

# Ohio State University Horticulture and Crop Science

## 2010/CLOMAZONE+SULFENTRAZONE/SOYBEANS/FALL APPLICATION/

Title No. 2:  
Trial ID: 11FALLSOY2      Protocol ID: 11FALLSOY2  
Location:                      Study Director:  
Project ID:                     Investigator: Dr. Mark M. Loux  
Sponsor Contact: Joe Reed, FMC

### General Trial Information

**Study Director:** Anthony F. Dobbels    **Title:** Research Specialist  
**Investigator:** Dr. Mark M. Loux       **Title:** Professor

### Trial Location

**City:** South Charleston    **Latitude of LL Corner °:** 39.85868 N  
**State/Prov.:** Ohio           **Longitude of LL Corner °:** -83.67035 W  
**Postal Code:** 45368  
**Country:** USA

### Crop Description

**Crop 1:** GLXMA    Glycine max    Soybean  
**Variety:** Seed Consultants SCS9330RR    **Description:** RR  
**BBCH Scale:** BSOY    **Planting Date:** May-14-2011  
**Planting Method:** SEEDED    seeded    **Rate, Unit:** 197000 S/A  
**Depth, Unit:** 1    IN  
**Row Spacing, Unit:** 15    IN  
**Seed Bed:** MEDIUM    medium  
**Soil Moisture:** GOOD    good    **Soil Temperature, Unit:** 71    F  
**Harvested Width, Unit:** 6.25    FT    **Harvested Length, Unit:** 30    FT

### Pest Description

**Pest 1 Type:** W    **Code:** LAMPU *Lamium purpureum*  
**Common Name:** Purple deadnettel

**Pest 2 Type:** W    **Code:** TAROF *Taraxacum officinale*  
**Common Name:** Common dandelion

**Pest 3 Type:** W    **Code:** ERICA *Conyza canadensis*  
**Common Name:** Canada horseweed

**Pest 4 Type:** W    **Code:** SETFA *Setaria faberi*  
**Common Name:** Giant foxtail

**Pest 5 Type:** W    **Code:** AMBTR *Ambrosia trifida*  
**Common Name:** Giant ragweed

**Pest 6 Type:** W    **Code:** AMBEL *Ambrosia artemisiifolia*  
**Common Name:** Common ragweed

### Site and Design

**Plot Width, Unit:** 6.67 FT    **Site Type:** FIELD    field  
**Plot Length, Unit:** 30 FT    **Experimental Unit:** 1    PLOT plot  
**Plot Area, Unit:** 200.1 FT2    **Tillage Type:** NOTILL    no-till  
**Replications:** 3    **Study Design:** RACOB    Randomized Complete Block (RCB)  
**Untreated Arrangement:** INCLUDED    single control randomized in each block

### Soil Description

**Description Name:** F-9 East  
**% OM:** 2.8    **Texture:** SICL silty clay loam  
**pH:** 6.4    **Soil Name:** Kokomo  
**CEC:** 19.6    **Fert. Level:** G good  
**Soil Drainage:** G good

# Ohio State University Horticulture and Crop Science

## 2010/CLOMAZONE+SULFENTRAZONE/SOYBEANS/FALL APPLICATION/

Title No. 2:  
 Trial ID: 11FALLSOY2      Protocol ID: 11FALLSOY2  
 Location:                      Study Director:  
 Project ID:                    Investigator: Dr. Mark M. Loux  
    Sponsor Contact: Joe Reed, FMC

### Application Description

|                         | A           | B          |
|-------------------------|-------------|------------|
| Application Date:       | Oct-19-2010 | Jun-3-2011 |
| Time of Day:            | 11:00 A.M   | 9:00 A.M.  |
| Application Method:     | SPRAY       | SPRAY      |
| Application Timing:     | FALL        | POST       |
| Application Placement:  | BROFO       | BROFO      |
| Applied By:             |             | Reeb       |
| Air Temperature, Unit:  | 59.5 F      | 61 F       |
| % Relative Humidity:    | 47.4        | 57         |
| Wind Velocity, Unit:    | 2 MPH       | 2 MPH      |
| Wind Direction:         | NE          | N          |
| Dew Presence (Y/N):     | N no        | N no       |
| Soil Temperature, Unit: | 50 F        | 67 F       |
| Soil Moisture:          | MOIST       | DRY        |
| % Cloud Cover:          | 0           | 10         |
| Next Rain Occurred On:  | Oct-26-2010 | Jun-4-2011 |

### Crop Stage At Each Application

|                          | A          | B          |
|--------------------------|------------|------------|
| Crop 1 Code, BBCH Scale: | GLXMA BSOY | GLXMA BSOY |
| Stage Scale Used:        |            | B          |
| Stage Majority, Percent: |            | 12 100     |
| Height, Unit:            |            | 3 IN       |
| Height Minimum, Maximum: |            | 3 4        |

### Pest Stage At Each Application

|                           | A       | B       |
|---------------------------|---------|---------|
| Pest 1 Code, Type, Scale: | LAMPU W | LAMPU W |
| Stage Majority, Percent:  | 12 100  |         |
| Diameter, Unit:           | 0.5 IN  |         |
| Height, Unit:             | 0.5 IN  |         |
| Height Minimum, Maximum:  | 0.5 1   |         |
| Pest 2 Code, Type, Scale: | TAROF W | TAROF W |
| Stage Majority, Percent:  | 16 100  | 69 100  |
| Diameter, Unit:           | 6 IN    | 8 IN    |
| Height, Unit:             | 1 IN    | 3 IN    |
| Height Minimum, Maximum:  | 1 1     | 3 4     |
| Density, Unit:            | 18 M2   | 18 M2   |
| Pest 3 Code, Type, Scale: | ERICA W | ERICA W |
| Stage Majority, Percent:  |         | 30 100  |
| Height, Unit:             |         | 3 IN    |
| Height Minimum, Maximum:  |         | 3 4     |
| Pest 4 Code, Type, Scale: | SETFA W | SETFA W |
| Stage Majority, Percent:  |         | 14 100  |
| Height, Unit:             |         | 3 IN    |
| Height Minimum, Maximum:  |         | 3 4     |
| Pest 5 Code, Type, Scale: | AMBTR W | AMBTR W |
| Stage Majority, Percent:  |         | 14 90   |
| Stage Minimum, Percent:   |         | 14 90   |
| Stage Maximum, Percent:   |         | 16 10   |
| Height, Unit:             |         | 6 IN    |
| Height Minimum, Maximum:  |         | 4 6     |
| Density, Unit:            | 8 M2    | 8 M2    |
| Pest 6 Code, Type, Scale: | AMBEL W | AMBEL W |
| Stage Majority, Percent:  |         | 14 100  |
| Height, Unit:             |         | 4 IN    |
| Height Minimum, Maximum:  |         | 3 4     |

# Ohio State University Horticulture and Crop Science

## 2010/CLOMAZONE+SULFENTRAZONE/SOYBEANS/FALL APPLICATION/

Title No. 2:  
 Trial ID: 11FALLSOY2      Protocol ID: 11FALLSOY2  
 Location:                      Study Director:  
 Project ID:                    Investigator: Dr. Mark M. Loux  
    Sponsor Contact: Joe Reed, FMC

### Application Equipment

|                                  | A         | B          |
|----------------------------------|-----------|------------|
| <b>Appl. Equipment:</b>          | BACKPACK  | Tractor    |
| <b>Equipment Type:</b>           | SPRBAC    | SPTRMO     |
| <b>Operation Pressure, Unit:</b> | 53 PSI    | 40 PSI     |
| <b>Nozzle Type:</b>              | TEEJET DG | DG         |
| <b>Nozzle Size:</b>              | 11002     | 11002      |
| <b>Nozzle Spacing, Unit:</b>     | 18 IN     | 20 IN      |
| <b>Boom Length, Unit:</b>        | 10 FT     | 20 FT      |
| <b>Boom Height, Unit:</b>        | 20 IN     | 20 IN      |
| <b>Ground Speed, Unit:</b>       | 3 MPH     | 5.7 MPH    |
| <b>Carrier:</b>                  | WATER     | WATER      |
| <b>Spray Volume, Unit:</b>       | 20 GPA    | 20 GAL/AC  |
| <b>Mix Size, Unit:</b>           | 3 Liters  | 10 gallons |
| <b>Propellant:</b>               | CO2       | PUMROL     |
| <b>Tank Mix (Y/N):</b>           |           | N no       |

# Ohio State University Horticulture and Crop Science

## 2010/CLOMAZONE+SULFENTRAZONE/SOYBEANS/FALL APPLICATION/

Title No. 2:  
 Trial ID: 11FALLSOY2      Protocol ID: 11FALLSOY2  
 Location:                      Study Director:  
 Project ID:                    Investigator: Dr. Mark M. Loux  
    Sponsor Contact: Joe Reed, FMC

|                               |             |             |             |
|-------------------------------|-------------|-------------|-------------|
| Pest Type                     |             |             |             |
| Pest Code                     |             |             |             |
| Pest Scientific Name          |             |             |             |
| Pest Name                     |             |             |             |
| Crop Code                     | GLXMA       | GLXMA       | GLXMA       |
| BBCH Scale                    | BSOY        | BSOY        | BSOY        |
| Crop Scientific Name          | Glycine max | Glycine max | Glycine max |
| Crop Name                     | Soybean     | Soybean     | Soybean     |
| Description                   |             |             |             |
| Rating Date                   | Oct-11-2011 | Oct-11-2011 | Oct-11-2011 |
| Rating Type                   | WEIGHT      | MOISTURE    | YIELD       |
| Rating Unit                   | LBS         | %           | BU          |
| Number of Subsamples          | 1           | 1           | 1           |
| Days After First/Last Applic. | 357 130     | 357 130     | 357 130     |
| Trt-Eval Interval             | HARVEST     | HARVEST     | HARVEST     |
| Plant-Eval Interval           | 150 DP-1    | 150 DP-1    | 150 DP-1    |
| ARM Action Codes              |             |             | TY1         |
| Number of Decimals            | 1           | 1           | 1           |

| Trt No. | Treatment Name   | Rate           | Unit | Other Rate | Other Unit | Appl Code | 33       | 34     | 35       |
|---------|------------------|----------------|------|------------|------------|-----------|----------|--------|----------|
| 1       |                  |                |      |            |            |           | 13.3 bc  | 17.0 a | 49.6 bcd |
| 2       | ROUNDUP POWERMAX | 1.375 lb ai/a  |      | 32 oz/a    |            | A         | 13.0 bc  | 18.0 a | 47.8 cd  |
| 2       | RAGE D-TECH      | 0.375 lb ai/a  |      | 12 oz/a    |            | A         |          |        |          |
| 2       | SPARTAN          | 0.25 lb ai/a   |      | 8 oz/a     |            | A         |          |        |          |
| 2       | COMMAND 3ME      | 0.75 lb ai/a   |      | 32 oz/a    |            | A         |          |        |          |
| 2       | CADET            | 0.0036 lb ai/a |      | 0.506 oz/a |            | B         |          |        |          |
| 2       | ROUNDUP POWERMAX |                |      | 32 oz/a    |            | B         |          |        |          |
| 2       | N-PAK AMS        | 2.5 % v/v      |      | 2 qt/a     |            | B         |          |        |          |
| 3       | ROUNDUP POWERMAX | 1.375 lb ai/a  |      | 32 oz/a    |            | A         | 14.8 abc | 22.8 a | 51.2 a-d |
| 3       | RAGE D-TECH      | 0.375 lb ai/a  |      | 12 oz/a    |            | A         |          |        |          |
| 3       | SPARTAN          | 0.33 lb ai/a   |      | 10.6 oz/a  |            | A         |          |        |          |
| 3       | COMMAND 3ME      | 0.25 lb ai/a   |      | 10.6 oz/a  |            | A         |          |        |          |
| 3       | CADET            | 0.0036 lb ai/a |      | 0.506 oz/a |            | B         |          |        |          |
| 3       | ROUNDUP POWERMAX |                |      | 32 oz/a    |            | B         |          |        |          |
| 3       | N-PAK AMS        | 2.5 % v/v      |      | 2 qt/a     |            | B         |          |        |          |
| 4       | ROUNDUP POWERMAX | 1.375 lb ai/a  |      | 32 oz/a    |            | A         | 12.3 c   | 16.1 a | 46.1 cd  |
| 4       | RAGE D-TECH      | 0.375 lb ai/a  |      | 12 oz/a    |            | A         |          |        |          |
| 4       | SPARTAN          | 0.25 lb ai/a   |      | 8 oz/a     |            | A         |          |        |          |
| 4       | COMMAND 3ME      | 0.188 lb ai/a  |      | 8 oz/a     |            | A         |          |        |          |
| 4       | CADET            | 0.0036 lb ai/a |      | 0.506 oz/a |            | B         |          |        |          |
| 4       | ROUNDUP POWERMAX |                |      | 32 oz/a    |            | B         |          |        |          |
| 4       | N-PAK AMS        | 2.5 % v/v      |      | 2 qt/a     |            | B         |          |        |          |
| 5       | ROUNDUP POWERMAX | 1.375 lb ai/a  |      | 32 oz/a    |            | A         | 12.2 c   | 17.8 a | 44.9 d   |
| 5       | RAGE D-TECH      | 0.375 lb ai/a  |      | 12 oz/a    |            | A         |          |        |          |
| 5       | SPARTAN          | 0.188 lb ai/a  |      | 6 oz/a     |            | A         |          |        |          |
| 5       | COMMAND 3ME      | 0.141 lb ai/a  |      | 6 oz/a     |            | A         |          |        |          |
| 5       | CADET            | 0.0036 lb ai/a |      | 0.506 oz/a |            | B         |          |        |          |
| 5       | ROUNDUP POWERMAX |                |      | 32 oz/a    |            | B         |          |        |          |
| 5       | N-PAK AMS        | 2.5 % v/v      |      | 2 qt/a     |            | B         |          |        |          |
| 6       | ROUNDUP POWERMAX | 1.375 lb ai/a  |      | 32 oz/a    |            | A         | 15.3 ab  | 17.3 a | 56.7 abc |
| 6       | RAGE D-TECH      | 0.375 lb ai/a  |      | 12 oz/a    |            | A         |          |        |          |
| 6       | AUTHORITY XL     | 0.14 lb ai/a   |      | 3.2 oz/a   |            | A         |          |        |          |
| 6       | CADET            | 0.0036 lb ai/a |      | 0.506 oz/a |            | B         |          |        |          |
| 6       | ROUNDUP POWERMAX |                |      | 32 oz/a    |            | B         |          |        |          |
| 6       | N-PAK AMS        | 2.5 % v/v      |      | 2 qt/a     |            | B         |          |        |          |
| 7       | ROUNDUP POWERMAX | 1.375 lb ai/a  |      | 32 oz/a    |            | A         | 16.8 a   | 17.1 a | 62.2 a   |
| 7       | RAGE D-TECH      | 0.375 lb ai/a  |      | 12 oz/a    |            | A         |          |        |          |

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

# Ohio State University Horticulture and Crop Science

## 2010/CLOMAZONE+SULFENTRAZONE/SOYBEANS/FALL APPLICATION/

Title No. 2:  
 Trial ID: 11FALLSOY2      Protocol ID: 11FALLSOY2  
 Location:                      Study Director:  
 Project ID:                    Investigator: Dr. Mark M. Loux  
    Sponsor Contact: Joe Reed, FMC

|                               |             |             |             |  |
|-------------------------------|-------------|-------------|-------------|--|
| Pest Type                     |             |             |             |  |
| Pest Code                     |             |             |             |  |
| Pest Scientific Name          |             |             |             |  |
| Pest Name                     |             |             |             |  |
| Crop Code                     | GLXMA       | GLXMA       | GLXMA       |  |
| BBCH Scale                    | BSOY        | BSOY        | BSOY        |  |
| Crop Scientific Name          | Glycine max | Glycine max | Glycine max |  |
| Crop Name                     | Soybean     | Soybean     | Soybean     |  |
| Description                   |             |             |             |  |
| Rating Date                   | Oct-11-2011 | Oct-11-2011 | Oct-11-2011 |  |
| Rating Type                   | WEIGHT      | MOISTURE    | YIELD       |  |
| Rating Unit                   | LBS         | %           | BU          |  |
| Number of Subsamples          | 1           | 1           | 1           |  |
| Days After First/Last Applic. | 357 130     | 357 130     | 357 130     |  |
| Trt-Eval Interval             | HARVEST     | HARVEST     | HARVEST     |  |
| Plant-Eval Interval           | 150 DP-1    | 150 DP-1    | 150 DP-1    |  |
| ARM Action Codes              |             |             | TY1         |  |
| Number of Decimals            | 1           | 1           | 1           |  |

| Trt No.            | Treatment Name   | Rate           | Unit | Other Rate | Other Unit | Appl Code | 33     | 34     | 35      |
|--------------------|------------------|----------------|------|------------|------------|-----------|--------|--------|---------|
| 7                  | AUTHORITY XL     | 0.175 lb ai/a  |      | 4 oz/a     |            | A         |        |        |         |
| 7                  | CADET            | 0.0036 lb ai/a |      | 0.506 oz/a |            | B         |        |        |         |
| 7                  | ROUNDUP POWERMAX | 32 oz/a        |      | 32 oz/a    |            | B         |        |        |         |
| 7                  | N-PAK AMS        | 2.5 % v/v      |      | 2 qt/a     |            | B         |        |        |         |
| 8                  | ROUNDUP POWERMAX | 32 oz/a        |      | 32 oz/a    |            | A         | 16.4 a | 18.2 a | 60.1 ab |
| 8                  | CANOPY EX        | 2.2 oz/a       |      | 2.2 oz/a   |            | A         |        |        |         |
| 8                  | RAGE D-TECH      | 0.375 lb ai/a  |      | 12 oz/a    |            | A         |        |        |         |
| 8                  | ROUNDUP POWERMAX | 32 oz/a        |      | 32 oz/a    |            | B         |        |        |         |
| 8                  | N-PAK AMS        | 2.5 % v/v      |      | 2 qt/a     |            | B         |        |        |         |
| LSD (P=.05)        |                  |                |      |            |            |           | 2.81   | 5.64   | 11.62   |
| Standard Deviation |                  |                |      |            |            |           | 1.61   | 3.22   | 6.64    |
| CV                 |                  |                |      |            |            |           | 11.26  | 17.87  | 12.68   |
| Bartlett's X2      |                  |                |      |            |            |           | 4.971  | 9.12   | 6.226   |
| P(Bartlett's X2)   |                  |                |      |            |            |           | 0.664  | 0.244  | 0.514   |
| Replicate F        |                  |                |      |            |            |           | 1.154  | 1.426  | 0.944   |
| Replicate Prob(F)  |                  |                |      |            |            |           | 0.3437 | 0.2732 | 0.4126  |
| Treatment F        |                  |                |      |            |            |           | 3.831  | 1.193  | 2.916   |
| Treatment Prob(F)  |                  |                |      |            |            |           | 0.0156 | 0.3671 | 0.0419  |

Crop Code  
 GLXMA, BSOY, Glycine max, = US  
Rating Type  
 WEIGHT = weight  
 YIELD = yield  
Rating Unit  
 % = percent  
 BU = bushel  
Plant-Eval Interval  
 150 DP-1 = 1 May-14-2011  
ARM Action Codes  
 TY1 = 3.872\*[33]\*(100-[34])/86.5

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.