

Purdue Weed Science

Maverick Herbicide for Weed Control in Corn

Trial ID: 23-TPAC-Corn-04
 Protocol ID: 23-TPAC-Corn-04 Location: Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

General Trial Information

Study Director: Dr. Bill Johnson **Title:** Professor
Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide
Status: E established

ARM Trial Created On: Mar-25-2023
Initiation Date: May-17-2023 **Planned Completion Date:** Oct-15-2023

Trial Location

City: Lafayette **Country:** USA United States
State/Prov.: Indiana
Postal Code: 47907

Latitude of LL Corner °: 40.2918 N
Longitude of LL Corner °: -86.909 W

Regulations

Conducted Under GLP: No
Conducted Under GEP: No

Materials and Methods

Contacts

Role: STYDIR study director
Study Director: 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
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
Role: SPONSOR sponsor
Sponsor: Eric Ott
Organization: Valent
Role: COOPER cooperater
Cooperator: Jay Young **Title:** Superintendent
Organization: Purdue University
Address 1: 8343 US 231 S **Phone No.:** 765-538-3422
Country: USA United States **E-mail:** jayyoung@purdue.edu
City: Lafayette **State/Prov:** IN

Crop Description

Crop 1: C ZEAMX Zea mays Corn
Entry Date: Jun-12-2023 **Stage Scale:** BBCH
Variety: DKC 50-87 RIB
Attributes: Glyphosate-R and Glufosinate-R
Planting Date: May-17-2023 **Planting Rate:** 35000 S/A
Depth: 1.5 IN
Rows per Plot: 4 **Planting Method:** PLANTD planted
Row Spacing: 30 IN **Planting Equipment:** PP plot planter
Soil Moisture: NORMAL normal, adequate
Emergence Date: May-26-2023

Pest Description

Pest 1 Type: W **Code:** SETFA *Setaria faberi* **Entry Date:** Jun-19-2023
Common Name: Giant foxtail **Stage Scale:** BBCH

Pest 2 Type: W **Code:** AMBTR *Ambrosia trifida* **Entry Date:** Jun-19-2023
Common Name: Giant ragweed **Stage Scale:** BBCH
Attributes: ALS-R

Pest 3 Type: W **Code:** SETPU *Setaria helvola* **Entry Date:** Jun-19-2023
Common Name: yellow foxtail **Stage Scale:** BBCH

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Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 30 FT
Treated Plot Area: 300.0 FT²
Replications: 4 **Treatments:** 9 **Plots:** 36

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOBL Randomized Complete Block (RCB)

Field Prep./Maintenance:

180 lbs of N applied as 28% UAN on 5/5/23 then tilled in.
 A Blanket of Gramoxone was sprayed on 05/16/2023 prior to planting.
 Trial area was weed-free at planting.

Soil Description

Description Name: TPAC - Field 4BW
% Sand: 15 **% OM:** 5 **Texture:** SIC silty clay
% Silt: 44 **Soil Name:** Drummer
% Clay: 41 **Fert. Level:** G good
pH: 7 **CEC:** 19.3

Weather Conditions

Overall Moisture Conditions: DRY dry **Irrigation Type:** RAIN rain

No.	Date	Moisture Total	Unit	Min Temp	Max Temp	Avg Temp	Temp Unit	Max Wind	Avg Wind	Unit	Avg Soil Temp	Unit
1.	May-15-2023	0.04	IN	55	75.6	63.1	F	15	3.6	MPH	64.2	F
2.	May-16-2023	0.01	IN	55.8	73.8	62.8	F	16.8	3.1	MPH	64.2	F
3.	May-17-2023	0	IN	50.7	72.7	61.3	F	17.9	5.4	MPH	63.9	F
4.	May-18-2023	0	IN	45.3	77.4	61.9	F	15	2.9	MPH	63.1	F
5.	May-19-2023	0.59	IN	55.8	83.1	65.8	F	30.4	7.6	MPH	63.3	F
6.	May-20-2023	0	IN	48.7	67.1	58.1	F	19	3.8	MPH	63.7	F
7.	May-21-2023	0	IN	45.9	81.1	64.2	F	14.3	1.1	MPH	63.9	F
8.	May-22-2023	0	IN	52.3	84	69.6	F	11.9	0.9	MPH	65.7	F
9.	May-23-2023	0	IN	55.8	86.2	72.3	F	15.4	1.3	MPH	67.1	F
10.	May-24-2023	0	IN	55.4	86.2	72.9	F	22.6	5.4	MPH	67.6	F
11.	May-25-2023	0	IN	48.9	71.6	59.7	F	23.3	9.2	MPH	65.1	F
12.	May-26-2023	0	IN	46.4	77	62.4	F	22.6	4.5	MPH	64.4	F
13.	May-27-2023	0	IN	48	78.4	65.8	F	7.2	0	MPH	64.2	F
14.	May-28-2023	0	IN	57.4	83.1	71.1	F	4.3	0	MPH	66.4	F
15.	Aug-29-2023	0	IN	57.7	88.7	74.8	F	6.5	0	MPH	69.1	F
16.	May-30-2023	0	IN	60.6	91	77.2	F	15.4	0.7	MPH	69.8	F
17.	May-31-2023	0	IN	66.4	90.7	78.3	F	20.4	3.6	MPH	71.6	F
18.	Jun-1-2023	0	IN	63.5	92.1	78.8	F	17.2	2.5	MPH	73.6	F
19.	Jun-2-2023	0	IN	61.9	92.3	79.3	F	13.2	0.7	MPH	74.5	F
20.	Jun-3-2023	0	IN	65.3	93.7	80.2	F	16.1	1.8	MPH	75.4	F
21.	Jun-4-2023	0	IN	64	84.4	74.3	F	17.9	6.5	MPH	75.4	F
22.	Jun-5-2023	0	IN	54.5	83.1	69.6	F	13.2	0	MPH	71.8	F
23.	Jun-6-2023	0	IN	54.3	88.3	71.1	F	7.2	0	MPH	71.6	F
24.	Jun-7-2023	0	IN	54.3	80.1	68.5	F	16.1	1.3	MPH	73.4	F
25.	Jun-8-2023	0	IN	46.9	80.2	64.9	F	1.8	0	MPH	72	F
26.	Jun-9-2023	0	IN	46.9	82	67.1	F	7.2	0	MPH	72.1	F
27.	Jun-10-2023	0	IN	55.2	86.5	72.7	F	13.2	0	MPH	74.1	F
28.	Jun-11-2023	0.38	IN	55.2	69.4	63.5	F	22.6	4	MPH	70.3	F
29.	Jun-12-2023	0	IN	54	69.1	62.8	F	25.1	5.6	MPH	70.5	F
30.	Jun-13-2023	0.05	IN	55.6	70.7	62.4	F	18.8	7.8	MPH	65.3	F
31.	Jun-14-2023	0	IN	59.4	78.8	68.4	F	14.1	2.9	MPH	68.9	F
32.	Jun-15-2023	0	IN	57.7	87.1	71.4	F	19.9	7.2	MPH	70.9	F
33.	Jun-16-2023	0	IN	51.3	75.6	62.6	F	14.1	4.3	MPH	69.3	F
34.	Jun-17-2023	0	IN	51.4	84.2	68.7	F	12.1	2.5	MPH	70.9	F

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35.	Jun-18-2023	0	IN	57.9	86.4	72.7	F	18.1	4.5	MPH	73.4	F
36.	Jun-19-2023	0	IN	69.1	86.5	79.9	F	22.4	6.9	MPH	76.8	F
37.	Jun-20-2023	0	IN	65.5	89.4	76.1	F	27.1	8.9	MPH	76.8	F
38.	Jun-21-2023	0	IN	64.8	88.7	76.6	F	23.9	7.4	MPH	78.1	F
39.	Jun-22-2023	0	IN	63.5	83.7	73	F	21.5	5.4	MPH	77.9	F
40.	Jun-23-2023	0	IN	66.6	85.8	74.3	F	11.2	2.5	MPH	77.2	F
41.	Jun-24-2023	0	IN	60.6	91.6	77.5	F	15	3.6	MPH	77.7	F
42.	Jun-25-2023	0.93	IN	67.8	88.9	77.9	F	36	10.1	MPH	76.8	F
43.	Jun-26-2023	0	IN	66	77	71.1	F	26.6	8.9	MPH	72.9	F
44.	Jun-27-2023	0	IN	60.4	76.8	67.5	F	14.5	4	MPH	70.9	F
45.	Jun-28-2023	0	IN	53.8	82.8	68.5	F	17	2.5	MPH	70.9	F
46.	Jun-29-2023	0.38	IN	64.9	84.9	70.9	F	44.7	7.4	MPH	71.8	F
47.	Jun-30-2023	0	IN	62.8	86	75	F	21	3.6	MPH	73.4	F
48.	Jul-1-2023	0.45	IN	69.4	87.6	75.7	F	31.3	5.1	MPH	76.1	F
49.	Jul-2-2023	0.65	IN	66	83.3	73.6	F	28.6	6.9	MPH	75.7	F
50.	Jul-3-2023	0	IN	65.8	87.8	75	F	14.5	4.7	MPH	76.3	F
51.	Jul-4-2023	0	IN	65.1	90.9	77.9	F	14.1	2.9	MPH	78.1	F
52.	Jul-5-2023	0.01	IN	68.4	89.6	78.6	F	25.1	5.1	MPH	79.3	F
53.	Jul-6-2023	0.01	IN	68.4	84.2	74.8	F	16.6	3.8	MPH	78.6	F
54.	Jul-7-2023	0	IN	60.6	84	73.4	F	11.4	2.7	MPH	77.7	F
55.	Jul-8-2023	0.75	IN	61.5	76.3	68.5	F	17.7	3.1	MPH	75.6	F
56.	Jul-9-2023	0	IN	57	82.2	69.4	F	11.6	2.2	MPH	74.5	F
57.	Jul-10-2023	0	IN	58.8	82.2	71.6	F	12.5	4	MPH	75.4	F
58.	Jul-11-2023	0	IN	62.6	85.1	74.5	F	21.3	7.2	MPH	75.6	F
59.	Jul-12-2023	0	IN	69.1	86.4	76.8	F	23	6.3	MPH	76.3	F
60.	Jul-13-2023	0	IN	64	80	71	F	10.1	2.9	MPH	75.4	F
61.	Jul-14-2023	0	IN	61	88	76	F	14.8	4.5	MPH	76.1	F
62.	Jul-15-2023	1.59	IN	67	83	74	C	20.8	4	MPH	75.9	F
63.	Jul-16-2023	0	IN	63	83	73	C	17.4	4.9	MPH	75.4	F
64.	Jul-17-2023	0.14	IN	65	81	72	C	12.8	3.6	MPH	74.7	F
65.	Jul-18-2023	0	IN	63	82	72	C	9.6	2.2	MPH	74.8	F
66.	Jul-19-2023	0	IN	57	86	73	C	9.2	1.8	MPH	74.7	F
67.	Jul-20-2023	0	IN	67	88	76	C	22.1	5.4	MPH	76.5	F
68.	Jul-21-2023	0	IN	62	81	71	C	11.9	2.5	MPH	75	F
69.	Jul-22-2023	0	IN	58	83	71	C	9.2	1.8	MPH	73.9	F
70.	Jul-23-2023	0	IN	59	86	72	C	14.1	3.4	MPH	73.6	F
71.	Jul-24-2023	0	IN	64	88	76	C	9.6	2.2	MPH	75.2	F
72.	Jul-25-2023	0	IN	62	87	76	C	11.4	2.7	MPH	75.2	F
73.	Jul-26-2023	0.06	IN	71	89	80	C	25.1	8.5	MPH	76.1	F
74.	Jul-27-2023	0	IN	74	95	83	C	11.6	3.4	MPH	78.4	F
75.	Jul-28-2023	0.48	IN	70	90	81	C	36.2	6.3	MPH	79.2	F
76.	Jul-29-2023	0.73	IN	67	85	75	F	32	4.5	MPH	78.1	F
77.	Jul-30-2023	0	IN	62	85	73	F	15.7	2.9	MPH	76.3	F
78.	Jul-31-2023	0	IN	57	81	69	F	11.9	2.5	MPH	74.7	F
79.	Aug-1-2023	0	IN	56	82	71	F	10.3	2	MPH	73.4	F
80.	Aug-2-2023	0	IN	62	84	72	F	12.3	3.6	MPH	74.7	F
81.	Aug-3-2023	0	IN	64	89	75	F	11.6	1.8	MPH	77.5	F
82.	Aug-4-2023	0	IN	61	91	77	F	8.5	1.8	MPH	78.8	F
83.	Aug-5-2023	0.05	IN	69	80	74	F	29.8	5.6	MPH	76.8	F
84.	Aug-6-2023	0.73	IN	64	78	69	F	18.1	5.8	MPH	74.3	F
85.	Aug-7-2023	0	IN	65	78	70	F	17.2	3.4	MPH	74.3	F
86.	Aug-8-2023	0	IN	60	82	69	F	22.1	4	MPH	74.5	F

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87.	Aug-9-2023	0	IN	61	81	69	F	19.9	2.7	MPH	73.9	F
88.	Aug-10-2023	0	IN	63	80	71	F	15.4	3.8	MPH	75	F
89.	Aug-11-2023	0	IN	64	84	74	F	22.1	5.6	MPH	75.2	F
90.	Aug-12-2023	0	IN	65	85	75	F	20.1	5.6	MPH	76.1	F
91.	Aug-13-2023	1.27	IN	63	85	74	F	11.4	3.1	MPH	76.1	F
92.	Aug-14-2023	0	IN	65	77	70	F	18.3	5.1	MPH	74.7	F
93.	Aug-15-2023	0.15	IN	59	75	66	F	19	5.6	MPH	71.8	F
94.	Aug-16-2023	0.46	IN	55	80	68	F	9.8	2.7	MPH	71.6	F
95.	Aug-17-2023	0.5	IN	60	78	68	F	24.2	7.2	MPH	71.2	F
96.	Aug-18-2023	0	IN	53	77	65	F	12.8	2.2	MPH	70.5	F
97.	Aug-19-2023	0	IN	57	81	69	F	16.1	4.3	MPH	70.9	F
98.	Aug-20-2023	0.35	IN	66	91	78	F	11.9	3.4	MPH	73.6	F
99.	Aug-21-2023	0	IN	73	91	82	F	11.9	3.4	MPH	76.8	F
100.	Aug-22-2023	0.08	IN	71	88	78	F	11.2	3.8	MPH	77.5	F
101.	Aug-23-2023	0	IN	70	91	80	F	17	6	MPH	77.5	F
102.	Aug-24-2023	0	IN	76	92	84	F	19.5	6.5	MPH	79.2	F
103.	Aug-25-2023	0.25	IN	76	92	82	F	11	3.4	MPH	80.1	F
104.	Aug-26-2023	0	IN	68	84	75	F	13.9	3.4	MPH	78.6	F
105.	Aug-27-2023	0	IN	60	78	70	F	14.1	5.1	MPH	75.9	F
106.	Aug-28-2023	0	IN	56	80	67	F	12.3	2.9	MPH	73.4	F
107.	Aug-29-2023	0	IN	52	81	68	F	14.1	3.1	MPH	72.5	F
108.	Aug-30-2023	0	IN	56	75	65	F	17.4	4.7	MPH	72.1	F
109.	Aug-31-2023	0	IN	50	76	64	F	15.2	4.5	MPH	70.5	F
110.	Sep-1-2023	0	IN	53	84	68	F	12.3	3.1	MPH	70.7	F
111.	Sep-2-2023	0	IN	56	87	72	F	19.2	3.6	MPH	72	F
112.	Sep-3-2023	0	IN	68	88	77	F	16.8	5.8	MPH	74.5	F
113.	Sep-4-2023	0	IN	66	89	78	F	16.6	5.1	MPH	74.7	F
114.	Sep-5-2023	0	IN	70	90	78	F	20.6	6.5	MPH	75.9	F
115.	Sep-6-2023	0.29	IN	65	84	74	F	19.7	7.4	MPH	75.4	F
116.	Sep-7-2023	0	IN	65	74	68	F	13	4.5	MPH	73.2	F
117.	Sep-8-2023	0	IN	59	73	65	F	15.9	3.1	MPH	71.2	F
118.	Sep-9-2023	0	IN	60	78	67	F	13.2	4	MPH	70.5	F
119.	Sep-10-2023	0	IN	51	83	66	F	8.5	1.6	MPH	69.8	F
120.	Sep-11-2023	0.04	IN	57	82	68	F	12.1	3.4	MPH	70.2	F
121.	Sep-12-2023	0.02	IN	51	75	65	F	13.6	3.1	MPH	70.3	F
122.	Sep-13-2023	0	IN	45	75	60	F	17.2	2.9	MPH	67.3	F
123.	Sep-14-2023	0	IN	46	78	62	F	12.8	2.7	MPH	66.4	F
124.	Sep-15-2023	0	IN	48	82	64	F	11.9	2.5	MPH	66.6	F
125.	Sep-16-2023	0	IN	50	80	63	F	9.8	2.7	MPH	66.4	F
126.	Sep-17-2023	0.22	IN	54	72	61	F	12.1	2.5	MPH	66.6	F
127.	Sep-18-2023	0	IN	49	74	61	F	16.1	2.7	MPH	65.5	F
128.	Sep-19-2023	0	IN	52	79	65	F	16.6	4.7	MPH	64.9	F
129.	Sep-20-2023	0	IN	53	83	69	F	14.8	3.8	MPH	66	F
130.	Sep-21-2023	0	IN	60.1	80.4	69.3	F	15.2	2.9	MPH	67.3	F
131.	Sep-22-2023	0	IN	59.2	85.6	71.4	F	13.2	3.4	MPH	67.8	F
132.	Sep-23-2023	0	IN	54.1	80.8	67.5	F	16.6	4	MPH	67.6	F
133.	Sep-24-2023	0	IN	50.9	85.3	66	F	19.2	3.1	MPH	67.3	F
134.	Sep-25-2023	0	IN	54.3	85.5	68.7	F	14.5	3.1	MPH	68	F
135.	Sep-26-2023	0.18	IN	60.4	76.6	66	F	20.6	4.3	MPH	68	F
136.	Sep-27-2023	0.14	IN	61.2	76.3	65.7	F	15.2	3.4	MPH	67.1	F
137.	Sep-28-2023	0	IN	58.3	74.8	66.2	F	8.9	2.2	MPH	67.6	F
138.	Sep-29-2023	0	IN	54.3	82.8	66.6	F	14.3	2.2	MPH	67.6	F

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139.	Sep-30-2023	0	IN	54	86.2	68.7	F	13.9	2.5	MPH	67.3	F
140.	Oct-1-2023	0	IN	55.8	87.1	70.9	F	14.8	2.2	MPH	67.5	F
141.	Oct-2-2023	0	IN	56.7	89.8	72	F	12.1	2.2	MPH	68.2	F
142.	Oct-3-2023	0	IN	57.2	88.9	73.8	F	15	3.8	MPH	68.7	F
143.	Oct-4-2023	0	IN	64.9	86.5	73.9	F	24.6	5.8	MPH	69.3	F
144.	Oct-5-2023	0.38	IN	60.4	70.9	65.8	F	21.7	6.3	MPH	67.8	F
145.	Oct-6-2023	0	IN	44.2	68	54.3	F	28.2	6	MPH	64.2	F
146.	Oct-7-2023	0	IN	42.4	61.3	50.5	F	22.1	6.9	MPH	59.9	F
147.	Oct-8-2023	0	IN	40.1	56.5	48.6	F	15.2	3.8	MPH	57.2	F

Application Description

	A	B
Date	May-17-2023	Jun-17-2023
Start Time	2:03 PM	11:25 AM
Stop Time	2:35 PM	11:40 AM
Method	SPRAY	SPRAY
Timing	PRE	V6/18" CORN
Placement	BROSOI	BROFOL
Applied By	C. BLAND	L. MAIA
Entry Date	Jun-12-2023	Jun-19-2023
Air Temperature Start, Stop	70.7, 70.7 F	74, 47 F
% Relative Humidity Start, Stop	41, 41	49.5, 49.5
Wind Velocity+Dir. Start	6 MPH, W	8 MPH, SE
Wind Velocity+Dir. Stop	6.5 MPH, W	6 MPH, SE
Wind Velocity+Dir. Max	10 MPH, W	8 MPH, SE
Wet Leaves (Y/N)	N, no	N, no
Soil Temperature	75 F	88 F
Soil Moisture	ADEQUATE	ADEQUATE
% Cloud Cover	0	0

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	ZEAMX, BCOR	ZEAMX, BCOR
Days after Emergence	-9	22
Stage Majority, Percent	00, -	V6, -
Stage Minimum, Percent	00, -	V5, -
Stage Maximum, Percent	00, -	V6, -
Height Average	0 IN	14 IN
Height Minimum, Maximum	0, 0	9, 19

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 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale	SETFA, W, BBCH	SETFA, W, BBCH
Height Average	0 IN	5 IN
Height Minimum, Maximum	0, 0	1, 8
Density Average	0 FT2	1 FT2
Density Minimum, Maximum	0, 0	0, 3
Pest 2 Code, Type, Scale	AMBTR, W, BBCH	AMBTR, W, BBCH
Height Average	0 IN	5 IN
Height Minimum, Maximum	0, 0	1, 10
Density Average	0 FT2	2 FT2
Density Minimum, Maximum	0, 0	0, 6
Pest 3 Code, Type, Scale	SETPU, W, BBCH	SETPU, W, BBCH
Height Average	0 IN	5 IN
Height Minimum, Maximum	0, 0	1, 6
Density Average	0 FT2	1.5 FT2
Density Minimum, Maximum	0, 0	0, 4

Application Equipment

	A	B
Equipment Name	CO2 BACKPACK	CO2 BACKPACK
Equipment Type	BACSPR	BACSPR
Operation Pressure	27 PSI	19 PSI
Nozzle Model	AIXR	XR
Nozzle Type	FLAFAI	FLAFXR
Nozzle TradeName	TEEJET	TEEJET
Nozzle Tip Size, Color	110015, GREEN	11002, YELLOW
Nozzle Spacing	15.0 IN	15.0 IN
Boom Length	10.0 FT	10.0 FT
Ground Speed	3 MPH	3 MPH
Carrier	WATER	WATER
Application Amount	15 GAL/AC	15 GAL/AC
Mix Overage	236.0 mL	236.0 mL
Mix Size	1.8 L	1.8 L
Propellant	COMCO2	COMCO2

Notes

Context	Date	By	Notes
STATUS	Mar-25-2023	Dr. Bill Johnson	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Jun-1-2023	Dr. Bryan Young	Automatically added by ARM: Status changed to: E: changed by (EINYOB).
STATUS	Jun-1-2023	Dr. Bryan Young	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.

Instructions:

1. POST timing is 42 days after planting or V6/18 inch corn.
2. Evaluations: ci at 14 and 28 DA-A; wc at 28, 42, and 56 DA-A. Evaluate weed control before POST if not 42 DA-A.
3. Yield

Purdue Weed Science

Maverick Herbicide for Weed Control in Corn

Trial ID: 23-TPAC-Corn-04
 Protocol ID: 23-TPAC-Corn-04 Location: Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By	Claudia Bland		Claudia Bland	Claudia Bland	Claudia Bland	Claudia Bland	
Rating Date	May-31-2023		Jun-14-2023	Jun-14-2023	Jun-17-2023	Jun-30-2023	
Rating Type	PHYGEN		PHYGEN	CONTRO	CONTRO	CONTRO	
Rating Unit/Min/Max	% , 0, 100		% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	
Crop Type, Code	C, ZEAMX		C, ZEAMX	C, ZEAMX	C, ZEAMX	C, ZEAMX	
Crop Scientific Name	Zea mays		Zea mays	Zea mays	Zea mays	Zea mays	
Crop Name	Corn		Corn	Corn	Corn	Corn	
Pest Code				AMBTR	AMBTR	AMBTR	
Pest Scientific Name				Ambrosia trifida	Ambrosia trifida	Ambrosia trifida	
Pest Name				Giant ragweed	Giant ragweed	Giant ragweed	
Rating Timing	14 DA-A		28 DA-A	28 DA-A	AT POST B	42 DA-A	
ARM Action Codes	EC		EC	EC	EC	EC	
Trt Treatment	Rate	Appl	1*	2*	3*	6*	9*
No. Name	Rate Unit	Code					
1 NONTREATED			0.0	0.0	0.0	0.0	0.0
2 ACURON	3 qt/a	A	0.0 a	0.0 a	81.3 a	80.0 a	84.5 a
ROUNDUP POWERMAX 3	22 fl oz/a	B					
ACTIVATOR 90	0.25 % v/v	B					
AMSOL	3 lb ai/a	B					
3 BICEP II MAGNUM	2.1 qt/a	A	0.0 a	0.0 a	88.3 a	87.0 a	88.3 a
ROUNDUP POWERMAX 3	22 fl oz/a	B					
ACTIVATOR 90	0.25 % v/v	B					
AMSOL	3 lb ai/a	B					
4 RESICORE XL	88 fl oz/a	A	0.0 a	0.0 a	86.3 a	84.5 a	88.5 a
ROUNDUP POWERMAX 3	22 fl oz/a	B					
ACTIVATOR 90	0.25 % v/v	B					
AMSOL	3 lb ai/a	B					
5 MAVERICK HERBICIDE	24 fl oz/a	A	0.0 a	0.0 a	82.5 a	81.3 a	88.5 a
ROUNDUP POWERMAX 3	22 fl oz/a	B					
ACTIVATOR 90	0.25 % v/v	B					
AMSOL	3 lb ai/a	B					
6 MAVERICK HERBICIDE	24 fl oz/a	A	0.0 a	0.0 a	89.0 a	88.5 a	90.8 a
AATREX	1.5 pt/a	A					
ROUNDUP POWERMAX 3	22 fl oz/a	B					
ACTIVATOR 90	0.25 % v/v	B					
AMSOL	3 lb ai/a	B					
7 MAVERICK HERBICIDE	1 qt/a	A	0.0 a	0.0 a	88.8 a	85.8 a	86.3 a
ROUNDUP POWERMAX 3	22 fl oz/a	B					
ACTIVATOR 90	0.25 % v/v	B					
AMSOL	3 lb ai/a	B					
8 MAVERICK HERBICIDE	1 qt/a	A	0.0 a	0.0 a	93.3 a	91.3 a	93.5 a
AATREX	1.5 pt/a	A					
ROUNDUP POWERMAX 3	22 fl oz/a	B					
ACTIVATOR 90	0.25 % v/v	B					
AMSOL	3 lb ai/a	B					
9 TRIVOLT SC	20 fl oz/a	A	0.0 a	0.0 a	84.5 a	83.3 a	87.5 a
ROUNDUP POWERMAX 3	22 fl oz/a	B					
ACTIVATOR 90	0.25 % v/v	B					
AMSOL	3 lb ai/a	B					
LSD P=.05					11.31	12.68	8.82
Standard Deviation			0.00	0.00	7.69	8.63	6.00
CV			0.0	0.0	8.87	10.13	6.78
Levene's Prob(F)			.	.	0.621	0.623	0.954
P(Shapiro-Wilk)^			.	.	0.0483*	0.0364*	0.0847
P(Skewness)^			.	.	0.1357	0.0763	0.0764
P(Kurtosis)^			.	.	0.8172	0.822	0.8935
Replicate F			0.000	0.000	1.977	1.445	2.893
Replicate Prob(F)			1.0000	1.0000	0.1483	0.2580	0.0594
Treatment F			0.000	0.000	1.036	0.752	0.829
Treatment Prob(F)			1.0000	1.0000	0.4362	0.6318	0.5748

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.

* Adjusted means

Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.

^Calculated from residual.

Purdue Weed Science

Maverick Herbicide for Weed Control in Corn

Trial ID: 23-TPAC-Corn-04
 Protocol ID: 23-TPAC-Corn-04 Location: Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By	Claudia Bland		Claudia Bland	Claudia Bland	Claudia Bland	
Rating Date	Jul-12-2023		Jun-14-2023	Jun-17-2023	Jun-30-2023	
Rating Type	CONTRO		CONTRO	CONTRO	CONTRO	
Rating Unit/Min/Max	% , 0, 100		% , 0, 100	% , 0, 100	% , 0, 100	
Crop Type, Code	C, ZEAMX		C, ZEAMX	C, ZEAMX	C, ZEAMX	
Crop Scientific Name	Zea mays		Zea mays	Zea mays	Zea mays	
Crop Name	Corn		Corn	Corn	Corn	
Pest Code	AMBTR		ECHCG	ECHCG	ECHCG	
Pest Scientific Name	Ambrosia trifida		Echinochloa cru>	Echinochloa cru>	Echinochloa cru>	
Pest Name	Giant ragweed		common barnyard>	common barnyard>	common barnyard>	
Rating Timing	56 DA-A		28 DA-A	AT POST B	42 DA-A	
ARM Action Codes	EC		EC	EC	EC	
Trt Treatment	Rate	Appl	12*	4*	7*	10*
No. Name	Rate Unit	Code				
1 NONTREATED			0.0	0.0	0.0	0.0
2 ACURON	3 qt/a	A	85.0 c	77.5 ab	77.5 a	86.3 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
3 BICEP II MAGNUM	2.1 qt/a	A	85.8 bc	81.3 a	80.0 a	89.0 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
4 RESICORE XL	88 fl oz/a	A	92.0 ab	82.5 a	80.0 a	90.0 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
5 MAVERICK HERBICIDE	24 fl oz/a	A	86.3 bc	70.0 b	57.5 b	83.8 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
6 MAVERICK HERBICIDE	24 fl oz/a	A	95.3 a	87.0 a	85.8 a	90.3 a
AATREX	1.5 pt/a	A				
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
7 MAVERICK HERBICIDE	1 qt/a	A	90.0 abc	68.8 b	62.5 b	83.3 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
8 MAVERICK HERBICIDE	1 qt/a	A	95.3 a	77.5 ab	76.3 a	87.5 a
AATREX	1.5 pt/a	A				
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
9 TRIVOLT SC	20 fl oz/a	A	88.3 bc	78.8 ab	76.3 a	85.0 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
LSD P=.05			6.79	10.99	13.61	8.47
Standard Deviation			4.62	7.48	9.25	5.76
CV			5.15	9.59	12.43	6.63
Levene's Prob(F)			0.276	0.809	0.513	0.98
P(Shapiro-Wilk)^			0.2664	0.0222*	0.4443	0.1369
P(Skewness)^			0.409	0.0629	0.8047	0.4357
P(Kurtosis)^			0.4174	0.705	0.8708	0.6919
Replicate F			1.065	4.628	3.779	2.511
Replicate Prob(F)			0.3852	0.0123	0.0259	0.0864
Treatment F			3.181	2.683	4.238	0.911
Treatment Prob(F)			0.0186	0.0376	0.0046	0.5169

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.
 * Adjusted means
 Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.
 ^Calculated from residual.

Purdue Weed Science

Maverick Herbicide for Weed Control in Corn

Trial ID: 23-TPAC-Corn-04
 Protocol ID: 23-TPAC-Corn-04 Location: Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By	Claudia Bland					
Rating Date	Jul-12-2023	Jun-14-2023	Jun-17-2023	Jun-30-2023		
Rating Type	CONTRO					
Rating Unit/Min/Max	%, 0, 100					
Crop Type, Code	C, ZEAMX					
Crop Scientific Name	Zea mays					
Crop Name	Corn					
Pest Code	ECHCG					
Pest Scientific Name	Echinochloa cru>					
Pest Name	common barnyard>					
Rating Timing	56 DA-A					
ARM Action Codes	EC					
Trt Treatment	Rate	Appl	13*	5*	8*	11*
No. Name	Rate Unit	Code				
1 NONTREATED			0.0	0.0	0.0	0.0
2 ACURON	3 qt/a	A	95.3 a	100.0 a	100.0 a	100.0 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
3 BICEP II MAGNUM	2.1 qt/a	A	91.3 a	96.8 a	95.5 a	97.5 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
4 RESICORE XL	88 fl oz/a	A	94.0 a	100.0 a	100.0 a	100.0 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
5 MAVERICK HERBICIDE	24 fl oz/a	A	88.3 a	100.0 a	100.0 a	100.0 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
6 MAVERICK HERBICIDE	24 fl oz/a	A	93.0 a	100.0 a	100.0 a	100.0 a
AATREX	1.5 pt/a	A				
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
7 MAVERICK HERBICIDE	1 qt/a	A	89.5 a	100.0 a	100.0 a	100.0 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
8 MAVERICK HERBICIDE	1 qt/a	A	90.8 a	100.0 a	100.0 a	100.0 a
AATREX	1.5 pt/a	A				
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
9 TRIVOLT SC	20 fl oz/a	A	91.5 a	100.0 a	100.0 a	100.0 a
ROUNDUP POWERMAX 3	22 fl oz/a	B				
ACTIVATOR 90	0.25 % v/v	B				
AMSOL	3 lb ai/a	B				
LSD P=.05			7.17	2.38	3.66	2.60
Standard Deviation			4.87	1.62	2.49	1.77
CV			5.32	1.62	2.51	1.77
Levene's Prob(F)			0.968	0.291	0.443	0.716
P(Shapiro-Wilk)^			0.5432	0.0*	0.0*	0.0*
P(Skewness)^			0.6551	0.0*	0.0*	0.0*
P(Kurtosis)^			0.5034	0.0*	0.0*	0.0*
Replicate F			0.226	1.000	1.000	1.000
Replicate Prob(F)			0.8771	0.4123	0.4123	0.4123
Treatment F			0.901	2.020	1.631	1.000
Treatment Prob(F)			0.5237	0.1005	0.1814	0.4586

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Purdue Weed Science

Maverick Herbicide for Weed Control in Corn

Trial ID: 23-TPAC-Corn-04
 Protocol ID: 23-TPAC-Corn-04 Location: Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By		Claudia Bland	Lucas Maia
Rating Date		Jul-12-2023	Oct-8-2023
Rating Type		CONTRO	YIELD
Rating Unit/Min/Max		%, 0, 100	bu/ac, -, -
Crop Type, Code		C, ZEAMX	C, ZEAMD
Crop Scientific Name		Zea mays	Zea mays indent>
Crop Name		Corn	Dent corn
Pest Code		CHEAL	
Pest Scientific Name		Chenopodium alb>	
Pest Name		common lambsqua>	
Rating Timing		56 DA-A	
ARM Action Codes		EC	
Trt Treatment	Rate Appl	14*	15*
No. Name	Rate Unit Code		
1	NONTREATED	0.0	71.58 b
2	ACURON ROUNDUP POWERMAX 3 ACTIVATOR 90 AMSOL	3 qt/a A 22 fl oz/a B 0.25 % v/v B 3 lb ai/a B	100.0 a 256.00 a
3	BICEP II MAGNUM ROUNDUP POWERMAX 3 ACTIVATOR 90 AMSOL	2.1 qt/a A 22 fl oz/a B 0.25 % v/v B 3 lb ai/a B	98.8 a 255.00 a
4	RESICORE XL ROUNDUP POWERMAX 3 ACTIVATOR 90 AMSOL	88 fl oz/a A 22 fl oz/a B 0.25 % v/v B 3 lb ai/a B	100.0 a 245.75 a
5	MAVERICK HERBICIDE ROUNDUP POWERMAX 3 ACTIVATOR 90 AMSOL	24 fl oz/a A 22 fl oz/a B 0.25 % v/v B 3 lb ai/a B	100.0 a 249.00 a
6	MAVERICK HERBICIDE AATREX ROUNDUP POWERMAX 3 ACTIVATOR 90 AMSOL	24 fl oz/a A 1.5 pt/a A 22 fl oz/a B 0.25 % v/v B 3 lb ai/a B	100.0 a 246.75 a
7	MAVERICK HERBICIDE ROUNDUP POWERMAX 3 ACTIVATOR 90 AMSOL	1 qt/a A 22 fl oz/a B 0.25 % v/v B 3 lb ai/a B	100.0 a 249.50 a
8	MAVERICK HERBICIDE AATREX ROUNDUP POWERMAX 3 ACTIVATOR 90 AMSOL	1 qt/a A 1.5 pt/a A 22 fl oz/a B 0.25 % v/v B 3 lb ai/a B	100.0 a 246.50 a
9	TRIVOLT SC ROUNDUP POWERMAX 3 ACTIVATOR 90 AMSOL	20 fl oz/a A 22 fl oz/a B 0.25 % v/v B 3 lb ai/a B	100.0 a 258.00 a
LSD P=.05		1.30	29.614
Standard Deviation		0.88	20.292
CV		0.89	8.79
Levene's Prob(F)		0.716	0.007*
P(Shapiro-Wilk)^		0.0*	0.7688
P(Skewness)^		0.0*	0.9804
P(Kurtosis)^		0.0*	0.52
Replicate F		1.000	4.581
Replicate Prob(F)		0.4123	0.0113
Treatment F		1.000	34.873
Treatment Prob(F)		0.4586	0.0001

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 ^Calculated from residual.

Purdue Weed Science

Maverick Herbicide for Weed Control in Corn

Trial ID: 23-TPAC-Corn-04
 Protocol ID: 23-TPAC-Corn-04 Location: Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

YIELD = yield

Rating Unit/Min/Max

%, 0, 100 = percent

bu/ac, , = bushels per acre

Crop Type Code

C = EPPO species (Bayer) codes

ZEAMX, BCOR, Zea mays, Corn = US

ZEAMD, BCOR, Zea mays indentata, Dent corn = US

Pest Code

AMBTR, Ambrosia trifida, Giant ragweed = US

ECHCG, Echinochloa crus-galli, common barnyardgrass = US

CHEAL, Chenopodium album, common lambsquarters = US

Rating Timing

14 DA-A = 14 Days After Application A

28 DA-A = 28 Days After Application A

42 DA-A = 42 Days After Application A

ARM Action Codes

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