

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
 Location: Young Res. Center

Investigator: Bryan Young

General Trial Information

Study Director: Bryan Young
Investigator: Bryan Young **Title:** Professor

Trial Status: F - one-year/final
Initiation Date: 11-23-11

Trial Location

City: Murphysboro
State/Prov.: IL
Postal Code: 62966
Country: USA

Objectives:

Evaluate tank-mix and timing options for improved marestail control with Kixor applied preplant to preemergence.

Personnel

Study Director: Bryan Young
Investigator: Bryan Young **Title:** Professor
Affiliation: Southern Illinois University
Address: 1205 Lincoln Drive - AG 176 - MC 4415
Location: Carbondale IL
Postal Code: 62901 **E-mail:** bgyoung@siu.edu
Phone No.: 618-453-7679 **Mobile No.:** 618-713-6471

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: AG3832 **Description:** RR
BBCH Scale: BSOY **Planting Date:** 5-1-12
Planting Method: SEEDED Seeded **Rate, Unit:** 155000 S/A
Depth, Unit: 2 IN
Row Spacing, Unit: 30 IN

Pest Description

Pest 1 Type: W **Code:** ERICA - Conyza canadensis (L.) Crong.
Common Name: horseweed
Description: glyphosate-resistant marestail

Pest 2 Type: W **Code:** LAMAM - Lamium amplexicaule L.
Common Name: henbit

Pest 3 Type: W **Code:** STEME - Stellaria media (L.) Vill.
Common Name: chickweed, common

Pest 4 Type: W **Code:** AMATA - Amaranthus rudis Sauer
Common Name: waterhemp, common
Description: glyphosate-resistant waterhemp

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT² **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOBL Randomized Complete Block (RCB)

| No. | Previous Crop | Year |
|-----|---------------|------|
| 1. | ZEAMD | 2011 |

Maintenance

| No. | Maintenance Treatment Name |
|-----|--------------------------------------|
| 1. | N 27 LB/A, P205 69 LB/A, K20 90 LB/A |

Soil Description

% OM: 1.82 **Texture:** SIL SILT LOAM
pH: 6.2 **Soil Name:** ALVIN
CEC: 6.16

Additional Measured Elements

| Element | Quantity | Unit |
|---------|----------|------|
| P1 | 154 | LB/A |
| K | 264 | LB/A |

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| | | | |
|---|--|--|--|
| Overall Moisture Conditions: | | Moisture and Weather Conditions | |
| BELNOR below normal | | | |
| Closest Weather Station: SOUTHERN IL AIRPORT (93810) | | Distance, Unit: 3.5 MI | |

| Application Description | | | | |
|--------------------------------|----------|----------|----------|----------|
| | A | B | C | D |
| Application Date: | 11-23-11 | 3-29-12 | 4-28-12 | 6-8-12 |
| Time of Day: | 14:30 | 10:45 | 8:45 | 16:30 |
| Application Method: | Spray | Spray | Spray | Spray |
| Application Timing: | FALL | PRE-BLT | 1-3DBP | POST |
| Application Placement: | BROFOL | BROFOL | BROFOL | BROFOL |
| Applied By: | JRK | LAH | LAH | JRK |
| Air Temperature, Unit: | 52 F | 69 F | 75 F | 86 F |
| % Relative Humidity: | 74 | 63 | 72 | 31 |
| Wind Velocity, Unit: | 2 MPH | 3 MPH | 2 MPH | 1 MPH |
| Wind Direction: | E | N | S | W |
| Dew Presence (Y/N): | N no | N no | Y yes | N no |
| Soil Temperature, Unit: | 51 F | 63 F | 59 F | 85 F |
| Soil Moisture: | ABONOR | NORMAL | NORMAL | BELNOR |
| % Cloud Cover: | 100 | 40 | 20 | 5 |
| Next Rain Occurred On: | 11-26-11 | 4-3-12 | 4-30-12 | 6-11-12 |

| Crop Stage At Each Application | | | | |
|---------------------------------------|------------|------------|------------|------------|
| | A | B | C | D |
| Crop 1 Code, BBCH Scale: | GLXMA BSOY | GLXMA BSOY | GLXMA BSOY | GLXMA BSOY |
| Stage Scale Used: | DESC | DESC | DESC | DESC |
| Stage Majority, Percent: | NA | NA | NA | V4 |
| Stage Minimum, Percent: | | | | V3 |
| Stage Maximum, Percent: | | | | V4 |
| Height, Unit: | | | | 10 IN |
| Height Minimum, Maximum: | | | | 7 10 |

| Pest Stage At Each Application | | | | |
|---------------------------------------|--------------|--------------|--------------|--------------|
| | A | B | C | D |
| Pest 1 Code, Type, Scale: | ERICA W DESC | ERICA W DESC | ERICA W DESC | ERICA W DESC |
| Stage Majority, Percent: | 10 | 15 | 35 | 50+ |
| Stage Minimum, Percent: | 5 | 5 | 6 | 40 |
| Stage Maximum, Percent: | 15 | 25 | 50+ | 50+ |
| Height, Unit: | 0.5 IN | 1 IN | 6 IN | 20 IN |
| Height Minimum, Maximum: | 0.5 1.5 | 0.5 3 | 1 12 | 9 35 |
| Density, Unit: | 1 FT2 | 1 FT2 | 2 FT2 | 1 FT2 |
| Pest 2 Code, Type, Scale: | LAMAM W DESC | LAMAM W DESC | LAMAM W DESC | LAMAM W DESC |
| Stage Majority, Percent: | 8 | 7 | NA | NA |
| Stage Minimum, Percent: | 2 | 4 | | |
| Stage Maximum, Percent: | 10 | 10 | | |
| Height, Unit: | 2 IN | 5 IN | | |
| Height Minimum, Maximum: | 0.5 4 | 4 6 | | |
| Density, Unit: | 1 FT2 | 0.1 FT2 | | |
| Pest 3 Code, Type, Scale: | STEME W DESC | STEME W DESC | STEME W DESC | STEME W DESC |
| Stage Majority, Percent: | 15 | 50+ | 50+ | NA |
| Stage Minimum, Percent: | 4 | | | |
| Stage Maximum, Percent: | 20 | | | |
| Height, Unit: | 0.5 IN | 9 IN | 6 IN | |
| Height Minimum, Maximum: | 0.5 1 | 8 10 | 4 8 | |
| Density, Unit: | 0.8 FT2 | 0.01 FT2 | 0.5 FT2 | |
| Pest 4 Code, Type, Scale: | AMATA W DESC | AMATA W DESC | AMATA W DESC | AMATA W DESC |
| Stage Majority, Percent: | NA | NA | NA | 20 |
| Stage Minimum, Percent: | | | | 2 |
| Stage Maximum, Percent: | | | | 10 |
| Height, Unit: | | | | 20 IN |
| Height Minimum, Maximum: | | | | 2 30 |
| Density, Unit: | | | | 2 FT2 |

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Trial ID: 12-YRC-BASF-fall
 Location: Young Res. Center

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| Application Equipment | | | | |
|----------------------------------|-------------|-------------|-------------|-------------|
| | A | B | C | D |
| Appl. Equipment: | CO2 sprayer | CO2 sprayer | CO2 sprayer | CO2 sprayer |
| Equipment Type: | BACSPR | BACSPR | BACSPR | BACSPR |
| Operation Pressure, Unit: | 30 PSI | 30 PSI | 30 PSI | 30 PSI |
| Nozzle Type: | XR | XR | XR | XR |
| Nozzle Size: | 8002 | 8002 | 8002 | 8002 |
| Boom Length, Unit: | 6.67 FT | 6.67 FT | 6.67 FT | 6.67 FT |
| Spray Volume, Unit: | 15 GPA | 15 GPA | 15 GPA | 15 GPA |

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Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | Crop Code | Rating Date | GLXMA 5-12-12 | GLXMA 6-9-12 | GLXMA 7-7-12 | | | | | | |
|-------------|--------------------|---------------|-------------------|-------------------|--------------------|-------------------|-------------------|-----------|-----|-----|-----|
| Rating Type | Rating Unit | Rating Timing | Trt-Eval Interval | Injury Percent | Injury Percent | Injury Percent | | | | | |
| | | | | 14 DA-C | 72 DA-B 42 DA-C | 70 DA-C | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Other Rate | Other Rate | Growth Unit Stage | Appl Code | | | |
| 1 | NONTREATED | | | | | | | | 0 a | 0 a | 0 a |
| 2 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 0 a | 0 a | 0 a |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | |
| 3 | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | 0 a | 0 a | 0 a |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | |
| 4 | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | 0 a | 0 a | 0 a |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | |
| 5 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 0 a | 0 a | 0 a |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | |
| | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | |
| 6 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 0 a | 0 a | 0 a |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | |
| | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | |
| 7 | ZIDUA | 85 WG | | 0.16 lb ai/a | 3 oz/a | | FALL | A | 0 a | 0 a | 0 a |
| | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | |

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.

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 Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | GLXMA | GLXMA | GLXMA | | |
|-------------------|--------------------|-----------|-----------|-----------|-----------|------------|------------|--------------|-----------|---------|--------|--------|
| Crop Code | | | | | | | | 5-12-12 | 6-9-12 | 7-7-12 | | |
| Rating Date | | | | | | | | | | | | |
| Rating Type | | | | | | | | Injury | Injury | Injury | | |
| Rating Unit | | | | | | | | Percent | Percent | Percent | | |
| Rating Timing | | | | | | | | 72 DA-B | 42 DA-C | 70 DA-C | | |
| Trt-Eval Interval | | | | | | | | 14 DA-C | 42 DA-C | 70 DA-C | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Unit Unit | Other Rate | Other Unit | Growth Stage | Appl Code | | | |
| 8 | ZIDUA | 85 | WG | 0.16 | lb ai/a | 3 | oz/a | FALL | A | 0 a | 0 a | 0 a |
| | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A | | | |
| | COC (PRIME OIL) | 100 | SL | 1 | % v/v | 1 | % v/v | FALL | A | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | FALL | A | | | |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 | % v/v | 1 | % v/v | PRE-BLT | B | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | PRE-BLT | B | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 | % v/v | 0.25 | % v/v | POST | D | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | POST | D | | | |
| | LSD (P=.05) | | | | | | | | | 0.0 | 0.0 | 0.0 |
| | Standard Deviation | | | | | | | | | 0.0 | 0.0 | 0.0 |
| | CV | | | | | | | | | 0.0 | 0.0 | 0.0 |
| | Replicate F | | | | | | | | | 0.000 | 0.000 | 0.000 |
| | Replicate Prob(F) | | | | | | | | | 1.0000 | 1.0000 | 1.0000 |
| | Treatment F | | | | | | | | | 0.000 | 0.000 | 0.000 |
| | Treatment Prob(F) | | | | | | | | | 1.0000 | 1.0000 | 1.0000 |

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Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

| Pest Code Crop Code Rating Date | | | | | | | | ERICA-HR | ERICA-HR | ERICA-HR | ERICA-HR | ERICA-HR | ERICA-HR | |
|---------------------------------------|--------------------|-----------|-----------|----------------|------------|------------|-------------------|-----------|----------|----------|----------|----------|----------|------|
| Rating Type | | | | | | | | 11-30-11 | 12-14-11 | 1-18-12 | 2-15-12 | 4-5-12 | 4-12-12 | |
| Rating Unit | | | | | | | | Control | Control | Control | Control | Control | Control | |
| Rating Timing | | | | | | | | Percent | Percent | Percent | Percent | Percent | Percent | |
| Trt-Eval Interval | | | | | | | | 7 DA-A | 21 DA-A | 56 DA-A | 84 DA-A | 7 DA-B | 14 DA-B | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Other Rate | Other Rate | Growth Unit Stage | Appl Code | | | | | | |
| 1 | NONTREATED | | | | | | | | 0 b | 0 c | 0 c | 0 b | 0 d | 0 d |
| 2 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 8 a | 33 a | 89 a | 77 a | 65 b | 62 b |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 3 | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | | | | | 99 a | 99 a |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 4 | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 5 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 10 a | 28 ab | 81 b | 68 a | 99 a | 98 a |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 6 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 10 a | 32 ab | 73 b | 65 a | 53 c | 48 c |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 7 | ZIDUA | 85 WG | | 0.16 lb ai/a | 3 oz/a | | FALL | A | 10 a | 32 ab | 75 b | 68 a | 58 bc | 50 c |
| | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | ERICA-HR | ERICA-HR | ERICA-HR | ERICA-HR | ERICA-HR | ERICA-HR | | | |
|-------------------|--------------------|-----------|-----------|-----------|-----------|------------|------------|-------------|----------|-----------|----------|----------|----------|---------|------|------|
| Crop Code | | | | | | | | 11-30-11 | 12-14-11 | 1-18-12 | 2-15-12 | 4-5-12 | 4-12-12 | | | |
| Rating Date | | | | | | | | Control | Control | Control | Control | Control | Control | | | |
| Rating Type | | | | | | | | Percent | Percent | Percent | Percent | Percent | Percent | | | |
| Rating Unit | | | | | | | | 7 DA-A | 21 DA-A | 56 DA-A | 84 DA-A | 7 DA-B | 14 DA-B | | | |
| Rating Timing | | | | | | | | | | | | | | | | |
| Trt-Eval Interval | | | | | | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Unit Unit | Other Rate | Other Rate | Growth Unit | Stage | Appl Code | | | | | | |
| 8 | ZIDUA | 85 | WG | 0.16 | lb ai/a | 3 | oz/a | FALL | A | | 8 a | 27 b | 75 b | 70 a | 99 a | 99 a |
| | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A | | | | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 | % v/v | 1 | % v/v | FALL | A | | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | FALL | A | | | | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B | | | | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B | | | | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 | % v/v | 1 | % v/v | PRE-BLT | B | | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | PRE-BLT | B | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D | | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 | % v/v | 0.25 | % v/v | POST | D | | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | POST | D | | | | | | | |
| | LSD (P=.05) | | | 2.7 | | 6.1 | | 7.7 | | | | 12.3 | 10.1 | 8.5 | | |
| | Standard Deviation | | | 1.5 | | 3.4 | | 4.2 | | | | 6.7 | 5.7 | 4.8 | | |
| | CV | | | 19.17 | | 13.35 | | 6.43 | | | | 11.63 | 8.4 | 7.33 | | |
| | Replicate F | | | 2.500 | | 5.244 | | 0.022 | | | | 0.488 | 2.245 | 3.541 | | |
| | Replicate Prob(F) | | | 0.1317 | | 0.0277 | | 0.9784 | | | | 0.6279 | 0.1485 | 0.0619 | | |
| | Treatment F | | | 20.500 | | 41.976 | | 179.593 | | | | 54.250 | 120.957 | 178.600 | | |
| | Treatment Prob(F) | | | 0.0001 | | 0.0001 | | 0.0001 | | | | 0.0001 | 0.0001 | 0.0001 | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | ERICA-HR | ERICA-HR | ERICA-HR | ERICA-HR | |
|-------------------|--------------------|-----------|-----------|----------------|------------|------------|--------------|--------------------|--------------------|--------------------|--------------------|------|
| Crop Code | | | | | | | | 5-3-12 | 5-12-12 | 6-9-12 | 7-7-12 | |
| Rating Date | | | | | | | | Control Percent | Control Percent | Control Percent | Control Percent | |
| Rating Type | | | | | | | | 5 DA-C | 14 DA-C | 72 DA-B 42 DA-C | 70 DA-C | |
| Rating Unit | | | | | | | | | | | | |
| Rating Timing | | | | | | | | | | | | |
| Trt-Eval Interval | | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Other Rate | Other Rate | Growth Stage | Appl Code | | | | |
| 1 | NONTREATED | | | | | | | | 0 d | 0 c | 0 c | 32 a |
| 2 | DISTINCT | 70 | WG | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 45 b | 38 b | 32 b | 45 a |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % v/v | 1 % v/v | | FALL | A | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | FALL | A | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | |
| 3 | SHARPEN | 2.85 | SC | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | 97 a | 96 a | 95 a | 96 a |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | |
| 4 | SHARPEN | 2.85 | SC | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | 97 a | 97 a | 94 a | 89 a |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | |
| 5 | DISTINCT | 70 | WG | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 97 a | 97 a | 97 a | 97 a |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % v/v | 1 % v/v | | FALL | A | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | FALL | A | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | |
| 6 | DISTINCT | 70 | WG | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 98 a | 98 a | 98 a | 96 a |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % v/v | 1 % v/v | | FALL | A | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | FALL | A | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | |
| 7 | ZIDUA | 85 | WG | 0.16 lb ai/a | 3 oz/a | | FALL | A | 40 c | 35 b | 28 b | 38 a |
| | DISTINCT | 70 | WG | 0.0875 lb ae/a | 2 oz/a | | FALL | A | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % v/v | 1 % v/v | | FALL | A | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | FALL | A | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
 Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | ERICA-HR | ERICA-HR | ERICA-HR | ERICA-HR | | |
|--------------------|--------------------|-----------|-----------|-----------|---------|------------|------------|--------------|-----------|----------|----------|------|------|
| Crop Code | | | | | | | | 5-3-12 | 5-12-12 | 6-9-12 | 7-7-12 | | |
| Rating Date | | | | | | | | Control | Control | Control | Control | | |
| Rating Type | | | | | | | | Percent | Percent | Percent | Percent | | |
| Rating Unit | | | | | | | | 5 DA-C | 14 DA-C | 72 DA-B | 70 DA-C | | |
| Rating Timing | | | | | | | | | | 42 DA-C | | | |
| Trt-Eval Interval | | | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Unit | Other Rate | Other Rate | Growth Stage | Appl Code | | | | |
| 8 | ZIDUA | 85 | WG | 0.16 | lb ai/a | 3 | oz/a | FALL | A | 99 a | 99 a | 98 a | 65 a |
| | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 | % v/v | 1 | % v/v | FALL | A | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | FALL | A | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 | % v/v | 1 | % v/v | PRE-BLT | B | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | PRE-BLT | B | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 | % v/v | 0.25 | % v/v | POST | D | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | POST | D | | | | |
| LSD (P=.05) | | | | | | | | 3.7 | 6.8 | 11.0 | 54.9 | | |
| Standard Deviation | | | | | | | | 2.1 | 3.9 | 6.3 | 31.3 | | |
| CV | | | | | | | | 2.95 | 5.57 | 9.27 | 44.91 | | |
| Replicate F | | | | | | | | 6.326 | 2.114 | 1.640 | 0.189 | | |
| Replicate Prob(F) | | | | | | | | 0.0110 | 0.1576 | 0.2291 | 0.8297 | | |
| Treatment F | | | | | | | | 981.727 | 307.197 | 125.477 | 2.443 | | |
| Treatment Prob(F) | | | | | | | | 0.0001 | 0.0001 | 0.0001 | 0.0734 | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | LAMAM | | | | | | | | | | | | | |
|---------------|--------------------|-----------|-----------|----------------|------------|------------|-------------------|-----------|------|------|-------|------|-------|--------|
| Crop Code | LAMAM | | | | | | | | | | | | | |
| Rating Date | 11-30-11 | 12-14-11 | 1-18-12 | 2-15-12 | 4-5-12 | 4-12-12 | | | | | | | | |
| Rating Type | Control | Control | Control | Control | Control | Control | | | | | | | | |
| Rating Unit | Percent | Percent | Percent | Percent | Percent | Percent | | | | | | | | |
| Rating Timing | 7 DA-A | 21 DA-A | 56 DA-A | 84 DA-A | 7 DA-B | 14 DA-B | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Other Rate | Other Rate | Growth Unit Stage | Appl Code | | | | | | |
| 1 | NONTREATED | | | | | | | | 0 b | 0 b | 0 c | 0 c | 0 c | 0 d |
| 2 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 10 a | 42 a | 95 a | 94 a | 91 ab | 87 bc |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 3 | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | | | | | 90 ab | 93 abc |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 4 | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 5 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 8 a | 38 a | 93 ab | 88 b | 93 ab | 96 ab |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 6 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | 10 a | 42 a | 90 b | 90 b | 88 ab | 87 c |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 7 | ZIDUA | 85 WG | | 0.16 lb ai/a | 3 oz/a | | FALL | A | 8 a | 40 a | 90 b | 90 b | 87 b | 87 c |
| | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST | D | | | | | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
 Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | LAMAM | LAMAM | LAMAM | LAMAM | LAMAM | LAMAM | | | | | | | | | |
|--------------------|--------------------|-----------|-----------|-----------|------------|------------|-------------|----------|-----------|---------|------|---------|------|------|------|
| Crop Code | 11-30-11 | 12-14-11 | 1-18-12 | 2-15-12 | 4-5-12 | 4-12-12 | | | | | | | | | |
| Rating Date | | | | | | | | | | | | | | | |
| Rating Type | Control | Control | Control | Control | Control | Control | | | | | | | | | |
| Rating Unit | Percent | Percent | Percent | Percent | Percent | Percent | | | | | | | | | |
| Rating Timing | | | | | | | | | | | | | | | |
| Trt-Eval Interval | 7 DA-A | 21 DA-A | 56 DA-A | 84 DA-A | 7 DA-B | 14 DA-B | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Other Rate | Other Rate | Growth Unit | Stage | Appl Code | | | | | | |
| 8 | ZIDUA | 85 | WG | 0.16 | lb ai/a | 3 | oz/a | FALL | A | 8 a | 40 a | 90 b | 90 b | 95 a | 97 a |
| | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 | % v/v | 1 | % v/v | FALL | A | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | FALL | A | | | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B | | | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B | | | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 | % v/v | 1 | % v/v | PRE-BLT | B | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 | % v/v | 0.25 | % v/v | POST | D | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | POST | D | | | | | | |
| LSD (P=.05) | | 3.7 | | 4.0 | | 4.0 | | 3.1 | | 7.2 | | 8.4 | | | |
| Standard Deviation | | 2.0 | | 2.2 | | 2.2 | | 1.7 | | 4.0 | | 4.7 | | | |
| CV | | 27.22 | | 6.47 | | 2.89 | | 2.25 | | 5.18 | | 6.05 | | | |
| Replicate F | | 1.000 | | 0.294 | | 0.591 | | 2.385 | | 2.404 | | 3.070 | | | |
| Replicate Prob(F) | | 0.4019 | | 0.7514 | | 0.5721 | | 0.1423 | | 0.1324 | | 0.0838 | | | |
| Treatment F | | 10.200 | | 173.235 | | 862.102 | | 1420.173 | | 218.647 | | 161.794 | | | |
| Treatment Prob(F) | | 0.0011 | | 0.0001 | | 0.0001 | | 0.0001 | | 0.0001 | | 0.0001 | | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | STEME | STEME | STEME | STEME | STEME | STEME | |
|-------------------|--------------------|-----------|-----------|----------------|------------|------------|-------------------|-----------|----------|---------|---------|---------|---------|------|
| Crop Code | | | | | | | | 11-30-11 | 12-14-11 | 1-18-12 | 2-15-12 | 4-5-12 | 4-12-12 | |
| Rating Date | | | | | | | | Control | Control | Control | Control | Control | Control | |
| Rating Type | | | | | | | | Percent | Percent | Percent | Percent | Percent | Percent | |
| Rating Unit | | | | | | | | 7 DA-A | 21 DA-A | 56 DA-A | 84 DA-A | 7 DA-B | 14 DA-B | |
| Rating Timing | | | | | | | | | | | | | | |
| Trt-Eval Interval | | | | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Other Rate | Other Rate | Growth Unit Stage | Appl Code | | | | | | |
| 1 | NONTREATED | | | | | | | | 0 c | 0 b | 0 b | 0 b | 0 c | 0 c |
| 2 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL A | | 7 b | 37 a | 95 a | 96 a | 87 ab | 85 b |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL A | | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL A | | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL A | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL A | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST D | | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST D | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST D | | | | | | | |
| 3 | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT B | | | | | | 93 ab | 98 a |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT B | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT B | | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | PRE-BLT B | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | PRE-BLT B | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST D | | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST D | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST D | | | | | | | |
| 4 | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP C | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP C | | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | 1-3DBP C | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | 1-3DBP C | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST D | | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST D | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST D | | | | | | | |
| 5 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL A | | 10 a | 40 a | 96 a | 93 a | 97 a | 99 a |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL A | | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL A | | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL A | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL A | | | | | | | |
| | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT B | | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT B | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT B | | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | PRE-BLT B | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | PRE-BLT B | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST D | | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST D | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST D | | | | | | | |
| 6 | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL A | | 10 a | 42 a | 95 a | 93 a | 83 ab | 83 b |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL A | | | | | | | |
| | 2,4-D LV 4 | 3.8 EC | | 0.475 lb ae/a | 16 fl oz/a | | FALL A | | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL A | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL A | | | | | | | |
| | SHARPEN | 2.85 SC | | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP C | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP C | | | | | | | |
| | MSO (MSO ULTRA) | 100 SL | | 1 % v/v | 1 % v/v | | 1-3DBP C | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | 1-3DBP C | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST D | | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST D | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST D | | | | | | | |
| 7 | ZIDUA | 85 WG | | 0.16 lb ai/a | 3 oz/a | | FALL A | | 7 b | 45 a | 93 a | 93 a | 70 b | 87 b |
| | DISTINCT | 70 WG | | 0.0875 lb ae/a | 2 oz/a | | FALL A | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | FALL A | | | | | | | |
| | COC (PRIME OIL) | 100 SL | | 1 % v/v | 1 % v/v | | FALL A | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | FALL A | | | | | | | |
| | ROUNDUP POWERMAX | 4.5 SL | | 0.77 lb ae/a | 22 fl oz/a | | POST D | | | | | | | |
| | NIS (ACTIVATOR 90) | 100 SL | | 0.25 % v/v | 0.25 % v/v | | POST D | | | | | | | |
| | N-PAK AMS | 100 SL | | 5 % v/v | 5 % v/v | | POST D | | | | | | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
 Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | STEME | STEME | STEME | STEME | STEME | STEME | | | |
|-------------------|--------------------|-----------|-----------|-----------|-----------|------------|------------|-------------|----------|-----------|---------|---------|---------|------|------|------|
| Crop Code | | | | | | | | 11-30-11 | 12-14-11 | 1-18-12 | 2-15-12 | 4-5-12 | 4-12-12 | | | |
| Rating Date | | | | | | | | Control | Control | Control | Control | Control | Control | | | |
| Rating Type | | | | | | | | Percent | Percent | Percent | Percent | Percent | Percent | | | |
| Rating Unit | | | | | | | | 7 DA-A | 21 DA-A | 56 DA-A | 84 DA-A | 7 DA-B | 14 DA-B | | | |
| Rating Timing | | | | | | | | | | | | | | | | |
| Trt-Eval Interval | | | | | | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Unit Unit | Other Rate | Other Rate | Growth Unit | Stage | Appl Code | | | | | | |
| 8 | ZIDUA | 85 | WG | 0.16 | lb ai/a | 3 | oz/a | FALL | A | A | 5 b | 43 a | 93 a | 93 a | 98 a | 99 a |
| | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A | A | | | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 | % v/v | 1 | % v/v | FALL | A | A | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | FALL | A | A | | | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B | B | | | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B | B | | | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 | % v/v | 1 | % v/v | PRE-BLT | B | B | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | PRE-BLT | B | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 | % v/v | 0.25 | % v/v | POST | D | D | | | | | | |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | POST | D | D | | | | | | |
| | LSD (P=.05) | | | 3.2 | | 12.4 | | 4.5 | | 4.8 | 24.3 | 7.2 | | | | |
| | Standard Deviation | | | 1.7 | | 6.8 | | 2.5 | | 2.6 | 13.7 | 4.0 | | | | |
| | CV | | | 27.36 | | 19.77 | | 3.17 | | 3.34 | 18.08 | 5.13 | | | | |
| | Replicate F | | | 0.455 | | 0.389 | | 0.508 | | 0.073 | 0.999 | 2.772 | | | | |
| | Replicate Prob(F) | | | 0.6472 | | 0.6874 | | 0.6164 | | 0.9299 | 0.3969 | 0.1024 | | | | |
| | Treatment F | | | 13.545 | | 18.946 | | 715.230 | | 644.171 | 19.352 | 230.107 | | | | |
| | Treatment Prob(F) | | | 0.0003 | | 0.0001 | | 0.0001 | | 0.0001 | 0.0001 | 0.0001 | | | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | AMATA-HR | AMATA-HR | AMATA-HR | AMATA-HR | AMATA-HR | | | |
|-------------------|--------------------|-----------|-----------|----------------|------------|------------|-------------|----------|-----------|----------|----------|------|-------|------|
| Crop Code | | | | | | | 4-5-12 | 4-12-12 | 5-3-12 | 5-12-12 | 6-9-12 | | | |
| Rating Date | | | | | | | Control | Control | Control | Control | Control | | | |
| Rating Type | | | | | | | Percent | Percent | Percent | Percent | Percent | | | |
| Rating Unit | | | | | | | 7 DA-B | 14 DA-B | 5 DA-C | 14 DA-C | 72 DA-B | | | |
| Rating Timing | | | | | | | | | | | 42 DA-C | | | |
| Trt-Eval Interval | | | | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Other Rate | Other Rate | Growth Unit | Stage | Appl Code | | | | | |
| 1 | NONTREATED | | | | | | | | | 0 b | 0 b | 0 e | 0 e | 0 d |
| 2 | DISTINCT | 70 | WG | 0.0875 lb ae/a | 2 oz/a | | FALL | A | | 0 b | 0 b | 17 d | 23 d | 33 b |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 3 | SHARPEN | 2.85 | SC | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | | 99 a | 99 a | 67 c | 33 cd | 0 d |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 4 | SHARPEN | 2.85 | SC | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | | | | 99 a | 99 a | 89 a |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 5 | DISTINCT | 70 | WG | 0.0875 lb ae/a | 2 oz/a | | FALL | A | | 99 a | 99 a | 78 b | 62 b | 15 c |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 lb ai/a | 1 fl oz/a | | PRE-BLT | B | | | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | PRE-BLT | B | | | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % v/v | 1 % v/v | | PRE-BLT | B | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | PRE-BLT | B | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 6 | DISTINCT | 70 | WG | 0.0875 lb ae/a | 2 oz/a | | FALL | A | | 0 b | 0 b | 98 a | 95 a | 83 a |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 lb ae/a | 16 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 lb ai/a | 1 fl oz/a | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | 1-3DBP | C | | | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % v/v | 1 % v/v | | 1-3DBP | C | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | 1-3DBP | C | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | | | |
| 7 | ZIDUA | 85 | WG | 0.16 lb ai/a | 3 oz/a | | FALL | A | | 10 b | 3 b | 15 d | 22 d | 40 b |
| | DISTINCT | 70 | WG | 0.0875 lb ae/a | 2 oz/a | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | FALL | A | | | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % v/v | 1 % v/v | | FALL | A | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | FALL | A | | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 lb ae/a | 22 fl oz/a | | POST | D | | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % v/v | 0.25 % v/v | | POST | D | | | | | | |
| | N-PAK AMS | 100 | SL | 5 % v/v | 5 % v/v | | POST | D | | | | | | |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
 Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | AMATA-HR | AMATA-HR | AMATA-HR | AMATA-HR | AMATA-HR | | |
|--------------------|--------------------|-----------|-----------|--------|---------|------------|------------|--------------|-----------|----------|----------|----------|--------|--------|
| Crop Code | | | | | | | | 4-5-12 | 4-12-12 | 5-3-12 | 5-12-12 | 6-9-12 | | |
| Rating Date | | | | | | | | Control | Control | Control | Control | Control | | |
| Rating Type | | | | | | | | Percent | Percent | Percent | Percent | Percent | | |
| Rating Unit | | | | | | | | 7 DA-B | 14 DA-B | 5 DA-C | 14 DA-C | 72 DA-B | | |
| Rating Timing | | | | | | | | | | | | 42 DA-C | | |
| Trt-Eval Interval | | | | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Unit | Other Rate | Other Unit | Growth Stage | Appl Code | | | | | |
| 8 | ZIDUA | 85 | WG | 0.16 | lb ai/a | 3 | oz/a | FALL | A | 99 a | 99 a | 68 bc | 43 c | 17 c |
| | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A | | | | | |
| | COC (PRIME OIL) | 100 | SL | 1 % | v/v | 1 % | v/v | FALL | A | | | | | |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | FALL | A | | | | | |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B | | | | | |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B | | | | | |
| | MSO (MSO ULTRA) | 100 | SL | 1 % | v/v | 1 % | v/v | PRE-BLT | B | | | | | |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | PRE-BLT | B | | | | | |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D | | | | | |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % | v/v | 0.25 % | v/v | POST | D | | | | | |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | POST | D | | | | | |
| LSD (P=.05) | | | | | | | | | | 11.6 | 3.9 | 10.6 | 16.8 | 14.2 |
| Standard Deviation | | | | | | | | | | 6.5 | 2.2 | 6.1 | 9.6 | 8.1 |
| CV | | | | | | | | | | 14.93 | 5.09 | 10.95 | 20.34 | 23.43 |
| Replicate F | | | | | | | | | | 1.000 | 1.000 | 0.689 | 2.112 | 1.014 |
| Replicate Prob(F) | | | | | | | | | | 0.3966 | 0.3966 | 0.5184 | 0.1579 | 0.3880 |
| Treatment F | | | | | | | | | | 187.120 | 1735.480 | 125.500 | 41.068 | 54.851 |
| Treatment Prob(F) | | | | | | | | | | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | AMATA-HR | |
|-------------------|--------------------|-----------|-----------|--------|-----------|------------|-----------------|--------------|-----------|
| Crop Code | | | | | | | | 7-7-12 | |
| Rating Date | | | | | | | | Control | |
| Rating Type | | | | | | | | Percent | |
| Rating Unit | | | | | | | | 70 DA-C | |
| Rating Timing | | | | | | | | | |
| Trt-Eval Interval | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Other Rate | Other Rate Unit | Growth Stage | Appl Code |
| 1 | NONTREATED | | | | | | | | 10 a |
| 2 | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | FALL | A |
| | COC (PRIME OIL) | 100 | SL | 1 % | v/v | 1 % | v/v | FALL | A |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | FALL | A |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % | v/v | 0.25 % | v/v | POST | D |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | POST | D |
| 3 | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B |
| | MSO (MSO ULTRA) | 100 | SL | 1 % | v/v | 1 % | v/v | PRE-BLT | B |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | PRE-BLT | B |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % | v/v | 0.25 % | v/v | POST | D |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | POST | D |
| 4 | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | 1-3DBP | C |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | 1-3DBP | C |
| | MSO (MSO ULTRA) | 100 | SL | 1 % | v/v | 1 % | v/v | 1-3DBP | C |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | 1-3DBP | C |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % | v/v | 0.25 % | v/v | POST | D |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | POST | D |
| 5 | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | FALL | A |
| | COC (PRIME OIL) | 100 | SL | 1 % | v/v | 1 % | v/v | FALL | A |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | FALL | A |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B |
| | MSO (MSO ULTRA) | 100 | SL | 1 % | v/v | 1 % | v/v | PRE-BLT | B |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | PRE-BLT | B |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % | v/v | 0.25 % | v/v | POST | D |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | POST | D |
| 6 | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | FALL | A |
| | COC (PRIME OIL) | 100 | SL | 1 % | v/v | 1 % | v/v | FALL | A |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | FALL | A |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | 1-3DBP | C |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | 1-3DBP | C |
| | MSO (MSO ULTRA) | 100 | SL | 1 % | v/v | 1 % | v/v | 1-3DBP | C |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | 1-3DBP | C |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % | v/v | 0.25 % | v/v | POST | D |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | POST | D |
| 7 | ZIDUA | 85 | WG | 0.16 | lb ai/a | 3 | oz/a | FALL | A |
| | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A |
| | COC (PRIME OIL) | 100 | SL | 1 % | v/v | 1 % | v/v | FALL | A |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | FALL | A |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 % | v/v | 0.25 % | v/v | POST | D |
| | N-PAK AMS | 100 | SL | 5 % | v/v | 5 % | v/v | POST | D |

Southern Illinois University

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
 Location: Young Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | AMATA-HR | |
|--------------------|--------------------|-----------|-----------|--------|-----------|------------|------------|--------------|-----------|
| Crop Code | | | | | | | | | |
| Rating Date | | | | | | | | 7-7-12 | |
| Rating Type | | | | | | | | Control | |
| Rating Unit | | | | | | | | Percent | |
| Rating Timing | | | | | | | | | |
| Trt-Eval Interval | | | | | | | | 70 DA-C | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Other Rate | Other Unit | Growth Stage | Appl Code |
| 8 | ZIDUA | 85 | WG | 0.16 | lb ai/a | 3 | oz/a | FALL | A |
| | DISTINCT | 70 | WG | 0.0875 | lb ae/a | 2 | oz/a | FALL | A |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | FALL | A |
| | COC (PRIME OIL) | 100 | SL | 1 | % v/v | 1 | % v/v | FALL | A |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | FALL | A |
| | SHARPEN | 2.85 | SC | 0.0223 | lb ai/a | 1 | fl oz/a | PRE-BLT | B |
| | 2,4-D LV 4 | 3.8 | EC | 0.475 | lb ae/a | 16 | fl oz/a | PRE-BLT | B |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE-BLT | B |
| | MSO (MSO ULTRA) | 100 | SL | 1 | % v/v | 1 | % v/v | PRE-BLT | B |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | PRE-BLT | B |
| | ROUNDUP POWERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | POST | D |
| | NIS (ACTIVATOR 90) | 100 | SL | 0.25 | % v/v | 0.25 | % v/v | POST | D |
| | N-PAK AMS | 100 | SL | 5 | % v/v | 5 | % v/v | POST | D |
| LSD (P=.05) | | | | | | | | 61.4 | |
| Standard Deviation | | | | | | | | 35.1 | |
| CV | | | | | | | | 66.17 | |
| Replicate F | | | | | | | | 0.202 | |
| Replicate Prob(F) | | | | | | | | 0.8198 | |
| Treatment F | | | | | | | | 2.133 | |
| Treatment Prob(F) | | | | | | | | 0.1078 | |

Marestail Control with Fall and Spring Herbicide Applications.

Trial ID: 12-YRC-BASF-fall
Location: Young Res. Center

Investigator: Bryan Young

Trial Comments

1. Protocol: BASF.
2. Ratings: CI 2-3 WA-C, 6-8 WA-C, 10-12 WA-C.
Burndown WC 5-7 DAT, WC 2-3 WAT, 6-8 WAT, 10-12 WAT.
3. PRE-BLT (B) timing should be made to rosette marestail.
1-3DBP (C) timing should be applied when bolted marestail are 4-6 inch in height.
POST (D) timing should be applied 6-8 WA-C.
4. ERICA-HR = Herbicide-resistant marestail (glyphosate).
AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
5. By 5-3-12, STEME and LAMAM in the nontreated plots were senescing naturally and could no longer be evaluated.
6. Not harvested.