Purdue Weed Science

Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system
Trial ID: 21S-TPAC-CORN-05 Location: TPAC Trial Year: 2021
Protocol ID: 21S-TPAC-CORN-05 Investigator (Creator): Steve Mroczkiewicz
Study Director:
Sponsor Contact:

General Trial Information
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Trial Status: E established
Trial Status Date: 10/8/2021 2:31 PM **Last Changed By:** Dr. Bill Johnson
ARM Trial Created On: 3/8/2021 **Trial Usage/Type:** 0 Research and Development
Initiation Date: 5/15/2021
Protocol Revision Number: 1.0 **Protocol Revision Date:** 3/4/2021

Trial Location
Address (Location): TPAC
City: Lafayette **Country:** USA United States
State/Prov.: Indiana IN
Postal Code: 47907

Latitude of LL Corner °: 40.291759 N
Longitude of LL Corner °: -86.909156 W

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:
● Are there differences in weed control, crop safety and yield among treatments containing Acuron GT, Acuron XR brands and other competitive products?

Role: INVEST investigator
Investigator: Dr. Bill Johnson **Title:** Professor
Organization: Purdue University
Address 1: 915 W. State Street
Country: USA United States **E-mail:** wgj@purdue.edu
City: West Lafayette **State/Prov:** IN **Postal Code:** 47907

Crop Description
Crop 1: C ZEAMX Zea mays Corn **BBCH Scale:** BCOR
Entry Date: 10/8/2021 **Stage Scale:** BBCH
Variety: DKC62-52 RIB
Attributes: glyphosate and glufosinate resistant corn
Planting Rate: 32000 S/A
Planting Date: 5/15/2021
Depth: 1.5 IN **Planting Method:** PLANTD planted
Rows per Plot: 4 **Planting Equipment:** PP plot planter
Row Spacing: 30 IN
Soil Moisture: NORMAL normal, adequate
Soil Temperature: 69 F
Emergence Date: 5/23/2021
Harvest Date: 10/19/2021
Harvested Width: 10 FT
% Standard Moisture: 15.5 **Harvested Length:** 27 FT

Pest Description
Pest 1 Type: W **Code:** AMBTR Ambrosia trifida **Entry Date:** 10/8/2021
Common Name: Giant ragweed **Stage Scale:** BBCH

Pest 2 Type: W **Code:** CHEAL Chenopodium album **Entry Date:** 10/8/2021
Common Name: common lambsquarters **Stage Scale:** BBCH

Pest 3 Type: W **Code:** ECHCG Echinochloa crus-galli **Entry Date:** 10/8/2021
Common Name: common barnyardgrass **Stage Scale:** BBCH

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 FT2 **Treatments:** 15 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)

Maintenance

No.	Date	Type	Maintenance Product Name	Description	Rate	Rate Unit
1.	5/9/2021	FERT	28% N	28% N	60	LB/A

Soil Description

Description Name: TPAC - Field 4BE

% Sand: 21 **% OM:** 3.4 **Texture:** SIL silt loam

% Silt: 54 **pH:** 5.8 **Soil Name:** Toronto-Millbrook complex

% Clay: 25 **CEC:** 13.5 **Fert. Level:** G good

Weather Conditions

Overall Moisture Conditions: FAIR fair

Closest Weather Station: TPAC **Distance:** 0.5 MI

No.	Date	Moisture Total	Unit	Min Temp	Max Temp	Temp Unit
1.	5/1/2021	0	IN	40	63	F
2.	5/2/2021	0	IN	49	74	F
3.	5/3/2021	0.26	IN	56	78	F
4.	5/4/2021	0.01	IN	55	66	F
5.	5/5/2021	0.04	IN	43	59	F
6.	5/6/2021	0	IN	42	61	F
7.	5/7/2021	0.25	IN	38	58	F
8.	5/8/2021	0	IN	32	63	F
9.	5/9/2021	1.43	IN	40	57	F
10.	5/10/2021	0.37	IN	37	47	F
11.	5/11/2021	0.09	IN	39	59	F
12.	5/12/2021	0	IN	36	61	F
13.	5/13/2021	0	IN	38	60	F
14.	5/14/2021	0	IN	41	66	F
15.	5/15/2021	0	IN	46	70	F
16.	5/16/2021	0	IN	53	71	F
17.	5/17/2021	0.35	IN	55	71	F
18.	5/18/2021	0.12	IN	58	63	F
19.	5/19/2021	0	IN	59	72	F
20.	5/20/2021	0	IN	64	75	F
21.	5/21/2021	0	IN	64	84	F
22.	5/22/2021	0	IN	63	83	F
23.	5/23/2021	0	IN	63	85	F
24.	5/24/2021	0	IN	68	85	F
25.	5/25/2021	0	IN	67	88	F
26.	5/26/2021	0.32	IN	66	87	F
27.	5/27/2021	0.19	IN	58	81	F
28.	5/28/2021	0.08	IN	60	80	F
29.	5/29/2021	0.47	IN	43	61	F
30.	5/30/2021	0	IN	41	63	F
31.	5/31/2021	0	IN	43	71	F
32.	6/1/2021	0	IN	57	71	F
33.	6/2/2021	0.04	IN	58	74	F
34.	6/3/2021	0.03	IN	59	87	F
35.	6/4/2021	0	IN	61	82	F
36.	6/5/2021	0	IN	63	88	F
37.	6/6/2021	0	IN	66	86	F
38.	6/7/2021	0.01	IN	69	83	F
39.	6/8/2021	0.1	IN	69	83	F
40.	6/9/2021	0	IN	70	85	F
41.	6/10/2021	0	IN	67	85	F
42.	6/11/2021	0	IN	69	85	F
43.	6/12/2021	0	IN	67	90	F
44.	6/13/2021	0	IN	69	93	F
45.	6/14/2021	0	IN	63	86	F

46.	6/15/2021	0	IN	57	83	F
47.	6/16/2021	0	IN	53	81	F
48.	6/17/2021	0	IN	53	82	F
49.	6/18/2021	0.01	IN	61	86	F
50.	6/19/2021	0.47	IN	67	93	F
51.	6/20/2021	0	IN	67	81	F
52.	6/21/2021	0.1	IN	70	86	F
53.	6/22/2021	0	IN	49	72	F
54.	6/23/2021	0	IN	54	74	F
55.	6/24/2021	0	IN	60	77	F
56.	6/25/2021	1.19	IN	63	79	F
57.	6/26/2021	0.83	IN	70	81	F
58.	6/27/2021	1.05	IN	69	85	F
59.	6/28/2021	0.11	IN	69	86	F
60.	6/29/2021	0	IN	72	88	F
61.	6/30/2021	0	IN	72	89	F
62.	7/1/2021	0.35	IN	70	78	F
63.	7/2/2021	0	IN	55	82	F
64.	7/3/2021	0	IN	53	75	F
65.	7/4/2021	0	IN	57	78	F
66.	7/5/2021	0	IN	67	85	F
67.	7/6/2021	0	IN	68	86	F
68.	7/7/2021	0	IN	71	86	F
69.	7/8/2021	1.29	IN	67	86	F
70.	7/9/2021	0.05	IN	59	80	F
71.	7/10/2021	0.03	IN	61	73	F
72.	7/11/2021	0.1	IN	65	76	F
73.	7/12/2021	1.3	IN	66	76	F
74.	7/13/2021	0.4	IN	67	82	F
75.	7/14/2021	0.08	IN	65	79	F
76.	7/15/2021	0	IN	66	82	F
77.	7/16/2021	0.16	IN	69	86	F
78.	7/17/2021	0.1	IN	66	78	F
79.	7/18/2021	0.01	IN	66	80	F
80.	7/19/2021	0	IN	61	83	F
81.	7/20/2021	0	IN	61	82	F
82.	7/21/2021	0	IN	64	83	F
83.	7/22/2021	0	IN	64	79	F
84.	7/23/2021	0	IN	67	83	F
85.	7/24/2021	0	IN	71	86	F
86.	7/25/2021	0	IN	69	87	F
87.	7/26/2021	0	IN	65	88	F
88.	7/27/2021	0	IN	62	87	F
89.	7/28/2021	0	IN	66	86	F
90.	7/29/2021	0	IN	70	87	F
91.	7/30/2021	0	IN	65	88	F
92.	7/31/2021	0	IN	62	78	F
93.	8/1/2021	0	IN	57	73	F
94.	8/2/2021	0	IN	52	80	F
95.	8/3/2021	0	IN	54	77	F
96.	8/4/2021	0	IN	55	80	F
97.	8/5/2021	0	IN	54	81	F
98.	8/6/2021	0	IN	61	83	F
99.	8/7/2021	0	IN	67	82	F
100.	8/8/2021	0	IN	67	85	F
101.	8/9/2021	0	IN	69	86	F
102.	8/10/2021	0	IN	71	80	F
103.	8/11/2021	0	IN	74	90	F
104.	8/12/2021	0.1	IN	75	88	F

105.	8/13/2021	0.24	IN	67	78	F
106.	8/14/2021	0	IN	60	86	F
107.	8/15/2021	0	IN	53	81	F

Application Description

	A	B
Application Date	5/15/2021	6/11/2021
Appl. Start Time	11:41 AM	2:52 PM
Appl. Stop Time	12:15 PM	3:31 PM
Application Method	SPRAY	SPRAY
Application Timing	PREPRE	POSPOS
Application Placement	BROADC	BROADC
Appl. Entry Date	10/8/2021	10/8/2021
Air Temperature Start, Stop	71, 71 F	92, 92 F
% Relative Humidity Start, Stop	39, 39	48, 48
Wind Velocity+Dir. Start	8 MPH, S	5 MPH, N
Wind Velocity+Dir. Stop	8 MPH, S	5 MPH, N
Wind Velocity+Dir. Max	8 MPH, S	5 MPH, N
Wet Leaves (Y/N)	N, no	N, no
Soil Temperature	68 F	105 F
Soil Moisture	NORMAL	DRY
% Cloud Cover	50	50

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	ZEAMX, BCOR	ZEAMX, BCOR
Stage Majority, Percent	00, -	14, -
Stage Minimum, Percent	00, -	13, -
Stage Maximum, Percent	00, -	15, -
Height Average	0 IN	12 IN
Height Minimum, Maximum	0, 0	11, 14

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale	AMBTR, W, BBCH	AMBTR, W, BBCH
Stage Majority, Percent	00, -	19, -
Stage Minimum, Percent	00, -	14, -
Stage Maximum, Percent	00, -	19, -
Height Average	0 IN	8 IN
Height Minimum, Maximum	0, 0	6, 8
Density Average	0 FT2	6 FT2
Density Minimum, Maximum		5, 10
Pest 2 Code, Type, Scale	CHEAL, W, BBCH	CHEAL, W, BBCH
Stage Majority, Percent	00, -	16, -
Stage Minimum, Percent	00, -	14, -
Stage Maximum, Percent	00, -	19, -
Height Average	0 IN	4 IN
Height Minimum, Maximum	0, 0	2, 6
Density Average	0 FT2	2 FT2
Density Minimum, Maximum		0, 5
Pest 3 Code, Type, Scale	ECHCG, W, BBCH	ECHCG, W, BBCH
Stage Majority, Percent	00, -	14, -
Stage Minimum, Percent	00, -	13, -
Stage Maximum, Percent	00, -	14, -
Height Average	0 IN	5 IN
Height Minimum, Maximum	0, 0	3, 6
Density Average	0 FT2	6 FT2
Density Minimum, Maximum		5, 10

Application Equipment

	A	B
Appl. Equipment	CO2 BACKPACK	CO2 BACKPACK
Equipment Type	BACSPR	BACCAI
Operation Pressure	19 PSI	30 PSI
Nozzle Model	XR	AIXR
Nozzle Type	FLAFXR	FLAFAI
Nozzle TradeName	TEEJET	TEEJET
Nozzle Tip Size, Color	11002, YELLOW	110015, green
Nozzle Spacing	15.0 IN	15.0 IN
Nozzles/Row	8.0	8.0
Boom Length	10.0 FT	10.0 FT
Boom Height	17.0 IN	27.0 IN
Ground Speed	3 MPH	3 MPH
Carrier	WATER	WATER
Application Amount	15 GAL/AC	15 GAL/AC
Mix Size	1.8 L	1.8 L
Propellant	COMCO2	COMCO2
Tank Mix (Y/N)	Y, yes	Y, yes

Purdue Weed Science

Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system

Trial ID: 21S-TPAC-CORN-05 Location: TPAC Trial Year: 2021
Protocol ID: 21S-TPAC-CORN-05 Investigator (Creator): Steve Mroczkiewicz
Study Director:
Sponsor Contact:

Pest ID Code						1, W, Weed	3, W, Weed
Pest Code						AMBTR	ECHCG
Pest Scientific Name						Ambrosia trifida	Echinochloa cru>
Pest Name						Giant ragweed	common barnyard>
Crop ID Code			1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX
BBCH Scale			BCOR	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name			Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name			Corn	Corn	Corn	Corn	Corn
Crop Variety			DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB
Rating Date			6/11/2021	6/18/2021	7/9/2021	6/11/2021	6/11/2021
SE Group No.			1	2	3	4	8
Part Rated			PLANT, C	PLANT, C	PLANT, C	PLANT, P	PLANT, P
Rating Type			PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max			%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Calculation			EF	EF	EF	EF	EF
Sample Size			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples			1	1	1	1	1
Data Entry Date			10/8/2021	10/8/2021	10/8/2021	10/8/2021	10/8/2021
Rating Timing			0 DAB	7 DAB	28 DAB	0 DAB	0 DAB
Days After First/Last Applic.			27, 27	34, 7	55, 28	27, 27	27, 27
Plant-Eval Interval			27 DP-1	34 DP-1	55 DP-1	27 DP-1	27 DP-1
Days After Emergence			19 DE-1	26 DE-1	47 DE-1	19 DE-1	19 DE-1
ARM Action Codes							
Number of Decimals							
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1	2	3	4	5
1	UNTREATED CHECK				0.0	0.0	0.0	0.0	0.0
2	BICEP II MAGNUM	2470	g AI/ha	A	0.0 -	0.0 -	0.0 -	70.0 -	100.0 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
3	LEXAR EZ 3.7 ZC	1870	g AI/ha	A	0.0 -	0.0 -	0.0 -	88.8 -	100.0 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
4	SURESTART II 4.25 SC	1040	g AI/ha	A	0.0 -	0.0 -	0.0 -	86.8 -	100.0 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
5	HARNESS XTRA 5.6L	2830	g AI/ha	A	0.0 -	0.0 -	0.0 -	78.8 -	100.0 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
6	VERDICT 5.57 EC	682	g AI/ha	A	0.0 -	0.0 -	0.0 -	94.3 -	100.0 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
7	SURESTART II 4.25 SC	1040	g AI/ha	A	0.0 -	0.0 -	0.0 -	81.3 -	100.0 -
	AMSOL	5.85	L/ha	B					
	RESICORE 3.29 SC	1150	g AI/ha	B					
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B					
8	HARNESS XTRA 5.6L	2830	g AI/ha	A	0.0 -	0.0 -	0.0 -	82.5 -	100.0 -
	AMSOL	5.85	L/ha	B					
	LAUDIS 3.5 SC	92.1	g AI/ha	B					
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B					
	SUPERB HC	0.5	% V/V	B					
9	VERDICT 5.57 EC	487	g AI/ha	A	0.0 -	0.0 -	0.0 -	88.8 -	100.0 -
	AMSOL	5.85	L/ha	B					
	ARMEZON PRO	845	g AI/ha	B					
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B					

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2,3,5,6,8,9,12 because error mean square = 0.
^Calculated from residual.

Pest ID Code						1, W, Weed	3, W, Weed
Pest Code						AMBTR	ECHCG
Pest Scientific Name						Ambrosia trifida	Echinochloa cru>
Pest Name						Giant ragweed	common barnyard>
Crop ID Code			1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX
BBCH Scale			BCOR	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name			Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name			Corn	Corn	Corn	Corn	Corn
Crop Variety			DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB
Rating Date			6/11/2021	6/18/2021	7/9/2021	6/11/2021	6/11/2021
SE Group No.			1	2	3	4	8
Part Rated			PLANT, C	PLANT, C	PLANT, C	PLANT, P	PLANT, P
Rating Type			PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max			%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Calculation			EF	EF	EF	EF	EF
Sample Size			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples			1	1	1	1	1
Data Entry Date			10/8/2021	10/8/2021	10/8/2021	10/8/2021	10/8/2021
Rating Timing			0 DAB	7 DAB	28 DAB	0 DAB	0 DAB
Days After First/Last Applic.			27, 27	34, 7	55, 28	27, 27	27, 27
Plant-Eval Interval			27 DP-1	34 DP-1	55 DP-1	27 DP-1	27 DP-1
Days After Emergence			19 DE-1	26 DE-1	47 DE-1	19 DE-1	19 DE-1
ARM Action Codes							
Number of Decimals							
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1	2	3	4	5
10	ACURON XR	3470	g AI/ha	A	0.0 -	0.0 -	0.0 -	96.0 -	100.0 -
11	ACURON XR	2980	g AI/ha	A	0.0 -	0.0 -	0.0 -	94.3 -	100.0 -
12	HARNESS MAX 3.85 SC	2530	g AI/ha	A	0.0 -	0.0 -	0.0 -	90.5 -	100.0 -
13	ACURON 3.44 ZC	1450	g AI/ha	A	0.0 -	0.0 -	0.0 -	90.5 -	100.0 -
	ACURON 3.44 ZC	1450	g AI/ha	B					
	ROUNDUP POWERMAX 4.5 SL	1100	g AI/ha	B					
	AMSOL	3.5	L/ha	B					
14	HARNESS MAX 3.85 SC	1270	g AI/ha	A	0.0 -	0.0 -	0.0 -	85.8 -	100.0 -
	HARNESS MAX 3.85 SC	1270	g AI/ha	B					
	ROUNDUP POWERMAX 4.5 SL	1050	g AI/ha	B					
	AMSOL	3.5	L/ha	B					
15	ACURON 3.44 ZC	2900	g AI/ha	A	0.0 -	0.0 -	0.0 -	86.3 -	100.0 -
LSD P=.05					.	.	.	14.37	.
Standard Deviation					0.00	0.00	0.00	10.05	0.00
CV					0.0	0.0	0.0	11.58	0.0
Grand Mean					0.00	0.00	0.00	86.73	100.00
Levene's F^					.	.	.	1.11	.
Levene's Prob(F)					.	.	.	0.377	.
Rank X2					.	.	.	.	.
P(Rank X2)					.	.	.	.	.
Skewness^					.	.	.	-1.8285*	.
Kurtosis^					.	.	.	9.0757*	.
Replicate F					0.000	0.000	0.000	0.330	0.000
Replicate Prob(F)					1.0000	1.0000	1.0000	0.8033	1.0000
Treatment F					0.000	0.000	0.000	1.916	0.000
Treatment Prob(F)					1.0000	1.0000	1.0000	0.0587	1.0000

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2,3,5,6,8,9,12 because error mean square = 0.
^Calculated from residual.

Pest ID Code				2, W, Weed	1, W, Weed	3, W, Weed	2, W, Weed
Pest Code				CHEAL	AMBTR	ECHCG	CHEAL
Pest Scientific Name				Chenopodium alb>	Ambrosia trifida	Echinochloa cru>	Chenopodium alb>
Pest Name				common lambsqua>	Giant ragweed	common barnyard>	common lambsqua>
Crop ID Code				1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX
BBCH Scale				BCOR	BCOR	BCOR	BCOR
Crop Scientific Name				Zea mays	Zea mays	Zea mays	Zea mays
Crop Name				Corn	Corn	Corn	Corn
Crop Variety				DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB
Rating Date				6/11/2021	7/9/2021	7/9/2021	7/9/2021
SE Group No.				9	10	11	12
Part Rated				PLANT, P	PLANT, P	PLANT, P	PLANT, P
Rating Type				CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max				%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Calculation				EF	EF	EF	EF
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
Data Entry Date				10/8/2021	10/8/2021	10/8/2021	10/8/2021
Rating Timing				0 DAB	28 DAB	28 DAB	28 DAB
Days After First/Last Applic.				27, 27	55, 28	55, 28	55, 28
Plant-Eval Interval				27 DP-1	55 DP-1	55 DP-1	55 DP-1
Days After Emergence				19 DE-1	47 DE-1	47 DE-1	47 DE-1
ARM Action Codes							
Number of Decimals							
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	6	7	8	9
1	UNTREATED CHECK				0.0	0.0	0.0	0.0
2	BICEP II MAGNUM	2470	g AI/ha	A	100.0 -	100.0 a	100.0 -	100.0 -
	AMSOL	5.85	L/ha	B				
	NIS	0.25	% V/V	B				
	ACURON GT	2260	g AI/ha	B				
3	LEXAR EZ 3.7 ZC	1870	g AI/ha	A	100.0 -	100.0 a	100.0 -	100.0 -
	AMSOL	5.85	L/ha	B				
	NIS	0.25	% V/V	B				
	ACURON GT	2260	g AI/ha	B				
4	SURESTART II 4.25 SC	1040	g AI/ha	A	100.0 -	100.0 a	100.0 -	100.0 -
	AMSOL	5.85	L/ha	B				
	NIS	0.25	% V/V	B				
	ACURON GT	2260	g AI/ha	B				
5	HARNESS XTRA 5.6L	2830	g AI/ha	A	100.0 -	100.0 a	100.0 -	100.0 -
	AMSOL	5.85	L/ha	B				
	NIS	0.25	% V/V	B				
	ACURON GT	2260	g AI/ha	B				
6	VERDICT 5.57 EC	682	g AI/ha	A	100.0 -	100.0 a	100.0 -	100.0 -
	AMSOL	5.85	L/ha	B				
	NIS	0.25	% V/V	B				
	ACURON GT	2260	g AI/ha	B				
7	SURESTART II 4.25 SC	1040	g AI/ha	A	100.0 -	100.0 a	100.0 -	100.0 -
	AMSOL	5.85	L/ha	B				
	RESICORE 3.29 SC	1150	g AI/ha	B				
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B				
8	HARNESS XTRA 5.6L	2830	g AI/ha	A	100.0 -	97.5 ab	100.0 -	100.0 -
	AMSOL	5.85	L/ha	B				
	LAUDIS 3.5 SC	92.1	g AI/ha	B				
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B				
	SUPERB HC	0.5	% V/V	B				
9	VERDICT 5.57 EC	487	g AI/ha	A	100.0 -	97.5 ab	100.0 -	100.0 -
	AMSOL	5.85	L/ha	B				
	ARMEZON PRO	845	g AI/ha	B				
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B				

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2,3,5,6,8,9,12 because error mean square = 0.
^Calculated from residual.

Pest ID Code				2, W, Weed	1, W, Weed	3, W, Weed	2, W, Weed
Pest Code				CHEAL	AMBTR	ECHCG	CHEAL
Pest Scientific Name				Chenopodium alb>	Ambrosia trifida	Echinochloa cru>	Chenopodium alb>
Pest Name				common lambsqua>	Giant ragweed	common barnyard>	common lambsqua>
Crop ID Code				1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX
BBCH Scale				BCOR	BCOR	BCOR	BCOR
Crop Scientific Name				Zea mays	Zea mays	Zea mays	Zea mays
Crop Name				Corn	Corn	Corn	Corn
Crop Variety				DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB
Rating Date				6/11/2021	7/9/2021	7/9/2021	7/9/2021
SE Group No.				9	10	11	12
Part Rated				PLANT, P	PLANT, P	PLANT, P	PLANT, P
Rating Type				CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max				%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Calculation				EF	EF	EF	EF
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
Data Entry Date				10/8/2021	10/8/2021	10/8/2021	10/8/2021
Rating Timing				0 DAB	28 DAB	28 DAB	28 DAB
Days After First/Last Applic.				27, 27	55, 28	55, 28	55, 28
Plant-Eval Interval				27 DP-1	55 DP-1	55 DP-1	55 DP-1
Days After Emergence				19 DE-1	47 DE-1	47 DE-1	47 DE-1
ARM Action Codes							
Number of Decimals							
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	6	7	8	9
10	ACURON XR	3470	g AI/ha	A	100.0 -	96.0 ab	100.0 -	100.0 -
11	ACURON XR	2980	g AI/ha	A	100.0 -	94.3 b	100.0 -	100.0 -
12	HARNESS MAX 3.85 SC	2530	g AI/ha	A	100.0 -	85.8 c	100.0 -	100.0 -
13	ACURON 3.44 ZC	1450	g AI/ha	A	100.0 -	100.0 a	100.0 -	100.0 -
	ACURON 3.44 ZC	1450	g AI/ha	B				
	ROUNDUP POWERMAX 4.5 SL	1100	g AI/ha	B				
	AMSOL	3.5	L/ha	B				
14	HARNESS MAX 3.85 SC	1270	g AI/ha	A	100.0 -	100.0 a	100.0 -	100.0 -
	HARNESS MAX 3.85 SC	1270	g AI/ha	B				
	ROUNDUP POWERMAX 4.5 SL	1050	g AI/ha	B				
	AMSOL	3.5	L/ha	B				
15	ACURON 3.44 ZC	2900	g AI/ha	A	100.0 -	86.3 c	100.0 -	100.0 -
LSD P=.05					.	5.03	.	.
Standard Deviation					0.00	3.51	0.00	0.00
CV					0.0	3.63	0.0	0.0
Grand Mean					100.00	96.95	100.00	100.00
Levene's F^					.	1.272	.	.
Levene's Prob(F)					.	0.267	.	.
Rank X2					.	.	.	.
P(Rank X2)					.	.	.	.
Skewness^					.	-1.5224*	.	.
Kurtosis^					.	7.6778*	.	.
Replicate F					0.000	2.819	0.000	0.000
Replicate Prob(F)					1.0000	0.0515	1.0000	1.0000
Treatment F					0.000	8.049	0.000	0.000
Treatment Prob(F)					1.0000	0.0001	1.0000	1.0000

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2,3,5,6,8,9,12 because error mean square = 0.
^Calculated from residual.

Pest ID Code				1, W, Weed	3, W, Weed	2, W, Weed		
Pest Code				AMBTR	ECHCG	CHEAL		
Pest Scientific Name				Ambrosia trifida	Echinochloa cru>	Chenopodium alb>		
Pest Name				Giant ragweed	common barnyard>	common lambsqua>		
Crop ID Code				1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX
BBCH Scale				BCOR	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name				Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name				Corn	Corn	Corn	Corn	Corn
Crop Variety				DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB
Rating Date				8/6/2021	8/6/2021	8/6/2021	10/19/2021	10/19/2021
SE Group No.				13	14	15	16	17
Part Rated				PLANT, P	PLANT, P	PLANT, P	PLANT, C	PLANT, C
Rating Type				CONTRO	CONTRO	CONTRO	WEIGHT	MOISTURE
Rating Unit/Min/Max				%, 0, 100	%, 0, 100	%, 0, 100	LB, -, -	%, 0, 100
Calculation				EF	EF	EF	NC	NC
Sample Size				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis				1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples				1	1	1	1	1
Data Entry Date				10/8/2021	10/8/2021	10/8/2021	12/9/2021	12/9/2021
Rating Timing				56 DAB	56 DAB	56 DAB	HARVEST	HARVEST
Days After First/Last Applic.				83, 56	83, 56	83, 56	157, 130	157, 130
Plant-Eval Interval				83 DP-1	83 DP-1	83 DP-1	157 DP-1	157 DP-1
Days After Emergence				75 DE-1	75 DE-1	75 DE-1	149 DE-1	149 DE-1
ARM Action Codes								
Number of Decimals								
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	10	11	12	13	14
1	UNTREATED CHECK				0.0	0.0	0.0	15.403	16.83
2	BICEP II MAGNUM	2470	g AI/ha	A	100.0 a	100.0 -	100.0 -	69.713 a	17.30 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
3	LEXAR EZ 3.7 ZC	1870	g AI/ha	A	100.0 a	100.0 -	100.0 -	66.663 a	17.60 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
4	SURESTART II 4.25 SC	1040	g AI/ha	A	100.0 a	100.0 -	100.0 -	69.398 a	17.53 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
5	HARNESS XTRA 5.6L	2830	g AI/ha	A	100.0 a	100.0 -	100.0 -	70.355 a	17.48 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
6	VERDICT 5.57 EC	682	g AI/ha	A	100.0 a	100.0 -	100.0 -	72.668 a	17.43 -
	AMSOL	5.85	L/ha	B					
	NIS	0.25	% V/V	B					
	ACURON GT	2260	g AI/ha	B					
7	SURESTART II 4.25 SC	1040	g AI/ha	A	100.0 a	100.0 -	100.0 -	67.280 a	17.85 -
	AMSOL	5.85	L/ha	B					
	RESICORE 3.29 SC	1150	g AI/ha	B					
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B					
8	HARNESS XTRA 5.6L	2830	g AI/ha	A	98.5 a	100.0 -	100.0 -	73.125 a	17.15 -
	AMSOL	5.85	L/ha	B					
	LAUDIS 3.5 SC	92.1	g AI/ha	B					
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B					
	SUPERB HC	0.5	% V/V	B					
9	VERDICT 5.57 EC	487	g AI/ha	A	98.5 a	100.0 -	100.0 -	67.388 a	17.80 -
	AMSOL	5.85	L/ha	B					
	ARMEZON PRO	845	g AI/ha	B					
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B					

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2,3,5,6,8,9,12 because error mean square = 0.
^Calculated from residual.

Pest ID Code			1, W, Weed	3, W, Weed	2, W, Weed		
Pest Code			AMBTR	ECHCG	CHEAL		
Pest Scientific Name			Ambrosia trifida	Echinochloa cru>	Chenopodium alb>		
Pest Name			Giant ragweed	common barnyard>	common lambsqua>		
Crop ID Code			1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX	1, ZEAMX
BBCH Scale			BCOR	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name			Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name			Corn	Corn	Corn	Corn	Corn
Crop Variety			DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB	DKC62-52 RIB
Rating Date			8/6/2021	8/6/2021	8/6/2021	10/19/2021	10/19/2021
SE Group No.			13	14	15	16	17
Part Rated			PLANT, P	PLANT, P	PLANT, P	PLANT, C	PLANT, C
Rating Type			CONTRO	CONTRO	CONTRO	WEIGHT	MOISTURE
Rating Unit/Min/Max			%, 0, 100	%, 0, 100	%, 0, 100	LB, -, -	%, 0, 100
Calculation			EF	EF	EF	NC	NC
Sample Size			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Collection Basis			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Reporting Basis			1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples			1	1	1	1	1
Data Entry Date			10/8/2021	10/8/2021	10/8/2021	12/9/2021	12/9/2021
Rating Timing			56 DAB	56 DAB	56 DAB	HARVEST	HARVEST
Days After First/Last Applic.			83, 56	83, 56	83, 56	157, 130	157, 130
Plant-Eval Interval			83 DP-1	83 DP-1	83 DP-1	157 DP-1	157 DP-1
Days After Emergence			75 DE-1	75 DE-1	75 DE-1	149 DE-1	149 DE-1
ARM Action Codes							
Number of Decimals							
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	10	11	12	13	14
10	ACURON XR	3470	g AI/ha A	94.3 a	100.0 -	100.0 -	66.435 a	17.85 -
11	ACURON XR	2980	g AI/ha A	93.0 a	98.8 -	100.0 -	69.673 a	17.70 -
12	HARNESS MAX 3.85 SC	2530	g AI/ha A	76.3 b	100.0 -	100.0 -	56.963 b	17.13 -
13	ACURON 3.44 ZC	1450	g AI/ha A	100.0 a	100.0 -	100.0 -	71.383 a	17.83 -
	ACURON 3.44 ZC	1450	g AI/ha B					
	ROUNDUP POWERMAX 4.5 SL	1100	g AI/ha B					
	AMSOL	3.5	L/ha B					
14	HARNESS MAX 3.85 SC	1270	g AI/ha A	100.0 a	100.0 -	100.0 -	67.800 a	17.65 -
	HARNESS MAX 3.85 SC	1270	g AI/ha B					
	ROUNDUP POWERMAX 4.5 SL	1050	g AI/ha B					
	AMSOL	3.5	L/ha B					
15	ACURON 3.44 ZC	2900	g AI/ha A	75.0 b	100.0 -	100.0 -	42.288 c	17.03 -
LSD P=.05				8.31	0.96	.	8.3645	1.012
Standard Deviation				5.81	0.67	0.00	5.8482	0.708
CV				6.09	0.67	0.0	8.79	4.04
Grand Mean				95.39	99.91	100.00	66.5091	17.521
Levene's F^				2.044	0.791	.	0.711	0.585
Levene's Prob(F)				0.04*	0.665	.	0.742	0.852
Rank X2				.	.	.	.	.
P(Rank X2)				.	.	.	.	.
Skewness^				-1.4911*	-3.9497*	.	-0.5609	0.6055
Kurtosis^				9.8925*	27.6966*	.	-0.2523	2.6043*
Replicate F				1.842	1.000	0.000	4.945	5.914
Replicate Prob(F)				0.1555	0.4031	1.0000	0.0053	0.0020
Treatment F				8.928	1.000	0.000	7.465	0.641
Treatment Prob(F)				0.0001	0.4697	1.0000	0.0001	0.8049

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2,3,5,6,8,9,12 because error mean square = 0.
^Calculated from residual.

Pest ID Code	
Pest Code	
Pest Scientific Name	
Pest Name	
Crop ID Code	1, ZEAMX
BBCH Scale	BCOR
Crop Scientific Name	Zea mays
Crop Name	Corn
Crop Variety	DKC62-52 RIB
Rating Date	10/19/2021
SE Group No.	18
Part Rated	PLANT, C
Rating Type	YIELD
Rating Unit/Min/Max	BU, -, -
Calculation	NC
Sample Size	1 A
Collection Basis	1 PLOT
Reporting Basis	
Number of Subsamples	1
Data Entry Date	
Rating Timing	HARVEST
Days After First/Last Applic.	157, 130
Plant-Eval Interval	157 DP-1
Days After Emergence	149 DE-1
ARM Action Codes	TY1
Number of Decimals	1

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	15
1	UNTREATED CHECK				43.7
2	BICEP II MAGNUM	2470	g AI/ha	A	196.6 a
	AMSOL	5.85	L/ha	B	
	NIS	0.25	% V/V	B	
	ACURON GT	2260	g AI/ha	B	
3	LEXAR EZ 3.7 ZC	1870	g AI/ha	A	187.2 a
	AMSOL	5.85	L/ha	B	
	NIS	0.25	% V/V	B	
	ACURON GT	2260	g AI/ha	B	
4	SURESTART II 4.25 SC	1040	g AI/ha	A	195.1 a
	AMSOL	5.85	L/ha	B	
	NIS	0.25	% V/V	B	
	ACURON GT	2260	g AI/ha	B	
5	HARNESS XTRA 5.6L	2830	g AI/ha	A	198.0 a
	AMSOL	5.85	L/ha	B	
	NIS	0.25	% V/V	B	
	ACURON GT	2260	g AI/ha	B	
6	VERDICT 5.57 EC	682	g AI/ha	A	204.7 a
	AMSOL	5.85	L/ha	B	
	NIS	0.25	% V/V	B	
	ACURON GT	2260	g AI/ha	B	
7	SURESTART II 4.25 SC	1040	g AI/ha	A	188.6 a
	AMSOL	5.85	L/ha	B	
	RESICORE 3.29 SC	1150	g AI/ha	B	
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B	
8	HARNESS XTRA 5.6L	2830	g AI/ha	A	206.6 a
	AMSOL	5.85	L/ha	B	
	LAUDIS 3.5 SC	92.1	g AI/ha	B	
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B	
	SUPERB HC	0.5	% V/V	B	
9	VERDICT 5.57 EC	487	g AI/ha	A	188.9 a
	AMSOL	5.85	L/ha	B	
	ARMEZON PRO	845	g AI/ha	B	
	ROUNDUP POWERMAX 4.5 SL	1050	g AE/ha	B	

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2,3,5,6,8,9,12 because error mean square = 0.
^Calculated from residual.

Pest ID Code	
Pest Code	
Pest Scientific Name	
Pest Name	
Crop ID Code	1, ZEAMX
BBCH Scale	BCOR
Crop Scientific Name	Zea mays
Crop Name	Corn
Crop Variety	DKC62-52 RIB
Rating Date	10/19/2021
SE Group No.	18
Part Rated	PLANT, C
Rating Type	YIELD
Rating Unit/Min/Max	BU, -, -
Calculation	NC
Sample Size	1 A
Collection Basis	1 PLOT
Reporting Basis	
Number of Subsamples	1
Data Entry Date	
Rating Timing	HARVEST
Days After First/Last Applic.	157, 130
Plant-Eval Interval	157 DP-1
Days After Emergence	149 DE-1
ARM Action Codes	TY1
Number of Decimals	1

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	15
10	ACURON XR	3470	g AI/ha	A	186.0 a
11	ACURON XR	2980	g AI/ha	A	195.5 a
12	HARNESS MAX 3.85 SC	2530	g AI/ha	A	160.9 b
13	ACURON 3.44 ZC	1450	g AI/ha	A	199.9 a
	ACURON 3.44 ZC	1450	g AI/ha	B	
	ROUNDUP POWERMAX 4.5 SL	1100	g AI/ha	B	
	AMSOL	3.5	L/ha	B	
14	HARNESS MAX 3.85 SC	1270	g AI/ha	A	190.4 a
	HARNESS MAX 3.85 SC	1270	g AI/ha	B	
	ROUNDUP POWERMAX 4.5 SL	1050	g AI/ha	B	
	AMSOL	3.5	L/ha	B	
15	ACURON 3.44 ZC	2900	g AI/ha	A	119.8 c

LSD P=.05	23.53
Standard Deviation	16.45
CV	8.8
Grand Mean	187.01
Levene's F^	0.69
Levene's Prob(F)	0.761
Rank X2	.
P(Rank X2)	.
Skewness^	-0.5696
Kurtosis^	-0.1456
Replicate F	5.591
Replicate Prob(F)	0.0027
Treatment F	7.319
Treatment Prob(F)	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2,3,5,6,8,9,12 because error mean square = 0.
^Calculated from residual.

Purdue Weed Science

Acuron GT: Evaluation of weed control, crop tolerance and yield in a two pass system

Trial ID: 21S-TPAC-CORN-05 Location: TPAC Trial Year: 2021
Protocol ID: 21S-TPAC-CORN-05 Investigator (Creator): Steve Mroczkiewicz
Study Director:
Sponsor Contact:

Crop ID Code
1, ZEAMX, BCOR, Zea mays, Corn, DKC62-52 RIB = glyphosate and glufosinate resistant corn
Part Rated
PLANT = plant
C = Crop is Part Rated
P = Pest is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown
WEIGHT = weight
YIELD = yield
Rating Unit/Min/Max
%, 0, 100 = percent
LB, , = pound
BU, , = bushel
Calculation
EF = efficacy
NC = no calculation

PLOT = total plot
A = acre

PLOT = total plot

PLOT = total plot
Plant-Eval Interval
27 DP-1 = 1 ZEAMX 5/15/2021
34 DP-1 = 1 ZEAMX 5/15/2021
55 DP-1 = 1 ZEAMX 5/15/2021
83 DP-1 = 1 ZEAMX 5/15/2021
157 DP-1 = 1 ZEAMX 5/15/2021
ARM Action Codes
TY1 = 2.88095238*[13]*(100-[14])/84.5