

The Ohio State University

Valent pre and pre-mixes with Fierce

Trial ID: 13 PRES1 Location: Western Branch Trial Year: 2013
 Protocol ID: 13 PRES1 Investigator: Dr. Mark M. Loux
 Project ID: 4600.39359 Study Director: Bryan Reeb
 Sponsor Contact: Eric Ott, Valent

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: Pioneer 93 Y 05 **BBCH Scale:** BSOY
Description: Roundup Ready

Planting Rate, Unit: 150000 S/A
Depth, Unit: 0.75 IN
Row Spacing, Unit: 15 IN
Soil Moisture: GOOD good
Seed Bed: FINE fine

Planting Date: May-15-2013
Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter
Emergence Date: May-23-2013

Pest Description

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

Pest 2 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 3 Type: W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters

Site and Design

Treated Plot Width: 6.67 FT
Treated Plot Length: 30 FT
Treated Plot Area: 200.1 FT2 **Treatments:** 18
Replications: 3

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOBL Randomized Complete Block (RCB)

Soil Description

Description Name: F-7 East
% OM: 1.8 **Texture:** SIL silt loam
pH: 5.7 **Soil Name:** Crosby Silt Loam
CEC: 16.2 **Fert. Level:** G good
Soil Drainage: G good

Application Description

A

Application Date: May-16-2013
Appl. Start Time: 8:30
Appl. Stop Time: 8:45 AM
Application Method: SPRAY
Application Timing: PRE
Application Placement: BROSOI
Air Temperature, Unit: 67.8 F
% Relative Humidity: 78.4
Wind Velocity, Unit: 1.9 MPH
Wind Direction: NNW
Soil Temperature, Unit: 62 F
Soil Moisture: NORMAL
% Cloud Cover: 100
Next Moisture Occurred On: May-17-2013

Crop Stage At Each Application

A
Crop 1 Code, BBCH Scale: GLXMA BSOY

Pest Stage At Each Application

A

Pest 1 Code, Type, Scale: SETFA W
Density, Unit: 200 M2
Pest 2 Code, Type, Scale: AMBTR W
Density, Unit: 16 M2
Pest 3 Code, Type, Scale: CHEAL W
Density, Unit: 4 M2

The Ohio State University

Valent pre and pre-mixes with Fierce

Trial ID: 13 PRES1 Location: Western Branch Trial Year: 2013
Protocol ID: 13 PRES1 Investigator: Dr. Mark M. Loux
Project ID: 4600.39359 Study Director: Bryan Reeb
Sponsor Contact: Eric Ott, Valent

Application Equipment

A

| | |
|----------------------------------|-----------|
| Appl. Equipment: | Backpack |
| Equipment Type: | SPRBAC |
| Operation Pressure, Unit: | 48 PSI |
| Nozzle Type: | AIXR |
| Nozzle Size: | 110015 |
| Nozzle Spacing, Unit: | 18 IN |
| Boom Length, Unit: | 6 FT |
| Boom Height, Unit: | 18 IN |
| Ground Speed, Unit: | 3 MPH |
| Carrier: | WATER |
| Spray Volume, Unit: | 15 gal/ac |
| Mix Size, Unit: | 1 Liters |
| Propellant: | COMCO2 |

The Ohio State University

Valent pre and pre-mixes with Fierce

Trial ID: 13 PRES1 Location: Western Branch Trial Year: 2013
 Protocol ID: 13 PRES1 Investigator: Dr. Mark M. Loux
 Project ID: 4600.39359 Study Director: Bryan Reeb
 Sponsor Contact: Eric Ott, Valent

| Pest Code | | | | SETFA | ECHCR | AMBTR | CHEAL | AMARE | | |
|-------------------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----|-----|
| Crop Code | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | | |
| Rating Date | Jun-3-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | | |
| Rating Type | PHYGEN | PHYGEN | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO | | |
| Rating Unit | % | % | % | % | % | % | % | % | | |
| Days After First/Last Applic. | 18 18 | 29 29 | 29 29 | 29 29 | 29 29 | 29 29 | 29 29 | 29 29 | | |
| Trt-Eval Interval | 21 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | | |
| Plant-Eval Interval | 19 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | | |
| Days After Emergence | 11 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | | |
| Trt Treatment | Other | Other | Appl | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| No. Name | Rate | Rate | Unit Code | | | | | | | |
| 1 Valor SX | 2 oz/a | | A | 17 | 22 | 22 | 22 | 27 | 57 | 97 |
| 2 Valor SX | 3 oz/a | | A | 23 | 30 | 33 | 33 | 33 | 93 | 100 |
| 3 Fierce | 3 oz/a | | A | 27 | 35 | 53 | 53 | 37 | 100 | 100 |
| 4 Fierce | 3.75 oz/a | | A | 33 | 53 | 75 | 72 | 60 | 97 | 100 |
| 5 Valor XLT @ 3oz | | | | 17 | 13 | 19 | 19 | 37 | 100 | 100 |
| 5 Valor SX | 1.76 oz/a | | A | | | | | | | |
| 5 Classic | 1.24 oz/a | | A | | | | | | | |
| 6 Gangster @ 2.4oz | | | | 20 | 32 | 59 | 59 | 70 | 100 | 100 |
| 6 Firstrate | 0.4 % w/w | | A | | | | | | | |
| 6 Valor SX | 2 oz/a | | A | | | | | | | |
| 7 Authority XL | 4 oz/a | | A | 0 | 0 | 7 | 7 | 17 | 73 | 92 |
| 8 Sonic | 3.2 oz/a | | A | 0 | 0 | 29 | 29 | 30 | 65 | 70 |
| 9 Sonic | 4.0 oz/a | | A | 0 | 0 | 2 | 2 | 7 | 80 | 77 |
| 10 Enlite @ 2.8oz | | | | 22 | 23 | 31 | 31 | 40 | 87 | 97 |
| 10 Valor SX | 2 oz/a | | A | | | | | | | |
| 10 Classic | 0.32 oz/a | | A | | | | | | | |
| 10 Harmony GT | 0.49 oz/a | | A | | | | | | | |
| 11 Fierce | 2.5 oz/a | | A | 30 | 35 | 49 | 49 | 40 | 93 | 100 |
| 11 Classic | 1 oz/a | | A | | | | | | | |
| 12 Fierce | 2.75 oz/a | | A | 32 | 35 | 49 | 49 | 48 | 97 | 100 |
| 12 Classic | 1 oz/a | | A | | | | | | | |
| 13 Fierce | 3.0 oz/a | | A | 27 | 35 | 51 | 51 | 50 | 98 | 100 |
| 13 Classic | 1 oz/a | | A | | | | | | | |
| 14 Fierce | 2.5 oz/a | | A | 23 | 32 | 31 | 31 | 40 | 92 | 100 |
| 14 Firstrate | 0.3 oz/a | | A | | | | | | | |
| 15 Fierce | 2.75 oz/a | | A | 28 | 32 | 57 | 57 | 37 | 97 | 100 |
| 15 Firstrate | 0.3 oz/a | | A | | | | | | | |
| 16 Fierce | 3.0 oz/a | | A | 28 | 43 | 60 | 60 | 47 | 95 | 100 |
| 16 Firstrate | 0.3 oz/a | | A | | | | | | | |
| 17 Fierce | 2.75 oz/a | | A | 33 | 30 | 50 | 47 | 60 | 93 | 100 |
| 17 Firstrate | 0.4 oz/a | | A | | | | | | | |

t=Mean descriptions are reported in transformed data units, and are not de-transformed.
 Missing data estimates are included in columns: Yates=8,13,14,15

The Ohio State University

Valent pre and pre-mixes with Fierce

Trial ID: 13 PRES1 Location: Western Branch Trial Year: 2013
 Protocol ID: 13 PRES1 Investigator: Dr. Mark M. Loux
 Project ID: 4600.39359 Study Director: Bryan Reeb
 Sponsor Contact: Eric Ott, Valent

| Pest Code | | | | | | | | | | |
|-------------------------------|------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| Crop Code | GLXMA | GLXMA | SETFA | ECHCR | AMBTR | CHEAL | AMARE | | | |
| Rating Date | Jun-3-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | Jun-14-2013 | |
| Rating Type | PHYGEN | PHYGEN | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO | |
| Rating Unit | % | % | % | % | % | % | % | % | % | |
| Days After First/Last Applic. | 18 18 | 29 29 | 29 29 | 29 29 | 29 29 | 29 29 | 29 29 | 29 29 | 29 29 | |
| Trt-Eval Interval | 21 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | 29 DA-A | |
| Plant-Eval Interval | 19 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | 30 DP-1 | |
| Days After Emergence | 11 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | 22 DE-1 | |
| Trt Treatment No. Name | Other Rate | Other Rate | Appl Unit Code | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18 Fierce | 2.75 oz/a | | A | 42 | 40 | 57 | 57 | 43 | 93 | 100 |
| 18 Classic | 0.330 oz/a | | A | | | | | | | |
| LSD (P=.05) | 8.8 | 12.0 | | 22.5t | 22.4t | 33.1 | 15.3 | 15.2 | | |
| Standard Deviation | 5.3 | 7.2 | | 13.5t | 13.4t | 19.9 | 9.2 | 9.1 | | |
| CV | 23.58 | 26.33 | | 34.76 | 34.77 | 49.55 | 10.23 | 9.48 | | |
| Bartlett's X2 | 7.88 | 4.631 | | 22.603 | 23.371 | 12.951 | 9.664 | 6.727 | | |
| P(Bartlett's X2) | 0.895 | 0.99 | | 0.163 | 0.138 | 0.739 | 0.786 | 0.151 | | |
| Skewness | -0.3542 | -0.3426 | | -0.526 | -0.559 | 0.1185 | -1.3891* | -3.2771* | | |
| Kurtosis | -0.4122 | -0.6037 | | -0.4754 | -0.4902 | -0.7688 | 1.1114 | 10.1099* | | |
| Replicate F | 10.253 | 6.676 | | 5.301 | 5.128 | 1.902 | 3.300 | 2.344 | | |
| Replicate Prob(F) | 0.0003 | 0.0036 | | 0.0099 | 0.0113 | 0.1648 | 0.0490 | 0.1112 | | |
| Treatment F | 15.504 | 13.335 | | 2.904 | 2.853 | 1.760 | 5.678 | 2.710 | | |
| Treatment Prob(F) | 0.0001 | 0.0001 | | 0.0040 | 0.0045 | 0.0787 | 0.0001 | 0.0065 | | |

The Ohio State University

Valent pre and pre-mixes with Fierce

Trial ID: 13 PRES1 Location: Western Branch Trial Year: 2013
 Protocol ID: 13 PRES1 Investigator: Dr. Mark M. Loux
 Project ID: 4600.39359 Study Director: Bryan Reeb
 Sponsor Contact: Eric Ott, Valent

| Pest Code | | | | POLPY | | SETFA | ECHCG | AMBTR | CHEAL | AMARE | |
|-------------------------------|------------------|------------|------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| Crop Code | | | | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | |
| Rating Date | | | | Jun-14-2013 | Jun-25-2013 | Jun-25-2013 | Jun-25-2013 | Jun-25-2013 | Jun-25-2013 | Jun-25-2013 | |
| Rating Type | | | | CONTRO | PHYGEN | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO | |
| Rating Unit | | | | % | % | % | % | % | % | % | |
| Days After First/Last Applic. | | | | 29 29 | 40 40 | 40 40 | 40 40 | 40 40 | 40 40 | 40 40 | |
| Trt-Eval Interval | | | | 29 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | |
| Plant-Eval Interval | | | | 30 DP-1 | 41 DP-1 | 41 DP-1 | 41 DP-1 | 41 DP-1 | 41 DP-1 | 41 DP-1 | |
| Days After Emergence | | | | 22 DE-1 | 33 DE-1 | 33 DE-1 | 33 DE-1 | 33 DE-1 | 33 DE-1 | 33 DE-1 | |
| Trt No. | Treatment Name | Other Rate | Other Rate | Appl Unit Code | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 1 | Valor SX | 2 oz/a | | A | 93 | 15 | 20 | 13 | 33 | 70 | 100 |
| 2 | Valor SX | 3 oz/a | | A | 100 | 18 | 30 | 13 | 27 | 83 | 100 |
| 3 | Fierce | 3 oz/a | | A | 100 | 23 | 70 | 20 | 37 | 87 | 100 |
| 4 | Fierce | 3.75 oz/a | | A | 100 | 38 | 60 | 37 | 60 | 87 | 100 |
| 5 | Valor XLT @ 3oz | | | | 100 | 5 | 53 | 30 | 40 | 87 | 100 |
| | 5 Valor SX | 1.76 oz/a | | A | | | | | | | |
| | 5 Classic | 1.24 oz/a | | A | | | | | | | |
| 6 | Gangster @ 2.4oz | | | | 100 | 20 | 62 | 43 | 77 | 95 | 100 |
| | 6 Firstrate | 0.4 % w/w | | A | | | | | | | |
| | 6 Valor SX | 2 oz/a | | A | | | | | | | |
| 7 | Authority XL | 4 oz/a | | A | 93 | 0 | 27 | 20 | 30 | 100 | 80 |
| 8 | Sonic | 3.2 oz/a | | A | 80 | 0 | 10 | 23 | 37 | 53 | 50 |
| 9 | Sonic | 4.0 oz/a | | A | 50 | 0 | 37 | 23 | 27 | 70 | 83 |
| 10 | Enlite @ 2.8oz | | | | 100 | 2 | 33 | 13 | 27 | 78 | 100 |
| | 10 Valor SX | 2 oz/a | | A | | | | | | | |
| | 10 Classic | 0.32 oz/a | | A | | | | | | | |
| | 10 Harmony GT | 0.49 oz/a | | A | | | | | | | |
| 11 | Fierce | 2.5 oz/a | | A | 100 | 22 | 57 | 43 | 32 | 100 | 100 |
| | 11 Classic | 1 oz/a | | A | | | | | | | |
| 12 | Fierce | 2.75 oz/a | | A | 97 | 18 | 57 | 30 | 47 | 100 | 100 |
| | 12 Classic | 1 oz/a | | A | | | | | | | |
| 13 | Fierce | 3.0 oz/a | | A | 100 | 15 | 50 | 30 | 40 | 93 | 100 |
| | 13 Classic | 1 oz/a | | A | | | | | | | |
| 14 | Fierce | 2.5 oz/a | | A | 100 | 12 | 53 | 27 | 33 | 100 | 100 |
| | 14 Firstrate | 0.3 oz/a | | A | | | | | | | |
| 15 | Fierce | 2.75 oz/a | | A | 100 | 27 | 57 | 33 | 42 | 87 | 100 |
| | 15 Firstrate | 0.3 oz/a | | A | | | | | | | |
| 16 | Fierce | 3.0 oz/a | | A | 100 | 35 | 63 | 43 | 40 | 87 | 100 |
| | 16 Firstrate | 0.3 oz/a | | A | | | | | | | |
| 17 | Fierce | 2.75 oz/a | | A | 90 | 18 | 47 | 27 | 55 | 63 | 100 |
| | 17 Firstrate | 0.4 oz/a | | A | | | | | | | |

The Ohio State University

Valent pre and pre-mixes with Fierce

Trial ID: 13 PRES1 Location: Western Branch Trial Year: 2013
 Protocol ID: 13 PRES1 Investigator: Dr. Mark M. Loux
 Project ID: 4600.39359 Study Director: Bryan Reeb
 Sponsor Contact: Eric Ott, Valent

| Pest Code | POLPY | | SETFA | ECHCG | AMBTR | CHEAL | AMARE | | | |
|-------------------------------|-------------|-------------|----------------|-------------|-------------|-------------|-------------|----------|----|-----|
| Crop Code | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | | | |
| Rating Date | Jun-14-2013 | Jun-25-2013 | Jun-25-2013 | Jun-25-2013 | Jun-25-2013 | Jun-25-2013 | Jun-25-2013 | | | |
| Rating Type | CONTRO | PHYGEN | CONTRO | CONTRO | CONTRO | CONTRO | CONTRO | | | |
| Rating Unit | % | % | % | % | % | % | % | | | |
| Days After First/Last Applic. | 29 29 | 40 40 | 40 40 | 40 40 | 40 40 | 40 40 | 40 40 | | | |
| Trt-Eval Interval | 29 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | | | |
| Plant-Eval Interval | 30 DP-1 | 41 DP-1 | 41 DP-1 | 41 DP-1 | 41 DP-1 | 41 DP-1 | 41 DP-1 | | | |
| Days After Emergence | 22 DE-1 | 33 DE-1 | 33 DE-1 | 33 DE-1 | 33 DE-1 | 33 DE-1 | 33 DE-1 | | | |
| Trt Treatment No. Name | Other Rate | Other Rate | Appl Unit Code | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 18 Fierce | 2.75 oz/a | | A | 100 | 28 | 60 | 37 | 37 | 95 | 100 |
| 18 Classic | 0.330 oz/a | | A | | | | | | | |
| LSD (P=.05) | 10.9 | 16.0 | | 24.2 | 19.2 | 37.3 | 32.7 | 24.9 | | |
| Standard Deviation | 6.5 | 9.6 | | 14.5 | 11.5 | 22.4 | 19.6 | 14.9 | | |
| CV | 6.92 | 58.13 | | 30.88 | 41.01 | 56.09 | 23.01 | 15.67 | | |
| Bartlett's X2 | 2.024 | 18.865 | | 12.03 | 10.673 | 23.265 | 13.702 | 0.997 | | |
| P(Bartlett's X2) | 0.731 | 0.17 | | 0.798 | 0.775 | 0.141 | 0.395 | 0.608 | | |
| Skewness | -3.0119* | 0.5453 | | -0.465 | 0.03 | -0.0631 | -1.6869* | -4.0582* | | |
| Kurtosis | 8.7282* | -0.1975 | | -0.5985 | -0.0513 | -0.6132 | 3.641* | 17.4508* | | |
| Replicate F | 0.348 | 2.426 | | 4.843 | 1.265 | 0.062 | 1.200 | 1.632 | | |
| Replicate Prob(F) | 0.7086 | 0.1036 | | 0.0141 | 0.2952 | 0.9401 | 0.3140 | 0.2110 | | |
| Treatment F | 10.825 | 4.527 | | 4.040 | 2.273 | 1.001 | 1.447 | 2.190 | | |
| Treatment Prob(F) | 0.0001 | 0.0001 | | 0.0003 | 0.0204 | 0.4807 | 0.1773 | 0.0263 | | |

The Ohio State University

Valent pre and pre-mixes with Fierce

Trial ID: 13 PRES1 Location: Western Branch Trial Year: 2013
Protocol ID: 13 PRES1 Investigator: Dr. Mark M. Loux
Project ID: 4600.39359 Study Director: Bryan Reeb
Sponsor Contact: Eric Ott, Valent

| | |
|-------------------------------|-------------|
| Pest Code | POLPY |
| Crop Code | GLXMA |
| Rating Date | Jun-25-2013 |
| Rating Type | CONTRO |
| Rating Unit | % |
| Days After First/Last Applic. | 40 40 |
| Trt-Eval Interval | 40 DA-A |
| Plant-Eval Interval | 41 DP-1 |
| Days After Emergence | 33 DE-1 |

| Trt No. | Treatment Name | Other Rate | Other Rate | Appl Unit | Code | 15 |
|---------|----------------|------------|------------|-----------|------|----|
| 18 | Fierce | 2.75 oz/a | A | | | 97 |
| 18 | Classic | 0.330 oz/a | A | | | |

| | |
|--------------------|----------|
| LSD (P=.05) | 11.4 |
| Standard Deviation | 6.8 |
| CV | 7.79 |
| Bartlett's X2 | 2.741 |
| P(Bartlett's X2) | 0.602 |
| Skewness | -2.5566* |
| Kurtosis | 5.9883* |

| | |
|-------------------|--------|
| Replicate F | 1.602 |
| Replicate Prob(F) | 0.2195 |
| Treatment F | 41.197 |
| Treatment Prob(F) | 0.0001 |

The Ohio State University

Valent pre and pre-mixes with Fierce

Trial ID: 13 PRES1 Location: Western Branch Trial Year: 2013
Protocol ID: 13 PRES1 Investigator: Dr. Mark M. Loux
Project ID: 4600.39359 Study Director: Bryan Reeb
Sponsor Contact: Eric Ott, Valent

Pest Code

SETFA, *Setaria faberi*, = US
ECHCR, *Echinochloa crus-ga. oryzicola*, = US
AMBTR, *Ambrosia trifida*, = US
CHEAL, *Chenopodium album*, = US
AMARE, *Amaranthus retroflexus*, = US
POLPY, *Persicaria pensylvanica*, = US
ECHCG, *Echinochloa crus-galli*, = 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

19 DP-1 = 1 GLXMA May-15-2013
30 DP-1 = 1 GLXMA May-15-2013
41 DP-1 = 1 GLXMA May-15-2013