149 DP-1 = 1 GLXMA May-13-2020

ARM Action Codes

TY1 = 3.872*[47]*(100-[48])/87

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 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 * Adjusted means