

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY Location: Western Branch F-7 Trial Year: 2020
 Protocol ID: 20VALENTLLSOY Investigator: Dr. Mark M. Loux
 Project ID: FIERCEMD64.01 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

General Trial Information

Study Director: Anthony Dobbels
Investigator: Dr. Mark M. Loux

Trial Status: E established

ARM Trial Created On: Mar-27-2020

Initiation Date: May-7-2020

Trial Location

Address (Location): 7721 South Charleston Pike
City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368

Latitude of LL Corner °: 39.86074 N
Longitude of LL Corner °: -83.66978 W
Altitude of LL Corner: 1052.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Anthony Dobbels

Investigator: Dr. Mark M. Loux

Crop Description

| | | | |
|------------------|---|--------------------------------|-------------------------|
| Crop 1: C | GLXMA Glycine max | Soybean | BBCH Scale: BSOY |
| | Entry Date: May-14-2020 | Stage Scale: BBCH | |
| | Variety: Seed Consultants SC7370E | | |
| | Attributes: 2,4-D Choline, Glyphosate, Glufosinate TOL | | |
| | Planting Date: May-13-2020 | Planting Rate: 160000 | S/A |
| | Depth: 2 IN | Planting Method: PLANTD | planted |
| | Rows per Plot: 4 | Planting Equipment: FE | field equipment |
| | Row Spacing: 30 IN | Seed Bed: MEDIUM | medium |
| | Soil Temperature: 62 F | Soil Moisture: NORMAL | normal, adequate |
| | Emergence Date: May-25-2020 | | |

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Pest Description

- Pest 1 Type:** W **Code:** SETFA *Setaria faberi*
Common Name: Giant foxtail **Entry Date:** Jun-9-2020
- Pest 2 Type:** W **Code:** SETPU *Setaria helvola*
Common Name: yellow foxtail **Entry Date:** Jun-9-2020
- Pest 3 Type:** W **Code:** AMBTR *Ambrosia trifida*
Common Name: ragweed, giant **Entry Date:** Jun-9-2020
- Pest 4 Type:** W **Code:** CHEAL *Chenopodium album*
Common Name: lambsquarters, common **Entry Date:** Jun-9-2020
- Pest 5 Type:** W **Code:** AMARE *Amaranthus retroflexus*
Common Name: Redroot pigweed **Entry Date:** Jun-9-2020
- Pest 6 Type:** W **Code:** HIBTR *Hibiscus trionum*
Common Name: mallow, Venice **Entry Date:** Jun-9-2020
- Pest 7 Type:** W **Code:** ABUTH *Abutilon theophrasti*
Common Name: velvetleaf **Entry Date:** Jun-9-2020
- Pest 8 Type:** W **Code:** POLPY *Persicaria pensylvanica*
Common Name: annual smartweed **Entry Date:** Jun-9-2020
- Pest 9 Type:** W **Code:** AMBEL *Ambrosia artemisiifolia*
Common Name: Common ragweed **Entry Date:** Jun-25-2020
- Pest10 Type:** W **Code:** POLPE *Polygonum persicaria*
Common Name: ladythumb **Entry Date:** Jun-25-2020
- Pest11 Type:** W **Code:** SIDSP *Sida spinosa*
Common Name: sida, prickly **Entry Date:** Jun-25-2020
- Pest12 Type:** W **Code:** ECHCG *Echinochloa crus-galli*
Common Name: barnyardgrass **Entry Date:** Jun-25-2020
- Pest13 Type:** W **Code:** SOLPT *Solanum ptychanthum*
Common Name: nightshade, eastern black **Entry Date:** Jun-25-2020

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 **Treatments:** 10 **Tillage Type:** CONTIL conventional-till
Replications: 3 **Study Design:** RACOBL Randomized Complete Block (RCB)

Previous

- No. Crop Year**
- 1. SOYBEAN 2019

Soil Description

Description Name: F-7 East
% Sand: 37 **% OM:** 2.8 **Texture:** SICL silty clay loam
% Silt: 48 **pH:** 5.7 **Soil Name:** Crosby
% Clay: 15 **CEC:** 11.8 **Fert. Level:** G good
Soil Drainage: G good

Weather Conditions

Overall Moisture Conditions: SLIDRY slightly dry
Closest Weather Station: Western Branch OARDC **Distance:** 500 FT

| No. | Date | Moisture Total | Unit | Min Temp | Max Temp | Avg Temp | Temp Unit | % Relative Humidity | Avg Shortwave Radiation | Avg Unit | Soil Temp | Unit |
|-----|-------------|----------------|------|----------|----------|----------|-----------|---------------------|-------------------------|----------|-----------|------|
| 1. | Apr-1-2020 | 0 | IN | 38.7 | 50.7 | 43.1 | F | 88 | 217.52 | W/m2 | 49.1 | F |
| 2. | Apr-2-2020 | 0 | IN | 34.2 | 60.5 | 46.9 | F | 75 | 551.52 | W/m2 | 50.4 | F |
| 3. | Apr-3-2020 | 0 | IN | 35.1 | 68.4 | 51.2 | F | 65 | 545.36 | W/m2 | 51.4 | F |
| 4. | Apr-4-2020 | 0 | IN | 42.7 | 70.7 | 55.5 | F | 57 | 388.68 | W/m2 | 52.5 | F |
| 5. | Apr-5-2020 | 0 | IN | 41.3 | 52.8 | 48.4 | F | 92 | 141.07 | W/m2 | 53.5 | F |
| 6. | Apr-6-2020 | 0.01 | IN | 34.6 | 67.4 | 50.1 | F | 78 | 572.11 | W/m2 | 52.5 | F |
| 7. | Apr-7-2020 | 0 | IN | 49.5 | 77.5 | 63.7 | F | 76 | 421.98 | W/m2 | 56.3 | F |
| 8. | Apr-8-2020 | 1.8 | IN | 55.2 | 76.2 | 65.2 | F | 72 | 519.27 | W/m2 | 60.7 | F |
| 9. | Apr-9-2020 | 0.01 | IN | 33.9 | 56.4 | 47.9 | F | 74 | 455.71 | W/m2 | 58.7 | F |
| 10. | Apr-10-2020 | 0.01 | IN | 32 | 45.3 | 38 | F | 76 | 271.17 | W/m2 | 52.2 | F |

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| | | | | | | | | | | | | |
|-----|-------------|------|----|------|------|------|---|----|--------|------|------|---|
| 11. | Apr-11-2020 | 0 | IN | 30.4 | 58.6 | 44.4 | F | 67 | 353.95 | W/m2 | 50.4 | F |
| 12. | Apr-12-2020 | 0.26 | IN | 44.4 | 65.8 | 53.1 | F | 76 | 225.82 | W/m2 | 51.9 | F |
| 13. | Apr-13-2020 | 0.51 | IN | 38.5 | 58.2 | 47.6 | F | 89 | 151.93 | W/m2 | 53.3 | F |
| 14. | Apr-14-2020 | 0 | IN | 29.1 | 47.1 | 38 | F | 63 | 401.04 | W/m2 | 50.4 | F |
| 15. | Apr-15-2020 | 0.04 | IN | 26.2 | 50.5 | 35.8 | F | 74 | 438.93 | W/m2 | 47.4 | F |
| 16. | Apr-16-2020 | 0 | IN | 25.1 | 50.2 | 37.4 | F | 66 | 640.67 | W/m2 | 47.8 | F |
| 17. | Apr-17-2020 | 0.36 | IN | 36.8 | 47.4 | 41.9 | F | 83 | 79.02 | W/m2 | 48.1 | F |
| 18. | Apr-18-2020 | 0 | IN | 33.7 | 53.8 | 41.9 | F | 79 | 467.6 | W/m2 | 49 | F |
| 19. | Apr-19-2020 | 0 | IN | 36.2 | 58.4 | 46.8 | F | 76 | 267.72 | W/m2 | 48.9 | F |
| 20. | Apr-20-2020 | 0 | IN | 37.8 | 62.4 | 51.5 | F | 58 | 604.37 | W/m2 | 52.3 | F |
| 21. | Apr-21-2020 | 0 | IN | 31.8 | 53.6 | 48 | F | 54 | 652.72 | W/m2 | 54.4 | F |
| 22. | Apr-22-2020 | 0 | IN | 26.7 | 61.1 | 44.8 | F | 58 | 450.05 | W/m2 | 51.5 | F |
| 23. | Apr-23-2020 | 0.1 | IN | 46.8 | 55.5 | 52 | F | 87 | 136.92 | W/m2 | 52.2 | F |
| 24. | Apr-24-2020 | 0.01 | IN | 46.4 | 64.8 | 54.5 | F | 84 | 495.37 | W/m2 | 55.5 | F |
| 25. | Apr-25-2020 | 0.08 | IN | 48.2 | 67.7 | 57.2 | F | 77 | 477.55 | W/m2 | 57 | F |
| 26. | Apr-26-2020 | 0.68 | IN | 40.7 | 50.5 | 46.2 | F | 94 | 62.95 | W/m2 | 54.3 | F |
| 27. | Apr-27-2020 | 0 | IN | 33.7 | 64.1 | 49.8 | F | 72 | 622.81 | W/m2 | 52.7 | F |
| 28. | Apr-28-2020 | 0.03 | IN | 51.3 | 74 | 61.7 | F | 69 | 469.53 | W/m2 | 57.3 | F |
| 29. | Apr-29-2020 | 0.25 | IN | 50.7 | 67.5 | 58.7 | F | 80 | 134.28 | W/m2 | 57.9 | F |
| 30. | Apr-30-2020 | 0.09 | IN | 43.9 | 51.4 | 47.1 | F | 93 | 137.21 | W/m2 | 55 | F |
| 31. | May-1-2020 | 0.01 | IN | 44.6 | 67.2 | 52.2 | F | 82 | 419.18 | W/m2 | 55.6 | F |
| 32. | May-2-2020 | 0 | IN | 49.5 | 80.1 | 64.3 | F | 70 | 547.43 | W/m2 | 59 | F |
| 33. | May-3-2020 | 0.36 | IN | 48.7 | 73.2 | 62.9 | F | 84 | 228.48 | W/m2 | 61.3 | F |
| 34. | May-4-2020 | 0.01 | IN | 42.9 | 61.9 | 53.4 | F | 70 | 625.71 | W/m2 | 60.2 | F |
| 35. | May-5-2020 | 0.03 | IN | 38.8 | 51.4 | 46.6 | F | 65 | 157.58 | W/m2 | 57.7 | F |
| 36. | May-6-2020 | 0.02 | IN | 36.3 | 60.2 | 46.5 | F | 66 | 603.56 | W/m2 | 56.7 | F |
| 37. | May-7-2020 | 0 | IN | 34.7 | 68.5 | 52.7 | F | 56 | 540.58 | W/m2 | 56.5 | F |
| 38. | May-8-2020 | 0.24 | IN | 34.1 | 55.1 | 47.3 | F | 74 | 216.25 | W/m2 | 56.1 | F |
| 39. | May-9-2020 | 0 | IN | 26.3 | 53.4 | 40.2 | F | 58 | 617.34 | W/m2 | 53.4 | F |
| 40. | May-10-2020 | 0.16 | IN | 37.4 | 64.5 | 47.4 | F | 68 | 390.11 | W/m2 | 53.6 | F |
| 41. | May-11-2020 | 0 | IN | 36.5 | 47.8 | 41.7 | F | 80 | 214.69 | W/m2 | 52.9 | F |
| 42. | May-12-2020 | 0 | IN | 31.5 | 59.5 | 46.3 | F | 66 | 532.99 | W/m2 | 52.6 | F |
| 43. | May-13-2020 | 0 | IN | 36.4 | 65.4 | 52.3 | F | 58 | 646.09 | W/m2 | 55.4 | F |
| 44. | May-14-2020 | 0.25 | IN | 53.4 | 78 | 61 | F | 86 | 323.91 | W/m2 | 58.6 | F |
| 45. | May-15-2020 | 0.33 | IN | 58.5 | 74.2 | 65.2 | F | 86 | 286.79 | W/m2 | 60.4 | F |
| 46. | May-16-2020 | 0 | IN | 55.7 | 74 | 64.9 | F | 87 | 483.52 | W/m2 | 63 | F |
| 47. | May-17-2020 | 0.03 | IN | 61.9 | 82.7 | 70.2 | F | 74 | 378.7 | W/m2 | 65 | F |
| 48. | May-18-2020 | 0.68 | IN | 61.9 | 72.8 | 66.9 | F | 91 | 167.56 | W/m2 | 65.5 | F |
| 49. | May-19-2020 | 1.17 | IN | 53.1 | 62.1 | 58.9 | F | 97 | 115.45 | W/m2 | 63.1 | F |
| 50. | May-20-2020 | 0.06 | IN | 47.2 | 55.9 | 51.3 | F | 91 | 352.02 | W/m2 | 60.2 | F |
| 51. | May-21-2020 | 0.12 | IN | 52.1 | 61.1 | 56 | F | 94 | 166.56 | W/m2 | 59.4 | F |
| 52. | May-22-2020 | 0.03 | IN | 57.8 | 75 | 63.7 | F | 87 | 432.27 | W/m2 | 63.3 | F |
| 53. | May-23-2020 | 0.1 | IN | 53.2 | 80.8 | 67.4 | F | 84 | 565.38 | W/m2 | 66.2 | F |
| 54. | May-24-2020 | 0.01 | IN | 62.7 | 86.8 | 74.4 | F | 80 | 577.28 | W/m2 | 69.9 | F |
| 55. | May-25-2020 | 0 | IN | 64.8 | 86.1 | 73.9 | F | 79 | 540.1 | W/m2 | 72.1 | F |
| 56. | May-26-2020 | 0.01 | IN | 65.8 | 87.5 | 76.8 | F | 72 | 624.34 | W/m2 | 73 | F |
| 57. | May-27-2020 | 0 | IN | 68.3 | 84.1 | 75.1 | F | 73 | 448.33 | W/m2 | 73.1 | F |
| 58. | May-28-2020 | 0.09 | IN | 65 | 81.7 | 73.1 | F | 78 | 546.66 | W/m2 | 72.7 | F |
| 59. | May-29-2020 | 0.86 | IN | 58.4 | 76.4 | 67.1 | F | 90 | 299.91 | W/m2 | 70.8 | F |
| 60. | May-30-2020 | 0 | IN | 55.3 | 73.4 | 63 | F | 74 | 550.78 | W/m2 | 68.5 | F |
| 61. | May-31-2020 | 0 | IN | 48.8 | 69.3 | 58.8 | F | 60 | 740.86 | W/m2 | 67.5 | F |
| 62. | Jun-1-2020 | 0 | IN | 42.8 | 66.6 | 54.5 | F | 67 | 239.11 | W/m2 | 64.4 | F |
| 63. | Jun-2-2020 | 0 | IN | 59.3 | 87.6 | 74.1 | F | 52 | 688.25 | W/m2 | 68.9 | F |
| 64. | Jun-3-2020 | 0 | IN | 67.4 | 89.3 | 77 | F | 63 | 506.38 | W/m2 | 71.4 | F |
| 65. | Jun-4-2020 | 0.01 | IN | 66.4 | 85.8 | 74.2 | F | 82 | 460.17 | W/m2 | 72.7 | F |
| 66. | Jun-5-2020 | 0 | IN | 67.1 | 90.7 | 77.4 | F | 72 | 586.91 | W/m2 | 74.6 | F |
| 67. | Jun-6-2020 | 0 | IN | 65.2 | 90.3 | 77.3 | F | 62 | 640.25 | W/m2 | 75.5 | F |
| 68. | Jun-7-2020 | 0 | IN | 59.5 | 80.2 | 70.5 | F | 53 | 728.61 | W/m2 | 74.5 | F |
| 69. | Jun-8-2020 | 0 | IN | 59.9 | 84.7 | 72.3 | F | 49 | 706.55 | W/m2 | 73.6 | F |
| 70. | Jun-9-2020 | 0.14 | IN | 65.3 | 92.5 | 77.9 | F | 64 | 581.35 | W/m2 | 74 | F |
| 71. | Jun-10-2020 | 0.16 | IN | 69 | 91.6 | 78.2 | F | 77 | 447.67 | W/m2 | 74.9 | F |
| 72. | Jun-11-2020 | 0 | IN | 59.3 | 82.6 | 70.6 | F | 63 | 722.8 | W/m2 | 73.6 | F |
| 73. | Jun-12-2020 | 0 | IN | 57.8 | 82.5 | 70.9 | F | 52 | 730.03 | W/m2 | 72.9 | F |
| 74. | Jun-13-2020 | 0.07 | IN | 56.9 | 68.8 | 62.5 | F | 77 | 276.75 | W/m2 | 70.4 | F |
| 75. | Jun-14-2020 | 0 | IN | 52.7 | 71.9 | 61 | F | 56 | 554.23 | W/m2 | 68.3 | F |
| 76. | Jun-15-2020 | 0 | IN | 53.4 | 75.2 | 64.5 | F | 69 | 487.16 | W/m2 | 68.7 | F |
| 77. | Jun-16-2020 | 0 | IN | 56.3 | 79 | 69.5 | F | 65 | 609.77 | W/m2 | 69.8 | F |
| 78. | Jun-17-2020 | 0 | IN | 57.9 | 80.3 | 70.1 | F | 61 | 577.37 | W/m2 | 70.5 | F |
| 79. | Jun-18-2020 | 0.26 | IN | 62.6 | 81.7 | 69.4 | F | 76 | 436.62 | W/m2 | 71.3 | F |
| 80. | Jun-19-2020 | 0 | IN | 61.2 | 88.9 | 73.2 | F | 75 | 688.99 | W/m2 | 72.9 | F |
| 81. | Jun-20-2020 | 0 | IN | 62 | 93.5 | 78.3 | F | 63 | 680.99 | W/m2 | 74.8 | F |
| 82. | Jun-21-2020 | 0.01 | IN | 67.5 | 91.7 | 77.1 | F | 71 | 566.07 | W/m2 | 75.9 | F |
| 83. | Jun-22-2020 | 0.04 | IN | 67.6 | 87.2 | 75.4 | F | 78 | 525.54 | W/m2 | 75.9 | F |
| 84. | Jun-23-2020 | 0.57 | IN | 60.1 | 79.4 | 71.6 | F | 83 | 422.73 | W/m2 | 75.4 | F |
| 85. | Jun-24-2020 | 0 | IN | 60.2 | 78.3 | 68.5 | F | 73 | 501.59 | W/m2 | 73.2 | F |

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| Pest Code, Type, Scale | ABUTH W | ABUTH W | ABUTH W | ABUTH W |
|--------------------------|---------|---------|---------|---------|
| Stage Majority, Percent | 13 | 100 | 15 | 80 |
| Stage Minimum, Percent | | | 13 | 10 |
| Stage Maximum, Percent | | | 17 | 10 |
| Height Average | 2 | IN | 5 | IN |
| Height Minimum, Maximum | | | 3 | 8 |
| Pest 8 Code, Type, Scale | POLPY W | POLPY W | POLPY W | POLPY W |
| Stage Majority, Percent | 14 | 100 | 19 | 80 |
| Stage Minimum, Percent | | | 15 | 10 |
| Stage Maximum, Percent | | | 19 | 80 |
| Height Average | 1 | IN | 5 | IN |
| Height Minimum, Maximum | | | 4 | 10 |
| Pest 9 Code, Type, Scale | AMBEL W | AMBEL W | AMBEL W | AMBEL W |
| Stage Majority, Percent | | | | 18 |
| Stage Minimum, Percent | | | | 14 |
| Stage Maximum, Percent | | | | 19 |
| Height Average | | | | 4 |
| Height Minimum, Maximum | | | | 2 |
| Pest10 Code, Type, Scale | POLPE W | POLPE W | POLPE W | POLPE W |
| Stage Majority, Percent | | | | 18 |
| Stage Minimum, Percent | | | | 14 |
| Stage Maximum, Percent | | | | 19 |
| Height Average | | | | 4 |
| Height Minimum, Maximum | | | | 2 |
| Density Average | | | | 3 |
| Density Min, Max | | | | 3 |
| Pest11 Code, Type, Scale | SIDSP W | SIDSP W | SIDSP W | SIDSP W |
| Stage Majority, Percent | | | 19 | 80 |
| Stage Minimum, Percent | | | 12 | 10 |
| Stage Maximum, Percent | | | 19 | 80 |
| Height Average | | | 5 | IN |
| Height Minimum, Maximum | | | 4 | 6 |
| Density Average | | | | 3 |
| Density Min, Max | | | | 0 |
| Pest12 Code, Type, Scale | ECHCG W | ECHCG W | ECHCG W | ECHCG W |
| Stage Majority, Percent | | | | 19 |
| Stage Minimum, Percent | | | | 14 |
| Stage Maximum, Percent | | | | 19 |
| Height Average | | | | 3 |
| Height Minimum, Maximum | | | | 2 |
| Density Average | | | | 11 |
| Density Min, Max | | | | 0 |
| Pest13 Code, Type, Scale | SOLPT W | SOLPT W | SOLPT W | SOLPT W |
| Stage Majority, Percent | | | 16 | 80 |
| Stage Minimum, Percent | | | 14 | 10 |
| Stage Maximum, Percent | | | 18 | 10 |
| Height Average | | | 3 | IN |
| Height Minimum, Maximum | | | 2 | 4 |
| Density Average | | | | 11 |
| Density Min, Max | | | | 0 |

Application Equipment

| | A | B | C | D |
|--------------------|-----------|-----------|-----------|-----------|
| Appl. Equipment | 6' AIXR | 6' AIXR | 6' AIXR | 6' AIXR |
| Equipment Type | BACCAI | BACCAI | BACCAI | BACCAI |
| Operation Pressure | 44 PSI | 44 PSI | 44 PSI | 44 PSI |
| Nozzle Type | AIXR | AIXR | AIXR | AIXR |
| Nozzle Size | 1110015 | 1110015 | 1110015 | 1110015 |
| Nozzle Spacing | 18 IN | 18 IN | 18 IN | 18 IN |
| Boom Length | 6.67 FT | 6.67 FT | 6.67 FT | 6.67 FT |
| Boom Height | 20 IN | 20 IN | 20 IN | 20 IN |
| Ground Speed | 3 MPH | 3 MPH | 3 MPH | 3 MPH |
| Carrier | WATER | WATER | WATER | WATER |
| Application Amount | 15 GAL/AC | 15 GAL/AC | 15 GAL/AC | 15 GAL/AC |
| Mix Size | 1 L | 1 L | 1 L | 1 L |
| Propellant | COMCO2 | COMCO2 | COMCO2 | COMCO2 |

| Context | Date | By | Notes |
|---------|-------------|------------------|---|
| STATUS | Mar-27-2020 | Dr. Mark M. Loux | Automatically added by ARM: Trial Status updated to 'S' during trial creation. |
| STATUS | May-14-2020 | Dr. Mark M. Loux | Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered. |

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| | | | | | |
|-------------------------------|-------------|-------------------------------|-----------------|-----------------|-----------------|
| Pest Type | | W Weed | W Weed | W Weed | W Weed |
| Pest Code | | SETFA | AMBTR | CHEAL | AMARE |
| Pest Scientific Name | | Setaria faberi | Ambrosia trifi> | Chenopodium al> | Amaranthus ret> |
| Pest Name | | foxtail, giant ragweed, giant | lambquarters,> | pigweed, redro> | |
| Crop Type, Code | C GLXMA | | | | |
| BBCH Scale | BSOY | | | | |
| Crop Scientific Name | Glycine max | | | | |
| Crop Name | Soybean | | | | |
| Rating Date | Jun-3-2020 | Jun-3-2020 | Jun-3-2020 | Jun-3-2020 | Jun-3-2020 |
| Rating Type | PHYMAL | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Data Entry Date | Jun-9-2020 | Jun-9-2020 | Jun-9-2020 | Jun-9-2020 | Jun-9-2020 |
| Rating Timing | 21 DAT | 21 DAT | 21 DAT | 21 DAT | 21 DAT |
| Days After First/Last Applic. | 21 21 | 21 21 | 21 21 | 21 21 | 21 21 |
| Trt-Eval Interval | 21 DA-A | 21 DA-A | 21 DA-A | 21 DA-A | 21 DA-A |
| Plant-Eval Interval | 21 DP-1 | 21 DP-1 | 21 DP-1 | 21 DP-1 | 21 DP-1 |
| Days After Emergence | 9 DE-1 | 9 DE-1 | 9 DE-1 | 9 DE-1 | 9 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate | Other Rate | Other Unit | Appl Unit Code | 1* | 2* | 3* | 4* | 5* |
|---------|----------------|---------------|------------|------------|----------------|------|------|------|-------|-------|
| 1 | UTC | | | | | 0 c | 0 b | 0 b | 0 | 0 |
| 2 | Scout | 0.585 lb ai/a | 32 oz/a | | B | 0 c | 0 b | 0 b | 0 | 0 |
| | 2 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | B | | | | | |
| | 2 Scout | 0.585 lb ai/a | 32 oz/a | | C | | | | | |
| | 2 Select Max | 0.07 lb ai/a | 9 oz/a | | C | | | | | |
| | 2 Induce | 0.25 % v/v | 0.25 % v/v | | C | | | | | |
| | 2 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | C | | | | | |
| 3 | Scout | 0.585 lb ai/a | 32 oz/a | | B | 0 c | 0 b | 0 b | 0 | 0 |
| | 3 Perpetuo | 0.108 lb ai/a | 6 oz/a | | B | | | | | |
| | 3 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | B | | | | | |
| | 3 Scout | 0.585 lb ai/a | 32 oz/a | | C | | | | | |
| | 3 Select Max | 0.07 lb ai/a | 9 oz/a | | C | | | | | |
| | 3 Induce | 0.25 % v/v | 0.25 % v/v | | C | | | | | |
| | 3 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | C | | | | | |
| 4 | Fierce EZ | 0.143 lb ai/a | 6 oz/a | | A | 4 a | 99 a | 90 a | 100 a | 100 a |
| | 4 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 4 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 4 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 4 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 5 | Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | 3 ab | 99 a | 97 a | 100 a | 100 a |
| | 5 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 5 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 5 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 5 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 6 | Fierce EZ | 0.143 lb ai/a | 6 oz/a | | A | 3 ab | 99 a | 89 a | 100 b | 100 b |
| | 6 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 6 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| | 6 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 6 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 6 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |

Means followed by same letter or symbol do not significantly differ (P=0.05, 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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY
 Protocol ID: 20VALENTLLSOY
 Project ID: FIERCEMD64.01

Location: Western Branch F-7 Trial Year: 2020
 Investigator: Dr. Mark M. Loux
 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| Pest Type | | W Weed | W Weed | W Weed | W Weed |
|-------------------------------|-------------|--|------------|------------|------------|
| Pest Code | | SETFA | AMBTR | CHEAL | AMARE |
| Pest Scientific Name | | Setaria faberi Ambrosia trifi> Chenopodium al> Amaranthus ret> | | | |
| Pest Name | | foxtail, giant ragweed, giant lambsquarters,> pigweed, redro> | | | |
| Crop Type, Code | C GLXMA | | | | |
| BBCH Scale | BSOY | | | | |
| Crop Scientific Name | Glycine max | | | | |
| Crop Name | Soybean | | | | |
| Rating Date | Jun-3-2020 | Jun-3-2020 | Jun-3-2020 | Jun-3-2020 | Jun-3-2020 |
| Rating Type | PHYMAL | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Data Entry Date | Jun-9-2020 | Jun-9-2020 | Jun-9-2020 | Jun-9-2020 | Jun-9-2020 |
| Rating Timing | 21 DAT | 21 DAT | 21 DAT | 21 DAT | 21 DAT |
| Days After First/Last Applic. | 21 21 | 21 21 | 21 21 | 21 21 | 21 21 |
| Trt-Eval Interval | 21 DA-A | 21 DA-A | 21 DA-A | 21 DA-A | 21 DA-A |
| Plant-Eval Interval | 21 DP-1 | 21 DP-1 | 21 DP-1 | 21 DP-1 | 21 DP-1 |
| Days After Emergence | 9 DE-1 | 9 DE-1 | 9 DE-1 | 9 DE-1 | 9 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate | Other Rate | Other Unit | Appl Unit | Code | 1* | 2* | 3* | 4* | 5* |
|--------------------|----------------|---------------|------------|------------|-----------|------|---------|----------|---------|----------|----------|
| 7 | Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | | 2 abc | 100 a | 90 a | 100 a | 100 a |
| 7 | Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | | |
| 7 | Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | | |
| 7 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | | |
| 7 | Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | | |
| 7 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | | |
| 8 | Authority MTZ | 0.31 lb ai/a | 11 oz/a | | A | | 1 bc | 99 a | 97 a | 100 b | 100 b |
| 8 | Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | | |
| 8 | Anthem Maxx | 0.084 lb ai/a | 2.5 oz/a | | D | | | | | | |
| 8 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | | |
| 8 | Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | | |
| 8 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | | |
| 9 | Zidua Pro | 0.144 lb ai/a | 4.5 oz/a | | A | | 2 abc | 100 a | 89 a | 100 b | 100 b |
| 9 | Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | | |
| 9 | Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | | |
| 9 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | | |
| 9 | Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | | |
| 9 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | | |
| 10 | Fierce XLT | 0.156 lb ai/a | 4 oz/a | | A | | 2 abc | 100 a | 97 a | 100 ab | 100 ab |
| 10 | Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | | |
| 10 | Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | | |
| 10 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | | |
| 10 | Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | | |
| 10 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | | |
| LSD P=.05 | | | | | | | 2.2 | 1.6 | 17.2 | . | . |
| Standard Deviation | | | | | | | 1.3 | 0.9 | 10.0 | 0.0 | 0.0 |
| CV | | | | | | | 76.85 | 1.33 | 15.39 | 0.0 | 0.0 |
| Grand Mean | | | | | | | 1.7 | 69.6 | 65.0 | 70.0 | 70.0 |
| Levene's F | | | | | | | 0.889 | 0.69 | 0.665 | 0.00 | 0.00 |
| Levene's Prob(F) | | | | | | | 0.552 | 0.71 | 0.73 | . | . |
| Rank X2 | | | | | | | . | . | . | . | . |
| P(Rank X2) | | | | | | | . | . | . | . | . |
| Skewness | | | | | | | 0.7707 | -0.9183* | -0.7814 | -0.9195* | -0.9195* |
| Kurtosis | | | | | | | -0.5087 | -1.2425 | -1.3386 | -1.2421 | -1.2421 |
| Replicate F | | | | | | | 2.580 | 1.043 | 2.612 | 0.000 | 0.000 |
| Replicate Prob(F) | | | | | | | 0.1035 | 0.3728 | 0.1009 | 1.0000 | 1.0000 |
| Treatment F | | | | | | | 3.296 | 8019.640 | 60.685 | 0.000 | 0.000 |
| Treatment Prob(F) | | | | | | | 0.0150 | 0.0001 | 0.0001 | 1.0000 | 1.0000 |

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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY
 Protocol ID: 20VALENTLLSOY
 Project ID: FIERCEMD64.01

Location: Western Branch F-7 Trial Year: 2020
 Investigator: Dr. Mark M. Loux
 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| | | | | |
|-------------------------------|-----------------|-----------------|----------------|-----------------|
| Pest Type | W Weed | W Weed | W Weed | W Weed |
| Pest Code | POLPY | SOLPT | SETFA | ECHCG |
| Pest Scientific Name | Polygonum pens> | Solanum ptycha> | Setaria faberi | Echinochloa cr> |
| Pest Name | smartweed, Pen> | nightshade, ea> | foxtail, giant | barnyardgrass |
| Crop Type, Code | | | C GLXMA | |
| BBCH Scale | | | BSOY | |
| Crop Scientific Name | | | Glycine max | |
| Crop Name | | | Soybean | |
| Rating Date | Jun-3-2020 | Jun-3-2020 | Jun-26-202 | Jun-26-2020 |
| Rating Type | CONTRO | CONTRO | PHYGEN | CONTRO |
| Rating Unit | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 |
| Data Entry Date | Jun-9-2020 | Jun-9-2020 | Aug-3-2020 | Aug-3-2020 |
| Rating Timing | 21 DAT | 21 DAT | 44 2 | 44 2 |
| Days After First/Last Applic. | 21 21 | 21 21 | 44 DA-A | 44 DA-A |
| Trt-Eval Interval | 21 DA-A | 21 DA-A | 44 DP-1 | 44 DP-1 |
| Plant-Eval Interval | 21 DP-1 | 21 DP-1 | 32 DE-1 | 32 DE-1 |
| Days After Emergence | 9 DE-1 | 9 DE-1 | 0 | 0 |
| Number of Decimals | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate | Other Rate | Other Unit | Appl Unit Code | 6* | 7* | 8* | 9* | 10* |
|---------|----------------|---------------|------------|------------|----------------|-------|-------|-----|------|------|
| 1 | UTC | | | | | 0 | 0 | 0 - | 0 c | 0 c |
| 2 | Scout | 0.585 lb ai/a | 32 oz/a | | B | 0 | 0 | 3 - | 72 b | 70 b |
| | 2 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | B | | | | | |
| | 2 Scout | 0.585 lb ai/a | 32 oz/a | | C | | | | | |
| | 2 Select Max | 0.07 lb ai/a | 9 oz/a | | C | | | | | |
| | 2 Induce | 0.25 % v/v | 0.25 % v/v | | C | | | | | |
| | 2 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | C | | | | | |
| 3 | Scout | 0.585 lb ai/a | 32 oz/a | | B | 0 | 0 | 2 - | 72 b | 70 b |
| | 3 Perpetuo | 0.108 lb ai/a | 6 oz/a | | B | | | | | |
| | 3 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | B | | | | | |
| | 3 Scout | 0.585 lb ai/a | 32 oz/a | | C | | | | | |
| | 3 Select Max | 0.07 lb ai/a | 9 oz/a | | C | | | | | |
| | 3 Induce | 0.25 % v/v | 0.25 % v/v | | C | | | | | |
| | 3 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | C | | | | | |
| 4 | Fierce EZ | 0.143 lb ai/a | 6 oz/a | | A | 100 a | 100 a | 0 - | 77 b | 75 b |
| | 4 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 4 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 4 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 4 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 5 | Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | 100 a | 100 a | 0 - | 72 b | 70 b |
| | 5 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 5 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 5 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 5 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 6 | Fierce EZ | 0.143 lb ai/a | 6 oz/a | | A | 100 b | 100 b | 0 - | 79 b | 78 b |
| | 6 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 6 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| | 6 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 6 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 6 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |

Means followed by same letter or symbol do not significantly differ (P=0.05, 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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY
 Protocol ID: 20VALENTLLSOY
 Project ID: FIERCEMD64.01

Location: Western Branch F-7 Trial Year: 2020
 Investigator: Dr. Mark M. Loux
 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| | | | | |
|-------------------------------|-----------------|-----------------|----------------|-----------------|
| Pest Type | W Weed | W Weed | W Weed | W Weed |
| Pest Code | POLPY | SOLPT | SETFA | ECHCG |
| Pest Scientific Name | Polygonum pens> | Solanum ptycha> | Setaria faberi | Echinochloa cr> |
| Pest Name | smartweed, Pen> | nightshade, ea> | foxtail, giant | barnyardgrass |
| Crop Type, Code | | | C GLXMA | |
| BBCH Scale | | | BSOY | |
| Crop Scientific Name | | | Glycine max | |
| Crop Name | | | Soybean | |
| Rating Date | Jun-3-2020 | Jun-3-2020 | Jun-26-202 | Jun-26-2020 |
| Rating Type | CONTRO | CONTRO | PHYGEN | CONTRO |
| Rating Unit | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 |
| Data Entry Date | Jun-9-2020 | Jun-9-2020 | Aug-3-2020 | Aug-3-2020 |
| Rating Timing | 21 DAT | 21 DAT | 44 2 | 44 2 |
| Days After First/Last Applic. | 21 21 | 21 21 | 44 DA-A | 44 DA-A |
| Trt-Eval Interval | 21 DA-A | 21 DA-A | 44 DP-1 | 44 DP-1 |
| Plant-Eval Interval | 21 DP-1 | 21 DP-1 | 32 DE-1 | 32 DE-1 |
| Days After Emergence | 9 DE-1 | 9 DE-1 | 0 | 0 |
| Number of Decimals | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate | Other Rate | Other Unit | Appl Unit Code | 6* | 7* | 8* | 9* | 10* |
|--------------------|----------------|---------------|------------|------------|----------------|----------|----------|---------|----------|----------|
| 7 | Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | 100 a | 100 a | 1 - | 93 a | 90 a |
| 7 | Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 7 | Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 7 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 7 | Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 7 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 8 | Authority MTZ | 0.31 lb ai/a | 11 oz/a | | A | 100 b | 100 b | 3 - | 72 b | 70 b |
| 8 | Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 8 | Anthem Maxx | 0.084 lb ai/a | 2.5 oz/a | | D | | | | | |
| 8 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 8 | Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 8 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 9 | Zidua Pro | 0.144 lb ai/a | 4.5 oz/a | | A | 100 b | 100 b | 3 - | 75 b | 75 b |
| 9 | Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 9 | Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 9 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 9 | Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 9 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 10 | Fierce XLT | 0.156 lb ai/a | 4 oz/a | | A | 100 ab | 100 ab | 0 - | 75 b | 73 b |
| 10 | Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 10 | Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 10 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 10 | Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 10 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| LSD P=.05 | | | | | | . | . | 5.0 | 10.3 | 9.7 |
| Standard Deviation | | | | | | 0.0 | 0.0 | 2.9 | 6.0 | 5.6 |
| CV | | | | | | 0.0 | 0.0 | 250.6 | 8.75 | 8.39 |
| Grand Mean | | | | | | 70.0 | 70.0 | 1.2 | 68.5 | 67.2 |
| Levene's F | | | | | | 0.00 | 0.00 | 0.714 | 0.505 | 0.786 |
| Levene's Prob(F) | | | | | | . | . | 0.691 | 0.854 | 0.632 |
| Rank X2 | | | | | | . | . | . | . | . |
| P(Rank X2) | | | | | | . | . | . | . | . |
| Skewness | | | | | | -0.9195* | -0.9195* | 2.5435* | -2.1824* | -2.2274* |
| Kurtosis | | | | | | -1.2421 | -1.2421 | 5.8164* | 4.5163* | 4.6828* |
| Replicate F | | | | | | 0.000 | 0.000 | 0.671 | 2.991 | 1.758 |
| Replicate Prob(F) | | | | | | 1.0000 | 1.0000 | 0.5237 | 0.0756 | 0.2007 |
| Treatment F | | | | | | 0.000 | 0.000 | 0.739 | 51.726 | 56.155 |
| Treatment Prob(F) | | | | | | 1.0000 | 1.0000 | 0.6701 | 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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY
 Protocol ID: 20VALENTLLSOY
 Project ID: FIERCEMD64.01

Location: Western Branch F-7 Trial Year: 2020
 Investigator: Dr. Mark M. Loux
 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| Pest Type | W Weed | W Weed | W Weed | W Weed | W Weed |
|-------------------------------|------------------|-------------------|-------------------------|--------------------------|------------------------|
| Pest Code | AMBTR | CHEAL | AMARE | POLPY | SOLPT |
| Pest Scientific Name | Ambrosia trifida | Chenopodium album | Amaranthus retrofractus | Polygonum pennsylvanicum | Solanum elaeagnifolium |
| Pest Name | ragweed, giant | lambsquarters, | pigweed, redro | smartweed, Pen | nightshade, ea |
| Crop Type, Code | | | | | |
| BBCH Scale | | | | | |
| Crop Scientific Name | | | | | |
| Crop Name | | | | | |
| Rating Date | Jun-26-2020 | Jun-26-2020 | Jun-26-2020 | Jun-26-2020 | Jun-26-2020 |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Data Entry Date | Aug-3-2020 | Aug-3-2020 | Aug-3-2020 | Aug-3-2020 | Aug-3-2020 |
| Rating Timing | | | | | |
| Days After First/Last Applic. | 44 2 | 44 2 | 44 2 | 44 2 | 44 2 |
| Trt-Eval Interval | 44 DA-A | 44 DA-A | 44 DA-A | 44 DA-A | 44 DA-A |
| Plant-Eval Interval | 44 DP-1 | 44 DP-1 | 44 DP-1 | 44 DP-1 | 44 DP-1 |
| Days After Emergence | 32 DE-1 | 32 DE-1 | 32 DE-1 | 32 DE-1 | 32 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate | Other Rate | Other Unit | Appl Unit Code | 11* | 12* | 13* | 14* | 15* |
|---------|----------------|---------------|------------|------------|----------------|-------|-------|-------|-------|-------|
| 1 | UTC | | | | | 0 c | 0 d | 0 b | 0 b | 0 b |
| 2 | Scout | 0.585 lb ai/a | 32 oz/a | | B | 100 a | 70 c | 100 a | 92 a | 100 a |
| | 2 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | B | | | | | |
| | 2 Scout | 0.585 lb ai/a | 32 oz/a | | C | | | | | |
| | 2 Select Max | 0.07 lb ai/a | 9 oz/a | | C | | | | | |
| | 2 Induce | 0.25 % v/v | 0.25 % v/v | | C | | | | | |
| | 2 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | C | | | | | |
| 3 | Scout | 0.585 lb ai/a | 32 oz/a | | B | 100 a | 72 b | 100 a | 92 a | 100 a |
| | 3 Perpetuo | 0.108 lb ai/a | 6 oz/a | | B | | | | | |
| | 3 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | B | | | | | |
| | 3 Scout | 0.585 lb ai/a | 32 oz/a | | C | | | | | |
| | 3 Select Max | 0.07 lb ai/a | 9 oz/a | | C | | | | | |
| | 3 Induce | 0.25 % v/v | 0.25 % v/v | | C | | | | | |
| | 3 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | C | | | | | |
| 4 | Fierce EZ | 0.143 lb ai/a | 6 oz/a | | A | 80 b | 100 a | 100 a | 100 a | 100 a |
| | 4 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 4 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 4 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 4 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 5 | Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | 72 b | 100 a | 100 a | 100 a | 100 a |
| | 5 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 5 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 5 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 5 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 6 | Fierce EZ | 0.143 lb ai/a | 6 oz/a | | A | 79 b | 100 a | 100 a | 100 a | 100 a |
| | 6 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| | 6 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| | 6 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| | 6 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| | 6 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |

Means followed by same letter or symbol do not significantly differ (P=0.05, 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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY Location: Western Branch F-7 Trial Year: 2020
 Protocol ID: 20VALENTLLSOY Investigator: Dr. Mark M. Loux
 Project ID: FIERCEMD64.01 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| | | | | | |
|-------------------------------|------------------|-------------------|-------------------------|--------------------------|------------------------|
| Pest Type | W Weed | W Weed | W Weed | W Weed | W Weed |
| Pest Code | AMBTR | CHEAL | AMARE | POLPY | SOLPT |
| Pest Scientific Name | Ambrosia trifida | Chenopodium album | Amaranthus retrofractus | Polygonum pennsylvanicum | Solanum elaeagnifolium |
| Pest Name | ragweed, giant | lambsquarters, | pigweed, redro | smartweed, Pen | nightshade, ea |
| Crop Type, Code | | | | | |
| BBCH Scale | | | | | |
| Crop Scientific Name | | | | | |
| Crop Name | | | | | |
| Rating Date | Jun-26-2020 | Jun-26-2020 | Jun-26-2020 | Jun-26-2020 | Jun-26-2020 |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Data Entry Date | Aug-3-2020 | Aug-3-2020 | Aug-3-2020 | Aug-3-2020 | Aug-3-2020 |
| Rating Timing | | | | | |
| Days After First/Last Applic. | 44 2 | 44 2 | 44 2 | 44 2 | 44 2 |
| Trt-Eval Interval | 44 DA-A | 44 DA-A | 44 DA-A | 44 DA-A | 44 DA-A |
| Plant-Eval Interval | 44 DP-1 | 44 DP-1 | 44 DP-1 | 44 DP-1 | 44 DP-1 |
| Days After Emergence | 32 DE-1 | 32 DE-1 | 32 DE-1 | 32 DE-1 | 32 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 |

| Trt Treatment | Rate | Other | Other | Appl | 11* | 12* | 13* | 14* | 15* |
|--------------------|---------------|------------|-----------|------|----------|----------|----------|----------|----------|
| No. Name | Rate Unit | Rate | Rate Unit | Code | | | | | |
| 7 Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | 76 b | 100 a | 100 a | 99 a | 100 a |
| 7 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 7 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 7 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 7 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 7 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 8 Authority MTZ | 0.31 lb ai/a | 11 oz/a | | A | 80 b | 100 a | 100 a | 100 a | 100 a |
| 8 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 8 Anthem Maxx | 0.084 lb ai/a | 2.5 oz/a | | D | | | | | |
| 8 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 8 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 8 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 9 Zidua Pro | 0.144 lb ai/a | 4.5 oz/a | | A | 83 ab | 100 a | 100 a | 100 a | 100 a |
| 9 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 9 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 9 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 9 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 9 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 10 Fierce XLT | 0.156 lb ai/a | 4 oz/a | | A | 80 b | 100 a | 100 a | 100 a | 100 a |
| 10 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 10 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 10 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 10 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 10 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| LSD P=.05 | | | | | 19.5 | 1.6 | . | 10.5 | . |
| Standard Deviation | | | | | 11.4 | 0.9 | 0.0 | 6.1 | 0.0 |
| CV | | | | | 15.15 | 1.1 | 0.0 | 6.91 | 0.0 |
| Grand Mean | | | | | 75.0 | 84.1 | 90.0 | 88.2 | 90.0 |
| Levene's F | | | | | 0.831 | 0.909 | 0.00 | 0.862 | 0.00 |
| Levene's Prob(F) | | | | | 0.596 | 0.536 | . | 0.572 | . |
| Rank X2 | | | | | . | . | . | . | . |
| P(Rank X2) | | | | | . | . | . | . | . |
| Skewness | | | | | -1.5881* | -2.1664* | -2.8091* | -2.6197* | -2.8091* |
| Kurtosis | | | | | 2.2307* | 3.7916* | 6.3081* | 5.5196* | 6.3081* |
| Replicate F | | | | | 7.052 | 1.519 | 0.000 | 2.242 | 0.000 |
| Replicate Prob(F) | | | | | 0.0055 | 0.2456 | 1.0000 | 0.1351 | 1.0000 |
| Treatment F | | | | | 18.204 | 3574.637 | 0.000 | 78.426 | 0.000 |
| Treatment Prob(F) | | | | | 0.0001 | 0.0001 | 1.0000 | 0.0001 | 1.0000 |

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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY
 Protocol ID: 20VALENTLLSOY
 Project ID: FIERCEMD64.01

Location: Western Branch F-7 Trial Year: 2020
 Investigator: Dr. Mark M. Loux
 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| Pest Type | W Weed | W Weed | W Weed | W Weed | W Weed |
|-------------------------------|-----------------|-----------------|----------------|-----------------|------------------|
| Pest Code | HIBTR | ABUTH | SETFA | ECHCG | AMBTR |
| Pest Scientific Name | Hibiscus trion> | Abutilon theop> | Setaria faberi | Echinochloa cr> | Ambrosia trifli> |
| Pest Name | mallow, Venice | velvetleaf | foxtail, giant | barnyardgrass | ragweed, giant |
| Crop Type, Code | | | | | |
| BBCH Scale | | | | | |
| Crop Scientific Name | | | | | |
| Crop Name | | | | | |
| Rating Date | Jun-26-2020 | Jun-26-2020 | Jul-8-2020 | Jul-8-2020 | Jul-8-2020 |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Data Entry Date | Aug-3-2020 | Aug-3-2020 | Jul-9-2020 | Jul-9-2020 | Jul-9-2020 |
| Rating Timing | | | | | |
| Days After First/Last Applic. | 44 2 | 44 2 | 56 7 | 56 7 | 56 7 |
| Trt-Eval Interval | 44 DA-A | 44 DA-A | 56 DA-A | 56 DA-A | 56 DA-A |
| Plant-Eval Interval | 44 DP-1 | 44 DP-1 | 56 DP-1 | 56 DP-1 | 56 DP-1 |
| Days After Emergence | 32 DE-1 | 32 DE-1 | 44 DE-1 | 44 DE-1 | 44 DE-1 |
| Number of Decimals | 0 | 0 | 0 | | |

| Trt Treatment | Rate | Other | Other | Appl | 16* | 17* | 18* | 19* | 20* |
|---------------|---------------|-------|------------|-----------|-------|-------|-------|---------|---------|
| No. Name | Rate | Unit | Rate | Unit Code | | | | | |
| 1 UTC | | | | | 0 c | 0 b | 0 c | 0.0 b | 0.0 c |
| 2 Scout | 0.585 lb ai/a | | 32 oz/a | B | 100 a | 98 a | 100 a | 100.0 a | 100.0 a |
| 2 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | B | | | | | |
| 2 Scout | 0.585 lb ai/a | | 32 oz/a | C | | | | | |
| 2 Select Max | 0.07 lb ai/a | | 9 oz/a | C | | | | | |
| 2 Induce | 0.25 % v/v | | 0.25 % v/v | C | | | | | |
| 2 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | C | | | | | |
| 3 Scout | 0.585 lb ai/a | | 32 oz/a | B | 100 a | 100 a | 100 a | 99.7 a | 100.0 a |
| 3 Perpetuo | 0.108 lb ai/a | | 6 oz/a | B | | | | | |
| 3 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | B | | | | | |
| 3 Scout | 0.585 lb ai/a | | 32 oz/a | C | | | | | |
| 3 Select Max | 0.07 lb ai/a | | 9 oz/a | C | | | | | |
| 3 Induce | 0.25 % v/v | | 0.25 % v/v | C | | | | | |
| 3 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | C | | | | | |
| 4 Fierce EZ | 0.143 lb ai/a | | 6 oz/a | A | 100 b | 100 a | 89 b | 99.0 a | 99.3 ab |
| 4 Scout | 0.585 lb ai/a | | 32 oz/a | D | | | | | |
| 4 Select Max | 0.07 lb ai/a | | 9 oz/a | D | | | | | |
| 4 Induce | 0.25 % v/v | | 0.25 % v/v | D | | | | | |
| 4 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | D | | | | | |
| 5 Fierce MTZ | 0.33 lb ai/a | | 16 oz/a | A | 100 a | 100 a | 99 a | 99.0 a | 98.0 b |
| 5 Scout | 0.585 lb ai/a | | 32 oz/a | D | | | | | |
| 5 Select Max | 0.07 lb ai/a | | 9 oz/a | D | | | | | |
| 5 Induce | 0.25 % v/v | | 0.25 % v/v | D | | | | | |
| 5 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | D | | | | | |
| 6 Fierce EZ | 0.143 lb ai/a | | 6 oz/a | A | 100 a | 99 a | 99 a | 98.0 a | 98.3 ab |
| 6 Scout | 0.585 lb ai/a | | 32 oz/a | D | | | | | |
| 6 Perpetuo | 0.108 lb ai/a | | 6 oz/a | D | | | | | |
| 6 Select Max | 0.07 lb ai/a | | 9 oz/a | D | | | | | |
| 6 Induce | 0.25 % v/v | | 0.25 % v/v | D | | | | | |
| 6 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | D | | | | | |

Means followed by same letter or symbol do not significantly differ (P=0.05, 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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY Location: Western Branch F-7 Trial Year: 2020
 Protocol ID: 20VALENTLLSOY Investigator: Dr. Mark M. Loux
 Project ID: FIERCEMD64.01 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| | | | | | |
|-------------------------------|-----------------|-----------------|----------------|-----------------|-----------------|
| Pest Type | W Weed | W Weed | W Weed | W Weed | W Weed |
| Pest Code | HIBTR | ABUTH | SETFA | ECHCG | AMBTR |
| Pest Scientific Name | Hibiscus trion> | Abutilon theop> | Setaria faberi | Echinochloa cr> | Ambrosia trifi> |
| Pest Name | mallow, Venice | velvetleaf | foxtail, giant | barnyardgrass | ragweed, giant |
| Crop Type, Code | | | | | |
| BBCH Scale | | | | | |
| Crop Scientific Name | | | | | |
| Crop Name | | | | | |
| Rating Date | Jun-26-2020 | Jun-26-2020 | Jul-8-2020 | Jul-8-2020 | Jul-8-2020 |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Data Entry Date | Aug-3-2020 | Aug-3-2020 | Jul-9-2020 | Jul-9-2020 | Jul-9-2020 |
| Rating Timing | | | | | |
| Days After First/Last Applic. | 44 2 | 44 2 | 56 7 | 56 7 | 56 7 |
| Trt-Eval Interval | 44 DA-A | 44 DA-A | 56 DA-A | 56 DA-A | 56 DA-A |
| Plant-Eval Interval | 44 DP-1 | 44 DP-1 | 56 DP-1 | 56 DP-1 | 56 DP-1 |
| Days After Emergence | 32 DE-1 | 32 DE-1 | 44 DE-1 | 44 DE-1 | 44 DE-1 |
| Number of Decimals | 0 | 0 | 0 | | |

| Trt Treatment No. Name | Rate | Other Rate | Other Rate | Appl Unit Code | 16* | 17* | 18* | 19* | 20* |
|------------------------|---------------|------------|------------|----------------|-----------|----------|----------|----------|----------|
| 7 Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | 100 a | 100 a | 97 a | 98.0 a | 99.7 ab |
| 7 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 7 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 7 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 7 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 7 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 8 Authority MTZ | 0.31 lb ai/a | 11 oz/a | | A | 100 a | 100 a | 96 a | 98.7 a | 100.0 a |
| 8 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 8 Anthem Maxx | 0.084 lb ai/a | 2.5 oz/a | | D | | | | | |
| 8 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 8 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 8 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 9 Zidua Pro | 0.144 lb ai/a | 4.5 oz/a | | A | 100 a | 100 a | 98 a | 98.7 a | 98.7 ab |
| 9 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 9 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 9 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 9 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 9 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 10 Fierce XLT | 0.156 lb ai/a | 4 oz/a | | A | 100 a | 100 a | 98 a | 98.0 a | 100.0 a |
| 10 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 10 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 10 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 10 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 10 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| LSD P=.05 | | | | | 0.3 | 1.9 | 4.2 | 2.27 | 1.99 |
| Standard Deviation | | | | | 0.2 | 1.1 | 2.4 | 1.32 | 1.16 |
| CV | | | | | 0.2 | 1.22 | 2.78 | 1.49 | 1.3 |
| Grand Mean | | | | | 90.0 | 89.7 | 87.7 | 88.90 | 89.40 |
| Levene's F | | | | | 1.00 | 0.854 | 0.737 | 0.609 | 1.315 |
| Levene's Prob(F) | | | | | 0.471 | 0.578 | 0.672 | 0.775 | 0.29 |
| Rank X2 | | | | | . | . | . | . | . |
| P(Rank X2) | | | | | . | . | . | . | . |
| Skewness | | | | | -2.8089* | -2.803* | -2.7355* | -2.7964* | -2.801* |
| Kurtosis | | | | | 6.3074* | 6.2858* | 6.0273* | 6.2626* | 6.2788* |
| Replicate F | | | | | 1.000 | 0.752 | 0.850 | 5.904 | 0.890 |
| Replicate Prob(F) | | | | | 0.3874 | 0.4855 | 0.4439 | 0.0107 | 0.4279 |
| Treatment F | | | | | 89934.342 | 2491.855 | 485.779 | 1678.771 | 2196.967 |
| Treatment Prob(F) | | | | | 0.0001 | 0.0001 | 0.0001 | 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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY Location: Western Branch F-7 Trial Year: 2020
 Protocol ID: 20VALENTLLSOY Investigator: Dr. Mark M. Loux
 Project ID: FIERCEMD64.01 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| Pest Type | W Weed | W Weed | W Weed | W Weed | W Weed |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Pest Code | CHEAL | AMARE | POLPY | SOLPT | HIBTR |
| Pest Scientific Name | Chenopodium al> | Amaranthus ret> | Polygonum pens> | Solanum ptycha> | Hibiscus trion> |
| Pest Name | lambsquarters,> | pigweed, redro> | smartweed, Pen> | nightshade, ea> | mallow, Venice |
| Crop Type, Code | | | | | |
| BBCH Scale | | | | | |
| Crop Scientific Name | | | | | |
| Crop Name | | | | | |
| Rating Date | Jul-8-2020 | Jul-8-2020 | Jul-8-2020 | Jul-8-2020 | Jul-8-2020 |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Data Entry Date | Jul-9-2020 | Jul-9-2020 | Jul-9-2020 | Jul-9-2020 | Jul-9-2020 |
| Rating Timing | | | | | |
| Days After First/Last Applic. | 56 7 | 56 7 | 56 7 | 56 7 | 56 7 |
| Trt-Eval Interval | 56 DA-A | 56 DA-A | 56 DA-A | 56 DA-A | 56 DA-A |
| Plant-Eval Interval | 56 DP-1 | 56 DP-1 | 56 DP-1 | 56 DP-1 | 56 DP-1 |
| Days After Emergence | 44 DE-1 | 44 DE-1 | 44 DE-1 | 44 DE-1 | 44 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 |

| Trt | Treatment | Rate | Other | Other | Appl | 21* | 22* | 23* | 24* | 25* | |
|-----|--------------|---------------|-------|------------|------|------|-------|-------|-------|-------|-------|
| No. | Name | Rate | Unit | Rate | Unit | Code | | | | | |
| 1 | UTC | | | | | | 0 b | 0 d | 0 b | 0 c | 0 b |
| 2 | Scout | 0.585 lb ai/a | | 32 oz/a | | B | 100 a | 80 c | 100 a | 97 b | 100 a |
| | 2 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | B | | | | | |
| | 2 Scout | 0.585 lb ai/a | | 32 oz/a | | C | | | | | |
| | 2 Select Max | 0.07 lb ai/a | | 9 oz/a | | C | | | | | |
| | 2 Induce | 0.25 % v/v | | 0.25 % v/v | | C | | | | | |
| | 2 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | C | | | | | |
| 3 | Scout | 0.585 lb ai/a | | 32 oz/a | | B | 100 a | 88 b | 100 a | 98 ab | 100 a |
| | 3 Perpetuo | 0.108 lb ai/a | | 6 oz/a | | B | | | | | |
| | 3 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | B | | | | | |
| | 3 Scout | 0.585 lb ai/a | | 32 oz/a | | C | | | | | |
| | 3 Select Max | 0.07 lb ai/a | | 9 oz/a | | C | | | | | |
| | 3 Induce | 0.25 % v/v | | 0.25 % v/v | | C | | | | | |
| | 3 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | C | | | | | |
| 4 | Fierce EZ | 0.143 lb ai/a | | 6 oz/a | | A | 100 a | 100 a | 100 a | 100 a | 100 a |
| | 4 Scout | 0.585 lb ai/a | | 32 oz/a | | D | | | | | |
| | 4 Select Max | 0.07 lb ai/a | | 9 oz/a | | D | | | | | |
| | 4 Induce | 0.25 % v/v | | 0.25 % v/v | | D | | | | | |
| | 4 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | D | | | | | |
| 5 | Fierce MTZ | 0.33 lb ai/a | | 16 oz/a | | A | 100 a | 100 a | 100 a | 100 a | 100 a |
| | 5 Scout | 0.585 lb ai/a | | 32 oz/a | | D | | | | | |
| | 5 Select Max | 0.07 lb ai/a | | 9 oz/a | | D | | | | | |
| | 5 Induce | 0.25 % v/v | | 0.25 % v/v | | D | | | | | |
| | 5 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | D | | | | | |
| 6 | Fierce EZ | 0.143 lb ai/a | | 6 oz/a | | A | 100 a | 100 a | 100 a | 100 a | 100 a |
| | 6 Scout | 0.585 lb ai/a | | 32 oz/a | | D | | | | | |
| | 6 Perpetuo | 0.108 lb ai/a | | 6 oz/a | | D | | | | | |
| | 6 Select Max | 0.07 lb ai/a | | 9 oz/a | | D | | | | | |
| | 6 Induce | 0.25 % v/v | | 0.25 % v/v | | D | | | | | |
| | 6 N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | D | | | | | |

Means followed by same letter or symbol do not significantly differ (P=0.05, 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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY
 Protocol ID: 20VALENTLLSOY
 Project ID: FIERCEMD64.01

Location: Western Branch F-7 Trial Year: 2020
 Investigator: Dr. Mark M. Loux
 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

| | | | | | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Pest Type | W Weed | W Weed | W Weed | W Weed | W Weed |
| Pest Code | CHEAL | AMARE | POLPY | SOLPT | HIBTR |
| Pest Scientific Name | Chenopodium al> | Amaranthus ret> | Polygonum pens> | Solanum ptycha> | Hibiscus trion> |
| Pest Name | lambsquarters,> | pigweed, redro> | smartweed, Pen> | nightshade, ea> | mallow, Venice |
| Crop Type, Code | | | | | |
| BBCH Scale | | | | | |
| Crop Scientific Name | | | | | |
| Crop Name | | | | | |
| Rating Date | Jul-8-2020 | Jul-8-2020 | Jul-8-2020 | Jul-8-2020 | Jul-8-2020 |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Data Entry Date | Jul-9-2020 | Jul-9-2020 | Jul-9-2020 | Jul-9-2020 | Jul-9-2020 |
| Rating Timing | | | | | |
| Days After First/Last Applic. | 56 7 | 56 7 | 56 7 | 56 7 | 56 7 |
| Trt-Eval Interval | 56 DA-A | 56 DA-A | 56 DA-A | 56 DA-A | 56 DA-A |
| Plant-Eval Interval | 56 DP-1 | 56 DP-1 | 56 DP-1 | 56 DP-1 | 56 DP-1 |
| Days After Emergence | 44 DE-1 | 44 DE-1 | 44 DE-1 | 44 DE-1 | 44 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 |

| Trt Treatment No. Name | Rate | Other Rate | Other Rate | Appl Unit Code | 21* | 22* | 23* | 24* | 25* |
|------------------------|---------------|------------|------------|----------------|----------|----------|----------|----------|----------|
| 7 Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | 100 a | 100 a | 100 a | 99 a | 100 a |
| 7 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 7 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 7 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 7 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 7 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 8 Authority MTZ | 0.31 lb ai/a | 11 oz/a | | A | 100 a | 100 a | 100 a | 100 a | 100 a |
| 8 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 8 Anthem Maxx | 0.084 lb ai/a | 2.5 oz/a | | D | | | | | |
| 8 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 8 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 8 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 9 Zidua Pro | 0.144 lb ai/a | 4.5 oz/a | | A | 100 a | 100 a | 100 a | 100 a | 100 a |
| 9 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 9 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 9 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 9 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 9 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| 10 Fierce XLT | 0.156 lb ai/a | 4 oz/a | | A | 100 a | 100 a | 100 a | 100 a | 100 a |
| 10 Scout | 0.585 lb ai/a | 32 oz/a | | D | | | | | |
| 10 Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | | | | | |
| 10 Select Max | 0.07 lb ai/a | 9 oz/a | | D | | | | | |
| 10 Induce | 0.25 % v/v | 0.25 % v/v | | D | | | | | |
| 10 N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | | | | | |
| LSD P=.05 | | | | | | 3.1 | | 2.2 | |
| Standard Deviation | 0.0 | | | | | 1.8 | 0.0 | 1.3 | 0.0 |
| CV | 0.0 | | | | | 2.1 | 0.0 | 1.46 | 0.0 |
| Grand Mean | 90.0 | | | | | 86.8 | 90.0 | 89.4 | 90.0 |
| Levene's F | 0.00 | | | | | 1.00 | 0.00 | 0.815 | 0.00 |
| Levene's Prob(F) | | | | | | 0.471 | | 0.609 | |
| Rank X2 | | | | | | | | | |
| P(Rank X2) | | | | | | | | | |
| Skewness | | | | | -2.8091* | -2.5673* | -2.8091* | -2.796* | -2.8091* |
| Kurtosis | | | | | 6.3081* | 5.3766* | 6.3081* | 6.2604* | 6.3081* |
| Replicate F | 0.000 | | | | 0.000 | 1.000 | 0.000 | 1.542 | 0.000 |
| Replicate Prob(F) | 1.0000 | | | | 1.0000 | 0.3874 | 1.0000 | 0.2409 | 1.0000 |
| Treatment F | 0.000 | | | | 0.000 | 880.250 | 0.000 | 1737.096 | 0.000 |
| Treatment Prob(F) | 1.0000 | | | | 1.0000 | 0.0001 | 1.0000 | 0.0001 | 1.0000 |

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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

The Ohio State University

Valent Actives in a Liberty Link System

Trial ID: 20VALENTLLSOY Location: Western Branch F-7 Trial Year: 2020
 Protocol ID: 20VALENTLLSOY Investigator: Dr. Mark M. Loux
 Project ID: FIERCEMD64.01 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

Pest Type W Weed
 Pest Code ABUTH
 Pest Scientific Name Abutilon theop>
 Pest Name velvetleaf
 Crop Type, Code
 BBCH Scale
 Crop Scientific Name
 Crop Name
 Rating Date Jul-8-2020
 Rating Type CONTRO
 Rating Unit %
 Number of Subsamples 1
 Data Entry Date Jul-9-2020
 Rating Timing
 Days After First/Last Applic. 56 7
 Trt-Eval Interval 56 DA-A
 Plant-Eval Interval 56 DP-1
 Days After Emergence 44 DE-1
 Number of Decimals 0

| Trt No. | Treatment Name | Rate | Other Rate | Other Rate | Appl Unit Code | |
|---------|----------------|---------------|------------|------------|----------------|-------|
| 1 | UTC | | | | | 0 b |
| 2 | Scout | 0.585 lb ai/a | 32 oz/a | | B | 100 a |
| 2 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | B | |
| 2 | Scout | 0.585 lb ai/a | 32 oz/a | | C | |
| 2 | Select Max | 0.07 lb ai/a | 9 oz/a | | C | |
| 2 | Induce | 0.25 % v/v | 0.25 % v/v | | C | |
| 2 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | C | |
| 3 | Scout | 0.585 lb ai/a | 32 oz/a | | B | 100 a |
| 3 | Perpetuo | 0.108 lb ai/a | 6 oz/a | | B | |
| 3 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | B | |
| 3 | Scout | 0.585 lb ai/a | 32 oz/a | | C | |
| 3 | Select Max | 0.07 lb ai/a | 9 oz/a | | C | |
| 3 | Induce | 0.25 % v/v | 0.25 % v/v | | C | |
| 3 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | C | |
| 4 | Fierce EZ | 0.143 lb ai/a | 6 oz/a | | A | 100 a |
| 4 | Scout | 0.585 lb ai/a | 32 oz/a | | D | |
| 4 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | |
| 4 | Induce | 0.25 % v/v | 0.25 % v/v | | D | |
| 4 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | |
| 5 | Fierce MTZ | 0.33 lb ai/a | 16 oz/a | | A | 100 a |
| 5 | Scout | 0.585 lb ai/a | 32 oz/a | | D | |
| 5 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | |
| 5 | Induce | 0.25 % v/v | 0.25 % v/v | | D | |
| 5 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | |
| 6 | Fierce EZ | 0.143 lb ai/a | 6 oz/a | | A | 100 a |
| 6 | Scout | 0.585 lb ai/a | 32 oz/a | | D | |
| 6 | Perpetuo | 0.108 lb ai/a | 6 oz/a | | D | |
| 6 | Select Max | 0.07 lb ai/a | 9 oz/a | | D | |
| 6 | Induce | 0.25 % v/v | 0.25 % v/v | | D | |
| 6 | N PAK-AMS | 2.5 % v/v | 2.5 % v/v | | D | |

Means followed by same letter or symbol do not significantly differ (P=0.05, 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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

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 Project ID: FIERCEMD64.01 Study Director: Anthony Dobbels
 Sponsor Contact: Eric Ott, Valent

Pest Type W Weed
 Pest Code ABUTH
 Pest Scientific Name Abutilon theop>
 Pest Name velvetleaf
 Crop Type, Code
 BBCH Scale
 Crop Scientific Name
 Crop Name
 Rating Date Jul-8-2020
 Rating Type CONTRO
 Rating Unit %
 Number of Subsamples 1
 Data Entry Date Jul-9-2020
 Rating Timing
 Days After First/Last Applic. 56 7
 Trt-Eval Interval 56 DA-A
 Plant-Eval Interval 56 DP-1
 Days After Emergence 44 DE-1
 Number of Decimals 0

| Trt No. | Treatment Name | Rate | Unit | Other Rate | Other Unit | Appl Code | 26* |
|---------|----------------|---------------|------|------------|------------|-----------|-------|
| 7 | Fierce MTZ | 0.33 lb ai/a | | 16 oz/a | | A | 100 a |
| 7 | Scout | 0.585 lb ai/a | | 32 oz/a | | D | |
| 7 | Perpetuo | 0.108 lb ai/a | | 6 oz/a | | D | |
| 7 | Select Max | 0.07 lb ai/a | | 9 oz/a | | D | |
| 7 | Induce | 0.25 % v/v | | 0.25 % v/v | | D | |
| 7 | N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | D | |
| 8 | Authority MTZ | 0.31 lb ai/a | | 11 oz/a | | A | 100 a |
| 8 | Scout | 0.585 lb ai/a | | 32 oz/a | | D | |
| 8 | Anthem Maxx | 0.084 lb ai/a | | 2.5 oz/a | | D | |
| 8 | Select Max | 0.07 lb ai/a | | 9 oz/a | | D | |
| 8 | Induce | 0.25 % v/v | | 0.25 % v/v | | D | |
| 8 | N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | D | |
| 9 | Zidua Pro | 0.144 lb ai/a | | 4.5 oz/a | | A | 100 a |
| 9 | Scout | 0.585 lb ai/a | | 32 oz/a | | D | |
| 9 | Perpetuo | 0.108 lb ai/a | | 6 oz/a | | D | |
| 9 | Select Max | 0.07 lb ai/a | | 9 oz/a | | D | |
| 9 | Induce | 0.25 % v/v | | 0.25 % v/v | | D | |
| 9 | N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | D | |
| 10 | Fierce XLT | 0.156 lb ai/a | | 4 oz/a | | A | 100 a |
| 10 | Scout | 0.585 lb ai/a | | 32 oz/a | | D | |
| 10 | Perpetuo | 0.108 lb ai/a | | 6 oz/a | | D | |
| 10 | Select Max | 0.07 lb ai/a | | 9 oz/a | | D | |
| 10 | Induce | 0.25 % v/v | | 0.25 % v/v | | D | |
| 10 | N PAK-AMS | 2.5 % v/v | | 2.5 % v/v | | D | |

| | |
|--------------------|----------|
| LSD P=.05 | . |
| Standard Deviation | 0.0 |
| CV | 0.0 |
| Grand Mean | 90.0 |
| Levene's F | 0.00 |
| Levene's Prob(F) | . |
| Rank X2 | . |
| P(Rank X2) | . |
| Skewness | -2.8091* |
| Kurtosis | 6.3081* |
| Replicate F | 0.000 |
| Replicate Prob(F) | 1.0000 |
| Treatment F | 0.000 |
| Treatment Prob(F) | 1.0000 |

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 4,5,6,7,13,15,21,23,25,26 because error mean square = 0.

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Sponsor Contact: Eric Ott, Valent

Pest Type

W, Weed = Weed or volunteer crop

Pest Code

SETFA, Setaria faberi, foxtail, giant = US
AMBTR, Ambrosia trifida, ragweed, giant = US
CHEAL, Chenopodium album, lambsquarters, common = US
AMARE, Amaranthus retroflexus, pigweed, redroot = US
POLPY, Polygonum pensylvanicum, smartweed, Pennsylvania = US
SOLPT, Solanum ptychanthum, nightshade, eastern black = US
ECHCG, Echinochloa crus-galli, barnyardgrass = US
HIBTR, Hibiscus trionum, mallow, Venice = US
ABUTH, Abutilon theophrasti, velvetleaf = US

Crop Type, Code

C = EPPO species (Bayer) codes
GLXMA, BSOY, Glycine max, Soybean = US

Rating Type

CONTRO = control / burndown or knockdown
PHYGEN = phytotoxicity - general / injury

Rating Unit

% = percent

Plant-Eval Interval

21 DP-1 = 1 GLXMA May-13-2020
44 DP-1 = 1 GLXMA May-13-2020
56 DP-1 = 1 GLXMA May-13-2020