

Purdue Weed Science

ADAMA Herbicides for Weed Control in Corn

Trial ID: 23-MGS-Corn-06
 Protocol ID: 23-MGS-Corn-06 Location: Meigs Trial Year: 2023 :
 Study Director: Dr. Bill Johnson Sponsor Contact: Zac Carpenter

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: Apr-25-2023
Initiation Date: May-5-2023 **Planned Completion Date:** Oct-15-2023

Trial Location

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

Latitude of LL Corner °: 40.27249 N
Longitude of LL Corner °: -86.881412 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 **Postal Code:** 47907

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

Role: SPONSR sponsor
Sponsor: Zac Carpenter
Organization: ADAMA

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 **Postal Code:** 47907

Crop Description

Crop 1: C ZEAMX Zea mays Corn
Entry Date: May-24-2023 **Stage Scale:** BBCH
Variety: DKC 50-87 RIB
Attributes: Glyphosate-R and Glufosinate-R
Planting Date: May-5-2023 **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 Temperature: 72 F **Soil Moisture:** NORMAL normal, adequate
Emergence Date: May-12-2023

Pest Description

Pest 1 Type: W **Code:** AMATU *Amaranthus tuberculatus* **Entry Date:** Jun-15-2023
Common Name: tall waterhemp **Stage Scale:** BBCH
Attributes: Glyphosate-R and PPO-R

Pest 2 Type: W **Code:** SETFA *Setaria faberi* **Entry Date:** Jun-15-2023
Common Name: Giant foxtail **Stage Scale:** BBCH

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Site and Design

Treated Plot Width: 6.67 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 200.1 FT² **Tillage Type:** NOTILL no-till
Replications: 4 **Treatments:** 7 **Plots:** 28 **Study Design:** RACOBL Randomized Complete Block (RCB)

Field Prep./Maintenance:

Roundup PowerMax 3 (30 fl oz/A) + 2,4-D (1 pint/A) applied 04/12/2023.
 Gramoxone (3 pt/A) applied 05/04/2023.
 180 lbs of N applied as 28% UAN on 5/9/23.

Soil Description

Description Name: MEIGS-S3
% Sand: 21 **% OM:** 2.2 **Texture:** SIL silt loam
% Silt: 54 **Soil Name:** Starks-Fincastle complex
% Clay: 25 **Fert. Level:** G good
 pH: 6.8 **CEC:** 8.3

| No. | Date | Moisture Total | Unit | Min Temp | Max Temp | Avg Temp | Temp Unit | Max Wind | Avg Wind | Unit |
|-----|-------------|----------------|------|----------|----------|----------|-----------|----------|----------|------|
| 1. | May-1-2023 | 0.011 | IN | 39.7 | 46.4 | 42.6 | F | 29.3 | 10.7 | MPH |
| 2. | May-2-2023 | 0 | IN | 41 | 57.9 | 47.1 | F | 25.1 | 7.8 | MPH |
| 3. | May-3-2023 | 0 | IN | 39.2 | 62.4 | 49.3 | F | 19.7 | 5.4 | MPH |
| 4. | May-4-2023 | 0 | IN | 36.3 | 71.4 | 55.6 | F | 12.5 | 2 | MPH |
| 5. | May-5-2023 | 0 | IN | 49.1 | 78.1 | 64.2 | F | 25.1 | 7.2 | MPH |
| 6. | May-6-2023 | 0.002 | IN | 57.7 | 77.5 | 67.1 | F | 31.5 | 9.2 | MPH |
| 7. | May-7-2023 | 0.03 | IN | 60.8 | 79.7 | 69.1 | F | 35.1 | 9.2 | MPH |
| 8. | May-8-2023 | 0.003 | IN | 58.3 | 75.9 | 66.9 | F | 20.8 | 6.7 | MPH |
| 9. | May-9-2023 | 0 | IN | 54 | 75.2 | 64 | F | 16.8 | 5.4 | MPH |
| 10. | May-10-2023 | 0 | IN | 52.9 | 78.3 | 65.8 | F | 17.2 | 3.1 | MPH |
| 11. | May-11-2023 | 0 | IN | 53 | 81.4 | 67.94 | F | 16.1 | 1.8 | MPH |
| 12. | May-12-2023 | 0.001 | IN | 63.4 | 79 | 70.76 | F | 17 | 0.9 | MPH |
| 13. | May-13-2023 | 0.007 | IN | 66.5 | 80 | 72.06 | F | 12 | 1.2 | MPH |
| 14. | May-14-2023 | 0.023 | IN | 58.7 | 72.8 | 65.19 | F | 16 | 4.8 | MPH |
| 15. | May-15-2023 | 0.002 | IN | 54.3 | 71.8 | 61.5 | F | 13 | 2.1 | MPH |
| 16. | May-16-2023 | 0.001 | IN | 53.9 | 71.4 | 62.06 | F | 12 | 0.9 | MPH |
| 17. | May-17-2023 | 0 | IN | 49.9 | 70.2 | 60.7 | F | 14 | 2.3 | MPH |
| 18. | May-18-2023 | 0 | IN | 44 | 74 | 59.75 | F | 11 | 2.2 | MPH |
| 19. | May-19-2023 | 0.045 | IN | 57.1 | 79.6 | 64.84 | F | 25 | 1.5 | MPH |
| 20. | May-20-2023 | 0 | IN | 47.6 | 66.3 | 57.57 | F | 11 | 0 | MPH |
| 21. | May-21-2023 | 0 | IN | 44.3 | 78 | 62.38 | F | 8 | 0.3 | MPH |
| 22. | May-22-2023 | 0 | IN | 51.1 | 80 | 67.15 | F | 9 | 0.2 | MPH |
| 23. | May-23-2023 | 0 | IN | 56.7 | 82 | 70.38 | F | 9 | 0.3 | MPH |
| 24. | May-24-2023 | 0 | IN | 54.4 | 82.9 | 70.73 | F | 15 | 1 | MPH |
| 25. | May-25-2023 | 0 | IN | 48.4 | 68.3 | 59.7 | F | 17 | 5.9 | MPH |
| 26. | May-26-2023 | 0 | IN | 46.8 | 75 | 61.24 | F | 17 | 4 | MPH |
| 27. | May-27-2023 | 0 | IN | 47.2 | 77 | 64.85 | F | 16 | 2.5 | MPH |
| 28. | May-28-2023 | 0 | IN | 57.6 | 79.6 | 68.81 | F | 13 | 0.5 | MPH |
| 29. | May-29-2023 | 0 | IN | 56.4 | 84.6 | 71.88 | F | 11 | 0.6 | MPH |
| 30. | May-30-2023 | 0 | IN | 58.7 | 87.1 | 75.14 | F | 14 | 1.3 | MPH |
| 31. | May-31-2023 | 0 | IN | 65.4 | 87.7 | 77.14 | F | 11 | 0.6 | MPH |
| 32. | Jun-1-2023 | 0 | IN | 64.6 | 89.2 | 77.42 | F | 17 | 1.6 | MPH |
| 33. | Jun-2-2023 | 0 | IN | 61 | 89.9 | 76.83 | F | 15 | 1.3 | MPH |
| 34. | Jun-3-2023 | 0 | IN | 63.1 | 89.9 | 78.15 | F | 11 | 1.2 | MPH |
| 35. | Jun-4-2023 | 0 | IN | 63.5 | 82 | 73.54 | F | 12 | 2.5 | MPH |
| 36. | Jun-5-2023 | 0 | IN | 54.1 | 78.8 | 67.66 | F | 12 | 1.6 | MPH |

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| | | | | | | | | | | |
|-----|-------------|-------|----|------|------|-------|---|----|-----|-----|
| 37. | Jun-6-2023 | 0 | IN | 53.7 | 85.5 | 69.23 | F | 17 | 0.1 | MPH |
| 38. | Jun-7-2023 | 0 | IN | 59.1 | 76.2 | 67.27 | F | 14 | 1 | MPH |
| 39. | Jun-8-2023 | 0 | IN | 45.9 | 76.6 | 62.87 | F | 10 | 0.6 | MPH |
| 40. | Jun-9-2023 | 0 | IN | 44.6 | 79.3 | 64.11 | F | 11 | 0.2 | MPH |
| 41. | Jun-10-2023 | 0 | IN | 56.5 | 84.1 | 71.38 | F | 15 | 1.3 | MPH |
| 42. | Jun-11-2023 | 0.03 | IN | 56.1 | 68.3 | 63.16 | F | 11 | 0.3 | MPH |
| 43. | Jun-12-2023 | 0 | IN | 51.5 | 67.7 | 58.29 | F | 15 | 0.7 | MPH |
| 44. | Jun-13-2023 | 0.001 | IN | 55 | 68.6 | 60.74 | F | 16 | 2.4 | MPH |
| 45. | Jun-14-2023 | 0.002 | IN | 56.9 | 76.7 | 66.76 | F | 7 | 0 | MPH |
| 46. | Jun-15-2023 | 0 | IN | 57.6 | 84.2 | 70.06 | F | 16 | 1.8 | MPH |
| 47. | Jun-16-2023 | 0 | IN | 50.8 | 71.7 | 60.86 | F | 13 | 0.4 | MPH |
| 48. | Jun-17-2023 | 0 | IN | 50.7 | 80.9 | 66.2 | F | 7 | 0 | MPH |
| 49. | Jun-18-2023 | 0 | IN | 57.3 | 82.5 | 70.7 | F | 15 | 1.2 | MPH |
| 50. | Jun-19-2023 | 0 | IN | 65.6 | 84 | 74.05 | F | 17 | 3.3 | MPH |
| 51. | Jun-20-2023 | 0 | IN | 63.8 | 86.9 | 74.64 | F | 22 | 4.4 | MPH |
| 52. | Jun-21-2023 | 0 | IN | 64.4 | 86 | 75.4 | F | 18 | 5.1 | MPH |
| 53. | Jun-22-2023 | 0 | IN | 61.1 | 81.1 | 71.33 | F | 16 | 2.4 | MPH |
| 54. | Jun-23-2023 | 0 | IN | 64.7 | 82.4 | 72.52 | F | 7 | 0 | MPH |
| 55. | Jun-24-2023 | 0 | IN | 59.3 | 89.2 | 75.93 | F | 8 | 0.2 | MPH |
| 56. | Jun-25-2023 | 0.046 | IN | 66.8 | 87.6 | 76.75 | F | 24 | 2.8 | MPH |
| 57. | Jun-26-2023 | 0 | IN | 65.4 | 74.7 | 70.53 | F | 26 | 4.3 | MPH |
| 58. | Jun-27-2023 | 0 | IN | 60.4 | 75.3 | 66.32 | F | 7 | 0.1 | MPH |
| 59. | Jun-28-2023 | 0 | IN | 52.6 | 79.7 | 66.17 | F | 12 | 0.4 | MPH |
| 60. | Jun-29-2023 | 0.032 | IN | 63.7 | 82.9 | 69.49 | F | 30 | 1.3 | MPH |
| 61. | Jun-30-2023 | 0 | IN | 62.4 | 83.8 | 73.03 | F | 13 | 0.6 | MPH |
| 62. | Jul-1-2023 | 0.019 | IN | 69 | 82.8 | 74.98 | F | 18 | 1.1 | MPH |
| 63. | Jul-2-2023 | 0.067 | IN | 67.7 | 81.4 | 72.16 | F | 15 | 1.2 | MPH |
| 64. | Jul-3-2023 | 0 | IN | 65.3 | 84.2 | 73.93 | F | 8 | 0.1 | MPH |
| 65. | Jul-4-2023 | 0 | IN | 64.4 | 88 | 76.25 | F | 7 | 0.3 | MPH |
| 66. | Jul-5-2023 | 0.07 | IN | 67.9 | 88.4 | 78.03 | F | 18 | 0.7 | MPH |
| 67. | Jul-6-2023 | 0.01 | IN | 68.8 | 82.9 | 74.17 | F | 11 | 0.6 | MPH |
| 68. | Jul-7-2023 | 0 | IN | 60.5 | 82.2 | 71.58 | F | 8 | 0.3 | MPH |
| 69. | Jul-8-2023 | 0.9 | IN | 62.8 | 74.6 | 68.13 | F | 12 | 0.2 | MPH |
| 70. | Jul-9-2023 | 0 | IN | 56.4 | 81 | 67.51 | F | 7 | 0.1 | MPH |
| 71. | Jul-10-2023 | 0 | IN | 57.6 | 81 | 70.65 | F | 10 | 0.8 | MPH |
| 72. | Jul-11-2023 | 0 | IN | 63.1 | 83.7 | 73.9 | F | 14 | 1.8 | MPH |
| 73. | Jul-12-2023 | 0 | IN | 69.8 | 84.4 | 76.47 | F | 17 | 0.7 | MPH |
| 74. | Jul-13-2023 | 0 | IN | 63.8 | 77.8 | 70.21 | F | 8 | 0.2 | MPH |
| 75. | Jul-14-2023 | 0 | IN | 59.6 | 87 | 73.92 | F | 9 | 0.5 | MPH |
| 76. | Jul-15-2023 | 1.68 | IN | 66.2 | 82.1 | 72.95 | F | 8 | 0.3 | MPH |
| 77. | Jul-16-2023 | 0 | IN | 62.5 | 81.3 | 71.73 | F | 12 | 1.3 | MPH |
| 78. | Jul-17-2023 | 0.15 | IN | 65.5 | 79.1 | 70.6 | F | 9 | 0.9 | MPH |
| 79. | Jul-18-2023 | 0 | IN | 62.7 | 79.7 | 70.75 | F | 5 | 0 | MPH |
| 80. | Jul-19-2023 | 0 | IN | 56.6 | 82.6 | 70.73 | F | 5 | 0 | MPH |
| 81. | Jul-20-2023 | 0 | IN | 67.9 | 84.8 | 75.5 | F | 14 | 0.7 | MPH |
| 82. | Jul-21-2023 | 0 | IN | 59.8 | 79.8 | 70.08 | F | 6 | 0 | MPH |
| 83. | Jul-22-2023 | 0 | IN | 57.3 | 81.5 | 69.38 | F | 6 | 0 | MPH |
| 84. | Jul-23-2023 | 0.01 | IN | 58.5 | 82.8 | 70.3 | F | 9 | 0.7 | MPH |
| 85. | Jul-24-2023 | 0 | IN | 62.5 | 84.7 | 73.5 | F | 4 | 0 | MPH |
| 86. | Jul-25-2023 | 0 | IN | 60.6 | 84.9 | 73.27 | F | 6 | 0.1 | MPH |
| 87. | Jul-26-2023 | 0.01 | IN | 68.9 | 87.5 | 78.15 | F | 12 | 1.1 | MPH |
| 88. | Jul-27-2023 | 0 | IN | 72.7 | 92 | 82.51 | F | 7 | 0.3 | MPH |

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| | | | | | | | | | | |
|------|-------------|------|----|------|------|-------|---|----|-----|-----|
| 89. | Jul-28-2023 | 1.2 | IN | 69.1 | 89.2 | 79.86 | F | 17 | 0.8 | MPH |
| 90. | Jul-29-2023 | 1.03 | IN | 68.4 | 83.1 | 75.48 | F | 9 | 0.4 | MPH |
| 91. | Jul-30-2023 | 0 | IN | 60.7 | 82.2 | 71.86 | F | 6 | 0.1 | MPH |
| 92. | Jul-31-2023 | 0 | IN | 56.2 | 77.8 | 67.7 | F | 6 | 0.3 | MPH |
| 93. | Aug-1-2023 | 0 | IN | 55.6 | 79.8 | 68.02 | F | 4 | 0 | MPH |
| 94. | Aug-2-2023 | 0 | IN | 59 | 80.5 | 70.02 | F | 6 | 0 | MPH |
| 95. | Aug-3-2023 | 0 | IN | 62.9 | 83.2 | 72.74 | F | 5 | 0 | MPH |
| 96. | Aug-4-2023 | 0 | IN | 60 | 86.2 | 73.91 | F | 4 | 0 | MPH |
| 97. | Aug-5-2023 | 0.85 | IN | 66.3 | 79.5 | 72.76 | F | 10 | 1 | MPH |
| 98. | Aug-6-2023 | 0.02 | IN | 63.3 | 75 | 68.31 | F | 12 | 1.7 | MPH |
| 99. | Aug-7-2023 | 0.21 | IN | 64.1 | 76.9 | 69.3 | F | 6 | 0.1 | MPH |
| 100. | Aug-8-2023 | 1.31 | IN | 60.4 | 80.2 | 68.38 | F | 13 | 0.5 | MPH |
| 101. | Aug-9-2023 | 0.68 | IN | 59.2 | 79.6 | 67.76 | F | 7 | 0 | MPH |
| 102. | Aug-10-2023 | 0.02 | IN | 63 | 79.5 | 70.32 | F | 10 | 0.6 | MPH |
| 103. | Aug-11-2023 | 0 | IN | 63.9 | 82.9 | 73.19 | F | 11 | 0.9 | MPH |
| 104. | Aug-12-2023 | 0.37 | IN | 66.5 | 83.9 | 74.98 | F | 14 | 1 | MPH |
| 105. | Aug-13-2023 | 0 | IN | 62.8 | 83.9 | 72.48 | F | 7 | 0.2 | MPH |
| 106. | Aug-14-2023 | 0.18 | IN | 66 | 74.7 | 69.23 | F | 10 | 0.5 | MPH |
| 107. | Aug-15-2023 | 0 | IN | 60.7 | 72.6 | 65.52 | F | 10 | 1 | MPH |
| 108. | Aug-16-2023 | 0 | IN | 54 | 78.2 | 66.45 | F | 6 | 0 | MPH |
| 109. | Aug-17-2023 | 0.38 | IN | 60.6 | 75.3 | 66.57 | F | 12 | 1.6 | MPH |
| 110. | Aug-18-2023 | 0 | IN | 52.7 | 75.8 | 64.65 | F | 8 | 0 | MPH |
| 111. | Aug-19-2023 | 0 | IN | 55 | 79.4 | 67 | F | 8 | 0.2 | MPH |
| 112. | Aug-20-2023 | 0 | IN | 63.4 | 86.2 | 75.11 | F | 7 | 0.1 | MPH |
| 113. | Aug-21-2023 | 0 | IN | 72.2 | 87.9 | 79.59 | F | 5 | 0.1 | MPH |
| 114. | Aug-22-2023 | 0 | IN | 70 | 85 | 76.8 | F | 7 | 0.5 | MPH |
| 115. | Aug-23-2023 | 0 | IN | 68.9 | 89.6 | 79.1 | F | 13 | 0.8 | MPH |
| 116. | Aug-24-2023 | 0 | IN | 76.5 | 91.8 | 83.8 | F | 13 | 1.3 | MPH |
| 117. | Aug-25-2023 | 0 | IN | 75.4 | 87.3 | 81.47 | F | 7 | 0.3 | MPH |
| 118. | Aug-26-2023 | 0 | IN | 68 | 83.4 | 75.1 | F | 9 | 0 | MPH |
| 119. | Aug-27-2023 | 0 | IN | 62.5 | 76.9 | 68.89 | F | 9 | 0.8 | MPH |
| 120. | Aug-28-2023 | 0 | IN | 54.1 | 77 | 64.85 | F | 7 | 0.3 | MPH |
| 121. | Aug-29-2023 | 0 | IN | 51.9 | 81.1 | 66.23 | F | 8 | 0.4 | MPH |
| 122. | Aug-30-2023 | 0 | IN | 55.5 | 73.1 | 64.73 | F | 10 | 0.3 | MPH |
| 123. | Aug-31-2023 | 0 | IN | 48.3 | 74.7 | 61.46 | F | 9 | 0.8 | MPH |
| 124. | Sep-1-2023 | 0 | IN | 50.6 | 81.1 | 65.47 | F | 7 | 0.1 | MPH |
| 125. | Sep-2-2023 | 0 | IN | 55.9 | 86.1 | 70.93 | F | 11 | 0.4 | MPH |

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Application Description

| | A | B |
|---------------------------------|-------------|-------------|
| Date | May-5-2023 | Jun-10-2023 |
| Start Time | 6:55 PM | 8:05 PM |
| Stop Time | 7:07 PM | 8:28 PM |
| Method | SPRAY | SPRAY |
| Timing | PRE | 3-4" WEEDS |
| Placement | BROSOI | BROFOL |
| Applied By | M. ZIMMER | M. ZIMMER |
| Entry Date | May-24-2023 | Jun-15-2023 |
| Air Temperature Start, Stop | 75, 75 F | 78, 78 F |
| % Relative Humidity Start, Stop | 39, 39 | 44.8, 44.8 |
| Wind Velocity+Dir. Start | 6 MPH, SW | 0 MPH, - |
| Wind Velocity+Dir. Stop | 6 MPH, SW | 0 MPH, - |
| Wind Velocity+Dir. Max | 6 MPH, SW | 0 MPH, - |
| Wet Leaves (Y/N) | N, no | N, no |
| Soil Temperature | 72 F | 80 F |
| Soil Moisture | NORMAL | DRY |
| % Cloud Cover | 10 | 0 |

Crop Stage At Each Application

| | A | B |
|-------------------------|-------------|-------------|
| Crop 1 Code, BBCH Scale | ZEAMX, BCOR | ZEAMX, BCOR |
| Days after Emergence | -7 | 29 |
| Stage Majority, Percent | 0, - | V6, - |
| Stage Minimum, Percent | 0, - | V5, - |
| Stage Maximum, Percent | 0, - | V6, - |
| Height Average | 0 IN | 15 IN |
| Height Minimum, Maximum | 0, 0 | 16, 19 |

Pest Stage At Each Application

| | A | B |
|--------------------------|----------------|----------------|
| Pest 1 Code, Type, Scale | AMATU, W, BBCH | AMATU, W, BBCH |
| Height Average | 0 IN | 3 IN |
| Height Minimum, Maximum | 0, 0 | 1, 5 |
| Density Average | 0 FT2 | 3 FT2 |
| Density Minimum, Maximum | 0, 0 | 0, 10 |
| Pest 2 Code, Type, Scale | SETFA, W, BBCH | SETFA, W, BBCH |
| Height Average | 0 IN | 6 IN |
| Height Minimum, Maximum | 0, 0 | 2, 10 |
| Density Average | 0 FT2 | 2 FT2 |
| Density Minimum, Maximum | 0, 0 | 0, 7 |

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Application Equipment

| | A | B |
|------------------------|---------------|--------------|
| Equipment Name | CO2 BACKPACK | CO2 BACKPACK |
| Equipment Type | BACSPR | BACSPR |
| Operation Pressure | 34 PSI | 21 PSI |
| Nozzle Model | TTI | XR |
| Nozzle Type | TEEJAI | FLAFXR |
| Nozzle TradeName | TEEJET | TEEJET |
| Nozzle Tip Size, Color | 110015, GREEN | 8002, YELLOW |
| Nozzle Spacing | 20.0 IN | 20.0 IN |
| Boom Length | 6.67 FT | 6.67 FT |
| Ground Speed | 3 MPH | 3 MPH |
| Carrier | WATER | WATER |
| Application Amount | 15 GAL/AC | 15 GAL/AC |
| Mix Overage | 75.0 mL | 75.0 mL |
| Mix Size | 1119.0 mL | 1119.0 mL |

Notes

| Context | Date | By | Notes |
|---------|-------------|------------------|--|
| STATUS | Apr-25-2023 | Dr. Bill Johnson | Automatically added by ARM: Trial Status updated to 'S' during trial creation. |
| STATUS | May-24-2023 | Dr. Bryan Young | Automatically added by ARM: Status changed to: E: changed by (EINYOB). |

Instructions:

1. Evaluations: ci/wc 7, 14, and 28 DA-B. Photos.
2. Yield, crop destruct.

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| Assessed By | Claudia Bland | | Claudia Bland | Claudia Bland | Claudia Bland | Claudia Bland | | |
|----------------------|--|--|-----------------------|---------------|------------------|------------------|--------|----------|
| Rating Date | Jun-17-2023 | | Jun-25-2023 | Jul-7-2023 | Jun-17-2023 | Jun-25-2023 | | |
| 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 | | | | | AMATU | AMATU | | |
| Pest Scientific Name | | | | | Amaranthus tube> | Amaranthus tube> | | |
| Pest Name | | | | | tall waterhemp | tall waterhemp | | |
| Rating Timing | 7 DA-B | | 14 DA-B | 28 DA-B | 7 DA-B | 14 DA-B | | |
| ARM Action Codes | | | | | EC | EC | | |
| Trt No. | Treatment Name | Rate | Appl Code | 1* | 4* | 7* | 2* | 5* |
| | | Rate Unit | | | | | | |
| 1 | NONTREATED | | | 0.0 b | 0.0 a | 0.0 a | 0.0 | 0.0 |
| 2 | PARALLEL PLUS | 48 fl oz/a | A | 0.0 b | 0.0 a | 0.0 a | 73.8 b | 45.0 d |
| 3 | PARALLEL PLUS TEMPER AMS-LIQUID | 48 fl oz/a 31 fl oz/a 17 lb ai/100 gal | A B B | 0.0 b | 0.0 a | 0.0 a | 90.0 a | 81.3 c |
| 4 | PARALLEL PLUS TEMPER HL AMS-LIQUID | 48 fl oz/a 25 fl oz/a 17 lb ai/100 gal | A B B | 0.0 b | 0.0 a | 0.0 a | 88.8 a | 83.8 bc |
| 5 | PARALLEL PLUS TEMPER MORE POWERAL AMS-LIQUID | 48 fl oz/a 41 fl oz/a 8 fl oz/a 17 lb ai/100 gal | A B B B | 0.0 b | 0.0 a | 0.0 a | 88.8 a | 87.8 ab |
| 6 | PARALLEL PLUS TEMPER MORE MOTIF POWERAL AMS-LIQUID | 48 fl oz/a 41 fl oz/a 3 fl oz/a 8 fl oz/a 17 lb ai/100 gal | A B B B B | 3.0 a | 0.0 a | 0.0 a | 89.5 a | 91.5 a |
| 7 | PARALLEL PLUS HALEX GT ACTIVATOR 90 AMS-LIQUID | 48 fl oz/a 64 fl oz/a 0.25 % v/v 17 lb ai/100 gal | A B B B | 0.0 b | 0.0 a | 0.0 a | 76.3 b | 85.8 abc |
| LSD P=.05 | | | | . | . | . | 5.79 | 5.82 |
| Standard Deviation | | | | 0.00 | 0.00 | 0.00 | 3.84 | 3.86 |
| CV | | | | 0.0 | 0.0 | 0.0 | 4.55 | 4.88 |
| Levene's Prob(F) | | | | . | . | . | 0.907 | 0.064 |
| P(Shapiro-Wilk)^ | | | | . | . | . | 0.4796 | 0.8756 |
| P(Skewness)^ | | | | . | . | . | 0.2715 | 0.9793 |
| P(Kurtosis)^ | | | | . | . | . | 0.9948 | 0.3805 |
| Replicate F | | | | 0.000 | 0.000 | 0.000 | 3.752 | 2.054 |
| Replicate Prob(F) | | | | 1.0000 | 1.0000 | 1.0000 | 0.0342 | 0.1496 |
| Treatment F | | | | 0.000 | 0.000 | 0.000 | 14.887 | 78.313 |
| Treatment Prob(F) | | | | 1.0000 | 1.0000 | 1.0000 | 0.0001 | 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 1,4,7 because error mean square = 0.
 ^Calculated from residual.

Purdue Weed Science

ADAMA Herbicides for Weed Control in Corn

Trial ID: 23-MGS-Corn-06
 Protocol ID: 23-MGS-Corn-06 Location: Meigs Trial Year: 2023
 Study Director: Dr. Bill Johnson Sponsor Contact: Zac Carpenter

Investigator: Dr. Bill Johnson

| Assessed By | Claudia Bland | | Claudia Bland | Claudia Bland | Claudia Bland | Lucas Maia | | |
|----------------------|------------------------------|--------------------------|----------------|----------------|----------------|-------------|--------|---------|
| Rating Date | Jul-7-2023 | | Jun-17-2023 | Jun-25-2023 | Jul-7-2023 | Oct-8-2023 | | |
| Rating Type | CONTRO | | CONTRO | CONTRO | CONTRO | YIELD | | |
| Rating Unit/Min/Max | % , 0, 100 | | % , 0, 100 | % , 0, 100 | % , 0, 100 | bu/ac, -, - | | |
| Crop Scientific Name | Zea mays | | Zea mays | Zea mays | Zea mays | | | |
| Crop Name | Corn | | Corn | Corn | Corn | | | |
| Pest Code | AMATU | | SETFA | SETFA | SETFA | | | |
| Pest Scientific Name | Amaranthus tube> | | Setaria faberi | Setaria faberi | Setaria faberi | | | |
| Pest Name | tall waterhemp | | Giant foxtail | Giant foxtail | Giant foxtail | | | |
| Rating Timing | 28 DA-B | | 7 DA-B | 14 DA-B | 28 DA-B | | | |
| ARM Action Codes | EC | | EC | EC | EC | | | |
| Trt No. | Treatment Name | Rate Unit | Appl Code | 8* | 3* | 6* | 9* | 10* |
| 1 | NONTREATED | | | 0.0 | 0.0 | 0.0 | 0.0 | 145.5 b |
| 2 | PARALLEL PLUS | 48 fl oz/a | A | 45.0 d | 75.0 c | 65.0 c | 61.3 d | 196.0 a |
| 3 | PARALLEL PLUS TEMPER | 48 fl oz/a 31 fl oz/a | A B | 76.3 bc | 86.3 ab | 85.8 b | 72.5 c | 191.0 a |
| | AMS-LIQUID | 17 lb ai/100 gal | B | | | | | |
| 4 | PARALLEL PLUS TEMPER HL | 48 fl oz/a 25 fl oz/a | A B | 73.8 c | 90.0 a | 91.3 ab | 81.3 b | 192.8 a |
| | AMS-LIQUID | 17 lb ai/100 gal | B | | | | | |
| 5 | PARALLEL PLUS TEMPER MORE | 48 fl oz/a 41 fl oz/a | A B | 81.3 b | 87.5 a | 94.3 a | 90.3 a | 203.5 a |
| | POWERAL | 8 fl oz/a | B | | | | | |
| | AMS-LIQUID | 17 lb ai/100 gal | B | | | | | |
| 6 | PARALLEL PLUS TEMPER MORE | 48 fl oz/a 41 fl oz/a | A B | 91.8 a | 87.5 a | 91.3 ab | 90.0 a | 209.0 a |
| | MOTIF | 3 fl oz/a | B | | | | | |
| | POWERAL | 8 fl oz/a | B | | | | | |
| | AMS-LIQUID | 17 lb ai/100 gal | B | | | | | |
| 7 | PARALLEL PLUS HALEX GT | 48 fl oz/a 64 fl oz/a | A B | 87.5 a | 81.3 b | 90.8 ab | 93.8 a | 187.0 a |
| | ACTIVATOR 90 | 0.25 % v/v | B | | | | | |
| | AMS-LIQUID | 17 lb ai/100 gal | B | | | | | |
| LSD P=.05 | | | | 5.54 | 5.39 | 6.71 | 6.33 | 32.06 |
| Standard Deviation | | | | 3.67 | 3.57 | 4.45 | 4.20 | 21.58 |
| CV | | | | 4.84 | 4.23 | 5.16 | 5.16 | 11.4 |
| Levene's Prob(F) | | | | 0.56 | 0.231 | 0.341 | 0.273 | 0.483 |
| P(Shapiro-Wilk)^ | | | | 0.9985 | 0.494 | 0.0684 | 0.3028 | 0.4309 |
| P(Skewness)^ | | | | 0.8206 | 0.3357 | 0.553 | 0.233 | 0.4265 |
| P(Kurtosis)^ | | | | 0.9741 | 0.8871 | 0.5982 | 0.0591 | 0.1565 |
| Replicate F | | | | 4.975 | 3.804 | 0.036 | 2.434 | 1.031 |
| Replicate Prob(F) | | | | 0.0136 | 0.0328 | 0.9906 | 0.1052 | 0.4023 |
| Treatment F | | | | 81.420 | 9.522 | 23.626 | 35.774 | 3.683 |
| Treatment Prob(F) | | | | 0.0001 | 0.0003 | 0.0001 | 0.0001 | 0.0145 |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
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 * Adjusted means
 Could not calculate LSD (% mean diff) for columns 1,4,7 because error mean square = 0.
 ^Calculated from residual.

Purdue Weed Science

ADAMA Herbicides for Weed Control in Corn

Trial ID: 23-MGS-Corn-06
Protocol ID: 23-MGS-Corn-06 Location: Meigs Trial Year: 2023
Study Director: Dr. Bill Johnson Sponsor Contact: Zac Carpenter

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

Pest Code

AMATU, Amaranthus tuberculatus, tall waterhemp = 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