

Broadleaf Weed Control in Winter Wheat - Marestalk

Trial ID: 12-ARC-25-S60
 Location: Agronomy Res. Center
 Investigator: Bryan Young

| General Trial Information | |
|---|-------------------------|
| Study Director: Bryan Young | Title: Professor |
| Investigator: Bryan Young | |
| Trial Status: F - one-year/final | |
| Initiation Date: 10-26-11 | |
| Trial Location | |
| City: Carbondale | |
| State/Prov.: IL | |
| Postal Code: 62901 | |
| Country: USA | |

Objectives:
 Determine the appropriate tank-mix partner for applications of Harmony Extra for control of marestalk.

| Personnel | |
|---|---------------------------------|
| Study Director: Bryan Young | Title: Professor |
| Investigator: Bryan Young | |
| 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: TRZAW Triticum aestivum (winter) Winter wheat | |
| Variety: P25R62 | |
| BBCH Scale: BCER | Planting Date: 10-26-11 |
| Planting Method: SEEDED | Rate, Unit: 1.3 millionS/A |
| Depth, Unit: 1 IN | |
| Row Spacing, Unit: 7.5 IN | |

| Pest Description | |
|-----------------------|---|
| Pest 1 Type: W | Code: ERICA - Conyza canadensis (L.) Crong. Common Name: horseweed Description: glyphosate-resistant marestalk |
| Pest 2 Type: W | Code: ALLVI - Allium vineale L. Common Name: garlic, wild |
| Pest 3 Type: W | Code: LAMPU - Lamium purpureum L. Common Name: deadnettle, purple |
| Pest 4 Type: W | Code: CERVU - Cerastium vulgatum L. Common Name: chickweed, mouseear |
| Pest 5 Type: W | Code: ALOCA - Alopecurus carolinianus Walt. Common Name: foxtail, Carolina |

| Site and Design | |
|---|--|
| Plot Width, Unit: 10 FT | Site Type: FIELD field |
| Plot Length, Unit: 30 FT | |
| Plot Area, Unit: 300 FT ² | Tillage Type: NOTILL no-till |
| Replications: 3 | Study Design: RACOB L Randomized Complete Block (RCB) |

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

| Maintenance | |
|-------------|--|
| No. | Maintenance Treatment Name |
| 1. | Fall: N 30 LB/A, P205 0 LB/A, K20 0 LB/A |
| 2. | Spring: N 85 LB/A, P205 0 LB/A, K20 0 LB/A |

| Moisture and Weather Conditions | |
|---|-------------------------------|
| Overall Moisture Conditions: | BELNOR below normal |
| Closest Weather Station: ICN - Carbondale IL | Distance, Unit: 0.5 MI |

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| Application Description | | | |
|-------------------------|----------|---------|---------|
| | A | B | C |
| Application Date: | 10-29-11 | 12-2-11 | 3-13-12 |
| Time of Day: | 12:00 | 15:30 | 12:00 |
| Application Method: | Spray | Spray | Spray |
| Application Timing: | PRE | FALL | SPRING |
| Application Placement: | BROSOI | BROFOL | BROFOL |
| Applied By: | NRJ | NRJ | NRJ |
| Air Temperature, Unit: | 56 F | 53 F | 80 F |
| % Relative Humidity: | 33 | 56 | 36 |
| Wind Velocity, Unit: | 2 MPH | 1 MPH | 1 MPH |
| Wind Direction: | W | NE | S |
| Dew Presence (Y/N): | N no | N no | N no |
| Soil Temperature, Unit: | 50 F | 46 F | 50 F |
| Soil Moisture: | NORMAL | ABONOR | NORMAL |
| % Cloud Cover: | 0 | 10 | 0 |

| Crop Stage At Each Application | | | | | | |
|--------------------------------|-------|------|----------|------|-------|------|
| | A | | B | | C | |
| Crop 1 Code, BBCH Scale: | TRZAW | BCER | TRZAW | BCER | TRZAW | BCER |
| Stage Scale Used: | DESC | | DESC | | DESC | |
| Stage Majority, Percent: | NA | | FK1 | | FK4 | |
| Stage Minimum, Percent: | | | 2-3 LEAF | | | |
| Height, Unit: | NA | IN | 4 | IN | 6 | IN |
| Height Minimum, Maximum: | | | 3 | 4 | 3 | 6 |

Southern Illinois University

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Trial ID: 12-ARC-25-S60

Location: Agronomy Res. Center

Investigator: Bryan Young

| Pest Stage At Each Application | | | | | | |
|----------------------------------|-------|--------|-------|--------|-------|--------|
| | A | | B | | C | |
| Pest 1 Code, Type, Scale: | ERICA | W DESC | ERICA | W DESC | ERICA | W DESC |
| Stage Majority, Percent: | 4 | | 8 | | 6 | |
| Stage Minimum, Percent: | 2 | | 4 | | 4 | |
| Stage Maximum, Percent: | 8 | | 15 | | 8 | |
| Height, Unit: | 0.75 | IN | 0.75 | IN | 1 | IN |
| Height Minimum, Maximum: | 0.5 | 1 | 0.5 | 1 | 1 | 2 |
| Density, Unit: | 2 | FT2 | 2 | FT2 | 0.1 | FT2 |
| Pest 2 Code, Type, Scale: | ALLVI | W DESC | ALLVI | W DESC | ALLVI | W DESC |
| Stage Majority, Percent: | 2 | | 2 | | 2 | |
| Stage Minimum, Percent: | 1 | | 1 | | 1 | |
| Stage Maximum, Percent: | 3 | | 3 | | 3 | |
| Height, Unit: | 4 | IN | 4 | IN | 6 | IN |
| Height Minimum, Maximum: | 2 | 6 | 2 | 6 | 3 | 8 |
| Density, Unit: | 4 | FT2 | 4 | FT2 | 4 | FT2 |
| Pest 3 Code, Type, Scale: | LAMPU | W DESC | LAMPU | W DESC | LAMPU | W DESC |
| Stage Majority, Percent: | 4 | | 6 | | 15 | |
| Stage Minimum, Percent: | 2 | | 4 | | 10 | |
| Stage Maximum, Percent: | 6 | | 10 | | 20 | |
| Height, Unit: | 0.5 | IN | 1 | IN | 3 | IN |
| Height Minimum, Maximum: | 0.5 | 1 | 0.5 | 1.5 | 2 | 4 |
| Density, Unit: | 2 | FT2 | 2 | FT2 | 0.5 | FT2 |
| Pest 4 Code, Type, Scale: | CERVU | W DESC | CERVU | W DESC | CERVU | W DESC |
| Stage Majority, Percent: | 4 | | 6 | | 20 | |
| Stage Minimum, Percent: | 2 | | 4 | | 15 | |
| Stage Maximum, Percent: | 6 | | 10 | | 25 | |
| Height, Unit: | 0.5 | IN | 1 | IN | 3 | IN |
| Height Minimum, Maximum: | 0.5 | 1 | 0.5 | 1.5 | 2 | 4 |
| Density, Unit: | 2 | FT2 | 2 | FT2 | 3 | FT2 |
| Pest 5 Code, Type, Scale: | ALOCA | W DESC | ALOCA | W DESC | ALOCA | W DESC |
| Stage Majority, Percent: | 4 | | 8 | | 10 | |
| Stage Minimum, Percent: | 2 | | 4 | | 8 | |
| Stage Maximum, Percent: | 6 | | 10 | | 12 | |
| Height, Unit: | 1 | IN | 1 | IN | 3 | IN |
| Height Minimum, Maximum: | 0.5 | 1.5 | 1 | 2 | 2 | 4 |
| Density, Unit: | 5 | FT2 | 5 | FT2 | 5 | FT2 |

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

Southern Illinois University

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Trial ID: 12-ARC-25-S60

Location: Agronomy Res. Center

Investigator: Bryan Young

| Pest Code Crop Code Rating Date | | | | | | | | TRZAW 12-9-11 | TRZAW 12-16-11 | TRZAW 12-30-11 | TRZAW 3-13-12 | TRZAW 3-20-12 | TRZAW 3-27-12 | TRZAW 4-10-12 |
|--|--|---------------------------|-----------|--|--------------------------------------|------------|----------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Rating Type Rating Unit Rating Timing Trt-Eval Interval | | | | | | | | Injury Percent | Injury Percent | Injury Percent | Injury Percent | Injury Percent | Injury Percent | Injury Percent |
| | | | | | | | | 7 DA-B | 14 DA-B | 28 DA-B | 0 DA-C | 7 DA-C | 14 DA-C | 28 DA-C |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Other Rate | Other Rate | Growth Stage | Appl Code | | | | | | |
| 1 | HARMONY EXTRA SG NIS (ACTIVATOR 90) | 50 SG 100 SL | | 0.0234 lb ai/a 0.25 % v/v | 0.75 oz/a 0.25 % v/v | | FALL FALL | B B | 0 a | 0 a | 0 a | 0 a | | 0 a |
| 2 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | 0 a | 0 a | 0 a | 0 a | | 0 a |
| 3 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.14 lb ai/a 0.25 % v/v | 0.75 oz/a 3 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | 0 a | 0 a | 0 a | 0 a | | 0 a |
| 4 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.188 lb ai/a 0.25 % v/v | 0.75 oz/a 4 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | 0 a | 0 a | 0 a | 0 a | | 0 a |
| 5 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.0625 lb ae/a 0.25 % v/v | 0.75 oz/a 2 fl oz/a 0.25 % v/v | | FALL FALL FALL | B B B | 0 a | 0 a | 0 a | 0 a | | 0 a |
| 6 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.125 lb ae/a 0.25 % v/v | 0.75 oz/a 4 fl oz/a 0.25 % v/v | | FALL FALL FALL | B B B | 0 a | 0 a | 0 a | 0 a | | 0 a |
| 7 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | 0 a | 0 a | 0 a | 0 a | 0 a | 0 a |
| | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 75 WG 100 SL | | 0.094 lb ai/a 0.25 % v/v | 2 oz/a 0.25 % v/v | | SPRING SPRING | C C | | | | | | |
| 8 | HARMONY EXTRA SG NIS (ACTIVATOR 90) | 50 SG 100 SL | | 0.0234 lb ai/a 0.25 % v/v | 0.75 oz/a 0.25 % v/v | | SPRING SPRING | C C | | | | 0 a | 0 a | 0 a |
| 9 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 0 a | 0 a | 0 a |
| 10 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.14 lb ai/a 0.25 % v/v | 0.75 oz/a 3 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 0 a | 0 a | 0 a |
| 11 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.188 lb ai/a 0.25 % v/v | 0.75 oz/a 4 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 0 a | 0 a | 0 a |
| 12 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.0625 lb ae/a 0.25 % v/v | 0.75 oz/a 2 fl oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 0 a | 0 a | 0 a |
| 13 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.125 lb ae/a 0.25 % v/v | 0.75 oz/a 4 fl oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 0 a | 0 a | 0 a |
| 14 | HARMONY EXTRA SG 2,4-D LV 4 NIS (ACTIVATOR 90) | 50 SG 3.8 EC 100 SL | | 0.0234 lb ai/a 0.475 lb ae/a 0.25 % v/v | 0.75 oz/a 1 pt/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 0 a | 0 a | 0 a |
| 15 | NONTREATED | | | | | | | | 0 a | 0 a | 0 a | 0 a | 0 a | 0 a |

Means followed by same letter do not significantly differ (P=0.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Location: Agronomy Res. Center

Investigator: Bryan Young

| Pest Code | | | | | | | | TRZAW | TRZAW | TRZAW | TRZAW | TRZAW | TRZAW | TRZAW | | | |
|--------------------|----------------------------|-----------|-----------|--------------|-----------|------------|------------|-------------|----------|-----------|---------|---------|---------|---------|-----|-----|-----|
| Crop Code | | | | | | | | 12-9-11 | 12-16-11 | 12-30-11 | 3-13-12 | 3-20-12 | 3-27-12 | 4-10-12 | | | |
| Rating Date | | | | | | | | Injury | Injury | Injury | Injury | Injury | Injury | Injury | | | |
| Rating Type | | | | | | | | Percent | Percent | Percent | Percent | Percent | Percent | Percent | | | |
| Rating Unit | | | | | | | | 7 DA-B | 14 DA-B | 28 DA-B | 0 DA-C | 7 DA-C | 14 DA-C | 28 DA-C | | | |
| 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 | | | | | | | |
| 16 | ROUNDUP POWERMAX N-PAK AMS | 4.5 SL | 100 SL | 0.77 lb ae/a | 5 % v/v | 22 fl oz/a | 5 % v/v | PRE | PRE | A | A | 0 a | 0 a | 0 a | 0 a | 0 a | 0 a |
| LSD (P=.05) | | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| Standard Deviation | | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| CV | | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| Replicate F | | | | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | |
| Replicate Prob(F) | | | | | | | | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | |
| Treatment F | | | | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | |
| Treatment Prob(F) | | | | | | | | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | |

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Trial ID: 12-ARC-25-S60

Location: Agronomy Res. Center

Investigator: Bryan Young

| Pest Code Crop Code Rating Date | | | | | | | | ERICA-HR 12-30-11 | ERICA-HR 3-13-12 | ERICA-HR 4-10-12 | | |
|--|--|---|-----------|--|---|---|--|--|------------------------------|-------------------------------|------|-------|
| Rating Type Rating Unit Rating Timing Trt-Eval Interval | | | | | | | | Control Percent 28 DA-B | Control Percent 0 DA-C | Control Percent 28 DA-C | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Form Rate | Rate Unit | Other Rate | Other Rate Unit | Growth Stage | Appl Code | | | |
| 1 | HARMONY EXTRA SG NIS (ACTIVATOR 90) | 50 SG 100 SL | | 0.0234 lb ai/a 0.25 % v/v | lb ai/a % v/v | 0.75 oz/a 0.25 % v/v | oz/a % v/v | FALL FALL | B B | 53 b | 83 a | 33 d |
| 2 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | lb ai/a lb ai/a % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | oz/a oz/a % v/v | FALL FALL FALL | B B B | 50 b | 83 a | 57 c |
| 3 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.14 lb ai/a 0.25 % v/v | lb ai/a lb ai/a % v/v | 0.75 oz/a 3 oz/a 0.25 % v/v | oz/a oz/a % v/v | FALL FALL FALL | B B B | 47 b | 90 a | 85 ab |
| 4 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.188 lb ai/a 0.25 % v/v | lb ai/a lb ai/a % v/v | 0.75 oz/a 4 oz/a 0.25 % v/v | oz/a oz/a % v/v | FALL FALL FALL | B B B | 47 b | 93 a | 95 a |
| 5 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.0625 lb ae/a 0.25 % v/v | lb ai/a lb ae/a % v/v | 0.75 oz/a 2 fl oz/a 0.25 % v/v | oz/a fl oz/a % v/v | FALL FALL FALL | B B B | 47 b | 87 a | 90 a |
| 6 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.125 lb ae/a 0.25 % v/v | lb ai/a lb ae/a % v/v | 0.75 oz/a 4 fl oz/a 0.25 % v/v | oz/a fl oz/a % v/v | FALL FALL FALL | B B B | 53 b | 92 a | 73 b |
| 7 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v 0.094 lb ai/a 0.25 % v/v | lb ai/a lb ai/a % v/v lb ai/a % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v 2 oz/a 0.25 % v/v | oz/a oz/a % v/v oz/a % v/v | FALL FALL FALL SPRING SPRING | B B B C C | 47 b | 85 a | 85 ab |
| 8 | HARMONY EXTRA SG NIS (ACTIVATOR 90) | 50 SG 100 SL | | 0.0234 lb ai/a 0.25 % v/v | lb ai/a % v/v | 0.75 oz/a 0.25 % v/v | oz/a % v/v | SPRING SPRING | C C | | | 80 ab |
| 9 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | lb ai/a lb ai/a % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | oz/a oz/a % v/v | SPRING SPRING SPRING | C C C | | | 91 a |
| 10 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.14 lb ai/a 0.25 % v/v | lb ai/a lb ai/a % v/v | 0.75 oz/a 3 oz/a 0.25 % v/v | oz/a oz/a % v/v | SPRING SPRING SPRING | C C C | | | 84 ab |
| 11 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.188 lb ai/a 0.25 % v/v | lb ai/a lb ai/a % v/v | 0.75 oz/a 4 oz/a 0.25 % v/v | oz/a oz/a % v/v | SPRING SPRING SPRING | C C C | | | 91 a |
| 12 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.0625 lb ae/a 0.25 % v/v | lb ai/a lb ae/a % v/v | 0.75 oz/a 2 fl oz/a 0.25 % v/v | oz/a fl oz/a % v/v | SPRING SPRING SPRING | C C C | | | 96 a |
| 13 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.125 lb ae/a 0.25 % v/v | lb ai/a lb ae/a % v/v | 0.75 oz/a 4 fl oz/a 0.25 % v/v | oz/a fl oz/a % v/v | SPRING SPRING SPRING | C C C | | | 92 a |
| 14 | HARMONY EXTRA SG 2,4-D LV 4 NIS (ACTIVATOR 90) | 50 SG 3.8 EC 100 SL | | 0.0234 lb ai/a 0.475 lb ae/a 0.25 % v/v | lb ai/a lb ae/a % v/v | 0.75 oz/a 1 pt/a 0.25 % v/v | oz/a pt/a % v/v | SPRING SPRING SPRING | C C C | | | 92 a |
| 15 | NONTREATED | | | | | | | | | 0 c | 0 b | 0 e |

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Investigator: Bryan Young

| | | | | | | | | | | | |
|--------------------|----------------------------|-----------|-----------|------|-----------|------------|-----------------|--------------------|--------------------|--------------------|--------|
| Pest Code | | | | | | | | ERICA-HR | ERICA-HR | ERICA-HR | |
| Crop Code | | | | | | | | 12-30-11 | 3-13-12 | 4-10-12 | |
| Rating Date | | | | | | | | Control Percent | Control Percent | Control Percent | |
| Rating Type | | | | | | | | 28 DA-B | 0 DA-C | 28 DA-C | |
| Rating Unit | | | | | | | | | | | |
| 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 | | |
| 16 | ROUNDUP POWERMAX N-PAK AMS | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | PRE | A | 99 a | 73 b |
| | | 100 | SL | | 5 % v/v | | 5 % v/v | PRE | A | | |
| LSD (P=.05) | | | | | | | | | | 7.5 | 16.4 |
| Standard Deviation | | | | | | | | | | 4.4 | 9.9 |
| CV | | | | | | | | | | 8.86 | 12.93 |
| Replicate F | | | | | | | | | | 2.537 | 0.903 |
| Replicate Prob(F) | | | | | | | | | | 0.1104 | 0.4160 |
| Treatment F | | | | | | | | | | 98.013 | 21.026 |
| Treatment Prob(F) | | | | | | | | | | 0.0001 | 0.0001 |

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Trial ID: 12-ARC-25-S60

Location: Agronomy Res. Center

Investigator: Bryan Young

| Pest Code Crop Code Rating Date | | | | | | | ALLVI | ALLVI | ALLVI | LAMPU | LAMPU | LAMPU | | | |
|--|--|---|--------------|--|---|---------------|--|-----------------------|--------------------|--------------------|--------------------|--------------------|-------|--------|--------|
| | | | | | | | 12-30-11 | 3-13-12 | 4-10-12 | 12-30-11 | 3-13-12 | 4-10-12 | | | |
| Rating Type Rating Unit Rating Timing Trt-Eval Interval | | | | | | | Control Percent | Control Percent | Control Percent | Control Percent | Control Percent | Control Percent | | | |
| | | | | | | | 28 DA-B | 0 DA-C | 28 DA-C | 28 DA-B | 0 DA-C | 28 DA-C | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Other Rate | Other Rate | Growth Unit | Stage | Appl Code | | | | | | |
| 1 | HARMONY EXTRA SG NIS (ACTIVATOR 90) | 50 SG 100 SL | | 0.0234 lb ai/a 0.25 % v/v | 0.75 oz/a 0.25 % v/v | | FALL FALL | B B | | 23 de | 90 a | 90 a | 47 b | 90 ab | 98 ab |
| 2 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 27 d | 83 ab | 88 a | 43 bc | 88 abc | 99 a |
| 3 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.14 lb ai/a 0.25 % v/v | 0.75 oz/a 3 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 23 de | 92 a | 90 a | 33 bc | 92 ab | 98 ab |
| 4 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.188 lb ai/a 0.25 % v/v | 0.75 oz/a 4 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 20 de | 90 a | 90 a | 30 c | 90 ab | 98 ab |
| 5 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.0625 lb ae/a 0.25 % v/v | 0.75 oz/a 2 fl oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 40 c | 88 a | 90 a | 43 bc | 83 bc | 99 a |
| 6 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.125 lb ae/a 0.25 % v/v | 0.75 oz/a 4 fl oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 62 b | 90 a | 90 a | 47 b | 78 c | 98 ab |
| 7 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v 2 oz/a 0.25 % v/v | | FALL FALL FALL SPRING SPRING | B B B C C | | 13 e | 85 a | 87 a | 37 bc | 98 a | 99 a |
| 8 | HARMONY EXTRA SG NIS (ACTIVATOR 90) | 50 SG 100 SL | | 0.0234 lb ai/a 0.25 % v/v | 0.75 oz/a 0.25 % v/v | | SPRING SPRING | C C | | | | 90 a | | | 85 c |
| 9 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 88 a | | | 98 ab |
| 10 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.14 lb ai/a 0.25 % v/v | 0.75 oz/a 3 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 88 a | | | 99 a |
| 11 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.188 lb ai/a 0.25 % v/v | 0.75 oz/a 4 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 88 a | | | 97 ab |
| 12 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.0625 lb ae/a 0.25 % v/v | 0.75 oz/a 2 fl oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 88 a | | | 92 abc |
| 13 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.125 lb ae/a 0.25 % v/v | 0.75 oz/a 4 fl oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 90 a | | | 98 ab |
| 14 | HARMONY EXTRA SG 2,4-D LV 4 NIS (ACTIVATOR 90) | 50 SG 3.8 EC 100 SL | | 0.0234 lb ai/a 0.475 lb ae/a 0.25 % v/v | 0.75 oz/a 1 pt/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 90 a | | | 97 ab |
| 15 | NONTREATED | | | | | | 0 f | 0 c | 0 b | 0 d | 0 d | 0 d | | | |

Southern Illinois University

Broadleaf Weed Control in Winter Wheat - Marestail

Trial ID: 12-ARC-25-S60
 Location: Agronomy Res. Center

Investigator: Bryan Young

| Pest Code | ALLVI | ALLVI | ALLVI | LAMPU | LAMPU | LAMPU |
|-------------------------------|------------------|-------------------------|-----------------------|------------|---------|--|
| Crop Code | 12-30-11 | 3-13-12 | 4-10-12 | 12-30-11 | 3-13-12 | 4-10-12 |
| Rating Date | | | | | | |
| Rating Type | Control | Control | Control | Control | Control | Control |
| Rating Unit | Percent | Percent | Percent | Percent | Percent | Percent |
| Rating Timing | | | | | | |
| Trt-Eval Interval | 28 DA-B | 0 DA-C | 28 DA-C | 28 DA-B | 0 DA-C | 28 DA-C |
| Trt No. | | | | | | |
| Treatment Name | | | | | | |
| Form Conc | | | | | | |
| Form Type | | | | | | |
| Rate | | | | | | |
| Rate Unit | | | | | | |
| Other Rate | | | | | | |
| Other Rate Unit | | | | | | |
| Growth Stage | | | | | | |
| Appl Code | | | | | | |
| 16 ROUNDUP POWERMAX N-PAK AMS | 4.5 SL 100 SL | 0.77 lb ae/a 5 % v/v | 22 fl oz/a 5 % v/v | PRE PRE | A A | 80 a 75 b 87 a 97 a 82 bc 88 bc |
| LSD (P=,05) | 12.6 | 9.5 | 3.7 | 15.6 | 11.3 | 10.0 |
| Standard Deviation | 7.3 | 5.5 | 2.2 | 9.0 | 6.5 | 6.0 |
| CV | 22.73 | 7.12 | 2.63 | 21.54 | 8.4 | 6.68 |
| Replicate F | 6.934 | 1.138 | 2.266 | 3.277 | 0.906 | 1.273 |
| Replicate Prob(F) | 0.0068 | 0.3449 | 0.1212 | 0.0642 | 0.4240 | 0.2946 |
| Treatment F | 34.969 | 85.831 | 308.597 | 23.291 | 62.215 | 49.189 |
| Treatment Prob(F) | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

Southern Illinois University

Broadleaf Weed Control in Winter Wheat - Marestalk

Trial ID: 12-ARC-25-S60

Location: Agronomy Res. Center

Investigator: Bryan Young

| Pest Code Crop Code Rating Date | | | | | | | CERVU | CERVU | CERVU | ALOCA | ALOCA | ALOCA | | | |
|--|--|---|--------------|--|---|---------------|--|-----------------------|--------------------|--------------------|--------------------|--------------------|-------|-----|-----|
| Rating Type Rating Unit Rating Timing Trt-Eval Interval | | | | | | | 12-30-11 | 3-13-12 | 4-10-12 | 12-30-11 | 3-13-12 | 4-10-12 | | | |
| | | | | | | | Control Percent | Control Percent | Control Percent | Control Percent | Control Percent | Control Percent | | | |
| | | | | | | | 28 DA-B | 0 DA-C | 28 DA-C | 28 DA-B | 0 DA-C | 28 DA-C | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Other Rate | Other Rate | Growth Unit | Stage | Appl Code | | | | | | |
| 1 | HARMONY EXTRA SG NIS (ACTIVATOR 90) | 50 SG 100 SL | | 0.0234 lb ai/a 0.25 % v/v | 0.75 oz/a 0.25 % v/v | | FALL FALL | B B | | 60 b | 99 a | 99 a | 0 d | 0 b | 0 b |
| 2 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 60 b | 97 a | 99 a | 10 cd | 3 b | 0 b |
| 3 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.14 lb ai/a 0.25 % v/v | 0.75 oz/a 3 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 63 b | 99 a | 99 a | 43 b | 3 b | 0 b |
| 4 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.188 lb ai/a 0.25 % v/v | 0.75 oz/a 4 oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 63 b | 99 a | 99 a | 40 b | 0 b | 0 b |
| 5 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.0625 lb ae/a 0.25 % v/v | 0.75 oz/a 2 fl oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 53 b | 98 a | 99 a | 3 d | 0 b | 0 b |
| 6 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.125 lb ae/a 0.25 % v/v | 0.75 oz/a 4 fl oz/a 0.25 % v/v | | FALL FALL FALL | B B B | | 57 b | 95 a | 99 a | 13 cd | 0 b | 0 b |
| 7 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v 2 oz/a 0.25 % v/v | | FALL FALL FALL SPRING SPRING | B B B C C | | 60 b | 99 a | 99 a | 27 bc | 7 b | 0 b |
| 8 | HARMONY EXTRA SG NIS (ACTIVATOR 90) | 50 SG 100 SL | | 0.0234 lb ai/a 0.25 % v/v | 0.75 oz/a 0.25 % v/v | | SPRING SPRING | C C | | | | 98 a | | | 0 b |
| 9 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.094 lb ai/a 0.25 % v/v | 0.75 oz/a 2 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 99 a | | | 0 b |
| 10 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.14 lb ai/a 0.25 % v/v | 0.75 oz/a 3 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 99 a | | | 0 b |
| 11 | HARMONY EXTRA SG SENCOR NIS (ACTIVATOR 90) | 50 SG 75 WG 100 SL | | 0.0234 lb ai/a 0.188 lb ai/a 0.25 % v/v | 0.75 oz/a 4 oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 99 a | | | 0 b |
| 12 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.0625 lb ae/a 0.25 % v/v | 0.75 oz/a 2 fl oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 99 a | | | 0 b |
| 13 | HARMONY EXTRA SG CLARITY NIS (ACTIVATOR 90) | 50 SG 4 SL 100 SL | | 0.0234 lb ai/a 0.125 lb ae/a 0.25 % v/v | 0.75 oz/a 4 fl oz/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 99 a | | | 0 b |
| 14 | HARMONY EXTRA SG 2,4-D LV 4 NIS (ACTIVATOR 90) | 50 SG 3.8 EC 100 SL | | 0.0234 lb ai/a 0.475 lb ae/a 0.25 % v/v | 0.75 oz/a 1 pt/a 0.25 % v/v | | SPRING SPRING SPRING | C C C | | | | 99 a | | | 0 b |
| 15 | NONTREATED | | | | | | | | | 0 c | 0 c | 0 c | 0 d | 0 b | 0 b |

Broadleaf Weed Control in Winter Wheat - Marestalk

Trial ID: 12-ARC-25-S60

Location: Agronomy Res. Center

Investigator: Bryan Young

Trial Comments

1. Protocol: DuPont (USA-12-202).
2. Ratings: CI 7, 14, and 28 DA-B and DA-C.
WC 28 DA-B, 0 DA-C, 28 DA-C.
3. Application timings,
FALL = 2-3 leaf wheat and 2 inch max weed size.
SPRING = Prior to jointing stage and 2 inch broadleaf weeds.
4. Target weed = marestalk (ERICA).
5. No yield.
6. Blanket application of Axial XL (16.4 floz/A) in spring for grass if needed, was not needed.
7. ERICA-HR = Herbicide-resistant marestalk (glyphosate).
8. Not harvested.