

University Showcase treatments
 Trial ID: 18 SHOWCASE
 Protocol ID: 18 SHOWCASE
 Project ID: H050SMAD/SULFSOY

The Ohio State University

Location: Trial Year: 2018
 Investigator: Dr. Mark M. Loux
 Study Director: Bryan Reeb
 Sponsor Contact: Dain Bruns, Joe Reed, Alice Harris

General Trial Information

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

Discipline: H herbicide
Trial Status: E established
Initiation Date: May-11-2018

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 °: 39.85704 N
Longitude of LL Corner °: 83.67013 W
Altitude of LL Corner, Unit: 1075.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

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

Cooperator: Alice Harris
Organization: BASF

E-mail: alice.harris@basf.com

Cooperator/Landowner

Crop 1: GLXMA Glycine max
Variety: Pioneer 36T36X
Description: Pioneer

Crop Description
 Soybean
BBCH Scale: BSOY

Planting Rate, Unit: 162000 S/A
Depth, Unit: 1.25 IN
Row Spacing, Unit: 15 IN

Planting Date: May-11-2018
Planting Method: PLANTD planted
Planting Equipment: FE field equipment
Emergence Date: May-17-2018

Soil Temperature, Unit: 60 F
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDIUM medium

Harvested Width, Unit: 6.25 FT
Harvested Length, Unit: 30 FT
% Standard Moisture: 13.5

Pest Description

Pest 1 Type: W **Code:** SETFA *Setaria faberi*
Common Name: Giant foxtail

Pest 2 Type: W **Code:** ECHCG *Echinochloa crus-galli*
Common Name: Common barnyard grass

Pest 3 Type: W **Code:** AMBTR *Ambrosia trifida*
Common Name: Giant ragweed

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

Pest 5 Type: W **Code:** SIDSP *Sida spinosa*
Common Name: Prickly sida

Pest 6 Type: W **Code:** AMARE *Amaranthus retroflexus*
Common Name: Redroot pigweed

Pest 7 Type: W **Code:** CHEAL *Chenopodium album*
Common Name: common lambsquarters

Pest 8 Type: W **Code:** IPOHE *Ipomoea hederacea*
Common Name: ivy-leaf morning glory

Pest 9 Type: W **Code:** XANST *Xanthium strumarium*
Common Name: Common cocklebur

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Site and Design

Treated Plot Width: 10 FT
 Treated Plot Length: 30 FT
 Treated Plot Area: 300 FT² Treatments: 16
 Replications: 4

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

No. Previous Crop Year

1. Corn 2017

Soil Description

Description Name: BIG E
 % Sand: 45 % OM: 3.1 Texture: L loam
 % Silt: 45 pH: 6.6 Soil Name: KOKOMO SILTY CLAY LOAM
 % Clay: 11 CEC: 15.2 Fert. Level: G good
 Soil Drainage: G good

Application Description

	A	B	C	D
Application Date:	May-11-2018	May-29-2018	Jun-6-2018	Jun-28-2018
Appl. Start Time:	7:30 AM	11:00 AM	11:00 AM	9:55 AM
Appl. Stop Time:	7:45 AM	11:10 AM	11:30 AM	10:05 AM
Interval to Prev. Appl., Unit:		18 DAYS	8 DAYS	22 DAYS
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	V2-V3	28DAPL	LPOST
Application Placement:	BROSOL	BROFOL	BROFOL	BROFOL
Applied By:	Boden,Bruce	Reeb	Fisher,Reeb	Reeb
Air Temperature, Unit:	56 F	81 F	71 F	78 F
% Relative Humidity:	90	63	55	79
Wind Velocity, Unit:	7 MPH	9 MPH	6 MPH	2 MPH
Wind Direction:	E	SE	S	NW
Dew Presence (Y/N):	N no	N no	N no	Y yes
Soil Temperature, Unit:	60 F	80 F	71 F	70 F
Soil Moisture:	NORMAL	SLIDRY	NORMAL	SLIWET
% Cloud Cover:	20	40	90	10
Next Moisture Occurred On:	May-15-2018	May-30-2018	Jun-8-2018	Jul-2-2018
Time to Next Moisture, Unit:	4 DAY	1 DAY	2 DAY	4 YR
Moisture 1 Week after Appl.:	0.43 IN	0.60 IN	1.62 IN	0.76 IN

Crop Stage At Each Application

	A		B		C		D	
Crop 1 Code, BBCH Scale:	GLXMA	BSOY	GLXMA	BSOY	GLXMA	BSOY	GLXMA	BSOY
Stage Scale Used:			BBCH		BBCH		BBCH	
Stage Majority, Percent:			12	100	13	100	60	100
Height, Unit:			4	IN	7	IN	17	IN
Height Minimum, Maximum:			2	4	7	7.5	15	19

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	Pest Stage At Each Application			
	A	B	C	D
Pest 1 Code, Type, Scale:	SETFA W	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:	15 100	14 100	17 100	
Height, Unit:	2 IN	8 IN	11 IN	
Height Minimum, Maximum:	2 4	3 8	8 15	
Density, Unit:			181 PLA/m ²	
Pest 2 Code, Type, Scale:	ECHCG W	ECHCG W	ECHCG W	ECHCG W
Stage Majority, Percent:	15 100	25 100	17 100	
Height, Unit:	2 IN	6 IN	19 IN	
Height Minimum, Maximum:	2 4	6 8	18 20	
Density, Unit:			131 PLA/m ²	
Pest 3 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:	16 100	18 100	19 100	
Height, Unit:	4 IN	10 IN	10 IN	
Height Minimum, Maximum:	3 8	8 12	2 18	
Density, Unit:			16 PLA/m ²	
Pest 4 Code, Type, Scale:	ABUTH W	ABUTH W	ABUTH W	ABUTH W
Stage Majority, Percent:	13 100	14 100		
Height, Unit:	2 IN	5 IN		
Height Minimum, Maximum:	1 3	4 7		
Pest 5 Code, Type, Scale:	SIDSP W	SIDSP W	SIDSP W	SIDSP W
Stage Majority, Percent:	11 100			16 100
Height, Unit:	0.75 IN			2.5 IN
Height Minimum, Maximum:	0.5 2			2 3
Pest 6 Code, Type, Scale:	AMARE W	AMARE W	AMARE W	AMARE W
Stage Majority, Percent:				18 100
Height, Unit:				5 IN
Height Minimum, Maximum:				4 6
Pest 7 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W	CHEAL W
Stage Majority, Percent:			19 100	
Height, Unit:			5 IN	
Height Minimum, Maximum:			3 5	
Density, Unit:			2 PLA/m ²	
Pest 8 Code, Type, Scale:	IPOHE W	IPOHE W	IPOHE W	IPOHE W
Stage Majority, Percent:			16 100	18 100
Height, Unit:			3 IN	4 IN
Height Minimum, Maximum:			3 5	3 5
Pest 9 Code, Type, Scale:	XANST W	XANST W	XANST W	XANST W
Stage Majority, Percent:			16 100	
Height, Unit:			6 IN	
Height Minimum, Maximum:			4 6	

	Application Equipment			
	A	B	C	D
Appl. Equipment:	10' BACKPACK	10' BACKPACK	10' BACKPACK	10' BACKPACK
Equipment Type:	BACCAI	BACCAI	BACCAI	BACCAI
Operation Pressure, Unit:	46 PSI	46 PSI	46 PSI	44 PSI
Nozzle Type:	TTI	TTI	TTI	AIXR
Nozzle Size:	11015	11015	11015	11015
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN	18 IN
Nozzles/Row:	4	4	4	6
Boom Length, Unit:	10 FT	10 FT	10 FT	10 FT
Boom Height, Unit:	20 IN	20 IN	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER
Spray Volume, Unit:	15 gal/ac	15 gal/ac	15 gal/ac	15 gal/ac
Mix Size, Unit:	2 L	2 L	2 L	2 L
Propellant:	COMCO2	COMCO2	COMCO2	COMCO2

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Trt	Treatment	Other	Other	Appl	29*	30*	31*	32*
No.	Name	Rate	Rate	Unit Code				
	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	Glycine max
	Crop Name		Soybean		Soybean	Soybean	Soybean	Soybean
	Rating Date		Oct-24-2018		Oct-24-2018	Oct-24-2018	Oct-24-2018	Oct-24-2018
	Rating Type		WEIGHT		MOICON	WEITES		YIELD
	Rating Unit		lbs		%	lbs/bu		BU
	Sample Size, Unit		1 PLOT					1 A
	Number of Subsamples		1		1	1		1
	Days After First/Last Applic.		166 118		166 118	166 118		166 118
	Plant-Eval Interval		166 DP-1		166 DP-1	166 DP-1		166 DP-1
	Days After Emergence		160 DE-1		160 DE-1	160 DE-1		160 DE-1
	ARM Action Codes							TY1
	Number of Decimals							1
1	Boundary	1.8 pt/a		A	14.77828 bcd	12.255 -	56.1456 -	58.1 bcd
1	Flexstar GT 3.5	3.5 pt/a		C				
1	MSO	0.6 qt/a		C				
1	N-pak ams	1.5 qt/a		C				
2	Boundary	1.8 pt/a		A	14.10494 bcd	12.347 -	55.5802 -	55.3 bcd
2	Prefix	2 pt/a		C				
2	Roundup Power Max	26 oz/a		C				
2	N-pak ams	1.5 qt/a		C				
3	Boundary	1.8 pt/a		A	15.22937 bc	12.492 -	55.6978 -	59.7 bc
3	Tavium	56.5 oz/a		C				
3	Roundup Power Max	26 oz/a		C				
3	Class Act Ridion	19.2 oz/a		C				
4	Boundary	1.8 pt/a		A	16.77471 ab	12.416 -	55.7370 -	65.8 ab
4	Prefix	2 pt/a		C				
4	Xtendimax	22 oz/a		C				
4	Roundup Power Max	26 oz/a		C				
4	Class Act Ridion	19.2 oz/a		C				
5	Authority MTZ	14 oz/a		A	10.02978 e	12.532 -	55.6979 -	39.2 e
5	Roundup Power Max	32 oz/a		B				
5	N-pak ams	1.5 qt/a		B				
6	Authority First	6.4 oz/a		A	10.26954 e	12.354 -	57.8622 -	40.3 e
6	Roundup Power Max	32 oz/a		B				
6	N-pak ams	1.5 qt/a		B				
7	Authority XL	4 oz/a		A	11.70517 de	12.146 -	55.2540 -	46.0 de
7	Roundup Power Max	32 oz/a		B				
7	N-pak ams	1.5 qt/a		B				
8	Authority First	6.4 oz/a		A	17.21224 ab	12.398 -	55.2596 -	67.5 ab
8	Xtendimax	22 oz/a		B				
8	Roundup Power Max	32 oz/a		B				
8	Class Act Ridion	19.2 oz/a		B				
8	Roundup Power Max	32 oz/a		D				
8	N-pak ams	1.5 qt/a		D				

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* Adjusted means

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Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	29*	30*	31*	32*
9	Authority XL	4 oz/a		A	18.74497 a	12.390 -	55.5568 -	73.6 a
9	Xtendimax	22 oz/a		B				
9	Roundup Power Max	32 oz/a		B				
9	Class Act Ridion	19.2 oz/a		B				
9	Roundup Power Max	32 oz/a		D				
9	N-pak ams	1.5 qt/a		D				
10	Authority MTZ	14 oz/a		A	18.73451 a	12.201 -	55.2863 -	73.7 a
10	Anthem Maxx	3 oz/a		B				
10	Xtendimax	22 oz/a		B				
10	Roundup Power Max	32 oz/a		B				
10	Class Act Ridion	19.2 oz/a		B				
10	Roundup Power Max	32 oz/a		D				
10	N-pak ams	1.5 qt/a		D				
11	Zidua Pro	6 oz/a		A	11.94398 de	12.571 -	55.2159 -	46.7 de
11	Engenia	12.8 oz/a		B				
11	Roundup Power Max	32 oz/a		B				
11	Zidua WG	1.25 oz/a		B				
11	Class Act Ridion	19.2 oz/a		B				
12	Valor XLT @ 4 oz			A	12.42344 cde	12.338 -	55.8654 -	48.8 cde
12	Valor SX	2.35 oz/a		A				
12	Classic	1.65 oz/a		A				
12	Roundup Power Max	32 oz/a		B				
12	N-pak ams	1.5 qt/a		B				
13	Sonic	4 oz/a		A	16.09574 ab	12.217 -	55.7400 -	63.3 ab
13	Metribuzin	.000019 oz ai/unit		A				
13	Durango DMA	1 qt/a		C				
13	N-pak ams	1.5 qt/a		C				
14	Envive @ 3.5oz			A	17.18059 ab	12.283 -	55.9474 -	67.5 ab
14	Classic	1.28 oz/a		A				
14	Thifensulfuron	0.208 oz/a		A				
14	Valor SX	1.96 oz/a		A				
14	Abundit Edge	1 qt/a		C				
14	N-pak ams	1.5 qt/a		C				
15	Trivence @ 8oz			A	16.43633 ab	12.282 -	55.7536 -	64.5 ab
15	Classic	1.25 oz/a		A				
15	Metribuzin	4.76 oz/a		A				
15	Valor SX	2 oz/a		A				
15	Abundit Edge	1 qt/a		C				
15	N-pak ams	1.5 qt/a		C				

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Trt	Treatment	Other	Other	Appl					
No.	Name	Rate	Rate	Unit	Code	29*	30*	31*	32*
	16 Sonic	4 oz/a		A		10.22669 e	12.287 -	54.5534 -	40.0 e
	16 Everprex	1 qt/a		B					
	16 Abundit Edge	1 qt/a		B					
	16 N-pak ams	1.5 qt/a		B					
LSD P=.05						3.066118	0.6288	1.77806	12.02
Standard Deviation						2.143751	0.4409	1.24687	8.41
CV						14.13	3.61	2.22	14.09
Levene's F						1.015	1.433	0.796	1.008
Levene's Prob(F)						0.456	0.171	0.675	0.464
Skewness						-1.1027*	2.1482*	4.3394*	-1.0871*
Kurtosis						0.6153	10.4853*	34.6878*	0.5723
Randomized Complete Block (RCB) AIC						314.9144	105.2451	233.761	490.5325
Spatial AIC						SPa	SPb	SPb	SPa
						299.5309	95.3556	228.414	474.4194
Analyzed as						CRD+SPa	CRD+SPb	CRD+SPb	CRD+SPa
Replicate F						4.323	2.485	1.722	4.514
Replicate Prob(F)						0.0100	0.0734	0.1767	0.0082
Treatment F						6.786	0.360	1.193	6.851
Treatment Prob(F)						0.0001	0.9825	0.3131	0.0001

Crop Code

GLXMA, BSOY, Glycine max, Soybean = US

Rating Type

WEIGHT = weight

MOICON = moisture content

WEITES = weight - test

YIELD = yield

Rating Unit

% = percent

BU = bushel

PLOT = total plot

A = acre

Plant-Eval Interval

166 DP-1 = 1 GLXMA May-11-2018

ARM Action Codes

TY1 = 3.872*[C29]*(100-[C30])/86.5

SPa = Cubic spatial trend

SPb = Quadratic spatial trend

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