

Purdue Weed Science

Weed Control in Corn with Storen

Trial ID: 23-TPAC-Corn-06
 Protocol ID: 23-TPAC-Corn-06 Location: Throckmorton-Purdue Ag Center Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Steve Mroczkiewicz/Chad Threewits

Investigator: Dr. Bill Johnson

General Trial Information

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

Discipline: H herbicide
Status: F one-year/final

ARM Trial Created On: Mar-25-2023 **Meets All Objectives:** Y **Reliability:** GOOD good quality
Initiation Date: May-17-2023 **Planned Completion Date:** Oct-15-2023
Completion Date: Oct-8-2023

Trial Location

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

Latitude of LL Corner °: 40.2918 N
Longitude of LL Corner °: -86.90949 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
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Role: SPONSR sponsor
Sponsor: Steve Mroczkiewicz/Chad Threewits
Organization: Syngenta

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-12-2023
Common Name: Giant ragweed **Stage Scale:** BBCH
Attributes: ALS-R

Pest 2 Type: W **Code:** ECHCG Echinochloa crus-galli **Entry Date:** Jun-12-2023
Common Name: common barnyardgrass **Stage Scale:** BBCH

Pest 3 Type: W **Code:** AMATU Amaranthus tuberculatus **Entry Date:** Jun-12-2023
Common Name: tall waterhemp **Stage Scale:** BBCH

Site and Design

Treated Plot Width: 10 FT

Treated Plot Length: 30 FT

Treated Plot Area: 300.0 FT²

Replications: 4 Treatments: 16 Plots: 64

Site Type: FIELD field
Experimental Unit: 1 PLOT plot

Tillage Type: CONTIL conventional-till

Study Design: RACOB� Randomized Complete Block (RCB)

Trial Initiation Comments:

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

Weather Station Name: TPAC MESONET 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	76	63	F	15	3.6	MPH	64.2	F
2.	May-16-2023	0.01	IN	56	74	63	F	16.8	3.1	MPH	64.2	F
3.	May-17-2023	0	IN	51	73	61	F	17.9	5.4	MPH	63.9	F
4.	May-18-2023	0	IN	45	77	62	F	15	2.9	MPH	63.1	F
5.	May-19-2023	0.59	IN	56	83	66	F	30.4	7.6	MPH	63.3	F
6.	May-20-2023	0	IN	49	67	58	F	19	3.8	MPH	63.7	F
7.	May-21-2023	0	IN	46	81	64	F	14.3	1.1	MPH	63.9	F
8.	May-22-2023	0	IN	52	84	70	F	11.9	0.9	MPH	65.7	F
9.	May-23-2023	0	IN	56	86	72	F	15.4	1.3	MPH	67.1	F
10.	May-24-2023	0	IN	55	86	73	F	22.6	5.4	MPH	67.6	F
11.	May-25-2023	0	IN	49	72	60	F	23.3	9.2	MPH	65.1	F
12.	May-26-2023	0	IN	46	77	62	F	22.6	4.5	MPH	64.4	F
13.	May-27-2023	0	IN	48	78	66	F	7.2	0	MPH	64.2	F
14.	May-28-2023	0	IN	57	83	71	F	4.3	0	MPH	66.4	F
15.	May-29-2023	0	IN	58	89	75	F	6.5	0	MPH	69.1	F
16.	May-30-2023	0	IN	61	91	77	F	15.4	0.7	MPH	69.8	F
17.	May-31-2023	0	IN	66	91	78	F	20.4	3.6	MPH	71.6	F
18.	Jun-1-2023	0	IN	64	92	79	F	17.2	2.5	MPH	73.6	F
19.	Jun-2-2023	0	IN	62	92	79	F	13.2	0.7	MPH	74.5	F
20.	Jun-3-2023	0	IN	65	94	80	F	16.1	1.8	MPH	75.4	F
21.	Jun-4-2023	0	IN	64	84	74	F	17.9	6.5	MPH	75.4	F
22.	Jun-5-2023	0	IN	55	83	70	F	13.2	0	MPH	71.8	F
23.	Jun-6-2023	0	IN	54	88	71	F	7.2	0	MPH	71.6	F
24.	Jun-7-2023	0	IN	54	80	69	F	16.1	1.3	MPH	73.4	F
25.	Jun-8-2023	0	IN	47	80	65	F	1.8	0	MPH	72	F
26.	Jun-9-2023	0	IN	47	82	67	F	7.2	0	MPH	72.1	F
27.	Jun-10-2023	0	IN	55	87	73	F	13.2	0	MPH	74.1	F
28.	Jun-11-2023	0.38	IN	55	69	64	F	22.6	4	MPH	70.3	F
29.	Jun-12-2023	0	IN	54	69	63	F	25.1	5.6	MPH	70.5	F
30.	Jun-13-2023	0.05	IN	56	71	62	F	18.8	7.8	MPH	65.3	F
31.	Jun-14-2023	0	IN	59	79	68	F	14.1	2.9	MPH	68.9	F
32.	Jun-15-2023	0	IN	58	87	71	F	19.9	7.2	MPH	70.9	F
33.	Jun-16-2023	0	IN	51	76	63	F	14.1	4.3	MPH	69.3	F
34.	Jun-17-2023	0	IN	51	84	69	F	12.1	2.5	MPH	70.9	F
35.	Jun-18-2023	0	IN	58	86	73	F	18.1	4.5	MPH	73.4	F
36.	Jun-19-2023	0	IN	69	87	80	F	22.4	6.9	MPH	76.8	F
37.	Jun-20-2023	0	IN	65	89	76	F	27.1	8.9	MPH	76.8	F
38.	Jun-21-2023	0	IN	65	89	77	F	23.9	7.4	MPH	78.1	F
39.	Jun-22-2023	0	IN	64	84	73	F	21.5	5.4	MPH	77.9	F
40.	Jun-23-2023	0	IN	67	86	74	F	11.2	2.5	MPH	77.2	F
41.	Jun-24-2023	0	IN	61	92	78	F	15	3.6	MPH	77.7	F

42.	Jun-25-2023	0.93	IN	68	89	78	F	36	10.1	MPH	76.8	F
43.	Jun-26-2023	0	IN	66	77	71	F	26.6	8.9	MPH	72.9	F
44.	Jun-27-2023	0	IN	60	77	67	F	14.5	4	MPH	70.9	F
45.	Jun-28-2023	0	IN	54	83	69	F	17	2.5	MPH	70.9	F
46.	Jun-29-2023	0.38	IN	65	85	71	F	44.7	7.4	MPH	71.8	F
47.	Jun-30-2023	0	IN	63	86	75	F	21	3.6	MPH	73.4	F
48.	Jul-1-2023	0.45	IN	69	88	76	F	31.3	5.1	MPH	76.1	F
49.	Jul-2-2023	0.65	IN	66	83	74	F	28.6	6.9	MPH	75.7	F
50.	Jul-3-2023	0	IN	66	88	75	F	14.5	4.7	MPH	76.3	F
51.	Jul-4-2023	0	IN	65	91	78	F	14.1	2.9	MPH	78.1	F
52.	Jul-5-2023	0.01	IN	68	90	79	F	25.1	5.1	MPH	79.3	F
53.	Jul-6-2023	0.01	IN	68	84	75	F	16.6	3.8	MPH	78.6	F
54.	Jul-7-2023	0	IN	61	84	73	F	11.4	2.7	MPH	77.7	F
55.	Jul-8-2023	0.75	IN	62	76	69	F	17.7	3.1	MPH	75.6	F
56.	Jul-9-2023	0	IN	57	82	69	F	11.6	2.2	MPH	74.5	F
57.	Jul-10-2023	0	IN	59	82	72	F	12.5	4	MPH	75.4	F
58.	Jul-11-2023	0	IN	63	85	74	F	21.3	7.2	MPH	75.6	F
59.	Jul-12-2023	0	IN	69	86	77	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
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
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	May-31-2023
Start Time	3:24 PM	11:45 AM
Stop Time	4:18 PM	11:58 AM
Method	SPRAY	SPRAY
Timing	PRE	V2 CORN/4"W
Placement	BROSOI	BROFOL
Applied By	C. BLAND	M. ZIMMER
Entry Date	Jun-12-2023	Jun-12-2023
Air Temperature Start, Stop	77.8, 77.8 F	85, 85 F
% Relative Humidity Start, Stop	35.2, 35.2	43, 43
Wind Velocity+Dir. Start	1.3 MPH, W	4.5 MPH, SSE
Wind Velocity+Dir. Stop	4.3 MPH, W	6.5 MPH, SSE
Wind Velocity+Dir. Max	9.9 MPH, W	9 MPH, SSE
Wet Leaves (Y/N)	N, no	N, no
Soil Temperature	80 F	91 F
Soil Moisture	ADEQUATE	DRY
% Cloud Cover	0	60
Problems with Application?	Y, yes	

Crop Stage At Each Application		
	A	B
Crop 1 Code, BBCH Scale	ZEAMX, BCOR	ZEAMX, BCOR
Days after Emergence	-9	5
Stage Majority, Percent	0, -	V2, -
Stage Minimum, Percent	0, -	V2, -
Stage Maximum, Percent	0, -	V2, -
Height Average	0 IN	3 IN
Height Minimum, Maximum	0, 0	3, 4

Pest Stage At Each Application		
	A	B
Pest 1 Code, Type, Scale	AMBTR, W, BBCH	AMBTR, W, BBCH
Height Average	0 IN	2 IN
Height Minimum, Maximum	0, 0	1, 3
Density Average	0 FT2	1 FT2
Density Minimum, Maximum	0, 0	0, 2
Pest 2 Code, Type, Scale	ECHCG, W, BBCH	ECHCG, W, BBCH
Height Average	0 IN	1 IN
Height Minimum, Maximum	0, 0	1, 2
Density Average	0 FT2	1 FT2
Density Minimum, Maximum	0, 0	1, 3
Pest 3 Code, Type, Scale	AMATU, W, BBCH	AMATU, W, BBCH
Height Average	0 IN	1 IN
Height Minimum, Maximum	0, 0	0.5, 1
Density Average	0 FT2	0.5 FT2
Density Minimum, Maximum	0, 0	0, 1

Application Equipment

	A	B
Equipment Name	CO2 BACKPACK	CO2 BACKPACK
Equipment Type	BACSPR	BACSPR
Operation Pressure	25 PSI	28 PSI
Nozzle Model	AIXR	AIXR
Nozzle Type	FLAFAI	FLAFAI
Nozzle TradeName	TEEJET	TEEJET
Nozzle Tip Size, Color	110015, GREEN	110015, GREEN
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

Deviations

No. 1: **Date:** May-17-2023 **By:** Dr. Bryan Young

Deviations:

Problem with application A

Reasons:

Plot 406 got sprayed twice. Once with Bicep II Magnum and once with Lexar EZ.

Instructions:

1. Evaluations: ci/wc/photos at POST; ci 7 DA-B; ci/wc/photos 28 DA-B; wc 56 DA-B
2. Yield, grain must be destroyed pending Storen registration.

Purdue Weed Science

Weed Control in Corn with Storen

Trial ID: 23-TPAC-Corn-06
 Protocol ID: 23-TPAC-Corn-06 Location: Throckmorton-Purdue Ag Center Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Steve Mroczkiewicz/Chad Threewits

Investigator: Dr. Bill Johnson

				Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer
				May-31-2023	Jun-7-2023	Jun-30-2023	May-31-2023	Jun-30-2023
				PLOT, P	PLOT, P	PLOT, P	PLOT, P	PLOT, P
				PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO
				%	%	%	%	%
				0, 100, -	0, 100, -	0, 100, -	0, 100, -	0, 100, -
				C, ZEAMX	C, ZEAMX	C, ZEAMX	C, ZEAMX	C, ZEAMX
				Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
				Corn	Corn	Corn	Corn	Corn
							W, Weed	W, Weed
							AMBTR	AMBTR
							Ambrosia trifida	Ambrosia trifida
							Giant ragweed	Giant ragweed
				AT POST	7 DA-B	28 DA-B	AT POST	28 DA-B
				EC	EC	EC	EC	EC
Trt No.	Treatment Name	Rate	Appl Code	1*	4*	7*	2*	5*
		Rate Unit						
1	UNTREATED CHECK			0.0	0.0	0.0	0.0	0.0
2	STOREN AATREX	2.1 qt/a 0.748 qt/a	A A	0.0 a	0.0 a	0.0 a	90.8 bc	84.5 a
3	STOREN AATREX	2.4 qt/a 0.748 qt/a	A A	0.0 a	0.0 a	0.0 a	93.8 abc	92.0 a
4	ACURON	3 qt/a	A	0.0 a	0.0 a	0.0 a	93.3 abc	87.5 a
5	RESICORE XL AATREX	2.5 qt/a 0.748 qt/a	A A	0.0 a	0.0 a	0.0 a	98.3 a	90.8 a
6	RESICORE XL AATREX	3 qt/a 0.748 qt/a	A A	0.0 a	0.0 a	0.0 a	94.5 abc	87.0 a
7	TRIVOLT AATREX	17.5 fl oz/a 0.748 qt/a	A A	0.0 a	0.0 a	0.0 a	96.8 ab	92.5 a
8	TRIVOLT AATREX	20 fl oz/a 0.748 qt/a	A A	0.0 a	0.0 a	0.0 a	92.3 abc	80.0 a
9	MAVERICK AATREX	24 fl oz/a 0.748 qt/a	A A	0.0 a	0.0 a	0.0 a	90.0 bc	80.8 a
10	MAVERICK AATREX	32 fl oz/a 0.748 qt/a	A A	0.0 a	0.0 a	0.0 a	92.3 abc	87.5 a
11	STOREN AATREX AMSOL STOREN AATREX ROUNDUP POWERMAX 3	1.05 qt/a 0.374 qt/a 2.5 % v/v 1.05 qt/a 0.374 qt/a 28 fl oz/a	A A B B B B	0.0 a	0.0 a	0.0 a	87.5 c	89.8 a
12	STOREN AATREX AMSOL STOREN AATREX ROUNDUP POWERMAX 3	1.2 qt/a 0.374 qt/a 2.5 % v/v 1.2 qt/a 0.374 qt/a 28 fl oz/a	A A B B B B	0.0 a	0.0 a	0.0 a	89.5 bc	89.8 a
13	STOREN AATREX AMSOL ACTIVATOR 90 AATREX HALEX GT	1.2 qt/a 0.374 qt/a 2.5 % v/v 0.25 % v/v 0.5 qt/a 4 pt/a	A A B B B B	0.0 a	0.0 a	0.0 a	88.3 c	87.5 a
14	ACURON GT AATREX AMSOL ACTIVATOR 90	1.88 qt/a 0.5 qt/a 2.5 % v/v 0.25 % v/v	B B B B	0.0 a	0.0 a	0.0 a	0.0 d	90.5 a

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.

Due to missing data, larger LSD values (col. 2: >=7.50 and <=8.14) are used for mean comparisons of treatment pairs with missing data.

* Adjusted means

Could not calculate LSD (% mean diff) for columns 1,4,7,3 because error mean square = 0.

^Calculated from residual.

Assessed By	Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer		
Rating Date	May-31-2023	Jun-7-2023	Jun-30-2023	May-31-2023	Jun-30-2023		
Part Rated	PLOT, P	PLOT, P	PLOT, P	PLOT, P	PLOT, P		
Rating Type	PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO		
Rating Unit	%	%	%	%	%		
Rating Min/Max/Interval	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 Type				W, Weed	W, Weed		
Pest Code				AMBTR	AMBTR		
Pest Scientific Name				Ambrosia trifida	Ambrosia trifida		
Pest Name				Giant ragweed	Giant ragweed		
Rating Timing	AT POST	7 DA-B	28 DA-B	AT POST	28 DA-B		
ARM Action Codes	EC	EC	EC	EC	EC		
Trt Treatment							
No. Name							
Rate							
Unit							
Appl Code							
1*							
4*							
7*							
2*							
5*							
15 BICEP II MAGNUM	1.5 qt/a	A	0.0 a	0.0 a	0.0 a	91.0 abc	95.0 a
ACURON GT	1.88 qt/a	B					
AATREX	0.5 qt/a	B					
AMSOL	2.5 % v/v	B					
ACTIVATOR 90	0.25 % v/v	B					
16 LEXAR EZ	1.75 qt/a	A	0.0 a	0.0 a	0.0 a	89.7 bc	91.3 a
ACURON GT	1.88 qt/a	B					
AATREX	0.5 qt/a	B					
AMSOL	2.5 % v/v	B					
ACTIVATOR 90	0.25 % v/v	B					
LSD P=.05			.	.	.	7.50	11.60
Standard Deviation			0.00	0.00	0.00	5.25	8.12
CV			0.0	0.0	0.0	6.12	9.19
Levene's Prob(F)			.	.	.	0.412	0.831
P(Shapiro-Wilk)^			.	.	.	0.5656	0.0202*
P(Skewness)^			.	.	.	0.3264	0.0149*
P(Kurtosis)^			.	.	.	0.5105	0.3945
Replicate F			0.000	0.000	0.000	1.323	1.715
Replicate Prob(F)			1.0000	1.0000	1.0000	0.2799	0.1789
Treatment F			0.000	0.000	0.000	83.159	1.070
Treatment Prob(F)			1.0000	1.0000	1.0000	0.0001	0.4106

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.

Due to missing data, larger LSD values (col. 2: >=7.50 and <=8.14) are used for mean comparisons of treatment pairs with missing data.

* Adjusted means

Could not calculate LSD (% mean diff) for columns 1,4,7,3 because error mean square = 0.

^Calculated from residual.

Assessed By				Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer	Maia, Lucas
Rating Date				Jul-28-2023	May-31-2023	Jun-30-2023	Jul-28-2023	Oct-8-2023
Part Rated				PLOT, P	PLOT, P	PLOT, P	PLOT, P	PLOT, C
Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	YIELD
Rating Unit				%	%	%	%	bu/ac
Rating Min/Max/Interval				0, 100, -	0, 100, -	0, 100, -	0, 100, -	C, ZEAMD
Crop Type, Code				C, ZEAMX	C, ZEAMX	C, ZEAMX	C, ZEAMX	Zea mays indent>
Crop Scientific Name				Zea mays	Zea mays	Zea mays	Zea mays	Dent corn
Crop Name				Corn	Corn	Corn	Corn	
Pest Type				W, Weed	W, Weed	W, Weed	W, Weed	
Pest Code				AMBTR	SETFA	SETFA	SETFA	
Pest Scientific Name				Ambrosia trifida	Setaria faberi	Setaria faberi	Setaria faberi	
Pest Name				Giant ragweed	Giant foxtail	Giant foxtail	Giant foxtail	
Rating Timing				56 DA-B	AT POST	28 DA-B	56 DA-B	AT HARVEST
ARM Action Codes				EC	EC	EC	EC	
Trt No.	Treatment Name	Rate	Appl Code	8*	3*	6*	9*	10*
		Rate Unit						
1	UNTREATED CHECK			0.0	0.0	0.0	0.0	162.9 d
2	STOREN AATREX	2.1 qt/a 0.748 qt/a	A A	77.5 a	100.0 a	95.8 a	94.3 a	211.2 abc
3	STOREN AATREX	2.4 qt/a 0.748 qt/a	A A	90.3 a	100.0 a	98.0 a	97.8 a	229.7 ab
4	ACURON	3 qt/a	A	85.0 a	100.0 a	94.5 a	91.3 a	222.3 abc
5	RESICORE XL AATREX	2.5 qt/a 0.748 qt/a	A A	85.8 a	100.0 a	95.5 a	95.5 a	218.9 abc
6	RESICORE XL AATREX	3 qt/a 0.748 qt/a	A A	82.0 a	100.0 a	95.8 a	95.5 a	215.0 abc
7	TRIVOLT AATREX	17.5 fl oz/a 0.748 qt/a	A A	87.0 a	100.0 a	97.0 a	96.5 a	241.2 a
8	TRIVOLT AATREX	20 fl oz/a 0.748 qt/a	A A	68.8 a	100.0 a	91.8 a	90.5 a	191.6 bcd
9	MAVERICK AATREX	24 fl oz/a 0.748 qt/a	A A	67.5 a	100.0 a	90.0 a	87.5 a	184.9 cd
10	MAVERICK AATREX	32 fl oz/a 0.748 qt/a	A A	78.8 a	100.0 a	91.3 a	89.5 a	211.7 abc
11	STOREN AATREX AMSOL STOREN AATREX ROUNDUP POWERMAX 3	1.05 qt/a 0.374 qt/a 2.5 % v/v 1.05 qt/a 0.374 qt/a 28 fl oz/a	A A B B B B	84.0 a	100.0 a	99.3 a	98.8 a	226.6 ab
12	STOREN AATREX AMSOL STOREN AATREX ROUNDUP POWERMAX 3	1.2 qt/a 0.374 qt/a 2.5 % v/v 1.2 qt/a 0.374 qt/a 28 fl oz/a	A A B B B B	87.0 a	100.0 a	97.8 a	96.3 a	227.3 ab
13	STOREN AATREX AMSOL ACTIVATOR 90 AATREX HALEX GT	1.2 qt/a 0.374 qt/a 2.5 % v/v 0.25 % v/v 0.5 qt/a 4 pt/a	A A B B B B	80.8 a	100.0 a	98.8 a	98.8 a	230.6 ab
14	ACURON GT AATREX AMSOL ACTIVATOR 90	1.88 qt/a 0.5 qt/a 2.5 % v/v 0.25 % v/v	B B B B	82.5 a	0.0 b	90.8 a	89.5 a	229.2 ab

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.

Due to missing data, larger LSD values (col. 2: >=7.50 and <=8.14) are used for mean comparisons of treatment pairs with missing data.

* Adjusted means

Could not calculate LSD (% mean diff) for columns 1,4,7,3 because error mean square = 0.

^Calculated from residual.

Assessed By			Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer	Marcelo Zimmer	Maia, Lucas	
Rating Date			Jul-28-2023	May-31-2023	Jun-30-2023	Jul-28-2023	Oct-8-2023	
Part Rated			PLOT, P	PLOT, P	PLOT, P	PLOT, P	PLOT, C	
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	YIELD	
Rating Unit			%	%	%	%	bu/ac	
Rating Min/Max/Interval			0, 100, -	0, 100, -	0, 100, -	0, 100, -		
Crop Type, Code			C, ZEAMX	C, ZEAMX	C, ZEAMX	C, ZEAMX	C, ZEAMD	
Crop Scientific Name			Zea mays	Zea mays	Zea mays	Zea mays	Zea mays indent>	
Crop Name			Corn	Corn	Corn	Corn	Dent corn	
Pest Type			W, Weed	W, Weed	W, Weed	W, Weed		
Pest Code			AMBTR	SETFA	SETFA	SETFA		
Pest Scientific Name			Ambrosia trifida	Setaria faberi	Setaria faberi	Setaria faberi		
Pest Name			Giant ragweed	Giant foxtail	Giant foxtail	Giant foxtail		
Rating Timing			56 DA-B	AT POST	28 DA-B	56 DA-B	AT HARVEST	
ARM Action Codes			EC	EC	EC	EC		
Trt Treatment		Rate	Appl					
No. Name		Rate Unit	Code	8*	3*	6*	9*	10*
15 BICEP II MAGNUM		1.5 qt/a	A	92.3 a	100.0 a	98.0 a	98.0 a	237.4 a
ACURON GT		1.88 qt/a	B					
AATREX		0.5 qt/a	B					
AMSOL		2.5 % v/v	B					
ACTIVATOR 90		0.25 % v/v	B					
16 LEXAR EZ		1.75 qt/a	A	87.9 a	100.0 a	97.3 a	97.0 a	227.8 ab
ACURON GT		1.88 qt/a	B					
AATREX		0.5 qt/a	B					
AMSOL		2.5 % v/v	B					
ACTIVATOR 90		0.25 % v/v	B					
LSD P=.05				17.77	.	7.47	8.82	40.95
Standard Deviation				12.45	0.00	5.23	6.18	28.71
CV				15.1	0.0	5.48	6.54	13.2
Levene's Prob(F)				0.649	.	0.322	0.252	0.68
P(Shapiro-Wilk)^				0.0073*	.	0.0707	0.0068*	0.0005*
P(Skewness)^				0.0059*	.	0.0186*	0.0023*	0.0004*
P(Kurtosis)^				0.1566	.	0.0705	0.0*	0.0059*
Replicate F				1.734	0.000	2.064	1.103	1.294
Replicate Prob(F)				0.1750	1.0000	0.1198	0.3590	0.2887
Treatment F				1.303	0.000	1.388	1.494	1.924
Treatment Prob(F)				0.2476	1.0000	0.2027	0.1566	0.0476

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.

Due to missing data, larger LSD values (col. 2: >=7.50 and <=8.14) are used for mean comparisons of treatment pairs with missing data.

* Adjusted means

Could not calculate LSD (% mean diff) for columns 1,4,7,3 because error mean square = 0.

^Calculated from residual.

Purdue Weed Science

Weed Control in Corn with Storen

Trial ID: 23-TPAC-Corn-06
 Protocol ID: 23-TPAC-Corn-06 Location: Throckmorton-Purdue Ag Center Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Steve Mroczkiewicz/Chad Threewits

Investigator: Dr. Bill Johnson

Assessed By

Marcelo Zimmer = MZ

Part Rated

PLOT = plot

P = Pest is Part Rated

C = Crop is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

YIELD = yield

Rating Unit

%, 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 Type

W, Weed = Weed or volunteer crop

Pest Code

AMBTR, Ambrosia trifida, Giant ragweed = US

SETFA, Setaria faberi, Giant foxtail = US

ARM Action Codes

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