

Purdue Weed Science

| | | |
|-----------------------------|---|---------------------------------|
| Trial ID: 21S-MGS-SOY-14 | Valent Actives in a Roundup Xtend System - Reduced Tillage | |
| Protocol ID: 21S-MGS-SOY-14 | Location: MEIGS | Trial Year: 2021 |
| Project ID: | Investigator (Creator): Dr. Bill Johnson | Study Director: Brent Mansfield |
| | Sponsor Contact: | |

| General Trial Information | | | |
|---|-----------------------------------|----------------------------------|--|
| Study Director: Brent Mansfield | | Title: Research Associate | |
| Investigator: Dr. Bill Johnson | | Title: Professor | |
| Discipline: H | herbicide | Trial Status: E | established |
| | | Trial Reliability: | 1 usable data |
| ARM Trial Created On: 3/2/2022 | | | |
| Initiation Date: 5/27/2021 | | | |
| Trial Location | | | |
| City: Lafayette | Country: USA United States | | |
| State/Prov.: Indiana | | | |
| Latitude of LL Corner °: 40.268898 N | | | |
| Longitude of LL Corner °: -86.882346 W | | | |
| Conducted Under GLP: No | | | |
| Conducted Under GEP: No | | | |
| Study Rules: Default | | | |
| No. | Guideline | Discipline | Description |
| 1. | ADM-C-PUB | CO | Confidentiality - Public Trial - No Secrecy Agreement Required |

Objectives:
To compare Valent PREE and POST actives in a program approach in a Roundup Xten d cropping system. Fierce EZ (6 fl oz/A) and Fierce MTZ (1 pt/A) will be compared to university standards. Measures of success are weed control at 21, 42 & 56 D AP with acceptable crop response.

| | | | |
|--|--|---------------------------|--|
| Contacts | | | |
| Role: STYDIR study director | Title: Research Associate | | |
| Study Director: Brent Mansfield | | | |
| Organization: Purdue University | | | |
| Address 1: 915 W. State Street | | | |
| Country: USA United States | E-mail: brentmansfield@purdue.edu | | |
| City: West Lafayette | State/Prov: IN | Postal Code: 47907 | |
| Role: INVEST investigator | Title: Professor | | |
| Investigator: Dr. Bill Johnson | | | |
| 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 | |

| | | | |
|---|---|---------|--------------------------|
| Crop Description | | | |
| Crop 1: C | GLXMA Glycine max | Soybean | BBCH Scale: BSOY |
| Entry Date: 3/3/2022 | | | Stage Scale: BBCH |
| Variety: AG29XF1 | | | |
| Attributes: XtendFlex: GLY-R, GLU-R, dicamba-R | | | |
| Planting Date: 6/1/2021 | Planting Rate: 140000 | S/A | |
| Depth: 1.75 IN | Planting Method: PLANTD planted | | |
| Rows per Plot: 4 | Planting Equipment: PP plot planter | | |
| Row Spacing: 30 IN | Soil Moisture: NORMAL normal, adequate | | |
| Soil Temperature: 65 F | | | |
| Emergence Date: 6/8/2021 | | | |
| Harvest Date: 11/9/2021 | Harvested Width: 5 FT | | |
| % Standard Moisture: 13.0 | Harvested Length: 27 FT | | |

| | | | |
|---------------------------------------|--------------------|---------------------------|-----------------------------|
| Pest Description | | | |
| Pest 1 Type: W | Code: AMATA | Amaranthus x tamariscinus | Stage Scale: BBCH |
| Common Name: common water hemp | | | |
| Pest 2 Type: W | Code: ERICA | Erigeron canadensis | Stage Scale: BBCH |
| Common Name: mare's-tail | | | |
| Pest 3 Type: W | Code: SETFA | Setaria faberi | Entry Date: 3/3/2022 |
| Common Name: Giant foxtail | | | Stage Scale: BBCH |

Site and Design

Treated Plot Width: 6.67 FT

Treated Plot Length: 30 FT

Treated Plot Area: 200.1 FT² Treatments: 4

Replications: 4

Site Type: FIELD field

Experimental Unit: 1 PLOT plot

Tillage Type: NOTILL no-till

Study Design: RACOB L Randomized Complete Block (RCB)

Soil Description

Description Name: MEIGS-S5

% Sand: 27 % OM: 2.4

Texture: SIL silt loam

% Silt: 52

pH: 7.1

Soil Name: Starks-Fincastle complex

% Clay: 21

CEC: 9.3

Fert. Level: G good

| No. | Date | Moisture Total | Unit | Min Temp | Max Temp | Temp Unit |
|-----|-----------|----------------|------|----------|----------|-----------|
| 1. | 5/1/2021 | 0 | IN | 40 | 63 | F |
| 2. | 5/2/2021 | 0 | IN | 49 | 74 | F |
| 3. | 5/3/2021 | 0.26 | IN | 56 | 78 | F |
| 4. | 5/4/2021 | 0.01 | IN | 55 | 66 | F |
| 5. | 5/5/2021 | 0.04 | IN | 43 | 59 | F |
| 6. | 5/6/2021 | 0 | IN | 42 | 61 | F |
| 7. | 5/7/2021 | 0.25 | IN | 38 | 58 | F |
| 8. | 5/8/2021 | 0 | IN | 32 | 63 | F |
| 9. | 5/9/2021 | 1.43 | IN | 40 | 57 | F |
| 10. | 5/10/2021 | 0.37 | IN | 37 | 47 | F |
| 11. | 5/11/2021 | 0.09 | IN | 39 | 59 | F |
| 12. | 5/12/2021 | 0 | IN | 36 | 61 | F |
| 13. | 5/13/2021 | 0 | IN | 38 | 60 | F |
| 14. | 5/14/2021 | 0 | IN | 41 | 66 | F |
| 15. | 5/15/2021 | 0 | IN | 46 | 70 | F |
| 16. | 5/16/2021 | 0 | IN | 53 | 71 | F |
| 17. | 5/17/2021 | 0.35 | IN | 55 | 71 | F |
| 18. | 5/18/2021 | 0.12 | IN | 58 | 63 | F |
| 19. | 5/19/2021 | 0 | IN | 59 | 72 | F |
| 20. | 5/20/2021 | 0 | IN | 64 | 75 | F |
| 21. | 5/21/2021 | 0 | IN | 64 | 84 | F |
| 22. | 5/22/2021 | 0 | IN | 63 | 83 | F |
| 23. | 5/23/2021 | 0 | IN | 63 | 85 | F |
| 24. | 5/24/2021 | 0 | IN | 68 | 85 | F |
| 25. | 5/25/2021 | 0 | IN | 67 | 88 | F |
| 26. | 5/26/2021 | 0.32 | IN | 66 | 87 | F |
| 27. | 5/27/2021 | 0.19 | IN | 58 | 81 | F |
| 28. | 5/28/2021 | 0.08 | IN | 60 | 80 | F |
| 29. | 5/29/2021 | 0.47 | IN | 43 | 61 | F |
| 30. | 5/30/2021 | 0 | IN | 41 | 63 | F |
| 31. | 5/31/2021 | 0 | IN | 43 | 71 | F |
| 32. | 6/1/2021 | 0 | IN | 57 | 71 | F |
| 33. | 6/2/2021 | 0.04 | IN | 58 | 74 | F |
| 34. | 6/3/2021 | 0.03 | IN | 59 | 87 | F |
| 35. | 6/4/2021 | 0 | IN | 61 | 82 | F |
| 36. | 6/5/2021 | 0 | IN | 63 | 88 | F |
| 37. | 6/6/2021 | 0 | IN | 66 | 86 | F |
| 38. | 6/7/2021 | 0.01 | IN | 69 | 83 | F |
| 39. | 6/8/2021 | 0.1 | IN | 69 | 83 | F |
| 40. | 6/9/2021 | 0 | IN | 70 | 85 | F |
| 41. | 6/10/2021 | 0 | IN | 67 | 85 | F |
| 42. | 6/11/2021 | 0 | IN | 69 | 85 | F |
| 43. | 6/12/2021 | 0 | IN | 67 | 90 | F |
| 44. | 6/13/2021 | 0 | IN | 69 | 93 | F |
| 45. | 6/14/2021 | 0 | IN | 63 | 86 | F |
| 46. | 6/15/2021 | 0 | IN | 57 | 83 | F |
| 47. | 6/16/2021 | 0 | IN | 53 | 81 | F |
| 48. | 6/17/2021 | 0 | IN | 53 | 82 | F |

| | | | | | | |
|------|-----------|------|----|----|----|---|
| 49. | 6/18/2021 | 0.01 | IN | 61 | 86 | F |
| 50. | 6/19/2021 | 0.47 | IN | 67 | 93 | F |
| 51. | 6/20/2021 | 0 | IN | 67 | 81 | F |
| 52. | 6/21/2021 | 0.1 | IN | 70 | 86 | F |
| 53. | 6/22/2021 | 0 | IN | 49 | 72 | F |
| 54. | 6/23/2021 | 0 | IN | 54 | 74 | F |
| 55. | 6/24/2021 | 0 | IN | 60 | 77 | F |
| 56. | 6/25/2021 | 1.19 | IN | 63 | 79 | F |
| 57. | 6/26/2021 | 0.83 | IN | 70 | 81 | F |
| 58. | 6/27/2021 | 1.05 | IN | 69 | 85 | F |
| 59. | 6/28/2021 | 0.11 | IN | 69 | 86 | F |
| 60. | 6/29/2021 | 0 | IN | 72 | 88 | F |
| 61. | 6/30/2021 | 0 | IN | 72 | 89 | F |
| 62. | 7/1/2021 | 0.35 | IN | 70 | 78 | F |
| 63. | 7/2/2021 | 0 | IN | 55 | 82 | F |
| 64. | 7/3/2021 | 0 | IN | 53 | 75 | F |
| 65. | 7/4/2021 | 0 | IN | 57 | 78 | F |
| 66. | 7/5/2021 | 0 | IN | 67 | 85 | F |
| 67. | 7/6/2021 | 0 | IN | 68 | 86 | F |
| 68. | 7/7/2021 | 0 | IN | 71 | 86 | F |
| 69. | 7/8/2021 | 1.29 | IN | 67 | 86 | F |
| 70. | 7/9/2021 | 0.05 | IN | 59 | 80 | F |
| 71. | 7/10/2021 | 0.03 | IN | 61 | 73 | F |
| 72. | 7/11/2021 | 0.1 | IN | 65 | 76 | F |
| 73. | 7/12/2021 | 1.3 | IN | 66 | 76 | F |
| 74. | 7/13/2021 | 0.4 | IN | 67 | 82 | F |
| 75. | 7/14/2021 | 0.08 | IN | 65 | 79 | F |
| 76. | 7/15/2021 | 0 | IN | 66 | 82 | F |
| 77. | 7/16/2021 | 0.16 | IN | 69 | 86 | F |
| 78. | 7/17/2021 | 0.1 | IN | 66 | 78 | F |
| 79. | 7/18/2021 | 0.01 | IN | 66 | 80 | F |
| 80. | 7/19/2021 | 0 | IN | 61 | 83 | F |
| 81. | 7/20/2021 | 0 | IN | 61 | 82 | F |
| 82. | 7/21/2021 | 0 | IN | 64 | 83 | F |
| 83. | 7/22/2021 | 0 | IN | 64 | 79 | F |
| 84. | 7/23/2021 | 0 | IN | 67 | 83 | F |
| 85. | 7/24/2021 | 0 | IN | 71 | 86 | F |
| 86. | 7/25/2021 | 0 | IN | 69 | 87 | F |
| 87. | 7/26/2021 | 0 | IN | 65 | 88 | F |
| 88. | 7/27/2021 | 0 | IN | 62 | 87 | F |
| 89. | 7/28/2021 | 0 | IN | 66 | 86 | F |
| 90. | 7/29/2021 | 0 | IN | 70 | 87 | F |
| 91. | 7/30/2021 | 0 | IN | 65 | 88 | F |
| 92. | 7/31/2021 | 0 | IN | 62 | 78 | F |
| 93. | 8/1/2021 | 0 | IN | 57 | 73 | F |
| 94. | 8/2/2021 | 0 | IN | 52 | 80 | F |
| 95. | 8/3/2021 | 0 | IN | 54 | 77 | F |
| 96. | 8/4/2021 | 0 | IN | 55 | 80 | F |
| 97. | 8/5/2021 | 0 | IN | 54 | 81 | F |
| 98. | 8/6/2021 | 0 | IN | 61 | 83 | F |
| 99. | 8/7/2021 | 0 | IN | 67 | 82 | F |
| 100. | 8/8/2021 | 0 | IN | 67 | 85 | F |
| 101. | 8/9/2021 | 0 | IN | 69 | 86 | F |
| 102. | 8/10/2021 | 0 | IN | 71 | 80 | F |
| 103. | 8/11/2021 | 0 | IN | 74 | 90 | F |
| 104. | 8/12/2021 | 0.1 | IN | 75 | 88 | F |
| 105. | 8/13/2021 | 0.24 | IN | 67 | 78 | F |
| 106. | 8/14/2021 | 0 | IN | 60 | 86 | F |
| 107. | 8/15/2021 | 0 | IN | 53 | 81 | F |

Application Description

| | A | B |
|--|-----------|-----------|
| Application Date | 5/27/2021 | 6/29/2021 |
| Appl. Start Time | 9:40 AM | 3:15 PM |
| Appl. Stop Time | 9:55 AM | 3:25 PM |
| Application Method | SPRAY | SPRAY |
| Application Timing | PREPOS | POSPOS |
| Application Placement | BROFOL | BROADC |
| Appl. Entry Date | 3/3/2022 | 3/3/2022 |
| Air Temperature Start, Stop | 72, 72 F | 90, 90 F |
| % Relative Humidity Start, Stop | 67, 67 | 58, 58 |
| Wind Velocity+Dir. Start | 6 MPH, NE | 5 MPH, SW |
| Wet Leaves (Y/N) | Y, yes | N, no |
| Soil Temperature | 70 F | 82 F |
| Soil Moisture | SLIWET | NORMAL |
| % Cloud Cover | 50 | 70 |

Protocol Application Directions:

One burndown application fb one postemergence application, except for RPM fb RP treatment, which is two postemergence applications.

Crop Stage At Each Application

| | A | B |
|--------------------------------|-------------|-------------|
| Crop 1 Code, BBCH Scale | GLXMA, BSOY | GLXMA, BSOY |
| Days after Emergence | -12 | 21 |
| Stage Majority, Percent | 00, - | V3, - |
| Stage Minimum, Percent | 00, - | V2, - |
| Stage Maximum, Percent | 00, - | V3, - |
| Height Average | 0 IN | 8 IN |
| Height Minimum, Maximum | | 6, 9 |

Pest Stage At Each Application

| | A | B |
|---------------------------------|----------------|----------------|
| Pest 1 Code, Type, Scale | AMATA, W, BBCH | AMATA, W, BBCH |
| Stage Majority, Percent | 15, - | 18, - |
| Stage Minimum, Percent | 11, - | 14, - |
| Stage Maximum, Percent | 17, - | 19, - |
| Height Average | 1 IN | 5 IN |
| Height Minimum, Maximum | 0.25, 4 | 3, 7 |
| Density Average | 5 FT2 | 8 FT2 |
| Pest 2 Code, Type, Scale | ERICA, W, BBCH | ERICA, W, BBCH |
| Stage Majority, Percent | 19, - | 19, - |
| Stage Minimum, Percent | 15, - | 19, - |
| Stage Maximum, Percent | 19, - | 19, - |
| Height Average | 4 IN | 7 IN |
| Height Minimum, Maximum | 1, 12 | 4, 12 |
| Density Average | 7 FT2 | 9 FT2 |
| Pest 3 Code, Type, Scale | SETFA, W, BBCH | SETFA, W, BBCH |
| Stage Majority, Percent | 13, - | 16, - |
| Stage Minimum, Percent | 11, - | 14, - |
| Stage Maximum, Percent | 15, - | 16, - |
| Height Average | 4 IN | 8 IN |
| Height Minimum, Maximum | 0.25, 6 | 6, 12 |
| Density Average | 10 FT2 | 15 FT2 |

| Application Equipment | | |
|-------------------------------|--------------|---------------|
| | A | B |
| Appl. Equipment | CO2 BACKPACK | CO2 BACKPACK |
| Equipment Type | BACSPR | BACSPR |
| Operation Pressure | 25 PSI | 38 PSI |
| Nozzle Model | XR | TTI |
| Nozzle Type | FLAFXR | TEEJAI |
| Nozzle TradeName | TEEJET | TEEJET |
| Nozzle Tip Size, Color | 8002, YELLOW | 110015, GREEN |
| Nozzle Spacing | 20 IN | 20 IN |
| Nozzles/Row | 4 | 4 |
| 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 | 0 mL | 0 mL |
| Mix Size | 1119.0 mL | 1119.0 mL |
| Propellant | COMCO2 | COMCO2 |

Purdue Weed Science

Valent Actives in a Roundup Xtend System - Reduced Tillage

Trial ID: 21S-MGS-SOY-14
Protocol ID: 21S-MGS-SOY-14
Project ID:

Location: MEIGS
Investigator (Creator): Dr. Bill Johnson
Study Director: Brent Mansfield
Sponsor Contact:

Trial Year: 2021

| Trt No. | Treatment Name | Rate | Rate Unit | Appl Code | 1 | 2 | 3 | 4 |
|---------|-------------------------------|------------|-----------|-----------|-------|-------|--------|--------|
| 1 | NONTREATED | | | | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | | 0.0 - | 0.0 - | 91.3 b | 87.5 - |
| | XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | | | | | |
| | FIERCE EZ (2065) | 6 FL OZ/A | A | | | | | |
| | INDUCE | 0.25 % V/V | A | | | | | |
| | INTACT | 0.5 % V/V | A | | | | | |
| | VOLIMINATE | 20 FL OZ/A | A | | | | | |
| | ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | | | | | |
| | XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | | | | | |
| | PERPETUO | 6 FL OZ/A | B | | | | | |
| | INTACT | 0.5 % V/V | B | | | | | |
| | INDUCE | 0.25 % V/V | B | | | | | |
| | VOLIMINATE | 20 FL OZ/A | B | | | | | |
| 3 | ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | | 0.0 - | 0.0 - | 95.5 a | 91.3 - |
| | XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | | | | | |
| | FIERCE MTZ SC (2030) | 1 PT/A | A | | | | | |
| | INDUCE | 0.25 % V/V | A | | | | | |
| | INTACT | 0.5 % V/V | A | | | | | |
| | VOLIMINATE | 20 FL OZ/A | A | | | | | |
| | ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | | | | | |
| | XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | | | | | |
| | PERPETUO | 6 FL OZ/A | B | | | | | |
| | INTACT | 0.5 % V/V | B | | | | | |
| | INDUCE | 0.25 % V/V | B | | | | | |
| | VOLIMINATE | 20 FL OZ/A | 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.
 Untreated treatment(s) 1 excluded from analysis.
 Missing data estimates are included in columns: Average=10
 Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.
 ^Calculated from residual.

| Trt | Treatment No. | Rate | Appl | 1 | 2 | 3 | 4 |
|--------------------|-------------------------------|------------|------|--------|--------|--------|---------|
| | Name | Rate Unit | Code | | | | |
| 4 | ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | 0.0 - | 0.0 - | 95.0 a | 88.8 - |
| | XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | | | | |
| | FIERCE XLT (1868) | 4 OZ WT/A | A | | | | |
| | INDUCE | 0.25 % V/V | A | | | | |
| | INTACT | 0.5 % V/V | A | | | | |
| | VOLIMINATE | 20 FL OZ/A | A | | | | |
| | ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | | | | |
| | XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | | | | |
| | PERPETUO | 6 FL OZ/A | B | | | | |
| | INTACT | 0.5 % V/V | B | | | | |
| | INDUCE | 0.25 % V/V | B | | | | |
| | VOLIMINATE | 20 FL OZ/A | B | | | | |
| LSD P=.05 | | | | | | 2.84 | 5.94 |
| Standard Deviation | | | | 0.00 | 0.00 | 1.64 | 3.44 |
| CV | | | | 0.0 | 0.0 | 1.75 | 3.85 |
| Grand Mean | | | | 0.00 | 0.00 | 93.92 | 89.17 |
| Levene's F^ | | | | . | . | 0.149 | 2.192 |
| Levene's Prob(F) | | | | . | . | 0.863 | 0.168 |
| Rank X2 | | | | . | . | . | . |
| P(Rank X2) | | | | . | . | . | . |
| Skewness^ | | | | . | . | 0.8572 | -0.4173 |
| Kurtosis^ | | | | . | . | 0.7848 | -0.4295 |
| Replicate F | | | | 0.000 | 0.000 | 0.691 | 1.176 |
| Replicate Prob(F) | | | | 1.0000 | 1.0000 | 0.5902 | 0.3942 |
| Treatment F | | | | 0.000 | 0.000 | 8.010 | 1.235 |
| Treatment Prob(F) | | | | 1.0000 | 1.0000 | 0.0202 | 0.3554 |

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Missing data estimates are included in columns:Average=10
Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.
^Calculated from residual.

| | | | | |
|-------------------------------|------------------|------------------|------------------|------------------|
| Pest Type | W, Weed | W, Weed | W, Weed | W, Weed |
| Pest Code | SETFA | AMATA | ERICA | SETFA |
| Pest Scientific Name | Setaria faberi | Amaranthus x ta> | Erigeron canade> | Setaria faberi |
| Pest Name | Giant foxtail | common water he> | mare's-tail | Giant foxtail |
| Crop Type, Code | C, GLXM06 | C, GLXM06 | C, GLXM06 | C, GLXM06 |
| BBCH Scale | BSOY | BSOY | BSOY | BSOY |
| Crop Scientific Name | Glycine max GMO | Glycine max GMO | Glycine max GMO | Glycine max GMO |
| Crop Name | Soybean, Glyph.> | Soybean, Glyph.> | Soybean, Glyph.> | Soybean, Glyph.> |
| Rating Date | 6/17/2021 | 6/29/2021 | 6/29/2021 | 6/29/2021 |
| Part Rated | PLANT, P | PLANT, P | PLANT, P | PLANT, P |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit/Min/Max | % , 0, 100 | % , 0, 100 | % , 0, 100 | % , 0, 100 |
| Sample Size | | | | |
| Number of Subsamples | 1 | 1 | 1 | 1 |
| Data Entry Date | 3/3/2022 | 3/3/2022 | 3/3/2022 | 3/3/2022 |
| Days After First/Last Applic. | 21, 21 | 33, 33 | 33, 33 | 33, 33 |
| Plant-Eval Interval | 16 DP-1 | 28 DP-1 | 28 DP-1 | 28 DP-1 |
| Days After Emergence | 9 DE-1 | 21 DE-1 | 21 DE-1 | 21 DE-1 |
| ARM Action Codes | | | | |
| Number of Decimals | | | | |
| Trt Treatment | Rate | Appl | | |
| No. Name | Rate Unit | Code | | |
| 1 NONTREATED | | | 5 | 6 |
| | | | | 7 |
| | | | | 8 |
| | | | 0.0 | 0.0 |
| | | | 0.0 | 0.0 |
| 2 ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | 99.3 - | 82.5 b |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | | 86.3 - |
| FIERCE EZ (2065) | 6 FL OZ/A | A | | 94.3 - |
| INDUCE | 0.25 % V/V | A | | |
| INTACT | 0.5 % V/V | A | | |
| VOLIMINATE | 20 FL OZ/A | A | | |
| ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | | |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | | |
| PERPETUO | 6 FL OZ/A | B | | |
| INTACT | 0.5 % V/V | B | | |
| INDUCE | 0.25 % V/V | B | | |
| VOLIMINATE | 20 FL OZ/A | B | | |
| 3 ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | 100.0 - | 91.3 a |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | | 90.0 - |
| FIERCE MTZ SC (2030) | 1 PT/A | A | | 95.5 - |
| INDUCE | 0.25 % V/V | A | | |
| INTACT | 0.5 % V/V | A | | |
| VOLIMINATE | 20 FL OZ/A | A | | |
| ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | | |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | | |
| PERPETUO | 6 FL OZ/A | B | | |
| INTACT | 0.5 % V/V | B | | |
| INDUCE | 0.25 % V/V | B | | |
| VOLIMINATE | 20 FL OZ/A | 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.
Untreated treatment(s) 1 excluded from analysis.
Missing data estimates are included in columns: Average=10
Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.
^Calculated from residual.

| Pest Type | W, Weed | W, Weed | W, Weed | W, Weed | | |
|-------------------------------|------------------|------------------|------------------|------------------|---------|---------|
| Pest Code | SETFA | AMATA | ERICA | SETFA | | |
| Pest Scientific Name | Setaria faberi | Amaranthus x ta> | Erigeron canade> | Setaria faberi | | |
| Pest Name | Giant foxtail | common water he> | mare's-tail | Giant foxtail | | |
| Crop Type, Code | C, GLXM06 | C, GLXM06 | C, GLXM06 | C, GLXM06 | | |
| BBCH Scale | BSOY | BSOY | BSOY | BSOY | | |
| Crop Scientific Name | Glycine max GMO | Glycine max GMO | Glycine max GMO | Glycine max GMO | | |
| Crop Name | Soybean, Glyph.> | Soybean, Glyph.> | Soybean, Glyph.> | Soybean, Glyph.> | | |
| Rating Date | 6/17/2021 | 6/29/2021 | 6/29/2021 | 6/29/2021 | | |
| Part Rated | PLANT, P | PLANT, P | PLANT, P | PLANT, P | | |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO | | |
| Rating Unit/Min/Max | %, 0, 100 | %, 0, 100 | %, 0, 100 | %, 0, 100 | | |
| Sample Size | | | | | | |
| Number of Subsamples | 1 | 1 | 1 | 1 | | |
| Data Entry Date | 3/3/2022 | 3/3/2022 | 3/3/2022 | 3/3/2022 | | |
| Days After First/Last Applic. | 21, 21 | 33, 33 | 33, 33 | 33, 33 | | |
| Plant-Eval Interval | 16 DP-1 | 28 DP-1 | 28 DP-1 | 28 DP-1 | | |
| Days After Emergence | 9 DE-1 | 21 DE-1 | 21 DE-1 | 21 DE-1 | | |
| ARM Action Codes | | | | | | |
| Number of Decimals | | | | | | |
| Trt Treatment | Rate | Appl | 5 | 6 | 7 | 8 |
| No. Name | Rate Unit | Code | | | | |
| 4 ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | 99.3 - | 90.0 a | 88.8 - | 94.0 - |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | | | | |
| FIERCE XLT (1868) | 4 OZ WT/A | A | | | | |
| INDUCE | 0.25 % V/V | A | | | | |
| INTACT | 0.5 % V/V | A | | | | |
| VOLIMINATE | 20 FL OZ/A | A | | | | |
| ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | | | | |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | | | | |
| PERPETUO | 6 FL OZ/A | B | | | | |
| INTACT | 0.5 % V/V | B | | | | |
| INDUCE | 0.25 % V/V | B | | | | |
| VOLIMINATE | 20 FL OZ/A | B | | | | |
| LSD P=.05 | | | 2.29 | 5.94 | 5.94 | 3.52 |
| Standard Deviation | | | 1.32 | 3.44 | 3.44 | 2.03 |
| CV | | | 1.33 | 3.91 | 3.89 | 2.15 |
| Grand Mean | | | 99.50 | 87.92 | 88.33 | 94.58 |
| Levene's F^ | | | 0.136 | 0.145 | 2.192 | 0.128 |
| Levene's Prob(F) | | | 0.874 | 0.867 | 0.168 | 0.882 |
| Rank X2 | | | . | . | . | . |
| P(Rank X2) | | | . | . | . | . |
| Skewness^ | | | -0.7896 | 0.8345 | 0.4173 | -0.4985 |
| Kurtosis^ | | | 0.101 | 0.5601 | -0.4295 | -0.0857 |
| Replicate F | | | 0.571 | 0.647 | 1.882 | 0.718 |
| Replicate Prob(F) | | | 0.6542 | 0.6128 | 0.2335 | 0.5765 |
| Treatment F | | | 0.429 | 7.588 | 1.235 | 0.624 |
| Treatment Prob(F) | | | 0.6699 | 0.0227 | 0.3554 | 0.5672 |

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.
Untreated treatment(s) 1 excluded from analysis.
Missing data estimates are included in columns:Average=10
Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.
^Calculated from residual.

| | | | |
|-------------------------------|------------------|------------------|------------------|
| Pest Type | | | |
| Pest Code | | | |
| Pest Scientific Name | | | |
| Pest Name | | | |
| Crop Type, Code | C, GLXM06 | C, GLXM06 | C, GLXM06 |
| BBCH Scale | BSOY | BSOY | BSOY |
| Crop Scientific Name | Glycine max GMO | Glycine max GMO | Glycine max GMO |
| Crop Name | Soybean, Glyph.> | Soybean, Glyph.> | Soybean, Glyph.> |
| Rating Date | 11/9/2021 | 11/9/2021 | 11/9/2021 |
| Part Rated | PLANT, C | PLANT, C | PLANT, C |
| Rating Type | WEIGHT | MOICÓN | YIELD |
| Rating Unit/Min/Max | #, -, - | %, 0, 100 | BU, -, - |
| Sample Size | 1 PLOT | | 1 A |
| Number of Subsamples | 1 | 1 | 1 |
| Data Entry Date | 3/3/2022 | 3/3/2022 | |
| Days After First/Last Applic. | 166, 133 | 166, 133 | 166, 133 |
| Plant-Eval Interval | 161 DP-1 | 161 DP-1 | 161 DP-1 |
| Days After Emergence | 154 DE-1 | 154 DE-1 | 154 DE-1 |
| ARM Action Codes | | | TY1 |
| Number of Decimals | | | 1 |
| Trt Treatment | Rate | Appl | |
| No. Name | Rate Unit | Code | |
| 1 NONTREATED | | | 9 |
| 2 ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | 10 |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | |
| FIERCE EZ (2065) | 6 FL OZ/A | A | |
| INDUCE | 0.25 % V/V | A | |
| INTACT | 0.5 % V/V | A | |
| VOLIMINATE | 20 FL OZ/A | A | |
| ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | |
| PERPETUO | 6 FL OZ/A | B | |
| INTACT | 0.5 % V/V | B | |
| INDUCE | 0.25 % V/V | B | |
| VOLIMINATE | 20 FL OZ/A | B | |
| 3 ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | 11 |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | |
| FIERCE MTZ SC (2030) | 1 PT/A | A | |
| INDUCE | 0.25 % V/V | A | |
| INTACT | 0.5 % V/V | A | |
| VOLIMINATE | 20 FL OZ/A | A | |
| ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | |
| PERPETUO | 6 FL OZ/A | B | |
| INTACT | 0.5 % V/V | B | |
| INDUCE | 0.25 % V/V | B | |
| VOLIMINATE | 20 FL OZ/A | B | |
| | | | 9 |
| | | | 10 |
| | | | 11 |
| | | | 1.280 |
| | | | 5.155 |
| | | | 7.3 |
| | | | 7.115 - |
| | | | 14.623 - |
| | | | 37.6 - |
| | | | 8.040 - |
| | | | 13.510 - |
| | | | 43.0 - |

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.
Untreated treatment(s) 1 excluded from analysis.
Missing data estimates are included in columns: Average=10
Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.
^Calculated from residual.

| | | | |
|-------------------------------|------------------|------------------|------------------|
| Pest Type | | | |
| Pest Code | | | |
| Pest Scientific Name | | | |
| Pest Name | | | |
| Crop Type, Code | C, GLXM06 | C, GLXM06 | C, GLXM06 |
| BBCH Scale | BSOY | BSOY | BSOY |
| Crop Scientific Name | Glycine max GMO | Glycine max GMO | Glycine max GMO |
| Crop Name | Soybean, Glyph.> | Soybean, Glyph.> | Soybean, Glyph.> |
| Rating Date | 11/9/2021 | 11/9/2021 | 11/9/2021 |
| Part Rated | PLANT, C | PLANT, C | PLANT, C |
| Rating Type | WEIGHT | MOICON | YIELD |
| Rating Unit/Min/Max | #, -, - | %, 0, 100 | BU, -, - |
| Sample Size | 1 PLOT | | 1 A |
| Number of Subsamples | 1 | 1 | 1 |
| Data Entry Date | 3/3/2022 | 3/3/2022 | |
| Days After First/Last Applic. | 166, 133 | 166, 133 | 166, 133 |
| Plant-Eval Interval | 161 DP-1 | 161 DP-1 | 161 DP-1 |
| Days After Emergence | 154 DE-1 | 154 DE-1 | 154 DE-1 |
| ARM Action Codes | | | TY1 |
| Number of Decimals | | | 1 |
| Trt Treatment | | | |
| No. Name | Rate | Appl | |
| | Rate Unit | Code | |
| | | | 9 |
| | | | 10 |
| | | | 11 |
| 4 ROUNDUP POWER MAX(S) | 32 FL OZ/A | A | |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | A | |
| FIERCE XLT (1868) | 4 OZ WT/A | A | |
| INDUCE | 0.25 % V/V | A | |
| INTACT | 0.5 % V/V | A | |
| VOLIMINATE | 20 FL OZ/A | A | |
| ROUNDUP POWER MAX(S) | 32 FL OZ/A | B | |
| XTENDIMAX WITH VAPORGRIP TECH | 22 FL OZ/A | B | |
| PERPETUO | 6 FL OZ/A | B | |
| INTACT | 0.5 % V/V | B | |
| INDUCE | 0.25 % V/V | B | |
| VOLIMINATE | 20 FL OZ/A | B | |
| LSD P=.05 | | | 1.4144 |
| Standard Deviation | | | 0.8175 |
| CV | | | 10.82 |
| Grand Mean | | | 7.5583 |
| Levene's F^ | | | 0.292 |
| Levene's Prob(F) | | | 0.753 |
| Rank X2 | | | . |
| P(Rank X2) | | | . |
| Skewness^ | | | 0.2917 |
| Kurtosis^ | | | -0.0076 |
| Replicate F | | | 13.923 |
| Replicate Prob(F) | | | 0.0041 |
| Treatment F | | | 1.287 |
| Treatment Prob(F) | | | 0.3427 |
| | | | 3.8438 |
| | | | 1.7081 |
| | | | 12.11 |
| | | | 14.1011 |
| | | | 0.811 |
| | | | 0.488 |
| | | | . |
| | | | . |
| | | | 0.001 |
| | | | -0.4438 |
| | | | 7.70 |
| | | | 4.45 |
| | | | 11.08 |
| | | | 40.17 |
| | | | 0.517 |
| | | | 0.613 |
| | | | . |
| | | | . |
| | | | 0.189 |
| | | | 0.2338 |
| | | | 13.742 |
| | | | 0.0043 |
| | | | 1.501 |
| | | | 0.2962 |

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.
Untreated treatment(s) 1 excluded from analysis.
Missing data estimates are included in columns:Average=10
Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.
^Calculated from residual.

Purdue Weed Science

Valent Actives in a Roundup Xtend System - Reduced Tillage

Trial ID: 21S-MGS-SOY-14
Protocol ID: 21S-MGS-SOY-14
Project ID:

Location: MEIGS Trial Year: 2021
Investigator (Creator): Dr. Bill Johnson
Study Director: Brent Mansfield
Sponsor Contact:

Pest Type

W, Weed = Weed or volunteer crop

Pest Code

AMATA, Amaranthus x tamariscinus, common water hemp = US

ERICA, Erigeron canadensis, mare's-tail = US

SETFA, Setaria faberi, Giant foxtail = US

Crop Type, Code

C = EPP0 species (Bayer) codes

Part Rated

PLANT = plant

C = Crop is Part Rated

P = Pest is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

WEIGHT = weight

MOICON = moisture content

YIELD = yield

Rating Unit/Min/Max

%, 0, 100 = percent

BU, , = bushel

PLOT = total plot

A = acre

Plant-Eval Interval

16 DP-1 = 1 GLXMA 6/1/2021

28 DP-1 = 1 GLXMA 6/1/2021

161 DP-1 = 1 GLXMA 6/1/2021

ARM Action Codes

TY1 = 5.37777778*[9]*(100-@MVAVGREP([10]))/87