

Comparison of Zidua PRO to other preemergence burndown programs in no-till soybean

Trial ID: NTS03-16 Study Dir.: Sprague, Powell, Stiles
 Conducted: Campus T-18 Investigator: Christy Sprague

Planting Date: May-9-2016 **Row Spacing:** 30 IN
Variety: AG2433 **No. of Reps:** 4
Population: 158000 seeds/A **% OM:** 3.1
Soil Type: L loam **pH:** 5.9
Plot Size: 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: No-till into standing corn stubble

Fertilizer:

Crop and Weed Description

| Weed | Code | Common Name | Scientific Name |
|------|-------|--------------------|--------------------|
| 1 | STEME | chickweed, common | Stellaria media |
| 2 | LAMPU | Purple deadnettle | Lamium purpureum |
| 3 | ERICA | horseweed | Conyza canadensis |
| 4 | VERPG | Purslane speedwell | Veronica peregrina |
| Crop | Code | Common Name | |
| 1 | GLXMA | Soybean | |

Application Description

Application Timing: A
PRE
Date Treated: May-9-2016
Time Treated: 6:00 PM
% Cloud Cover: 90
Air Temp., Unit: 63 F
% Relative Humidity: 39
Wind Speed/Unit/Dir: 7 mph SE
Soil Temp, Unit: 60 F
Leaf Moist/Dew Presence (Y/N): 4
Soil Moist: 3

Crop Stage at Each Application

A
Crop 1 Name: GLXMA
Height:
Stage:

Weed Stage at Each Application

A
Weed 1 Name: STEME
Height: 0.5 "
Stage: flower
Weed 2 Name: LAMPU
Height: 6 "
Stage: flower
Weed 3 Name: ERICA
Height: 3 "
Stage: rosett
Weed 4 Name: VERPG
Height: 3 "
Stage: flower

Application Equipment

| Appl | Sprayer Type | Ground Speed | Nozzle Type | Nozzle Size | Nozzle Height | Nozzle Spacing | Boom Width | Spray Volume | Carrier | Operation Pressure |
|------|--------------|--------------|-------------|-------------|---------------|----------------|------------|--------------|---------|--------------------|
| A | CUB | 3.8 mph | AIXR | 11003 | 24 " | 20 " | 100 " | 19 GAL/AC | WATER | 30 PSI |

Comments:

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Location: Campus T-18

Investigator: Christy Sprague

Study Director: Sprague, Powell, Stiles

| | | | | | | |
|--------------------|-------------|-------------|-------------|-------------|------------|------------|
| Pest Code | POAAN | STEME | ERICA | LAMAM | | POAAN |
| Crop Code | | | | | GLXMA | |
| Rating Date | May-16-2016 | May-16-2016 | May-16-2016 | May-16-2016 | Jun-6-2016 | Jun-6-2016 |
| Rating Type | control | control | control | control | injury | control |
| Rating Unit | percent | percent | percent | percent | percent | percent |
| Trt-Eval Interval | 7 DA-A | 7 DA-A | 7 DA-A | 7 DA-A | 28 DA-A | 28 DA-A |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate Unit | Appl Code | | | | | | |
|---------|------------------|----------------|-----------|----|----|-----|----|---|-----|
| 1 | Sharpen | 1 fl oz/a | A | 50 | 85 | 100 | 66 | 0 | 100 |
| 1 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 1 | MSO | 1 % v/v | A | | | | | | |
| 1 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 2 | Zidua SC | 3.3 fl oz/a | A | 50 | 88 | 100 | 61 | 0 | 98 |
| 2 | Sharpen | 1 fl oz/a | A | | | | | | |
| 2 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 2 | MSO | 1 % v/v | A | | | | | | |
| 2 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 3 | Zidua PRO | 4.5 fl oz/a | A | 53 | 83 | 100 | 65 | 0 | 100 |
| 3 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 3 | MSO | 1 % v/v | A | | | | | | |
| 3 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 4 | Zidua PRO | 5 fl oz/a | A | 50 | 86 | 100 | 61 | 0 | 99 |
| 4 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 4 | MSO | 1 % v/v | A | | | | | | |
| 4 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 5 | Zidua PRO | 6 fl oz/a | A | 51 | 86 | 100 | 68 | 0 | 99 |
| 5 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 5 | MSO | 1 % v/v | A | | | | | | |
| 5 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 6 | Untreated | | | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Zidua SC | 3.3 fl oz/a | A | 55 | 88 | 100 | 73 | 0 | 100 |
| 7 | Verdict | 5 fl oz/a | A | | | | | | |
| 7 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 7 | MSO | 1 % v/v | A | | | | | | |
| 7 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 8 | Authority First | 5 oz/a | A | 54 | 79 | 100 | 86 | 0 | 99 |
| 8 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 8 | MSO | 1 % v/v | A | | | | | | |
| 8 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 9 | Fierce XLT | 4.5 oz/a | A | 60 | 93 | 100 | 84 | 0 | 99 |
| 9 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 9 | MSO | 1 % v/v | A | | | | | | |
| 9 | AMS | 8.5 lb/100 gal | A | | | | | | |

Missing data estimates are included in columns: Average=1

Could not calculate LSD (% mean diff) for columns 12 because error mean square = 0.

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| | | | | | | |
|--------------------|-------------|-------------|-------------|-------------|------------|------------|
| Pest Code | POAAN | STEME | ERICA | LAMAM | | POAAN |
| Crop Code | | | | | GLXMA | |
| Rating Date | May-16-2016 | May-16-2016 | May-16-2016 | May-16-2016 | Jun-6-2016 | Jun-6-2016 |
| Rating Type | control | control | control | control | injury | control |
| Rating Unit | percent | percent | percent | percent | percent | percent |
| Trt-Eval Interval | 7 DA-A | 7 DA-A | 7 DA-A | 7 DA-A | 28 DA-A | 28 DA-A |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate Unit | Appl Code | | | | | | |
|---------|--------------------|----------------|-----------|------|------|------|------|-------|-----|
| 10 | Verdict | 5 fl oz/a | A | 49 | 90 | 100 | 89 | 0 | 97 |
| 10 | Metribuzin | 5 oz/a | A | | | | | | |
| 10 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 10 | MSO | 1 % v/v | A | | | | | | |
| 10 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 11 | Verdict | 5 fl oz/a | A | 60 | 94 | 100 | 83 | 0 | 100 |
| 11 | Outlook | 5 fl oz/a | A | | | | | | |
| 11 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 11 | MSO | 1 % v/v | A | | | | | | |
| 11 | AMS | 8.5 lb/100 gal | A | | | | | | |
| 12 | Valor | 3 oz/a | A | 64 | 99 | 98 | 93 | 2 | 100 |
| 12 | Metribuzin | 5 oz/a | A | | | | | | |
| 12 | Roundup PowerMax | 32 fl oz/a | A | | | | | | |
| 12 | MSO | 1 % v/v | A | | | | | | |
| 12 | AMS | 8.5 lb/100 gal | A | | | | | | |
| | LSD P=.05 | | | 5.2 | 5.4 | 2.1 | 9.4 | 0.7 | 3.0 |
| | Standard Deviation | | | 3.6 | 3.8 | 1.4 | 6.5 | 0.5 | 2.1 |
| | CV | | | 7.31 | 4.64 | 1.58 | 9.46 | 400.0 | 2.3 |

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Study Director: Sprague, Powell, Stiles

| | | | | | | | |
|--------------------|------------|------------|------------|------------|------------|-------------|-------------|
| Pest Code | STEME | VERPG | ERICA | ANGR | CHEAL | | ANGR |
| Crop Code | | | | | | GLXMA | |
| Rating Date | Jun-6-2016 | Jun-6-2016 | Jun-6-2016 | Jun-6-2016 | Jun-6-2016 | Jun-30-2016 | Jun-30-2016 |
| Rating Type | control | control | control | control | control | injury | control |
| Rating Unit | percent | percent | percent | percent | percent | percent | percent |
| Trt-Eval Interval | 28 DA-A | 28 DA-A | 28 DA-A | 28 DA-A | 28 DA-A | 52 DA-A | 52 DA-A |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate Unit | Appl Code | STEME | VERPG | ERICA | ANGR | CHEAL | GLXMA | ANGR |
|---------|------------------|----------------|-----------|-------|-------|-------|------|-------|-------|------|
| 1 | Sharpen | 1 fl oz/a | A | 100 | 99 | 94 | 97 | 94 | 0 | 88 |
| 1 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 1 | MSO | 1 % v/v | A | | | | | | | |
| 1 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 2 | Zidua SC | 3.3 fl oz/a | A | 98 | 98 | 98 | 100 | 99 | 0 | 86 |
| 2 | Sharpen | 1 fl oz/a | A | | | | | | | |
| 2 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 2 | MSO | 1 % v/v | A | | | | | | | |
| 2 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 3 | Zidua PRO | 4.5 fl oz/a | A | 100 | 99 | 100 | 99 | 100 | 0 | 90 |
| 3 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 3 | MSO | 1 % v/v | A | | | | | | | |
| 3 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 4 | Zidua PRO | 5 fl oz/a | A | 100 | 99 | 98 | 98 | 100 | 0 | 95 |
| 4 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 4 | MSO | 1 % v/v | A | | | | | | | |
| 4 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 5 | Zidua PRO | 6 fl oz/a | A | 99 | 98 | 100 | 99 | 100 | 0 | 93 |
| 5 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 5 | MSO | 1 % v/v | A | | | | | | | |
| 5 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 6 | Untreated | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Zidua SC | 3.3 fl oz/a | A | 99 | 99 | 100 | 100 | 98 | 0 | 91 |
| 7 | Verdict | 5 fl oz/a | A | | | | | | | |
| 7 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 7 | MSO | 1 % v/v | A | | | | | | | |
| 7 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 8 | Authority First | 5 oz/a | A | 98 | 100 | 99 | 100 | 100 | 0 | 91 |
| 8 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 8 | MSO | 1 % v/v | A | | | | | | | |
| 8 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 9 | Fierce XLT | 4.5 oz/a | A | 100 | 100 | 99 | 100 | 100 | 0 | 94 |
| 9 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 9 | MSO | 1 % v/v | A | | | | | | | |
| 9 | AMS | 8.5 lb/100 gal | A | | | | | | | |

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Study Director: Sprague, Powell, Stiles

| | | | | | | | |
|--------------------|------------|------------|------------|------------|------------|-------------|-------------|
| Pest Code | STEME | VERPG | ERICA | ANGR | CHEAL | | ANGR |
| Crop Code | | | | | | GLXMA | |
| Rating Date | Jun-6-2016 | Jun-6-2016 | Jun-6-2016 | Jun-6-2016 | Jun-6-2016 | Jun-30-2016 | Jun-30-2016 |
| Rating Type | control | control | control | control | control | injury | control |
| Rating Unit | percent | percent | percent | percent | percent | percent | percent |
| Trt-Eval Interval | 28 DA-A | 28 DA-A | 28 DA-A | 28 DA-A | 28 DA-A | 52 DA-A | 52 DA-A |
| Number of Decimals | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Trt No. | Treatment Name | Rate Unit | Appl Code | | | | | | | |
|---------|--------------------|----------------|-----------|------|------|-----|------|-----|-----|------|
| 10 | Verdict | 5 fl oz/a | A | 98 | 99 | 100 | 100 | 100 | 0 | 96 |
| 10 | Metribuzin | 5 oz/a | A | | | | | | | |
| 10 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 10 | MSO | 1 % v/v | A | | | | | | | |
| 10 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 11 | Verdict | 5 fl oz/a | A | 96 | 98 | 100 | 99 | 100 | 0 | 87 |
| 11 | Outlook | 5 fl oz/a | A | | | | | | | |
| 11 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 11 | MSO | 1 % v/v | A | | | | | | | |
| 11 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| 12 | Valor | 3 oz/a | A | 99 | 99 | 96 | 99 | 98 | 0 | 95 |
| 12 | Metribuzin | 5 oz/a | A | | | | | | | |
| 12 | Roundup PowerMax | 32 fl oz/a | A | | | | | | | |
| 12 | MSO | 1 % v/v | A | | | | | | | |
| 12 | AMS | 8.5 lb/100 gal | A | | | | | | | |
| | LSD P=.05 | | | 3.3 | 3.2 | 4.4 | 2.6 | 5.9 | . | 11.5 |
| | Standard Deviation | | | 2.3 | 2.2 | 3.1 | 1.8 | 4.1 | 0.0 | 8.0 |
| | CV | | | 2.51 | 2.47 | 3.4 | 2.01 | 4.5 | 0.0 | 9.54 |

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Study Director: Sprague, Powell, Stiles

| | | |
|--------------------|-------------|-------------|
| Pest Code | CHEAL | ERICA |
| Crop Code | | |
| Rating Date | Jun-30-2016 | Jun-30-2016 |
| Rating Type | control | control |
| Rating Unit | percent | percent |
| Trt-Eval Interval | 52 DA-A | 52 DA-A |
| Number of Decimals | 0 | 0 |

| Trt No. | Treatment Name | Rate | Rate Unit | Appl Code | | |
|---------|------------------|----------------|-----------|-----------|----|-----|
| 1 | Sharpen | 1 fl oz/a | A | | 93 | 100 |
| 1 | Roundup PowerMax | 32 fl oz/a | A | | | |
| 1 | MSO | 1 % v/v | A | | | |
| 1 | AMS | 8.5 lb/100 gal | A | | | |
| 2 | Zidua SC | 3.3 fl oz/a | A | | 95 | 100 |
| 2 | Sharpen | 1 fl oz/a | A | | | |
| 2 | Roundup PowerMax | 32 fl oz/a | A | | | |
| 2 | MSO | 1 % v/v | A | | | |
| 2 | AMS | 8.5 lb/100 gal | A | | | |
| 3 | Zidua PRO | 4.5 fl oz/a | A | | 97 | 100 |
| 3 | Roundup PowerMax | 32 fl oz/a | A | | | |
| 3 | MSO | 1 % v/v | A | | | |
| 3 | AMS | 8.5 lb/100 gal | A | | | |
| 4 | Zidua PRO | 5 fl oz/a | A | | 97 | 98 |
| 4 | Roundup PowerMax | 32 fl oz/a | A | | | |
| 4 | MSO | 1 % v/v | A | | | |
| 4 | AMS | 8.5 lb/100 gal | A | | | |
| 5 | Zidua PRO | 6 fl oz/a | A | | 98 | 100 |
| 5 | Roundup PowerMax | 32 fl oz/a | A | | | |
| 5 | MSO | 1 % v/v | A | | | |
| 5 | AMS | 8.5 lb/100 gal | A | | | |
| 6 | Untreated | | | | 0 | 0 |
| 7 | Zidua SC | 3.3 fl oz/a | A | | 93 | 100 |
| 7 | Verdict | 5 fl oz/a | A | | | |
| 7 | Roundup PowerMax | 32 fl oz/a | A | | | |
| 7 | MSO | 1 % v/v | A | | | |
| 7 | AMS | 8.5 lb/100 gal | A | | | |
| 8 | Authority First | 5 oz/a | A | | 99 | 100 |
| 8 | Roundup PowerMax | 32 fl oz/a | A | | | |
| 8 | MSO | 1 % v/v | A | | | |
| 8 | AMS | 8.5 lb/100 gal | A | | | |
| 9 | Fierce XLT | 4.5 oz/a | A | | 98 | 98 |
| 9 | Roundup PowerMax | 32 fl oz/a | A | | | |
| 9 | MSO | 1 % v/v | A | | | |
| 9 | AMS | 8.5 lb/100 gal | A | | | |

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Study Director: Sprague, Powell, Stiles

| | | |
|--------------------|-------------|-------------|
| Pest Code | CHEAL | ERICA |
| Crop Code | | |
| Rating Date | Jun-30-2016 | Jun-30-2016 |
| Rating Type | control | control |
| Rating Unit | percent | percent |
| Trt-Eval Interval | 52 DA-A | 52 DA-A |
| Number of Decimals | 0 | 0 |

| Trt No. | Treatment Name | Rate Unit | Appl Code | | |
|---------|--------------------|----------------|-----------|------|------|
| 10 | Verdict | 5 fl oz/a | A | 96 | 100 |
| 10 | Metribuzin | 5 oz/a | A | | |
| 10 | Roundup PowerMax | 32 fl oz/a | A | | |
| 10 | MSO | 1 % v/v | A | | |
| 10 | AMS | 8.5 lb/100 gal | A | | |
| 11 | Verdict | 5 fl oz/a | A | 97 | 100 |
| 11 | Outlook | 5 fl oz/a | A | | |
| 11 | Roundup PowerMax | 32 fl oz/a | A | | |
| 11 | MSO | 1 % v/v | A | | |
| 11 | AMS | 8.5 lb/100 gal | A | | |
| 12 | Valor | 3 oz/a | A | 96 | 96 |
| 12 | Metribuzin | 5 oz/a | A | | |
| 12 | Roundup PowerMax | 32 fl oz/a | A | | |
| 12 | MSO | 1 % v/v | A | | |
| 12 | AMS | 8.5 lb/100 gal | A | | |
| | LSD P=.05 | | | 6.3 | 2.6 |
| | Standard Deviation | | | 4.4 | 1.8 |
| | CV | | | 4.95 | 2.01 |