

# The Ohio State University

## Herbicide efficacy in corn for weed control with Sipcarn experimental materials

Trial ID: 2024-07-OH2  
 Protocol ID: 24SIPCAM Location: Western Branch F-8 East Trial Year: 2024  
 Project ID: 2024-07-GM  
 Study Director: Dr. Alyssa Essman Sponsor Contact: Giovanni Mattaini  
 Investigator: Tony Dobbels

### Crop Description

|  |   |                  |
|--|---|------------------|
| Crop 1: C ZEAMX Zea mays                     | Corn  | BBCH Scale: BCOR |
| Entry Date: Apr-24-2024                      | Stage Scale: BBCH                             |                  |
| Variety: Dekalb DKC110-10RIB                 |   |                  |
| Attributes: glyphosate, glufosinate tolerant |   |                  |
| Planting Date: Apr-22-2024                   | Seed Size: 1725 S/LB                          |                  |
| Depth: 1.5 IN                                | Planting Rate: 32097 S/A                      |                  |
| Rows per Plot: 4                             | Planting Method: PLANTD planted               |                  |
| Row Spacing: 30 IN                           | Planting Equipment: FPP finger pickup planter |                  |
|  | Seed Bed: MEDIUM medium                       |                  |
| Soil Temperature: 60 F                       | Soil Moisture: SLIDRY slightly dry            |                  |
| Emergence Date: May-2-2024                   |   |                  |

### Pest Description

|  |                         |
|--|-------------------------|
| Pest 1 Type: W Code: SETFA Setaria faberi          | Entry Date: Jun-14-2024 |
| Common Name: Giant foxtail                         | Stage Scale: BBCH       |
| Pest 2 Type: W Code: AMBTR Ambrosia trifida        | Entry Date: Jun-14-2024 |
| Common Name: Giant ragweed                         | Stage Scale: BBCH       |
| Pest 3 Type: W Code: CHEAL Chenopodium album       | Entry Date: Jun-14-2024 |
| Common Name: common lambsquarters                  | Stage Scale: BBCH       |
| Pest 4 Type: W Code: AMARE Amaranthus retroflexus  | Entry Date: Jun-14-2024 |
| Common Name: Redroot pigweed                       | Stage Scale: BBCH       |
| Pest 5 Type: W Code: ABUTH Abutilon theophrasti    | Entry Date: Jun-14-2024 |
| Common Name: velvetleaf                            | Stage Scale: BBCH       |
| Pest 6 Type: W Code: POLPY Persicaria pensylvanica | Entry Date: Jun-14-2024 |
| Common Name: annual smartweed                      | Stage Scale: BBCH       |
| Pest 7 Type: W Code: SIDSP Sida spinosa            | Entry Date: Jun-14-2024 |
| Common Name: Prickly sida                          | Stage Scale: BBCH       |
| Pest 8 Type: W Code: IPOHE Ipomoea hederacea       | Entry Date: Jun-14-2024 |
| Common Name: ivy-leaf morning glory                | Stage Scale: BBCH       |

### 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 FT <sup>2</sup>           |   |
| Replications: 3                                    | Treatments: 10 Plots: 30                            |
| Distance between Blocks: 1 FT                      | Study Design: RAOBL Randomized Complete Block (RCB) |
| Distance between 'Plot' Experimental Units: 0.5 FT |   |

### Field Prep./Maintenance:

Conventional field preparation and maintenance

### Soil Description

|                            |                     |
|----------------------------|---------------------|
| Description Name: F-8 East | Texture: L loam     |
| % Sand: 37                 | Soil Name: Kokomo   |
| % OM: 2.7                  | Fert. Level: G good |
| % Silt: 48                 | CEC: 16.9           |
| % Clay: 15                 |                     |
| pH: 6                      |                     |

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### Application Description

|                                 |             |
|---------------------------------|-------------|
| Date                            | Apr-22-2024 |
| Start Time                      | 6:00 PM     |
| Stop Time                       | 6:20 PM     |
| Method                          | SPRAY       |
| Timing                          | PREEM       |
| Placement                       | BROSOI      |
| Entry Date                      | Apr-24-2024 |
| Air Temperature Start, Stop     | 60, 60 F    |
| % Relative Humidity Start, Stop | 30, 30      |
| Wind Velocity+Dir. Start        | 8 MPH, NE   |
| Wind Velocity+Dir. Stop         | 8 MPH, NE   |
| Wind Velocity+Dir. Max          | 10 MPH, NE  |
| Wet Leaves (Y/N)                | N, no       |
| Soil Temperature                | 60 F        |
| Soil Temperature Depth          | 6 IN        |
| Soil Moisture                   | SLIDRY      |
| Soil Surface Condition          | MED         |
| % Ground Cover                  | 0           |
| % Cloud Cover                   | 10          |
| First Moisture Occurred On      | Apr-23-2024 |
| Time to First Moisture          | 23.0 HR     |
| Amount of First Moisture        | 0.15 IN     |
| Moisture 1 Week Before Appl.    | 0.25 IN     |
| Moisture 6 Hours After Appl.    | 0 IN        |
| Moisture 24 Hours After Appl.   | 0.15 IN     |
| Moisture 1 Week After Appl.     | 0.65 IN     |
| Problems with Application?      | N, no       |

### Crop Stage At Each Application

|                         |             |
|-------------------------|-------------|
| Crop 1 Code, BBCH Scale | ZEAMX, BCOR |
| Days after Emergence    | -10         |

### Pest Stage At Each Application

|                          |                |
|--------------------------|----------------|
| Pest 1 Code, Type, Scale | SETFA, W, BBCH |
| Stage Majority, Percent  | 00, 100        |
| Relative Density         | HIGH           |
| Density Average          | 1250 m2        |
| Density Minimum, Maximum | 852, 1369      |
| Pest 2 Code, Type, Scale | AMBTR, W, BBCH |
| Relative Density         | HIGH           |
| Density Average          | 11 m2          |
| Density Minimum, Maximum | 4, 16          |
| Pest 3 Code, Type, Scale | CHEAL, W, BBCH |
| Relative Density         | HIGH           |
| Density Average          | 31 m2          |
| Density Minimum, Maximum | 1, 92          |
| Pest 4 Code, Type, Scale | AMARE, W, BBCH |
| Relative Density         | LOW            |
| Density Average          | 3 m2           |
| Density Minimum, Maximum | 0, 4           |
| Pest 5 Code, Type, Scale | ABUTH, W, BBCH |
| Relative Density         | MEDIUM         |
| Density Average          | 8 m2           |
| Density Minimum, Maximum | 0, 24          |
| Pest 6 Code, Type, Scale | POLPY, W, BBCH |
| Relative Density         | HIGH           |
| Density Average          | 31 m2          |
| Density Minimum, Maximum | 4, 40          |
| Pest 7 Code, Type, Scale | SIDSP, W, BBCH |
| Relative Density         | MEDIUM         |
| Density Average          | 17 m2          |
| Density Minimum, Maximum | 4, 24          |
| Pest 8 Code, Type, Scale | IPOHE, W, BBCH |
| Relative Density         | MEDIUM         |
| Density Average          | 8 m2           |
| Density Minimum, Maximum | 8, 8           |

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| Trt No. | Treatment Name           | Form Conc      | Form Unit         | Form Type | Rate Rate                   | Other Rate | Other Rate            | Other Unit | Appl Code | Appl Timing    | Rep 1 | Rep 2 | Rep 3 | Notes |
|---------|--------------------------|----------------|-------------------|-----------|-----------------------------|------------|-----------------------|------------|-----------|----------------|-------|-------|-------|-------|
| 3       | Stalwart 3W Lite         | 3.873          | LBA/GAL           | SC        | 2770 g ai/ha                | 2.55       | qt/a                  |            | A         | PREEM          | 101   | 208   | 305   |       |
| 9       | SA-0660001<br>Stalwart C | 500 g/L<br>7.8 | LBA/GAL           | SC        | 700 g ai/ha<br>1513 g ai/ha | 19.2       | fl oz/a<br>22 fl oz/a |            | A<br>A    | PREEM<br>PREEM | 102   | 205   | 303   |       |
| 5       | Zidua SC<br>SA-0072001   | 4.17<br>430    | LBA/GAL<br>g/L    | SC<br>EC  | 112 g ai/ha<br>2010 g ai/ha | 3.06       | oz/a<br>2 qt/a        |            | A<br>A    | PREEM<br>PREEM | 103   | 209   | 302   |       |
| 2       | Stalwart C               | 7.8            | LBA/GAL           | SC        | 1513 g ai/ha                | 22         | fl oz/a               |            | A         | PREEM          | 104   | 206   | 307   |       |
| 10      | SA-0660100               | 432            | g/L               | SC        | 880 g ai/ha                 | 28         | fl oz/a               |            | A         | PREEM          | 105   | 204   | 306   |       |
| 7       | Atrazine<br>Stalwart C   | 4<br>7.8       | LB/GAL<br>LBA/GAL | SC<br>SC  | 700 g ai/ha<br>1513 g ai/ha | 20         | fl oz/a<br>22 fl oz/a |            | A<br>A    | PREEM<br>PREEM | 106   | 203   | 308   |       |
| 4       | SA-0071003               | 2.848          | LBA/GAL           | SC        | 2400 g ai/ha                | 3          | qt/a                  |            | A         | PREEM          | 107   | 207   | 304   |       |
| 1       | Untreated Check          |                |                   |           |                             |            |                       |            |           |                | 108   | 201   | 309   |       |
| 8       | Atrazine<br>Stalwart C   | 4<br>7.8       | LB/GAL<br>LBA/GAL | SC<br>SC  | 880 g ai/ha<br>1513 g ai/ha | 25         | fl oz/a<br>22 fl oz/a |            | A<br>A    | PREEM<br>PREEM | 109   | 202   | 310   |       |
| 6       | Acuron                   | 3.440          | LBA/GAL           | ZC        | 2410 g ai/ha                | 2.5        | qt/a                  |            | A         | PREEM          | 110   | 210   | 301   |       |

Sort Order: Replicate 1