

The Ohio State University

Evaluate potential Warrant tankmix partners for length of residual weed control and crop safety when applied pre to RR2Y soybeans

Trial ID: 14 WARRANTPRE Location: Western Branch Trial Year: 2014
 Protocol ID: 14 WARRANTPRE Investigator: Dr. Mark M. Loux
 Project ID: 2014-01-24-05 Study Director: Bryan Reeb
 Sponsor Contact: Rod Stevenson, Monsanto

Crop 1: GLXMA Glycine max Soybean Crop Description
 Variety: Asgrow 3533
 Description: Roundup Ready
 Planting Rate, Unit: 170000 S/A Planting Date: 5/8/2014
 Depth, Unit: 1 IN Planting Method: PLANTD planted
 Row Spacing, Unit: 15 IN Planting Equipment: FE Field Equipment
 Seed Bed: SMOTRA smooth/trashy Emergence Date: 5/19/2014

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
 Pest 4 Type: W Code: AMARE Amaranthus retroflexus
 Common Name: Redroot pigweed
 Pest 5 Type: W Code: ABUTH Abutilon theophrasti
 Common Name: velvetleaf
 Pest 6 Type: W Code: HIBTR Hibiscus trionum
 Common Name: Venice mallow

Site and Design
 Treated Plot Width: 6.67 FT Site Type: FIELD field
 Treated Plot Length: 30 FT Experimental Unit: 1 PLOT plot
 Treated Plot Area: 200.1 FT2 Treatments: 16 Tillage Type: CONTIL conventional-till
 Replications: 3 Study Design: RACOB Randomized Complete Block (RCB)

No. Previous Crop Year
 1. CORN 2013

Soil Description
 Description Name: F-8 Middle
 % OM: 2 Texture: CL clay loam
 pH: 7 Soil Name: Celina
 CEC: 11.5 Fert. Level: G good
 Soil Drainage: G good

Application Description
 Application Date: A 5/8/2014
 Appl. Start Time: 7:10 PM
 Application Method: SPRAY
 Application Timing: PRE
 Application Placement: BROSOL
 Air Temperature, Unit: 84 F
 % Relative Humidity: 49.2
 Wind Velocity, Unit: 10 MPH
 Wind Direction: SSW
 Dew Presence (Y/N): N no
 Soil Temperature, Unit: 67 F
 Soil Moisture: DRY
 % Cloud Cover: 10
 Next Moisture Occurred On: 5/10/2014
 Time to Next Moisture, Unit: 2 DAY

Crop Stage At Each Application
 Crop 1 Code, BBCH Scale: GLXMA BSOY

The Ohio State University

Pest Stage At Each Application

A
Pest 1 Code, Type, Scale: SETFA W
Density, Unit: 304 M2
Pest 2 Code, Type, Scale: AMBTR W
Density, Unit: 58.6 M2
Pest 3 Code, Type, Scale: CHEAL W
Density, Unit: 45.3 M2
Pest 4 Code, Type, Scale: AMARE W
Density, Unit: 21.3 M2
Pest 5 Code, Type, Scale: ABUTH W
Density, Unit: 2.4 M2
Pest 6 Code, Type, Scale: HIBTR W
Density, Unit: 14.6 M2

Application Equipment

A
Appl. Equipment: 6' BACKPACK
Equipment Type: BACCAI
Operation Pressure, Unit: 50 PSI
Nozzle Type: AIXR
Nozzle Size: 11015
Nozzle Spacing, Unit: 18 IN
Nozzles/Row: 4
Boom Length, Unit: 6.67 FT
Boom Height, Unit: 20 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

Evaluate potential Warrant tankmix partners for length of residual weed control and crop safety when applied pre to RR2Y soybeans

Trial ID: 14 WARRANTPRE Location: Western Branch Trial Year: 2014
 Protocol ID: 14 WARRANTPRE Investigator: Dr. Mark M. Loux
 Project ID: 2014-01-24-05 Study Director: Bryan Reeb
 Sponsor Contact: Rod Stevenson, Monsanto

| Pest Type | W Weed | W Weed | W Weed | W Weed | W Weed |
|-------------------------------|----------------|-----------------|----------------|----------------|----------------|
| Pest Code | SETFA | AMBTR | SETFA | SETFA | SETFA |
| Pest Scientific Name | Setaria faberi | Ambrosia trifi> | Setaria faberi | Setaria faberi | Setaria faberi |
| Pest Name | Giant foxtail | Giant ragweed | Giant foxtail | Giant foxtail | Giant foxtail |
| Crop Code | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA |
| BBCH Scale | BSOY | BSOY | BSOY | BSOY | BSOY |
| Crop Scientific Name | Glycine max | Glycine max | Glycine max | Glycine max | Glycine max |
| Crop Name | Soybean | Soybean | Soybean | Soybean | Soybean |
| Rating Date | 5/29/2014 | 5/29/2014 | 5/29/2014 | 6/5/2014 | 6/5/2014 |
| Rating Type | PHYGEN | CONTRO | CONTRO | PHYGEN | CONTRO |
| Rating Unit | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 |
| Days After First/Last Applic. | 21 21 | 21 21 | 21 21 | 28 28 | 28 28 |
| Trt-Eval Interval | 21 DA-A | 21 DA-A | 21 DA-A | 28 DA-A | 28 DA-A |
| Plant-Eval Interval | 21 DP-1 | 21 DP-1 | 21 DP-1 | 28 DP-1 | 28 DP-1 |
| Days After Emergence | 10 DE-1 | 10 DE-1 | 10 DE-1 | 17 DE-1 | 17 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 |

| Trt Treatment | Rate | Rate | Other | Other | Growth | Appl | 1 | 2 | 3 | 4 | 5 | |
|-----------------------|----------------|------|-----------|-------|--------|-------|------|----|-----|----|----|-----|
| No. Name | Rate | Unit | Rate | Rate | Unit | Stage | Code | | | | | |
| 1 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 0 | 82 | 17 | 0 | 76 |
| 2 Valor SX | 0.064 lb ai/a | | 2 oz/a | | | PRE | A | 6 | 100 | 47 | 3 | 93 |
| 3 Valor SX | 0.094 lb ai/a | | 2.95 oz/a | | | PRE | A | 8 | 100 | 67 | 7 | 93 |
| 4 Valor XLT @ 3 oz | | | | | | | | 3 | 100 | 67 | 6 | 100 |
| 4 Valor SX | 0.056 lb ai/a | | 1.76 oz/a | | | PRE | A | | | | | |
| 4 Classic | 0.0194 lb ai/a | | 1.24 oz/a | | | PRE | A | | | | | |
| 5 Valor XLT @ 4.5 oz | | | | | | | | 21 | 100 | 87 | 7 | 98 |
| 5 Valor SX | 0.084 lb ai/a | | 2.63 oz/a | | | PRE | A | | | | | |
| 5 Classic | 0.029 lb ai/a | | 1.86 oz/a | | | PRE | A | | | | | |
| 6 Authority MAXX | 0.29 lb ai/a | | 7 oz/a | | | PRE | A | 12 | 100 | 72 | 13 | 100 |
| 7 Tricor | 0.25 lb ai/a | | 5.33 oz/a | | | PRE | A | 0 | 90 | 30 | 0 | 43 |
| 8 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 2 | 100 | 37 | 2 | 87 |
| 8 Valor SX | 0.064 lb ai/a | | 2 oz/a | | | PRE | A | | | | | |
| 9 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 17 | 100 | 70 | 12 | 96 |
| 9 Valor SX | 0.094 lb ai/a | | 2.95 oz/a | | | PRE | A | | | | | |
| 10 Valor XLT @ 3 oz | | | | | | | | 6 | 100 | 70 | 7 | 100 |
| 10 Valor SX | 0.056 lb ai/a | | 1.76 oz/a | | | PRE | A | | | | | |
| 10 Classic | 0.0194 lb ai/a | | 1.24 oz/a | | | PRE | A | | | | | |
| 10 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | | | | | |
| 11 Valor XLT @ 4.5 oz | | | | | | | | 12 | 100 | 74 | 15 | 100 |
| 11 Valor SX | 0.084 lb ai/a | | 2.63 oz/a | | | PRE | A | | | | | |
| 11 Classic | 0.029 lb ai/a | | 1.86 oz/a | | | PRE | A | | | | | |
| 11 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | | | | | |
| 12 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 18 | 99 | 77 | 20 | 93 |
| 12 Authority MAXX | 0.29 lb ai/a | | 7 oz/a | | | PRE | A | | | | | |
| 13 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 0 | 100 | 13 | 0 | 87 |
| 13 Tricor | 0.25 lb ai/a | | 5.33 oz/a | | | PRE | A | | | | | |
| 14 Fierce | 0.178 lb ai/a | | 3.75 oz/a | | | PRE | A | 18 | 100 | 60 | 15 | 100 |
| 15 Prefix | 1.32 lb ai/a | | 1 qt/a | | | PRE | A | 1 | 100 | 33 | 1 | 100 |

The Ohio State University

| Pest Type | W Weed | | W Weed | | W Weed | |
|-------------------------------|----------------|-------------|-----------------|-------------|----------------|-------------|
| Pest Code | SETFA | | AMBTR | | SETFA | |
| Pest Scientific Name | Setaria faberi | | Ambrosia trifi> | | Setaria faberi | |
| Pest Name | Giant foxtail | | Giant ragweed | | Giant foxtail | |
| Crop Code | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA |
| BBCH Scale | BSOY | BSOY | BSOY | BSOY | BSOY | BSOY |
| Crop Scientific Name | Glycine max | Glycine max | Glycine max | Glycine max | Glycine max | Glycine max |
| Crop Name | Soybean | Soybean | Soybean | Soybean | Soybean | Soybean |
| Rating Date | 5/29/2014 | 5/29/2014 | 5/29/2014 | 6/5/2014 | 6/5/2014 | 6/5/2014 |
| Rating Type | PHYGEN | CONTRO | CONTRO | PHYGEN | CONTRO | CONTRO |
| Rating Unit | % | % | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 | 1 |
| Days After First/Last Applic. | 21 21 | 21 21 | 21 21 | 28 28 | 28 28 | 28 28 |
| Trt-Eval Interval | 21 DA-A | 21 DA-A | 21 DA-A | 28 DA-A | 28 DA-A | 28 DA-A |
| Plant-Eval Interval | 21 DP-1 | 21 DP-1 | 21 DP-1 | 28 DP-1 | 28 DP-1 | 28 DP-1 |
| Days After Emergence | 10 DE-1 | 10 DE-1 | 10 DE-1 | 17 DE-1 | 17 DE-1 | 17 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 | 0 |
| Trt Treatment | Rate | Rate | Other | Other | Growth | Appl |
| No. Name | Unit | Unit | Rate | Rate | Stage | Code |
| 16 UTC | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| LSD (P=.05) | 11.4 | 12.3 | 31.2 | 4.9 | 20.0 | |
| Standard Deviation | 6.9 | 7.4 | 18.7 | 3.0 | 12.0 | |
| CV | 88.53 | 8.0 | 36.61 | 44.62 | 14.06 | |
| Bartlett's X2 | 28.187 | 10.605 | 15.818 | 6.928 | 15.538 | |
| P(Bartlett's X2) | 0.003* | 0.005* | 0.325 | 0.732 | 0.049* | |
| Replicate F | 0.607 | 0.881 | 2.826 | 0.522 | 2.641 | |
| Replicate Prob(F) | 0.5517 | 0.4248 | 0.0751 | 0.5986 | 0.0878 | |
| Treatment F | 3.634 | 34.717 | 5.897 | 14.675 | 15.096 | |
| Treatment Prob(F) | 0.0013 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | |

The Ohio State University

| | | | | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|
| Pest Type | W Weed | W Weed | W Weed | W Weed |
| Pest Code | AMBTR | CHEAL | AMARE | ABUTH |
| Pest Scientific Name | Ambrosia trifi> | Chenopodium al> | Amaranthus ret> | Abutilon theop> |
| Pest Name | Giant ragweed | Common lambsqu> | Redroot pigweed | velvetleaf |
| Crop Code | GLXMA | GLXMA | GLXMA | GLXMA |
| BBCH Scale | BSOY | BSOY | BSOY | BSOY |
| Crop Scientific Name | Glycine max | Glycine max | Glycine max | Glycine max |
| Crop Name | Soybean | Soybean | Soybean | Soybean |
| Rating Date | 6/5/2014 | 6/5/2014 | 6/5/2014 | 6/5/2014 |
| Rating Type | CONTRO | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % | % |
| Number of Subsamples | 1 | 1 | 1 | 1 |
| Days After First/Last Applic. | 28 28 | 28 28 | 28 28 | 28 28 |
| Trt-Eval Interval | 28 DA-A | 28 DA-A | 28 DA-A | 28 DA-A |
| Plant-Eval Interval | 28 DP-1 | 28 DP-1 | 28 DP-1 | 28 DP-1 |
| Days After Emergence | 17 DE-1 | 17 DE-1 | 17 DE-1 | 17 DE-1 |
| Number of Decimals | 0 | 0 | 0 | 0 |

| Trt Treatment | Rate | Rate Unit | Other Rate | Other Rate Unit | Growth Stage | Appl Code | 6 | 7 | 8 | 9 | |
|-----------------------|----------------|-----------|------------|-----------------|--------------|-----------|---|----|-----|-----|-----|
| 1 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | 7 | 100 | 100 | 67 |
| 2 Valor SX | 0.064 lb ai/a | | 2 oz/a | | PRE | A | | 27 | 100 | 100 | 100 |
| 3 Valor SX | 0.094 lb ai/a | | 2.95 oz/a | | PRE | A | | 47 | 100 | 100 | 100 |
| 4 Valor XLT @ 3 oz | | | | | | | | 60 | 100 | 100 | 100 |
| 4 Valor SX | 0.056 lb ai/a | | 1.76 oz/a | | PRE | A | | | | | |
| 4 Classic | 0.0194 lb ai/a | | 1.24 oz/a | | PRE | A | | | | | |
| 5 Valor XLT @ 4.5 oz | | | | | | | | 72 | 100 | 100 | 100 |
| 5 Valor SX | 0.084 lb ai/a | | 2.63 oz/a | | PRE | A | | | | | |
| 5 Classic | 0.029 lb ai/a | | 1.86 oz/a | | PRE | A | | | | | |
| 6 Authority MAXX | 0.29 lb ai/a | | 7 oz/a | | PRE | A | | 53 | 100 | 100 | 100 |
| 7 Tricor | 0.25 lb ai/a | | 5.33 oz/a | | PRE | A | | 7 | 69 | 86 | 100 |
| 8 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | 37 | 100 | 100 | 100 |
| 8 Valor SX | 0.064 lb ai/a | | 2 oz/a | | PRE | A | | | | | |
| 9 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | 57 | 100 | 100 | 100 |
| 9 Valor SX | 0.094 lb ai/a | | 2.95 oz/a | | PRE | A | | | | | |
| 10 Valor XLT @ 3 oz | | | | | | | | 62 | 100 | 100 | 100 |
| 10 Valor SX | 0.056 lb ai/a | | 1.76 oz/a | | PRE | A | | | | | |
| 10 Classic | 0.0194 lb ai/a | | 1.24 oz/a | | PRE | A | | | | | |
| 10 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | | | | |
| 11 Valor XLT @ 4.5 oz | | | | | | | | 63 | 100 | 100 | 100 |
| 11 Valor SX | 0.084 lb ai/a | | 2.63 oz/a | | PRE | A | | | | | |
| 11 Classic | 0.029 lb ai/a | | 1.86 oz/a | | PRE | A | | | | | |
| 11 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | | | | |
| 12 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | 60 | 100 | 100 | 100 |
| 12 Authority MAXX | 0.29 lb ai/a | | 7 oz/a | | PRE | A | | | | | |
| 13 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | 0 | 90 | 97 | 100 |
| 13 Tricor | 0.25 lb ai/a | | 5.33 oz/a | | PRE | A | | | | | |
| 14 Fierce | 0.178 lb ai/a | | 3.75 oz/a | | PRE | A | | 40 | 100 | 100 | 100 |
| 15 Prefix | 1.32 lb ai/a | | 1 qt/a | | PRE | A | | 43 | 100 | 100 | 93 |

The Ohio State University

| Pest Type | W Weed | W Weed | W Weed | W Weed | W Weed | | | | | | | |
|-------------------------------|-----------------|----------------|-----------------|-----------------|-------------|-------|------|-----|----|----|----|-----|
| Pest Code | HIBTR | SETFA | AMBTR | CHEAL | | | | | | | | |
| Pest Scientific Name | Hibiscus trion> | Setaria faberi | Ambrosia trifi> | Chenopodium al> | | | | | | | | |
| Pest Name | Venice mallow | Giant foxtail | Giant ragweed | Common lambsqu> | | | | | | | | |
| Crop Code | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | | | | | | | |
| BBCH Scale | BSOY | BSOY | BSOY | BSOY | BSOY | | | | | | | |
| Crop Scientific Name | Glycine max | Glycine max | Glycine max | Glycine max | Glycine max | | | | | | | |
| Crop Name | Soybean | Soybean | Soybean | Soybean | Soybean | | | | | | | |
| Rating Date | 6/5/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | | | | | | | |
| Rating Type | CONTRO | PHYGEN | CONTRO | CONTRO | CONTRO | | | | | | | |
| Rating Unit | % | % | % | % | % | | | | | | | |
| Number of Subsamples | 1 | 1 | 1 | 1 | 1 | | | | | | | |
| Days After First/Last Applic. | 28 28 | 40 40 | 40 40 | 40 40 | 40 40 | | | | | | | |
| Trt-Eval Interval | 28 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | | | | | | | |
| Plant-Eval Interval | 28 DP-1 | 40 DP-1 | 40 DP-1 | 40 DP-1 | 40 DP-1 | | | | | | | |
| Days After Emergence | 17 DE-1 | 29 DE-1 | 29 DE-1 | 29 DE-1 | 29 DE-1 | | | | | | | |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| Trt Treatment | Rate | Rate | Other | Other | Growth | Appl | 10 | 11 | 12 | 13 | 14 | |
| No. Name | Rate | Unit | Rate | Rate | Unit | Stage | Code | | | | | |
| 1 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 77 | 0 | 57 | 0 | 78 |
| 2 Valor SX | 0.064 lb ai/a | | 2 oz/a | | | PRE | A | 100 | 4 | 77 | 13 | 97 |
| 3 Valor SX | 0.094 lb ai/a | | 2.95 oz/a | | | PRE | A | 100 | 4 | 79 | 37 | 100 |
| 4 Valor XLT @ 3 oz | | | | | | | | 100 | 7 | 80 | 37 | 100 |
| 4 Valor SX | 0.056 lb ai/a | | 1.76 oz/a | | | PRE | A | | | | | |
| 4 Classic | 0.0194 lb ai/a | | 1.24 oz/a | | | PRE | A | | | | | |
| 5 Valor XLT @ 4.5 oz | | | | | | | | 100 | 12 | 80 | 63 | 70 |
| 5 Valor SX | 0.084 lb ai/a | | 2.63 oz/a | | | PRE | A | | | | | |
| 5 Classic | 0.029 lb ai/a | | 1.86 oz/a | | | PRE | A | | | | | |
| 6 Authority MAXX | 0.29 lb ai/a | | 7 oz/a | | | PRE | A | 100 | 17 | 80 | 50 | 100 |
| 7 Tricor | 0.25 lb ai/a | | 5.33 oz/a | | | PRE | A | 93 | 0 | 37 | 0 | 53 |
| 8 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 100 | 3 | 75 | 20 | 100 |
| 8 Valor SX | 0.064 lb ai/a | | 2 oz/a | | | PRE | A | | | | | |
| 9 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 100 | 8 | 83 | 53 | 100 |
| 9 Valor SX | 0.094 lb ai/a | | 2.95 oz/a | | | PRE | A | | | | | |
| 10 Valor XLT @ 3 oz | | | | | | | | 100 | 8 | 88 | 57 | 100 |
| 10 Valor SX | 0.056 lb ai/a | | 1.76 oz/a | | | PRE | A | | | | | |
| 10 Classic | 0.0194 lb ai/a | | 1.24 oz/a | | | PRE | A | | | | | |
| 10 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | | | | | |
| 11 Valor XLT @ 4.5 oz | | | | | | | | 100 | 15 | 91 | 60 | 100 |
| 11 Valor SX | 0.084 lb ai/a | | 2.63 oz/a | | | PRE | A | | | | | |
| 11 Classic | 0.029 lb ai/a | | 1.86 oz/a | | | PRE | A | | | | | |
| 11 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | | | | | |
| 12 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 100 | 22 | 75 | 57 | 100 |
| 12 Authority MAXX | 0.29 lb ai/a | | 7 oz/a | | | PRE | A | | | | | |
| 13 Warrant | 1.13 lb ai/a | | 1.5 qt/a | | | PRE | A | 100 | 0 | 63 | 0 | 88 |
| 13 Tricor | 0.25 lb ai/a | | 5.33 oz/a | | | PRE | A | | | | | |
| 14 Fierce | 0.178 lb ai/a | | 3.75 oz/a | | | PRE | A | 100 | 15 | 93 | 37 | 100 |
| 15 Prefix | 1.32 lb ai/a | | 1 qt/a | | | PRE | A | 99 | 0 | 98 | 33 | 93 |

The Ohio State University

| | | | | | | | | |
|-------------------------------|------|-----------------|-------------|----------------|-------------|-----------------|--------|-----------------|
| Pest Type | | W Weed | | W Weed | | W Weed | | W Weed |
| Pest Code | | HIBTR | | SETFA | | AMBTR | | CHEAL |
| Pest Scientific Name | | Hibiscus trion> | | Setaria faberi | | Ambrosia trifi> | | Chenopodium al> |
| Pest Name | | Venice mallow | | Giant foxtail | | Giant ragweed | | Common lambsqu> |
| Crop Code | | GLXMA | GLXMA | GLXMA | GLXMA | GLXMA | | GLXMA |
| BBCH Scale | | BSOY | BSOY | BSOY | BSOY | BSOY | | BSOY |
| Crop Scientific Name | | Glycine max | Glycine max | Glycine max | Glycine max | Glycine max | | Glycine max |
| Crop Name | | Soybean | Soybean | Soybean | Soybean | Soybean | | Soybean |
| Rating Date | | 6/5/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | 6/17/2014 | | 6/17/2014 |
| Rating Type | | CONTRO | PHYGEN | CONTRO | CONTRO | CONTRO | | CONTRO |
| Rating Unit | | % | % | % | % | % | | % |
| Number of Subsamples | | 1 | 1 | 1 | 1 | 1 | | 1 |
| Days After First/Last Applic. | | 28 28 | 40 40 | 40 40 | 40 40 | 40 40 | | 40 40 |
| Trt-Eval Interval | | 28 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | 40 DA-A | | 40 DA-A |
| Plant-Eval Interval | | 28 DP-1 | 40 DP-1 | 40 DP-1 | 40 DP-1 | 40 DP-1 | | 40 DP-1 |
| Days After Emergence | | 17 DE-1 | 29 DE-1 | 29 DE-1 | 29 DE-1 | 29 DE-1 | | 29 DE-1 |
| Number of Decimals | | 0 | 0 | 0 | 0 | 0 | | 0 |
| Trt Treatment | Rate | Rate | Other | Other | Growth | Appl | | |
| No. Name | | Unit | Rate | Rate | Unit | Code | 10 | 11 |
| | | | | | | | 12 | 13 |
| | | | | | | | 14 | |
| 16 UTC | | | | | | | 0 | 0 |
| | | | | | | | 0 | 0 |
| LSD (P=.05) | | | | | | | 9.7 | 5.6 |
| Standard Deviation | | | | | | | 5.8 | 3.4 |
| CV | | | | | | | 6.34 | 46.86 |
| Bartlett's X2 | | | | | | | 7.154 | 4.426 |
| P(Bartlett's X2) | | | | | | | 0.028* | 0.926 |
| Replicate F | | | | | | | 1.834 | 4.664 |
| Replicate Prob(F) | | | | | | | 0.1772 | 0.0172 |
| Treatment F | | | | | | | 56.249 | 12.821 |
| Treatment Prob(F) | | | | | | | 0.0001 | 0.0001 |

The Ohio State University

| | | | |
|-------------------------------|-----------------|-----------------|-----------------|
| Pest Type | W Weed | W Weed | W Weed |
| Pest Code | AMARE | ABUTH | HIBTR |
| Pest Scientific Name | Amaranthus ret> | Abutilon theop> | Hibiscus trion> |
| Pest Name | Redroot pigweed | velvetleaf | Venice mallow |
| Crop Code | GLXMA | GLXMA | GLXMA |
| BBCH Scale | BSOY | BSOY | BSOY |
| Crop Scientific Name | Glycine max | Glycine max | Glycine max |
| Crop Name | Soybean | Soybean | Soybean |
| Rating Date | 6/17/2014 | 6/17/2014 | 6/17/2014 |
| Rating Type | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % |
| Number of Subsamples | 1 | 1 | 1 |
| Days After First/Last Applic. | 40 40 | 40 40 | 40 40 |
| Trt-Eval Interval | 40 DA-A | 40 DA-A | 40 DA-A |
| Plant-Eval Interval | 40 DP-1 | 40 DP-1 | 40 DP-1 |
| Days After Emergence | 29 DE-1 | 29 DE-1 | 29 DE-1 |
| Number of Decimals | 0 | 0 | 0 |

| Trt | Treatment | Rate | Rate Unit | Other Rate | Other Rate Unit | Growth Stage | Appl Code | 15 | 16 | 17 | 18 |
|-----|--------------------|----------------|-----------|------------|-----------------|--------------|-----------|-----|-----|-----|----|
| 1 | Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | 85 | 75 | 77 | |
| 2 | Valor SX | 0.064 lb ai/a | | 2 oz/a | | PRE | A | 88 | 90 | 100 | |
| 3 | Valor SX | 0.094 lb ai/a | | 2.95 oz/a | | PRE | A | 100 | 100 | 100 | |
| 4 | Valor XLT @ 3 oz | | | | | | | 100 | 100 | 100 | |
| 4 | Valor SX | 0.056 lb ai/a | | 1.76 oz/a | | PRE | A | | | | |
| 4 | Classic | 0.0194 lb ai/a | | 1.24 oz/a | | PRE | A | | | | |
| 5 | Valor XLT @ 4.5 oz | | | | | | | 100 | 100 | 100 | |
| 5 | Valor SX | 0.084 lb ai/a | | 2.63 oz/a | | PRE | A | | | | |
| 5 | Classic | 0.029 lb ai/a | | 1.86 oz/a | | PRE | A | | | | |
| 6 | Authority MAXX | 0.29 lb ai/a | | 7 oz/a | | PRE | A | 100 | 100 | 100 | |
| 7 | Tricor | 0.25 lb ai/a | | 5.33 oz/a | | PRE | A | 60 | 93 | 100 | |
| 8 | Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | 100 | 100 | 100 | |
| 8 | Valor SX | 0.064 lb ai/a | | 2 oz/a | | PRE | A | | | | |
| 9 | Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | 100 | 97 | 100 | |
| 9 | Valor SX | 0.094 lb ai/a | | 2.95 oz/a | | PRE | A | | | | |
| 10 | Valor XLT @ 3 oz | | | | | | | 100 | 100 | 100 | |
| 10 | Valor SX | 0.056 lb ai/a | | 1.76 oz/a | | PRE | A | | | | |
| 10 | Classic | 0.0194 lb ai/a | | 1.24 oz/a | | PRE | A | | | | |
| 10 | Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | | | |
| 11 | Valor XLT @ 4.5 oz | | | | | | | 100 | 100 | 100 | |
| 11 | Valor SX | 0.084 lb ai/a | | 2.63 oz/a | | PRE | A | | | | |
| 11 | Classic | 0.029 lb ai/a | | 1.86 oz/a | | PRE | A | | | | |
| 11 | Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | | | | |
| 12 | Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | 100 | 100 | 100 | |
| 12 | Authority MAXX | 0.29 lb ai/a | | 7 oz/a | | PRE | A | | | | |
| 13 | Warrant | 1.13 lb ai/a | | 1.5 qt/a | | PRE | A | 83 | 97 | 97 | |
| 13 | Tricor | 0.25 lb ai/a | | 5.33 oz/a | | PRE | A | | | | |
| 14 | Fierce | 0.178 lb ai/a | | 3.75 oz/a | | PRE | A | 100 | 98 | 100 | |
| 15 | Prefix | 1.32 lb ai/a | | 1 qt/a | | PRE | A | 100 | 100 | 98 | |

The Ohio State University

| | | | |
|-------------------------------|-----------------|-----------------|-----------------|
| Pest Type | W Weed | W Weed | W Weed |
| Pest Code | AMARE | ABUTH | HIBTR |
| Pest Scientific Name | Amaranthus ret> | Abutilon theop> | Hibiscus trion> |
| Pest Name | Redroot pigweed | velvetleaf | Venice mallow |
| Crop Code | GLXMA | GLXMA | GLXMA |
| BBCH Scale | BSOY | BSOY | BSOY |
| Crop Scientific Name | Glycine max | Glycine max | Glycine max |
| Crop Name | Soybean | Soybean | Soybean |
| Rating Date | 6/17/2014 | 6/17/2014 | 6/17/2014 |
| Rating Type | CONTRO | CONTRO | CONTRO |
| Rating Unit | % | % | % |
| Number of Subsamples | 1 | 1 | 1 1 |
| Days After First/Last Applic. | 40 40 | 40 40 | 40 40 |
| Trt-Eval Interval | 40 DA-A | 40 DA-A | 40 DA-A |
| Plant-Eval Interval | 40 DP-1 | 40 DP-1 | 40 DP-1 |
| Days After Emergence | 29 DE-1 | 29 DE-1 | 29 DE-1 |
| Number of Decimals | 0 | 0 | 0 |

| Trt Treatment | Rate | Rate | Other | Other | Growth | Appl |
|--------------------|------|------|---------|-------|--------|----------|
| No. Name | Unit | Unit | Rate | Rate | Unit | Code |
| 16 UTC | | | | | | |
| | | | 15 | | 16 | |
| | | | 0 | | 0 | |
| | | | | | 17 | |
| | | | | | 18 | |
| LSD (P=.05) | | | 7.3 | | 7.5 | 9.0 . |
| Standard Deviation | | | 4.4 | | 4.5 | 5.4 . |
| CV | | | 4.98 | | 4.96 | 5.87 . |
| Bartlett's X2 | | | 1.353 | | 4.25 | 6.803 . |
| P(Bartlett's X2) | | | 0.716 | | 0.514 | 0.033* . |
| Replicate F | | | 1.315 | | 1.467 | 1.305 |
| Replicate Prob(F) | | | 0.2835 | | 0.2468 | 0.2861 |
| Treatment F | | | 104.465 | | 92.755 | 65.420 |
| Treatment Prob(F) | | | 0.0001 | | 0.0001 | 0.0001 |

The Ohio State University

Evaluate potential Warrant tankmix partners for length of residual weed control and crop safety when applied pre to RR2Y soybeans

Trial ID: 14 WARRANTPRE Location: Western Branch Trial Year: 2014
Protocol ID: 14 WARRANTPRE Investigator: Dr. Mark M. Loux
Project ID: 2014-01-24-05 Study Director: Bryan Reeb
Sponsor Contact: Rod Stevenson, Monsanto

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

ABUTH, Abutilon theophrasti, = 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

21 DP-1 = 1 GLXMA 5/8/2014

28 DP-1 = 1 GLXMA 5/8/2014

40 DP-1 = 1 GLXMA 5/8/2014