

# Purdue Weed Science

## Syngenta - Tavium Pre

Trial ID: 20S-MGS-SOY-07 Location: Lafayette Trial Year: 2020  
 Protocol ID: 20S-MGS-SOY-07 Investigator (Creator): Dr. Bill Johnson  
 Project ID: Study Director: Brent Mansfield  
 Sponsor Contact: Syngenta - Chad Threewits

### General Trial Information

**Study Director:** Brent Mansfield  
**Investigator:** Dr. Bill Johnson **Title:** Professor  
**Discipline:** H herbicide  
**Trial Status:** E established **Trial Reliability:** 1 usable data  
**ARM Trial Created On:** 5/27/2020  
**Initiation Date:** 5/24/2020  
**Completion Date:** 11/3/2020

### Trial Location

**City:** Lafayette **Country:** USA United States  
**State/Prov.:** Indiana

**Latitude of LL Corner °:** 40.2710122 N  
**Longitude of LL Corner °:** -86.8814147 W

**Conducted Under GLP:** No  
**Conducted Under GEP:** No

### Contacts

**Role:** STYDIR study director  
**Study Director:** Brent Mansfield  
**Role:** INVEST investigator  
**Investigator:** Dr. Bill Johnson **Title:** Professor  
**Organization:** Purdue University  
**Address 1:** 915 W. State Street  
**Country:** USA United States **E-mail:** wgj@purdue.edu  
**City:** West Lafayette, IN **Postal Code:** 47907  
**Role:** SPONSR sponsor  
**Sponsor:** Syngenta - Chad Threewits

### Crop Description

**Crop 1:** C GLXMA Glycine max Soybean **BBCH Scale:** BSOY  
**Entry Date:** 12/5/2020 **Stage Scale:** BBCH  
**Variety:** AG 29X9  
**Attributes:** Glyphosate-R and Dicamba-R  
**Planting Date:** 5/24/2020 **Planting Rate:** 387790 S/ha  
**Depth:** 4.5 cm  
**Rows per Plot:** 4 **Planting Method:** PLANTD planted  
**Row Spacing:** 76 cm **Planting Equipment:** PP plot planter  
**Soil Temperature:** 80 F **Soil Moisture:** SLIWET slightly wet, moist  
**Emergence Date:** 5/28/2020  
**Harvested Width:** 5 FT  
**Harvested Length:** 22 FT  
**% Standard Moisture:** 13.0

### Pest Description

**Pest 1 Type:** W **Code:** AMATA **Amaranthus x tamariscinus** **Entry Date:** 12/5/2020  
**Common Name:** Common waterhemp **Stage Scale:** BBCH  
**Pest 2 Type:** W **Code:** SIDSP **Sida spinosa** **Entry Date:** 12/5/2020  
**Common Name:** Prickly sida **Stage Scale:** BBCH  
**Pest 3 Type:** W **Code:** ABUTH **Abutilon theophrasti** **Entry Date:** 12/5/2020  
**Common Name:** velvetleaf **Stage Scale:** BBCH

### Site and Design

**Treated Plot Width:** 6.67 FT **Site Type:** FIELD field  
**Treated Plot Length:** 25 FT **Experimental Unit:** 1 PLOT plot  
**Treated Plot Area:** 166.75 FT<sup>2</sup> **Treatments:** 10 **Tillage Type:** NOTILL no-till  
**Replications:** 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

### Soil Description

**Description Name:** Starks-Fincastle complex  
**% Sand:** 21 **% OM:** 2.2 **Texture:** SIL silt loam  
**% Silt:** 54 **pH:** 6.8  
**% Clay:** 25 **CEC:** 8.3

| Application Description         |              |              |
|---------------------------------|--------------|--------------|
|                                 | A            | B            |
| Application Date                | 5/27/2020    | 7/1/2020     |
| Appl. Start Time                | 11:10 AM     | 3:45 PM      |
| Appl. Stop Time                 | 11:40 AM     | 4:20 PM      |
| Interval to Prev. Appl.         |              | 35 DAYS      |
| Application Method              | SPRAY        | SPRAY        |
| Application Timing              | A            | B            |
| Application Placement           | BROSOI       | BROFOL       |
| Applied By                      | B. MANSFIELD | C. BLAND     |
| Appl. Entry Date                | 12/5/2020    | 12/5/2020    |
| Air Temperature Start, Stop     | 83, 83 F     | 90, 90 F     |
| % Relative Humidity Start, Stop | 55, 55       | 54, 54       |
| Wind Velocity+Dir. Start        | 2 MPH, W     | 1.1 MPH, ESE |
| Wet Leaves (Y/N)                | N, no        | N, no        |
| Soil Temperature                | 78 F         | 92 F         |
| Soil Moisture                   | DRY          | SLIWET       |
| % Cloud Cover                   | 30           | 40           |

| Crop Stage At Each Application |             |             |
|--------------------------------|-------------|-------------|
|                                | A           | B           |
| Crop 1 Code, BBCH Scale        | GLXMA, BSOY | GLXMA, BSOY |
| Days after Emergence           | -1          | 34          |
| Stage Majority, Percent        | 00, -       | 13, -       |
| Stage Minimum, Percent         | 00, -       | 13, -       |
| Stage Maximum, Percent         | 00, -       | 14, -       |
| Height Average                 | 0 IN        | 7 IN        |
| Height Minimum, Maximum        | 0, 0        | 6, 7        |

| Pest Stage At Each Application |                |                |
|--------------------------------|----------------|----------------|
|                                | A              | B              |
| Pest 1 Code, Type, Scale       | AMATA, W, BBCH | AMATA, W, BBCH |
| Stage Majority, Percent        | 0, -           | 14, -          |
| Stage Minimum, Percent         | 0, -           | 12, -          |
| Stage Maximum, Percent         | 0, -           | 16, -          |
| Height Average                 | 0 IN           | 2 IN           |
| Height Minimum, Maximum        | 0, 0           | 0.25, 4        |
| Density Average                |                | 2 FT2          |
| Density Minimum, Maximum       |                | 0, 10          |
| Pest 2 Code, Type, Scale       | SIDSP, W, BBCH | SIDSP, W, BBCH |
| Stage Majority, Percent        | 0, -           | 18, -          |
| Stage Minimum, Percent         | 0, -           | 16, -          |
| Stage Maximum, Percent         | 0, -           | 18, -          |
| Height Average                 | 0 IN           | 4 IN           |
| Height Minimum, Maximum        | 0, 0           | 2, 6           |
| Density Average                |                | 7 FT2          |
| Density Minimum, Maximum       |                | 5, 10          |
| Pest 3 Code, Type, Scale       | ABUTH, W, BBCH | ABUTH, W, BBCH |
| Stage Majority, Percent        | 0, -           | 18, -          |
| Stage Minimum, Percent         | 0, -           | 14, -          |
| Stage Maximum, Percent         | 0, -           | 18, -          |
| Height Average                 | 0 IN           | 8 IN           |
| Height Minimum, Maximum        | 0, 0           | 6, 8           |
| Density Average                |                | 1 FT2          |
| Density Minimum, Maximum       |                | 0, 1           |

| Application Equipment |              |              |
|-----------------------|--------------|--------------|
|                       | A            | B            |
| Appl. Equipment       | CO2 BACKPACK | CO2 BACKPACK |
| Equipment Type        | BACSPR       | BACSPR       |
| Operation Pressure    | 38 PSI       | 45 PSI       |
| Nozzle Model          | TT1110015    | TT110015     |
| Nozzle Type           | TEEJAI       | TEEJTU       |
| Nozzle Spacing        | 20.0 IN      | 20.0 IN      |
| Nozzles/Row           | 4.0          | 4.0          |
| Boom Length           | 6.67 FT      | 6.67 FT      |
| Boom Height           | 17.0 IN      | 25.0 IN      |
| Ground Speed          | 3 MPH        | 3 MPH        |
| Carrier               | WATER        | WATER        |
| Application Amount    | 15 GAL/AC    | 15 GAL/AC    |
| Mix Overage           | 0 mL         | 0 mL         |
| Mix Size              | 945.0 mL     | 945.0 mL     |
| Propellant            | COMCO2       | COMCO2       |

| Notes   |           |                  |  |
|---------|-----------|------------------|--|
| Context | Date      | By               | Notes  |
| STATUS  | 5/27/2020 | Dr. Bill Johnson | Automatically added by ARM: Trial Status updated to 'S' during trial creation. |

# Purdue Weed Science

|                              |  |
|------------------------------|--|
| <b>Syngenta - Tavium Pre</b> |  |
| Trial ID: 20S-MGS-SOY-07     | Location: Lafayette                        |
| Protocol ID: 20S-MGS-SOY-07  | Trial Year: 2020                           |
| Project ID:                  | Investigator (Creator): Dr. Bill Johnson   |
|                              | Study Director: Brent Mansfield            |
|                              | Sponsor Contact: Syngenta - Chad Threewits |

|                               |                   |              |              | W, Weed<br>AMATA<br>Amaranthus x ta><br>Common waterhemp | W, Weed<br>SIDSP<br>Sida spinosa<br>Prickly sida |         |        |
|-------------------------------|-------------------|--------------|--------------|--|--|---------|--------|
| Pest Type                     |                   |              |              |  |  |         |        |
| Pest Code                     |                   |              |              |  |  |         |        |
| Pest Scientific Name          |                   |              |              |  |  |         |        |
| Pest Name                     |                   |              |              |  |  |         |        |
| Crop Type, Code               | C, GLXMA          | C, GLXMA     | C, GLXMA     |  |  |         |        |
| BBCH Scale                    | BSOY              | BSOY         | BSOY         |  |  |         |        |
| Crop Scientific Name          | Glycine max       | Glycine max  | Glycine max  |  |  |         |        |
| Crop Name                     | Soybean           | Soybean      | Soybean      |  |  |         |        |
| Rating Date                   | 6/3/2020          | 6/10/2020    | 6/24/2020    | 6/17/2020  | 6/17/2020  |         |        |
| Part Rated                    | PLANT, C          | PLANT, C     | PLANT, C     | PLANT, C   | PLANT, C   |         |        |
| Rating Type                   | PHYGEN            | PHYGEN       | PHYGEN       | CONTROL  | CONTROL  |         |        |
| Rating Unit/Min/Max           | % , 0, 100        | % , 0, 100   | % , 0, 100   | % , 0, 100   | % , 0, 100                                       |         |        |
| Sample Size                   |                   |              |              |  |  |         |        |
| Number of Subsamples          | 1                 | 1            | 1            | 1  | 1  |         |        |
| Assessed By                   | B. MANSFIELD      | B. MANSFIELD | B. MANSFIELD | B. MANSFIELD   | B. MANSFIELD                                     |         |        |
| Data Entry Date               | 12/5/2020         | 12/5/2020    | 12/5/2020    | 12/5/2020  | 12/5/2020  |         |        |
| Rating Timing                 | 7 DAA             | 14 DAA       | 28 DAA       | 21 DAA   | 21 DAA   |         |        |
| Days After First/Last Applic. | 7, 7              | 14, 14       | 28, 28       | 21, 21   | 21, 21   |         |        |
| Plant-Eval Interval           | 10 DP-1           | 17 DP-1      | 31 DP-1      | 24 DP-1  | 24 DP-1  |         |        |
| Days After Emergence          | 6 DE-1            | 13 DE-1      | 27 DE-1      | 20 DE-1  | 20 DE-1  |         |        |
| ARM Action Codes              |                   |              |              |  |  |         |        |
| Number of Decimals            |                   |              |              |  |  |         |        |
| Trt Treatment<br>No. Name     | Rate<br>Rate Unit | Appl<br>Code | 1            | 2  | 3  | 4       | 5      |
| 1 TAVIUM                      | 3.53 PT/A         | A            | 0.0 -        | 0.0 -  | 0.0 -  | 100.0 - | 90.8 - |
| INTACT                        | 0.5 % V/V         | A            |              |  |  |         |        |
| TAVIUM                        | 3.53 PT/A         | B            |              |  |  |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A           | B            |              |  |  |         |        |
| CLASS ACT RIDION              | 1 % V/V           | B            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | B            |              |  |  |         |        |
| 2 TAVIUM                      | 3.53 PT/A         | A            | 0.0 -        | 0.0 -  | 0.0 -  | 100.0 - | 93.8 - |
| TRICOR                        | 6 OZ/A            | A            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | A            |              |  |  |         |        |
| TAVIUM                        | 3.53 PT/A         | B            |              |  |  |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A           | B            |              |  |  |         |        |
| CLASS ACT RIDION              | 1 % V/V           | B            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | B            |              |  |  |         |        |
| 3 TAVIUM                      | 3.53 PT/A         | A            | 0.0 -        | 0.0 -  | 0.0 -  | 100.0 - | 97.8 - |
| FIRSTRATE                     | 0.5 OZ/A          | A            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | A            |              |  |  |         |        |
| TAVIUM                        | 3.53 PT/A         | B            |              |  |  |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A           | B            |              |  |  |         |        |
| CLASS ACT RIDION              | 1 % V/V           | B            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | B            |              |  |  |         |        |
| 4 TAVIUM                      | 3.53 PT/A         | A            | 0.0 -        | 0.0 -  | 0.0 -  | 100.0 - | 90.8 - |
| FLEXSTAR                      | 1 PT/A            | A            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | A            |              |  |  |         |        |
| TAVIUM                        | 3.53 PT/A         | B            |              |  |  |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A           | B            |              |  |  |         |        |
| CLASS ACT RIDION              | 1 % V/V           | B            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | B            |              |  |  |         |        |
| 5 TAVIUM                      | 3.53 PT/A         | A            | 0.0 -        | 0.0 -  | 0.0 -  | 100.0 - | 95.5 - |
| CANOPY BLEND @ 2.9 OZ/A       |                   | A            |              |  |  |         |        |
| -DPX-G2504 (METRIBUZIN 75 WG) | 1.93 OZ/A         | A            |              |  |  |         |        |
| -CLASSIC                      | 0.96 OZ/A         | A            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | A            |              |  |  |         |        |
| TAVIUM                        | 3.53 PT/A         | B            |              |  |  |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A           | B            |              |  |  |         |        |
| CLASS ACT RIDION              | 1 % V/V           | B            |              |  |  |         |        |
| INTACT                        | 0.5 % V/V         | B            |              |  |  |         |        |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.  
 Untreated treatment(s) 10 excluded from analysis.  
 Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.  
 ^Calculated from residual.

| Pest Type                     |              |              |              | W, Weed          | W, Weed      |         |          |
|-------------------------------|--------------|--------------|--------------|------------------|--------------|---------|----------|
| Pest Code                     |              |              |              | AMATA            | SIDSP        |         |          |
| Pest Scientific Name          |              |              |              | Amaranthus x ta> | Sida spinosa |         |          |
| Pest Name                     |              |              |              | Common waterhemp | Prickly sida |         |          |
| Crop Type, Code               | C, GLXMA     | C, GLXMA     | C, GLXMA     |                  |              |         |          |
| BBCH Scale                    | BSOY         | BSOY         | BSOY         |                  |              |         |          |
| Crop Scientific Name          | Glycine max  | Glycine max  | Glycine max  |                  |              |         |          |
| Crop Name                     | Soybean      | Soybean      | Soybean      |                  |              |         |          |
| Rating Date                   | 6/3/2020     | 6/10/2020    | 6/24/2020    | 6/17/2020        | 6/17/2020    |         |          |
| Part Rated                    | PLANT, C     | PLANT, C     | PLANT, C     | PLANT, C         | PLANT, C     |         |          |
| Rating Type                   | PHYGEN       | PHYGEN       | PHYGEN       | CONTROL          | CONTROL      |         |          |
| Rating Unit/Min/Max           | % , 0, 100   | % , 0, 100   | % , 0, 100   | % , 0, 100       | % , 0, 100   |         |          |
| Sample Size                   |              |              |              |                  |              |         |          |
| Number of Subsamples          | 1            | 1            | 1            | 1                | 1            |         |          |
| Assessed By                   | B. MANSFIELD | B. MANSFIELD | B. MANSFIELD | B. MANSFIELD     | B. MANSFIELD |         |          |
| Data Entry Date               | 12/5/2020    | 12/5/2020    | 12/5/2020    | 12/5/2020        | 12/5/2020    |         |          |
| Rating Timing                 | 7 DAA        | 14 DAA       | 28 DAA       | 21 DAA           | 21 DAA       |         |          |
| Days After First/Last Applic. | 7, 7         | 14, 14       | 28, 28       | 21, 21           | 21, 21       |         |          |
| Plant-Eval Interval           | 10 DP-1      | 17 DP-1      | 31 DP-1      | 24 DP-1          | 24 DP-1      |         |          |
| Days After Emergence          | 6 DE-1       | 13 DE-1      | 27 DE-1      | 20 DE-1          | 20 DE-1      |         |          |
| ARM Action Codes              |              |              |              |                  |              |         |          |
| Number of Decimals            |              |              |              |                  |              |         |          |
| Trt Treatment                 | Rate         | Appl         | 1            | 2                | 3            | 4       | 5        |
| No. Name                      | Rate Unit    | Code         |              |                  |              |         |          |
| 6 XTENDIMAX                   | 22 FL OZ/A   | A            | 0.0 -        | 0.0 -            | 0.0 -        | 100.0 - | 91.5 -   |
| INTACT                        | 0.5 % V/V    | A            |              |                  |              |         |          |
| TAVIUM                        | 3.53 PT/A    | B            |              |                  |              |         |          |
| ROUNDUP POWERMAX              | 26 OZ/A      | B            |              |                  |              |         |          |
| CLASS ACT RIDION              | 1 % V/V      | B            |              |                  |              |         |          |
| INTACT                        | 0.5 % V/V    | B            |              |                  |              |         |          |
| 7 XTENDIMAX                   | 22 FL OZ/A   | A            | 0.0 -        | 0.0 -            | 0.0 -        | 100.0 - | 87.5 -   |
| WARRANT                       | 1.25 QT/A    | A            |              |                  |              |         |          |
| INTACT                        | 0.5 % V/V    | A            |              |                  |              |         |          |
| TAVIUM                        | 3.53 PT/A    | B            |              |                  |              |         |          |
| ROUNDUP POWERMAX              | 26 OZ/A      | B            |              |                  |              |         |          |
| CLASS ACT RIDION              | 1 % V/V      | B            |              |                  |              |         |          |
| INTACT                        | 0.5 % V/V    | B            |              |                  |              |         |          |
| 8 ZIDUA PRO                   | 6 FL OZ/A    | A            | 0.0 -        | 0.0 -            | 0.0 -        | 100.0 - | 94.5 -   |
| ENGENIA                       | 12.8 FL OZ/A | B            |              |                  |              |         |          |
| OUTLOOK                       | 10 FL OZ/A   | B            |              |                  |              |         |          |
| ROUNDUP POWERMAX              | 26 OZ/A      | B            |              |                  |              |         |          |
| CLASS ACT RIDION              | 1 % V/V      | B            |              |                  |              |         |          |
| INTACT                        | 0.5 % V/V    | B            |              |                  |              |         |          |
| 9 BOUNDARY                    | 1.8 PT/A     | A            | 0.0 -        | 0.0 -            | 0.0 -        | 100.0 - | 96.5 -   |
| FIRSTRATE                     | 0.5 OZ/A     | A            |              |                  |              |         |          |
| TAVIUM                        | 3.53 PT/A    | B            |              |                  |              |         |          |
| ROUNDUP POWERMAX              | 26 OZ/A      | B            |              |                  |              |         |          |
| CLASS ACT RIDION              | 1 % V/V      | B            |              |                  |              |         |          |
| INTACT                        | 0.5 % V/V    | B            |              |                  |              |         |          |
| 10 UNTREATED CHECK            |              |              | 0.0          | 0.0              | 0.0          | 0.0     | 0.0      |
| LSD P=.05                     |              |              | .            | .                | .            | .       | 7.85     |
| Standard Deviation            |              |              | 0.00         | 0.00             | 0.00         | 0.00    | 5.38     |
| CV                            |              |              | 0.0          | 0.0              | 0.0          | 0.0     | 5.78     |
| Grand Mean                    |              |              | 0.00         | 0.00             | 0.00         | 100.00  | 93.17    |
| Levene's F^                   |              |              | .            | .                | .            | .       | 1.149    |
| Levene's Prob(F)              |              |              | .            | .                | .            | .       | 0.365    |
| Rank X2                       |              |              | .            | .                | .            | .       | .        |
| P(Rank X2)                    |              |              | .            | .                | .            | .       | .        |
| Skewness^                     |              |              | .            | .                | .            | .       | -1.0914* |
| Kurtosis^                     |              |              | .            | .                | .            | .       | 2.5552*  |
| Replicate F                   |              |              | 0.000        | 0.000            | 0.000        | 0.000   | 1.580    |
| Replicate Prob(F)             |              |              | 1.0000       | 1.0000           | 1.0000       | 1.0000  | 0.2202   |
| Treatment F                   |              |              | 0.000        | 0.000            | 0.000        | 0.000   | 1.490    |
| Treatment Prob(F)             |              |              | 1.0000       | 1.0000           | 1.0000       | 1.0000  | 0.2128   |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

| Pest Type                     | W, Weed          | W, Weed          | W, Weed      | W, Weed          |              |         |       |
|-------------------------------|------------------|------------------|--------------|------------------|--------------|---------|-------|
| Pest Code                     | ABUTH            | AMATA            | SIDSP        | ABUTH            |              |         |       |
| Pest Scientific Name          | Abutilon theoph> | Amaranthus x ta> | Sida spinosa | Abutilon theoph> |              |         |       |
| Pest Name                     | velvetleaf       | Common waterhemp | Prickly sida | velvetleaf       |              |         |       |
| Crop Type, Code               |                  |                  |              |                  | C, GLXMA     |         |       |
| BBCH Scale                    |                  |                  |              |                  | BSOY         |         |       |
| Crop Scientific Name          |                  |                  |              |                  | Glycine max  |         |       |
| Crop Name                     |                  |                  |              |                  | Soybean      |         |       |
| Rating Date                   | 6/17/2020        | 7/1/2020         | 7/1/2020     | 7/1/2020         | 7/8/2020     |         |       |
| Part Rated                    | PLANT, C         | PLANT, C         | PLANT, C     | PLANT, C         | PLANT, C     |         |       |
| Rating Type                   | CONTROL          | CONTROL          | CONTROL      | CONTROL          | PHYGEN       |         |       |
| Rating Unit/Min/Max           | % , 0, 100       | % , 0, 100       | % , 0, 100   | % , 0, 100       | % , 0, 100   |         |       |
| Sample Size                   |                  |                  |              |                  |              |         |       |
| Number of Subsamples          | 1                | 1                | 1            | 1                | 1            |         |       |
| Assessed By                   | B. MANSFIELD     | B. MANSFIELD     | B. MANSFIELD | B. MANSFIELD     | B. MANSFIELD |         |       |
| Data Entry Date               | 12/5/2020        | 12/5/2020        | 12/5/2020    | 12/5/2020        | 12/5/2020    |         |       |
| Rating Timing                 | 21 DAA           | 0 DAB            | 0 DAB        | 0 DAB            | 7 DAB        |         |       |
| Days After First/Last Applic. | 21, 21           | 35, 35           | 35, 35       | 35, 35           | 42, 7        |         |       |
| Plant-Eval Interval           | 24 DP-1          | 38 DP-1          | 38 DP-1      | 38 DP-1          | 45 DP-1      |         |       |
| Days After Emergence          | 20 DE-1          | 34 DE-1          | 34 DE-1      | 34 DE-1          | 41 DE-1      |         |       |
| ARM Action Codes              |                  |                  |              |                  |              |         |       |
| Number of Decimals            |                  |                  |              |                  |              |         |       |
| Trt Treatment                 | Rate             | Appl             | 6            | 7                | 8            | 9       | 10    |
| No. Name                      | Rate Unit        | Code             |              |                  |              |         |       |
| 1 TAVIUM                      | 3.53 PT/A        | A                | 91.3 bc      | 97.5 -           | 88.8 -       | 88.8 bc | 0.0 - |
| INTACT                        | 0.5 % V/V        | A                |              |                  |              |         |       |
| TAVIUM                        | 3.53 PT/A        | B                |              |                  |              |         |       |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |       |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |       |
| 2 TAVIUM                      | 3.53 PT/A        | A                | 98.5 a       | 98.8 -           | 90.0 -       | 96.8 ab | 0.0 - |
| TRICOR                        | 6 OZ/A           | A                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | A                |              |                  |              |         |       |
| TAVIUM                        | 3.53 PT/A        | B                |              |                  |              |         |       |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |       |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |       |
| 3 TAVIUM                      | 3.53 PT/A        | A                | 100.0 a      | 100.0 -          | 93.8 -       | 98.8 a  | 0.0 - |
| FIRSTRATE                     | 0.5 OZ/A         | A                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | A                |              |                  |              |         |       |
| TAVIUM                        | 3.53 PT/A        | B                |              |                  |              |         |       |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |       |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |       |
| 4 TAVIUM                      | 3.53 PT/A        | A                | 97.0 ab      | 97.5 -           | 86.3 -       | 95.0 ab | 0.0 - |
| FLEXSTAR                      | 1 PT/A           | A                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | A                |              |                  |              |         |       |
| TAVIUM                        | 3.53 PT/A        | B                |              |                  |              |         |       |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |       |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |       |
| 5 TAVIUM                      | 3.53 PT/A        | A                | 99.3 a       | 100.0 -          | 92.5 -       | 97.5 a  | 0.0 - |
| CANOPY BLEND @ 2.9 OZ/A       |                  | A                |              |                  |              |         |       |
| -DPX-G2504 (METRIBUZIN 75 WG) | 1.93 OZ/A        | A                |              |                  |              |         |       |
| -CLASSIC                      | 0.96 OZ/A        | A                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | A                |              |                  |              |         |       |
| TAVIUM                        | 3.53 PT/A        | B                |              |                  |              |         |       |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |       |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |       |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |       |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

| Pest Type                     | W, Weed          | W, Weed          | W, Weed      | W, Weed          |              |         |        |
|-------------------------------|------------------|------------------|--------------|------------------|--------------|---------|--------|
| Pest Code                     | ABUTH            | AMATA            | SIDSP        | ABUTH            |              |         |        |
| Pest Scientific Name          | Abutilon theoph> | Amaranthus x ta> | Sida spinosa | Abutilon theoph> |              |         |        |
| Pest Name                     | velvetleaf       | Common waterhemp | Prickly sida | velvetleaf       |              |         |        |
| Crop Type, Code               |                  |                  |              |                  | C, GLXMA     |         |        |
| BBCH Scale                    |                  |                  |              |                  | BSOY         |         |        |
| Crop Scientific Name          |                  |                  |              |                  | Glycine max  |         |        |
| Crop Name                     |                  |                  |              |                  | Soybean      |         |        |
| Rating Date                   | 6/17/2020        | 7/1/2020         | 7/1/2020     | 7/1/2020         | 7/8/2020     |         |        |
| Part Rated                    | PLANT, C         | PLANT, C         | PLANT, C     | PLANT, C         | PLANT, C     |         |        |
| Rating Type                   | CONTROL          | CONTROL          | CONTROL      | CONTROL          | PHYGEN       |         |        |
| Rating Unit/Min/Max           | % , 0, 100       | % , 0, 100       | % , 0, 100   | % , 0, 100       | % , 0, 100   |         |        |
| Sample Size                   |                  |                  |              |                  |              |         |        |
| Number of Subsamples          | 1                | 1                | 1            | 1                | 1            |         |        |
| Assessed By                   | B. MANSFIELD     | B. MANSFIELD     | B. MANSFIELD | B. MANSFIELD     | B. MANSFIELD |         |        |
| Data Entry Date               | 12/5/2020        | 12/5/2020        | 12/5/2020    | 12/5/2020        | 12/5/2020    |         |        |
| Rating Timing                 | 21 DAA           | 0 DAB            | 0 DAB        | 0 DAB            | 7 DAB        |         |        |
| Days After First/Last Applic. | 21, 21           | 35, 35           | 35, 35       | 35, 35           | 42, 7        |         |        |
| Plant-Eval Interval           | 24 DP-1          | 38 DP-1          | 38 DP-1      | 38 DP-1          | 45 DP-1      |         |        |
| Days After Emergence          | 20 DE-1          | 34 DE-1          | 34 DE-1      | 34 DE-1          | 41 DE-1      |         |        |
| ARM Action Codes              |                  |                  |              |                  |              |         |        |
| Number of Decimals            |                  |                  |              |                  |              |         |        |
| Trt Treatment                 | Rate             | Appl             | 6            | 7                | 8            | 9       | 10     |
| No. Name                      | Rate Unit        | Code             |              |                  |              |         |        |
| 6 XTENDIMAX                   | 22 FL OZ/A       | A                | 90.3 c       | 96.3 -           | 88.8 -       | 85.0 c  | 0.0 -  |
| INTACT                        | 0.5 % V/V        | A                |              |                  |              |         |        |
| TAVIUM                        | 3.53 PT/A        | B                |              |                  |              |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |        |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |        |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |        |
| 7 XTENDIMAX                   | 22 FL OZ/A       | A                | 96.3 abc     | 97.5 -           | 83.8 -       | 94.3 ab | 0.0 -  |
| WARRANT                       | 1.25 QT/A        | A                |              |                  |              |         |        |
| INTACT                        | 0.5 % V/V        | A                |              |                  |              |         |        |
| TAVIUM                        | 3.53 PT/A        | B                |              |                  |              |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |        |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |        |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |        |
| 8 ZIDUA PRO                   | 6 FL OZ/A        | A                | 97.5 a       | 98.8 -           | 90.0 -       | 97.5 a  | 0.0 -  |
| ENGENIA                       | 12.8 FL OZ/A     | B                |              |                  |              |         |        |
| OUTLOOK                       | 10 FL OZ/A       | B                |              |                  |              |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |        |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |        |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |        |
| 9 BOUNDARY                    | 1.8 PT/A         | A                | 100.0 a      | 100.0 -          | 95.0 -       | 98.8 a  | 0.0 -  |
| FIRSTRATE                     | 0.5 OZ/A         | A                |              |                  |              |         |        |
| TAVIUM                        | 3.53 PT/A        | B                |              |                  |              |         |        |
| ROUNDUP POWERMAX              | 26 OZ/A          | B                |              |                  |              |         |        |
| CLASS ACT RIDION              | 1 % V/V          | B                |              |                  |              |         |        |
| INTACT                        | 0.5 % V/V        | B                |              |                  |              |         |        |
| 10 UNTREATED CHECK            |                  |                  | 0.0          | 0.0              | 0.0          | 0.0     | 0.0    |
| LSD P=.05                     |                  |                  | 6.04         | 2.92             | 8.77         | 8.11    | .      |
| Standard Deviation            |                  |                  | 4.14         | 2.00             | 6.01         | 5.56    | 0.00   |
| CV                            |                  |                  | 4.28         | 2.03             | 6.69         | 5.87    | 0.0    |
| Grand Mean                    |                  |                  | 96.67        | 98.47            | 89.86        | 94.69   | 0.00   |
| Levene's F^                   |                  |                  | 1.859        | 1.146            | 1.195        | 1.786   | .      |
| Levene's Prob(F)              |                  |                  | 0.109        | 0.366            | 0.338        | 0.124   | .      |
| Rank X2                       |                  |                  | .            | .                | .            | .       | .      |
| P(Rank X2)                    |                  |                  | .            | .                | .            | .       | .      |
| Skewness^                     |                  |                  | -0.5563      | -0.1546          | -1.2478*     | -0.4577 | .      |
| Kurtosis^                     |                  |                  | 2.4215*      | -0.7456          | 2.9408*      | 0.6655  | .      |
| Replicate F                   |                  |                  | 5.941        | 2.957            | 0.942        | 5.497   | 0.000  |
| Replicate Prob(F)             |                  |                  | 0.0035       | 0.0527           | 0.4357       | 0.0051  | 1.0000 |
| Treatment F                   |                  |                  | 3.026        | 1.870            | 1.404        | 2.956   | 0.000  |
| Treatment Prob(F)             |                  |                  | 0.0169       | 0.1127           | 0.2451       | 0.0188  | 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.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

| Pest Type  |  |                                      | W, Weed<br>AMATA<br>Amaranthus x ta><br>Common waterhemp | W, Weed<br>SIDSP<br>Sida spinosa<br>Prickly sida | W, Weed<br>ABUTH<br>Abutilon theoph><br>velvetleaf |         |
|--|--|--------------------------------------|--|--|--|---------|
| Pest Code  |  |                                      |  |  |  |         |
| Pest Scientific Name   |  |                                      |  |  |  |         |
| Pest Name  |  |                                      |  |  |  |         |
| Crop Type, Code  | C, GLXMA   |                                      |  |  |  |         |
| BBCH Scale   | BSOY   |                                      |  |  |  |         |
| Crop Scientific Name   | Glycine max  |                                      |  |  |  |         |
| Crop Name  | Soybean  |                                      |  |  |  |         |
| Rating Date  | 7/15/2020  |                                      | 7/15/2020  | 7/15/2020  | 7/15/2020  |         |
| Part Rated   | PLANT, C   |                                      | PLANT, C   | PLANT, C   | PLANT, C   |         |
| Rating Type  | PHYGEN   |                                      | CONTROL  | CONTROL  | CONTROL  |         |
| Rating Unit/Min/Max  | % , 0, 100   |                                      | % , 0, 100   | % , 0, 100                                       | % , 0, 100   |         |
| Sample Size  |  |                                      |  |  |  |         |
| Number of Subsamples   | 1  |                                      | 1  | 1  | 1  |         |
| Assessed By  | B. MANSFIELD   |                                      | B. MANSFIELD   | B. MANSFIELD                                     | B. MANSFIELD                                       |         |
| Data Entry Date  | 12/5/2020  |                                      | 12/5/2020  | 12/5/2020  | 12/5/2020  |         |
| Rating Timing  | 14 DAB   |                                      | 14 DAB   | 14 DAB   | 14 DAB   |         |
| Days After First/Last Applic.  | 49, 14   |                                      | 49, 14   | 49, 14   | 49, 14   |         |
| Plant-Eval Interval  | 52 DP-1  |                                      | 52 DP-1  | 52 DP-1  | 52 DP-1  |         |
| Days After Emergence   | 48 DE-1  |                                      | 48 DE-1  | 48 DE-1  | 48 DE-1  |         |
| ARM Action Codes   |  |                                      |  |  |  |         |
| Number of Decimals   |  |                                      |  |  |  |         |
| Trt Treatment No. Name   | Rate<br>Rate Unit  | Appl Code                            | 11   | 12   | 13   | 14      |
| 1 TAVIUM<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT   | 3.53 PT/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V                           | A<br>A<br>B<br>B<br>B<br>B           | 0.0 -  | 100.0 -  | 96.3 -   | 100.0 - |
| 2 TAVIUM<br>TRICOR<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT   | 3.53 PT/A<br>6 OZ/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V                 | A<br>A<br>A<br>B<br>B<br>B<br>B      | 0.0 -  | 100.0 -  | 100.0 -  | 100.0 - |
| 3 TAVIUM<br>FIRSTRATE<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT  | 3.53 PT/A<br>0.5 OZ/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V               | A<br>A<br>A<br>B<br>B<br>B<br>B      | 0.0 -  | 100.0 -  | 100.0 -  | 100.0 - |
| 4 TAVIUM<br>FLEXSTAR<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT   | 3.53 PT/A<br>1 PT/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V                 | A<br>A<br>A<br>B<br>B<br>B<br>B      | 0.0 -  | 100.0 -  | 98.8 -   | 100.0 - |
| 5 TAVIUM<br>CANOPY BLEND @ 2.9 OZ/A<br>-DPX-G2504 (METRIBUZIN 75 WG)<br>-CLASSIC<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT | 3.53 PT/A<br>1.93 OZ/A<br>0.96 OZ/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V | A<br>A<br>A<br>A<br>B<br>B<br>B<br>B | 0.0 -  | 100.0 -  | 98.8 -   | 100.0 - |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.



| Pest Type                     |              |      | W, Weed          | W, Weed      | W, Weed          |         |
|-------------------------------|--------------|------|------------------|--------------|------------------|---------|
| Pest Code                     |              |      | AMATA            | SIDSP        | ABUTH            |         |
| Pest Scientific Name          |              |      | Amaranthus x ta> | Sida spinosa | Abutilon theoph> |         |
| Pest Name                     |              |      | Common waterhemp | Prickly sida | velvetleaf       |         |
| Crop Type, Code               | C, GLXMA     |      |                  |              |                  |         |
| BBCH Scale                    | BSOY         |      |                  |              |                  |         |
| Crop Scientific Name          | Glycine max  |      |                  |              |                  |         |
| Crop Name                     | Soybean      |      |                  |              |                  |         |
| Rating Date                   | 7/15/2020    |      | 7/15/2020        | 7/15/2020    | 7/15/2020        |         |
| Part Rated                    | PLANT, C     |      | PLANT, C         | PLANT, C     | PLANT, C         |         |
| Rating Type                   | PHYGEN       |      | CONTROL          | CONTROL      | CONTROL          |         |
| Rating Unit/Min/Max           | %, 0, 100    |      | %, 0, 100        | %, 0, 100    | %, 0, 100        |         |
| Sample Size                   |              |      |                  |              |                  |         |
| Number of Subsamples          | 1            |      | 1                | 1            | 1                |         |
| Assessed By                   | B. MANSFIELD |      | B. MANSFIELD     | B. MANSFIELD | B. MANSFIELD     |         |
| Data Entry Date               | 12/5/2020    |      | 12/5/2020        | 12/5/2020    | 12/5/2020        |         |
| Rating Timing                 | 14 DAB       |      | 14 DAB           | 14 DAB       | 14 DAB           |         |
| Days After First/Last Applic. | 49, 14       |      | 49, 14           | 49, 14       | 49, 14           |         |
| Plant-Eval Interval           | 52 DP-1      |      | 52 DP-1          | 52 DP-1      | 52 DP-1          |         |
| Days After Emergence          | 48 DE-1      |      | 48 DE-1          | 48 DE-1      | 48 DE-1          |         |
| ARM Action Codes              |              |      |                  |              |                  |         |
| Number of Decimals            |              |      |                  |              |                  |         |
| Trt Treatment                 | Rate         | Appl | 11               | 12           | 13               | 14      |
| No. Name                      | Rate Unit    | Code |                  |              |                  |         |
| 6 XTENDIMAX                   | 22 FL OZ/A   | A    | 0.0 -            | 100.0 -      | 97.5 -           | 100.0 - |
| INTACT                        | 0.5 % V/V    | A    |                  |              |                  |         |
| TAVIUM                        | 3.53 PT/A    | B    |                  |              |                  |         |
| ROUNDUP POWERMAX              | 26 OZ/A      | B    |                  |              |                  |         |
| CLASS ACT RIDION              | 1 % V/V      | B    |                  |              |                  |         |
| INTACT                        | 0.5 % V/V    | B    |                  |              |                  |         |
| 7 XTENDIMAX                   | 22 FL OZ/A   | A    | 0.0 -            | 100.0 -      | 98.0 -           | 100.0 - |
| WARRANT                       | 1.25 QT/A    | A    |                  |              |                  |         |
| INTACT                        | 0.5 % V/V    | A    |                  |              |                  |         |
| TAVIUM                        | 3.53 PT/A    | B    |                  |              |                  |         |
| ROUNDUP POWERMAX              | 26 OZ/A      | B    |                  |              |                  |         |
| CLASS ACT RIDION              | 1 % V/V      | B    |                  |              |                  |         |
| INTACT                        | 0.5 % V/V    | B    |                  |              |                  |         |
| 8 ZIDUA PRO                   | 6 FL OZ/A    | A    | 0.0 -            | 100.0 -      | 98.0 -           | 100.0 - |
| ENGENIA                       | 12.8 FL OZ/A | B    |                  |              |                  |         |
| OUTLOOK                       | 10 FL OZ/A   | B    |                  |              |                  |         |
| ROUNDUP POWERMAX              | 26 OZ/A      | B    |                  |              |                  |         |
| CLASS ACT RIDION              | 1 % V/V      | B    |                  |              |                  |         |
| INTACT                        | 0.5 % V/V    | B    |                  |              |                  |         |
| 9 BOUNDARY                    | 1.8 PT/A     | A    | 0.0 -            | 100.0 -      | 100.0 -          | 100.0 - |
| FIRSTRATE                     | 0.5 OZ/A     | A    |                  |              |                  |         |
| TAVIUM                        | 3.53 PT/A    | B    |                  |              |                  |         |
| ROUNDUP POWERMAX              | 26 OZ/A      | B    |                  |              |                  |         |
| CLASS ACT RIDION              | 1 % V/V      | B    |                  |              |                  |         |
| INTACT                        | 0.5 % V/V    | B    |                  |              |                  |         |
| 10 UNTREATED CHECK            |              |      | 0.0              | 0.0          | 0.0              | 0.0     |
| LSD P=.05                     |              |      | .                | .            | 3.29             | .       |
| Standard Deviation            |              |      | 0.00             | 0.00         | 2.25             | 0.00    |
| CV                            |              |      | 0.0              | 0.0          | 2.28             | 0.0     |
| Grand Mean                    |              |      | 0.00             | 100.00       | 98.58            | 100.00  |
| Levene's F^                   |              |      | .                | .            | 0.867            | .       |
| Levene's Prob(F)              |              |      | .                | .            | 0.555            | .       |
| Rank X2                       |              |      | .                | .            | .                | .       |
| P(Rank X2)                    |              |      | .                | .            | .                | .       |
| Skewness^                     |              |      | .                | .            | -0.2582          | .       |
| Kurtosis^                     |              |      | .                | .            | -0.0771          | .       |
| Replicate F                   |              |      | 0.000            | 0.000        | 3.002            | 0.000   |
| Replicate Prob(F)             |              |      | 1.0000           | 1.0000       | 0.0503           | 1.0000  |
| Treatment F                   |              |      | 0.000            | 0.000        | 1.320            | 0.000   |
| Treatment Prob(F)             |              |      | 1.0000           | 1.0000       | 0.2810           | 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.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

| Pest Type                     | W, Weed          | W, Weed      | W, Weed          | W, Weed          |         |         |
|-------------------------------|------------------|--------------|------------------|------------------|---------|---------|
| Pest Code                     | AMATA            | SIDSP        | ABUTH            | AMATA            |         |         |
| Pest Scientific Name          | Amaranthus x ta> | Sida spinosa | Abutilon theoph> | Amaranthus x ta> |         |         |
| Pest Name                     | Common waterhemp | Prickly sida | velvetleaf       | Common waterhemp |         |         |
| Crop Type, Code               |                  |              |                  |                  |         |         |
| BBCH Scale                    |                  |              |                  |                  |         |         |
| Crop Scientific Name          |                  |              |                  |                  |         |         |
| Crop Name                     |                  |              |                  |                  |         |         |
| Rating Date                   | 7/29/2020        | 7/29/2020    | 7/29/2020        | 8/12/2020        |         |         |
| Part Rated                    | PLANT, C         | PLANT, C     | PLANT, C         | PLANT, C         |         |         |
| Rating Type                   | CONTROL          | CONTROL      | CONTROL          | CONTROL          |         |         |
| Rating Unit/Min/Max           | % , 0, 100       | % , 0, 100   | % , 0, 100       | % , 0, 100       |         |         |
| Sample Size                   |                  |              |                  |                  |         |         |
| Number of Subsamples          | 1                | 1            | 1                | 1                |         |         |
| Assessed By                   | B. MANSFIELD     | B. MANSFIELD | B. MANSFIELD     | B. MANSFIELD     |         |         |
| Data Entry Date               | 12/5/2020        | 12/5/2020    | 12/5/2020        | 12/5/2020        |         |         |
| Rating Timing                 | 28 DAB           | 28 DAB       | 28 DAB           | 42 DAB           |         |         |
| Days After First/Last Applic. | 63, 28           | 63, 28       | 63, 28           | 77, 42           |         |         |
| Plant-Eval Interval           | 66 DP-1          | 66 DP-1      | 66 DP-1          | 80 DP-1          |         |         |
| Days After Emergence          | 62 DE-1          | 62 DE-1      | 62 DE-1          | 76 DE-1          |         |         |
| ARM Action Codes              |                  |              |                  |                  |         |         |
| Number of Decimals            |                  |              |                  |                  |         |         |
| Trt Treatment No. Name        | Rate             | Appl Code    | 15               | 16               | 17      | 18      |
| 1 TAVIUM                      | 3.53 PT/A        | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| INTACT                        | 0.5 % V/V        | A            |                  |                  |         |         |
| TAVIUM                        | 3.53 PT/A        | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |
| 2 TAVIUM                      | 3.53 PT/A        | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| TRICOR                        | 6 OZ/A           | A            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | A            |                  |                  |         |         |
| TAVIUM                        | 3.53 PT/A        | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |
| 3 TAVIUM                      | 3.53 PT/A        | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| FIRSTRATE                     | 0.5 OZ/A         | A            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | A            |                  |                  |         |         |
| TAVIUM                        | 3.53 PT/A        | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |
| 4 TAVIUM                      | 3.53 PT/A        | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| FLEXSTAR                      | 1 PT/A           | A            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | A            |                  |                  |         |         |
| TAVIUM                        | 3.53 PT/A        | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |
| 5 TAVIUM                      | 3.53 PT/A        | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| CANOPY BLEND @ 2.9 OZ/A       |                  | A            |                  |                  |         |         |
| -DPX-G2504 (METRIBUZIN 75 WG) | 1.93 OZ/A        | A            |                  |                  |         |         |
| -CLASSIC                      | 0.96 OZ/A        | A            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | A            |                  |                  |         |         |
| TAVIUM                        | 3.53 PT/A        | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

| Pest Type                     | W, Weed          | W, Weed      | W, Weed          | W, Weed          |         |         |
|-------------------------------|------------------|--------------|------------------|------------------|---------|---------|
| Pest Code                     | AMATA            | SIDSP        | ABUTH            | AMATA            |         |         |
| Pest Scientific Name          | Amaranthus x ta> | Sida spinosa | Abutilon theoph> | Amaranthus x ta> |         |         |
| Pest Name                     | Common waterhemp | Prickly sida | velvetleaf       | Common waterhemp |         |         |
| Crop Type, Code               |                  |              |                  |                  |         |         |
| BBCH Scale                    |                  |              |                  |                  |         |         |
| Crop Scientific Name          |                  |              |                  |                  |         |         |
| Crop Name                     |                  |              |                  |                  |         |         |
| Rating Date                   | 7/29/2020        | 7/29/2020    | 7/29/2020        | 8/12/2020        |         |         |
| Part Rated                    | PLANT, C         | PLANT, C     | PLANT, C         | PLANT, C         |         |         |
| Rating Type                   | CONTROL          | CONTROL      | CONTROL          | CONTROL          |         |         |
| Rating Unit/Min/Max           | % , 0, 100       | % , 0, 100   | % , 0, 100       | % , 0, 100       |         |         |
| Sample Size                   |                  |              |                  |                  |         |         |
| Number of Subsamples          | 1                | 1            | 1                | 1                |         |         |
| Assessed By                   | B. MANSFIELD     | B. MANSFIELD | B. MANSFIELD     | B. MANSFIELD     |         |         |
| Data Entry Date               | 12/5/2020        | 12/5/2020    | 12/5/2020        | 12/5/2020        |         |         |
| Rating Timing                 | 28 DAB           | 28 DAB       | 28 DAB           | 42 DAB           |         |         |
| Days After First/Last Applic. | 63, 28           | 63, 28       | 63, 28           | 77, 42           |         |         |
| Plant-Eval Interval           | 66 DP-1          | 66 DP-1      | 66 DP-1          | 80 DP-1          |         |         |
| Days After Emergence          | 62 DE-1          | 62 DE-1      | 62 DE-1          | 76 DE-1          |         |         |
| ARM Action Codes              |                  |              |                  |                  |         |         |
| Number of Decimals            |                  |              |                  |                  |         |         |
| Trt Treatment                 | Rate             | Appl         | 15               | 16               | 17      | 18      |
| No. Name                      | Rate Unit        | Code         |                  |                  |         |         |
| 6 XTENDIMAX                   | 22 FL OZ/A       | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| INTACT                        | 0.5 % V/V        | A            |                  |                  |         |         |
| TAVIUM                        | 3.53 PT/A        | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |
| 7 XTENDIMAX                   | 22 FL OZ/A       | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| WARRANT                       | 1.25 QT/A        | A            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | A            |                  |                  |         |         |
| TAVIUM                        | 3.53 PT/A        | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |
| 8 ZIDUA PRO                   | 6 FL OZ/A        | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| ENGENIA                       | 12.8 FL OZ/A     | B            |                  |                  |         |         |
| OUTLOOK                       | 10 FL OZ/A       | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |
| 9 BOUNDARY                    | 1.8 PT/A         | A            | 100.0 -          | 100.0 -          | 100.0 - | 100.0 - |
| FIRSTRATE                     | 0.5 OZ/A         | A            |                  |                  |         |         |
| TAVIUM                        | 3.53 PT/A        | B            |                  |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A          | B            |                  |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V          | B            |                  |                  |         |         |
| INTACT                        | 0.5 % V/V        | B            |                  |                  |         |         |
| 10 UNTREATED CHECK            |                  |              | 0.0              | 0.0              | 0.0     | 0.0     |
| LSD P=.05                     |                  |              | .                | .                | .       | .       |
| Standard Deviation            |                  |              | 0.00             | 0.00             | 0.00    | 0.00    |
| CV                            |                  |              | 0.0              | 0.0              | 0.0     | 0.0     |
| Grand Mean                    |                  |              | 100.00           | 100.00           | 100.00  | 100.00  |
| Levene's F^                   |                  |              | .                | .                | .       | .       |
| Levene's Prob(F)              |                  |              | .                | .                | .       | .       |
| Rank X2                       |                  |              | .                | .                | .       | .       |
| P(Rank X2)                    |                  |              | .                | .                | .       | .       |
| Skewness^                     |                  |              | .                | .                | .       | .       |
| Kurtosis^                     |                  |              | .                | .                | .       | .       |
| Replicate F                   |                  |              | 0.000            | 0.000            | 0.000   | 0.000   |
| Replicate Prob(F)             |                  |              | 1.0000           | 1.0000           | 1.0000  | 1.0000  |
| Treatment F                   |                  |              | 0.000            | 0.000            | 0.000   | 0.000   |
| Treatment Prob(F)             |                  |              | 1.0000           | 1.0000           | 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.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

| Pest Type                     | W, Weed      | W, Weed          | W, Weed          | W, Weed      | W, Weed          |
|-------------------------------|--------------|------------------|------------------|--------------|------------------|
| Pest Code                     | SIDSP        | ABUTH            | AMATA            | SIDSP        | ABUTH            |
| Pest Scientific Name          | Sida spinosa | Abutilon theoph> | Amaranthus x ta> | Sida spinosa | Abutilon theoph> |
| Pest Name                     | Prickly sida | velvetleaf       | Common waterhemp | Prickly sida | velvetleaf       |
| Crop Type, Code               |              |                  |                  |              |                  |
| BBCH Scale                    |              |                  |                  |              |                  |
| Crop Scientific Name          |              |                  |                  |              |                  |
| Crop Name                     |              |                  |                  |              |                  |
| Rating Date                   | 8/12/2020    | 8/12/2020        | 8/26/2020        | 8/26/2020    | 8/26/2020        |
| Part Rated                    | PLANT, C     | PLANT, C         | PLANT, C         | PLANT, C     | PLANT, C         |
| Rating Type                   | CONTROL      | CONTROL          | CONTROL          | CONTROL      | CONTROL          |
| Rating Unit/Min/Max           | % , 0, 100   | % , 0, 100       | % , 0, 100       | % , 0, 100   | % , 0, 100       |
| Sample Size                   |              |                  |                  |              |                  |
| Number of Subsamples          | 1            | 1                | 1                | 1            | 1                |
| Assessed By                   | B. MANSFIELD | B. MANSFIELD     | B. MANSFIELD     | B. MANSFIELD | B. MANSFIELD     |
| Data Entry Date               | 12/5/2020    | 12/5/2020        | 12/5/2020        | 12/5/2020    | 12/5/2020        |
| Rating Timing                 | 42 DAB       | 42 DAB           | 56 DAB           | 56 DAB       | 56 DAB           |
| Days After First/Last Applic. | 77, 42       | 77, 42           | 91, 56           | 91, 56       | 91, 56           |
| Plant-Eval Interval           | 80 DP-1      | 80 DP-1          | 94 DP-1          | 94 DP-1      | 94 DP-1          |
| Days After Emergence          | 76 DE-1      | 76 DE-1          | 90 DE-1          | 90 DE-1      | 90 DE-1          |
| ARM Action Codes              |              |                  |                  |              |                  |
| Number of Decimals            |              |                  |                  |              |                  |
| Trt Treatment                 |              |                  |                  |              |                  |
| No. Name                      |              |                  |                  |              |                  |
| Rate                          |              |                  |                  |              |                  |
| Rate Unit                     |              |                  |                  |              |                  |
| Appl Code                     |              |                  |                  |              |                  |
|                               | 19           | 20               | 21               | 22           | 23               |
| 1 TAVIUM                      | 3.53 PT/A    | A                | 100.0 -          | 100.0 -      | 100.0 -          |
| INTACT                        | 0.5 % V/V    | A                |                  |              |                  |
| TAVIUM                        | 3.53 PT/A    | B                |                  |              |                  |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |
| 2 TAVIUM                      | 3.53 PT/A    | A                | 100.0 -          | 100.0 -      | 100.0 -          |
| TRICOR                        | 6 OZ/A       | A                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | A                |                  |              |                  |
| TAVIUM                        | 3.53 PT/A    | B                |                  |              |                  |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |
| 3 TAVIUM                      | 3.53 PT/A    | A                | 100.0 -          | 100.0 -      | 100.0 -          |
| FIRSTRATE                     | 0.5 OZ/A     | A                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | A                |                  |              |                  |
| TAVIUM                        | 3.53 PT/A    | B                |                  |              |                  |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |
| 4 TAVIUM                      | 3.53 PT/A    | A                | 100.0 -          | 100.0 -      | 100.0 -          |
| FLEXSTAR                      | 1 PT/A       | A                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | A                |                  |              |                  |
| TAVIUM                        | 3.53 PT/A    | B                |                  |              |                  |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |
| 5 TAVIUM                      | 3.53 PT/A    | A                | 100.0 -          | 100.0 -      | 100.0 -          |
| CANOPY BLEND @ 2.9 OZ/A       |              | A                |                  |              |                  |
| -DPX-G2504 (METRIBUZIN 75 WG) | 1.93 OZ/A    | A                |                  |              |                  |
| -CLASSIC                      | 0.96 OZ/A    | A                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | A                |                  |              |                  |
| TAVIUM                        | 3.53 PT/A    | B                |                  |              |                  |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

| Pest Type                     | W, Weed      | W, Weed          | W, Weed          | W, Weed      | W, Weed          |         |         |
|-------------------------------|--------------|------------------|------------------|--------------|------------------|---------|---------|
| Pest Code                     | SIDSP        | ABUTH            | AMATA            | SIDSP        | ABUTH            |         |         |
| Pest Scientific Name          | Sida spinosa | Abutilon theoph> | Amaranthus x ta> | Sida spinosa | Abutilon theoph> |         |         |
| Pest Name                     | Prickly sida | velvetleaf       | Common waterhemp | Prickly sida | velvetleaf       |         |         |
| Crop Type, Code               |              |                  |                  |              |                  |         |         |
| BBCH Scale                    |              |                  |                  |              |                  |         |         |
| Crop Scientific Name          |              |                  |                  |              |                  |         |         |
| Crop Name                     |              |                  |                  |              |                  |         |         |
| Rating Date                   | 8/12/2020    | 8/12/2020        | 8/26/2020        | 8/26/2020    | 8/26/2020        |         |         |
| Part Rated                    | PLANT, C     | PLANT, C         | PLANT, C         | PLANT, C     | PLANT, C         |         |         |
| Rating Type                   | CONTROL      | CONTROL          | CONTROL          | CONTROL      | CONTROL          |         |         |
| Rating Unit/Min/Max           | % , 0, 100   | % , 0, 100       | % , 0, 100       | % , 0, 100   | % , 0, 100       |         |         |
| Sample Size                   |              |                  |                  |              |                  |         |         |
| Number of Subsamples          | 1            | 1                | 1                | 1            | 1                |         |         |
| Assessed By                   | B. MANSFIELD | B. MANSFIELD     | B. MANSFIELD     | B. MANSFIELD | B. MANSFIELD     |         |         |
| Data Entry Date               | 12/5/2020    | 12/5/2020        | 12/5/2020        | 12/5/2020    | 12/5/2020        |         |         |
| Rating Timing                 | 42 DAB       | 42 DAB           | 56 DAB           | 56 DAB       | 56 DAB           |         |         |
| Days After First/Last Applic. | 77, 42       | 77, 42           | 91, 56           | 91, 56       | 91, 56           |         |         |
| Plant-Eval Interval           | 80 DP-1      | 80 DP-1          | 94 DP-1          | 94 DP-1      | 94 DP-1          |         |         |
| Days After Emergence          | 76 DE-1      | 76 DE-1          | 90 DE-1          | 90 DE-1      | 90 DE-1          |         |         |
| ARM Action Codes              |              |                  |                  |              |                  |         |         |
| Number of Decimals            |              |                  |                  |              |                  |         |         |
| Trt Treatment                 | Rate         | Appl             | 19               | 20           | 21               | 22      | 23      |
| No. Name                      | Rate Unit    | Code             |                  |              |                  |         |         |
| 6 XTENDIMAX                   | 22 FL OZ/A   | A                | 100.0 -          | 100.0 -      | 100.0 -          | 100.0 - | 100.0 - |
| INTACT                        | 0.5 % V/V    | A                |                  |              |                  |         |         |
| TAVIUM                        | 3.53 PT/A    | B                |                  |              |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |         |         |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |         |         |
| 7 XTENDIMAX                   | 22 FL OZ/A   | A                | 100.0 -          | 100.0 -      | 100.0 -          | 100.0 - | 100.0 - |
| WARRANT                       | 1.25 QT/A    | A                |                  |              |                  |         |         |
| INTACT                        | 0.5 % V/V    | A                |                  |              |                  |         |         |
| TAVIUM                        | 3.53 PT/A    | B                |                  |              |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |         |         |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |         |         |
| 8 ZIDUA PRO                   | 6 FL OZ/A    | A                | 100.0 -          | 100.0 -      | 100.0 -          | 100.0 - | 100.0 - |
| ENGENIA                       | 12.8 FL OZ/A | B                |                  |              |                  |         |         |
| OUTLOOK                       | 10 FL OZ/A   | B                |                  |              |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |         |         |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |         |         |
| 9 BOUNDARY                    | 1.8 PT/A     | A                | 100.0 -          | 100.0 -      | 100.0 -          | 100.0 - | 100.0 - |
| FIRSTRATE                     | 0.5 OZ/A     | A                |                  |              |                  |         |         |
| TAVIUM                        | 3.53 PT/A    | B                |                  |              |                  |         |         |
| ROUNDUP POWERMAX              | 26 OZ/A      | B                |                  |              |                  |         |         |
| CLASS ACT RIDION              | 1 % V/V      | B                |                  |              |                  |         |         |
| INTACT                        | 0.5 % V/V    | B                |                  |              |                  |         |         |
| 10 UNTREATED CHECK            |              |                  | 0.0              | 0.0          | 0.0              | 0.0     | 0.0     |
| LSD P=.05                     |              |                  | .                | .            | .                | .       | .       |
| Standard Deviation            |              |                  | 0.00             | 0.00         | 0.00             | 0.00    | 0.00    |
| CV                            |              |                  | 0.0              | 0.0          | 0.0              | 0.0     | 0.0     |
| Grand Mean                    |              |                  | 100.00           | 100.00       | 100.00           | 100.00  | 100.00  |
| Levene's F^                   |              |                  | .                | .            | .                | .       | .       |
| Levene's Prob(F)              |              |                  | .                | .            | .                | .       | .       |
| Rank X2                       |              |                  | .                | .            | .                | .       | .       |
| P(Rank X2)                    |              |                  | .                | .            | .                | .       | .       |
| Skewness^                     |              |                  | .                | .            | .                | .       | .       |
| Kurtosis^                     |              |                  | .                | .            | .                | .       | .       |
| Replicate F                   |              |                  | 0.000            | 0.000        | 0.000            | 0.000   | 0.000   |
| Replicate Prob(F)             |              |                  | 1.0000           | 1.0000       | 1.0000           | 1.0000  | 1.0000  |
| Treatment F                   |              |                  | 0.000            | 0.000        | 0.000            | 0.000   | 0.000   |
| Treatment Prob(F)             |              |                  | 1.0000           | 1.0000       | 1.0000           | 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.

Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

| Trt No. | Treatment Name   | Rate Unit  | Appl Code                            | 24       | 25         | 26     |
|---------|--|--|--------------------------------------|----------|------------|--------|
| 1       | TAVIUM<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT   | 3.53 PT/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V                           | A<br>A<br>B<br>B<br>B<br>B           | 9.510 -  | 12.923 cd  | 62.8 - |
| 2       | TAVIUM<br>TRICOR<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT   | 3.53 PT/A<br>6 OZ/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V                 | A<br>A<br>A<br>B<br>B<br>B<br>B      | 9.988 -  | 13.058 bcd | 65.9 - |
| 3       | TAVIUM<br>FIRSTRATE<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT  | 3.53 PT/A<br>0.5 OZ/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V               | A<br>A<br>A<br>B<br>B<br>B<br>B      | 11.013 - | 13.333 abc | 72.4 - |
| 4       | TAVIUM<br>FLEXSTAR<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT   | 3.53 PT/A<br>1 PT/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V                 | A<br>A<br>A<br>B<br>B<br>B<br>B      | 10.405 - | 13.340 abc | 68.4 - |
| 5       | TAVIUM<br>CANOPY BLEND @ 2.9 OZ/A<br>-DPX-G2504 (METRIBUZIN 75 WG)<br>-CLASSIC<br>INTACT<br>TAVIUM<br>ROUNDUP POWERMAX<br>CLASS ACT RIDION<br>INTACT | 3.53 PT/A<br>1.93 OZ/A<br>0.96 OZ/A<br>0.5 % V/V<br>3.53 PT/A<br>26 OZ/A<br>1 % V/V<br>0.5 % V/V | A<br>A<br>A<br>A<br>B<br>B<br>B<br>B | 9.838 -  | 13.713 a   | 64.4 - |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).  
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.  
Untreated treatment(s) 10 excluded from analysis.  
Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.  
^Calculated from residual.

|                               |              |              |              |            |
|-------------------------------|--------------|--------------|--------------|------------|
| Pest Type                     |              |              |              |            |
| Pest Code                     |              |              |              |            |
| Pest Scientific Name          |              |              |              |            |
| Pest Name                     |              |              |              |            |
| Crop Type, Code               | C, GLXMA     | C, GLXMA     | C, GLXMA     |            |
| BBCH Scale                    | BSOY         | BSOY         | BSOY         |            |
| Crop Scientific Name          | Glycine max  | Glycine max  | Glycine max  |            |
| Crop Name                     | Soybean      | Soybean      | Soybean      |            |
| Rating Date                   | 11/3/2020    | 11/3/2020    | 11/3/2020    |            |
| Part Rated                    | PLANT, C     | PLANT, C     | PLANT, C     |            |
| Rating Type                   | WEIGHT       | MOISTURE     | YIELD        |            |
| Rating Unit/Min/Max           | LB, -, -     | %, 0, 100    | BU, -, -     |            |
| Sample Size                   | 1 PLOT       |              | 1 A          |            |
| Number of Subsamples          | 1            | 1            | 1            |            |
| Assessed By                   | B. MANSFIELD | B. MANSFIELD | B. MANSFIELD |            |
| Data Entry Date               | 12/5/2020    | 12/5/2020    |              |            |
| Rating Timing                 | Harvest      | Harvest      | Harvest      |            |
| Days After First/Last Applic. | 160, 125     | 160, 125     | 160, 125     |            |
| Plant-Eval Interval           | 163 DP-1     | 163 DP-1     | 163 DP-1     |            |
| Days After Emergence          | 159 DE-1     | 159 DE-1     | 159 DE-1     |            |
| ARM Action Codes              |              |              | TY2          |            |
| Number of Decimals            |              |              | 1            |            |
| Trt Treatment                 |              |              |              |            |
| No. Name                      | Rate         | Appl         | 24           | 25         |
|                               | Rate Unit    | Code         |              |            |
| 6 XTENDIMAX                   | 22 FL OZ/A   | A            | 10.045 -     | 12.808 d   |
| INTACT                        | 0.5 % V/V    | A            |              |            |
| TAVIUM                        | 3.53 PT/A    | B            |              |            |
| ROUNDUP POWERMAX              | 26 OZ/A      | B            |              |            |
| CLASS ACT RIDION              | 1 % V/V      | B            |              |            |
| INTACT                        | 0.5 % V/V    | B            |              |            |
| 7 XTENDIMAX                   | 22 FL OZ/A   | A            | 10.998 -     | 13.358 abc |
| WARRANT                       | 1.25 QT/A    | A            |              |            |
| INTACT                        | 0.5 % V/V    | A            |              |            |
| TAVIUM                        | 3.53 PT/A    | B            |              |            |
| ROUNDUP POWERMAX              | 26 OZ/A      | B            |              |            |
| CLASS ACT RIDION              | 1 % V/V      | B            |              |            |
| INTACT                        | 0.5 % V/V    | B            |              |            |
| 8 ZIDUA PRO                   | 6 FL OZ/A    | A            | 10.283 -     | 13.010 bcd |
| ENGENIA                       | 12.8 FL OZ/A | B            |              |            |
| OUTLOOK                       | 10 FL OZ/A   | B            |              |            |
| ROUNDUP POWERMAX              | 26 OZ/A      | B            |              |            |
| CLASS ACT RIDION              | 1 % V/V      | B            |              |            |
| INTACT                        | 0.5 % V/V    | B            |              |            |
| 9 BOUNDARY                    | 1.8 PT/A     | A            | 10.233 -     | 13.518 ab  |
| FIRSTRATE                     | 0.5 OZ/A     | A            |              |            |
| TAVIUM                        | 3.53 PT/A    | B            |              |            |
| ROUNDUP POWERMAX              | 26 OZ/A      | B            |              |            |
| CLASS ACT RIDION              | 1 % V/V      | B            |              |            |
| INTACT                        | 0.5 % V/V    | B            |              |            |
| 10 UNTREATED CHECK            |              |              | 7.013        | 13.258     |
| LSD P=.05                     |              |              | 1.4750       | 0.5081     |
| Standard Deviation            |              |              | 1.0107       | 0.3481     |
| CV                            |              |              | 9.85         | 2.63       |
| Grand Mean                    |              |              | 10.2567      | 13.2286    |
| Levene's F^                   |              |              | 1.338        | 0.319      |
| Levene's Prob(F)              |              |              | 0.268        | 0.952      |
| Rank X2                       |              |              | .            | .          |
| P(Rank X2)                    |              |              | .            | .          |
| Skewness^                     |              |              | -0.4621      | -0.5172    |
| Kurtosis^                     |              |              | 2.425*       | -0.4317    |
| Replicate F                   |              |              | 11.547       | 3.937      |
| Replicate Prob(F)             |              |              | 0.0001       | 0.0204     |
| Treatment F                   |              |              | 0.976        | 2.911      |
| Treatment Prob(F)             |              |              | 0.4777       | 0.0203     |
|                               |              |              |              | 46.2       |
|                               |              |              |              | 9.70       |
|                               |              |              |              | 6.64       |
|                               |              |              |              | 9.84       |
|                               |              |              |              | 67.50      |
|                               |              |              |              | 1.221      |
|                               |              |              |              | 0.325      |
|                               |              |              |              | .          |
|                               |              |              |              | .          |
|                               |              |              |              | -0.5054    |
|                               |              |              |              | 2.4916*    |
|                               |              |              |              | 11.154     |
|                               |              |              |              | 0.0001     |
|                               |              |              |              | 0.942      |
|                               |              |              |              | 0.5013     |

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Untreated treatment(s) 10 excluded from analysis.

Could not calculate LSD (% mean diff) for columns 1,2,3,4,10,11,12,14,15,16,17,18,19,20,21,22,23 because error mean square = 0.

^Calculated from residual.

# Purdue Weed Science

## Syngenta - Tavium Pre

|                             |  |                  |
|-----------------------------|--|------------------|
| Trial ID: 20S-MGS-SOY-07    | Location: Lafayette                        | Trial Year: 2020 |
| Protocol ID: 20S-MGS-SOY-07 | Investigator (Creator): Dr. Bill Johnson   |                  |
| Project ID:                 | Study Director: Brent Mansfield            |                  |
|                             | Sponsor Contact: Syngenta - Chad Threewits |                  |

### Pest Type

W, Weed = Weed or volunteer crop

### Pest Code

AMATA, Amaranthus x tamariscinus, Common waterhemp = US

SIDSP, Sida spinosa, Prickly sida = US

ABUTH, Abutilon theophrasti, velvetleaf = US

### Crop Type, Code

C = EPP0 species (Bayer) codes

GLXMA, BSOY, Glycine max, Soybean = US

### Part Rated

PLANT = plant

C = Crop is Part Rated

### Rating Type

PHYGEN = phytotoxicity - general / injury

WEIGHT = weight

YIELD = yield

### Rating Unit/Min/Max

%, 0, 100 = percent

LB, , = pound

BU, , = bushel

PLOT = total plot

A = acre

### Plant-Eval Interval

10 DP-1 = 1 GLXMA 5/24/2020

17 DP-1 = 1 GLXMA 5/24/2020

31 DP-1 = 1 GLXMA 5/24/2020

24 DP-1 = 1 GLXMA 5/24/2020

38 DP-1 = 1 GLXMA 5/24/2020

45 DP-1 = 1 GLXMA 5/24/2020

52 DP-1 = 1 GLXMA 5/24/2020

66 DP-1 = 1 GLXMA 5/24/2020

80 DP-1 = 1 GLXMA 5/24/2020

94 DP-1 = 1 GLXMA 5/24/2020

163 DP-1 = 1 GLXMA 5/24/2020

### ARM Action Codes

TY2 = 6.6\*[24]\*(100-[25])/87