

The Ohio State University

Trial ID: 20VALENTNT2 Location: Trial Year: 2020
 Protocol ID: Fierce Investigator: Dr. Mark M. Loux
 Project ID: Study Director:
 Sponsor Contact:

General Trial Information

Investigator: Dr. Mark M. Loux

Trial Status: E established
ARM Trial Created On: May-18-2020
Initiation Date: May-27-2020

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 °: 39.85873 N
Longitude of LL Corner °: -83.67108 W
Altitude of LL Corner: 1092.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: C GLXMA Glycine max Soybean **BBCH Scale:** BSOY
Entry Date: May-28-2020 **Stage Scale:** BBCH
Variety: Pioneer P33A24X
Attributes: Glyphosate, Dicamba
Seed Lot No: B3GRA13059-00-1207
% Germination: 90
Planting Date: May-27-2020 **Seed Treatment Products:** Lumigen, Ileva
Depth: 2 IN **Planting Rate:** 150000 S/A
Rows per Plot: 4 **Planting Method:** PLANTD planted
Row Spacing: 30 IN **Planting Equipment:** FE field equipment
Soil Temperature: 72 F **Soil Moisture:** NORMAL normal, adequate
Emergence Date: Jun-5-2020 **Harvest Equipment:** Kincaid 8XP
Harvest Date: Oct-8-2020 **Harvested Width:** 5 FT
Moisture Meter: Harvest Master **Harvested Length:** 30 FT
% Standard Moisture: 13
Weighing Equipment: Harvest Master HM800

Pest Description

Pest 1 Type: W **Code:** STEME Stellaria media
Common Name: Common chickweed **Entry Date:** May-28-2020
Pest 2 Type: W **Code:** SETFA Setaria faberi
Common Name: foxtail, giant **Entry Date:** May-28-2020
Pest 3 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: ragweed, giant **Entry Date:** May-28-2020
Pest 4 Type: W **Code:** ERICA Conyza canadensis
Common Name: horseweed **Entry Date:** Aug-3-2020
Pest 5 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: velvetleaf **Entry Date:** Aug-3-2020
Pest 6 Type: W **Code:** CHEAL Chenopodium album
Common Name: lambsquarters, common **Entry Date:** Aug-3-2020

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:** NOTILL no-till
Replications: 3 **Study Design:** RACOBL Randomized Complete Block (RCB)

Previous

No. Crop Year
 1. SOYBEAN 2019

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Soil Description

Description Name: F-9 E
% Sand: 36 **% OM:** 3 **Texture:** SICL silty clay loam
% Silt: 49 **pH:** 6.4 **Soil Name:** Kokomo
% Clay: 15 **CEC:** 17.8 **Fert. Level:** G good
Soil Drainage: G good

Application Description

	A	B
Application Date	May-27-2020	Jun-30-2020
Appl. Start Time	10:00 AM	12:30 PM
Appl. Stop Time	10:45 AM	1:00 PM
Application Method	SPRAY	SPRAY
Application Timing	EPOST	POST
Application Placement	BROSOL	BROFOL
Applied By	Dobbels	Dobbels
Appl. Entry Date	May-28-2020	Aug-3-2020
Air Temperature Start, Stop	73 75 F	85 85 F
% Relative Humidity Start, Stop	78 78	61 61
Wind Velocity+Dir. Start	7 MPH SSE 3	MPH NNE
Wind Velocity+Dir. Stop	7 MPH SSE 3	MPH NNE
Wind Velocity+Dir. Max	7 MPH SSE 3	MPH NNE
Wet Leaves (Y/N)	N no	N no
Soil Temperature	72 F	80 F
Soil Moisture	DRY	DRY
Soil Surface Condition	MEDIUM	MEDIUM
% Cloud Cover	15	50
Next Moisture Occurred On	May-28-2020	Jul-1-2020
Time to Next Moisture	16 HR	1 DAY
Moisture 6 Hours after Appl.	0 IN	0 IN
Moisture 1 Week after Appl.	0.96 IN	0.72 IN

Crop Stage At Each Application

	A		B	
Crop 1 Code, BBCH Scale	GLXMA	BSOY	GLXMA	BSOY
Days after Emergence	-9		25	
Stage Majority, Percent			15	90
Stage Minimum, Percent			15	90
Stage Maximum, Percent			51	10
Height Average			9	IN
Height Minimum, Maximum			8	10

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Pest Stage At Each Application

	A		B	
Pest 1 Code, Type, Scale	STEME	W	STEME	W
Stage Majority, Percent	65	80		
Stage Minimum, Percent	63	10		
Stage Maximum, Percent	69	10		
Height Average	12	IN		
Height Minimum, Maximum	11	14		
Density Average	6	PLA/m2		
Density Min, Max	1	9		
Pest 2 Code, Type, Scale	SETFA	W	SETFA	W
Stage Majority, Percent	12	90	15	90
Stage Minimum, Percent	11	5	15	90
Stage Maximum, Percent	13	5	17	10
Height Average	1	IN	9	IN
Height Minimum, Maximum	1	1	5	15
Density Average	167	PLA/m2	187	PLA/m2
Density Min, Max	135	251	90	276
Pest 3 Code, Type, Scale	AMBTR	W	AMBTR	W
Stage Majority, Percent	18	80	19	100
Stage Minimum, Percent	16	10		
Stage Maximum, Percent	19	10		
Height Average	4	IN	5	IN
Height Minimum, Maximum	4	6	2	8
Density Average	3	PLA/m2	4.33	PLA/m2
Density Min, Max	1	5	3	6
Pest 4 Code, Type, Scale	ERICA	W	ERICA	W
Stage Majority, Percent			19	100
Height Average			6	IN
Height Minimum, Maximum			4	8
Density Average			1	PLA/m2
Density Min, Max			1	1
Pest 5 Code, Type, Scale	ABUTH	W	ABUTH	W
Stage Majority, Percent			15	90
Stage Minimum, Percent			13	10
Stage Maximum, Percent			15	90
Height Average			6	IN
Height Minimum, Maximum			5	8
Density Average			2.33	PLA/m2
Density Min, Max			1	3
Pest 6 Code, Type, Scale	CHEAL	W	CHEAL	W
Stage Majority, Percent			19	100
Height Average			4	IN
Height Minimum, Maximum			2	4
Density Average			0.33	PLA/m2
Density Min, Max			0	1

Application Equipment

	A		B	
Appl. Equipment	6'	TTI	10'	TTI
Equipment Type	BACCAI		BACCAI	
Operation Pressure	44	PSI	44	PSI
Nozzle Type	TTI		TTI	
Nozzle Size	1110015		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	1	L	2	L
Propellant	COMCO2		COMCO2	
Tank Mix (Y/N)			Y	yes

Context	Date	By	Notes
STATUS	May-18-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	May-28-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Application Date entered.

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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-8-2020		Oct-8-2020		Oct-8-2020	
Rating Type	YIELD		MOICON		YIELD	
Rating Unit	LBS		%		BU	
Number of Subsamples		1		1		1
Data Entry Date	Oct-12-2020		Oct-12-2020			
Rating Timing						
Days After First/Last Applic.	134	100	134	100	134	100
Trt-Eval Interval						
Plant-Eval Interval	134 DP-1		134 DP-1		134 DP-1	
Days After Emergence	125 DE-1		125 DE-1		125 DE-1	
ARM Action Codes					TY1	
Number of Decimals		2		2		1

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	25*	26*	27*
1						8.17 d	13.50 a	39.3 d
2	Roundup Powermax	1.13 lb ae/a	32 oz/a		A	17.33 a	10.93 b	85.9 a
2	Xtendimax	0.5 lb ae/a	22 oz/a		A			
2	Induce	0.25 % v/v	0.25 % v/v		A			
2	In-Place	0.25 % v/v	0.25 % v/v		A			
2	Roundup Powermax	1.13 lb ae/a	32 oz/a		B			
2	Xtendimax	0.5 lb ae/a	22 oz/a		B			
2	Select Max	0.07 lb ai/a	9 oz/a		B			
2	Induce	0.25 % v/v	0.25 % v/v		B			
2	In-Place	0.25 % v/v	0.25 % v/v		B			
3	Roundup Powermax	1.13 lb ae/a	32 oz/a		A	16.15 bc	11.00 b	80.0 bc
3	Xtendimax	0.5 lb ae/a	22 oz/a		A			
3	Induce	0.25 % v/v	0.25 % v/v		A			
3	In-Place	0.25 % v/v	0.25 % v/v		A			
3	Roundup Powermax	1.13 lb ae/a	32 oz/a		B			
3	Xtendimax	0.5 lb ae/a	22 oz/a		B			
3	Perpetuo	0.108 lb ai/a	6 oz/a		B			
3	Select Max	0.07 lb ai/a	9 oz/a		B			
3	Induce	0.25 % v/v	0.25 % v/v		B			
3	In-Place	0.25 % v/v	0.25 % v/v		B			
4	Roundup Powermax	1.13 lb ae/a	32 oz/a		A	16.83 ab	10.93 b	83.4 ab
4	Xtendimax	0.5 lb ae/a	22 oz/a		A			
4	Fierce EZ	0.143 lb ai/a	6 oz/a		A			
4	Induce	0.25 % v/v	0.25 % v/v		A			
4	In-Place	0.25 % v/v	0.25 % v/v		A			
4	Roundup Powermax	1.13 lb ae/a	32 oz/a		B			
4	Xtendimax	0.5 lb ae/a	22 oz/a		B			
4	Select Max	0.07 lb ai/a	9 oz/a		B			
4	Induce	0.25 % v/v	0.25 % v/v		B			
4	In-Place	0.25 % v/v	0.25 % 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.

Due to missing data, larger LSD values (col. 25: >=0.955 and <=1.079) are used for mean comparisons of treatment pairs with missing data.

* 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-8-2020		Oct-8-2020		Oct-8-2020	
Rating Type	YIELD		MOICON		YIELD	
Rating Unit	LBS		%		BU	
Number of Subsamples	1		1		1	
Data Entry Date	Oct-12-2020		Oct-12-2020			
Rating Timing						
Days After First/Last Applic.	134	100	134	100	134	100
Trt-Eval Interval						
Plant-Eval Interval	134 DP-1		134 DP-1		134 DP-1	
Days After Emergence	125 DE-1		125 DE-1		125 DE-1	
ARM Action Codes						TY1
Number of Decimals		2		2		1

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit	Code	25*	26*	27*
8	Roundup Powermax	1.13 lb ae/a	32 oz/a			A	16.78 ab	11.00 b	83.1 ab
8	Xtendimax	0.5 lb ae/a	22 oz/a			A			
8	Fierce EZ	0.143 lb ai/a	6 oz/a			A			
8	Induce	0.25 % v/v	0.25 % v/v			A			
8	In-Place	0.25 % v/v	0.25 % v/v			A			
8	Roundup Powermax	1.13 lb ae/a	32 oz/a			B			
8	Xtendimax	0.5 lb ae/a	22 oz/a			B			
8	Perpetuo	0.108 lb ai/a	6 oz/a			B			
8	Select Max	0.07 lb ai/a	9 oz/a			B			
8	Induce	0.25 % v/v	0.25 % v/v			B			
8	In-Place	0.25 % v/v	0.25 % v/v			B			
9	Roundup Powermax	1.13 lb ae/a	32 oz/a			A	17.21 ab	10.67 b	85.5 a
9	Xtendimax	0.5 lb ae/a	22 oz/a			A			
9	Fierce MTZ	0.33 lb ai/a	1 pt/a			A			
9	Induce	0.25 % v/v	0.25 % v/v			A			
9	In-Place	0.25 % v/v	0.25 % v/v			A			
9	Roundup Powermax	1.13 lb ae/a	32 oz/a			B			
9	Xtendimax	0.5 lb ae/a	22 oz/a			B			
9	Perpetuo	0.108 lb ai/a	6 oz/a			B			
9	Select Max	0.07 lb ai/a	9 oz/a			B			
9	Induce	0.25 % v/v	0.25 % v/v			B			
9	In-Place	0.25 % v/v	0.25 % v/v			B			

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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-8-2020		Oct-8-2020		Oct-8-2020	
Rating Type	YIELD		MOICON		YIELD	
Rating Unit	LBS		%		BU	
Number of Subsamples	1		1		1	
Data Entry Date	Oct-12-2020		Oct-12-2020			
Rating Timing						
Days After First/Last Applic.	134	100	134	100	134	100
Trt-Eval Interval						
Plant-Eval Interval	134 DP-1		134 DP-1		134 DP-1	
Days After Emergence	125 DE-1		125 DE-1		125 DE-1	
ARM Action Codes					TY1	
Number of Decimals		2		2		1

Trt Treatment	Rate	Other	Other	Appl			
No. Name	Rate Unit	Rate	Rate Unit	Code	25*	26*	27*
10 Roundup Powermax	1.13 lb ae/a	32 oz/a		A	17.08 ab	11.08 b	84.5 ab
10 Xtendimax	0.5 lb ae/a	22 oz/a		A			
10 Fierce XLT	0.156 lb ai/a	4 oz/a		A			
10 Induce	0.25 % v/v	0.25 % v/v		A			
10 In-Place	0.25 % v/v	0.25 % v/v		A			
10 Roundup Powermax	1.13 lb ae/a	32 oz/a		B			
10 Xtendimax	0.5 lb ae/a	22 oz/a		B			
10 Select Max	0.07 lb ai/a	9 oz/a		B			
10 Induce	0.25 % v/v	0.25 % v/v		B			
10 In-Place	0.25 % v/v	0.25 % v/v		B			
LSD P=.05					0.955	0.504	4.53
Standard Deviation					0.554	0.292	2.63
CV					3.51	2.62	3.37
Grand Mean					15.797	11.145	78.20
Levene's F					0.618	0.495	0.504
Levene's Prob(F)					0.767	0.86	0.853
Rank X2					.	.	.
P(Rank X2)					.	.	.
Skewness					-2.5051*	2.4654*	-2.5125*
Kurtosis					5.3529*	5.4312*	5.3457*
Replicate F					2.793	0.772	3.225
Replicate Prob(F)					0.0893	0.4778	0.0650
Treatment F					73.226	24.759	84.233
Treatment Prob(F)					0.0001	0.0001	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
 134 DP-1 = 1 GLXMA May-27-2020
ARM Action Codes
 TY1 = 4.84*[25]*(100-[26])/87

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