

Halosulfuron in No-Till Soybean Burndown.

Trial ID: 08-2B-E65

Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu  
 City State Zip Country: Belleville IL 62221 USA  
 Trial Status: FINAL Initiation Date: 05-21-08

Objectives: Evaluate the efficacy of halosulfuron applied in preplant burndown applications in no-till soybean.

Crop 1: GLXMA Soybean Variety: AG 4404 RR/STS  
 Planting Method: SEEDD Planting Date: 06-15-08  
 Rate, Unit: 75 LB/A Depth, Unit: 1.0 IN  
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: HORPU Hordeum pusillum Nutt. barley, little  
 Pest 2 Type: W Code: AMBTR Ambrosia trifida L. ragweed, giant  
 Pest 3 Type: W Code: AMBEL Ambrosia artemisiifolia L. ragweed, common  
 Pest 4 Type: W Code: ALLVI Allium vineale L. garlic, wild  
 Pest 5 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common

Plot Width, Unit: 10 FT Site Type: FIELD  
 Plot Length, Unit: 28 FT Tillage Type: NO-TILL  
 Replications: 3 Study Design: Randomized Complete Block

Prior Crops, Year  
 1. ZEAMD 2007

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 150 LB/A

% OM: 1.6 Texture: SILT LOAM  
 pH: 6.1 Soil Name: PIERRON  
 CEC: 8 Fert. Level: P1: 91 LB/A, K: 410 LB/A

## Application Description

A  
 Application Date: 05-21-08  
 Time of Day: 10:00  
 Application Method: Spray  
 Application Timing: 14EPP  
 Application Placement: BROFOL  
 Applied By: DKT  
 Air Temperature, Unit: 65 F  
 % Relative Humidity: 60  
 Wind Velocity, Unit: 5 MPH  
 Dew Presence (Y/N): N  
 Soil Temperature, Unit: 69 F  
 Soil Moisture: NORMAL

05-21-08  
 Crop stage at application: NA

## Pest Stage At Each Application

Application Date: 05-21-08  
 Weed Code: HORPU  
 Stage Majority (leaves): 8  
 Stage Min, Max: 2 8  
 Height Majority: 12 IN  
 Height Min, Max: 6 14  
 Density, Unit: 9 FT2  
 Weed Code: AMBTR  
 Stage Majority (leaves): 4  
 Stage Min, Max: 2 6  
 Height Majority: 6 IN  
 Height Min, Max: 3 8  
 Density, Unit: 3 FT2  
 Weed Code: AMBEL  
 Stage Majority (leaves): 4  
 Stage Min, Max: 2 4  
 Height Majority: 3 IN  
 Height Min, Max: 2 4  
 Density, Unit: 1 FT2  
 Weed Code: ALLVI  
 Stage Majority (leaves): 2  
 Stage Min, Max: 2 3  
 Height Majority: 20 IN  
 Height Min, Max: 7 25  
 Density, Unit: 1 FT2  
 Weed Code: AMATA  
 Stage Majority (leaves): NA

## Application Equipment

Appl. Equipment: CO2 sprayer  
 Operating Pressure: 30 PSI  
 Nozzle Type: Flat fan  
 Nozzle Size: XR 8002  
 Boom Length, Unit: 7.5 FT  
 Spray Volume, Unit: 15 GPA

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|                   |                |           |           |        |            |            |            | HORPU        | ALLVI     | AMBTR    | AMBTR    | AMBTR    | AMBTR    | AMBTR    |        |       |
|-------------------|----------------|-----------|-----------|--------|------------|------------|------------|--------------|-----------|----------|----------|----------|----------|----------|--------|-------|
|                   |                |           |           |        |            |            |            | 06-04-08     | 06-04-08  | 06-04-08 | 06-16-08 | 06-16-08 | 07-13-08 | 07-13-08 |        |       |
|                   |                |           |           |        |            |            |            | Control      | Control   | Control  | Control  | Control  | Control  | Control  |        |       |
|                   |                |           |           |        |            |            |            | Percent      | Percent   | Percent  | Percent  | Percent  | Percent  | Percent  |        |       |
|                   |                |           |           |        |            |            |            |              |           |          | w/P-Max  |          |          | w/P-Max  |        |       |
|                   |                |           |           |        |            |            |            | 14 DA-A      | 14 DA-A   | 14 DA-A  | 28 DAPP  | 28 DAPP  | 28 DAP   | 28 DAP   |        |       |
| Trt No.           | Treatment Name | Form Conc | Form Type | Rate   | Other Rate | Other Rate | Other Unit | Growth Stage | Appl Code |          |          |          |          |          |        |       |
| 1                 | NONTREATED     |           |           |        |            |            |            |              |           | 0 a      | 0 b      | 0 b      | 0 d      | 78 b     | 0 c    | 43 b  |
| 2                 | PERMIT         | 75        | WG        | 0.0314 | lb ai/a    | 0.67       | oz/a       | 14EPP        | A         | 0 a      | 0 b      | 90 a     | 86 ab    | 98 a     | 76 a   | 85 a  |
| 2                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v    |            | 1 % v/v    | 14EPP        | A         |          |          |          |          |          |        |       |
| 2                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a     |            | 3 qt/a     | 14EPP        | A         |          |          |          |          |          |        |       |
| 3                 | PERMIT         | 75        | WG        | 0.0314 | lb ai/a    | 0.67       | oz/a       | 14EPP        | A         | 0 a      | 17 b     | 63 a     | 57 bc    | 96 a     | 53 ab  | 86 a  |
| 3                 | UNITY          | 75        | WG        | 0.0039 | lb ai/a    | 0.083      | oz/a       | 14EPP        | A         |          |          |          |          |          |        |       |
| 3                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v    |            | 1 % v/v    | 14EPP        | A         |          |          |          |          |          |        |       |
| 3                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a     |            | 3 qt/a     | 14EPP        | A         |          |          |          |          |          |        |       |
| 4                 | PERMIT         | 75        | WG        | 0.0314 | lb ai/a    | 0.67       | oz/a       | 14EPP        | A         | 0 a      | 0 b      | 73 a     | 65 abc   | 98 a     | 57 ab  | 83 a  |
| 4                 | GWN-3124       |           |           |        |            | 0.33       | oz/a       | 14EPP        | A         |          |          |          |          |          |        |       |
| 4                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v    |            | 1 % v/v    | 14EPP        | A         |          |          |          |          |          |        |       |
| 4                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a     |            | 3 qt/a     | 14EPP        | A         |          |          |          |          |          |        |       |
| 5                 | PERMIT         | 75        | WG        | 0.0314 | lb ai/a    | 0.67       | oz/a       | 14EPP        | A         | 0 a      | 0 b      | 90 a     | 94 ab    | 97 a     | 94 a   | 97 a  |
| 5                 | GWN-3125       |           |           |        |            | 0.17       | oz/a       | 14EPP        | A         |          |          |          |          |          |        |       |
| 5                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v    |            | 1 % v/v    | 14EPP        | A         |          |          |          |          |          |        |       |
| 5                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a     |            | 3 qt/a     | 14EPP        | A         |          |          |          |          |          |        |       |
| 6                 | GWN-3124       |           |           |        |            | 0.33       | oz/a       | 14EPP        | A         | 0 a      | 0 b      | 27 b     | 32 cd    | 90 ab    | 32 bc  | 73 ab |
| 6                 | GWN-3125       |           |           |        |            | 0.17       | oz/a       | 14EPP        | A         |          |          |          |          |          |        |       |
| 6                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v    |            | 1 % v/v    | 14EPP        | A         |          |          |          |          |          |        |       |
| 6                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a     |            | 3 qt/a     | 14EPP        | A         |          |          |          |          |          |        |       |
| 7                 | YUKON          | 67.5      | WG        | 0.169  | lb ai/a    | 4          | oz/a       | 14EPP        | A         | 0 a      | 50 a     | 90 a     | 98 a     | 99 a     | 95 a   | 97 a  |
| 7                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v    |            | 1 % v/v    | 14EPP        | A         |          |          |          |          |          |        |       |
| 7                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a     |            | 3 qt/a     | 14EPP        | A         |          |          |          |          |          |        |       |
| 8                 | CANOPY         | 75        | WG        | 0.105  | lb ai/a    | 2.25       | oz/a       | 14EPP        | A         | 0 a      | 50 a     | 17 b     | 33 cd    | 82 b     | 23 bc  | 68 ab |
| 8                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v    |            | 1 % v/v    | 14EPP        | A         |          |          |          |          |          |        |       |
| 8                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a     |            | 3 qt/a     | 14EPP        | A         |          |          |          |          |          |        |       |
| LSD (P=.05)       |                |           |           |        |            |            |            |              | 0.0       | 17.9     | 32.5     | 37.9     | 13.1     | 41.4     | 38.9   |       |
| Replicate F       |                |           |           |        |            |            |            |              | 0.000     | 1.000    | 4.375    | 4.409    | 2.009    | 3.308    | 1.306  |       |
| Replicate Prob(F) |                |           |           |        |            |            |            |              | 1.0000    | 0.3927   | 0.0334   | 0.0327   | 0.1710   | 0.0666   | 0.3018 |       |
| Treatment F       |                |           |           |        |            |            |            |              | 0.000     | 14.714   | 11.681   | 7.702    | 3.486    | 6.255    | 1.884  |       |
| Treatment Prob(F) |                |           |           |        |            |            |            |              | 1.0000    | 0.0001   | 0.0001   | 0.0007   | 0.0223   | 0.0018   | 0.1484 |       |

Means followed by same letter do not significantly differ (P=.05, LSD)

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Location: Belleville Res. Center

|                   |          |          |          |          |          |
|-------------------|----------|----------|----------|----------|----------|
| Pest Code         | AMBEL    | AMBEL    | AMBEL    | AMBEL    | AMBEL    |
| Crop Code         |          |          |          |          |          |
| Rating Date       | 06-04-08 | 06-16-08 | 06-16-08 | 07-13-08 | 07-13-08 |
| Rating Data Type  | Control  | Control  | Control  | Control  | Control  |
| Rating Unit       | Percent  | Percent  | Percent  | Percent  | Percent  |
| Rating Timing     |          |          | w/P-Max  |          | w/P-Max  |
| Trt-Eval Interval | 14 DA-A  | 28 DAPP  | 28 DAPP  | 28 DAP   | 28 DAP   |

| Trt No.           | Treatment Name | Form Conc | Form Type | Rate   | Rate Unit | Other Rate | Other Rate Unit | Growth Stage | Appl Code |         |         |        |         |        |
|-------------------|----------------|-----------|-----------|--------|-----------|------------|-----------------|--------------|-----------|---------|---------|--------|---------|--------|
| 1                 | NONTREATED     |           |           |        |           |            |                 |              |           | 0 c     | 0 d     | 95 b   | 0 c     | 59 b   |
| 2                 | PERMIT         | 75        | WG        | 0.0314 | lb ai/a   | 0.67       | oz/a            | 14EPP        | A         | 90 a    | 99 a    | 99 a   | 95 a    | 96 a   |
| 2                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v   |            | 1 % v/v         | 14EPP        | A         |         |         |        |         |        |
| 2                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a    |            | 3 qt/a          | 14EPP        | A         |         |         |        |         |        |
| 3                 | PERMIT         | 75        | WG        | 0.0314 | lb ai/a   | 0.67       | oz/a            | 14EPP        | A         | 90 a    | 99 a    | 99 a   | 98 a    | 97 a   |
| 3                 | UNITY          | 75        | WG        | 0.0039 | lb ai/a   | 0.083      | oz/a            | 14EPP        | A         |         |         |        |         |        |
| 3                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v   |            | 1 % v/v         | 14EPP        | A         |         |         |        |         |        |
| 3                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a    |            | 3 qt/a          | 14EPP        | A         |         |         |        |         |        |
| 4                 | PERMIT         | 75        | WG        | 0.0314 | lb ai/a   | 0.67       | oz/a            | 14EPP        | A         | 90 a    | 99 a    | 99 a   | 97 a    | 98 a   |
| 4                 | GWN-3124       |           |           |        |           | 0.33       | oz/a            | 14EPP        | A         |         |         |        |         |        |
| 4                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v   |            | 1 % v/v         | 14EPP        | A         |         |         |        |         |        |
| 4                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a    |            | 3 qt/a          | 14EPP        | A         |         |         |        |         |        |
| 5                 | PERMIT         | 75        | WG        | 0.0314 | lb ai/a   | 0.67       | oz/a            | 14EPP        | A         | 90 a    | 99 a    | 99 a   | 96 a    | 90 a   |
| 5                 | GWN-3125       |           |           |        |           | 0.17       | oz/a            | 14EPP        | A         |         |         |        |         |        |
| 5                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v   |            | 1 % v/v         | 14EPP        | A         |         |         |        |         |        |
| 5                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a    |            | 3 qt/a          | 14EPP        | A         |         |         |        |         |        |
| 6                 | GWN-3124       |           |           |        |           | 0.33       | oz/a            | 14EPP        | A         | 83 b    | 93 b    | 98 a   | 83 b    | 87 a   |
| 6                 | GWN-3125       |           |           |        |           | 0.17       | oz/a            | 14EPP        | A         |         |         |        |         |        |
| 6                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v   |            | 1 % v/v         | 14EPP        | A         |         |         |        |         |        |
| 6                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a    |            | 3 qt/a          | 14EPP        | A         |         |         |        |         |        |
| 7                 | YUKON          | 67.5      | WG        | 0.169  | lb ai/a   | 4          | oz/a            | 14EPP        | A         | 90 a    | 99 a    | 99 a   | 98 a    | 98 a   |
| 7                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v   |            | 1 % v/v         | 14EPP        | A         |         |         |        |         |        |
| 7                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a    |            | 3 qt/a          | 14EPP        | A         |         |         |        |         |        |
| 8                 | CANOPY         | 75        | WG        | 0.105  | lb ai/a   | 2.25       | oz/a            | 14EPP        | A         | 83 b    | 82 c    | 99 a   | 75 b    | 96 a   |
| 8                 | PRIME OIL COC  | 100       | SL        |        | 1 % v/v   |            | 1 % v/v         | 14EPP        | A         |         |         |        |         |        |
| 8                 | N-PAK AMS      | 100       | SL        |        | 3 qt/a    |            | 3 qt/a          | 14EPP        | A         |         |         |        |         |        |
| LSD (P=.05)       |                |           |           |        |           |            |                 |              |           | 5.2     | 5.8     | 3.0    | 9.4     | 23.9   |
| Replicate F       |                |           |           |        |           |            |                 |              |           | 0.467   | 0.804   | 1.928  | 4.853   | 2.285  |
| Replicate Prob(F) |                |           |           |        |           |            |                 |              |           | 0.6365  | 0.4671  | 0.1822 | 0.0251  | 0.1385 |
| Treatment F       |                |           |           |        |           |            |                 |              |           | 329.000 | 324.010 | 2.466  | 116.416 | 2.765  |
| Treatment Prob(F) |                |           |           |        |           |            |                 |              |           | 0.0001  | 0.0001  | 0.0714 | 0.0001  | 0.0499 |

Means followed by same letter do not significantly differ (P=.05, LSD)

Halosulfuron in No-Till Soybean Burndown.

Trial ID: 08-2B-E65

Location: Belleville Res. Center

| Pest Code         |                | AMATA     |           | AMATA    |            | AMATA      |            | AMATA        |           | GLXMA    | GLXMA    |
|-------------------|----------------|-----------|-----------|----------|------------|------------|------------|--------------|-----------|----------|----------|
| Crop Code         |                | 06-16-08  |           | 06-16-08 |            | 07-13-08   |            | 07-13-08     |           | 07-04-08 | 07-04-08 |
| Rating Date       |                | Control   |           | Control  |            | Control    |            | Control      |           | Plants   | Injury   |
| Rating Data Type  |                | Percent   |           | Percent  |            | Percent    |            | Percent      |           | 000/A    | Percent  |
| Rating Unit       |                | w/P-Max   |           | w/P-Max  |            | w/P-Max    |            | w/P-Max      |           |          |          |
| Rating Timing     |                | 28 DAPP   |           | 28 DAPP  |            | 28 DAP     |            | 28 DAP       |           | 14 DAE   | 14 DAE   |
| Trt-Eval Interval |                |           |           |          |            |            |            |              |           |          |          |
| Trt No.           | Treatment Name | Form Conc | Form Type | Rate     | Other Unit | Other Rate | Other Unit | Growth Stage | Appl Code |          |          |
| 1                 | NONTREATED     |           |           |          |            |            |            |              |           | 0 b      | 0 a      |
| 2                 | PERMIT         | 75        | WG        | 0.0314   | lb ai/a    | 0.67       | oz/a       | 14EPP        | A         | 0 b      | 0 a      |
| 2                 | PRIME OIL COC  | 100       | SL        | 1        | % v/v      | 1          | % v/v      | 14EPP        | A         | 0 b      | 0 a      |
| 2                 | N-PAK AMS      | 100       | SL        | 3        | qt/a       | 3          | qt/a       | 14EPP        | A         | 0 b      | 0 a      |
| 3                 | PERMIT         | 75        | WG        | 0.0314   | lb ai/a    | 0.67       | oz/a       | 14EPP        | A         | 0 b      | 0 a      |
| 3                 | UNITY          | 75        | WG        | 0.0039   | lb ai/a    | 0.083      | oz/a       | 14EPP        | A         | 23 b     | 13 a     |
| 3                 | PRIME OIL COC  | 100       | SL        | 1        | % v/v      | 1          | % v/v      | 14EPP        | A         | 163.8 a  | 0 a      |
| 3                 | N-PAK AMS      | 100       | SL        | 3        | qt/a       | 3          | qt/a       | 14EPP        | A         |          |          |
| 4                 | PERMIT         | 75        | WG        | 0.0314   | lb ai/a    | 0.67       | oz/a       | 14EPP        | A         | 0 b      | 0 a      |
| 4                 | GWN-3124       |           |           |          |            | 0.33       | oz/a       | 14EPP        | A         | 0 b      | 0 a      |
| 4                 | PRIME OIL COC  | 100       | SL        | 1        | % v/v      | 1          | % v/v      | 14EPP        | A         | 0 b      | 0 a      |
| 4                 | N-PAK AMS      | 100       | SL        | 3        | qt/a       | 3          | qt/a       | 14EPP        | A         | 17 ab    | 17 a     |
| 5                 | PERMIT         | 75        | WG        | 0.0314   | lb ai/a    | 0.67       | oz/a       | 14EPP        | A         | 0 b      | 0 a      |
| 5                 | GWN-3125       |           |           |          |            | 0.17       | oz/a       | 14EPP        | A         | 17 a     | 166.4 a  |
| 5                 | PRIME OIL COC  | 100       | SL        | 1        | % v/v      | 1          | % v/v      | 14EPP        | A         | 0 b      | 0 a      |
| 5                 | N-PAK AMS      | 100       | SL        | 3        | qt/a       | 3          | qt/a       | 14EPP        | A         | 0 b      | 0 a      |
| 6                 | GWN-3124       |           |           |          |            | 0.33       | oz/a       | 14EPP        | A         | 0 b      | 0 a      |
| 6                 | GWN-3125       |           |           |          |            | 0.17       | oz/a       | 14EPP        | A         | 0 b      | 0 a      |
| 6                 | PRIME OIL COC  | 100       | SL        | 1        | % v/v      | 1          | % v/v      | 14EPP        | A         | 0 b      | 0 a      |
| 6                 | N-PAK AMS      | 100       | SL        | 3        | qt/a       | 3          | qt/a       | 14EPP        | A         | 86 a     | 85 a     |
| 7                 | YUKON          | 67.5      | WG        | 0.169    | lb ai/a    | 4          | oz/a       | 14EPP        | A         | 40 a     | 27 a     |
| 7                 | PRIME OIL COC  | 100       | SL        | 1        | % v/v      | 1          | % v/v      | 14EPP        | A         | 164.7 a  | 0 a      |
| 7                 | N-PAK AMS      | 100       | SL        | 3        | qt/a       | 3          | qt/a       | 14EPP        | A         |          |          |
| 8                 | CANOPY         | 75        | WG        | 0.105    | lb ai/a    | 2.25       | oz/a       | 14EPP        | A         | 17 b     | 23 b     |
| 8                 | PRIME OIL COC  | 100       | SL        | 1        | % v/v      | 1          | % v/v      | 14EPP        | A         | 10 b     | 13 a     |
| 8                 | N-PAK AMS      | 100       | SL        | 3        | qt/a       | 3          | qt/a       | 14EPP        | A         | 176.2 a  | 0 a      |
| LSD (P=.05)       |                |           |           |          |            |            |            |              |           | 19.6     | 33.8     |
| Replicate F       |                |           |           |          |            |            |            |              |           | 0.638    | 1.986    |
| Replicate Prob(F) |                |           |           |          |            |            |            |              |           | 0.5432   | 0.1741   |
| Treatment F       |                |           |           |          |            |            |            |              |           | 21.984   | 7.084    |
| Treatment Prob(F) |                |           |           |          |            |            |            |              |           | 0.0001   | 0.0010   |

Means followed by same letter do not significantly differ (P=.05, LSD)

## Trial Comments

1. Protocol: Gowan (08-03-1).
2. Ratings: CI/stunting/necrosis/chlorosis and stand counts per meter of row at 14 DAE; WC at 14 DA"A" and 28 DAP.
3. Blanket at application "A": Roundup P-Max (22 fl oz/A) + N-Pak AMS (5 % v/v), was applied as a 10 ft swath on the back of all plots, sprayed perpendicular to plots on 05-21-08.
4. DA-A = Days after 14EPP application. DAE = Days after crop emergence.  
DAPP = Days after planned planting date. DAP = Days after planting.  
w/P-Max are for back of plots where Roundup P-Max (22 fl oz/A) + N-Pak AMS (5 % v/v) was applied on 05-21-08.
5. At the Belleville Research Center the above normal rainfall in spring 2008 (no more than four consecutive rain-free days between March 22 and June 15) delayed corn and soybean planting until mid-June.
6. Following planting on June 15, rainfall was 0.29 inch 5 days later and 0.35 inch 12 days later.
7. Ratings on 6-16-08 for AMATA are questionable due to variable emergence.
8. Not harvested.