

Purdue Weed Science

2023 Summit Soybean Herbicide Programs

Trial ID: 23-TPAC-Soy-07
 Protocol ID: 23-TPAC-Soy-07 Location: TPAC Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Chuck Foresman

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-18-2023 **Planned Completion Date:** Oct-15-2023

Trial Location

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

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: SPONSR sponsor
Sponsor: Chuck Foresman
Organization: Summit

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 GLXMA Glycine max Soybean
Entry Date: Jun-16-2023 **Stage Scale:** BBCH
Variety: AG29XF1
Attributes: Glyphosate-R, Glufosinate-R, and Dicamba-R
Planting Date: May-18-2023 **Planting Rate:** 140000 S/A
Depth: 1.5 IN
Rows per Plot: 4 **Planting Method:** PLANTD planted
Row Spacing: 30 IN **Planting Equipment:** PP plot planter
Soil Temperature: 70 F **Soil Moisture:** NORMAL normal, adequate
Emergence Date: May-29-2023

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

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 300.0 FT2 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Treatments:** 12 **Plots:** 48 **Study Design:** RACOB� Randomized Complete Block (RCB)

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Soil Description

Description Name: TPAC - Field 4 BE
% Sand: 21 **% OM:** 3.4 **Texture:** SIL silt loam
% Silt: 54 **Soil Name:** Toronto-Millbrook Complex
% Clay: 25 **Fert. Level:** G good
pH: 5.8 **CEC:** 13.5

| 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 |
| 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 |

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| | | | | | | | | | | | | |
|-----|-------------|------|----|------|------|------|---|------|-----|-----|------|---|
| 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 |

Application Description

| | A | B | C |
|---------------------------------|--------------|-------------|-------------|
| Date | May-18-2023 | Jun-17-2023 | Jun-23-2023 |
| Start Time | 2:10 PM | 12:31 PM | 3:30 PM |
| Stop Time | 2:38 PM | 12:44 PM | 3:35 PM |
| Method | SPRAY | SPRAY | SPRAY |
| Timing | PRE | 14 DA-E | 21 DA-E |
| Placement | BROSOI | BROFOL | BROFOL |
| Applied By | M. ZIMMER | M. ZIMMER | L. MAIA |
| Entry Date | Jun-16-2023 | Jun-19-2023 | Aug-29-2023 |
| Air Temperature Start, Stop | 76.7, 76.7 F | 77, 77 F | 81, 81 F |
| % Relative Humidity Start, Stop | 30.8, 30.8 | 43, 43 | 42, 42 |
| Wind Velocity+Dir. Start | 0.9 MPH, SE | 3.2 MPH, S | 5 MPH, NE |
| Wind Velocity+Dir. Stop | 0.9 MPH, SE | 3.2 MPH, S | 5 MPH, NE |
| Wind Velocity+Dir. Max | 6.2 MPH, SE | 4 MPH, S | 5 MPH, NE |
| Wet Leaves (Y/N) | N, no | N, no | N, no |
| Soil Temperature | 70 F | 82 F | 80 F |
| Soil Moisture | ADEQUATE | ADEQUATE | DRY |
| % Cloud Cover | 0 | 0 | 20 |

Crop Stage At Each Application

| | A | B | C |
|-------------------------|-------------|-------------|-------------|
| Crop 1 Code, BBCH Scale | GLXMA, BSOY | GLXMA, BSOY | GLXMA, BSOY |
| Days after Emergence | -11 | 19 | 25 |
| Stage Majority, Percent | 0, - | V3, - | V4, - |
| Stage Minimum, Percent | 0, - | V2, - | V2, - |
| Stage Maximum, Percent | 0, - | V3, - | V4, - |
| Height Average | 0 IN | 4 IN | 8 IN |
| Height Minimum, Maximum | 0, 0 | 1, 5 | 6, 12 |

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Investigator: Dr. Bill Johnson

Pest Stage At Each Application

| | A | B | C |
|---------------------------------|----------------|----------------|----------------|
| Pest 1 Code, Type, Scale | AMBTR, W, BBCH | AMBTR, W, BBCH | AMBTR, W, BBCH |
| Height Average | 0 IN | 4 IN | 8 IN |
| Height Minimum, Maximum | 0, 0 | 1, 5 | 1.5, 13 |
| Density Average | 0 FT2 | 5 FT2 | 2 FT2 |
| Density Minimum, Maximum | 0, 0 | 3, 6 | 1, 4 |

Application Equipment

| | A | B | C |
|-------------------------------|---------------|---------------|---------------|
| Equipment Name | CO2 BACKPACK | CO2 BACKPACK | CO2 BACKPACK |
| Equipment Type | BACSPR | BACSPR | BACSPR |
| Operation Pressure | 20 PSI | 17 PSI | 19 PSI |
| Nozzle Model | XR | XR | XR |
| Nozzle Type | FLAFXR | FLAFXR | FLAFXR |
| Nozzle TradeName | TEEJET | TEEJET | TEEJET |
| Nozzle Tip Size, Color | 11002, YELLOW | 11002, YELLOW | 11002, YELLOW |
| Nozzle Spacing | 15.0 IN | 15.0 IN | 15.0 IN |
| Boom Length | 10.0 FT | 10.0 FT | 10.0 FT |
| Ground Speed | 3 MPH | 3 MPH | 3 MPH |
| Carrier | WATER | WATER | WATER |
| Application Amount | 15 GAL/AC | 15 GAL/AC | 15 GAL/AC |
| Mix Overage | 236.0 mL | 236.0 mL | 236.0 mL |
| Mix Size | 1.8 L | 1.8 L | 1.8 L |
| Propellant | COMCO2 | 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 | May-25-2023 | Dr. Bryan Young | Automatically added by ARM: Status changed to: E: changed by (EINYOB). |
| STATUS | May-25-2023 | Dr. Bryan Young | Automatically added by ARM: Trial Status updated to 'E' when entered. |

Deviations

No. 1: Date: May-25-2023 By: Claudia Bland

Deviations:

No crop injury data collected at 7 DA-A; crop was not emerged.

Instructions:

- Evaluations: ci 7 and 14 DA-A; ci 3, 7, and 14 DA-B; wc 14 DAP, wc prior to POST timing B, wc 7, 14, and 21 DA-B

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| Assessed By | | | | | Claudia Bland | Claudia Bland | Claudia Bland | Claudia Bland | Claudia Bland | |
|----------------------|---|---|--|----------------------------|---|---------------|---------------|---------------|------------------|----------|
| Rating Date | | | | | Jun-1-2023 | Jun-20-2023 | Jun-24-2023 | Jun-30-2023 | Jun-1-2023 | |
| Rating Type | | | | | PHYGEN | PHYGEN | PHYGEN | PHYGEN | CONTRO | |
| Rating Unit/Min/Max | | | | | % , 0, 100 | % , 0, 100 | % , 0, 100 | % , 0, 100 | % , 0, 100 | |
| BBCH Scale | | | | | BSOY | BSOY | BSOY | BSOY | BSOY | |
| Crop Scientific Name | | | | | Glycine max | Glycine max | Glycine max | Glycine max | Glycine max | |
| Crop Name | | | | | Soybean | Soybean | Soybean | Soybean | Soybean | |
| Pest Code | | | | | | | | | AMBTR | |
| Pest Scientific Name | | | | | | | | | Ambrosia trifida | |
| Pest Name | | | | | | | | | Giant ragweed | |
| Rating Timing | | | | | 14 DAP | 3 DA-B | 7 DA-B | 14 DA-B | 14 DAP | |
| Trt-Eval Interval | | | | | 14 DA-A | 3 DA-B | 7 DA-B | 13 DA-B | 14 DA-A | |
| ARM Action Codes | | | | | EC | EC | EC | EC | EC | |
| Trt No. | Treatment Name | Rate | Unit | Appl Code | Appl Timing | 1* | 4* | 5* | 7* | 2* |
| 1 | NONTREATED | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | BLANKET PRIME OIL | 0.250 lb ai/a 1 % v/v | ai/a v/v | A A | PRE PRE | 0.0 a | 0.0 c | 0.0 c | 0.0 b | 68.8 d |
| 3 | CERAZONE PRIME OIL | 0.25 lb ai/a 1 % v/v | ai/a v/v | A A | PRE PRE | 0.0 a | 0.0 c | 0.0 | 0.0 b | 78.0 bcd |
| 4 | SAUSX08 PRIME OIL AMSOL | 1.26 lb ai/a 1 % v/v 8.5 lb ai/100 gal | ai/a v/v gal | A A A | PRE PRE PRE | 0.0 a | 0.0 c | 0.0 c | 0.0 b | 89.5 a |
| 5 | TENDOVO | 1.57 lb ai/a | ai/a | A | PRE | 0.0 a | 0.0 c | 0.0 c | 0.0 b | 87.5 ab |
| 6 | ZIDUA PRO MSO ULTRA AMSOL | 0.16 lb ai/a 1 % v/v 8.5 lb ai/100 gal | ai/a v/v gal | A A A | PRE PRE PRE | 0.0 a | 0.0 c | 0.0 c | 0.0 b | 87.0 ab |
| 7 | SAUSX08 PRIME OIL AMSOL ROUNDUP POWERMAX 3 AMSOL | 1.26 lb ai/a 1 % v/v 8.5 lb ai/100 gal 0.75 lb ae/a 8.5 lb ai/100 gal | ai/a v/v gal ae/a gal | A A A B B | PRE PRE PRE 14 DAE 14 DAE | 0.0 a | 0.0 c | 0.0 c | 0.0 b | 83.8 abc |
| 8 | TENDOVO ROUNDUP POWERMAX 3 AMSOL | 1.57 lb ai/a 0.75 lb ae/a 8.5 lb ai/100 gal | ai/a ae/a gal | A B B | PRE 14 DAE 14 DAE | 0.0 a | 0.0 c | 0.0 c | 0.0 b | 80.0 abc |
| 9 | ZIDUA PRO MSO ULTRA AMSOL ROUNDUP POWERMAX 3 AMSOL | 0.16 lb ai/a 1 % v/v 8.5 lb ai/100 gal 0.75 lb ae/a 8.5 lb ai/100 gal | ai/a v/v gal ae/a gal | A A A B B | PRE PRE PRE 14 DAE 14 DAE | 0.0 a | 0.0 c | 0.0 c | 0.0 b | 81.3 abc |
| 10 | SAUSX08 PRIME OIL AMSOL SAUSX08 ACTIVATOR 90 AMSOL | 0.63 lb ai/a 1 % v/v 8.5 lb ai/100 gal 0.63 lb ai/a 0.25 % v/v 8.5 lb ai/100 gal | ai/a v/v gal ai/a v/v gal | A A A B B B | PRE PRE PRE 14 DAE 14 DAE 14 DAE | 0.0 a | 8.0 b | 5.0 b | 3.0 a | 86.3 ab |
| 11 | SAUSX08 PRIME OIL AMSOL SAUSX08 ACTIVATOR 90 AMSOL | 0.63 lb ai/a 1 % v/v 8.5 lb ai/100 gal 0.63 lb ai/a 0.25 % v/v 8.5 lb ai/100 gal | ai/a v/v gal ai/a v/v gal | A A A C C C | PRE PRE PRE 21 DAE 21 DAE 21 DAE | 0.0 a | 0.0 c | 5.0 b | 3.0 a | 76.3 cd |

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. 4: >=0.44 and <=0.48) are used for mean comparisons of treatment pairs with missing data.

* Adjusted means

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

^Calculated from residual.

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Investigator: Dr. Bill Johnson

| Assessed By | | | | Claudia Bland | Claudia Bland | Claudia Bland | Claudia Bland | Claudia Bland | | |
|----------------------|------------------------|----------------------------|------|---------------|------------------|---------------|---------------|------------------|--------|--------|
| Rating Date | | | | Jun-1-2023 | Jun-20-2023 | Jun-24-2023 | Jun-30-2023 | Jun-1-2023 | | |
| Rating Type | | | | PHYGEN | PHYGEN | PHYGEN | PHYGEN | CONTRO | | |
| Rating Unit/Min/Max | | | | % , 0, 100 | % , 0, 100 | % , 0, 100 | % , 0, 100 | % , 0, 100 | | |
| BBCH Scale | | | | BSOY | BSOY | BSOY | BSOY | BSOY | | |
| Crop Scientific Name | | | | Glycine max | Glycine max | Glycine max | Glycine max | Glycine max | | |
| Crop Name | | | | Soybean | Soybean | Soybean | Soybean | Soybean | | |
| Pest Code | | | | | | | | AMBTR | | |
| Pest Scientific Name | | | | | | | | Ambrosia trifida | | |
| Pest Name | | | | | | | | Giant ragweed | | |
| Rating Timing | | | | 14 DAP | 3 DA-B | 7 DA-B | 14 DA-B | 14 DAP | | |
| Trt-Eval Interval | | | | 14 DA-A | 3 DA-B | 7 DA-B | 13 DA-B | 14 DA-A | | |
| ARM Action Codes | | | | EC | EC | EC | EC | EC | | |
| Trt No. | Treatment Name | Rate | Unit | Appl Code | Appl Timing | 1* | 4* | 5* | 7* | 2* |
| 12 | PREFIX ACTIVATOR 90 | 1.09 lb ai/a 0.25 % v/v | | B B | 14 DAE 14 DAE | 0.0 a | 9.5 a | 5.8 a | 3.0 a | 0.0 e |
| LSD P=.05 | | | | | | . | 0.44 | 0.66 | . | 9.84 |
| Standard Deviation | | | | | | 0.00 | 0.31 | 0.46 | 0.00 | 6.80 |
| CV | | | | | | 0.0 | 18.83 | 31.38 | 0.0 | 9.15 |
| Levene's Prob(F) | | | | | | . | 0.704 | 0.704 | . | 0.089 |
| P(Shapiro-Wilk)^ | | | | | | . | 0.0* | 0.0* | . | 0.5968 |
| P(Skewness)^ | | | | | | . | 0.0* | 0.0* | . | 0.7432 |
| P(Kurtosis)^ | | | | | | . | 0.0* | 0.0* | . | 0.4599 |
| Replicate F | | | | | | 0.000 | 0.978 | 0.978 | 0.000 | 0.608 |
| Replicate Prob(F) | | | | | | 1.0000 | 0.4164 | 0.4164 | 1.0000 | 0.6154 |
| Treatment F | | | | | | 0.000 | 535.501 | 113.524 | 0.000 | 55.723 |
| Treatment Prob(F) | | | | | | 1.0000 | 0.0001 | 0.0001 | 1.0000 | 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.
 Due to missing data, larger LSD values (col. 4: >=0.44 and <=0.48) are used for mean comparisons of treatment pairs with missing data.
 * Adjusted means
 Could not calculate LSD (% mean diff) for columns 1,7 because error mean square = 0.
 ^Calculated from residual.

Purdue Weed Science

2023 Summit Soybean Herbicide Programs

Trial ID: 23-TPAC-Soy-07
 Protocol ID: 23-TPAC-Soy-07 Location: TPAC Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Chuck Foresman

Investigator: Dr. Bill Johnson

| | | | | | Marcelo Zimmer | Claudia Bland | Claudia Bland | Claudia Bland | |
|---------|---------------------|-------------------|---------|-----------|------------------|------------------|------------------|------------------|---------|
| | | | | | Jun-17-2023 | Jun-24-2023 | Jun-30-2023 | Jul-7-2023 | |
| | | | | | CONTRO | CONTRO | CONTRO | CONTRO | |
| | | | | | %, 0, 100 | %, 0, 100 | %, 0, 100 | %, 0, 100 | |
| | | | | | BSOY | BSOY | BSOY | BSOY | |
| | | | | | Glycine max | Glycine max | Glycine max | Glycine max | |
| | | | | | Soybean | Soybean | Soybean | Soybean | |
| | | | | | AMBTR | AMBTR | AMBTR | AMBTR | |
| | | | | | Ambrosia trifida | Ambrosia trifida | Ambrosia trifida | Ambrosia trifida | |
| | | | | | Giant ragweed | Giant ragweed | Giant ragweed | Giant ragweed | |
| | | | | | AT POST B | 7 DA-B | 14 DA-B | 21 DA-B | |
| | | | | | 0 DA-B | 7 DA-B | 13 DA-B | 20 DA-B | |
| | | | | | EC | EC | EC | EC | |
| Trt No. | Treatment Name | Rate | Unit | Appl Code | Appl Timing | 3* | 6* | 8* | 9* |
| 1 | NONTREATED | | | | | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | BLANKET PRIME OIL | 0.250 lb ai/a | 1 % v/v | A | PRE | 55.0 c | 46.3 g | 26.3 d | 8.8 f |
| 3 | CERAZONE PRIME OIL | 0.25 lb ai/a | 1 % v/v | A | PRE | 68.5 abc | 63.7 ef | 42.2 cd | 22.0 ef |
| 4 | SAUSX08 PRIME OIL | 1.26 lb ai/a | 1 % v/v | A | PRE | 78.8 a | 72.5 b-e | 58.8 bc | 47.5 cd |
| | AMSOL | 8.5 lb ai/100 gal | | A | PRE | | | | |
| 5 | TENDOVO | 1.57 lb ai/a | | A | PRE | 66.3 abc | 52.5 fg | 30.0 d | 23.8 ef |
| 6 | ZIDUA PRO MSO ULTRA | 0.16 lb ai/a | 1 % v/v | A | PRE | 76.3 ab | 70.0 cde | 51.3 c | 35.0 de |
| | AMSOL | 8.5 lb ai/100 gal | | A | PRE | | | | |
| 7 | SAUSX08 PRIME OIL | 1.26 lb ai/a | 1 % v/v | A | PRE | 72.5 ab | 88.8 a | 91.3 a | 93.3 a |
| | AMSOL | 8.5 lb ai/100 gal | | A | PRE | | | | |
| | ROUNDUP POWERMAX 3 | 0.75 lb ae/a | | B | 14 DAE | | | | |
| | AMSOL | 8.5 lb ai/100 gal | | B | 14 DAE | | | | |
| 8 | TENDOVO | 1.57 lb ai/a | | A | PRE | 63.8 bc | 82.0 a-d | 88.3 a | 89.0 ab |
| | ROUNDUP POWERMAX 3 | 0.75 lb ae/a | | B | 14 DAE | | | | |
| | AMSOL | 8.5 lb ai/100 gal | | B | 14 DAE | | | | |
| 9 | ZIDUA PRO MSO ULTRA | 0.16 lb ai/a | 1 % v/v | A | PRE | 75.0 ab | 86.5 ab | 90.0 a | 90.0 ab |
| | AMSOL | 8.5 lb ai/100 gal | | A | PRE | | | | |
| | ROUNDUP POWERMAX 3 | 0.75 lb ae/a | | B | 14 DAE | | | | |
| | AMSOL | 8.5 lb ai/100 gal | | B | 14 DAE | | | | |
| 10 | SAUSX08 PRIME OIL | 0.63 lb ai/a | 1 % v/v | A | PRE | 76.3 ab | 82.8 abc | 77.0 ab | 72.5 ab |
| | AMSOL | 8.5 lb ai/100 gal | | A | PRE | | | | |
| | SAUSX08 | 0.63 lb ai/a | | B | 14 DAE | | | | |
| | ACTIVATOR 90 | 0.25 % v/v | | B | 14 DAE | | | | |
| | AMSOL | 8.5 lb ai/100 gal | | B | 14 DAE | | | | |
| 11 | SAUSX08 PRIME OIL | 0.63 lb ai/a | 1 % v/v | A | PRE | 62.5 bc | 70.8 cde | 72.5 ab | 67.5 bc |
| | AMSOL | 8.5 lb ai/100 gal | | A | PRE | | | | |
| | SAUSX08 | 0.63 lb ai/a | | C | 21 DAE | | | | |
| | ACTIVATOR 90 | 0.25 % v/v | | C | 21 DAE | | | | |
| | AMSOL | 8.5 lb ai/100 gal | | C | 21 DAE | | | | |

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. 4: >=0.44 and <=0.48) are used for mean comparisons of treatment pairs with missing data.
 * Adjusted means
 Could not calculate LSD (% mean diff) for columns 1,7 because error mean square = 0.
 ^Calculated from residual.

Purdue Weed Science

2023 Summit Soybean Herbicide Programs

Trial ID: 23-TPAC-Soy-07
 Protocol ID: 23-TPAC-Soy-07 Location: TPAC Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Chuck Foresman

Investigator: Dr. Bill Johnson

| Assessed By | Marcelo Zimmer | | | | Claudia Bland | | | | Claudia Bland | | | | Claudia Bland | | | |
|------------------------|------------------|---------|-----------|-------------|------------------|----------|---------|---------|------------------|--|--|--|------------------|--|--|--|
| Rating Date | Jun-17-2023 | | | | Jun-24-2023 | | | | Jun-30-2023 | | | | Jul-7-2023 | | | |
| Rating Type | CONTRO | | | | CONTRO | | | | CONTRO | | | | CONTRO | | | |
| Rating Unit/Min/Max | %, 0, 100 | | | | %, 0, 100 | | | | %, 0, 100 | | | | %, 0, 100 | | | |
| BBCH Scale | BSOY | | | | BSOY | | | | BSOY | | | | BSOY | | | |
| Crop Scientific Name | Glycine max | | | | Glycine max | | | | Glycine max | | | | Glycine max | | | |
| Crop Name | Soybean | | | | Soybean | | | | Soybean | | | | Soybean | | | |
| Pest Code | AMBTR | | | | AMBTR | | | | AMBTR | | | | AMBTR | | | |
| Pest Scientific Name | Ambrosia trifida | | | | Ambrosia trifida | | | | Ambrosia trifida | | | | Ambrosia trifida | | | |
| Pest Name | Giant ragweed | | | | Giant ragweed | | | | Giant ragweed | | | | Giant ragweed | | | |
| Rating Timing | AT POST B | | | | 7 DA-B | | | | 14 DA-B | | | | 21 DA-B | | | |
| Trt-Eval Interval | 0 DA-B | | | | 7 DA-B | | | | 13 DA-B | | | | 20 DA-B | | | |
| ARM Action Codes | EC | | | | EC | | | | EC | | | | EC | | | |
| Trt Treatment No. Name | Rate | Unit | Appl Code | Appl Timing | 3* | 6* | 8* | 9* | | | | | | | | |
| 12 PREFIX ACTIVATOR 90 | 1.09 | lb ai/a | B | 14 DAE | 0.0 d | 67.5 def | 57.5 bc | 43.8 de | | | | | | | | |
| | 0.25 | % v/v | B | 14 DAE | | | | | | | | | | | | |
| LSD P=.05 | | | | | 14.95 | 15.21 | 20.99 | 23.30 | | | | | | | | |
| Standard Deviation | | | | | 10.34 | 10.52 | 14.51 | 16.11 | | | | | | | | |
| CV | | | | | 16.4 | 14.74 | 23.15 | 29.49 | | | | | | | | |
| Levene's Prob(F) | | | | | 0.373 | 0.147 | 0.158 | 0.42 | | | | | | | | |
| P(Shapiro-Wilk)^ | | | | | 0.1282 | 0.1102 | 0.012* | 0.0727 | | | | | | | | |
| P(Skewness)^ | | | | | 0.5993 | 0.7897 | 0.4403 | 0.2512 | | | | | | | | |
| P(Kurtosis)^ | | | | | 0.8764 | 0.208 | 0.0574 | 0.1599 | | | | | | | | |
| Replicate F | | | | | 0.663 | 1.923 | 2.215 | 2.690 | | | | | | | | |
| Replicate Prob(F) | | | | | 0.5815 | 0.1480 | 0.1076 | 0.0647 | | | | | | | | |
| Treatment F | | | | | 18.344 | 6.609 | 10.290 | 13.623 | | | | | | | | |
| Treatment Prob(F) | | | | | 0.0001 | 0.0001 | 0.0001 | 0.0001 | | | | | | | | |

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Investigator: Dr. Bill Johnson

Assessed By

Marcelo Zimmer = MZ

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

Rating Unit/Min/Max

%, 0, 100 = percent

Pest Code

AMBTR, Ambrosia trifida, Giant ragweed = US

ARM Action Codes

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