

# The Ohio State University

**Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University**

Trial ID: USNK0H4022021 Location: Bruns Dain FS Trial Year: 2021  
 Protocol ID: HBI008A4-2021US Investigator (Creator): Dain Bruns  
 Master Protocol ID: Study Director:  
 Official Trial ID: Sponsor Contact:  
 Conducted Under GEP: No Trial Origin: P public institution trial

## General Trial Information

**Investigator:** Dr. Mark M. Loux **Title:** Professor

**Discipline:** H herbicide  
**Trial Status:** E established

**Trial Status Date:** Apr-29-2021 10:44 AM

**ARM Trial Created On:** Apr-6-2021

**Initiation Date:** Apr-27-2021

**Last Changed By:** Dr. Mark M. Loux

**Trial Usage/Type:** 0 Research and Development

**Protocol Revision Number:** 1.0 **Protocol Revision Date:** Apr-6-2021

## Trial Location

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

**Latitude of LL Corner °:** 39.85774 N  
**Longitude of LL Corner °:** -83.67001 W USAOH 42.327132 -38.403423  
 -80.518705 -84.820305

**Altitude of LL Corner:** 1085.00 FT

**Conducted Under GLP:** No

**Conducted Under GEP:** No

**Role:** INVEST investigator

**Investigator:** Dr. Mark M. Loux **Title:** Professor

**Organization:** The Ohio State University **Org. Type:** University

**Address 1:** 2021 Coffey Road

**Country:** USA United States

**City:** Columbus

**State/Prov:** OH

**Postal Code:** 43210

## Crop Description

**Crop 1:** C ZEAMD Zea mays indentata Dent corn **BBCH Scale:** BCOR

**Entry Date:** May-3-2021

**Variety:** Pioneer P1108Q

**Attributes:** Glyphosate-R, Glufosinate-R

**Seed Lot No:** A3STJ13002-N

**% Germination:** 95

**Stage Scale:** BBCH

**Seed Source:** Pioneer

**Planting Rate:** 32097 S/A

**Planting Date:** Apr-27-2021

**Depth:** 2 IN

**Rows per Plot:** 4

**Row Spacing:** 30 IN

**Planting Method:** PLANTD planted

**Planting Equipment:** FPP finger pickup planter

**Seed Bed:** MEDIUM medium

**Soil Moisture:** SLIDRY slightly dry

**Soil Temperature:** 63 F

**Emergence Date:** May-14-2021

**Harvest Date:** Oct-11-2021

**Moisture Meter:** Harvest Master

**% Standard Moisture:** 15.5

**Weighing Equipment:** Harvest Master HM800

**Harvest Equipment:** Kincaid 8XP

**Harvested Width:** 5 FT

**Harvested Length:** 30 FT

## Pest Description

**Pest 1 Type:** W **Code:** SETFA **Setaria faberi**

**Common Name:** Giant foxtail

**Entry Date:** Jun-7-2021

**Stage Scale:** BBCH

**Pest 2 Type:** W **Code:** AMBTR **Ambrosia trifida**

**Common Name:** Giant ragweed

**Attributes:** gly-R

**Entry Date:** Jun-7-2021

**Stage Scale:** BBCH

**Pest 3 Type:** W **Code:** CHEAL **Chenopodium album**

**Common Name:** common lambsquarters

**Attributes:** atrazine-R

**Entry Date:** Jun-7-2021

**Stage Scale:** BBCH

**Pest 4 Type:** W **Code:** AMARE **Amaranthus retroflexus**

**Common Name:** Redroot pigweed

**Attributes:** atrazine-R

**Entry Date:** Jun-7-2021

**Stage Scale:** BBCH

**Pest 5 Type:** W **Code:** ABUTH **Abutilon theophrasti**

**Common Name:** velvetleaf

**Entry Date:** Jun-7-2021

**Stage Scale:** BBCH

**Pest 6 Type:** W **Code:** IPOHE **Ipomoea hederacea**

**Common Name:** ivy-leaf morning glory

**Entry Date:** Jun-23-2021

**Stage Scale:** BBCH

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## Site and Design

Treated Plot Width: 10 FT Total Plot Width: 10 FT Site Type: FIELD field  
 Treated Plot Length: 30 FT Total Plot Length: 30 FT Experimental Unit: 1 PLOT plot  
 Treated Plot Area: 300.0 FT<sup>2</sup> Treatments: 16 Tillage Type: CONTIL conventional-till  
 Replications: 4 Study Design: RACOB� Randomized Complete Block (RCB)  
 Untreated Arrangement: INCLUDED single control randomized in each block  
 Block Arrangement: BWRPSS blocks wrapped. plots side by side  
 Distance between Blocks: 5 FT

## Previous

No. Crop Year  
 1. GLXMA 2020

## Soil Description

Description Name: Big E  
 % Sand: 44 % OM: 3.1 Texture: SICL silty clay loam  
 % Silt: 45 pH: 6.6 Soil Name: Kokomo  
 % Clay: 11 CEC: 15 Fert. Level: G good  
 Soil Drainage: G good

## Application Description

	A	B
Application Date	Apr-28-2021	Jun-6-2021
Appl. Start Time	7:30 AM	9:30 AM
Appl. Stop Time	8:00 AM	10:00 AM
Interval to Prev. Appl.		39 DAYS
Application Method	NONINC	NONINC
Application Timing	PREPRE	POSPOS
Application Placement	BROSIOI	BROFOL
Applied By	Ackley	Ackley
Appl. Entry Date	Apr-29-2021	Jun-7-2021
Air Temperature Start, Stop	66 67.7 F	81 83 F
% Relative Humidity Start, Stop	65 63	60 56
Wind Velocity+Dir. Start	6 MPH WSW	4 MPH SSW
Wind Velocity+Dir. Stop	8 MPH WSW	4 MPH SSW
Wind Velocity+Dir. Max	9.2 MPH WSW	4 MPH SSW
Wet Leaves (Y/N)	N no	N no
Soil Temperature	58 F	67 F
Soil Moisture	DRY	dry
% Cloud Cover	40	60
Next Moisture Occurred On	Apr-28-2021	Jun-7-2021
Time to Next Moisture	11.5 HR	23.0 HR
Moisture 1 Week after Appl.	1.1 IN	0.48 IN
Weather Source	WSFIELD	WSFIELD

## Crop Stage At Each Application

	A		B	
Crop 1 Code, BBCH Scale	ZEAMD	BCOR	ZEAMD	BCOR
Stage Scale Used	BBCH		BBCH	
Stage Majority, Percent	00	100	15	100
Height Average			12	IN
Height Minimum, Maximum			11	13

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Master Protocol ID: Study Director:

Official Trial ID: Sponsor Contact:

Conducted Under GEP: No

Trial Origin: P public institution trial

## 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			14	10
Height Average			8	IN
Height Minimum, Maximum			8	10
Density Average			259	PLA/m2
Density Minimum, Maximum			64	484
<b>Pest 2 Code, Type, Scale</b>	AMBTR	W BBCH	AMBTR	W BBCH
Stage Majority, Percent			19	80
Stage Minimum, Percent			14	10
Stage Maximum, Percent			19	80
Height Average			8	IN
Height Minimum, Maximum			6	10
Density Average			34	PLA/m2
Density Minimum, Maximum			12	60
<b>Pest 3 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			3	IN
Height Minimum, Maximum			2	3
Density Average			101	PLA/m2
Density Minimum, Maximum			4	188
<b>Pest 4 Code, Type, Scale</b>	AMARE	W BBCH	AMARE	W BBCH
Stage Majority, Percent			14	80
Stage Minimum, Percent			12	10
Stage Maximum, Percent			16	10
Height Average			2	IN
Height Minimum, Maximum			1	2
Density Average			1	PLA/m2
Density Minimum, Maximum			1	1
<b>Pest 5 Code, Type, Scale</b>	ABUTH	W BBCH	ABUTH	W BBCH
Stage Majority, Percent			13	80
Stage Minimum, Percent			12	10
Stage Maximum, Percent			14	10
Height Average			3	IN
Height Minimum, Maximum			2	3
Density Average			1	PLA/m2
Density Minimum, Maximum			1	1
<b>Pest 6 Code, Type, Scale</b>	IPOHE	W BBCH	IPOHE	W BBCH
Stage Majority, Percent			12	100
Height Average			2	IN
Height Minimum, Maximum			1	2
Density Average			1	PLA/m2
Density Minimum, Maximum			1	1

## Application Equipment

	A		B	
<b>Appl. Equipment</b>	6' TTI		10' AIXR	
<b>Equipment Type</b>	BACCAI		BACCAI	
<b>Operation Pressure</b>	44	PSI	44	PSI
<b>Nozzle Model</b>	1110015		110015	
<b>Nozzle Type</b>	TEEJAI		ARINDH	
<b>Nozzle TradeName</b>	TeeJet		TeeJet	
<b>Nozzle Tip Size, Color</b>	015	green	015	green
<b>Nozzle Spacing</b>	18	IN	18	IN
<b>Nozzle Filter Mesh</b>	100		100	
<b>Boom Length</b>	6.67	FT	10	FT
<b>Boom Height</b>	20	IN	20	IN
<b>Ground Speed</b>	3	MPH	3	MPH
<b>Carrier</b>	WATER		WATER	
<b>Water Hardness (ppm CaCO3)</b>			250	
<b>Application Amount</b>	15	GAL/AC	15	GAL/AC
<b>Minimum Mix/Treatment</b>	1.564	L	1.564	L
<b>Mix Overage</b>			25	mL
<b>Mix Size</b>	1	L	2	L
<b>Spray pH</b>			7.8	
<b>Propellant</b>	COMCO2		COMCO2	
<b>Tank Mix (Y/N)</b>			Y	yes

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 Official Trial ID:      Sponsor Contact:  
 Conducted Under GEP: No      Trial Origin: P public institution trial

**Notes**

<b>Context</b>	<b>Date</b>	<b>By</b>	<b>Notes</b>
STATUS	Apr-6-2021	Dain Bruns	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Apr-29-2021	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Initiation Date entered.

Pest ID Code	1 W Weed	2 W Weed	3 W Weed
Pest Code	SETFA	AMBTR	CHEAL
Pest Scientific Name	Setaria faberi	Ambrosia trifida	Chenopodium alb>
Pest Name	Giant foxtail	Giant ragweed	common lamb>
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	May-21-2021	Jun-4-2021	Jun-4-2021
SE Group No.	1	22	23
SE Name	ZUSX001	ZUSW001	ZUSW001
SE Description	%PHYTO-GENERAL	%CONTROL	%CONTROL
Part Rated	PLANT -	PLANT -	PLANT -
Rating Type	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1
Crop Stage Scale	BBCH	BBCH	BBCH
Crop Stage Majority/Min/Max	12 12 12		
Assessed By	Dobbels		
Data Entry Date	May-25-2021	Jun-21-2021	Jun-21-2021
Days After First/Last Applic.	23 23	37 37	37 37
Trt-Eval Interval	23 DA-A	-2 DA-B	-2 DA-B
Plant-Eval Interval	24 DP-1	38 DP-1	38 DP-1
Days After Emergence	7 DE-1	21 DE-1	21 DE-1
ARM Action Codes		ET8	
Number of Decimals	0	0	0

Trt Treatment No. Name	Other Rate	Other Rate	Appl Unit Code	1*	2*	3*	4*
1 UNTREATED CHECK				0 -	0 b	0 b	0 b
2 BICEP II MAGNUM	1.6 qt/a		A	0 -	78 a	64 a	89 a
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
3 LEXAR EZ 3.7 ZC	1.8 qt/a		A	0 -	79 a	66 a	100 a
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
4 SURESTART II 4.25 SC	1.75 pt/a		A	1 -	73 a	60 a	96 a
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
5 HARNESS XTRA 5.6L	1.8 qt/a		A	0 -	80 a	64 a	98 a
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
6 VERDICT 5.57 EC	14 fl oz/a		A	1 -	70 a	66 a	95 a
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
7 SURESTART II 4.25 SC	1.75 pt/a		A	1 -	82 a	64 a	95 a
AMSOL	2.5 qt/a		B				
RESICORE 3.29 SC	1.25 qt/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				

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Pest Code	SETFA	AMBTR	CHEAL
Pest Scientific Name	Setaria faberi	Ambrosia trifida	Chenopodium alb>
Pest Name	Giant foxtail	Giant ragweed	common lamb>
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	May-21-2021	Jun-4-2021	Jun-4-2021
SE Group No.	1	22	23
SE Name	ZUSX001	ZUSW001	ZUSW001
SE Description	%PHYTO-GENERAL	%CONTROL	%CONTROL
Part Rated	PLANT -	PLANT -	PLANT -
Rating Type	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1
Crop Stage Scale	BBCH	BBCH	BBCH
Crop Stage Majority/Min/Max	12 12 12		
Assessed By	Dobbels		
Data Entry Date	May-25-2021	Jun-21-2021	Jun-21-2021
Days After First/Last Applic.	23 23	37 37	37 37
Trt-Eval Interval	23 DA-A	-2 DA-B	-2 DA-B
Plant-Eval Interval	24 DP-1	38 DP-1	38 DP-1
Days After Emergence	7 DE-1	21 DE-1	21 DE-1
ARM Action Codes		ET8	
Number of Decimals	0	0	0

Trt Treatment No. Name	Other Other Rate	Appl Unit Code	1*	2*	3*	4*
8 HARNESS XTRA 5.6L	1.8 qt/a	A	3 -	80 a	54	100 a
AMSOL	2.5 qt/a	B				
LAUDIS 3.5 SC	3 fl oz/a	B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a	B				
SUPERB HC	0.5 % v/v	B				
9 VERDICT 5.57 EC	10 fl oz/a	A	0 -	78 a	70 a	99 a
AMSOL	2.5 qt/a	B				
ARMEZON PRO	18 fl oz/a	B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a	B				
10 ACURON XR	3.5 qt/a	A	0 -	81 a	70 a	100 a
11 ACURON XR	3 qt/a	A	0 -	88 a	70 a	100 a
12 HARNESS MAX 3.85 SC	75 fl oz/a	A	1 -	88 a	68 a	75 a
13 ACURON 3.44 ZC	3 qt/a	A	1 -	82 a	68 a	100 a
14 HARNESS MAX 3.85 SC	37.5 fl oz/a	A	1 -	84 a	71 a	100 a
AMSOL	2.5 qt/a	B				
HARNESS MAX 3.85 SC	37.5 fl oz/a	B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a	B				
15 ACURON 3.44 ZC	1.5 qt/a	A	1 -	75 a	63 a	100 a
AMSOL	2.5 qt/a	B				
ACURON 3.44 ZC	1.5 qt/a	B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a	B				

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 Official Trial ID:      Sponsor Contact:  
 Conducted Under GEP: No      Trial Origin: P public institution trial

Pest ID Code	1 W Weed		2 W Weed		3 W Weed		
Pest Code	SETFA		AMBTR		CHEAL		
Pest Scientific Name	Setaria faberi		Ambrosia trifida		Chenopodium alb>		
Pest Name	Giant foxtail		Giant ragweed		common		
Crop ID Code	1 ZEAMD		1 ZEAMD		1 ZEAMD		
BBCH Scale	BCOR		BCOR		BCOR		
Crop Scientific Name	Zea mays indent>		Zea mays indent>		Zea mays indent>		
Crop Name	Dent corn		Dent corn		Dent corn		
Crop Variety	Pioneer P1108Q		Pioneer P1108Q		Pioneer P1108Q		
Rating Date	May-21-2021		Jun-4-2021		Jun-4-2021		
SE Group No.	1		22		23		
SE Name	ZUSX001		ZUSW001		ZUSW001		
SE Description	%PHYTO-GENERAL		%CONTROL		%CONTROL		
Part Rated	PLANT -		PLANT -		PLANT -		
Rating Type	PHYGEN		CONTRO		CONTRO		
Rating Unit/Min/Max	% 0 100		% 0 100		% 0 100		
Calculation	NC		NC		NC		
Sample Size	1 PLOT		1 PLOT		1 PLOT		
Collection Basis	1 PLOT		1 PLOT		1 PLOT		
Reporting Basis	1 PLOT		1 PLOT		1 PLOT		
Number of Subsamples	1		1		1		
Crop Stage Scale	BBCH		BBCH		BBCH		
Crop Stage Majority/Min/Max	12 12 12		12 12 12		12 12 12		
Assessed By	Dobbels		Dobbels		Dobbels		
Data Entry Date	May-25-2021		Jun-21-2021		Jun-21-2021		
Days After First/Last Applic.	23 23		37 37		37 37		
Trt-Eval Interval	23 DA-A		-2 DA-B		-2 DA-B		
Plant-Eval Interval	24 DP-1		38 DP-1		38 DP-1		
Days After Emergence	7 DE-1		21 DE-1		21 DE-1		
ARM Action Codes			ET8		ET8		
Number of Decimals	0		0		0		
Trt Treatment No. Name	Other	Other	Appl	1*	2*	3*	4*
Rate	Rate	Rate	Unit Code				
16 ACURON XR	1.5	qt/a	A	0 -	80 a	71 a	100 a
AMSOL	2.5	qt/a	B				
ACURON XR	1.5	qt/a	B				
ROUNDUP POWERMAX 4.5 SL	26.6	fl oz/a	B				
LSD P=.05				2.4	14.9	7.2	19.6
Standard Deviation				1.7	10.4	5.0	13.7
CV				325.59	13.97	8.09	15.2
Levene's F^				0.727	0.995	1.326	0.837
Levene's Prob(F)				0.745	0.475	0.23	0.634
Skewness^				2.3581*	-0.2207	-0.2482	-3.4119*
Kurtosis^				9.7624*	0.4127	0.8311	22.3117*
Replicate F				0.641	4.287	1.200	0.702
Replicate Prob(F)				0.5925	0.0096	0.3217	0.5557
Treatment F				0.703	15.386	48.634	13.201
Treatment Prob(F)				0.7677	0.0001	0.0001	0.0001

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 Official Trial ID:      Sponsor Contact:  
 Conducted Under GEP: No      Trial Origin: P public institution trial

Pest ID Code	4 W Weed	5 W Weed	6 W Weed	
Pest Code	AMARE	ABUTH	IPOHE	
Pest Scientific Name	Amaranthus retr>	Abutilon theoph>	Ipomoea hederac>	
Pest Name	Redroot pigweed	velvetleaf	ivy-leaf mornin>	
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jun-4-2021	Jun-4-2021	Jun-4-2021	Jun-14-2021
SE Group No.	25	26	27	41
SE Name	ZUSW001	ZUSW001	ZUSW001	ZUSX001
SE Description	%CONTROL	%CONTROL	%CONTROL	%PHYTO-GENERAL
Part Rated	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Crop Stage Scale				
Crop Stage Majority/Min/Max				
Assessed By				
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-24-2021	Jul-29-2021
Days After First/Last Applic.	37 37	37 37	37 37	47 8
Trt-Eval Interval	-2 DA-B	-2 DA-B	-2 DA-B	
Plant-Eval Interval	38 DP-1	38 DP-1	38 DP-1	48 DP-1
Days After Emergence	21 DE-1	21 DE-1	21 DE-1	31 DE-1
ARM Action Codes				AA
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Other Rate	Other Rate	Appl Unit Code	5*	6*	7*	8* dAA
1 UNTREATED CHECK				0 -	0 b	0 b	0 -
2 BICEP II MAGNUM	1.6 qt/a		A	100 -	88 a	100 a	0 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
3 LEXAR EZ 3.7 ZC	1.8 qt/a		A	100 -	99 a	95 a	0 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
4 SURESTART II 4.25 SC	1.75 pt/a		A	100 -	90 a	94 a	1 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
5 HARNESS XTRA 5.6L	1.8 qt/a		A	100 -	95 a	95 a	0 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
6 VERDICT 5.57 EC	14 fl oz/a		A	100 -	94 a	93 a	0 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
7 SURESTART II 4.25 SC	1.75 pt/a		A	100 -	94 a	95 a	0 -
AMSOL	2.5 qt/a		B				
RESICORE 3.29 SC	1.25 qt/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021	Location: Bruns Dain FS	Trial Year: 2021	
Protocol ID: HBI008A4-2021US	Investigator (Creator): Dain Bruns		
Master Protocol ID:	Study Director:		
Official Trial ID:	Sponsor Contact:		
Conducted Under GEP: No	Trial Origin: P public institution trial		
<b>Pest ID Code</b>	4 W Weed	5 W Weed	6 W Weed
<b>Pest Code</b>	AMARE	ABUTH	IPOHE
<b>Pest Scientific Name</b>	Amaranthus retr>	Abutilon theoph>	Ipomoea hederac>
<b>Pest Name</b>	Redroot pigweed	velvetleaf	ivy-leaf mornin>
<b>Crop ID Code</b>	1 ZEAMD	1 ZEAMD	1 ZEAMD
<b>BBCH Scale</b>	BCOR	BCOR	BCOR
<b>Crop Scientific Name</b>	Zea mays indent>	Zea mays indent>	Zea mays indent>
<b>Crop Name</b>	Dent corn	Dent corn	Dent corn
<b>Crop Variety</b>	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
<b>Rating Date</b>	Jun-4-2021	Jun-4-2021	Jun-4-2021
<b>SE Group No.</b>	25	26	27
<b>SE Name</b>	ZUSW001	ZUSW001	ZUSW001
<b>SE Description</b>	%CONTROL	%CONTROL	%CONTROL
<b>Part Rated</b>	PLANT -	PLANT -	PLANT -
<b>Rating Type</b>	CONTRO	CONTRO	CONTRO
<b>Rating Unit/Min/Max</b>	% 0 100	% 0 100	% 0 100
<b>Calculation</b>	NC	NC	NC
<b>Sample Size</b>	1 PLOT	1 PLOT	1 PLOT
<b>Collection Basis</b>	1 PLOT	1 PLOT	1 PLOT
<b>Reporting Basis</b>	1 PLOT	1 PLOT	1 PLOT
<b>Number of Subsamples</b>	1	1	1
<b>Crop Stage Scale</b>			
<b>Crop Stage Majority/Min/Max</b>			
<b>Assessed By</b>			
<b>Data Entry Date</b>	Jun-21-2021	Jun-21-2021	Jun-24-2021
<b>Days After First/Last Applic.</b>	37 37	37 37	37 37
<b>Trt-Eval Interval</b>	-2 DA-B	-2 DA-B	-2 DA-B
<b>Plant-Eval Interval</b>	38 DP-1	38 DP-1	38 DP-1
<b>Days After Emergence</b>	21 DE-1	21 DE-1	21 DE-1
<b>ARM Action Codes</b>			AA
<b>Number of Decimals</b>	0	0	0

Trt Treatment No. Name	Other Rate	Other Rate Unit	Appl Code	5*	6*	7*	8* dAA
8 HARNESS XTRA 5.6L	1.8 qt/a		A	100 -	93 a	100 a	1 -
AMSOL	2.5 qt/a		B				
LAUDIS 3.5 SC	3 fl oz/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				
SUPERB HC	0.5 % v/v		B				
9 VERDICT 5.57 EC	10 fl oz/a		A	100 -	90 a	90 a	0 -
AMSOL	2.5 qt/a		B				
ARMEZON PRO	18 fl oz/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				
10 ACURON XR	3.5 qt/a		A	100 -	100 a	99 a	0 -
11 ACURON XR	3 qt/a		A	100 -	100 a	100 a	0 -
12 HARNESS MAX 3.85 SC	75 fl oz/a		A	100 -	95 a	97 a	0 -
13 ACURON 3.44 ZC	3 qt/a		A	100 -	96 a	96 a	0 -
14 HARNESS MAX 3.85 SC	37.5 fl oz/a		A	100 -	100 a	96 a	0 -
AMSOL	2.5 qt/a		B				
HARNESS MAX 3.85 SC	37.5 fl oz/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				
15 ACURON 3.44 ZC	1.5 qt/a		A	100 -	96 a	95 a	0 -
AMSOL	2.5 qt/a		B				
ACURON 3.44 ZC	1.5 qt/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				



# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021      Location: Bruns Dain FS      Trial Year: 2021  
 Protocol ID: HBI008A4-2021US      Investigator (Creator): Dain Bruns  
 Master Protocol ID:      Study Director:  
 Official Trial ID:      Sponsor Contact:  
 Conducted Under GEP: No      Trial Origin: P public institution trial

Pest ID Code	4 W Weed	5 W Weed	6 W Weed	
Pest Code	AMARE	ABUTH	IPOHE	
Pest Scientific Name	Amaranthus retr>	Abutilon theoph>	Ipomoea hederac>	
Pest Name	Redroot pigweed	velvetleaf	ivy-leaf mornin>	
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jun-4-2021	Jun-4-2021	Jun-4-2021	Jun-14-2021
SE Group No.	25	26	27	41
SE Name	ZUSW001	ZUSW001	ZUSW001	ZUSX001
SE Description	%CONTROL	%CONTROL	%CONTROL	%PHYTO-GENERAL
Part Rated	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Crop Stage Scale				
Crop Stage Majority/Min/Max				
Assessed By				
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-24-2021	Jul-29-2021
Days After First/Last Applic.	37 37	37 37	37 37	47 8
Trt-Eval Interval	-2 DA-B	-2 DA-B	-2 DA-B	
Plant-Eval Interval	38 DP-1	38 DP-1	38 DP-1	48 DP-1
Days After Emergence	21 DE-1	21 DE-1	21 DE-1	31 DE-1
ARM Action Codes				AA
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Other Rate	Other Rate	Appl Unit Code	5*	6*	7*	8*
							dAA
16 ACURON XR	1.5 qt/a		A	100 -	100 a	90 a	0 -
AMSOL	2.5 qt/a		B				
ACURON XR	1.5 qt/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				
LSD P=.05				.	10.3	10.9	0.7 - 0.8
Standard Deviation				0.0	7.2	7.7	2.7t
CV				0.0	8.07	8.55	148.61t
Levene's F^				.	1.099	1.182	1.559
Levene's Prob(F)				.	0.383	0.317	0.122
Skewness^				.	-0.4944	-0.8396*	-0.0451
Kurtosis^				.	0.1314	0.4581	-0.0155
Replicate F				0.000	1.653	1.750	2.482
Replicate Prob(F)				1.0000	0.1906	0.1703	0.0730
Treatment F				0.000	44.878	39.583	1.212
Treatment Prob(F)				1.0000	0.0001	0.0001	0.2986

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021 Location: Bruns Dain FS Trial Year: 2021  
 Protocol ID: HBI008A4-2021US Investigator (Creator): Dain Bruns  
 Master Protocol ID: Study Director:  
 Official Trial ID: Sponsor Contact:  
 Conducted Under GEP: No Trial Origin: P public institution trial

Pest ID Code	1 W Weed	2 W Weed	3 W Weed
Pest Code	SETFA	AMBTR	CHEAL
Pest Scientific Name	Setaria faberi	Ambrosia trifida	Chenopodium alb>
Pest Name	Giant foxtail	Giant ragweed	common lamb>
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jul-5-2021	Jul-5-2021	Jul-5-2021
SE Group No.	42	30	31
SE Name	ZUSX001	ZUSW001	ZUSW001
SE Description	%PHYTO-GENERAL	%CONTROL	%CONTROL
Part Rated	PLANT -	PLANT -	PLANT -
Rating Type	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1
Crop Stage Scale			
Crop Stage Majority/Min/Max			
Assessed By			
Data Entry Date	Jul-29-2021	Jul-8-2021	Jul-8-2021
Days After First/Last Applic.	68 29	68 29	68 29
Trt-Eval Interval		29 DA-B	29 DA-B
Plant-Eval Interval	69 DP-1	69 DP-1	69 DP-1
Days After Emergence	52 DE-1	52 DE-1	52 DE-1
ARM Action Codes		EC	
Number of Decimals	0	0	0

Trt Treatment No. Name	Other Rate	Other Rate	Appl Unit Code	9*	10*	11*	12*
1 UNTREATED CHECK				0 -	0	0 e	0 -
2 BICEP II MAGNUM	1.6 qt/a		A	0 -	90 abc	68 abc	100 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
3 LEXAR EZ 3.7 ZC	1.8 qt/a		A	0 -	95 ab	70 abc	100 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
4 SURESTART II 4.25 SC	1.75 pt/a		A	0 -	89 abc	66 abc	100 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
5 HARNESS XTRA 5.6L	1.8 qt/a		A	0 -	91 abc	76 a	100 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
6 VERDICT 5.57 EC	14 fl oz/a		A	0 -	83 a-e	64 abc	100 -
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
7 SURESTART II 4.25 SC	1.75 pt/a		A	0 -	96 ab	70 abc	100 -
AMSOL	2.5 qt/a		B				
RESICORE 3.29 SC	1.25 qt/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021 Location: Bruns Dain FS Trial Year: 2021  
 Protocol ID: HBI008A4-2021US Investigator (Creator): Dain Bruns  
 Master Protocol ID: Study Director:  
 Official Trial ID: Sponsor Contact:  
 Conducted Under GEP: No Trial Origin: P public institution trial

Pest ID Code	1 W Weed	2 W Weed	3 W Weed
Pest Code	SETFA	AMBTR	CHEAL
Pest Scientific Name	Setaria faberi	Ambrosia trifida	Chenopodium alb>
Pest Name	Giant foxtail	Giant ragweed	common lambsqua>
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jul-5-2021	Jul-5-2021	Jul-5-2021
SE Group No.	42	30	32
SE Name	ZUSX001	ZUSW001	ZUSW001
SE Description	%PHYTO-GENERAL	%CONTROL	%CONTROL
Part Rated	PLANT - PHYGEN	PLANT - CONTRO	PLANT - CONTRO
Rating Type	% 0 100	% 0 100	% 0 100
Rating Unit/Min/Max Calculation	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1
Crop Stage Scale			
Crop Stage Majority/Min/Max			
Assessed By			
Data Entry Date	Jul-29-2021	Jul-8-2021	Jul-8-2021
Days After First/Last Applic.	68 29	68 29	68 29
Trt-Eval Interval		29 DA-B	29 DA-B
Plant-Eval Interval	69 DP-1	69 DP-1	69 DP-1
Days After Emergence	52 DE-1	52 DE-1	52 DE-1
ARM Action Codes		EC	
Number of Decimals	0	0	0

Trt Treatment No. Name	Other Other Rate Rate Unit Code	9*	10*	11*	12*
8 HARNESS XTRA 5.6L	1.8 qt/a A	0 -	80 b-e	54 bc	100 -
AMSOL	2.5 qt/a B				
LAUDIS 3.5 SC	3 fl oz/a B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a B				
SUPERB HC	0.5 % v/v B				
9 VERDICT 5.57 EC	10 fl oz/a A	0 -	86 a-e	69 abc	100 -
AMSOL	2.5 qt/a B				
ARMEZON PRO	18 fl oz/a B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a B				
10 ACURON XR	3.5 qt/a A	0 -	76 cde	51 c	100 -
11 ACURON XR	3 qt/a A	0 -	73 de	28 d	100 -
12 HARNESS MAX 3.85 SC	75 fl oz/a A	0 -	73 de	20 d	100 -
13 ACURON 3.44 ZC	3 qt/a A	0 -	71 e	30 d	100 -
14 HARNESS MAX 3.85 SC	37.5 fl oz/a A	0 -	98 a	69 abc	100 -
AMSOL	2.5 qt/a B				
HARNESS MAX 3.85 SC	37.5 fl oz/a B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a B				
15 ACURON 3.44 ZC	1.5 qt/a A	0 -	93 abc	70 abc	100 -
AMSOL	2.5 qt/a B				
ACURON 3.44 ZC	1.5 qt/a B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a B				

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021 Location: Bruns Dain FS Trial Year: 2021  
 Protocol ID: HBI008A4-2021US Investigator (Creator): Dain Bruns  
 Master Protocol ID: Study Director:  
 Official Trial ID: Sponsor Contact:  
 Conducted Under GEP: No Trial Origin: P public institution trial

Pest ID Code	1 W Weed	2 W Weed	3 W Weed		
Pest Code	SETFA	AMBTR	CHEAL		
Pest Scientific Name	Setaria faberi	Ambrosia trifida	Chenopodium alb>		
Pest Name	Giant foxtail	Giant ragweed	common lambsq>		
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD		
BBCH Scale	BCOR	BCOR	BCOR		
Crop Scientific Name	Zea mays indent>	Zea mays Zea mays indent>	Zea mays indent>		
Crop Name	Dent corn	Dent corn	Dent corn		
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q		
Rating Date	Jul-5-2021	Jul-5-2021	Jul-5-2021		
SE Group No.	42	30	32		
SE Name	ZUSX001	ZUSW001	ZUSW001		
SE Description	%PHYTO-GENERAL	%CONTROL	%CONTROL		
Part Rated	PLANT -	PLANT -	PLANT -		
Rating Type	PHYGEN	CONTRO	CONTRO		
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100		
Calculation	NC	NC	NC		
Sample Size	1 PLOT	1 PLOT	1 PLOT		
Collection Basis	1 PLOT	1 PLOT	1 PLOT		
Reporting Basis	1 PLOT	1 PLOT	1 PLOT		
Number of Subsamples	1	1	1		
Crop Stage Scale					
Crop Stage Majority/Min/Max					
Assessed By					
Data Entry Date	Jul-29-2021	Jul-8-2021	Jul-8-2021		
Days After First/Last Applic.	68 29	68 29	68 29		
Trt-Eval Interval		29 DA-B	29 DA-B		
Plant-Eval Interval	69 DP-1	69 DP-1	69 DP-1		
Days After Emergence	52 DE-1	52 DE-1	52 DE-1		
ARM Action Codes		EC			
Number of Decimals	0	0	0		
Trt Treatment No. Name	Other Other Rate Rate Unit Code	9*	10*	11*	12*
16 ACURON XR	1.5 qt/a A	0 -	88 a-d	73 ab	100 -
AMSOL	2.5 qt/a B				
ACURON XR	1.5 qt/a B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a B				
LSD P=.05			10.2	12.0	.
Standard Deviation		0.0	7.2	8.4	0.0
CV		0.0	8.39	15.39	0.0
Levene's F^		.	1.312	0.455	.
Levene's Prob(F)		.	0.238	0.952	.
Skewness^		.	0.1005	-0.1606	.
Kurtosis^		.	-0.6083	3.7436*	.
Replicate F		0.000	5.494	2.396	0.000
Replicate Prob(F)		1.0000	0.0028	0.0806	1.0000
Treatment F		0.000	6.375	29.351	0.000
Treatment Prob(F)		1.0000	0.0001	0.0001	1.0000

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021      Location: Bruns Dain FS      Trial Year: 2021  
 Protocol ID: HBI008A4-2021US      Investigator (Creator): Dain Bruns  
 Master Protocol ID:      Study Director:  
 Official Trial ID:      Sponsor Contact:  
 Conducted Under GEP: No      Trial Origin: P public institution trial

Pest ID Code	5 W Weed	6 W Weed	1 W Weed	2 W Weed
Pest Code	ABUTH	IPOHE	SETFA	AMBTR
Pest Scientific Name	Abutilon theoph>	Ipomoea hederac>	Setaria faberi	Ambrosia trifida
Pest Name	velvetleaf	ivy-leaf mornin>	Giant foxtail	Giant ragweed
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jul-5-2021	Jul-5-2021	Jul-26-2021	Jul-26-2021
SE Group No.	33	34	36	37
SE Name	ZUSW001	ZUSW001	ZUSW001	ZUSW001
SE Description	%CONTROL	%CONTROL	%CONTROL	%CONTROL
Part Rated	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Crop Stage Scale				
Crop Stage Majority/Min/Max				
Assessed By				
Data Entry Date	Jul-8-2021	Jul-8-2021	Jul-27-2021	Jul-27-2021
Days After First/Last Applic.	68 29	68 29	89 50	89 50
Trt-Eval Interval	29 DA-B	29 DA-B	50 DA-B	50 DA-B
Plant-Eval Interval	69 DP-1	69 DP-1	90 DP-1	90 DP-1
Days After Emergence	52 DE-1	52 DE-1	73 DE-1	73 DE-1
ARM Action Codes			EC	
Number of Decimals	0	0	0	0

Trt Treatment No. Name	Other Rate	Other Rate	Appl Unit Code	13*	14*	15*	16*
1 UNTREATED CHECK				0 b	0 c	0	0 d
2 BICEP II MAGNUM	1.6 qt/a		A	96 a	100 a	89 ab	75 a
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
3 LEXAR EZ 3.7 ZC	1.8 qt/a		A	100 a	86 ab	94 a	71 ab
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
4 SURESTART II 4.25 SC	1.75 pt/a		A	100 a	88 ab	88 ab	66 ab
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
5 HARNESS XTRA 5.6L	1.8 qt/a		A	100 a	79 ab	85 ab	76 a
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
6 VERDICT 5.57 EC	14 fl oz/a		A	100 a	88 ab	80 ab	63 ab
AMSOL	2.5 qt/a		B				
NIS	0.25 % v/v		B				
ACURON GT	3.75 pt/a		B				
7 SURESTART II 4.25 SC	1.75 pt/a		A	100 a	86 ab	91 ab	64 ab
AMSOL	2.5 qt/a		B				
RESICORE 3.29 SC	1.25 qt/a		B				
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021 Location: Bruns Dain FS Trial Year: 2021  
 Protocol ID: HBI008A4-2021US Investigator (Creator): Dain Bruns  
 Master Protocol ID: Study Director:  
 Official Trial ID: Sponsor Contact:  
 Conducted Under GEP: No Trial Origin: P public institution trial

	5 W Weed	6 W Weed	1 W Weed	2 W Weed
Pest ID Code	5 W Weed	6 W Weed	1 W Weed	2 W Weed
Pest Code	ABUTH	IPOHE	SETFA	AMBTR
Pest Scientific Name	Abutilon theoph>	Ipomoea hederac>	Setaria faberi	Ambrosia trifida
Pest Name	velvetleaf	ivy-leaf mornin>	Giant foxtail	Giant ragweed
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jul-5-2021	Jul-5-2021	Jul-26-2021	Jul-26-2021
SE Group No.	33	34	36	37
SE Name	ZUSW001	ZUSW001	ZUSW001	ZUSW001
SE Description	%CONTROL	%CONTROL	%CONTROL	%CONTROL
Part Rated	PLANT -	PLANT -	PLANT -	PLANT -
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Crop Stage Scale				
Crop Stage Majority/Min/Max				
Assessed By				
Data Entry Date	Jul-8-2021	Jul-8-2021	Jul-27-2021	Jul-27-2021
Days After First/Last Applic.	68 29	68 29	89 50	89 50
Trt-Eval Interval	29 DA-B	29 DA-B	50 DA-B	50 DA-B
Plant-Eval Interval	69 DP-1	69 DP-1	90 DP-1	90 DP-1
Days After Emergence	52 DE-1	52 DE-1	73 DE-1	73 DE-1
ARM Action Codes			EC	
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	13*	14*	15*	16*
8	HARNESS XTRA 5.6L	1.8 qt/a		A	100 a	90 ab	75 ab	56 ab
	AMSOL	2.5 qt/a		B				
	LAUDIS 3.5 SC	3 fl oz/a		B				
	ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				
	SUPERB HC	0.5 % v/v		B				
9	VERDICT 5.57 EC	10 fl oz/a		A	96 a	93 ab	88 ab	66 ab
	AMSOL	2.5 qt/a		B				
	ARMEZON PRO	18 fl oz/a		B				
	ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				
10	ACURON XR	3.5 qt/a		A	100 a	88 ab	76 ab	50 b
11	ACURON XR	3 qt/a		A	100 a	100 a	74 ab	25 c
12	HARNESS MAX 3.85 SC	75 fl oz/a		A	94 a	71 b	73 b	20 c
13	ACURON 3.44 ZC	3 qt/a		A	100 a	71 b	71 b	28 c
14	HARNESS MAX 3.85 SC	37.5 fl oz/a		A	100 a	88 ab	92 ab	68 ab
	AMSOL	2.5 qt/a		B				
	HARNESS MAX 3.85 SC	37.5 fl oz/a		B				
	ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				
15	ACURON 3.44 ZC	1.5 qt/a		A	100 a	85 ab	90 ab	73 ab
	AMSOL	2.5 qt/a		B				
	ACURON 3.44 ZC	1.5 qt/a		B				
	ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B				

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021      Location: Bruns Dain FS      Trial Year: 2021  
 Protocol ID: HBI008A4-2021US      Investigator (Creator): Dain Bruns  
 Master Protocol ID:      Study Director:  
 Official Trial ID:      Sponsor Contact:  
 Conducted Under GEP: No      Trial Origin: P public institution trial

Pest ID Code	5 W	Weed	6 W	Weed	1 W	Weed	2 W	Weed
Pest Code		ABUTH		IPOHE		SETFA		AMBTR
Pest Scientific Name		Abutilon theoph>		Ipomoea hederac>		Setaria faberi		Ambrosia trifida
Pest Name		velvetleaf		ivy-leaf mornin>		Giant foxtail		Giant ragweed
Crop ID Code	1	ZEAMD	1	ZEAMD	1	ZEAMD	1	ZEAMD
BBCH Scale		BCOR		BCOR		BCOR		BCOR
Crop Scientific Name		Zea mays indent>		Zea mays indent>		Zea mays indent>		Zea mays indent>
Crop Name		Dent corn		Dent corn		Dent corn		Dent corn
Crop Variety		Pioneer P1108Q		Pioneer P1108Q		Pioneer P1108Q		Pioneer P1108Q
Rating Date		Jul-5-2021		Jul-5-2021		Jul-26-2021		Jul-26-2021
SE Group No.		33		34		36		37
SE Name		ZUSW001		ZUSW001		ZUSW001		ZUSW001
SE Description		%CONTROL		%CONTROL		%CONTROL		%CONTROL
Part Rated		PLANT -		PLANT -		PLANT -		PLANT -
Rating Type		CONTRO		CONTRO		CONTRO		CONTRO
Rating Unit/Min/Max	%	0 100	%	0 100	%	0 100	%	0 100
Calculation		NC		NC		NC		NC
Sample Size	1	PLOT	1	PLOT	1	PLOT	1	PLOT
Collection Basis	1	PLOT	1	PLOT	1	PLOT	1	PLOT
Reporting Basis	1	PLOT	1	PLOT	1	PLOT	1	PLOT
Number of Subsamples		1		1		1		1
Crop Stage Scale								
Crop Stage Majority/Min/Max								
Assessed By								
Data Entry Date		Jul-8-2021		Jul-8-2021		Jul-27-2021		Jul-27-2021
Days After First/Last Applic.		68 29		68 29		89 50		89 50
Trt-Eval Interval		29 DA-B		29 DA-B		50 DA-B		50 DA-B
Plant-Eval Interval		69 DP-1		69 DP-1		90 DP-1		90 DP-1
Days After Emergence		52 DE-1		52 DE-1		73 DE-1		73 DE-1
ARM Action Codes						EC		
Number of Decimals		0		0		0		0
Trt Treatment No. Name	Other	Other	Appl	13*	14*	15*	16*	
	Rate	Rate	Unit Code					
16 ACURON XR	1.5 qt/a		A	100 a	91 ab	89 ab	76 a	
AMSOL	2.5 qt/a		B					
ACURON XR	1.5 qt/a		B					
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B					
LSD P=.05				5.8	14.0	11.9	14.8	
Standard Deviation				4.1	9.8	8.3	10.4	
CV				4.36	12.04	9.97	19.0	
Levene's F^				0.694	2.849	0.768	0.644	
Levene's Prob(F)				0.777	0.003*	0.696	0.823	
Skewness^				-2.5969*	0.0912	0.1273	0.4104	
Kurtosis^				11.3671*	-0.6231	-0.5722	0.9094	
Replicate F				1.355	2.651	1.872	2.650	
Replicate Prob(F)				0.2687	0.0601	0.1489	0.0602	
Treatment F				150.249	22.299	3.591	20.566	
Treatment Prob(F)				0.0001	0.0001	0.0007	0.0001	

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021      Location: Bruns Dain FS      Trial Year: 2021  
 Protocol ID: HBI008A4-2021US      Investigator (Creator): Dain Bruns  
 Master Protocol ID:      Study Director:  
 Official Trial ID:      Sponsor Contact:  
 Conducted Under GEP: No      Trial Origin: P public institution trial

Pest ID Code	3 W Weed	5 W Weed	6 W Weed
Pest Code	CHEAL	ABUTH	IPOHE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Ipomoea hederac>
Pest Name	common	velvetleaf	ivy-leaf mornin>
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jul-26-2021	Jul-26-2021	Jul-26-2021
SE Group No.	38	39	40
SE Name	ZUSW001	ZUSW001	ZUSW001
SE Description	%CONTROL	%CONTROL	%CONTROL
Part Rated	PLANT -	PLANT -	PLANT -
Rating Type	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1
Crop Stage Scale			
Crop Stage Majority/Min/Max			
Assessed By			
Data Entry Date	Jul-27-2021	Jul-27-2021	Jul-27-2021
Days After First/Last Applic.	89 50	89 50	89 50
Trt-Eval Interval	50 DA-B	50 DA-B	50 DA-B
Plant-Eval Interval	90 DP-1	90 DP-1	90 DP-1
Days After Emergence	73 DE-1	73 DE-1	73 DE-1
ARM Action Codes			EC
Number of Decimals	0	0	0

Trt Treatment No. Name	Other Rate	Other Rate	Appl Unit Code	17*	18*	19*
1 UNTREATED CHECK				0 -	0 b	0
2 BICEP II MAGNUM	1.6 qt/a		A	100 -	95 a	96 -
AMSOL	2.5 qt/a		B			
NIS	0.25 % v/v		B			
ACURON GT	3.75 pt/a		B			
3 LEXAR EZ 3.7 ZC	1.8 qt/a		A	100 -	100 a	85 -
AMSOL	2.5 qt/a		B			
NIS	0.25 % v/v		B			
ACURON GT	3.75 pt/a		B			
4 SURESTART II 4.25 SC	1.75 pt/a		A	100 -	100 a	81 -
AMSOL	2.5 qt/a		B			
NIS	0.25 % v/v		B			
ACURON GT	3.75 pt/a		B			
5 HARNESS XTRA 5.6L	1.8 qt/a		A	100 -	100 a	75 -
AMSOL	2.5 qt/a		B			
NIS	0.25 % v/v		B			
ACURON GT	3.75 pt/a		B			
6 VERDICT 5.57 EC	14 fl oz/a		A	100 -	98 a	80 -
AMSOL	2.5 qt/a		B			
NIS	0.25 % v/v		B			
ACURON GT	3.75 pt/a		B			
7 SURESTART II 4.25 SC	1.75 pt/a		A	100 -	96 a	86 -
AMSOL	2.5 qt/a		B			
RESICORE 3.29 SC	1.25 qt/a		B			
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B			



# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021 Location: Bruns Dain FS Trial Year: 2021  
 Protocol ID: HBI008A4-2021US Investigator (Creator): Dain Bruns  
 Master Protocol ID: Study Director:  
 Official Trial ID: Sponsor Contact:  
 Conducted Under GEP: No Trial Origin: P public institution trial

Pest ID Code	3 W Weed	5 W Weed	6 W Weed
Pest Code	CHEAL	ABUTH	IPOHE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Ipomoea hederac>
Pest Name	common lambsqua>	velvetleaf	ivy-leaf mornin>
Crop ID Code	1 ZEAMD	1 ZEAMD	1 ZEAMD
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jul-26-2021	Jul-26-2021	Jul-26-2021
SE Group No.	38	39	40
SE Name	ZUSW001	ZUSW001	ZUSW001
SE Description	%CONTROL	%CONTROL	%CONTROL
Part Rated	PLANT -	PLANT -	PLANT -
Rating Type	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1
Crop Stage Scale			
Crop Stage Majority/Min/Max			
Assessed By			
Data Entry Date	Jul-27-2021	Jul-27-2021	Jul-27-2021
Days After First/Last Applic.	89 50	89 50	89 50
Trt-Eval Interval	50 DA-B	50 DA-B	50 DA-B
Plant-Eval Interval	90 DP-1	90 DP-1	90 DP-1
Days After Emergence	73 DE-1	73 DE-1	73 DE-1
ARM Action Codes			EC
Number of Decimals	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	17*	18*	19*
8	HARNESS XTRA 5.6L	1.8 qt/a		A	100 -	100 a	84 -
	AMSOL	2.5 qt/a		B			
	LAUDIS 3.5 SC	3 fl oz/a		B			
	ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B			
	SUPERB HC	0.5 % v/v		B			
9	VERDICT 5.57 EC	10 fl oz/a		A	100 -	96 a	89 -
	AMSOL	2.5 qt/a		B			
	ARMEZON PRO	18 fl oz/a		B			
	ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B			
10	ACURON XR	3.5 qt/a		A	100 -	100 a	84 -
11	ACURON XR	3 qt/a		A	100 -	100 a	95 -
12	HARNESS MAX 3.85 SC	75 fl oz/a		A	100 -	94 a	71 -
13	ACURON 3.44 ZC	3 qt/a		A	100 -	100 a	70 -
14	HARNESS MAX 3.85 SC	37.5 fl oz/a		A	100 -	100 a	85 -
	AMSOL	2.5 qt/a		B			
	HARNESS MAX 3.85 SC	37.5 fl oz/a		B			
	ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B			
15	ACURON 3.44 ZC	1.5 qt/a		A	100 -	99 a	81 -
	AMSOL	2.5 qt/a		B			
	ACURON 3.44 ZC	1.5 qt/a		B			
	ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B			

# The Ohio State University

## Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University

Trial ID: USNK0H4022021      Location: Bruns Dain FS      Trial Year: 2021  
 Protocol ID: HBI008A4-2021US      Investigator (Creator): Dain Bruns  
 Master Protocol ID:      Study Director:  
 Official Trial ID:      Sponsor Contact:  
 Conducted Under GEP: No      Trial Origin: P public institution trial

Pest ID Code	3 W Weed	5 W Weed	6 W Weed
Pest Code	CHEAL	ABUTH	IPOHE
Pest Scientific Name	Chenopodium alb>	Abutilon theoph>	Ipomoea hederac>
Pest Name	common	velvetleaf	ivy-leaf mornin>
Crop ID Code	lambsq>		
BBCH Scale	1 ZEAMD	1 ZEAMD	1 ZEAMD
Crop Scientific Name	BCOR	BCOR	BCOR
	Zea mays indent>	Zea mays indent>	Zea mays indent>
Crop Name	Dent corn	Dent corn	Dent corn
Crop Variety	Pioneer P1108Q	Pioneer P1108Q	Pioneer P1108Q
Rating Date	Jul-26-2021	Jul-26-2021	Jul-26-2021
SE Group No.	38	39	40
SE Name	ZUSW001	ZUSW001	ZUSW001
SE Description	%CONTROL	%CONTROL	%CONTROL
Part Rated	PLANT -	PLANT -	PLANT -
Rating Type	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100
Calculation	NC	NC	NC
Sample Size	1 PLOT	1 PLOT	1 PLOT
Collection Basis	1 PLOT	1 PLOT	1 PLOT
Reporting Basis	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1
Crop Stage Scale			
Crop Stage Majority/Min/Max			
Assessed By			
Data Entry Date	Jul-27-2021	Jul-27-2021	Jul-27-2021
Days After First/Last Applic.	89 50	89 50	89 50
Trt-Eval Interval	50 DA-B	50 DA-B	50 DA-B
Plant-Eval Interval	90 DP-1	90 DP-1	90 DP-1
Days After Emergence	73 DE-1	73 DE-1	73 DE-1
ARM Action Codes			EC
Number of Decimals	0	0	0

Trt Treatment No. Name	Other Rate	Other Rate	Appl Unit Code	17*	18*	19*
16 ACURON XR	1.5 qt/a		A	100 -	100 a	85 -
AMSOL	2.5 qt/a		B			
ACURON XR	1.5 qt/a		B			
ROUNDUP POWERMAX 4.5 SL	26.6 fl oz/a		B			
LSD P=.05				.	6.6	15.4
Standard Deviation				0.0	4.6	10.8
CV				0.0	5.02	13.01
Levene's F^				.	0.747	0.359
Levene's Prob(F)				.	0.726	0.98
Skewness^				.	-2.0717*	0.3361
Kurtosis^				.	6.446*	-0.5683
Replicate F				0.000	1.284	1.940
Replicate Prob(F)				1.0000	0.2913	0.1377
Treatment F				0.000	113.675	1.859
Treatment Prob(F)				1.0000	0.0001	0.0610

# The Ohio State University

**Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system - Mid and South University**

Trial ID: USNK0H4022021

Location: Bruns Dain FS

Trial Year: 2021

Protocol ID: HBI008A4-2021US Investigator (Creator): Dain Bruns

Master Protocol ID: Study Director:

Official Trial ID: Sponsor Contact:

Conducted Under GEP: No

Trial Origin: P public institution trial

Crop ID Code

1, ZEAMD, BCOR, Zea mays indentata, Dent corn, Pioneer P1108Q = Glyphosate-R, Glufosinate-R

Part Rated

PLANT = plant

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

Rating Unit/Min/Max

%, 0, 100 = percent

Calculation

NC = no calculation

PLOT = total plot

PLOT = total plot

PLOT = total plot

Crop Stage Scale

BBCH = BBCH uniform plant stages

Crop Stage Majority/Min/Max

12 = 2 leaves unfolded (V2= Second Leaf)

Plant-Eval Interval

24 DP-1 = 1 ZEAMD Apr-27-2021

38 DP-1 = 1 ZEAMD Apr-27-2021

48 DP-1 = 1 ZEAMD Apr-27-2021

69 DP-1 = 1 ZEAMD Apr-27-2021

90 DP-1 = 1 ZEAMD Apr-27-2021

ARM Action Codes

ET8 = Excluded treatment 8

AA = Automatic arcsine square root % transformation

EC = Do not analyze untreated check, while still reporting treatment mean on AOV Means Table