

# The Ohio State University

## Enlist Weed Control Systems

Trial ID: 20ENLIST Location: Western Branch F-7 Trial Year: 2020  
 Protocol ID: NA20P2E004H Investigator: Dr. Mark M. Loux  
 Project ID: Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

### General Trial Information

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

**Trial Status:** E established

**ARM Trial Created On:** Mar-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 °:** 39.86076 N  
**Longitude of LL Corner °:** -83.6701 W  
**Altitude of LL Corner:** 1092.00 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

### Pest Description

**Pest 1 Type:** W **Code:** AMBTR Ambrosia trifida  
**Common Name:** ragweed, giant **Entry Date:** Jun-25-2020

**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:** SOLPT Solanum ptychanthum  
**Common Name:** nightshade, eastern black **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:** AMBEL Ambrosia artemisiifolia  
**Common Name:** ragweed, common **Entry Date:** Jun-25-2020

**Pest 7 Type:** W **Code:** AMARE Amaranthus retroflexus  
**Common Name:** pigweed, redroot **Entry Date:** Jun-25-2020

**Pest 8 Type:** W **Code:** POLPY Polygonum pensylvanicum  
**Common Name:** smartweed, Pennsylvania **Entry Date:** Jul-9-2020

**Pest 9 Type:** W **Code:** HIBTR Hibiscus trionum  
**Common Name:** mallow, Venice **Entry Date:** Aug-12-2020

**Pest10 Type:** W **Code:** ABUTH Abutilon theophrasti  
**Common Name:** velvetleaf **Entry Date:** Aug-12-2020

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### Site and Design

Treated Plot Width: 6.67 FT      Site Type: FIELD field  
 Treated Plot Length: 30 FT      Experimental Unit: 1 PLOT plot  
 Treated Plot Area: 200.1 FT<sup>2</sup>      Treatments: 8      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  
 % Sand: 37      % OM: 2.8      Texture: SICL silty clay loam  
 % Silt: 48      pH: 5.7      Soil Name: Crosby  
 % Clay: 15      CEC: 11.8      Fert. Level: G good  
 Soil Drainage: G good

### Application Description

	A	B
Application Date	May-13-2020	Jun-24-2020
Appl. Start Time	4:00 PM	8:00 AM
Appl. Stop Time	4:30 PM	8:30 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 Majority, Percent		14 100
Height Average		8 IN
Height Minimum, Maximum		6 10

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Trial Year: 2020

### Pest Stage At Each Application

	A	B
<b>Pest 1 Code, Type, Scale</b>	AMBTR W	AMBTR W
Stage Majority, Percent	16	80
Stage Minimum, Percent	14	10
Stage Maximum, Percent	19	10
Height Average	6	IN
Height Minimum, Maximum	4	18
Density Average	3	PLA/m2
Density Min, Max	3	3
<b>Pest 2 Code, Type, Scale</b>	SETFA W	SETFA W
Stage Majority, Percent	18	80
Stage Minimum, Percent	14	10
Stage Maximum, Percent	19	10
Height Average	6	IN
Height Minimum, Maximum	2	8
Density Average	132	PLA/m2
Density Min, Max	96	162
<b>Pest 3 Code, Type, Scale</b>	ECHCG W	ECHCG W
Stage Majority, Percent	19	90
Stage Minimum, Percent	14	10
Stage Maximum, Percent	19	90
Height Average	4	IN
Height Minimum, Maximum	2	6
Density Average	10	PLA/m2
Density Min, Max	0	18
<b>Pest 4 Code, Type, Scale</b>	SOLPT W	SOLPT W
Stage Majority, Percent	16	80
Stage Minimum, Percent	14	10
Stage Maximum, Percent	18	10
Height Average	2	IN
Height Minimum, Maximum	2	6
Density Average	0.33	PLA/m2
Density Min, Max	0	3
<b>Pest 5 Code, Type, Scale</b>	CHEAL W	CHEAL W
Stage Majority, Percent	18	80
Stage Minimum, Percent	16	
Stage Maximum, Percent	19	
Height Average	4	IN
Height Minimum, Maximum	2	10
Density Average	23	PLA/m2
Density Min, Max	18	33
<b>Pest 6 Code, Type, Scale</b>	AMBEL W	AMBEL W
Stage Majority, Percent	18	80
Stage Minimum, Percent	14	10
Stage Maximum, Percent	19	10
Height Average	4	IN
Height Minimum, Maximum	2	12
Density Average	0.33	PLA/m2
Density Min, Max	0	1
<b>Pest 7 Code, Type, Scale</b>	AMARE W	AMARE W
Stage Majority, Percent	16	80
Stage Minimum, Percent	12	10
Stage Maximum, Percent	19	10
Height Average	4	IN
Height Minimum, Maximum	2	10
Density Average	11	PLA/m2
Density Min, Max	6	21
<b>Pest 8 Code, Type, Scale</b>	POLPY W	POLPY W
Density Average	2	PLA/m2
Density Min, Max	0	6
<b>Pest 9 Code, Type, Scale</b>	HIBTR W	HIBTR W
Density Average	0.03	PLA/m2
Density Min, Max	0	0.3
<b>Pest10 Code, Type, Scale</b>	ABUTH W	ABUTH W
Density Average	0.01	PLA/m2
Density Min, Max	0	0.25

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### 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	May-14-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.				
Pest Type			W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code			SETFA	ECHCG	AMBTR	CHEAL	AMARE
Pest Scientific Name			Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>
Pest Name			foxtail, giant	barnyardgrass	ragweed, giant	lambsquarters,>	pigweed, redro>
Crop Type, Code							
BBCH Scale							
Crop Scientific Name							
Crop Name							
Rating Date			Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit			%	%	%	%	%
Number of Subsamples			1	1	1	1	1
Assessed By							
Data Entry Date			Jul-1-2020	Jul-1-2020	Jul-1-2020	Jul-1-2020	Jul-1-2020
Days After First/Last Applic.			42 42	42 42	42 42	42 42	42 42
Trt-Eval Interval			0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B
Plant-Eval Interval			42 DP-1	42 DP-1	42 DP-1	42 DP-1	42 DP-1
Days After Emergence			30 DE-1	30 DE-1	30 DE-1	30 DE-1	30 DE-1
Number of Decimals			0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	1*	2*	3*	4*	5*
1	UTC					0 c	0 c	0 b	0 b	0 c
2	Sonic	220 g ai/ha	4.5 oz/a		A	45 b	43 b	73 a	100 a	98 b
2	Enlist Duo	2200 g ai/ha	4.75 pt/a		B					
2	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
3	Sonic	220 g ai/ha	4.5 oz/a		A	43 b	43 b	73 a	100 a	98 b
3	Liberty	656 g ai/ha	32 oz/a		B					
3	Enlist One	1060 g ai/ha	2 pt/a		B					
3	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
4	Sonic	220 g ai/ha	4.5 oz/a		A	43 b	43 b	73 a	100 a	99 ab
4	Durango DMA	1120 g ai/ha	32 oz/a		B					
4	Enlist One	1060 g ai/ha	2 pt/a		B					
4	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
5	Sonic	220 g ai/ha	4.5 oz/a		A	40 b	40 b	77 a	100 a	99 ab
5	Liberty	656 g ai/ha	32 oz/a		B					
5	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
6	Sonic	220 g ai/ha	4.5 oz/a		A	37 b	37 b	70 a	100 a	98 b
6	Liberty	656 g ai/ha	32 oz/a		B					
6	Enlist One	1060 g ai/ha	2 pt/a		B					
6	Select Max	79 g ai/ha	9 oz/a		B					
6	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	SETFA	ECHCG	AMBTR	CHEAL	AMARE
Pest Scientific Name	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>
Pest Name	foxtail, giant	barnyardgrass	ragweed, giant	lambsquarters,>	pigweed, redro>
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Assessed By					
Data Entry Date	Jul-1-2020	Jul-1-2020	Jul-1-2020	Jul-1-2020	Jul-1-2020
Days After First/Last Applic.	42 42	42 42	42 42	42 42	42 42
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B
Plant-Eval Interval	42 DP-1	42 DP-1	42 DP-1	42 DP-1	42 DP-1
Days After Emergence	30 DE-1	30 DE-1	30 DE-1	30 DE-1	30 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	1*	2*	3*	4*	5*
7	Sonic	220 g ai/ha	4.5 oz/a		A	37 b	37 b	73 a	100 a	98 b
7	Durango DMA	1120 g ai/ha	32 oz/a		B					
7	Enlist One	1060 g ai/ha	2 pt/a		B					
7	EverpreX	1070 g ai/ha	1 pt/a		B					
7	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
8	Zidua Pro	215 g ai/ha	6 oz/a		A	80 a	80 a	77 a	100 a	100 a
8	Roundup Powermax	1260 g ai/ha	32 oz/a		B					
8	Flexstar	395 g ai/ha	1.5 pt/a		B					
8	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
LSD P=.05						17.8	17.0	8.0	.	1.8
Standard Deviation						10.2	9.7	4.6	0.0	1.0
CV						25.03	24.07	7.07	0.0	1.2
Grand Mean						40.6	40.4	64.6	87.5	86.3
Levene's F						0.358	0.349	0.286	0.00	0.286
Levene's Prob(F)						0.913	0.918	0.95	.	0.95
Rank X2						.	.	.	.	.
P(Rank X2)						.	.	.	.	.
Skewness						0.2051	0.1919	-2.258*	-2.4219*	-2.4129*
Kurtosis						-0.7648	-0.7331	3.7495*	4.2103*	4.184*
Replicate F						15.319	15.893	2.600	0.000	9.800
Replicate Prob(F)						0.0003	0.0002	0.1096	1.0000	0.0022
Treatment F						13.535	14.736	98.714	0.000	3402.200
Treatment Prob(F)						0.0001	0.0001	0.0001	1.0000	0.0001

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Pest Type	W Weed	W Weed	W Weed	W Weed	
Pest Code	POLPY	SOLPT	HIBTR	ABUTH	
Pest Scientific Name	Polygonum pens>	Solanum ptycha>	Hibiscus trion>	Abutilon theop>	
Pest Name	smartweed, Pen>	nightshade, ea>	mallow, Venice	velvetleaf	
Crop Type, Code					C GLXMA
BBCH Scale					BSOY
Crop Scientific Name					Glycine max
Crop Name					Soybean
Rating Date	Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit	%	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1	1
Data Entry Date	Jul-1-2020	Jul-1-2020	Jul-1-2020	Jul-1-2020	Jul-1-2020
Days After First/Last Applic.	42 42	42 42	42 42	42 42	42 42
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B
Plant-Eval Interval	42 DP-1	42 DP-1	42 DP-1	42 DP-1	42 DP-1
Days After Emergence	30 DE-1	30 DE-1	30 DE-1	30 DE-1	30 DE-1
Number of Decimals	0	0	0	0	0
Trt Treatment No. Name	Rate	Other	Other	Appl	
	Rate Unit	Rate	Rate Unit	Code	
					6* 7* 8* 9* 10*
1 UTC					0 b 0 b 0 b 0 b 0-
2 Sonic	220 g ai/ha	4.5 oz/a	A		100 a 100 a 100 a 100 a 0-
2 Enlist Duo	2200 g ai/ha	4.75 pt/a	B		
2 N PAK-AMS	2.5 % v/v	2.5 % v/v	B		
3 Sonic	220 g ai/ha	4.5 oz/a	A		100 a 100 a 100 a 100 a 0-
3 Liberty	656 g ai/ha	32 oz/a	B		
3 Enlist One	1060 g ai/ha	2 pt/a	B		
3 N PAK-AMS	2.5 % v/v	2.5 % v/v	B		
4 Sonic	220 g ai/ha	4.5 oz/a	A		100 a 100 a 100 a 100 a 0-
4 Durango DMA	1120 g ai/ha	32 oz/a	B		
4 Enlist One	1060 g ai/ha	2 pt/a	B		
4 N PAK-AMS	2.5 % v/v	2.5 % v/v	B		
5 Sonic	220 g ai/ha	4.5 oz/a	A		100 a 100 a 100 a 100 a 0-
5 Liberty	656 g ai/ha	32 oz/a	B		
5 N PAK-AMS	2.5 % v/v	2.5 % v/v	B		
6 Sonic	220 g ai/ha	4.5 oz/a	A		100 a 100 a 100 a 100 a 1-
6 Liberty	656 g ai/ha	32 oz/a	B		
6 Enlist One	1060 g ai/ha	2 pt/a	B		
6 Select Max	79 g ai/ha	9 oz/a	B		
6 N PAK-AMS	2.5 % v/v	2.5 % v/v	B		



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Pest Type	C GLXMA C GLXMA C GLXMA			W Weed	W Weed	W Weed
Pest Code	BSOY BSOY BSOY			SETFA	ECHCG	AMBTR
Pest Scientific Name	Glycine max Glycine max Glycine max			Setaria faberi	Echinochloa cr>	Ambrosia trifi>
Pest Name	Soybean Soybean Soybean			foxtail, giant	barnyardgrass	ragweed, giant
Crop Type, Code	Soybean Soybean Soybean					
BBCH Scale	Jul-1-2020 Jul-1-2020 Jul-8-2020			Jul-8-2020	Jul-8-2020	Jul-8-2020
Crop Scientific Name	PHYNEC PHYMAL PHYGEN			CONTRO	CONTRO	CONTRO
Crop Name	%			%	%	%
Rating Date	1 1 1			1	1	1
Rating Type	Dobbels Dobbels					
Rating Unit	Jul-1-2020 Jul-1-2020 Jul-9-2020			Jul-9-2020	Jul-9-2020	Jul-9-2020
Number of Subsamples	49 7 49 7 56 14			56 14	56 14	56 14
Assessed By	7 DA-B 7 DA-B 14 DA-B			14 DA-B	14 DA-B	14 DA-B
Data Entry Date	49 DP-1 49 DP-1 56 DP-1			56 DP-1	56 DP-1	56 DP-1
Days After First/Last Applic.	37 DE-1 37 DE-1 44 DE-1			44 DE-1	44 DE-1	44 DE-1
Trt-Eval Interval	0 0 0			0	0	0
Plant-Eval Interval						
Days After Emergence						
Number of Decimals						

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	11*	12*	13*	14*	15*	16*
1	UTC				A	0 d	0 b	0 -	0 c	0 c	0 b
2	Sonic	220 g ai/ha	4.5 oz/a		A	1 d	0 b	0 -	100 a	100 a	100 a
2	Enlist Duo	2200 g ai/ha	4.75 pt/a		B						
2	N PAK-AMS	2.5 % v/v	2.5 % v/v		B						
3	Sonic	220 g ai/ha	4.5 oz/a		A	0 d	0 b	0 -	99 ab	100 a	100 a
3	Liberty	656 g ai/ha	32 oz/a		B						
3	Enlist One	1060 g ai/ha	2 pt/a		B						
3	N PAK-AMS	2.5 % v/v	2.5 % v/v		B						
4	Sonic	220 g ai/ha	4.5 oz/a		A	0 d	0 b	0 -	100 a	100 a	100 a
4	Durango DMA	1120 g ai/ha	32 oz/a		B						
4	Enlist One	1060 g ai/ha	2 pt/a		B						
4	N PAK-AMS	2.5 % v/v	2.5 % v/v		B						
5	Sonic	220 g ai/ha	4.5 oz/a		A	0 d	0 b	0 -	99 b	99 b	100 a
5	Liberty	656 g ai/ha	32 oz/a		B						
5	N PAK-AMS	2.5 % v/v	2.5 % v/v		B						
6	Sonic	220 g ai/ha	4.5 oz/a		A	2 c	0 b	0 -	100 a	100 ab	100 a
6	Liberty	656 g ai/ha	32 oz/a		B						
6	Enlist One	1060 g ai/ha	2 pt/a		B						
6	Select Max	79 g ai/ha	9 oz/a		B						
6	N PAK-AMS	2.5 % v/v	2.5 % v/v		B						



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Pest Type				W Weed	W Weed	W Weed
Pest Code				SETFA	ECHCG	AMBTR
Pest Scientific Name				Setaria faberi	Echinochloa cr>	Ambrosia trifi>
Pest Name				foxtail, giant	barnyardgrass	ragweed, giant
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	Jul-1-2020	Jul-1-2020	Jul-8-2020	Jul-8-2020	Jul-8-2020	Jul-8-2020
Rating Type	PHYNEC	PHYMAL	PHYGEN	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Assessed By	Dobbels	Dobbels				
Data Entry Date	Jul-1-2020	Jul-1-2020	Jul-9-2020	Jul-9-2020	Jul-9-2020	Jul-9-2020
Days After First/Last Applic.	49 7	49 7	56 14	56 14	56 14	56 14
Trt-Eval Interval	7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B
Plant-Eval Interval	49 DP-1	49 DP-1	56 DP-1	56 DP-1	56 DP-1	56 DP-1
Days After Emergence	37 DE-1	37 DE-1	44 DE-1	44 DE-1	44 DE-1	44 DE-1
Number of Decimals	0	0	0	0	0	0

Trt Treatment No. Name	Rate	Other Rate	Other Rate	Appl Unit Code	11*	12*	13*	14*	15*	16*
7 Sonic	220 g ai/ha	4.5 oz/a		A	3 b	0 b	0 -	100 a	100 a	100 a
7 Durango DMA	1120 g ai/ha	32 oz/a		B						
7 Enlist One	1060 g ai/ha	2 pt/a		B						
7 EverpreX	1070 g ai/ha	1 pt/a		B						
7 N PAK-AMS	2.5 % v/v	2.5 % v/v		B						
8 Zidua Pro	215 g ai/ha	6 oz/a		A	5 a	3 a	0 -	100 a	100 a	98 a
8 Roundup Powermax	1260 g ai/ha	32 oz/a		B						
8 Flexstar	395 g ai/ha	1.5 pt/a		B						
8 N PAK-AMS	2.5 % v/v	2.5 % v/v		B						
LSD P=.05					0.7	0.4	.	0.8	0.5	1.8
Standard Deviation					0.4	0.2	0.0	0.4	0.3	1.0
CV					30.62	61.24	0.0	0.5	0.32	1.17
Grand Mean					1.3	0.3	0.0	87.2	87.4	87.3
Levene's F					1.00	1.00	0.00	0.762	0.857	1.00
Levene's Prob(F)					0.466	0.466	.	0.626	0.559	0.466
Rank X2					.	.	.	.	.	.
P(Rank X2)					.	.	.	.	.	.
Skewness					1.0384*	2.5712*	.	-2.4203*	-2.4214*	-2.4176*
Kurtosis					-0.2221	5.2845*	.	4.2055*	4.2089*	4.1971*
Replicate F					1.000	1.000	0.000	3.500	1.615	1.000
Replicate Prob(F)					0.3927	0.3927	1.0000	0.0585	0.2338	0.3927
Treatment F					62.286	64.000	0.000	19559.971	48325.466	3583.858
Treatment Prob(F)					0.0001	0.0001	1.0000	0.0001	0.0001	0.0001

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## Enlist Weed Control Systems

Trial ID: 20ENLIST  
 Protocol ID: NA20P2E004H  
 Project ID:

Location: Western Branch F-7      Trial Year: 2020  
 Investigator: Dr. Mark M. Loux  
 Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	AMARE	POLPY	SOLPT	HIBTR
Pest Scientific Name	Chenopodium al>	Amaranthus ret>	Polygonum pens>	Solanum ptycha>	Hibiscus trion>
Pest Name	lambsquarters,>	pigweed, redro>	smartweed, Pen>	nightshade, ea>	mallow, Venice
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jul-8-2020	Jul-8-2020	Jul-8-2020	Jul-8-2020	Jul-8-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1	1
Data Entry Date	Jul-9-2020	Jul-9-2020	Jul-9-2020	Jul-9-2020	Jul-9-2020
Days After First/Last Applic.	56 14	56 14	56 14	56 14	56 14
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B
Plant-Eval Interval	56 DP-1	56 DP-1	56 DP-1	56 DP-1	56 DP-1
Days After Emergence	44 DE-1	44 DE-1	44 DE-1	44 DE-1	44 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	17*	18*	19*	20*	21*
1	UTC					0 b	0 b	0 b	0 b	0 b
2	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
2	Enlist Duo	2200 g ai/ha	4.75 pt/a		B					
2	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
3	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
3	Liberty	656 g ai/ha	32 oz/a		B					
3	Enlist One	1060 g ai/ha	2 pt/a		B					
3	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
4	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
4	Durango DMA	1120 g ai/ha	32 oz/a		B					
4	Enlist One	1060 g ai/ha	2 pt/a		B					
4	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
5	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
5	Liberty	656 g ai/ha	32 oz/a		B					
5	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
6	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
6	Liberty	656 g ai/ha	32 oz/a		B					
6	Enlist One	1060 g ai/ha	2 pt/a		B					
6	Select Max	79 g ai/ha	9 oz/a		B					
6	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					

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## Enlist Weed Control Systems

Trial ID: 20ENLIST  
 Protocol ID: NA20P2E004H  
 Project ID:

Location: Western Branch F-7    Trial Year: 2020  
 Investigator: Dr. Mark M. Loux  
 Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	AMARE	POLPY	SOLPT	HIBTR
Pest Scientific Name	Chenopodium al>	Amaranthus ret>	Polygonum pens>	Solanum ptycha>	Hibiscus trion>
Pest Name	lambsquarters;>	pigweed, redro>	smartweed, Pen>	nightshade, ea>	mallow, Venice
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jul-8-2020	Jul-8-2020	Jul-8-2020	Jul-8-2020	Jul-8-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1	1
Data Entry Date	Jul-9-2020	Jul-9-2020	Jul-9-2020	Jul-9-2020	Jul-9-2020
Days After First/Last Applic.	56 14	56 14	56 14	56 14	56 14
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B
Plant-Eval Interval	56 DP-1	56 DP-1	56 DP-1	56 DP-1	56 DP-1
Days After Emergence	44 DE-1	44 DE-1	44 DE-1	44 DE-1	44 DE-1
Number of Decimals	0	0	0	0	0

Trt Treatment No. Name	Rate	Other Rate	Other Rate	Appl Unit Code	17*	18*	19*	20*	21*
7 Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
7 Durango DMA	1120 g ai/ha	32 oz/a		B					
7 Enlist One	1060 g ai/ha	2 pt/a		B					
7 EverpreX	1070 g ai/ha	1 pt/a		B					
7 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
8 Zidua Pro	215 g ai/ha	6 oz/a		A	100 a	100 a	100 a	100 a	100 a
8 Roundup Powermax	1260 g ai/ha	32 oz/a		B					
8 Flexstar	395 g ai/ha	1.5 pt/a		B					
8 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
LSD P=.05					.	.	.	.	.
Standard Deviation					0.0	0.0	0.0	0.0	0.0
CV					0.0	0.0	0.0	0.0	0.0
Grand Mean					87.5	87.5	87.5	87.5	87.5
Levene's F					0.00	0.00	0.00	0.00	0.00
Levene's Prob(F)					.	.	.	.	.
Rank X2					.	.	.	.	.
P(Rank X2)					.	.	.	.	.
Skewness					-2.4219*	-2.4219*	-2.4219*	-2.4219*	-2.4219*
Kurtosis					4.2103*	4.2103*	4.2103*	4.2103*	4.2103*
Replicate F					0.000	0.000	0.000	0.000	0.000
Replicate Prob(F)					1.0000	1.0000	1.0000	1.0000	1.0000
Treatment F					0.000	0.000	0.000	0.000	0.000
Treatment Prob(F)					1.0000	1.0000	1.0000	1.0000	1.0000

# The Ohio State University

## Enlist Weed Control Systems

Trial ID: 20ENLIST  
 Protocol ID: NA20P2E004H  
 Project ID:

Location: Western Branch F-7 Trial Year: 2020  
 Investigator: Dr. Mark M. Loux  
 Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	ABUTH	SETFA	ECHCG	AMBTR
Pest Scientific Name	Abutilon theop>	Setaria faberi	Echinochloa cr>	Ambrosia trifi>
Pest Name	velvetleaf	foxtail, giant	barnyardgrass	ragweed, giant
Crop Type, Code	C GLXMA			
BBCH Scale	BSOY			
Crop Scientific Name	Glycine max			
Crop Name	Soybean			
Rating Date	Jul-8-2020	Jul-22-2020	Jul-22-2020	Jul-22-2020
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit	%	%	%	%
Number of Subsamples	1	1	1	1
Assessed By				
Data Entry Date	Jul-9-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020
Days After First/Last Applic.	56 14	70 28	70 28	70 28
Trt-Eval Interval	14 DA-B	28 DA-B	28 DA-B	28 DA-B
Plant-Eval Interval	56 DP-1	70 DP-1	70 DP-1	70 DP-1
Days After Emergence	44 DE-1	58 DE-1	58 DE-1	58 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	22*	23*	24*	25*	26*
1	UTC					0 b	0 -	0 c	0 c	0 c
2	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	0 -	100 a	100 a	100 a
	2 Enlist Duo	2200 g ai/ha	4.75 pt/a		B					
	2 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
3	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	0 -	98 b	100 a	100 a
	3 Liberty	656 g ai/ha	32 oz/a		B					
	3 Enlist One	1060 g ai/ha	2 pt/a		B					
	3 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
4	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	0 -	99 ab	100 a	100 a
	4 Durango DMA	1120 g ai/ha	32 oz/a		B					
	4 Enlist One	1060 g ai/ha	2 pt/a		B					
	4 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
5	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	0 -	99 ab	98 b	100 a
	5 Liberty	656 g ai/ha	32 oz/a		B					
	5 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
6	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	0 -	99 ab	99 a	100 a
	6 Liberty	656 g ai/ha	32 oz/a		B					
	6 Enlist One	1060 g ai/ha	2 pt/a		B					
	6 Select Max	79 g ai/ha	9 oz/a		B					
	6 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					

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## Enlist Weed Control Systems

Trial ID: 20ENLIST  
 Protocol ID: NA20P2E004H  
 Project ID:

Location: Western Branch F-7 Trial Year: 2020  
 Investigator: Dr. Mark M. Loux  
 Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	ABUTH	SETFA	ECHCG	AMBTR
Pest Scientific Name	Abutilon theop>	Setaria faberi	Echinochloa cr>	Ambrosia trifi>
Pest Name	velvetleaf	foxtail, giant	barnyardgrass	ragweed, giant
Crop Type, Code	C GLXMA			
BBCH Scale	BSOY			
Crop Scientific Name	Glycine max			
Crop Name	Soybean			
Rating Date	Jul-8-2020	Jul-22-2020	Jul-22-2020	Jul-22-2020
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1
Data Entry Date	Jul-9-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020
Days After First/Last Applic.	56 14	70 28	70 28	70 28
Trt-Eval Interval	14 DA-B	28 DA-B	28 DA-B	28 DA-B
Plant-Eval Interval	56 DP-1	70 DP-1	70 DP-1	70 DP-1
Days After Emergence	44 DE-1	58 DE-1	58 DE-1	58 DE-1
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Rate	Other Rate	Other Rate	Appl Unit Code	22*	23*	24*	25*	26*
7 Sonic	220 g ai/ha	4.5 oz/a		A	100 a	0 -	100 a	100 a	100 a
7 Durango DMA	1120 g ai/ha	32 oz/a		B					
7 Enlist One	1060 g ai/ha	2 pt/a		B					
7 EverpreX	1070 g ai/ha	1 pt/a		B					
7 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
8 Zidua Pro	215 g ai/ha	6 oz/a		A	100 a	0 -	100 a	100 a	99 b
8 Roundup Powermax	1260 g ai/ha	32 oz/a		B					
8 Flexstar	395 g ai/ha	1.5 pt/a		B					
8 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
LSD P=.05							1.7	0.8	0.9
Standard Deviation					0.0	0.0	0.9	0.4	0.5
CV					0.0	0.0	1.09	0.5	0.62
Grand Mean					87.5	0.0	86.8	87.1	87.3
Levene's F					0.00	0.00	1.536	0.571	3.00
Levene's Prob(F)					.	.	0.225	0.769	0.033*
Rank X2					.	.	.	.	.
P(Rank X2)					.	.	.	.	.
Skewness					-2.4219*	.	-2.4164*	-2.4202*	-2.4202*
Kurtosis					4.2103*	.	4.1937*	4.2053*	4.2052*
Replicate F					0.000	0.000	3.384	0.000	1.000
Replicate Prob(F)					1.0000	1.0000	0.0633	1.0000	0.3927
Treatment F					0.000	0.000	4110.623	19523.971	12810.450
Treatment Prob(F)					1.0000	1.0000	0.0001	0.0001	0.0001

# The Ohio State University

## Enlist Weed Control Systems

Trial ID: 20ENLIST  
 Protocol ID: NA20P2E004H  
 Project ID:

Location: Western Branch F-7  
 Investigator: Dr. Mark M. Loux  
 Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	AMARE	POLPY	SOLPT	HIBTR
Pest Scientific Name	Chenopodium al>	Amaranthus ret>	Polygonum pens>	Solanum ptycha>	Hibiscus trion>
Pest Name	lambsquarters,>	pigweed, redro>	smartweed, Pen>	nightshade, ea>	mallow, Venice
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jul-22-2020	Jul-22-2020	Jul-22-2020	Jul-22-2020	Jul-22-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1	1
Data Entry Date	Jul-27-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020
Days After First/Last Applic.	70 28	70 28	70 28	70 28	70 28
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
Plant-Eval Interval	70 DP-1	70 DP-1	70 DP-1	70 DP-1	70 DP-1
Days After Emergence	58 DE-1	58 DE-1	58 DE-1	58 DE-1	58 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	27*	28*	29*	30*	31*
1	UTC					0 b	0 b	0 b	0 b	0 b
2	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
2	Enlist Duo	2200 g ai/ha	4.75 pt/a		B					
2	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
3	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
3	Liberty	656 g ai/ha	32 oz/a		B					
3	Enlist One	1060 g ai/ha	2 pt/a		B					
3	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
4	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
4	Durango DMA	1120 g ai/ha	32 oz/a		B					
4	Enlist One	1060 g ai/ha	2 pt/a		B					
4	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
5	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
5	Liberty	656 g ai/ha	32 oz/a		B					
5	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
6	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
6	Liberty	656 g ai/ha	32 oz/a		B					
6	Enlist One	1060 g ai/ha	2 pt/a		B					
6	Select Max	79 g ai/ha	9 oz/a		B					
6	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					

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## Enlist Weed Control Systems

Trial ID: 20ENLIST  
 Protocol ID: NA20P2E004H  
 Project ID:

Location: Western Branch F-7    Trial Year: 2020  
 Investigator: Dr. Mark M. Loux  
 Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	AMARE	POLPY	SOLPT	HIBTR
Pest Scientific Name	Chenopodium al> Amaranthus ret> Polygonum pens> Solanum ptycha> Hibiscus trion>				
Pest Name	lambsquarters;> pigweed, redro> smartweed, Pen> nightshade, ea> mallow, Venice				
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jul-22-2020	Jul-22-2020	Jul-22-2020	Jul-22-2020	Jul-22-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Assessed By					
Data Entry Date	Jul-27-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020	Jul-27-2020
Days After First/Last Applic.	70 28	70 28	70 28	70 28	70 28
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
Plant-Eval Interval	70 DP-1	70 DP-1	70 DP-1	70 DP-1	70 DP-1
Days After Emergence	58 DE-1	58 DE-1	58 DE-1	58 DE-1	58 DE-1
Number of Decimals	0	0	0	0	0

Trt Treatment No. Name	Rate	Other Rate	Other Rate	Appl Unit Code	27*	28*	29*	30*	31*
7 Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
7 Durango DMA	1120 g ai/ha	32 oz/a		B					
7 Enlist One	1060 g ai/ha	2 pt/a		B					
7 EverpreX	1070 g ai/ha	1 pt/a		B					
7 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
8 Zidua Pro	215 g ai/ha	6 oz/a		A	100 a	100 a	100 a	100 a	100 a
8 Roundup Powermax	1260 g ai/ha	32 oz/a		B					
8 Flexstar	395 g ai/ha	1.5 pt/a		B					
8 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
LSD P=.05					.	.	.	.	.
Standard Deviation					0.0	0.0	0.0	0.0	0.0
CV					0.0	0.0	0.0	0.0	0.0
Grand Mean					87.5	87.5	87.5	87.5	87.5
Levene's F					0.00	0.00	0.00	0.00	0.00
Levene's Prob(F)					.	.	.	.	.
Rank X2					.	.	.	.	.
P(Rank X2)					.	.	.	.	.
Skewness					-2.4219*	-2.4219*	-2.4219*	-2.4219*	-2.4219*
Kurtosis					4.2103*	4.2103*	4.2103*	4.2103*	4.2103*
Replicate F					0.000	0.000	0.000	0.000	0.000
Replicate Prob(F)					1.0000	1.0000	1.0000	1.0000	1.0000
Treatment F					0.000	0.000	0.000	0.000	0.000
Treatment Prob(F)					1.0000	1.0000	1.0000	1.0000	1.0000

# The Ohio State University

## Enlist Weed Control Systems

Trial ID: 20ENLIST  
 Protocol ID: NA20P2E004H  
 Project ID:

Location: Western Branch F-7      Trial Year: 2020  
 Investigator: Dr. Mark M. Loux  
 Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ABUTH	SETFA	ECHCG	AMBTR	CHEAL
Pest Scientific Name	Abutilon theop>	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium ai>
Pest Name	velvetleaf	foxtail, giant	barnyardgrass	ragweed, giant	lambsquarters,>
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jul-22-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1	1
Data Entry Date	Jul-27-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020
Days After First/Last Applic.	70 28	85 43	85 43	85 43	85 43
Trt-Eval Interval	28 DA-B	43 DA-B	43 DA-B	43 DA-B	43 DA-B
Plant-Eval Interval	70 DP-1	85 DP-1	85 DP-1	85 DP-1	85 DP-1
Days After Emergence	58 DE-1	73 DE-1	73 DE-1	73 DE-1	73 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	32*	33*	34*	35*	36*
1	UTC					0 b	0 b	0 c	0 b	0 b
2	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	2 Enlist Duo	2200 g ai/ha	4.75 pt/a		B					
	2 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
3	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	3 Liberty	656 g ai/ha	32 oz/a		B					
	3 Enlist One	1060 g ai/ha	2 pt/a		B					
	3 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
4	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	4 Durango DMA	1120 g ai/ha	32 oz/a		B					
	4 Enlist One	1060 g ai/ha	2 pt/a		B					
	4 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
5	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	99 b	98 a	100 a
	5 Liberty	656 g ai/ha	32 oz/a		B					
	5 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
6	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	6 Liberty	656 g ai/ha	32 oz/a		B					
	6 Enlist One	1060 g ai/ha	2 pt/a		B					
	6 Select Max	79 g ai/ha	9 oz/a		B					
	6 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					



# The Ohio State University

## Enlist Weed Control Systems

Trial ID: 20ENLIST  
 Protocol ID: NA20P2E004H  
 Project ID:

Location: Western Branch F-7 Trial Year: 2020  
 Investigator: Dr. Mark M. Loux  
 Study Director: Anthony Dobbels  
 Sponsor Contact: Jessica Bugg, Corteva

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ABUTH	SETFA	ECHCG	AMBTR	CHEAL
Pest Scientific Name	Abutilon theop>	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>
Pest Name	velvetleaf	foxtail, giant	barnyardgrass	ragweed, giant	lambsquarters,>
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jul-22-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1	1
Data Entry Date	Jul-27-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020
Days After First/Last Applic.	70 28	85 43	85 43	85 43	85 43
Trt-Eval Interval	28 DA-B	43 DA-B	43 DA-B	43 DA-B	43 DA-B
Plant-Eval Interval	70 DP-1	85 DP-1	85 DP-1	85 DP-1	85 DP-1
Days After Emergence	58 DE-1	73 DE-1	73 DE-1	73 DE-1	73 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit	Code	32*	33*	34*	35*	36*
7	Sonic	220 g ai/ha	4.5 oz/a		A		100 a	100 a	100 a	100 a	100 a
7	Durango DMA	1120 g ai/ha	32 oz/a		B						
7	Enlist One	1060 g ai/ha	2 pt/a		B						
7	EverpreX	1070 g ai/ha	1 pt/a		B						
7	N PAK-AMS	2.5 % v/v	2.5 % v/v		B						
8	Zidua Pro	215 g ai/ha	6 oz/a		A		100 a	100 a	100 a	98 a	100 a
8	Roundup Powermax	1260 g ai/ha	32 oz/a		B						
8	Flexstar	395 g ai/ha	1.5 pt/a		B						
8	N PAK-AMS	2.5 % v/v	2.5 % v/v		B						
LSD	P=.05							0.4	0.6	2.3	.
Standard Deviation							0.0	0.2	0.4	1.3	0.0
CV							0.0	0.23	0.4	1.53	0.0
Grand Mean							87.5	87.5	87.4	87.1	87.5
Levene's F							0.00	1.00	4.00	0.857	0.00
Levene's Prob(F)							.	0.466	0.01*	0.559	.
Rank X2							.	.	.	.	.
P(Rank X2)							.	.	.	.	.
Skewness							-2.4219*	-2.4217*	-2.421*	-2.4137*	-2.4219*
Kurtosis							4.2103*	4.2097*	4.2078*	4.1852*	4.2103*
Replicate F							0.000	1.000	1.000	2.333	0.000
Replicate Prob(F)							1.0000	0.3927	0.3927	0.1335	1.0000
Treatment F							0.000	89915.295	29917.289	2081.000	0.000
Treatment Prob(F)							1.0000	0.0001	0.0001	0.0001	1.0000

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	AMARE	POLPY	SOLPT	HIBTR	ABUTH
Pest Scientific Name	Amaranthus ret>	Polygonum pens>	Solanum ptycha>	Hibiscus trion>	Abutilon theop>
Pest Name	pigweed, redro>	smartweed, Pen>	nightshade, ea>	mallow, Venice	velvetleaf
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Aug-6-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1	1
Data Entry Date					Aug-6-2020
Days After First/Last Applic.	85 43	85 43	85 43	85 43	85 43
Trt-Eval Interval	43 DA-B	43 DA-B	43 DA-B	43 DA-B	43 DA-B
Plant-Eval Interval	85 DP-1	85 DP-1	85 DP-1	85 DP-1	85 DP-1
Days After Emergence	73 DE-1	73 DE-1	73 DE-1	73 DE-1	73 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	37*	38*	39*	40*	41*
1	UTC					0 b	0 b	0 b	0 b	0 b
2	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	2 Enlist Duo	2200 g ai/ha	4.75 pt/a		B					
	2 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
3	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	3 Liberty	656 g ai/ha	32 oz/a		B					
	3 Enlist One	1060 g ai/ha	2 pt/a		B					
	3 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
4	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	4 Durango DMA	1120 g ai/ha	32 oz/a		B					
	4 Enlist One	1060 g ai/ha	2 pt/a		B					
	4 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
5	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	5 Liberty	656 g ai/ha	32 oz/a		B					
	5 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
6	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
	6 Liberty	656 g ai/ha	32 oz/a		B					
	6 Enlist One	1060 g ai/ha	2 pt/a		B					
	6 Select Max	79 g ai/ha	9 oz/a		B					
	6 N PAK-AMS	2.5 % v/v	2.5 % v/v		B					

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	AMARE	POLPY	SOLPT	HIBTR	ABUTH
Pest Scientific Name	Amaranthus ret>	Polygonum pens>	Solanum ptycha>	Hibiscus trion>	Abutilon theop>
Pest Name	pigweed, redro>	smartweed, Pen>	nightshade, ea>	mallow, Venice	velvetleaf
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Aug-6-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020	Aug-6-2020
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples Assessed By	1	1	1	1	1
Data Entry Date					Aug-6-2020
Days After First/Last Applic.	85 43	85 43	85 43	85 43	85 43
Trt-Eval Interval	43 DA-B	43 DA-B	43 DA-B	43 DA-B	43 DA-B
Plant-Eval Interval	85 DP-1	85 DP-1	85 DP-1	85 DP-1	85 DP-1
Days After Emergence	73 DE-1	73 DE-1	73 DE-1	73 DE-1	73 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Unit	Appl Code	37*	38*	39*	40*	41*
7	Sonic	220 g ai/ha	4.5 oz/a		A	100 a	100 a	100 a	100 a	100 a
7	Durango DMA	1120 g ai/ha	32 oz/a		B					
7	Enlist One	1060 g ai/ha	2 pt/a		B					
7	EverpreX	1070 g ai/ha	1 pt/a		B					
7	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
8	Zidua Pro	215 g ai/ha	6 oz/a		A	100 a	100 a	100 a	100 a	100 a
8	Roundup Powermax	1260 g ai/ha	32 oz/a		B					
8	Flexstar	395 g ai/ha	1.5 pt/a		B					
8	N PAK-AMS	2.5 % v/v	2.5 % v/v		B					
LSD P=.05						.	.	.	.	.
Standard Deviation						0.0	0.0	0.0	0.0	0.0
CV						0.0	0.0	0.0	0.0	0.0
Grand Mean						87.5	87.5	87.5	87.5	87.5
Levene's F						0.00	0.00	0.00	0.00	0.00
Levene's Prob(F)						.	.	.	.	.
Rank X2						.	.	.	.	.
P(Rank X2)						.	.	.	.	.
Skewness						-2.4219*	-2.4219*	-2.4219*	-2.4219*	-2.4219*
Kurtosis						4.2103*	4.2103*	4.2103*	4.2103*	4.2103*
Replicate F						0.000	0.000	0.000	0.000	0.000
Replicate Prob(F)						1.0000	1.0000	1.0000	1.0000	1.0000
Treatment F						0.000	0.000	0.000	0.000	0.000
Treatment Prob(F)						1.0000	1.0000	1.0000	1.0000	1.0000

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Pest Type  
 Pest Code  
 Pest Scientific Name  
 Pest Name  
 Crop Type, Code  
 BBCH Scale  
 Crop Scientific Name  
 Crop Name  
 Rating Date  
 Rating Type  
 Rating Unit  
 Number of Subsamples  
 Assessed By  
 Data Entry Date  
 Days After First/Last Applic.  
 Trt-Eval Interval  
 Plant-Eval Interval  
 Days After Emergence  
 Number of Decimals

1

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit	Code
		Rate Unit	Rate	Rate	Unit	42
1 UTC						
2	Sonic	220 g ai/ha	4.5 oz/a		A	
2	Enlist Duo	2200 g ai/ha	4.75 pt/a		B	
2	N PAK-AMS	2.5 % v/v	2.5 % v/v		B	
3	Sonic	220 g ai/ha	4.5 oz/a		A	
3	Liberty	656 g ai/ha	32 oz/a		B	
3	Enlist One	1060 g ai/ha	2 pt/a		B	
3	N PAK-AMS	2.5 % v/v	2.5 % v/v		B	
4	Sonic	220 g ai/ha	4.5 oz/a		A	
4	Durango DMA	1120 g ai/ha	32 oz/a		B	
4	Enlist One	1060 g ai/ha	2 pt/a		B	
4	N PAK-AMS	2.5 % v/v	2.5 % v/v		B	
5	Sonic	220 g ai/ha	4.5 oz/a		A	
5	Liberty	656 g ai/ha	32 oz/a		B	
5	N PAK-AMS	2.5 % v/v	2.5 % v/v		B	
6	Sonic	220 g ai/ha	4.5 oz/a		A	
6	Liberty	656 g ai/ha	32 oz/a		B	
6	Enlist One	1060 g ai/ha	2 pt/a		B	
6	Select Max	79 g ai/ha	9 oz/a		B	
6	N PAK-AMS	2.5 % v/v	2.5 % v/v		B	

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Pest Type  
 Pest Code  
 Pest Scientific Name  
 Pest Name  
 Crop Type, Code  
 BBCH Scale  
 Crop Scientific Name  
 Crop Name  
 Rating Date  
 Rating Type  
 Rating Unit  
 Number of Subsamples 1  
 Assessed By  
 Data Entry Date  
 Days After First/Last Applic.  
 Trt-Eval Interval  
 Plant-Eval Interval  
 Days After Emergence  
 Number of Decimals

Trt No.	Treatment Name	Rate	Other Rate	Other Unit	Appl Code
7	Sonic	220 g ai/ha	4.5 oz/a		A
7	Durango DMA	1120 g ai/ha	32 oz/a		B
7	Enlist One	1060 g ai/ha	2 pt/a		B
7	EverpreX	1070 g ai/ha	1 pt/a		B
7	N PAK-AMS	2.5 % v/v	2.5 % v/v		B
8	Zidua Pro	215 g ai/ha	6 oz/a		A
8	Roundup Powermax	1260 g ai/ha	32 oz/a		B
8	Flexstar	395 g ai/ha	1.5 pt/a		B
8	N PAK-AMS	2.5 % v/v	2.5 % v/v		B

LSD P=.05  
 Standard Deviation  
 CV  
 Grand Mean  
 Levene's F  
 Levene's Prob(F)  
 Rank X2  
 P(Rank X2)  
 Skewness  
 Kurtosis

Replicate F  
 Replicate Prob(F)  
 Treatment F  
 Treatment Prob(F)

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Trial Year: 2020

### Pest Type

W, Weed = Weed or volunteer crop

### Pest Code

SETFA, Setaria faberi, foxtail, giant = US  
ECHCG, Echinochloa crus-galli, barnyardgrass = US  
AMBTR, Ambrosia trifida, ragweed, giant = US  
CHEAL, Chenopodium album, lambsquarters, common = US  
AMARE, Amaranthus retroflexus, pigweed, redroot = US  
POLPY, Polygonum pensylvanicum, smartweed, Pennsylvania = US  
SOLPT, Solanum ptychanthum, nightshade, eastern black = US  
HIBTR, Hibiscus trionum, mallow, Venice = US  
ABUTH, Abutilon theophrasti, velvetleaf = US

### Crop Type, Code

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

### Rating Type

CONTRO = control / burndown or knockdown  
PHYGEN = phytotoxicity - general / injury  
PHYNEC = phytotoxicity - necrosis /burn

### Rating Unit

% = percent

### Plant-Eval Interval

42 DP-1 = 1 GLXMA May-13-2020  
49 DP-1 = 1 GLXMA May-13-2020  
56 DP-1 = 1 GLXMA May-13-2020  
70 DP-1 = 1 GLXMA May-13-2020  
85 DP-1 = 1 GLXMA May-13-2020