# Ohio State University
# Horticulture and Crop Science

**Determine efficacy of pyroxasulfone when added to lactofen, post applied**

Title No. 2:
Trial ID: 11POS1 Protocol ID: 11POS1
Location: Western Branch F-7 Study Director: Bryan Reeb
Project ID: 11POS1 Investigator: Dr. Mark M. Loux
Sponsor Contact: Eric Ott, Valent

## General Trial Information

**Study Director:** Bryan Reeb **Title:** Research Technician
**Investigator:** Dr. Mark M. Loux **Title:** Professor

## Trial Location

**City:** South Charleston **Latitude of LL Corner °:** 39.86021 N
**State/Prov.:** Ohio **Longitude of LL Corner °:** -83.67088 W
**Postal Code:** 45368
**Country:** USA

## Crop Description

**Crop 1:** GLXMA Glycine max Soybean
**Variety:** Pioneer 93Y51 **Description:** Round Up Ready
**BBCH Scale:** BSOY **Planting Date:** 6/6/11
**Planting Method:** SEEDED seeded **Rate, Unit:** 197000 S/A
**Depth, Unit:** 1 IN
**Row Spacing, Unit:** 15 IN
**Seed Bed:** MEDIUM medium **Soil Temperature, Unit:** 76 F
**Soil Moisture:** NORMAL normal **Emergence Date:** 6/13/11

## Pest Description

**Pest 1 Type:** W **Code:** SETFA Setaria faberi
**Common Name:** Giant foxtail

**Pest 2 Type:** W **Code:** CHEAL Chenopodium album
**Common Name:** Common lambsquarters

**Pest 3 Type:** W **Code:** AMARE Amaranthus retroflexus
**Common Name:** Redroot pigweed

**Pest 4 Type:** W **Code:** SIDSP Sida spinosa
**Common Name:** Prickly sida

**Pest 5 Type:** W **Code:** HIBTR Hibiscus trionum
**Common Name:** Venice mallow

**Pest 6 Type:** W **Code:** IPOHE Ipomoea hederacea
**Common Name:** Ivyleaf morningglory

**Pest 7 Type:** W **Code:** AMBTR Ambrosia trifida
**Common Name:** Giant 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:** CONTIL conventional-till
**Replications:** 3 **Study Design:** RACOBL Randomized Complete Block (RCB)
**Untreated Arrangement:** INCLUDED single control randomized in each block

## Soil Description

**Description Name:** F-7 Middle
**% OM:** 1.9 **Texture:** SIL silt loam
**pH:** 6.4 **Soil Name:** Crosby Silt Loam
**CEC:** 13.3 **Fert. Level:** G good
**Soil Drainage:** G good

# Ohio State University
# Horticulture and Crop Science

## Application Description

| | A |
|---|---|
| **Application Date:** | 6/30/11 |
| **Time of Day:** | 10:20 AM |
| **Application Method:** | SPRAY |
| **Application Timing:** | MPO |
| **Application Placement:** | BROFOL |
| **Air Temperature, Unit:** | 86.5 F |
| **% Relative Humidity:** | 44.7 |
| **Wind Velocity, Unit:** | 3.4 MPH |
| **Wind Direction:** | W |
| **Dew Presence (Y/N):** | N no |
| **Soil Temperature, Unit:** | 69 F |
| **Soil Moisture:** | GOOD |
| **% Cloud Cover:** | 0 |
| **Next Rain Occurred On:** | 7/2/11 |

## Crop Stage At Each Application

| | A |
|---|---|
| **Crop 1 Code, BBCH Scale:** | GLXMA BSOY |
| **Stage Scale Used:** | BBCH |
| **Stage Majority, Percent:** | 13 100 |
| **Height, Unit:** | 6 IN |
| **Height Minimum, Maximum:** | 4 6 |

## Pest Stage At Each Application

| | A |
|---|---|
| **Pest 1 Code, Type, Scale:** | SETFA W |
| **Stage Majority, Percent:** | 15 100 |
| **Height, Unit:** | 5 IN |
| **Height Minimum, Maximum:** | 2 5 |
| **Density, Unit:** | 128 M2 |
| **Pest 2 Code, Type, Scale:** | CHEAL W |
| **Stage Majority, Percent:** | 14 100 |
| **Height, Unit:** | 2 IN |
| **Height Minimum, Maximum:** | 1 2 |
| **Density, Unit:** | 24 M2 |
| **Pest 3 Code, Type, Scale:** | AMARE W |
| **Stage Majority, Percent:** | 14 100 |
| **Height, Unit:** | 2 IN |
| **Height Minimum, Maximum:** | 1 2 |
| **Density, Unit:** | 13.33 M2 |
| **Pest 4 Code, Type, Scale:** | SIDSP W |
| **Stage Majority, Percent:** | 14 100 |
| **Height, Unit:** | 1 IN |
| **Density, Unit:** | 18.66 M2 |
| **Pest 5 Code, Type, Scale:** | HIBTR W |
| **Stage Majority, Percent:** | 12 100 |
| **Height, Unit:** | 1 IN |
| **Density, Unit:** | 17.33 M2 |
| **Pest 6 Code, Type, Scale:** | IPOHE W |
| **Stage Majority, Percent:** | 13 100 |
| **Height, Unit:** | 3 IN |
| **Height Minimum, Maximum:** | 2 3 |
| **Density, Unit:** | 17.33 M2 |
| **Pest 7 Code, Type, Scale:** | AMBTR W |
| **Stage Majority, Percent:** | 16 100 |
| **Height, Unit:** | 3 IN |
| **Height Minimum, Maximum:** | 2 6 |
| **Density, Unit:** | 12 M2 |

## Application Equipment

| | A |
|---|---|
| **Appl. Equipment:** | Backpack |
| **Equipment Type:** | SPRBAC |
| **Operating Pressure, Unit:** | 46 PSI |
| **Nozzle Type:** | DG |
| **Nozzle Size:** | 8015 |
| **Nozzle Spacing, Unit:** | 18 IN |
| **Boom Length, Unit:** | 6.67 FT |
| **Boom Height, Unit:** | 18 IN |
| **Ground Speed, Unit:** | 3 MPH |
| **Carrier:** | WATER |
| **Spray Volume, Unit:** | 15 gal/ac |
| **Mix Size, Unit:** | 0.33 gallons |
| **Propellant:** | COMCO2 |

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Location: Western Branch F-7 Study Director: Bryan Reeb
Project ID: 11POS1 Investigator: Dr. Mark M. Loux
Sponsor Contact: Eric Ott, Valent

| Trt No. | Treatment Name | Form Conc | Other Rate | Other Rate Unit | Appl Code | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pest Type | | | | | | | W Weed | W Weed | W Weed | W Weed |
| | Pest Code | | | | | | | SETFA | AMBTR | CHEAL | AMARE |
| | Pest Scientific Name | | | | | | | Setaria faberi | Ambrosia trifi> | Chenopodium al> | Amaranthus ret> |
| | Pest Name | | | | | | | Giant foxtail | Giant ragweed | Common lambsqu> | Redroot pigweed |
| | Crop Code | | | | | GLXMA | GLXMA | | | | |
| | BBCH Scale | | | | | BSOY | BSOY | | | | |
| | Crop Scientific Name | | | | | Glycine max | Glycine max | | | | |
| | Crop Name | | | | | Soybean | Soybean | | | | |
| | Rating Date | | | | | 7/8/11 | 7/15/11 | 7/15/11 | 7/15/11 | 7/15/11 | 7/15/11 |
| | Rating Type | | | | | PYHGEN | PHYGEN | CONTRO | CONTRO | CONTRO | CONTRO |
| | Rating Unit | | | | | % | % | % | % | % | % |
| | Number of Subsamples | | | | | 1 | 1 | 1 | 1 | 1 | 1 |
| | Days After First/Last Applic. | | | | | 8 8 | 15 15 | 15 15 | 15 15 | 15 15 | 15 15 |
| | Trt-Eval Interval | | | | | 8 DA-A | 15 DA-A | 15 DA-A | 15 DA-A | 15 DA-A | 15 DA-A |
| | Plant-Eval Interval | | | | | 32 DP-1 | 39 DP-1 | 39 DP-1 | 39 DP-1 | 39 DP-1 | 39 DP-1 |
| | Days After Emergence | | | | | 25 DE-1 | 32 DE-1 | 32 DE-1 | 32 DE-1 | 32 DE-1 | 32 DE-1 |
| | Number of Decimals | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | UTC | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Cobra | 2 | 8 | oz/a | A | 17 | 5 | 82 | 77 | 53 | 98 |
| 2 | COC | 100 | 1 | pt/a | A | | | | | | |
| 2 | Select Max | 1 | 6 | oz/a | A | | | | | | |
| 3 | Cobra | 2 | 10 | oz/a | A | 20 | 5 | 83 | 67 | 63 | 100 |
| 3 | COC | 100 | 1 | pt/a | A | | | | | | |
| 3 | Select Max | 1 | 6 | oz/a | A | | | | | | |
| 4 | Cobra | 2 | 12 | oz/a | A | 20 | 5 | 85 | 78 | 47 | 90 |
| 4 | COC | 100 | 1 | pt/a | A | | | | | | |
| 4 | Select Max | 1 | 6 | oz/a | A | | | | | | |
| 5 | Cobra | 2 | 8 | oz/a | A | 21 | 5 | 87 | 80 | 60 | 98 |
| 5 | V-10206 | 85 | 1.5 | oz/a | A | | | | | | |
| 5 | COC | 100 | 1 | pt/a | A | | | | | | |
| 5 | Select Max | 1 | 6 | oz/a | A | | | | | | |
| 6 | Cobra | 2 | 10 | oz/a | A | 19 | 5 | 83 | 72 | 60 | 100 |
| 6 | V-10206 | 85 | 1.87 | oz/a | A | | | | | | |
| 6 | COC | 100 | 1 | pt/a | A | | | | | | |
| 6 | Select Max | 1 | 6 | oz/a | A | | | | | | |
| 7 | Cobra | 2 | 12 | oz/a | A | 23 | 7 | 82 | 82 | 72 | 100 |
| 7 | V-10206 | 85 | 2.25 | oz/a | A | | | | | | |
| 7 | COC | 100 | 1 | pt/a | A | | | | | | |
| 7 | Select Max | 1 | 6 | oz/a | A | | | | | | |
| 8 | Prefix | 5.29 | 1.5 | pt/a | A | 16 | 5 | 85 | 53 | 72 | 92 |
| 8 | COC | 100 | 1 | pt/a | A | | | | | | |
| 8 | Select Max | 1 | 6 | oz/a | A | | | | | | |
| | LSD (P=.05) | | | | | 3.3 | 0.9 | 6.2 | 18.1 | 12.0 | 12.7 |
| | Standard Deviation | | | | | 1.9 | 0.5 | 3.5 | 10.3 | 6.8 | 7.3 |
| | CV | | | | | 11.15 | 11.78 | 4.82 | 16.24 | 12.84 | 8.58 |
| | Bartlett's X2 | | | | | 2.839 | 0.0 | 2.162 | 2.737 | 2.226 | 6.82 |
| | P(Bartlett's X2) | | | | | 0.585 | . | 0.826 | 0.841 | 0.817 | 0.078 |
| | Replicate F | | | | | 0.908 | 1.000 | 2.333 | 3.559 | 2.956 | 0.551 |
| | Replicate Prob(F) | | | | | 0.4258 | 0.3927 | 0.1335 | 0.0563 | 0.0850 | 0.5886 |
| | Treatment F | | | | | 43.685 | 38.776 | 211.429 | 20.948 | 34.286 | 67.346 |
| | Treatment Prob(F) | | | | | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

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| Trt No. | Treatment Name | Form Conc | Other Rate | Other Rate Unit | Appl Code | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pest Type | | | | | W Weed | W Weed | W Weed | W Weed | W Weed | W Weed |
| | Pest Code | | | | | IPOHE | HIBTR | SETFA | AMBTR | CHEAL | AMARE |
| | Pest Scientific Name | | | | | Ipomoea hedera> | Hibiscus trion> | Setaria faberi | Ambrosia trifi> | Chenopodium al> | Amaranthus ret> |
| | Pest Name | | | | | Ivyleaf mornin> | Venice mallow | Giant foxtail | Giant ragweed | Common lambsqu> | Redroot pigweed |
| | Crop Code | | | | | | | | | | |
| | BBCH Scale | | | | | | | | | | |
| | Crop Scientific Name | | | | | | | | | | |
| | Crop Name | | | | | | | | | | |
| | Rating Date | | | | | 7/15/11 | 7/15/11 | 8/1/11 | 8/1/11 | 8/1/11 | 8/1/11 |
| | Rating Type | | | | | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO |
| | Rating Unit | | | | | % | % | % | % | % | % |
| | Number of Subsamples | | | | | 1 | 1 | 1 | 1 | 1 | 1 |
| | Days After First/Last Applic. | | | | | 15 15 | 15 15 | 32 32 | 32 32 | 32 32 | 32 32 |
| | Trt-Eval Interval | | | | | 15 DA-A | 15 DA-A | 32 DA-A | 32 DA-A | 32 DA-A | 32 DA-A |
| | Plant-Eval Interval | | | | | 39 DP-1 | 39 DP-1 | 56 DP-1 | 56 DP-1 | 56 DP-1 | 56 DP-1 |
| | Days After Emergence | | | | | 32 DE-1 | 32 DE-1 | 49 DE-1 | 49 DE-1 | 49 DE-1 | 49 DE-1 |
| | Number of Decimals | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | UTC | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Cobra | 2 | 8 oz/a | | A | 37 | 57 | 93 | 78 | 85 | 100 |
| 2 | COC | 100 | 1 pt/a | | A | | | | | | |
| 2 | Select Max | 1 | 6 oz/a | | A | | | | | | |
| 3 | Cobra | 2 | 10 oz/a | | A | 37 | 63 | 85 | 70 | 95 | 100 |
| 3 | COC | 100 | 1 pt/a | | A | | | | | | |
| 3 | Select Max | 1 | 6 oz/a | | A | | | | | | |
| 4 | Cobra | 2 | 12 oz/a | | A | 37 | 68 | 88 | 77 | 88 | 95 |
| 4 | COC | 100 | 1 pt/a | | A | | | | | | |
| 4 | Select Max | 1 | 6 oz/a | | A | | | | | | |
| 5 | Cobra | 2 | 8 oz/a | | A | 43 | 60 | 97 | 78 | 85 | 100 |
| 5 | V-10206 | 85 | 1.5 oz/a | | A | | | | | | |
| 5 | COC | 100 | 1 pt/a | | A | | | | | | |
| 5 | Select Max | 1 | 6 oz/a | | A | | | | | | |
| 6 | Cobra | 2 | 10 oz/a | | A | 50 | 57 | 97 | 73 | 83 | 100 |
| 6 | V-10206 | 85 | 1.87 oz/a | | A | | | | | | |
| 6 | COC | 100 | 1 pt/a | | A | | | | | | |
| 6 | Select Max | 1 | 6 oz/a | | A | | | | | | |
| 7 | Cobra | 2 | 12 oz/a | | A | 43 | 72 | 97 | 83 | 88 | 100 |
| 7 | V-10206 | 85 | 2.25 oz/a | | A | | | | | | |
| 7 | COC | 100 | 1 pt/a | | A | | | | | | |
| 7 | Select Max | 1 | 6 oz/a | | A | | | | | | |
| 8 | Prefix | 5.29 | 1.5 pt/a | | A | 53 | 53 | 98 | 63 | 92 | 97 |
| 8 | COC | 100 | 1 pt/a | | A | | | | | | |
| 8 | Select Max | 1 | 6 oz/a | | A | | | | | | |
| | LSD (P=.05) | | | | | 22.4 | 15.7 | 9.0 | 13.1 | 9.2 | 6.0 |
| | Standard Deviation | | | | | 12.8 | 9.0 | 5.1 | 7.5 | 5.3 | 3.4 |
| | CV | | | | | 34.18 | 16.72 | 6.27 | 11.45 | 6.84 | 3.97 |
| | Bartlett's X2 | | | | | 8.435 | 7.031 | 4.745 | 7.676 | 3.015 | 0.31 |
| | P(Bartlett's X2) | | | | | 0.208 | 0.318 | 0.577 | 0.263 | 0.807 | 0.577 |
| | Replicate F | | | | | 0.913 | 5.376 | 2.492 | 5.032 | 0.487 | 2.215 |
| | Replicate Prob(F) | | | | | 0.4239 | 0.0185 | 0.1187 | 0.0226 | 0.6247 | 0.1459 |
| | Treatment F | | | | | 4.913 | 18.939 | 127.136 | 39.332 | 106.160 | 312.392 |
| | Treatment Prob(F) | | | | | 0.0056 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

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| Trt No. | Treatment Name | Form Conc | Other Rate | Other Rate Unit | Appl Code | 13 | 14 |
|---|---|---|---|---|---|---|---|
| | Pest Type | | | | | W Weed | W Weed |
| | Pest Code | | | | | IPOHE | HIBTR |
| | Pest Scientific Name | | | | | Ipomoea hedera> | Hibiscus trion> |
| | Pest Name | | | | | Ivyleaf mornin> | Venice mallow |
| | Crop Code | | | | | | |
| | BBCH Scale | | | | | | |
| | Crop Scientific Name | | | | | | |
| | Crop Name | | | | | | |
| | Rating Date | | | | | 8/1/11 | 8/1/11 |
| | Rating Type | | | | | CONTRO | CONTRO |
| | Rating Unit | | | | | % | % |
| | Number of Subsamples | | | | | 1 | 1 |
| | Days After First/Last Applic. | | | | | 32 32 | 32 32 |
| | Trt-Eval Interval | | | | | 32 DA-A | 32 DA-A |
| | Plant-Eval Interval | | | | | 56 DP-1 | 56 DP-1 |
| | Days After Emergence | | | | | 49 DE-1 | 49 DE-1 |
| | Number of Decimals | | | | | 0 | 0 |
| 1 | UTC | | | | | 0 | 0 |
| 2 | Cobra | 2 | 8 | oz/a | A | 70 | 100 |
| 2 | COC | 100 | 1 | pt/a | A | | |
| 2 | Select Max | 1 | 6 | oz/a | A | | |
| 3 | Cobra | 2 | 10 | oz/a | A | 78 | 100 |
| 3 | COC | 100 | 1 | pt/a | A | | |
| 3 | Select Max | 1 | 6 | oz/a | A | | |
| 4 | Cobra | 2 | 12 | oz/a | A | 77 | 99 |
| 4 | COC | 100 | 1 | pt/a | A | | |
| 4 | Select Max | 1 | 6 | oz/a | A | | |
| 5 | Cobra | 2 | 8 | oz/a | A | 77 | 99 |
| 5 | V-10206 | 85 | 1.5 | oz/a | A | | |
| 5 | COC | 100 | 1 | pt/a | A | | |
| 5 | Select Max | 1 | 6 | oz/a | A | | |
| 6 | Cobra | 2 | 10 | oz/a | A | 70 | 100 |
| 6 | V-10206 | 85 | 1.87 | oz/a | A | | |
| 6 | COC | 100 | 1 | pt/a | A | | |
| 6 | Select Max | 1 | 6 | oz/a | A | | |
| 7 | Cobra | 2 | 12 | oz/a | A | 75 | 100 |
| 7 | V-10206 | 85 | 2.25 | oz/a | A | | |
| 7 | COC | 100 | 1 | pt/a | A | | |
| 7 | Select Max | 1 | 6 | oz/a | A | | |
| 8 | Prefix | 5.29 | 1.5 | pt/a | A | 78 | 100 |
| 8 | COC | 100 | 1 | pt/a | A | | |
| 8 | Select Max | 1 | 6 | oz/a | A | | |
| | LSD (P=.05) | | | | | 23.0 | 1.0 |
| | Standard Deviation | | | | | 13.1 | 0.6 |
| | CV | | | | | 19.99 | 0.68 |
| | Bartlett's X2 | | | | | 1.633 | 0.0 |
| | P(Bartlett's X2) | | | | | 0.95 | . |
| | Replicate F | | | | | 4.955 | 0.467 |
| | Replicate Prob(F) | | | | | 0.0236 | 0.6365 |
| | Treatment F | | | | | 12.445 | 10460.801 |
| | Treatment Prob(F) | | | | | 0.0001 | 0.0001 |

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**Determine efficacy of pyroxasulfone when added to lactofen, post applied**

Title No. 2:
Trial ID: 11POS1 Protocol ID: 11POS1
Location: Western Branch F-7 Study Director: Bryan Reeb
Project ID: 11POS1 Investigator: Dr. Mark M. Loux
Sponsor Contact: Eric Ott, Valent

Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
SETFA, Setaria faberi, = US
AMBTR, Ambrosia trifida, = US
CHEAL, Chenopodium album, = US
AMARE, Amaranthus retroflexus, = US
IPOHE, Ipomoea hederacea, = US
HIBTR, Hibiscus trionum, = US
Crop Code
GLXMA, BSOY, Glycine max, = US
Rating Type
PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown
Rating Unit
% = percent
Plant-Eval Interval
32 DP-1 = 1 6/6/11
39 DP-1 = 1 6/6/11
56 DP-1 = 1 6/6/11