

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 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** °: -86.90922 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:** AMBTR Ambrosia trifida **Entry Date:** Jun-19-2023  
**Common Name:** Giant ragweed **Stage Scale:** BBCH  
**Attributes:** ALS-R

**Pest 2 Type:** W **Code:** SETFA Setaria faberi **Entry Date:** Jun-19-2023  
**Common Name:** Giant foxtail **Stage Scale:** BBCH

**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 FT<sup>2</sup>  
**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  
**Weather Station Name:** TPAC MESONET PURDUE **Distance:** 0.5 MI

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	63.9	80.2	70.7	F	10.1	2.9	MPH	75.4	F
61.	Jul-14-2023	0	IN	60.6	88.2	75.9	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	2:38 PM	11:00 AM
Stop Time	3:04 PM	11:21 AM
Method	SPRAY	SPRAY
Timing	PRE	4" WEEDS
Placement	BROSOI	BROFOL
Applied By	C. BLAND	L. MAIA
Entry Date	Jun-12-2023	Jun-19-2023
Air Temperature Start, Stop	76.4, 76.4 F	81.7, 81.7 F
% Relative Humidity Start, Stop	36, 36	54.7, 54.7
Wind Velocity+Dir. Start	3 MPH, W	8 MPH, SE
Wind Velocity+Dir. Stop	5.1 MPH, W	6 MPH, SE
Wind Velocity+Dir. Max	9.5 MPH, W	8 MPH, SE
Wet Leaves (Y/N)	N, no	N, no
Soil Temperature	78 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, -	V6, -
Stage Maximum, Percent	00, -	V6, -
Height Average	0 IN	15 IN
Height Minimum, Maximum	0, 0	12, 16

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

### Pest Stage At Each Application

	A	B
<b>Pest 1 Code, Type, Scale</b>	AMBTR, W, BBCH	AMBTR, W, BBCH
<b>Height Average</b>	0 IN	6 IN
<b>Height Minimum, Maximum</b>	0, 0	1, 10
<b>Density Average</b>	0 FT2	1 FT2
<b>Density Minimum, Maximum</b>	0, 0	0, 3
<b>Pest 2 Code, Type, Scale</b>	SETFA, W, BBCH	SETFA, W, BBCH
<b>Height Average</b>	0 IN	4 IN
<b>Height Minimum, Maximum</b>	0, 0	1, 10
<b>Density Average</b>	0 FT2	0.5 FT2
<b>Density Minimum, Maximum</b>	0, 0	0, 3
<b>Pest 3 Code, Type, Scale</b>	SETPU, W, BBCH	SETPU, W, BBCH
<b>Height Average</b>	0 IN	4 IN
<b>Height Minimum, Maximum</b>	0, 0	1, 6
<b>Density Average</b>	0 FT2	1 FT2
<b>Density Minimum, Maximum</b>	0, 0	0, 3

### Application Equipment

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

- POST timing is approximately 4 inch weeds but prior to 12 inch corn.
- Evaluations: ci at 14 and 21 DA-A; ci at 7, 14, and 21 DA-B; wc at 14, 28, DA-A; wc at POST-B and 14, 21, 28 DA-B, wc at harvest.
- Yield

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By				Marcelo Zimmer	Claudia Bland	Claudia Bland	Marcelo Zimmer	Claudia Bland
Rating Date				May-31-2023	Jun-7-2023	Jun-24-2023	May-31-2023	Jun-14-2023
Rating Type				PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max				% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100
Crop Scientific Name				Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name				Corn	Corn	Corn	Corn	Corn
Pest Code							AMBTR	AMBTR
Pest Scientific Name							Ambrosia trifida	Ambrosia trifida
Pest Name							Giant ragweed	Giant ragweed
Rating Timing				14 DA-A	21 DA-A	7 DA-B	14 DA-A	28 DA-A
ARM Action Codes				EC	EC	EC	EC	EC
Trt No.	Treatment Name	Rate Unit	Appl Code	1*	4*	14*	2*	5*
1	NONTREATED			0.0	0.0	0.0	0.0	0.0
2	ACURON	1.5 qt/a	A	0.0 a	0.0 a	0.0 b	86.3 a	78.8 a
	ACURON	1.5 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
3	BICEP II MAGNUM	2.1 qt/a	A	0.0 a	0.0 a	0.0 b	90.0 a	82.5 a
	ACURON GT	3.75 pt/a	B					
	AMSOL	8.5 lb ai/100 gal	B					
4	RESICORE XL	1.4 qt/a	A	0.0 a	0.0 a	0.0 b	92.0 a	82.0 a
	RESICORE XL	1.4 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	AMSOL	8.5 lb ai/100 gal	B					
5	RESICORE XL	1.4 qt/a	A	0.0 a	0.0 a	0.0 b	87.5 a	83.8 a
	KYRO	45 fl oz/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
6	MAVERICK	18 fl oz/a	A	0.0 a	0.0 a	0.0 b	88.3 a	82.0 a
	MAVERICK	14 fl oz/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
7	MAVERICK	18 fl oz/a	A	0.0 a	0.0 a	0.0 b	85.0 a	80.0 a
	MAVERICK	14 fl oz/a	B					
	AATREX	1 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
8	RESTRAINT	36 fl oz/a	A	0.0 a	0.0 a	3.0 a	90.8 a	84.5 a
	AATREX	1 qt/a	A					
	SHIELDEX	1.35 fl oz/a	B					
	AATREX	1 qt/a	B					
	MSO ULTRA	1 % v/v	B					

Means followed by same letter or symbol do not significantly differ (P=0.05, 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 1,4,14,7,10,13,17,20,23 because error mean square = 0.  
 ^Calculated from residual.

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By				Marcelo Zimmer	Claudia Bland	Claudia Bland	Marcelo Zimmer	Claudia Bland
Rating Date				May-31-2023	Jun-7-2023	Jun-24-2023	May-31-2023	Jun-14-2023
Rating Type				PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max				% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100
Crop Scientific Name				Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name				Corn	Corn	Corn	Corn	Corn
Pest Code							AMBTR	AMBTR
Pest Scientific Name							Ambrosia trifida	Ambrosia trifida
Pest Name							Giant ragweed	Giant ragweed
Rating Timing				14 DA-A	21 DA-A	7 DA-B	14 DA-A	28 DA-A
ARM Action Codes				EC	EC	EC	EC	EC
Trt No.	Treatment Name	Rate	Appl Code	1*	4*	14*	2*	5*
		Rate Unit						
9	RESTRAINT	36 fl oz/a	A	0.0 a	0.0 a	3.0 a	91.3 a	84.5 a
	AATREX	1 qt/a	A					
	SHIELDDEX	1.35 fl oz/a	B					
	AATREX	1 qt/a	B					
	ROUNDUP POWERMAX 3	20 fl oz/a	B					
	MSO ULTRA	1 % v/v	B					
LSD P=.05				.	.	.	5.53	6.83
Standard Deviation				0.00	0.00	0.00	3.76	4.65
CV				0.0	0.0	0.0	4.23	5.65
Levene's Prob(F)				.	.	.	0.483	0.969
P(Shapiro-Wilk)^				.	.	.	0.3667	0.4088
P(Skewness)^				.	.	.	0.3048	0.4546
P(Kurtosis)^				.	.	.	0.5487	0.4993
Replicate F				0.000	0.000	0.000	6.529	6.961
Replicate Prob(F)				1.0000	1.0000	1.0000	0.0027	0.0020
Treatment F				0.000	0.000	0.000	1.793	0.791
Treatment Prob(F)				1.0000	1.0000	1.0000	0.1418	0.6033

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 \* Adjusted means  
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 ^Calculated from residual.

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By			Claudia Bland					
Rating Date			Jun-17-2023	Jun-30-2023	Jul-7-2023	Jul-14-2023	Oct-6-2023	
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Unit/Min/Max			% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	
Crop Scientific Name			Zea mays					
Crop Name			Corn	Corn	Corn	Corn	Corn	
Pest Code			AMBTR	AMBTR	AMBTR	AMBTR	AMBTR	
Pest Scientific Name			Ambrosia trifida					
Pest Name			Giant ragweed					
Rating Timing			AT POST	14 DA-B	21 DA-B	28 DA-B	At Harvest	
ARM Action Codes			EC	EC	EC	EC		
Trt No.	Treatment Name	Rate	Appl Code	8*	11*	15*	18*	21*
		Rate Unit						
1	NONTREATED			0.0	0.0	0.0	0.0	0.0 d
2	ACURON	1.5 qt/a	A	76.3 a	88.3 c	85.0 b	90.8 b	97.5 b
	ACURON	1.5 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
3	BICEP II MAGNUM	2.1 qt/a	A	81.3 a	91.0 bc	91.5 a	92.0 b	98.0 ab
	ACURON GT	3.75 pt/a	B					
	AMSOL	8.5 lb ai/100 gal	B					
4	RESICORE XL	1.4 qt/a	A	80.8 a	90.8 bc	95.8 a	97.3 a	99.8 ab
	RESICORE XL	1.4 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	AMSOL	8.5 lb ai/100 gal	B					
5	RESICORE XL	1.4 qt/a	A	81.3 a	92.3 bc	96.5 a	97.5 a	99.5 ab
	KYRO	45 fl oz/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
6	MAVERICK	18 fl oz/a	A	83.3 a	94.0 abc	96.5 a	97.5 a	100.0 a
	MAVERICK	14 fl oz/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
7	MAVERICK	18 fl oz/a	A	76.3 a	95.5 ab	96.5 a	97.5 a	99.3 ab
	MAVERICK	14 fl oz/a	B					
	AATREX	1 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
8	RESTRAINT	36 fl oz/a	A	84.5 a	99.3 a	92.8 a	92.0 b	89.5 c
	AATREX	1 qt/a	A					
	SHIELDDEX	1.35 fl oz/a	B					
	AATREX	1 qt/a	B					
	MSO ULTRA	1 % v/v	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.  
 \* Adjusted means  
 Could not calculate LSD (% mean diff) for columns 1,4,14,7,10,13,17,20,23 because error mean square = 0.  
 ^Calculated from residual.

## Purdue Weed Science

### Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By				Claudia Bland				
Rating Date				Jun-17-2023	Jun-30-2023	Jul-7-2023	Jul-14-2023	Oct-6-2023
Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max				% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100
Crop Scientific Name				Zea mays				
Crop Name				Corn	Corn	Corn	Corn	Corn
Pest Code				AMBTR	AMBTR	AMBTR	AMBTR	AMBTR
Pest Scientific Name				Ambrosia trifida				
Pest Name				Giant ragweed				
Rating Timing				AT POST	14 DA-B	21 DA-B	28 DA-B	At Harvest
ARM Action Codes				EC	EC	EC	EC	
Trt No.	Treatment Name	Rate	Appl Code	8*	11*	15*	18*	21*
		Rate Unit						
9	RESTRAINT	36 fl oz/a	A	81.5 a	100.0 a	95.0 a	96.8 a	90.5 c
	AATREX	1 qt/a	A					
	SHIELDDEX	1.35 fl oz/a	B					
	AATREX	1 qt/a	B					
	ROUNDUP POWERMAX 3 MSO ULTRA	20 fl oz/a 1 % v/v	B					
LSD P=.05				8.13	6.85	5.64	4.37	2.48
Standard Deviation				5.53	4.66	3.83	2.97	1.70
CV				6.86	4.96	4.09	3.12	1.98
Levene's Prob(F)				0.36	0.016*	0.067	0.417	0.00*
P(Shapiro-Wilk)^				0.6868	0.8242	0.4087	0.1389	0.1884
P(Skewness)^				0.6539	0.7665	0.6151	0.4073	0.7472
P(Kurtosis)^				0.6586	0.6822	0.262	0.586	0.8063
Replicate F				3.251	2.349	0.843	0.825	0.488
Replicate Prob(F)				0.0422	0.1016	0.4858	0.4949	0.6941
Treatment F				1.154	3.199	4.313	4.061	1463.262
Treatment Prob(F)				0.3693	0.0181	0.0042	0.0058	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.

\* Adjusted means

Could not calculate LSD (% mean diff) for columns 1,4,14,7,10,13,17,20,23 because error mean square = 0.

^Calculated from residual.

## Purdue Weed Science

### Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By			Marcelo Zimmer	Claudia Bland	Claudia Bland	Claudia Bland	Claudia Bland	
Rating Date			May-31-2023	Jun-14-2023	Jun-17-2023	Jun-30-2023	Jul-7-2023	
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Unit/Min/Max			% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	
Crop Scientific Name			Zea mays					
Crop Name			Corn	Corn	Corn	Corn	Corn	
Pest Code			SETFA	SETFA	SETFA	SETFA	SETFA	
Pest Scientific Name			Setaria faberi					
Pest Name			Giant foxtail					
Rating Timing			14 DA-A	28 DA-A	AT POST	14 DA-B	21 DA-B	
ARM Action Codes			EC	EC	EC	EC	EC	
Trt No.	Treatment Name	Rate	Appl Code	3*	6*	9*	12*	16*
		Rate Unit						
1	NONTREATED			0.0	0.0	0.0	0.0	0.0
2	ACURON	1.5 qt/a	A	100.0 a	85.0 b	80.0 cd	87.0 c	86.3 d
	ACURON	1.5 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
3	BICEP II MAGNUM	2.1 qt/a	A	100.0 a	86.3 b	85.0 bc	87.5 c	89.5 cd
	ACURON GT	3.75 pt/a	B					
	AMSOL	8.5 lb ai/100 gal	B					
4	RESICORE XL	1.4 qt/a	A	100.0 a	82.5 b	80.8 cd	90.3 bc	93.8 bc
	RESICORE XL	1.4 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	AMSOL	8.5 lb ai/100 gal	B					
5	RESICORE XL	1.4 qt/a	A	97.5 a	80.0 bc	77.5 cd	93.3 b	94.0 abc
	KYRO	45 fl oz/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
6	MAVERICK	18 fl oz/a	A	97.5 a	73.8 cd	73.8 de	90.3 bc	90.0 cd
	MAVERICK	14 fl oz/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
7	MAVERICK	18 fl oz/a	A	92.5 a	71.3 d	68.8 e	87.3 c	86.5 d
	MAVERICK	14 fl oz/a	B					
	AATREX	1 qt/a	B					
	ROUNDUP POWERMAX 3	26 fl oz/a	B					
	ACTIVATOR 90	0.25 % v/v	B					
	AMSOL	8.5 lb ai/100 gal	B					
8	RESTRAINT	36 fl oz/a	A	100.0 a	94.5 a	93.8 a	99.5 a	98.8 ab
	AATREX	1 qt/a	A					
	SHIELDDEX	1.35 fl oz/a	B					
	AATREX	1 qt/a	B					
	MSO ULTRA	1 % v/v	B					

Means followed by same letter or symbol do not significantly differ (P=0.05, 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 1,4,14,7,10,13,17,20,23 because error mean square = 0.

^Calculated from residual.

## Purdue Weed Science

### Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

				Marcelo Zimmer	Claudia Bland	Claudia Bland	Claudia Bland	Claudia Bland
				May-31-2023	Jun-14-2023	Jun-17-2023	Jun-30-2023	Jul-7-2023
				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
				% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100
				Zea mays				
				Corn	Corn	Corn	Corn	Corn
				SETFA	SETFA	SETFA	SETFA	SETFA
				Setaria faberi				
				Giant foxtail				
				14 DA-A	28 DA-A	AT POST	14 DA-B	21 DA-B
				EC	EC	EC	EC	EC
Trt	Treatment	Rate	Appl	3*	6*	9*	12*	16*
No.	Name	Rate Unit	Code					
9	RESTRAINT	36 fl oz/a	A	100.0 a	94.5 a	92.0 ab	100.0 a	100.0 a
	AATREX	1 qt/a	A					
	SHIELDDEX	1.35 fl oz/a	B					
	AATREX	1 qt/a	B					
	ROUNDUP POWERMAX 3	20 fl oz/a	B					
	MSO ULTRA	1 % v/v	B					
	LSD P=.05			5.64	7.94	8.72	5.28	6.09
	Standard Deviation			3.84	5.40	5.93	3.59	4.14
	CV			3.9	6.47	7.28	3.91	4.49
	Levene's Prob(F)			0.629	0.661	0.808	0.727	0.353
	P(Shapiro-Wilk)^			0.0024*	0.8618	0.1502	0.664	0.2054
	P(Skewness)^			0.0045*	0.5844	0.0489*	0.9991	0.134
	P(Kurtosis)^			0.0005*	0.6584	0.1432	0.2356	0.435
	Replicate F			1.485	2.117	2.531	1.669	3.532
	Replicate Prob(F)			0.2475	0.1286	0.0847	0.2041	0.0325
	Treatment F			1.909	10.001	8.347	8.678	6.301
	Treatment Prob(F)			0.1189	0.0001	0.0001	0.0001	0.0005

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 1,4,14,7,10,13,17,20,23 because error mean square = 0.

^Calculated from residual.

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 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-14-2023	Oct-6-2023	Jun-14-2023	Jun-17-2023
Rating Type				CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max				% , 0, 100	% , 0, 100	% , 0, 100	% , 0, 100
Crop Scientific Name				Zea mays	Zea mays	Zea mays	Zea mays
Crop Name				Corn	Corn	Corn	Corn
Pest Code				SETFA	SETFA	CHEAL	CHEAL
Pest Scientific Name				Setaria faberi	Setaria faberi	Chenopodium alb>	Chenopodium alb>
Pest Name				Giant foxtail	Giant foxtail	common lambsqua>	common lambsqua>
Rating Timing				28 DA-B	At Harvest	28 DA-A	AT POST
ARM Action Codes				EC		EC	EC
Trt No.	Treatment Name	Rate Rate Unit	Appl Code	19*	22*	7*	10*
1	NONTREATED			0.0	0.0 c	0.0	0.0
2	ACURON	1.5 qt/a	A	90.8 bc	97.0 ab	100.0 a	100.0 a
	ACURON	1.5 qt/a	B				
	ROUNDUP POWERMAX 3	26 fl oz/a	B				
	ACTIVATOR 90	0.25 % v/v	B				
	AMSOL	8.5 lb ai/100 gal	B				
3	BICEP II MAGNUM	2.1 qt/a	A	91.3 bc	98.8 ab	100.0 a	100.0 a
	ACURON GT	3.75 pt/a	B				
	AMSOL	8.5 lb ai/100 gal	B				
4	RESICORE XL	1.4 qt/a	A	96.0 ab	97.5 ab	100.0 a	100.0 a
	RESICORE XL	1.4 qt/a	B				
	ROUNDUP POWERMAX 3	26 fl oz/a	B				
	AMSOL	8.5 lb ai/100 gal	B				
5	RESICORE XL	1.4 qt/a	A	96.3 ab	95.8 b	100.0 a	100.0 a
	KYRO	45 fl oz/a	B				
	ROUNDUP POWERMAX 3	26 fl oz/a	B				
	ACTIVATOR 90	0.25 % v/v	B				
	AMSOL	8.5 lb ai/100 gal	B				
6	MAVERICK	18 fl oz/a	A	94.5 abc	98.8 ab	100.0 a	100.0 a
	MAVERICK	14 fl oz/a	B				
	ROUNDUP POWERMAX 3	26 fl oz/a	B				
	ACTIVATOR 90	0.25 % v/v	B				
	AMSOL	8.5 lb ai/100 gal	B				
7	MAVERICK	18 fl oz/a	A	88.3 c	96.5 ab	100.0 a	100.0 a
	MAVERICK	14 fl oz/a	B				
	AATREX	1 qt/a	B				
	ROUNDUP POWERMAX 3	26 fl oz/a	B				
	ACTIVATOR 90	0.25 % v/v	B				
	AMSOL	8.5 lb ai/100 gal	B				
8	RESTRAINT	36 fl oz/a	A	98.8 a	99.5 a	100.0 a	100.0 a
	AATREX	1 qt/a	A				
	SHIELDEX	1.35 fl oz/a	B				
	AATREX	1 qt/a	B				
	MSO ULTRA	1 % v/v	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.

\* Adjusted means

Could not calculate LSD (% mean diff) for columns 1,4,14,7,10,13,17,20,23 because error mean square = 0.

^Calculated from residual.

## Purdue Weed Science

### Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

				Claudia Bland	Claudia Bland	Claudia Bland	Claudia Bland
				Jul-14-2023	Oct-6-2023	Jun-14-2023	Jun-17-2023
				CONTRO	CONTRO	CONTRO	CONTRO
				% 0, 100	% 0, 100	% 0, 100	% 0, 100
				Zea mays	Zea mays	Zea mays	Zea mays
				Corn	Corn	Corn	Corn
				SETFA	SETFA	CHEAL	CHEAL
				Setaria faberi	Setaria faberi	Chenopodium alb>	Chenopodium alb>
				Giant foxtail	Giant foxtail	common lambsqua>	common lambsqua>
				28 DA-B	At Harvest	28 DA-A	AT POST
				EC		EC	EC
Trt	Treatment	Rate	Appl	19*	22*	7*	10*
No.	Name	Rate Unit	Code				
9	RESTRAINT	36 fl oz/a	A	100.0 a	99.0 ab	100.0 a	100.0 a
	AATREX	1 qt/a	A				
	SHIELDDEX	1.35 fl oz/a	B				
	AATREX	1 qt/a	B				
	ROUNDUP POWERMAX 3	20 fl oz/a	B				
	MSO ULTRA	1 % v/v	B				
	LSD P=.05			6.30	3.29	.	.
	Standard Deviation			4.28	2.25	0.00	0.00
	CV			4.53	2.59	0.0	0.0
	Levene's Prob(F)			0.614	0.054	.	.
	P(Shapiro-Wilk)^			0.1601	0.6882	.	.
	P(Skewness)^			0.2072	0.2155	.	.
	P(Kurtosis)^			0.0412*	0.2152	.	.
	Replicate F			0.829	0.618	0.000	0.000
	Replicate Prob(F)			0.4929	0.6099	1.0000	1.0000
	Treatment F			3.655	839.419	0.000	0.000
	Treatment Prob(F)			0.0098	0.0001	1.0000	1.0000

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^Calculated from residual.

## Purdue Weed Science

### Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By	Claudia Bland			
Rating Date	Jun-30-2023	Jul-7-2023	Jul-14-2023	Oct-6-2023
Rating Type	CONTRO			
Rating Unit/Min/Max	%, 0, 100			
Crop Scientific Name	Zea mays			
Crop Name	Corn			
Pest Code	CHEAL			
Pest Scientific Name	Chenopodium alb>			
Pest Name	common lambsqua>			
Rating Timing	14 DA-B			
ARM Action Codes	EC			
Trt No.	Treatment Name	Rate Unit	Appl Code	
1	NONTREATED			0.0
2	ACURON	1.5 qt/a	A	100.0 a
	ACURON	1.5 qt/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	ACTIVATOR 90	0.25 % v/v	B	
	AMSOL	8.5 lb ai/100 gal	B	
3	BICEP II MAGNUM	2.1 qt/a	A	100.0 a
	ACURON GT	3.75 pt/a	B	
	AMSOL	8.5 lb ai/100 gal	B	
4	RESICORE XL	1.4 qt/a	A	100.0 a
	RESICORE XL	1.4 qt/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	AMSOL	8.5 lb ai/100 gal	B	
5	RESICORE XL	1.4 qt/a	A	100.0 a
	KYRO	45 fl oz/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	ACTIVATOR 90	0.25 % v/v	B	
	AMSOL	8.5 lb ai/100 gal	B	
6	MAVERICK	18 fl oz/a	A	100.0 a
	MAVERICK	14 fl oz/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	ACTIVATOR 90	0.25 % v/v	B	
	AMSOL	8.5 lb ai/100 gal	B	
7	MAVERICK	18 fl oz/a	A	100.0 a
	MAVERICK	14 fl oz/a	B	
	AATREX	1 qt/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	ACTIVATOR 90	0.25 % v/v	B	
	AMSOL	8.5 lb ai/100 gal	B	
8	RESTRAINT	36 fl oz/a	A	100.0 a
	AATREX	1 qt/a	A	
	SHIELDEX	1.35 fl oz/a	B	
	AATREX	1 qt/a	B	
	MSO ULTRA	1 % v/v	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.

\* Adjusted means

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^Calculated from residual.

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By	Claudia Bland			
Rating Date	Jun-30-2023	Jul-7-2023	Jul-14-2023	Oct-6-2023
Rating Type	CONTRO			
Rating Unit/Min/Max	%, 0, 100			
Crop Scientific Name	Zea mays			
Crop Name	Corn			
Pest Code	CHEAL			
Pest Scientific Name	Chenopodium alb>			
Pest Name	common lambsqua>			
Rating Timing	14 DA-B	21 DA-B	28 DA-B	At Harvest
ARM Action Codes	EC			
Trt No.	Treatment Name	Rate	Appl Code	
		Rate Unit		
9	RESTRAINT	36 fl oz/a	A	13*
	AATREX	1 qt/a	A	17*
	SHIELDDEX	1.35 fl oz/a	B	20*
	AATREX	1 qt/a	B	23*
	ROUNDUP POWERMAX 3	20 fl oz/a	B	
	MSO ULTRA	1 % v/v	B	
LSD P=.05				
Standard Deviation				
CV				
Levene's Prob(F)				
P(Shapiro-Wilk)^				
P(Skewness)^				
P(Kurtosis)^				
Replicate F				
Replicate Prob(F)				
Treatment F				
Treatment Prob(F)				

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 1,4,14,7,10,13,17,20,23 because error mean square = 0.  
 ^Calculated from residual.

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By				Lucas Maia
Rating Date				Oct-8-2023
Rating Type				YIELD
Rating Unit/Min/Max				bu/ac, -, -
Crop Scientific Name				Zea mays indent>
Crop Name				Dent corn
Pest Code				
Pest Scientific Name				
Pest Name				
Rating Timing				
ARM Action Codes				
Trt No.	Treatment Name	Rate	Appl Code	24*
		Rate Unit		
1	NONTREATED			59.63 b
2	ACURON	1.5 qt/a	A	248.00 a
	ACURON	1.5 qt/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	ACTIVATOR 90	0.25 % v/v	B	
	AMSOL	8.5 lb ai/100 gal	B	
3	BICEP II MAGNUM	2.1 qt/a	A	239.75 a
	ACURON GT	3.75 pt/a	B	
	AMSOL	8.5 lb ai/100 gal	B	
4	RESICORE XL	1.4 qt/a	A	250.75 a
	RESICORE XL	1.4 qt/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	AMSOL	8.5 lb ai/100 gal	B	
5	RESICORE XL	1.4 qt/a	A	243.75 a
	KYRO	45 fl oz/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	ACTIVATOR 90	0.25 % v/v	B	
	AMSOL	8.5 lb ai/100 gal	B	
6	MAVERICK	18 fl oz/a	A	248.50 a
	MAVERICK	14 fl oz/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	ACTIVATOR 90	0.25 % v/v	B	
	AMSOL	8.5 lb ai/100 gal	B	
7	MAVERICK	18 fl oz/a	A	236.25 a
	MAVERICK	14 fl oz/a	B	
	AATREX	1 qt/a	B	
	ROUNDUP POWERMAX 3	26 fl oz/a	B	
	ACTIVATOR 90	0.25 % v/v	B	
	AMSOL	8.5 lb ai/100 gal	B	
8	RESTRAINT	36 fl oz/a	A	241.50 a
	AATREX	1 qt/a	A	
	SHIELDEX	1.35 fl oz/a	B	
	AATREX	1 qt/a	B	
	MSO ULTRA	1 % v/v	B	

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\* Adjusted means

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^Calculated from residual.

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
 Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
 Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

Assessed By				Lucas Maia
Rating Date				Oct-8-2023
Rating Type				YIELD
Rating Unit/Min/Max				bu/ac, -, -
Crop Scientific Name				Zea mays indent>
Crop Name				Dent corn
Pest Code				
Pest Scientific Name				
Pest Name				
Rating Timing				
ARM Action Codes				
Trt No.	Treatment Name	Rate	Appl Code	24*
		Rate Unit		
9	RESTRAINT	36 fl oz/a	A	242.00 a
	AATREX	1 qt/a	A	
	SHIELDEX	1.35 fl oz/a	B	
	AATREX	1 qt/a	B	
	ROUNDUP POWERMAX 3	20 fl oz/a	B	
	MSO ULTRA	1 % v/v	B	
LSD	P=.05			21.277
Standard Deviation				14.579
CV				6.53
Levene's Prob(F)				0.00*
P(Shapiro-Wilk)^				0.0742
P(Skewness)^				0.4159
P(Kurtosis)^				0.1936
Replicate F				2.687
Replicate Prob(F)				0.0691
Treatment F				71.337
Treatment Prob(F)				0.0001

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^Calculated from residual.

# Purdue Weed Science

## Two-pass Herbicide Programs in Corn

Trial ID: 23-TPAC-Corn-05  
Protocol ID: 23-TPAC-Corn-05 Location: Trial Year: 2023  
Study Director: Dr. Bill Johnson Sponsor Contact: Eric Ott

Investigator: Dr. Bill Johnson

### Assessed By

Marcelo Zimmer = MZ

### 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

### Pest Code

AMBTR, Ambrosia trifida, Giant ragweed = US

SETFA, Setaria faberi, Giant foxtail = 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

### ARM Action Codes

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