

# The Ohio State University

Enlist Endorsement Study with University COI's

Trial ID: 21ENLISTSOY Location: Trial Year: 2021  
 Protocol ID: NA21P2E002H Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

**Discipline:** H herbicide  
**Trial Status:** E established  
**ARM Trial Created On:** Mar-30-2021  
**Initiation Date:** May-15-2021 **Planned Completion Date:** Nov-1-2021

## 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 °:** 39.85954 N  
**Longitude of LL Corner °:** -83.67587 W  
**Altitude of LL Corner:** 1030.00 FT

**Conducted Under GLP:** No  
**Conducted Under GEP:** No

## Objectives:

What is the efficacy and crop safety of various Enlist programs in E3 soybeans?

## Crop Description

**Crop 1:** C GLXMA Glycine max Soybean **BBCH Scale:** BSOY  
**Entry Date:** May-17-2021 **Stage Scale:** BBCH  
**Variety:** Enlist E3 soybean  
**Attributes:** 2,4-D Choline, Glyphosate, Glufosinate Tol  
**Planting Date:** May-15-2021 **Planting Rate:** 175000 S/A  
**Depth:** 1.5 IN  
**Rows per Plot:** 8 **Planting Method:** PLANTD planted  
**Row Spacing:** 15 IN **Planting Equipment:** FE field equipment  
**Seed Bed:** MEDIUM medium  
**Soil Temperature:** 63 F **Soil Moisture:** NORMAL normal, adequate  
**Emergence Date:** Jun-1-2021

## Pest Description

**Pest 1 Type:** W **Code:** SETFA *Setaria faberi* **Entry Date:** Jun-14-2021  
**Common Name:** Giant foxtail **Stage Scale:** BBCH

**Pest 2 Type:** W **Code:** ECHCG *Echinochloa crus-galli* **Entry Date:** Jun-14-2021  
**Common Name:** Common barnyard grass **Stage Scale:** BBCH

**Pest 3 Type:** W **Code:** AMBTR *Ambrosia trifida* **Entry Date:** Jun-14-2021  
**Common Name:** Giant ragweed **Stage Scale:** BBCH

**Pest 4 Type:** W **Code:** CHEAL *Chenopodium album* **Entry Date:** Jun-14-2021  
**Common Name:** common lambsquarters **Stage Scale:** BBCH

**Pest 5 Type:** W **Code:** AMARE *Amaranthus retroflexus* **Entry Date:** Jun-14-2021  
**Common Name:** Redroot pigweed **Stage Scale:** BBCH

**Pest 6 Type:** W **Code:** ABUTH *Abutilon theophrasti* **Entry Date:** Jun-14-2021  
**Common Name:** velvetleaf **Stage Scale:** BBCH

**Pest 7 Type:** W **Code:** IPOHE *Ipomoea hederacea* **Entry Date:** Jun-14-2021  
**Common Name:** ivy-leaf morning glory **Stage Scale:** BBCH

## 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:** 300.0 FT<sup>2</sup> **Treatments:** 12 **Tillage Type:** CONTIL conventional-till  
**Replications:** 4 **Study Design:** RACOB� Randomized Complete Block (RCB)  
**Untreated Arrangement:** INCLUDED single control randomized in each block

## Previous

**No. Crop Year**  
 1. CORN 2020

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**Soil Description**

**Description Name:** G-6  
 % Sand: 32 % OM: 2.2 **Texture:** SICL silty clay loam  
 % Silt: 53 pH: 5.9 **Soil Name:** Kokomo  
 % Clay: 15 **CEC:** 14 **Fert. Level:** G good  
 g o o d

**Application Description**

	A		B	
Application Date	May-15-2021		Jun-14-2021	
Appl. Start Time	3:23 PM			
Appl. Stop Time	4:30 PM		9:45 AM	
Interval to Prev. Appl.			30 DAYS	
Application Method	SPRAY		SPRAY	
Application Timing	PRE		POST	
Application Placement	BROSOI		BROFOL	
Applied By	ESSMAN		Dobbels	
Appl. Entry Date	May-17-2021		Jun-14-2021	
Air Temperature Start, Stop	72	72	F 78	80 F
% Relative Humidity Start, Stop	22	22	55	55
Wind Velocity+Dir. Start	5.2	MPH N	2	MPH WSW
Wind Velocity+Dir. Stop	5.2	MPH N	3	MPH WSW
Wind Velocity+Dir. Max	5.2	MPH N	3	MPH WSW
Wet Leaves (Y/N)	N no		N no	
Soil Temperature	63	F	71	F
Soil Moisture	NORMAL		dry	
Soil Surface Condition	MEDIUM		MEDIUM	
% Cloud Cover	25		45	
Next Moisture Occurred On	May-17-2021		Jun-18-2021	
Time to Next Moisture	2.0	DAY	4.0	DAY
Moisture 6 Hours after Appl.	0	IN	0	IN
Moisture 1 Week after Appl.	0.8	IN	0.61	IN

**Protocol Application Directions:**

CREATE YOUR OWN TREATMENT LIST TO BEST FIT YOUR TERRITORY NEEDS

Defined by researcher: PRE at plant POST 25-30 DAA

Apply applications using AIXR nozzles, calibrated to deliver 10 - 15 GPA (may require AIXR-110015 nozzles @ 30-45 psi @ 3 MPH, for example)

- (A) PRE - apply within 2 days after planting
- (B) POST - apply 25 - 30 DAAA - or before weeds exceed 4" height.

If PRE herbicides are not fully effective, then make POST applications when weeds reach approximately 4" height, which may be earlier than 25 - 30 days after the PRE treatments.

**Crop Stage At Each Application**

	A		B	
Crop 1 Code, BBCH Scale	GLXMA	BSOY	GLXMA	BSOY
Days after Emergence	-17		13	
Stage Majority, Percent	00	100	14	100
Height Average			6	IN
Height Minimum, Maximum			5	6

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## Pest Stage At Each Application

	A			B		
<b>Pest 1 Code, Type, Scale</b>	SETFA	W	BBCH	SETFA	W	BBCH
Stage Majority, Percent				13		80
Stage Minimum, Percent				12		10
Stage Maximum, Percent				15		10
Height Average				6		IN
Height Minimum, Maximum				6		8
Density Average				240		PLA/m2
Density Minimum, Maximum				104		388
<b>Pest 2 Code, Type, Scale</b>	ECHCG	W	BBCH	ECHCG	W	BBCH
Stage Majority, Percent				13		80
Stage Minimum, Percent				12		10
Stage Maximum, Percent				15		10
Height Average				6		IN
Height Minimum, Maximum				6		8
Density Average				90		PLA/m2
Density Minimum, Maximum				36		128
<b>Pest 3 Code, Type, Scale</b>	AMBTR	W	BBCH	AMBTR	W	BBCH
Stage Majority, Percent				19		100
Height Average				22		IN
Height Minimum, Maximum				18		24
Density Average				69		PLA/m2
Density Minimum, Maximum				12		144
<b>Pest 4 Code, Type, Scale</b>	CHEAL	W	BBCH	CHEAL	W	BBCH
Stage Majority, Percent				16		80
Stage Minimum, Percent				14		10
Stage Maximum, Percent				18		10
Height Average				4		IN
Height Minimum, Maximum				3		4
Density Average				38		PLA/m2
Density Minimum, Maximum				16		56
<b>Pest 5 Code, Type, Scale</b>	AMARE	W	BBCH	AMARE	W	BBCH
Stage Majority, Percent				16		80
Stage Minimum, Percent				14		10
Stage Maximum, Percent				18		10
Height Average				4		IN
Height Minimum, Maximum				3		4
Density Average				15		PLA/m2
Density Minimum, Maximum				8		24
<b>Pest 6 Code, Type, Scale</b>	ABUTH	W	BBCH	ABUTH	W	BBCH
Stage Majority, Percent				14		80
Stage Minimum, Percent				13		10
Stage Maximum, Percent				14		80
Height Average				6		IN
Height Minimum, Maximum				4		6
<b>Pest 7 Code, Type, Scale</b>	IPOHE	W	BBCH	IPOHE	W	BBCH
Stage Majority, Percent				18		50
Stage Minimum, Percent				12		10
Stage Maximum, Percent				18		50
Height Average				6		IN
Height Minimum, Maximum				4		6
Density Average				1		PLA/m2
Density Minimum, Maximum				1		1

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## Application Equipment

	A	B
Appl. Equipment	6' TTI	10' AIXR
Equipment Type	BACCAI	BACCAI
Operation Pressure	44 PSI	44 PSI
Nozzle Model	110015	110015
Nozzle Type	TTI	AI XR
Nozzle TradeName		TeeJet
Nozzle Tip Size, Color		015 green
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
Water Hardness (ppm CaCO3)		250
Application Amount	15 GAL/AC	15 GAL/AC
Mix Coverage		25 mL
Mix Size	1 L	2 L
Spray pH		7.8
Propellant	COMCO2	COMCO2
Tank Mix (Y/N)		Y yes

## Notes

Context	Date	By	Notes
STATUS	Mar-30-2021	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	May-17-2021	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Initiation Date entered.

Pest Type	W Weed	W Weed	W Weed
Pest Code	SETFA	ECHSS	AMBTR
Pest Scientific Name	Setaria faberi	Echinochloa sp.	Ambrosia trifida
Pest Name	Giant foxtail	Barnyardgrass	Giant ragweed

Crop Type, Code	C	GLXMA
BBCH Scale		BSOY
Crop Scientific Name		Glycine max
Crop Name		Soybean
Crop Variety		Enlist E3 soybe>
Rating Date	Jun-11-2021	Jun-11-2021
Part Rated	PLANT -	PLOT -
Rating Type	PHYGEN	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100

Sample Size	1	PLOT	1	PLOT	1	PLOT	1	PLOT
Number of Subsamples		1		1		1		1
Data Entry Date	Jun-21-2021		Jun-21-2021		Jun-21-2021		Jun-21-2021	
Rating Timing	AT POST		AT POST		AT POST		AT POST	
Days After First/Last Applic.	27 27		27 27		27 27		27 27	
Trt-Eval Interval	27 DA-A		27 DA-A		27 DA-A		27 DA-A	
Plant-Eval Interval	27 DP-1		27 DP-1		27 DP-1		27 DP-1	
Days After Emergence	10 DE-1		10 DE-1		10 DE-1		10 DE-1	
Number of Decimals		0		0		0		0

Trt Treatment No. Name	Rate	Appl Code	1*	2*	3*	4*
1 SONIC	220 g ai/ha	A	0 -	20 c	20 c	30 ab
ENLIST DUO	2220 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
2 SONIC	220 g ai/ha	A	0 -	23 bc	23 bc	45 a
Enlist One	1060 g ae/ha	B				
LIBERTY	600 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
3 SONIC	220 g ai/ha	A	0 -	33 abc	33 abc	43 a
Enlist One	1060 g ae/ha	B				
EverpreX	1060 g ai/ha	B				
DURANGO DMA	1120 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
4 Kyber	370 g ai/ha	A	0 -	53 a	53 a	50 a
ENLIST DUO	2220 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				

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Pest Type		W Weed	W Weed	W Weed
Pest Code		SETFA	ECHSS	AMBTR
Pest Scientific Name	SOYBEAN	Setaria faberi	Echinochloa sp.	Ambrosia trifida
Pest Name		Giant foxtail	Barnyardgrass	Giant ragweed

Crop Type, Code	C GLXMA			
BBCH Scale	BSOY			
Crop Scientific Name	Glycine max			
Crop Name	Soybean			
Crop Variety	Enlist E3 soybe>			
Rating Date	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021
Part Rated	PLANT -	PLOT -	PLOT -	PLOT -
Rating Type	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100

Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021
Rating Timing	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.	27 27	27 27	27 27	27 27
Trt-Eval Interval	27 DA-A	27 DA-A	27 DA-A	27 DA-A
Plant-Eval Interval	27 DP-1	27 DP-1	27 DP-1	27 DP-1
Days After Emergence	10 DE-1	10 DE-1	10 DE-1	10 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	1*	2*	3*	4*
5	Kyber	370 g ai/ha	A		0 -	60 a	60 a	30 ab
	Enlist One	1060 g ae/ha	B					
	LIBERTY	600 g ae/ha	B					
	AMMONIUM SULFATE	2.5 % v/v	B					
6	Kyber	370 g ai/ha	A		0 -	53 a	53 a	38 a
	Enlist One	1060 g ae/ha	B					
	EverpreX	1060 g ai/ha	B					
	DURANGO DMA	1120 g ae/ha	B					
	AMMONIUM SULFATE	2.5 % v/v	B					
7	Kyber	370 g ai/ha	A		0 -	57 a	57 a	28 ab
	Enlist One	1060 g ae/ha	B					
	EverpreX	1060 g ai/ha	B					
	LIBERTY	600 g ae/ha	B					
	AMMONIUM SULFATE	2.5 % v/v	B					
8	UNTREATED				0 -	0 d	0 d	0 b
9	Fierce EZ	160 g ai/ha	A		0 -	47 ab	47 ab	43 a
	Scout	657 g ai/ha	B					
	Perpetuo	121 g ai/ha	B					
	Select Max	79 g ai/ha	B					
	NIS	0.25 % v/v	B					
	AMSOL	2.5 % v/v	B					
10	Fierce MTZ	370 g ai/ha	A		0 -	60 a	60 a	23 ab
	Scout	657 g ai/ha	B					
	Perpetuo	121 g ai/ha	B					
	Select Max	79 g ai/ha	B					
	NIS	0.25 % v/v	B					
	AMSOL	2.5 % v/v	B					
11	Fierce XLT	175 g ai/ha	A		0 -	60 a	60 a	30 ab
	Scout	657 g ai/ha	B					
	Perpetuo	121 g ai/ha	B					
	Select Max	79 g ai/ha	B					
	NIS	0.25 % v/v	B					
	AMSOL	2.5 % v/v	B					

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Pest Type		W Weed	W Weed	W Weed
Pest Code		SETFA	ECHSS	AMBTR
Pest Scientific Name	SOYBEAN	Setaria faberi	Echinochloa sp.	Ambrosia trifida
Pest Name		Giant foxtail	Barnyardgrass	Giant ragweed

Crop Type, Code	C GLXMA			
BBCH Scale	BSOY			
Crop Scientific Name	Glycine max			
Crop Name	Soybean			
Crop Variety	Enlist E3 soybe>			
Rating Date	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021
Part Rated	PLANT -	PLOT -	PLOT -	PLOT -
Rating Type	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100

Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021
Rating Timing	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.	27 27	27 27	27 27	27 27
Trt-Eval Interval	27 DA-A	27 DA-A	27 DA-A	27 DA-A
Plant-Eval Interval	27 DP-1	27 DP-1	27 DP-1	27 DP-1
Days After Emergence	10 DE-1	10 DE-1	10 DE-1	10 DE-1
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Rate Unit	Appl Code	1*	2*	3*	4*
12 VALOR XLT 3 OZ			0 -	40 abc	40 abc	30 ab
Classic	21.5 g ai/ha	A				
Valor SX	63 g ai/ha	A				
Scout	657 g ai/ha	B				
Perpetuo	121 g ai/ha	B				
Select Max	79 g ai/ha	B				
NIS	0.25 % v/v	B				
AMSOL	2.5 % v/v	B				
LSD P=.05			.	17.7	17.7	20.5
Standard Deviation			0.0	10.4	10.4	14.2
CV			0.0	24.71	24.71	44.02
Levene's F^			.	1.993	1.993	0.357
Levene's Prob(F)			.	0.059	0.059	0.964
Skewness^			.	-0.2861	-0.2861	0.0948
Kurtosis^			.	0.6689	0.6689	0.2167
Replicate F			0.000	0.026	0.026	1.000
Replicate Prob(F)			1.0000	0.9748	0.9748	0.4051
Treatment F			0.000	10.376	10.376	3.407
Treatment Prob(F)			1.0000	0.0001	0.0001	0.0031

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Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	ABUTH	CONSS	AMARE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>
Pest Name	common lambsqua>	piemarker	Morningglory	Redroot pigweed
Crop Type, Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Rating Date	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021
Rating Timing	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.	27 27	27 27	27 27	27 27
Trt-Eval Interval	27 DA-A	27 DA-A	27 DA-A	27 DA-A
Plant-Eval Interval	27 DP-1	27 DP-1	27 DP-1	27 DP-1
Days After Emergence	10 DE-1	10 DE-1	10 DE-1	10 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	5*	6*	7*	8*
1	SONIC	220 g	ai/ha	A	90 -	90 a	95 a	87 a
	ENLIST DUO	2220 g	ae/ha	B				
	AMMONIUM SULFATE	2.5 %	v/v	B				
2	SONIC	220 g	ai/ha	A	88 -	83 a	88 a	93 a
	Enlist One	1060 g	ae/ha	B				
	LIBERTY	600 g	ae/ha	B				
	AMMONIUM SULFATE	2.5 %	v/v	B				
3	SONIC	220 g	ai/ha	A	78 -	88 a	95 a	83 a
	Enlist One	1060 g	ae/ha	B				
	EverpreX	1060 g	ai/ha	B				
	DURANGO DMA	1120 g	ae/ha	B				
	AMMONIUM SULFATE	2.5 %	v/v	B				
4	Kyber	370 g	ai/ha	A	83 -	88 a	75 a	100 a
	ENLIST DUO	2220 g	ae/ha	B				
	AMMONIUM SULFATE	2.5 %	v/v	B				

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Pest Code	CHEAL	ABUTH	CONSS	AMARE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>
Pest Name	common lambsqau>	piemarker	Morningglory	Redroot pigweed

Crop Type, Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Rating Date	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021
Rating Timing	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.	27 27	27 27	27 27	27 27
Trt-Eval Interval	27 DA-A	27 DA-A	27 DA-A	27 DA-A
Plant-Eval Interval	27 DP-1	27 DP-1	27 DP-1	27 DP-1
Days After Emergence	10 DE-1	10 DE-1	10 DE-1	10 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Code	5*	6*	7*	8*
5	Kyber	370 g ai/ha	A	86 -	93 a	88 a	100 a
	Enlist One	1060 g ae/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
6	Kyber	370 g ai/ha	A	75 -	95 a	84 a	93 a
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	DURANGO DMA	1120 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
7	Kyber	370 g ai/ha	A	95 -	95 a	88 a	100 a
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
8	UNTREATED			0	0 b	0 b	0 b
9	Fierce EZ	160 g ai/ha	A	95 -	88 a	95 a	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
10	Fierce MTZ	370 g ai/ha	A	80 -	83 a	80 a	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
11	Fierce XLT	175 g ai/ha	A	83 -	100 a	88 a	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				



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Pest Code	CHEAL	ABUTH	CONSS	AMARE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>
Pest Name	common lambsqua>	piemarker	Morningglory	Redroot pigweed

Crop Type, Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Rating Date	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021
Rating Timing	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.	27 27	27 27	27 27	27 27
Trt-Eval Interval	27 DA-A	27 DA-A	27 DA-A	27 DA-A
Plant-Eval Interval	27 DP-1	27 DP-1	27 DP-1	27 DP-1
Days After Emergence	10 DE-1	10 DE-1	10 DE-1	10 DE-1
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Rate Rate Unit	Appl Code	5*	6*	7*	8*
12 VALOR XLT 3 OZ			83 -	90 a	83 a	100 a
Classic	21.5 g ai/ha	A				
Valor SX	63 g ai/ha	A				
Scout	657 g ai/ha	B				
Perpetuo	121 g ai/ha	B				
Select Max	79 g ai/ha	B				
NIS	0.25 % v/v	B				
AMSOL	2.5 % v/v	B				
LSD P=.05			18.3	14.3	16.6	11.0
Standard Deviation			12.7	10.0	11.6	6.5
CV			14.9	12.09	14.5	7.37
Levene's F^			0.848	0.656	2.029	1.534
Levene's Prob(F)			0.588	0.769	0.054	0.162
Skewness^			-0.1457	0.2186	-0.1646	0.1888
Kurtosis^			-0.5885	0.1484	-0.6182	1.7579*
Replicate F			2.588	23.340	0.347	4.018
Replicate Prob(F)			0.0714	0.0001	0.7913	0.0326
Treatment F			1.081	28.188	20.008	57.120
Treatment Prob(F)			0.4063	0.0001	0.0001	0.0001

# The Ohio State University

## Enlist Endorsement Study with University COI's

Trial ID: 21ENLISTSOY Location: Trial Year: 2021  
 Protocol ID: NA21P2E002H Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Trt No.	Treatment Name	Rate	Unit	Appl Code	9*	10*	11*	12*
1	SONIC	220 g ai/ha	A		2 bc	78 ab	78 ab	75 abc
	ENLIST DUO	2220 g ae/ha	B					
	AMMONIUM SULFATE	2.5 % v/v	B					
2	SONIC	220 g ai/ha	A		1 c	53 cd	53 cd	76 abc
	Enlist One	1060 g ae/ha	B					
	LIBERTY	600 g ae/ha	B					
	AMMONIUM SULFATE	2.5 % v/v	B					
3	SONIC	220 g ai/ha	A		3 ab	84 a	84 a	79 ab
	Enlist One	1060 g ae/ha	B					
	EverpreX	1060 g ai/ha	B					
	DURANGO DMA	1120 g ae/ha	B					
	AMMONIUM SULFATE	2.5 % v/v	B					
4	Kyber	370 g ai/ha	A		1 c	81 a	81 a	75 abc
	ENLIST DUO	2220 g ae/ha	B					
	AMMONIUM SULFATE	2.5 % v/v	B					

# The Ohio State University

Enlist Endorsement Study with University COI's

Trial ID: 21ENLISTSOY Location: Trial Year: 2021  
 Protocol ID: NA21P2E002H Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type		W Weed	W Weed	W Weed
Pest Code		SETFA	ECHSS	AMBTR
Pest Scientific Name	SOYBEAN	Setaria faberi	Echinochloa sp.	Ambrosia trifida
Pest Name		Giant foxtail	Barnyardgrass	Giant ragweed

Crop Type, Code	C GLXMA			
BBCH Scale	BSOY			
Crop Scientific Name	Glycine max			
Crop Name	Soybean			
Crop Variety	Enlist E3 soybe>			
Rating Date	Jul-5-2021	Jul-5-2021	Jul-5-2021	Jul-5-2021
Part Rated	PLANT -	PLOT -	PLOT -	PLOT -
Rating Type	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100

Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-8-2021	Jul-8-2021	Jul-8-2021	Jul-8-2021
Rating Timing				
Days After First/Last Applic.	51 21	51 21	51 21	51 21
Trt-Eval Interval	21 DA-B	21 DA-B	21 DA-B	21 DA-B
Plant-Eval Interval	51 DP-1	51 DP-1	51 DP-1	51 DP-1
Days After Emergence	34 DE-1	34 DE-1	34 DE-1	34 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Code	9*	10*	11*	12*
5	Kyber	370 g ai/ha	A	3 ab	66 abc	66 abc	80 ab
	Enlist One	1060 g ae/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
6	Kyber	370 g ai/ha	A	2 bc	81 a	81 a	75 abc
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	DURANGO DMA	1120 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
7	Kyber	370 g ai/ha	A	2 bc	61 abc	61 abc	81 a
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
8	UNTREATED			0 d	0 e	0 e	0
9	Fierce EZ	160 g ai/ha	A	3 ab	71 abc	71 abc	65 bcd
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
10	Fierce MTZ	370 g ai/ha	A	3 ab	68 abc	68 abc	63 cd
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
11	Fierce XLT	175 g ai/ha	A	3 a	58 bc	58 bc	58 d
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				

# The Ohio State University

Enlist Endorsement Study with University COI's

Trial ID: 21ENLISTSOY Location: Trial Year: 2021  
 Protocol ID: NA21P2E002H Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type		W Weed	W Weed	W Weed
Pest Code		SETFA	ECHSS	AMBTR
Pest Scientific Name	SOYBEAN	Setaria faberi	Echinochloa sp.	Ambrosia trifida
Pest Name		Giant foxtail	Barnyardgrass	Giant ragweed

Crop Type, Code	C GLXMA			
BBCH Scale	BSOY			
Crop Scientific Name	Glycine max			
Crop Name	Soybean			
Crop Variety	Enlist E3 soybe>			
Rating Date	Jul-5-2021	Jul-5-2021	Jul-5-2021	Jul-5-2021
Part Rated	PLANT -	PLOT -	PLOT -	PLOT -
Rating Type	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100

Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-8-2021	Jul-8-2021	Jul-8-2021	Jul-8-2021
Rating Timing				
Days After First/Last Applic.	51 21	51 21	51 21	51 21
Trt-Eval Interval	21 DA-B	21 DA-B	21 DA-B	21 DA-B
Plant-Eval Interval	51 DP-1	51 DP-1	51 DP-1	51 DP-1
Days After Emergence	34 DE-1	34 DE-1	34 DE-1	34 DE-1
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Rate Rate Unit	Appl Code	9*	10*	11*	12*
12 VALOR XLT 3 OZ			3 ab	39 d	39 d	71 abc
Classic	21.5 g ai/ha	A				
Valor SX	63 g ai/ha	A				
Scout	657 g ai/ha	B				
Perpetuo	121 g ai/ha	B				
Select Max	79 g ai/ha	B				
NIS	0.25 % v/v	B				
AMSOL	2.5 % v/v	B				
LSD P=.05			0.8	14.7	14.7	9.5
Standard Deviation			0.5	10.2	10.2	6.6
CV			28.49	16.61	16.61	9.1
Levene's F^			1.574	3.389	3.389	1.401
Levene's Prob(F)			0.149	0.003*	0.003*	0.223
Skewness^			0.0309	-0.1564	-0.1564	-0.0546
Kurtosis^			0.854	2.0068*	2.0068*	-0.6383
Replicate F			4.770	2.330	2.330	1.307
Replicate Prob(F)			0.0072	0.0924	0.0924	0.2905
Treatment F			10.752	21.150	21.150	5.404
Treatment Prob(F)			0.0001	0.0001	0.0001	0.0001

# The Ohio State University

Enlist Endorsement Study with University COI's

Trial ID: 21ENLISTSOY Location: Trial Year: 2021  
 Protocol ID: NA21P2E002H Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	ABUTH	CONSS	AMARE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>
Pest Name	common lambsqua>	piemarker	Morningglory	Redroot pigweed
Crop Type, Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Rating Date	Jul-5-2021	Jul-5-2021	Jul-5-2021	Jul-5-2021
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-8-2021	Jul-8-2021	Jul-8-2021	Jul-8-2021
Rating Timing				
Days After First/Last Applic.	51 21	51 21	51 21	51 21
Trt-Eval Interval	21 DA-B	21 DA-B	21 DA-B	21 DA-B
Plant-Eval Interval	51 DP-1	51 DP-1	51 DP-1	51 DP-1
Days After Emergence	34 DE-1	34 DE-1	34 DE-1	34 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	13*	14*	15*	16*
1	SONIC	220 g	ai/ha	A	100 a	100 a	84 -	100 a
	ENLIST DUO	2220 g	ae/ha	B				
	AMMONIUM SULFATE	2.5 %	v/v	B				
2	SONIC	220 g	ai/ha	A	95 a	96 a	86 -	96 a
	Enlist One	1060 g	ae/ha	B				
	LIBERTY	600 g	ae/ha	B				
	AMMONIUM SULFATE	2.5 %	v/v	B				
3	SONIC	220 g	ai/ha	A	100 a	100 a	79 -	100 a
	Enlist One	1060 g	ae/ha	B				
	EverpreX	1060 g	ai/ha	B				
	DURANGO DMA	1120 g	ae/ha	B				
	AMMONIUM SULFATE	2.5 %	v/v	B				
4	Kyber	370 g	ai/ha	A	100 a	99 a	75 -	100 a
	ENLIST DUO	2220 g	ae/ha	B				
	AMMONIUM SULFATE	2.5 %	v/v	B				

# The Ohio State University

## Enlist Endorsement Study with University COI's

Trial ID: 21ENLISTSOY Location: Trial Year: 2021  
 Protocol ID: NA21P2E002H Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	ABUTH	CONSS	AMARE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>
Pest Name	common lambsqau>	piemarker	Morningglory	Redroot pigweed

Crop Type, Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Rating Date	Jul-5-2021	Jul-5-2021	Jul-5-2021	Jul-5-2021
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-8-2021	Jul-8-2021	Jul-8-2021	Jul-8-2021
Rating Timing				
Days After First/Last Applic.	51 21	51 21	51 21	51 21
Trt-Eval Interval	21 DA-B	21 DA-B	21 DA-B	21 DA-B
Plant-Eval Interval	51 DP-1	51 DP-1	51 DP-1	51 DP-1
Days After Emergence	34 DE-1	34 DE-1	34 DE-1	34 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Code	13*	14*	15*	16*
5	Kyber	370 g ai/ha	A	100 a	100 a	78 -	100 a
	Enlist One	1060 g ae/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
6	Kyber	370 g ai/ha	A	100 a	95 a	69 -	100 a
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	DURANGO DMA	1120 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
7	Kyber	370 g ai/ha	A	100 a	100 a	85 -	100 a
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
8	UNTREATED			0 c	0 b	0	0 b
9	Fierce EZ	160 g ai/ha	A	94 a	100 a	79 -	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
10	Fierce MTZ	370 g ai/ha	A	96 a	100 a	73 -	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
11	Fierce XLT	175 g ai/ha	A	71 b	95 a	69 -	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				

# The Ohio State University

**Enlist Endorsement Study with University COI's**

Trial ID: 21ENLISTSOY      Location:      Trial Year: 2021  
 Protocol ID: NA21P2E002H      Investigator (Creator): Dr. Mark M. Loux  
 Project ID:      Study Director:  
    Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	ABUTH	CONSS	AMARE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>
Pest Name	common lambsqau>	piemarker	Morningglory	Redroot pigweed

Crop Type, Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Rating Date	Jul-5-2021	Jul-5-2021	Jul-5-2021	Jul-5-2021
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-8-2021	Jul-8-2021	Jul-8-2021	Jul-8-2021
Rating Timing				
Days After First/Last Applic.	51 21	51 21	51 21	51 21
Trt-Eval Interval	21 DA-B	21 DA-B	21 DA-B	21 DA-B
Plant-Eval Interval	51 DP-1	51 DP-1	51 DP-1	51 DP-1
Days After Emergence	34 DE-1	34 DE-1	34 DE-1	34 DE-1
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Rate Unit	Appl Code	13*	14*	15*	16*
12 VALOR XLT 3 OZ			74 b	96 a	74 -	100 a
Classic	21.5 g ai/ha	A				
Valor SX	63 g ai/ha	A				
Scout	657 g ai/ha	B				
Perpetuo	121 g ai/ha	B				
Select Max	79 g ai/ha	B				
NIS	0.25 % v/v	B				
AMSOL	2.5 % v/v	B				
LSD P=.05			8.3	7.2	11.7	3.1
Standard Deviation			5.8	5.0	8.1	2.2
CV			6.73	5.59	10.52	2.37
Levene's F^			0.705	0.506	0.438	0.758
Levene's Prob(F)			0.725	0.887	0.917	0.678
Skewness^			-1.487*	-1.6213*	0.5152	-3.5949*
Kurtosis^			4.3256*	3.376*	0.347	22.9943*
Replicate F			1.750	1.552	2.816	1.000
Replicate Prob(F)			0.1759	0.2196	0.0559	0.4051
Treatment F			100.205	127.508	2.261	707.263
Treatment Prob(F)			0.0001	0.0001	0.0412	0.0001

# The Ohio State University

Enlist Endorsement Study with University COI's

Trial ID: 21ENLISTSOY Location: Trial Year: 2021  
 Protocol ID: NA21P2E002H Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed			
Pest Code	SETFA	ECHSS	AMBTR			
Pest Scientific Name	SOYBEAN	Setaria faberi	Echinochloa sp.			
Pest Name		Giant foxtail	Barnyardgrass			
			Ambrosia trifida			
			Giant ragweed			
Crop Type, Code	C GLXMA					
BBCH Scale	BSOY					
Crop Scientific Name	Glycine max					
Crop Name	Soybean					
Crop Variety	Enlist E3 soybe>					
Rating Date	Jul-21-2021	Jul-21-2021	Jul-21-2021			
Part Rated	PLANT -	PLOT -	PLOT -			
Rating Type	PHYGEN	CONTROL	CONTROL			
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100			
Sample Size	1 PLOT	1 PLOT	1 PLOT			
Number of Subsamples	1	1	1			
Data Entry Date	Jul-23-2021	Jul-23-2021	Jul-23-2021			
Rating Timing						
Days After First/Last Applic.	67 37	67 37	67 37			
Trt-Eval Interval	37 DA-B	37 DA-B	37 DA-B			
Plant-Eval Interval	67 DP-1	67 DP-1	67 DP-1			
Days After Emergence	50 DE-1	50 DE-1	50 DE-1			
Number of Decimals	0	0	0			
Trt Treatment	Rate	Appl	17*	18*	19*	20*
No. Name	Unit	Code			dAA	
1 SONIC	220 g ai/ha	A	0 -	73 ab	74 abc	71 -
ENLIST DUO	2220 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
2 SONIC	220 g ai/ha	A	0 -	53 bcd	52 cde	78 -
Enlist One	1060 g ae/ha	B				
LIBERTY	600 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
3 SONIC	220 g ai/ha	A	0 -	80 a	79 ab	69 -
Enlist One	1060 g ae/ha	B				
EverpreX	1060 g ai/ha	B				
DURANGO DMA	1120 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
4 Kyber	370 g ai/ha	A	0 -	79 a	80 a	71 -
ENLIST DUO	2220 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				



# The Ohio State University

Enlist Endorsement Study with University COI's

Trial ID: 21ENLISTSOY Location: Trial Year: 2021  
 Protocol ID: NA21P2E002H Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type		W Weed	W Weed	W Weed
Pest Code		SETFA	ECHSS	AMBTR
Pest Scientific Name	SOYBEAN	Setaria faberi	Echinochloa sp.	Ambrosia trifida
Pest Name		Giant foxtail	Barnyardgrass	Giant ragweed

Crop Type, Code	C GLXMA			
BBCH Scale	BSOY			
Crop Scientific Name	Glycine max			
Crop Name	Soybean			
Crop Variety	Enlist E3 soybe>			
Rating Date	Jul-21-2021	Jul-21-2021	Jul-21-2021	Jul-21-2021
Part Rated	PLANT -	PLOT -	PLOT -	PLOT -
Rating Type	PHYGEN	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100

Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-23-2021	Jul-23-2021	Jul-23-2021	Jul-23-2021
Rating Timing				
Days After First/Last Applic.	67 37	67 37	67 37	67 37
Trt-Eval Interval	37 DA-B	37 DA-B	37 DA-B	37 DA-B
Plant-Eval Interval	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence	50 DE-1	50 DE-1	50 DE-1	50 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Code	17*	18*	19* dAA	20*
5	Kyber	370 g ai/ha	A	0 -	58 abc	58 bcd	71 -
	Enlist One	1060 g ae/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
6	Kyber	370 g ai/ha	A	0 -	80 a	79 ab	64 -
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	DURANGO DMA	1120 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
7	Kyber	370 g ai/ha	A	0 -	46 cd	47 de	74 -
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
8	UNTREATED			0 -	0	0 f	0
9	Fierce EZ	160 g ai/ha	A	0 -	68 abc	70 abc	61 -
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
10	Fierce MTZ	370 g ai/ha	A	0 -	63 abc	65 a-d	58 -
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
11	Fierce XLT	175 g ai/ha	A	0 -	33 d	35 e	51 -
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				

# The Ohio State University

**Enlist Endorsement Study with University COI's**

Trial ID: 21ENLISTSOY      Location:      Trial Year: 2021  
 Protocol ID: NA21P2E002H      Investigator (Creator): Dr. Mark M. Loux  
 Project ID:      Study Director:  
    Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed
Pest Code	SETFA	ECHSS	AMBTR
Pest Scientific Name	Setaria faberi	Echinochloa sp.	Ambrosia trifida
Pest Name	Giant foxtail	Barnyardgrass	Giant ragweed

Crop Type, Code	C GLXMA		
BBCH Scale	BSOY		
Crop Scientific Name	Glycine max		
Crop Name	Soybean		
Crop Variety	Enlist E3 soybe>		
Rating Date	Jul-21-2021	Jul-21-2021	Jul-21-2021
Part Rated	PLANT -	PLOT -	PLOT -
Rating Type	PHYGEN	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100

Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-23-2021	Jul-23-2021	Jul-23-2021	Jul-23-2021
Rating Timing				
Days After First/Last Applic.	67 37	67 37	67 37	67 37
Trt-Eval Interval	37 DA-B	37 DA-B	37 DA-B	37 DA-B
Plant-Eval Interval	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence	50 DE-1	50 DE-1	50 DE-1	50 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	17*	18*	19*	20*
							dAA	
12	VALOR XLT 3 OZ				0 -	35 d	34 e	66 -
	Classic	21.5 g ai/ha		A				
	Valor SX	63 g ai/ha		A				
	Scout	657 g ai/ha		B				
	Perpetuo	121 g ai/ha		B				
	Select Max	79 g ai/ha		B				
	NIS	0.25 % v/v		B				
	AMSOL	2.5 % v/v		B				
	LSD P=.05				0.3	15.5	14.0 - 15.7	16.2
	Standard Deviation				0.2	10.7	6.4t	11.2
	CV				497.27	17.72	13.36t	16.83
	Levene's F^				0.793	1.592	1.481	0.899
	Levene's Prob(F)				0.646	0.153	0.181	0.544
	Skewness^				2.6516*	-0.2026	-0.3082	-0.3503
	Kurtosis^				10.7845*	-0.4803	-0.2324	-0.5311
	Replicate F				0.647	2.311	1.589	0.365
	Replicate Prob(F)				0.5904	0.0963	0.2107	0.7786
	Treatment F				0.882	10.462	31.861	1.887
	Treatment Prob(F)				0.5658	0.0001	0.0001	0.0873

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 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed		
Pest Code	CHEAL	ABUTH	CONSS	AMARE		
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>		
Pest Name	common lambsqua>	piemarker	Morningglory	Redroot pigweed		
Crop Type, Code						
BBCH Scale						
Crop Scientific Name						
Crop Name						
Crop Variety						
Rating Date	Jul-21-2021	Jul-21-2021	Jul-21-2021	Jul-21-2021		
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -		
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100		
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples	1	1	1	1		
Data Entry Date	Jul-23-2021	Jul-23-2021	Jul-23-2021	Jul-23-2021		
Rating Timing						
Days After First/Last Applic.	67 37	67 37	67 37	67 37		
Trt-Eval Interval	37 DA-B	37 DA-B	37 DA-B	37 DA-B		
Plant-Eval Interval	67 DP-1	67 DP-1	67 DP-1	67 DP-1		
Days After Emergence	50 DE-1	50 DE-1	50 DE-1	50 DE-1		
Number of Decimals	0	0	0	0		
Trt Treatment No. Name	Rate	Appl Code	21*	22*	23*	24*
1 SONIC	220 g ai/ha	A	96 a	96 a	78 a	100 a
ENLIST DUO	2220 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
2 SONIC	220 g ai/ha	A	95 a	93 a	85 a	95 a
Enlist One	1060 g ae/ha	B				
LIBERTY	600 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
3 SONIC	220 g ai/ha	A	100 a	100 a	78 a	100 a
Enlist One	1060 g ae/ha	B				
EverpreX	1060 g ai/ha	B				
DURANGO DMA	1120 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				
4 Kyber	370 g ai/ha	A	100 a	99 a	73 a	100 a
ENLIST DUO	2220 g ae/ha	B				
AMMONIUM SULFATE	2.5 % v/v	B				

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Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	ABUTH	CONSS	AMARE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>
Pest Name	common lambsqau>	piemarker	Morningglory	Redroot pigweed

Crop Type, Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Rating Date	Jul-21-2021	Jul-21-2021	Jul-21-2021	Jul-21-2021
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-23-2021	Jul-23-2021	Jul-23-2021	Jul-23-2021
Rating Timing				
Days After First/Last Applic.	67 37	67 37	67 37	67 37
Trt-Eval Interval	37 DA-B	37 DA-B	37 DA-B	37 DA-B
Plant-Eval Interval	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence	50 DE-1	50 DE-1	50 DE-1	50 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Code	21*	22*	23*	24*
5	Kyber	370 g ai/ha	A	100 a	95 a	76 a	100 a
	Enlist One	1060 g ae/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
6	Kyber	370 g ai/ha	A	100 a	95 a	68 a	100 a
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	DURANGO DMA	1120 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
7	Kyber	370 g ai/ha	A	98 a	100 a	84 a	100 a
	Enlist One	1060 g ae/ha	B				
	EverpreX	1060 g ai/ha	B				
	LIBERTY	600 g ae/ha	B				
	AMMONIUM SULFATE	2.5 % v/v	B				
8	UNTREATED			0 c	0 b	0 b	0 b
9	Fierce EZ	160 g ai/ha	A	94 a	100 a	75 a	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
10	Fierce MTZ	370 g ai/ha	A	90 a	95 a	69 a	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				
11	Fierce XLT	175 g ai/ha	A	73 b	95 a	69 a	100 a
	Scout	657 g ai/ha	B				
	Perpetuo	121 g ai/ha	B				
	Select Max	79 g ai/ha	B				
	NIS	0.25 % v/v	B				
	AMSOL	2.5 % v/v	B				

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Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	ABUTH	CONSS	AMARE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Convolvulus sp.	Amaranthus retr>
Pest Name	common lambsqua>	piemarker	Morningglory	Redroot pigweed

Crop Type, Code				
BBCH Scale				
Crop Scientific Name				
Crop Name				
Crop Variety				
Rating Date	Jul-21-2021	Jul-21-2021	Jul-21-2021	Jul-21-2021
Part Rated	PLOT -	PLOT -	PLOT -	PLOT -
Rating Type	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit/Min/Max	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100	%VISUAL 0 100
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-23-2021	Jul-23-2021	Jul-23-2021	Jul-23-2021
Rating Timing				
Days After First/Last Applic.	67 37	67 37	67 37	67 37
Trt-Eval Interval	37 DA-B	37 DA-B	37 DA-B	37 DA-B
Plant-Eval Interval	67 DP-1	67 DP-1	67 DP-1	67 DP-1
Days After Emergence	50 DE-1	50 DE-1	50 DE-1	50 DE-1
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Rate Rate Unit	Appl Code	21*	22*	23*	24*
12 VALOR XLT 3 OZ			71 b	96 a	70 a	93 a
Classic	21.5 g ai/ha	A				
Valor SX	63 g ai/ha	A				
Scout	657 g ai/ha	B				
Perpetuo	121 g ai/ha	B				
Select Max	79 g ai/ha	B				
NIS	0.25 % v/v	B				
AMSOL	2.5 % v/v	B				
LSD P=.05			9.2	8.5	10.9	7.2
Standard Deviation			6.4	5.9	7.6	4.3
CV			7.53	6.68	11.04	4.69
Levene's F^			0.713	0.266	1.146	3.447
Levene's Prob(F)			0.719	0.989	0.357	0.002*
Skewness^			-0.8791*	-0.6875*	0.6654	-1.4343*
Kurtosis^			0.8071	0.0963	1.8055*	7.4911*
Replicate F			2.984	4.009	2.535	0.498
Replicate Prob(F)			0.0453	0.0154	0.0737	0.6143
Treatment F			80.050	89.457	34.806	135.927
Treatment Prob(F)			0.0001	0.0001	0.0001	0.0001

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Sponsor Contact:

Pest Type

W, Weed = Weed or volunteer crop

Pest Code

SETFA, Setaria faberi, Giant foxtail = US  
ECHSS, Echinochloa sp., Barnyardgrass = US  
AMBTR, Ambrosia trifida, Giant ragweed = US  
CHEAL, Chenopodium album, common lambsquarters = US  
ABUTH, Abutilon theophrasti, piemarker = US  
CONSS, Convolvulus sp., Morningglory = US  
AMARE, Amaranthus retroflexus, Redroot pigweed = US

Crop Type Code

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

Part Rated

PLANT = plant

PLOT = plot

Rating Type

PHYGEN = phytotoxicity - general / injury

PLOT = total plot

Plant-Eval Interval

27 DP-1 = 1 GLXMA May-15-2021

51 DP-1 = 1 GLXMA May-15-2021

67 DP-1 = 1 GLXMA May-15-2021