

Winfield Adjuvant Systems in RRXtend Soybeans  
 Trial ID: 19WINPOST Location: Western Branch G-6 Trial Year: 2019  
 Protocol ID: 19WINPOST Investigator: Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact: Greg Dahl, Winfield United

The Ohio State University

**General Trial Information**

**Investigator:** Dr. Mark M. Loux

**Trial Status:** E established

**ARM Trial Created On:** Apr-26-2019

**Trial Location**

**City:** South Charleston **Country:** USA United States  
**State/Prov.:** Ohio  
**Postal Code:** 45368 **Climate Zone:** USWARM US Warm Continental

**Latitude of LL Corner °:** 39.8596 N  
**Longitude of LL Corner °:** 83.67657 W  
**Altitude of LL Corner:** 1113.00 FT

**Conducted Under GLP:** No

**Conducted Under GEP:** No

**Investigator:** Dr. Mark M. Loux

**Crop Description**

**Crop 1:** C GLXMA Glycine max Soybean

**Entry Date:** Jul-22-2019

**Variety:** AG38X8

**Attributes:** Roundup Ready/xtend

**Planting Date:** May-16-2019

**Depth:** 1.5 IN

**Planting Rate:** 165000 S/A

**Row Spacing:** 15 IN

**Planting Method:** SEEDED seeded

**Planting Equipment:** PP plot planter

**Seed Bed:** CLODDY cloddy

**Soil Moisture:** GOOD good

**Emergence Date:** May-29-2019

**Pest Description**

**Pest 1 Type:** W **Code:** SETFA Setaria faberi

**Common Name:** Giant foxtail

**Entry Date:** Jun-20-2019

**Pest 2 Type:** W **Code:** AMBTR Ambrosia trifida

**Common Name:** Giant ragweed

**Entry Date:** Jun-20-2019

**Pest 3 Type:** W **Code:** AMARE Amaranthus retroflexus

**Common Name:** Redroot pigweed

**Entry Date:** Jun-20-2019

**Pest 4 Type:** W **Code:** CHEAL Chenopodium album

**Common Name:** common lambsquarters

**Entry Date:** Jun-20-2019

**Site and Design**

**Treated Plot Width:** 6.67 FT

**Treated Plot Length:** 30 FT

**Treated Plot Area:** 200.1 FT2 **Treatments:** 12

**Replications:** 4

**Site Type:** FIELD field

**Experimental Unit:** 1 PLOT plot

**Tillage Type:** CONTIL conventional-till

**Study Design:** RACOBL Randomized Complete Block (RCB)

**Previous**

**No. Crop Year**

1. CORN 2018

**Soil Description**

**Description Name:** G-6

**% Sand:** 32

**% OM:** 2.2

**Texture:** SICL silty clay loam

**% Silt:** 53

**pH:** 5.9

**Soil Name:** Kokomo

**% Clay:** 15

**CEC:** 14.8

**Fert. Level:** G good

**Soil Drainage:** G

good

**Application Description**

|                                 |               |
|---------------------------------|---------------|
|                                 | <b>A</b>      |
| Application Date                | Jun-18-2019   |
| Appl. Start Time                | 5:00 PM       |
| Appl. Stop Time                 | 5:30 PM       |
| Application Method              | SPRAY         |
| Application Timing              | POST          |
| Application Placement           | BROFOL        |
| Applied By                      | DOBBELS/KILEY |
| Appl. Entry Date                | Jun-20-2019   |
| Air Temperature Start, Stop     | 75 75 F       |
| % Relative Humidity Start, Stop | 79 79         |
| Wind Velocity+Dir. Start        | 5 MPH SSW     |
| Wind Velocity+Dir. Stop         | 7 MPH SSW     |
| Wind Velocity+Dir. Max          | 7 MPH SSW     |
| Wet Leaves (Y/N)                | N no          |
| Soil Temperature                | 74 F          |
| Soil Moisture                   | WET           |
| Soil Surface Condition          | SMOOTH        |
| % Cloud Cover                   | 60            |
| Next Moisture Occurred On       | Jun-18-2019   |
| Time to Next Moisture           | 3 HR          |
| Moisture 6 Hours after Appl.    | 0.01 IN       |
| Moisture 1 Week after Appl.     | 0.77 IN       |

**Crop Stage At Each Application**

|                         |            |
|-------------------------|------------|
|                         | <b>A</b>   |
| Crop 1 Code, BBCH Scale | GLXMA BSOY |
| Stage Majority, Percent | V5 100     |
| Height Average          | 12 IN      |
| Height Minimum, Maximum | 12 14      |

**Pest Stage At Each Application**

|                          |            |
|--------------------------|------------|
|                          | <b>A</b>   |
| Pest 1 Code, Type, Scale | SETFA W    |
| Stage Majority, Percent  | 15 100     |
| Stage Minimum, Percent   | 15 100     |
| Stage Maximum, Percent   | 15 100     |
| Height Average           | 9 IN       |
| Height Minimum, Maximum  | 8 10       |
| Density Average          | 125 PLA/m2 |
| Density Min, Max         | 68 159     |
| Pest 2 Code, Type, Scale | AMBTR W    |
| Stage Majority, Percent  | 19 90      |
| Stage Minimum, Percent   | 18 10      |
| Stage Maximum, Percent   | 19 90      |
| Height Average           | 10 IN      |
| Height Minimum, Maximum  | 6 14       |
| Density Average          | 5 PLA/m2   |
| Density Min, Max         | 3 8        |
| Pest 3 Code, Type, Scale | AMARE W    |
| Stage Majority, Percent  | 14 80      |
| Stage Minimum, Percent   | 14 80      |
| Stage Maximum, Percent   | 18 10      |
| Height Average           | 6 IN       |
| Height Minimum, Maximum  | 4 8        |
| Density Average          | 2 PLA/m2   |
| Density Min, Max         | 0.25 4     |
| Pest 4 Code, Type, Scale | CHEAL W    |
| Stage Majority, Percent  | 14         |
| Stage Minimum, Percent   | 14         |
| Stage Maximum, Percent   | 14         |
| Height Average           | 4 IN       |
| Height Minimum, Maximum  | 2 6        |
| Density Average          | 5 PLA/m2   |
| Density Min, Max         | 1 8        |

**Application Equipment**

**A**  
**Appl. Equipment** 6 foot TTI  
**Equipment Type** SPRBAC  
**Operation Pressure** 48 PSI  
**Nozzle Type** TTI  
**Nozzle Size** 110015  
**Nozzle Spacing** 18 IN  
**Boom Length** 6.67 FT  
**Boom Height** 20 IN  
**Ground Speed** 3 MPH  
**Carrier** WATER  
**Application Amount** 15 GPA  
**Mix Size** 1 Liters  
**Propellant** COMCO2

**Date** **By** **Context** **Notes**  
 Apr-26-2019 Dr. Mark M. Loux STATUS Automatically added by ARM: Trial Status updated to 'S' during trial creation.  
 Jun-20-2019 Dr. Mark M. Loux STATUS Automatically added by ARM: Trial Status updated to 'E' when Application Date entered.

**SE Definitions**

**1.**  
**Crop Type, Code C**

| Pest Type                     | W Weed        | W Weed        | W Weed          | W Weed          |
|-------------------------------|---------------|---------------|-----------------|-----------------|
| Pest Code                     | SETFA         | AMBTR         | CHEAL           | AMARE           |
| Pest Name                     | Giant foxtail | Giant ragweed | common lambsqu> | Redroot pigweed |
| Crop Type, Code               | C GLXMA       | C -           | C -             | C -             |
| Crop Name                     | Soybean       |               |                 |                 |
| Rating Date                   | Jun-26-2019   | Jun-26-2019   | Jun-26-2019     | Jun-26-2019     |
| Rating Type                   | PHYNEC        | CONTRO        | CONTRO          | CONTRO          |
| Rating Unit                   | %             | %             | %               | %               |
| Number of Subsamples          | 1             | 1             | 1               | 1               |
| Data Entry Date               | Jun-26-2019   | Jun-26-2019   | Jun-26-2019     | Jun-26-2019     |
| Days After First/Last Applic. | 8 8           | 8 8           | 8 8             | 8 8             |
| Trt-Eval Interval             | 8 DA-A        | 8 DA-A        | 8 DA-A          | 8 DA-A          |
| Days After Emergence          | 28 DE-1       | 28 DE-1       | 28 DE-1         | 28 DE-1         |

| Trt No. | Treatment Name     | Rate          | Other Rate | Other Rate | Appl Unit Code | 1*    | 2*     | 3*     | 4*      | 5*     |
|---------|--------------------|---------------|------------|------------|----------------|-------|--------|--------|---------|--------|
| 1       | UTC                |               |            |            |                | 0.0 b | 0.0    | 0.0 b  | 0.0 c   | 0.0    |
| 2       | Roundup Powermax   | 0.77 lb ae/a  | 22 oz/a    |            | A              | 0.0 b | 92.5 - | 76.3 a | 85.0 ab | 91.3 - |
|         | 2 Xtendimax        | 0.5 lb ae/a   | 22 oz/a    |            | A              |       |        |        |         |        |
|         | 2 On Target        | 0.5 % v/v     | 0.5 % v/v  |            | A              |       |        |        |         |        |
| 3       | Roundup Powermax   | 0.77 lb ae/a  | 22 oz/a    |            | A              | 1.5 a | 88.8 - | 78.8 a | 90.8 a  | 92.5 - |
|         | 3 Xtendimax        | 0.5 lb ae/a   | 22 oz/a    |            | A              |       |        |        |         |        |
|         | 3 Class Act Ridion | 1 % v/v       | 1 % v/v    |            | A              |       |        |        |         |        |
|         | 3 On Target        | 0.5 % v/v     | 0.5 % v/v  |            | A              |       |        |        |         |        |
| 4       | Roundup Powermax   | 0.77 lb ae/a  | 22 oz/a    |            | A              | 0.0 b | 87.5 - | 77.5 a | 88.3 a  | 88.8 - |
|         | 4 Xtendimax        | 0.5 lb ae/a   | 22 oz/a    |            | A              |       |        |        |         |        |
|         | 4 Class Act Ridion | 1 % v/v       | 1 % v/v    |            | A              |       |        |        |         |        |
|         | 4 On Target        | 0.5 % v/v     | 0.5 % v/v  |            | A              |       |        |        |         |        |
|         | 4 Interlock        | 2 oz/a        | 2 oz/a     |            | A              |       |        |        |         |        |
| 5       | Roundup Powermax   | 0.77 lb ae/a  | 22 oz/a    |            | A              | 0.0 b | 90.8 - | 77.5 a | 83.8 ab | 90.0 - |
|         | 5 Xtendimax        | 0.5 lb ae/a   | 22 oz/a    |            | A              |       |        |        |         |        |
|         | 5 Double X         | 0.5 % v/v     | 0.5 % v/v  |            | A              |       |        |        |         |        |
| 6       | Roundup Powermax   | 0.77 lb ae/a  | 22 oz/a    |            | A              | 0.0 b | 93.8 - | 76.3 a | 87.5 a  | 90.0 - |
|         | 6 Xtendimax        | 0.5 lb ae/a   | 22 oz/a    |            | A              |       |        |        |         |        |
|         | 6 Double X         | 0.5 % v/v     | 0.5 % v/v  |            | A              |       |        |        |         |        |
|         | 6 Interlock        | 2 oz/a        | 2 oz/a     |            | A              |       |        |        |         |        |
| 7       | Roundup Powermax   | 0.387 lb ae/a | 11 oz/a    |            | A              | 0.0 b | 80.0 - | 76.3 a | 80.0 b  | 81.3 - |
|         | 7 Xtendimax        | 0.25 lb ae/a  | 11 oz/a    |            | A              |       |        |        |         |        |
|         | 7 On Target        | 0.5 % v/v     | 0.5 % v/v  |            | A              |       |        |        |         |        |
| 8       | Roundup Powermax   | 0.387 lb ae/a | 11 oz/a    |            | A              | 0.5 b | 85.0 - | 73.8 a | 85.0 ab | 86.3 - |
|         | 8 Xtendimax        | 0.25 lb ae/a  | 11 oz/a    |            | A              |       |        |        |         |        |
|         | 8 Class Act Ridion | 1 % v/v       | 1 % v/v    |            | A              |       |        |        |         |        |
|         | 8 On Target        | 0.5 % v/v     | 0.5 % v/v  |            | A              |       |        |        |         |        |

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|                               |               |               |                |                 |
|-------------------------------|---------------|---------------|----------------|-----------------|
| Pest Type                     | W Weed        | W Weed        | W Weed         | W Weed          |
| Pest Code                     | SETFA         | AMBTR         | CHEAL          | AMARE           |
| Pest Name                     | Giant foxtail | Giant ragweed | common lambsqu | Redroot pigweed |
| Crop Type, Code               | C GLXMA       | C -           | C -            | C -             |
| Crop Name                     | Soybean       |               |                |                 |
| Rating Date                   | Jun-26-2019   | Jun-26-2019   | Jun-26-2019    | Jun-26-2019     |
| Rating Type                   | PHYNEC        | CONTRO        | CONTRO         | CONTRO          |
| Rating Unit                   | %             | %             | %              | %               |
| Number of Subsamples          | 1             | 1             | 1              | 1               |
| Data Entry Date               | Jun-26-2019   | Jun-26-2019   | Jun-26-2019    | Jun-26-2019     |
| Days After First/Last Applic. | 8 8           | 8 8           | 8 8            | 8 8             |
| Trt-Eval Interval             | 8 DA-A        | 8 DA-A        | 8 DA-A         | 8 DA-A          |
| Days After Emergence          | 28 DE-1       | 28 DE-1       | 28 DE-1        | 28 DE-1         |

| Trt No.            | Treatment Name   | Rate          | Unit | Other Rate | Other Unit | Appl Code | 1*       | 2*      | 3*       | 4*       | 5*      |
|--------------------|------------------|---------------|------|------------|------------|-----------|----------|---------|----------|----------|---------|
| 9                  | Roundup Powermax | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 0.0 b    | 82.5 -  | 76.3 a   | 85.0 ab  | 88.8 -  |
| 9                  | Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |          |         |          |          |         |
| 9                  | Class Act Ridion | 1 % v/v       |      | 1 % v/v    |            | A         |          |         |          |          |         |
| 9                  | On Target        | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |          |         |          |          |         |
| 9                  | Interlock        | 2 oz/a        |      | 2 oz/a     |            | A         |          |         |          |          |         |
| 10                 | Roundup Powermax | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 0.0 b    | 82.5 -  | 76.3 a   | 83.8 ab  | 87.5 -  |
| 10                 | Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |          |         |          |          |         |
| 10                 | Double X         | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |          |         |          |          |         |
| 11                 | Roundup Powermax | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 0.0 b    | 88.8 -  | 76.3 a   | 85.0 ab  | 88.8 -  |
| 11                 | Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |          |         |          |          |         |
| 11                 | Double X         | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |          |         |          |          |         |
| 11                 | Interlock        | 2 oz/a        |      | 2 oz/a     |            | A         |          |         |          |          |         |
| 12                 | Roundup Powermax | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 0.0 b    | 82.5 -  | 75.0 a   | 85.0 ab  | 91.3 -  |
| 12                 | Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |          |         |          |          |         |
| LSD P=.05          |                  |               |      |            |            |           | 0.85     | 9.83    | 3.61     | 4.57     | 8.27    |
| Standard Deviation |                  |               |      |            |            |           | 0.59     | 6.81    | 2.51     | 3.17     | 5.73    |
| CV                 |                  |               |      |            |            |           | 354.2    | 7.85    | 3.59     | 4.06     | 6.45    |
| Levene's F         |                  |               |      |            |            |           | 9.455    | 1.351   | 0.523    | 0.791    | 0.919   |
| Levene's Prob(F)   |                  |               |      |            |            |           | 0.001*   | 0.246   | 0.875    | 0.647    | 0.528   |
| Skewness           |                  |               |      |            |            |           | 3.9171*  | -0.1666 | -3.0004* | -2.9597* | -0.1863 |
| Kurtosis           |                  |               |      |            |            |           | 14.3309* | -1.263  | 7.6221*  | 7.4623*  | 0.7593  |
| Replicate F        |                  |               |      |            |            |           | 0.478    | 0.558   | 7.480    | 3.093    | 3.020   |
| Replicate Prob(F)  |                  |               |      |            |            |           | 0.6996   | 0.6470  | 0.0006   | 0.0403   | 0.0451  |
| Treatment F        |                  |               |      |            |            |           | 2.261    | 1.807   | 308.880  | 243.835  | 1.143   |
| Treatment Prob(F)  |                  |               |      |            |            |           | 0.0347   | 0.1024  | 0.0001   | 0.0001   | 0.3650  |

|                               |               |                 |               |                 |                 |
|-------------------------------|---------------|-----------------|---------------|-----------------|-----------------|
| Pest Type                     | W Weed        | W Weed          | W Weed        | W Weed          | W Weed          |
| Pest Code                     | SETFA         | ECHCG           | AMBTR         | CHEAL           | AMARE           |
| Pest Name                     | Giant foxtail | Common barnyar> | Giant ragweed | common lambsqu> | Redroot pigweed |
| Crop Type, Code               | C -           | C -             | C -           | C -             | C -             |
| Crop Name                     |               |                 |               |                 |                 |
| Rating Date                   | Jul-2-2019    | Jul-2-2019      | Jul-2-2019    | Jul-2-2019      | Jul-2-2019      |
| Rating Type                   | CONTRO        | CONTRO          | CONTRO        | CONTRO          | CONTRO          |
| Rating Unit                   | %             | %               | %             | %               | %               |
| Number of Subsamples          | 1             | 1               | 1             | 1               | 1               |
| Data Entry Date               | Jul-2-2019    | Jul-2-2019      | Jul-2-2019    | Jul-2-2019      | Jul-2-2019      |
| Days After First/Last Applic. | 14 14         | 14 14           | 14 14         | 14 14           | 14 14           |
| Trt-Eval Interval             | 14 DA-A       | 14 DA-A         | 14 DA-A       | 14 DA-A         | 14 DA-A         |
| Days After Emergence          | 34 DE-1       | 34 DE-1         | 34 DE-1       | 34 DE-1         | 34 DE-1         |

| Trt Treatment      | Rate          | Other     | Other     | Appl | 6*     | 7*       | 8*      | 9*      | 10*     |
|--------------------|---------------|-----------|-----------|------|--------|----------|---------|---------|---------|
| No. Name           | Rate Unit     | Rate      | Rate Unit | Code |        |          |         |         |         |
| 1 UTC              |               |           |           |      | 0.0 c  | 0.0      | 0.0 c   | 0.0 c   | 0.0 b   |
| 2 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A    | 97.2 a | 72.5 ab  | 90.0 a  | 96.3 a  | 100.0 a |
| 2 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A    |        |          |         |         |         |
| 2 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A    |        |          |         |         |         |
| 3 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A    | 97.2 a | 62.5 abc | 91.3 a  | 98.8 a  | 95.0 a  |
| 3 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A    |        |          |         |         |         |
| 3 Class Act Ridion | 1 % v/v       | 1 % v/v   |           | A    |        |          |         |         |         |
| 3 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A    |        |          |         |         |         |
| 4 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A    | 94.9 a | 83.8 a   | 92.5 a  | 93.8 a  | 90.0 a  |
| 4 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A    |        |          |         |         |         |
| 4 Class Act Ridion | 1 % v/v       | 1 % v/v   |           | A    |        |          |         |         |         |
| 4 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A    |        |          |         |         |         |
| 4 Interlock        | 2 oz/a        | 2 oz/a    |           | A    |        |          |         |         |         |
| 5 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A    | 97.2 a | 66.3 abc | 88.8 a  | 97.5 a  | 86.3 a  |
| 5 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A    |        |          |         |         |         |
| 5 Double X         | 0.5 % v/v     | 0.5 % v/v |           | A    |        |          |         |         |         |
| 6 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A    | 97.2 a | 76.3 a   | 85.0 a  | 95.8 a  | 97.5 a  |
| 6 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A    |        |          |         |         |         |
| 6 Double X         | 0.5 % v/v     | 0.5 % v/v |           | A    |        |          |         |         |         |
| 6 Interlock        | 2 oz/a        | 2 oz/a    |           | A    |        |          |         |         |         |
| 7 Roundup Powermax | 0.387 lb ae/a | 11 oz/a   |           | A    | 72.9 b | 42.5 c   | 62.5 b  | 81.3 b  | 77.5 a  |
| 7 Xtendimax        | 0.25 lb ae/a  | 11 oz/a   |           | A    |        |          |         |         |         |
| 7 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A    |        |          |         |         |         |
| 8 Roundup Powermax | 0.387 lb ae/a | 11 oz/a   |           | A    | 91.9 a | 60.0 abc | 73.8 ab | 88.3 ab | 95.0 a  |
| 8 Xtendimax        | 0.25 lb ae/a  | 11 oz/a   |           | A    |        |          |         |         |         |
| 8 Class Act Ridion | 1 % v/v       | 1 % v/v   |           | A    |        |          |         |         |         |
| 8 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A    |        |          |         |         |         |

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|                               |               |                 |               |                 |                 |
|-------------------------------|---------------|-----------------|---------------|-----------------|-----------------|
| Pest Type                     | W Weed        | W Weed          | W Weed        | W Weed          | W Weed          |
| Pest Code                     | SETFA         | ECHCG           | AMBTR         | CHEAL           | AMARE           |
| Pest Name                     | Giant foxtail | Common barnyar> | Giant ragweed | common lambsqu> | Redroot pigweed |
| Crop Type, Code               | C -           | C -             | C -           | C -             | C -             |
| Crop Name                     |               |                 |               |                 |                 |
| Rating Date                   | Jul-2-2019    | Jul-2-2019      | Jul-2-2019    | Jul-2-2019      | Jul-2-2019      |
| Rating Type                   | CONTRO        | CONTRO          | CONTRO        | CONTRO          | CONTRO          |
| Rating Unit                   | %             | %               | %             | %               | %               |
| Number of Subsamples          | 1             | 1               | 1             | 1               | 1               |
| Data Entry Date               | Jul-2-2019    | Jul-2-2019      | Jul-2-2019    | Jul-2-2019      | Jul-2-2019      |
| Days After First/Last Applic. | 14 14         | 14 14           | 14 14         | 14 14           | 14 14           |
| Trt-Eval Interval             | 14 DA-A       | 14 DA-A         | 14 DA-A       | 14 DA-A         | 14 DA-A         |
| Days After Emergence          | 34 DE-1       | 34 DE-1         | 34 DE-1       | 34 DE-1         | 34 DE-1         |

| Trt No.            | Treatment Name     | Rate          | Unit | Other Rate | Other Unit | Appl Code | 6*           | 7*       | 8*       | 9*       | 10*      |
|--------------------|--------------------|---------------|------|------------|------------|-----------|--------------|----------|----------|----------|----------|
| 9                  | Roundup Powermax   | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 92.1 a       | 66.3 abc | 75.0 ab  | 90.0 ab  | 100.0 a  |
|                    | 9 Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |              |          |          |          |          |
|                    | 9 Class Act Ridion | 1 % v/v       |      | 1 % v/v    |            | A         |              |          |          |          |          |
|                    | 9 On Target        | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |              |          |          |          |          |
|                    | 9 Interlock        | 2 oz/a        |      | 2 oz/a     |            | A         |              |          |          |          |          |
| 10                 | Roundup Powermax   | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 88.1 ab      | 57.5 abc | 82.5 ab  | 93.8 a   | 100.0 a  |
|                    | 10 Xtendimax       | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |              |          |          |          |          |
|                    | 10 Double X        | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |              |          |          |          |          |
| 11                 | Roundup Powermax   | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 95.0 a       | 62.5 abc | 71.3 ab  | 90.0 ab  | 83.8 a   |
|                    | 11 Xtendimax       | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |              |          |          |          |          |
|                    | 11 Double X        | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |              |          |          |          |          |
|                    | 11 Interlock       | 2 oz/a        |      | 2 oz/a     |            | A         |              |          |          |          |          |
| 12                 | Roundup Powermax   | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 86.7 ab      | 47.5 bc  | 73.8 ab  | 91.3 ab  | 83.8 a   |
|                    | 12 Xtendimax       | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |              |          |          |          |          |
| LSD P=.05          |                    |               |      |            |            |           | 8.94 - 14.28 | 17.21    | 13.91    | 7.65     | 14.87    |
| Standard Deviation |                    |               |      |            |            |           | 7.21t        | 11.92    | 9.67     | 5.32     | 10.34    |
| CV                 |                    |               |      |            |            |           | 10.57t       | 18.79    | 13.09    | 6.28     | 12.3     |
| Levene's F         |                    |               |      |            |            |           | 1.259        | 0.633    | 3.60     | 0.513    | 1.801    |
| Levene's Prob(F)   |                    |               |      |            |            |           | 0.286        | 0.775    | 0.002*   | 0.881    | 0.09     |
| Skewness           |                    |               |      |            |            |           | -2.2906*     | -0.0793  | -1.8655* | -2.7951* | -2.2685* |
| Kurtosis           |                    |               |      |            |            |           | 4.8854*      | -0.4415  | 3.1245*  | 6.7354*  | 4.4053*  |
| Replicate F        |                    |               |      |            |            |           | 1.845        | 2.620    | 5.118    | 1.030    | 2.748    |
| Replicate Prob(F)  |                    |               |      |            |            |           | 0.1582       | 0.0690   | 0.0051   | 0.3920   | 0.0584   |
| Treatment F        |                    |               |      |            |            |           | 38.738       | 3.989    | 26.940   | 103.835  | 28.359   |
| Treatment Prob(F)  |                    |               |      |            |            |           | 0.0001       | 0.0015   | 0.0001   | 0.0001   | 0.0001   |

|                               |               |                 |               |                 |                 |
|-------------------------------|---------------|-----------------|---------------|-----------------|-----------------|
| Pest Type                     | W Weed        | W Weed          | W Weed        | W Weed          | W Weed          |
| Pest Code                     | SETFA         | ECHCG           | AMBTR         | CHEAL           | AMARE           |
| Pest Name                     | Giant foxtail | Common barnyar> | Giant ragweed | common lambsqu> | Redroot pigweed |
| Crop Type, Code               | C -           | C -             | C -           | C -             | C -             |
| Crop Name                     |               |                 |               |                 |                 |
| Rating Date                   | Jul-8-2019    | Jul-8-2019      | Jul-8-2019    | Jul-8-2019      | Jul-8-2019      |
| Rating Type                   | CONTRO        | CONTRO          | CONTRO        | CONTRO          | CONTRO          |
| Rating Unit                   | %             | %               | %             | %               | %               |
| Number of Subsamples          | 1             | 1               | 1             | 1               | 1               |
| Data Entry Date               | Jul-9-2019    | Jul-9-2019      | Jul-9-2019    | Jul-9-2019      | Jul-9-2019      |
| Days After First/Last Applic. | 20 20         | 20 20           | 20 20         | 20 20           | 20 20           |
| Trt-Eval Interval             | 20 DA-A       | 20 DA-A         | 20 DA-A       | 20 DA-A         | 20 DA-A         |
| Days After Emergence          | 40 DE-1       | 40 DE-1         | 40 DE-1       | 40 DE-1         | 40 DE-1         |

| Trt Treatment      | Rate          | Other     | Other     | Appl      | 11*      | 12*     | 13*     | 14*     | 15*    |
|--------------------|---------------|-----------|-----------|-----------|----------|---------|---------|---------|--------|
| No. Name           | Rate Unit     | Rate      | Rate Unit | Unit Code |          |         |         |         |        |
| 1 UTC              |               |           |           |           | 0.0 d    | 0.0     | 0.0 d   | 0.0 c   | 0.0 c  |
| 2 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A         | 97.8 a   | 89.5 ab | 97.1 ab | 91.5 a  | 90.0 a |
| 2 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A         |          |         |         |         |        |
| 2 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A         |          |         |         |         |        |
| 3 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A         | 95.3 ab  | 75.8 ab | 93.7 ab | 92.0 a  | 92.0 a |
| 3 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A         |          |         |         |         |        |
| 3 Class Act Ridion | 1 % v/v       | 1 % v/v   |           | A         |          |         |         |         |        |
| 3 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A         |          |         |         |         |        |
| 4 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A         | 92.0 abc | 90.8 ab | 99.5 ab | 97.0 a  | 92.5 a |
| 4 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A         |          |         |         |         |        |
| 4 Class Act Ridion | 1 % v/v       | 1 % v/v   |           | A         |          |         |         |         |        |
| 4 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A         |          |         |         |         |        |
| 4 Interlock        | 2 oz/a        | 2 oz/a    |           | A         |          |         |         |         |        |
| 5 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A         | 98.5 a   | 97.0 a  | 100.0 a | 96.5 a  | 95.0 a |
| 5 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A         |          |         |         |         |        |
| 5 Double X         | 0.5 % v/v     | 0.5 % v/v |           | A         |          |         |         |         |        |
| 6 Roundup Powermax | 0.77 lb ae/a  | 22 oz/a   |           | A         | 99.0 a   | 99.0 a  | 99.5 ab | 95.0 a  | 95.3 a |
| 6 Xtendimax        | 0.5 lb ae/a   | 22 oz/a   |           | A         |          |         |         |         |        |
| 6 Double X         | 0.5 % v/v     | 0.5 % v/v |           | A         |          |         |         |         |        |
| 6 Interlock        | 2 oz/a        | 2 oz/a    |           | A         |          |         |         |         |        |
| 7 Roundup Powermax | 0.387 lb ae/a | 11 oz/a   |           | A         | 68.8 c   | 56.3 b  | 75.0 c  | 68.8 b  | 62.5 b |
| 7 Xtendimax        | 0.25 lb ae/a  | 11 oz/a   |           | A         |          |         |         |         |        |
| 7 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A         |          |         |         |         |        |
| 8 Roundup Powermax | 0.387 lb ae/a | 11 oz/a   |           | A         | 85.8 abc | 86.5 ab | 89.3 b  | 82.5 ab | 80.8 a |
| 8 Xtendimax        | 0.25 lb ae/a  | 11 oz/a   |           | A         |          |         |         |         |        |
| 8 Class Act Ridion | 1 % v/v       | 1 % v/v   |           | A         |          |         |         |         |        |
| 8 On Target        | 0.5 % v/v     | 0.5 % v/v |           | A         |          |         |         |         |        |

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|                               |               |                 |               |                 |                 |
|-------------------------------|---------------|-----------------|---------------|-----------------|-----------------|
| Pest Type                     | W Weed        | W Weed          | W Weed        | W Weed          | W Weed          |
| Pest Code                     | SETFA         | ECHCG           | AMBTR         | CHEAL           | AMARE           |
| Pest Name                     | Giant foxtail | Common barnyar> | Giant ragweed | common lambsqu> | Redroot pigweed |
| Crop Type, Code               | C -           | C -             | C -           | C -             | C -             |
| Crop Name                     |               |                 |               |                 |                 |
| Rating Date                   | Jul-8-2019    | Jul-8-2019      | Jul-8-2019    | Jul-8-2019      | Jul-8-2019      |
| Rating Type                   | CONTRO        | CONTRO          | CONTRO        | CONTRO          | CONTRO          |
| Rating Unit                   | %             | %               | %             | %               | %               |
| Number of Subsamples          | 1             | 1               | 1             | 1               | 1               |
| Data Entry Date               | Jul-9-2019    | Jul-9-2019      | Jul-9-2019    | Jul-9-2019      | Jul-9-2019      |
| Days After First/Last Applic. | 20 20         | 20 20           | 20 20         | 20 20           | 20 20           |
| Trt-Eval Interval             | 20 DA-A       | 20 DA-A         | 20 DA-A       | 20 DA-A         | 20 DA-A         |
| Days After Emergence          | 40 DE-1       | 40 DE-1         | 40 DE-1       | 40 DE-1         | 40 DE-1         |

| Trt No.            | Treatment Name   | Rate          | Unit | Other Rate | Other Unit | Appl Code | 11*      | 12*     | 13*          | 14*      | 15*      |
|--------------------|------------------|---------------|------|------------|------------|-----------|----------|---------|--------------|----------|----------|
| 9                  | Roundup Powermax | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 82.0 abc | 67.5 ab | 94.5 ab      | 92.0 a   | 88.3 a   |
| 9                  | Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |          |         |              |          |          |
| 9                  | Class Act Ridion | 1 % v/v       |      | 1 % v/v    |            | A         |          |         |              |          |          |
| 9                  | On Target        | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |          |         |              |          |          |
| 9                  | Interlock        | 2 oz/a        |      | 2 oz/a     |            | A         |          |         |              |          |          |
| 10                 | Roundup Powermax | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 77.5 abc | 73.3 ab | 94.3 ab      | 85.8 a   | 82.0 a   |
| 10                 | Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |          |         |              |          |          |
| 10                 | Double X         | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |          |         |              |          |          |
| 11                 | Roundup Powermax | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 91.5 abc | 87.0 ab | 97.1 ab      | 95.3 a   | 93.3 a   |
| 11                 | Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |          |         |              |          |          |
| 11                 | Double X         | 0.5 % v/v     |      | 0.5 % v/v  |            | A         |          |         |              |          |          |
| 11                 | Interlock        | 2 oz/a        |      | 2 oz/a     |            | A         |          |         |              |          |          |
| 12                 | Roundup Powermax | 0.387 lb ae/a |      | 11 oz/a    |            | A         | 71.0 bc  | 62.0 b  | 98.7 ab      | 81.3 ab  | 83.8 a   |
| 12                 | Xtendimax        | 0.25 lb ae/a  |      | 11 oz/a    |            | A         |          |         |              |          |          |
| LSD P=.05          |                  |               |      |            |            |           | 15.86    | 21.37   | 2.99 - 13.25 | 12.54    | 15.46    |
| Standard Deviation |                  |               |      |            |            |           | 11.02    | 14.80   | 6.92t        | 8.72     | 10.74    |
| CV                 |                  |               |      |            |            |           | 13.8     | 18.4    | 9.6t         | 10.7     | 13.5     |
| Levene's F         |                  |               |      |            |            |           | 1.67     | 0.82    | 1.582        | 1.452    | 1.977    |
| Levene's Prob(F)   |                  |               |      |            |            |           | 0.121    | 0.613   | 0.146        | 0.193    | 0.061    |
| Skewness           |                  |               |      |            |            |           | -1.8752* | -0.5835 | -2.2173*     | -2.3193* | -2.1269* |
| Kurtosis           |                  |               |      |            |            |           | 3.1312*  | -0.6515 | 4.4361*      | 4.6889*  | 3.781*   |
| Replicate F        |                  |               |      |            |            |           | 2.230    | 0.646   | 5.097        | 1.347    | 1.383    |
| Replicate Prob(F)  |                  |               |      |            |            |           | 0.1031   | 0.5919  | 0.0052       | 0.2761   | 0.2653   |
| Treatment F        |                  |               |      |            |            |           | 24.467   | 3.750   | 48.337       | 38.200   | 24.650   |
| Treatment Prob(F)  |                  |               |      |            |            |           | 0.0001   | 0.0024  | 0.0001       | 0.0001   | 0.0001   |



Winfield Adjuvant Systems in RRXtend Soybeans

Trial ID: 19WINPOST      Location: Western Branch G-6      Trial Year: 2019  
Protocol ID: 19WINPOST      Investigator: Dr. Mark M. Loux  
Project ID:      Study Director:  
Sponsor Contact: Greg Dahl, Winfield United

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

SETFA, Setaria faberi, Giant foxtail = US  
AMBTR, Ambrosia trifida, Giant ragweed = US  
CHEAL, Chenopodium album, common lambsquarters = US  
AMARE, Amaranthus retroflexus, Redroot pigweed = US  
ECHCG, Echinochloa crus-galli, Common barnyard grass = US

Crop Type, Code

C, G-ByrC7 = EPPO species (Bayer) codes  
GLXMA, BSOY, Glycine max, Soybean = US

Rating Type

PHYNEC = phytotoxicity - necrosis /burn  
CONTRO = control / burndown or knockdown

Rating Unit

% = percent