

Purdue University

Impact of Application Timing on Glyphosate Efficacy in Common Lambsquarters

Trial ID: 05-ACRE-CHEAL
Location: West Lafayette, IN

Study Dir.: Mark Loux
Investigator: Dr. William G. Johnson

GENERAL TRIAL INFORMATION

Study Director: Mark Loux
Affiliation: The Ohio State University
Investigator: Dr. William G. Johnson
Affiliation: Purdue University
Postal Code: 47907
Title: Associate Professor

TRIAL LOCATION

City: West Lafayette
State/Prov.: IN
Postal Code: 47906
Country: USA
Directions: Agronomy Center for Research and Education (ACRE) - Field 102

COOPERATOR/LANDOWNER

Cooperator: Agronomy Center for Res. & Educ.
Country: USA
Phone No: 765-463-2632
Address 1: 4540 U.S. 52 West
City: West Lafayette
State/Prov: IN
Postal Code: 47906

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The objective of this experiment is to evaluate the impact of glyphosate formulation, glyphosate rate, adjuvant rate, and application volume on lambsquarters control.

CROP AND WEED DESCRIPTION

| Weed | Code | Common Name | Scientific Name |
|------|-------|-------------------|-------------------|
| 1. | CHEAL | Chenopodium album | Chenopodium album |

Crop 1: ZEAMX CORN, FIELD

Variety: HARVEST RESIDUE

SITE AND DESIGN

Plot Width, Unit: 5 FT **Plot Length, Unit:** 30 FT **Reps:** 4
Site Type: FIELD
Tillage Type: NO-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

| | Previous Crops | Previous Pesticides | Year |
|----|----------------|---------------------|------|
| 1. | Field corn | | 2004 |

MAINTENANCE

Field Prep./Maintenance: The plot area was mowed about 15 inches above the soil surface with the farms 15 foot batwing mower about a week ahead of the spray applications. Mowing just cut off the tops of groundsel plants and the tops of the corn stalks.

SOIL DESCRIPTION

% OM: 3 **Texture:** FINE SILTY LOAM
pH: 6.3 **Soil Name:** Raub / mixed, mesic, Aquic Argiudoll
CEC: 19 **Fert. Level:** GOOD

ADDITIONAL MEASURED ELEMENTS

| Element | Quantity | Unit |
|------------|----------|----------|
| Phosphorus | 44 | LBS/ACRE |
| Potassium | 193 | LBS/ACRE |
| Calcium | 4343 | LBS/ACRE |
| LBS/ACRE | 1079 | LBS/ACRE |

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MOISTURE CONDITIONS

APPLICATION DESCRIPTION

| | A | B |
|----------------------|-------------|-------------|
| Application Date: | 24/May/2005 | 27/May/2005 |
| Time of Day: | 5:15 PM | 7:00 AM |
| Application Method: | SPRAY | SPRAY |
| Application Timing: | COLD | + 3-4 D |
| Applic. Placement: | BROFOL | BROFOL |
| Air Temp., Unit: | 67 F | 66 F |
| % Relative Humidity: | 35 | 50 |
| Wind Velocity, Unit: | 5.5 MPH | 5 MPH |
| Dew Presence (Y/N): | N | Y |
| Soil Temp., Unit: | 70 F | 54 F |
| Soil Moisture: | DRY | DRY |
| % Cloud Cover: | 75 | 15 |

CROP STAGE AT EACH APPLICATION

| | A | B |
|---------------------|-----------|-----------|
| Crop 1 Code, Stage: | ZEAMX 80% | ZEAMX 80% |
| Stage Scale: | Residue | Residue |

WEED STAGE AT EACH APPLICATION

| | A | B |
|---------------------|---------|---------|
| Weed 1 Code, Stage: | CHEAL | CHEAL |
| Stage Scale: | 2-6" | 2-6" |
| Density, Unit: | 300 YD2 | 300 YD2 |

APPLICATION EQUIPMENT

| | A | B |
|-----------------------|-----------|-----------|
| Appl. Equipment: | CO2 BACKP | CO2 BACKP |
| Operating Pressure: | 25-26 psi | 25-26 psi |
| Nozzle Type: | XR? VS | XR? VS |
| Nozzle Size: | comments | comments |
| Nozzle Spacing, Unit: | 20 IN | 20 IN |
| Boom Length, Unit: | 5 FT | 5 FT |
| Boom Height, Unit: | 20 IN | 20 IN |
| Ground Speed, Unit: | 3 MPH | 3 MPH |
| Carrier: | WATER | WATER |
| Spray Volume, Unit: | 10 GPA | 20 GPA |
| Propellant: | CO2 | CO2 |

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Trial ID: 05-ACRE-CHEAL
 Location: West Lafayette, IN

Study Dir.: Mark Loux
 Investigator: Dr. William G. Johnson

| | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL | |
|---------|-----------------|-------|-----------|--------------|--------------|----------|-----------|------------|------------|-------------|-------------|-------------|----|
| | | | | | | | | NA | NA | NA | NA | NA | |
| | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | |
| | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy | |
| | | | | | | | | % | % | % | % | % | |
| | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 | |
| | | | | | | | | NA | NA | NA | NA | NA | |
| | | | | | | | | NA | NA | NA | NA | NA | |
| | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" | |
| | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | |
| | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD | |
| | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B | |
| Trt No. | Treatment Name | Rate | Rate Unit | Product Rate | Product Unit | Grow Stg | Appl Code | Plot | 1 | 2 | 3 | 4 | 5 |
| 1 | Weed free check | | | | | | | 101 | 0 | 0* | 0 | 0* | 0 |
| | | | | | | | | 403 | 0 | 0 | 0* | 0 | 0* |
| | | | | | | | | 519 | 0 | 0 | 0* | 0 | 0* |
| | | | | | | | | 803 | 0 | 0 | 0* | 0 | 0* |
| | | | | | | | | Mean = | 0 | 0 | 0 | 0 | 0 |
| 2 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCAL | 102 | 75 | 90 | | 90 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | 404 | 68 | 75 | | 83 | |
| | NIS | 0 | % v/v | | % v/v | POST | TTCAL | 620 | 50 | 83* | | 73 | |
| | | | | | | | | 716 | 75 | 83* | | 99 | |
| | | | | | | | | Mean = | 67 | 83 | | 86 | |
| 3 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCAL | 103 | 78 | 90 | | 93 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | 418 | 65 | 78 | | 73 | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTCAL | 626 | 65 | 80 | | 90 | |
| | | | | | | | | 714 | 80 | 83* | | 99 | |
| | | | | | | | | Mean = | 72 | 83 | | 89 | |
| 4 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCAL | 104 | 83 | 93 | | 95 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | 325 | 88 | 98 | | 100 | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTCAL | 608 | 80 | 88 | | 96 | |
| | | | | | | | | 706 | 88 | 98 | | 100 | |
| | | | | | | | | Mean = | 85 | 94 | | 98 | |
| 5 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCBL | 105 | 68 | 80 | | 88 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBL | 301 | 70 | 83 | | 95 | |
| | NIS | 0 | % v/v | | % v/v | POST | TTCBL | 504 | 80 | 96 | | 98 | |
| | | | | | | | | 702 | 80 | 93 | | 90 | |
| | | | | | | | | Mean = | 75 | 88 | | 93 | |
| 6 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCBL | 106 | 70 | 83 | | 90 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBL | 423 | 50 | 50 | | 55 | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTCBL | 601 | 50 | 68 | | 75 | |
| | | | | | | | | 820 | 70 | 83 | | 83 | |
| | | | | | | | | Mean = | 60 | 71 | | 76 | |
| 7 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCBL | 107 | 65 | 78 | | 85 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBL | 408 | 53 | 75 | | 83 | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTCBL | 502 | 88 | 93 | | 99 | |
| | | | | | | | | 810 | 55 | 68 | | 75 | |
| | | | | | | | | Mean = | 65 | 79 | | 86 | |
| 8 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCAL | 108 | 68 | 80 | | 85 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | 320 | 83 | 95 | | 99 | |
| | NIS | 0 | % v/v | | % v/v | POST | TTCAL | 507 | 90 | 97 | | 99 | |
| | | | | | | | | 804 | 75 | 90 | | 95 | |
| | | | | | | | | Mean = | 79 | 91 | | 95 | |

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| | | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
|---------|------------------|-------|---------|--------------|-------------------|----------|-----------|--------|------------|------------|-------------|-------------|-------------|
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| | | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| | | | | | | | | | % | % | % | % | % |
| | | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| | | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| | | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| | | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt No. | Treatment Name | Rate | Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | Plot | 1 | 2 | 3 | 4 | 5 |
| 9 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCBH | 109 | 73 | 88 | | 90 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBH | 303 | 80 | 90 | | 99 | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTCBH | 515 | 83 | 90 | | 97 | |
| | | | | | | | | 808 | 73 | 85 | | 95 | |
| | | | | | | | | Mean = | 77 | 88 | | 95 | |
| 10 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCBH | 110 | 80 | 95 | | 97 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBH | 419 | 70 | 88 | | 90 | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTCBH | 612 | 75 | 86 | | 90 | |
| | | | | | | | | 709 | 90 | 97 | | 99 | |
| | | | | | | | | Mean = | 79 | 92 | | 94 | |
| 11 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCBH | 111 | 80 | 95 | | 95 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBH | 411 | 63 | 80 | | 83 | |
| | NIS | 0 | % v/v | | % v/v | POST | TTCBH | 615 | 60 | 85 | | 95 | |
| | | | | | | | | 807 | 68 | 80 | | 83 | |
| | | | | | | | | Mean = | 68 | 85 | | 89 | |
| 12 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCBH | 112 | 80 | 95 | | 95 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBH | 304 | 85 | 95 | | 99 | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTCBH | 523 | 78 | 95 | | 99 | |
| | | | | | | | | 825 | 85 | 95 | | 100 | |
| | | | | | | | | Mean = | 82 | 95 | | 98 | |
| 13 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCBH | 113 | 85 | 97 | | 97 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBH | 308 | 85 | 99 | | 99 | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTCBH | 606 | 80 | 95 | | 97 | |
| | | | | | | | | 816 | 75 | 90 | | 95 | |
| | | | | | | | | Mean = | 81 | 95 | | 97 | |
| 14 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCAL | 114 | 45 | 55 | | 65 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAL | 416 | 50 | 60 | | 58 | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTCAL | 607 | 45 | 70 | | 75 | |
| | | | | | | | | 708 | 58 | 78 | | 90 | |
| | | | | | | | | Mean = | 50 | 66 | | 72 | |
| 15 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCAL | 115 | 53 | 65 | | 70 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAL | 321 | 78 | 90 | | 98 | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTCAL | 508 | 83 | 97 | | 97 | |
| | | | | | | | | 710 | 75 | 90 | | 97 | |
| | | | | | | | | Mean = | 72 | 86 | | 91 | |
| 16 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCAL | 116 | 58 | 75 | | 78 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAL | 425 | 75 | 85 | | 90 | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTCAL | 518 | 75 | 95 | | 95 | |
| | | | | | | | | 712 | 75 | 85* | | 98 | |
| | | | | | | | | Mean = | 71 | 85 | | 90 | |
| 17 | Weed free check | | | | | | | 117 | 0 | 0 | | 0 | |
| | | | | | | | | 422 | 0 | 0 | | 0 | |
| | | | | | | | | 611 | 0 | 0 | | 0 | |
| | | | | | | | | 722 | 0 | 0 | | 0 | |
| | | | | | | | | Mean = | 0 | 0 | | 0 | |

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| Weed Code | | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
|--------------------|------------------|-------|---------|--------------|-------------------|----------|-----------|------|------------|------------|-------------|-------------|-------------|
| Crop Code | | | | | | | | | NA | NA | NA | NA | NA |
| Part Rated | | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| Rating Data Type | | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| Rating Unit | | | | | | | | | % | % | % | % | % |
| Rating Date | | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| Crop Stage | | | | | | | | | NA | NA | NA | NA | NA |
| Crop Stage Scale | | | | | | | | | NA | NA | NA | NA | NA |
| Weed Stage | | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| Weed Density, Unit | | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| Assessed By | | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| Tri-Eval Interval | | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt No. | Treatment Name | Rate | Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | Plot | 1 | 2 | 3 | 4 | 5 |
| 18 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCBL | 118 | 58 | 60 | | 68 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBL | 421 | 55 | 60 | | 73 | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTCBL | 506 | 70 | 90 | | 93 | |
| | | | | | | | | 805 | 45 | 70 | | 75 | |
| | Mean = | | | | | | | | 57 | 70 | | 77 | |
| 19 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCBL | 119 | 60 | 75 | | 80 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBL | 415 | 60 | 70 | | 73 | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTCBL | 616 | 50 | 73 | | 85 | |
| | | | | | | | | 812 | 55 | 60 | | 75 | |
| | Mean = | | | | | | | | 56 | 70 | | 78 | |
| 20 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCBL | 120 | 68 | 85 | | 90 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBL | 412 | 60 | 75 | | 70 | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTCBL | 521 | 70 | 93 | | 98 | |
| | | | | | | | | 806 | 70 | 83 | | 88 | |
| | Mean = | | | | | | | | 67 | 84 | | 87 | |
| 21 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCAH | 121 | 65 | 70 | | 80 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAH | 312 | 50 | 75 | | 90 | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTCAH | 525 | 65 | 95 | | 99 | |
| | | | | | | | | 815 | 63 | 60 | | 83 | |
| | Mean = | | | | | | | | 61 | 75 | | 88 | |
| 22 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCAH | 122 | 75 | 95 | | 98 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAH | 315 | 75 | 93 | | 98 | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTCAH | 503 | 83 | 95 | | 99 | |
| | | | | | | | | 811 | 60 | 78 | | 88 | |
| | Mean = | | | | | | | | 73 | 90 | | 96 | |
| 23 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCAH | 123 | 60 | 95 | | 98 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAH | 307 | 73 | 95 | | 99 | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTCAH | 621 | 53 | 75 | | 88 | |
| | | | | | | | | 809 | 73 | 80 | | 85 | |
| | Mean = | | | | | | | | 65 | 86 | | 93 | |
| 24 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCBH | 124 | 68 | 95 | | 98 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBH | 326 | 78 | 95 | | 99 | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTCBH | 603 | 58 | 73 | | 85 | |
| | | | | | | | | 720 | 85 | 97 | | 99 | |
| | Mean = | | | | | | | | 72 | 90 | | 95 | |
| 25 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCBH | 125 | 78 | 95 | | 98 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBH | 417 | 63 | 78 | | 75 | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTCBH | 602 | 70 | 85 | | 93 | |
| | | | | | | | | 822 | 73 | 85 | | 95 | |
| | Mean = | | | | | | | | 71 | 86 | | 90 | |
| 26 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCBH | 126 | 85 | 98 | | 98 | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBH | 309 | 68 | 80 | | 90 | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTCBH | 522 | 80 | 95 | | 99 | |
| | | | | | | | | 704 | 85 | 95 | | 98 | |
| | Mean = | | | | | | | | 80 | 92 | | 96 | |

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| | | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
|---------|-----------------|-------|---------|--------------|-------------------|----------|-----------|------|------------|------------|-------------|-------------|-------------|
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| | | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| | | | | | | | | | % | % | % | % | % |
| | | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| | | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| | | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| | | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt No. | Treatment Name | Rate | Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | Plot | 1 | 2 | 3 | 4 | 5 |
| 27 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWAL | 201 | 30 | | 65 | | 80 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAL | 324 | 30 | | 90 | | 97 |
| | NIS | 0 | % v/v | | % v/v | POST | TTWAL | 516 | 50 | | 75 | | 93 |
| | | | | | | | | 814 | 40 | | 58 | | 73 |
| | Mean = | | | | | | | | 38 | | 72 | | 86 |
| 28 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWAL | 202 | 35 | | 68 | | 85 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAL | 317 | 35 | | 60 | | 75 |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTWAL | 509 | 55 | | 83 | | 95 |
| | | | | | | | | 719 | 40 | | 80 | | 93 |
| | Mean = | | | | | | | | 41 | | 73 | | 87 |
| 29 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWAL | 203 | 35 | | 70 | | 83 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAL | 323 | 45 | | 88 | | 95 |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTWAL | 524 | 35 | | 50 | | 88 |
| | | | | | | | | 817 | 45 | | 63 | | 78 |
| | Mean = | | | | | | | | 40 | | 68 | | 86 |
| 30 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWBL | 204 | 25 | | 58 | | 70 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBL | 313 | 30 | | 50 | | 70 |
| | NIS | 0 | % v/v | | % v/v | POST | TTWBL | 617 | 30 | | 45 | | 65 |
| | | | | | | | | 701 | 35 | | 65 | | 85 |
| | Mean = | | | | | | | | 30 | | 55 | | 73 |
| 31 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWBL | 205 | 20 | | 58 | | 70 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBL | 413 | 20 | | 50 | | 58 |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTWBL | 610 | 38 | | 68 | | 83 |
| | | | | | | | | 725 | 40 | | 70 | | 93 |
| | Mean = | | | | | | | | 30 | | 62 | | 76 |
| 32 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWBL | 206 | 25 | | 60 | | 73 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBL | 310 | 30 | | 45 | | 68 |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTWBL | 605 | 25 | | 50 | | 75 |
| | | | | | | | | 826 | 35 | | 65 | | 85 |
| | Mean = | | | | | | | | 29 | | 55 | | 75 |
| 33 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWAH | 207 | 35 | | 73 | | 80 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAH | 405 | 40 | | 60 | | 80 |
| | NIS | 0 | % v/v | | % v/v | POST | TTWAH | 614 | 40 | | 65 | | 80 |
| | | | | | | | | 705 | 50 | | 88 | | 97 |
| | Mean = | | | | | | | | 41 | | 72 | | 84 |
| 34 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWAH | 208 | 45 | | 80 | | 88 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAH | 409 | 43 | | 80 | | 88 |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTWAH | 625 | 35 | | 78 | | 90 |
| | | | | | | | | 726 | 55 | | 97 | | 100 |
| | Mean = | | | | | | | | 45 | | 84 | | 92 |
| 35 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWAH | 209 | 35 | | 75 | | 83 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAH | 306 | 50 | | 80 | | 93 |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTWAH | 624 | 33 | | 65 | | 83 |
| | | | | | | | | 723 | 45 | | 98 | | 95 |
| | Mean = | | | | | | | | 41 | | 80 | | 89 |

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| | | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
|---------|------------------|-------|-----------|--------------|-------------------|----------|-----------|--------|------------|------------|-------------|-------------|-------------|
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| | | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| | | | | | | | | | % | % | % | % | % |
| | | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| | | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| | | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| | | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt No. | Treatment Name | Rate | Rate Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | Plot | 1 | 2 | 3 | 4 | 5 |
| 36 | Weed free check | | | | | | | 210 | 0 | | 0 | | 0 |
| | | | | | | | | 316 | 0 | | 0 | | 0 |
| | | | | | | | | 512 | 0 | | 0 | | 0 |
| | | | | | | | | 703 | 0 | | 0 | | 0 |
| | | | | | | | | Mean = | 0 | | 0 | | 0 |
| 37 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWBH | 211 | 45 | | 75 | | 80 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBH | 407 | 25 | | 73 | | 85 |
| | NIS | 0 | % v/v | | % v/v | POST | TTWBH | 513 | 40 | | 78 | | 93 |
| | | | | | | | | 823 | 35 | | 68 | | 85 |
| | | | | | | | | Mean = | 36 | | 74 | | 86 |
| 38 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWBH | 212 | 45 | 95* | 77 | | 85 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBH | 305 | 40 | 95* | 70 | | 88 |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTWBH | 514 | 40 | 95* | 70 | | 93 |
| | | | | | | | | 715 | 50 | 95 | 80 | | 90 |
| | | | | | | | | Mean = | 44 | 95 | 74 | | 89 |
| 39 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWBH | 213 | 45 | | 77 | | 83 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBH | 319 | 35 | | 63 | | 85 |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTWBH | 501 | 35 | | 70 | | 93 |
| | | | | | | | | 824 | 30 | | 68 | | 90 |
| | | | | | | | | Mean = | 36 | | 70 | | 88 |
| 40 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWAL | 214 | 20 | | 38 | | 60 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAL | 410 | 25 | | 45 | | 65 |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTWAL | 505 | 28 | | 50 | | 78 |
| | | | | | | | | 717 | 30 | | 58 | | 75 |
| | | | | | | | | Mean = | 26 | | 48 | | 70 |
| 41 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWAL | 215 | 30 | | 45 | | 65 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAL | 314 | 30 | | 48 | | 75 |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTWAL | 618 | 30 | | 48 | | 73 |
| | | | | | | | | 813 | 38 | | 48 | | 70 |
| | | | | | | | | Mean = | 32 | | 47 | | 71 |
| 42 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWAL | 216 | 35 | 68* | 55 | | 73 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAL | 424 | 30 | 68* | 55 | | 70 |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTWAL | 619 | 30 | 68 | 53 | | 75 |
| | | | | | | | | 718 | 45 | 68* | 75 | | 93 |
| | | | | | | | | Mean = | 35 | 68 | 60 | | 78 |
| 43 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWBL | 217 | 30 | | 35 | | 60 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBL | 426 | 30 | | 43 | | 60 |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTWBL | 517 | 25 | | 45 | | 75 |
| | | | | | | | | 821 | 25 | | 35 | | 50 |
| | | | | | | | | Mean = | 28 | | 40 | | 61 |
| 44 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWBL | 218 | 40 | | 48 | | 65 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBL | 311 | 35 | | 60 | | 80 |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTWBL | 609 | 40 | | 68 | | 83 |
| | | | | | | | | 707 | 45 | | 65 | | 80 |
| | | | | | | | | Mean = | 40 | | 60 | | 77 |

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| | | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
|-----|------------------|-------|---------|---------|-----------|------|--------|--------|------------|------------|-------------|-------------|-------------|
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| | | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| | | | | | | | | | % | % | % | % | % |
| | | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| | | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| | | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| | | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt | Treatment | Rate | Unit | Product | Product | Grow | Appl | Plot | 1 | 2 | 3 | 4 | 5 |
| No. | Name | | | Rate | Rate Unit | Stg | Code | | | | | | |
| 45 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWBL | 219 | 40 | | 65 | | 85 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBL | 318 | 35 | | 70 | | 85 |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTWBL | 520 | 30 | | 53 | | 80 |
| | | | | | | | | 818 | 45 | | 63 | | 78 |
| | | | | | | | | Mean = | 38 | . | 63 | . | 82 |
| 46 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWAH | 220 | 45 | | 65 | | 85 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAH | 302 | 35 | | 60 | | 80 |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTWAH | 622 | 30 | | 50 | | 75 |
| | | | | | | | | 801 | 25 | | 53 | | 73 |
| | | | | | | | | Mean = | 34 | . | 57 | . | 78 |
| 47 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWAH | 221 | 50 | 95* | 69 | | 85 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAH | 401 | 30 | 95* | 50 | | 75 |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTWAH | 623 | 35 | 95* | 58 | | 78 |
| | | | | | | | | 713 | 50 | 95 | 78 | | 90 |
| | | | | | | | | Mean = | 41 | 95 | 64 | . | 82 |
| 48 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWAH | 222 | 50 | | 78 | | 90 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAH | 420 | 40 | | 73 | | 83 |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTWAH | 511 | 43 | | 78 | | 93 |
| | | | | | | | | 721 | 45 | | 95 | | 98 |
| | | | | | | | | Mean = | 45 | . | 81 | . | 91 |
| 49 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWBH | 223 | 40 | | 50 | | 80 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBH | 322 | 35 | | 48 | | 78 |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTWBH | 510 | 40 | | 50 | | 88 |
| | | | | | | | | 802 | 30 | | 53 | | 73 |
| | | | | | | | | Mean = | 36 | . | 50 | . | 80 |
| 50 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWBH | 224 | 25 | | 58 | | 85 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBH | 406 | 40 | | 65 | | 83 |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTWBH | 613 | 40 | | 58 | | 80 |
| | | | | | | | | 724 | 40 | | 78 | | 90 |
| | | | | | | | | Mean = | 36 | . | 65 | . | 85 |
| 51 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWBH | 225 | 40 | 95* | 83 | | 93 |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBH | 402 | 30 | 95* | 33 | | 80 |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTWBH | 526 | 40 | 95* | 78 | | 97 |
| | | | | | | | | 711 | 45 | 95 | 70 | | 88 |
| | | | | | | | | Mean = | 39 | 95 | 66 | . | 90 |
| 52 | Weed free check | | | | | | | 226 | 0 | | 0 | | 0 |
| | | | | | | | | 414 | 0 | | 0 | | 0 |
| | | | | | | | | 604 | 0 | | 0 | | 0 |
| | | | | | | | | 819 | 0 | | 0 | | 0 |
| | | | | | | | | Mean = | 0 | . | 0 | . | 0 |

Purdue University

Impact of Application Timing on Glyphosate Efficacy in Common Lambsquarters

Trial ID: 05-ACRE-CHEAL
 Location: West Lafayette, IN

Study Dir.: Mark Loux
 Investigator: Dr. William G. Johnson

| | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
|---------|-----------------|-------|-----------|--------------|-------------------|----------|-----------|------------|------------|-------------|-------------|-------------|
| | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| | | | | | | | | % | % | % | % | % |
| | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt No. | Treatment Name | Rate | Rate Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | 1 | 2 | 3 | 4 | 5 |
| 1 | Weed free check | | | | | | | 0 | 0 | 0 | 0 | 0 |
| 2 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCAL | 67 d-h | 83 a-d | | 86 b-f | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | | | | | |
| | NIS | 0 | % v/v | | % v/v | POST | TTCAL | | | | | |
| 3 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCAL | 72 b-e | 83 a-d | | 89 a-e | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTCAL | | | | | |
| 4 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCAL | 85 a | 94 a | | 98 ab | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTCAL | | | | | |
| 5 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCBL | 75 a-e | 88 ab | | 93 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBL | | | | | |
| | NIS | 0 | % v/v | | % v/v | POST | TTCBL | | | | | |
| 6 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCBL | 60 g-j | 71 de | | 76 fg | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTCBL | | | | | |
| 7 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTCBL | 65 e-i | 79 b-e | | 86 c-f | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTCBL | | | | | |
| 8 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCAL | 79 abc | 91 ab | | 95 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | | | | | |
| | NIS | 0 | % v/v | | % v/v | POST | TTCAL | | | | | |
| 9 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCAL | 77 a-d | 88 ab | | 95 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTCAL | | | | | |
| 10 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCAL | 79 abc | 92 a | | 94 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCAL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTCAL | | | | | |
| 11 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCBH | 68 d-g | 85 abc | | 89 a-d | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBH | | | | | |
| | NIS | 0 | % v/v | | % v/v | POST | TTCBH | | | | | |
| 12 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCBH | 82 ab | 95 a | | 98 a | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBH | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTCBH | | | | | |
| 13 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTCBH | 81 abc | 95 a | | 97 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTCBH | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTCBH | | | | | |

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| Weed Code | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
|--------------------|------------------|-------|---------|--------------|-------------------|----------|-----------|------------|------------|-------------|-------------|-------------|
| Crop Code | | | | | | | | NA | NA | NA | NA | NA |
| Part Rated | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| Rating Data Type | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| Rating Unit | | | | | | | | % | % | % | % | % |
| Rating Date | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| Crop Stage | | | | | | | | NA | NA | NA | NA | NA |
| Crop Stage Scale | | | | | | | | NA | NA | NA | NA | NA |
| Weed Stage | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| Weed Density, Unit | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| Assessed By | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| Tri-Eval Interval | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt No. | Treatment Name | Rate | Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | 1 | 2 | 3 | 4 | 5 |
| 14 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCAL | 50 jk | 66 e | | 72 g | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTCAL | | | | | |
| 15 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCAL | 72 b-e | 86 abc | | 91 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTCAL | | | | | |
| 16 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCAL | 71 c-f | 85 abc | | 90 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAL | | | | | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTCAL | | | | | |
| 17 | Weed free check | | | | | | | 0 s | 0 f | | 0 h | |
| 18 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCBL | 57 hij | 70 de | | 77 efg | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTCBL | | | | | |
| 19 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCBL | 56 ij | 70 e | | 78 d-g | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTCBL | | | | | |
| 20 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTCBL | 67 d-h | 84 abc | | 87 b-f | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBL | | | | | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTCBL | | | | | |
| 21 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCAH | 61 f-i | 75 cde | | 88 a-e | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAH | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTCAH | | | | | |
| 22 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCAH | 73 b-e | 90 ab | | 96 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAH | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTCAH | | | | | |
| 23 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCAH | 65 e-i | 86 abc | | 93 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCAH | | | | | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTCAH | | | | | |
| 24 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCBH | 72 b-e | 90 ab | | 95 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBH | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTCBH | | | | | |
| 25 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCBH | 71 c-f | 86 abc | | 90 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBH | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTCBH | | | | | |
| 26 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTCBH | 80 abc | 92 a | | 96 abc | |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTCBH | | | | | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTCBH | | | | | |
| 27 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWAL | 38 l-q | | 72 a-f | | 86 a-f |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAL | | | | | |
| | NIS | 0 | % v/v | | % v/v | POST | TTWAL | | | | | |

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| | | | | | | | | CHEAL NA | CHEAL NA | CHEAL NA | CHEAL NA | CHEAL NA |
|---------|------------------|-------|---------|--------------|-------------------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| | | | | | | | | PLAQUA P |
| | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| | | | | | | | | % | % | % | % | % |
| | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| | | | | | | | | 300 YD2 |
| | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt No. | Treatment Name | Rate | Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | 1 | 2 | 3 | 4 | 5 |
| 28 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWAL | 41 k-n | | 73 a-e | | 87 a-d |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTWAL | | | | | |
| 29 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWAL | 40 k-o | | 68 c-h | | 86 a-e |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTWAL | | | | | |
| 30 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWBL | 30 o-r | | 55 ijk | | 73 hij |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBL | | | | | |
| | NIS | 0 | % v/v | | % v/v | POST | TTWBL | | | | | |
| 31 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWBL | 30 o-r | | 62 d-j | | 76 f-j |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTWBL | | | | | |
| 32 | Touchdown Total | 0.56 | lb ae/a | 17.2 | fl oz/a | POST | TTWBL | 29 pqr | | 55 h-k | | 75 g-j |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTWBL | | | | | |
| 33 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWAH | 41 k-n | | 72 a-f | | 84 a-g |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAH | | | | | |
| | NIS | 0 | % v/v | | % v/v | POST | TTWAH | | | | | |
| 34 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWAH | 45 kl | | 84 a | | 92 a |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAH | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTWAH | | | | | |
| 35 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWAH | 41 k-n | | 80 abc | | 89 ab |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWAH | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTWAH | | | | | |
| 36 | Weed free check | | | | | | | 0 s | | 0 m | | 0 l |
| 37 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWBH | 36 l-r | | 74 a-d | | 86 a-f |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBH | | | | | |
| | NIS | 0 | % v/v | | % v/v | POST | TTWBH | | | | | |
| 38 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWBH | 44 klm | 95 a | 74 a-d | | 89 ab |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBH | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | TTWBH | | | | | |
| 39 | Touchdown Total | 0.75 | lb ae/a | 23 | fl oz/a | POST | TTWBH | 36 l-r | | 70 b-g | | 88 abc |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | TTWBH | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | TTWBH | | | | | |
| 40 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWAL | 26 r | | 48 kl | | 70 jk |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTWAL | | | | | |
| 41 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWAL | 32 n-r | | 47 kl | | 71 ijk |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTWAL | | | | | |

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| | | | | | | | | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
|--------------------|------------------|-------|---------|---------|-----------|------|--------|------------|------------|-------------|-------------|-------------|
| | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| | | | | | | | | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| | | | | | | | | % | % | % | % | % |
| | | | | | | | | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| | | | | | | | | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| | | | | | | | | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| | | | | | | | | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |
| Trt | Treatment | Rate | Unit | Product | Product | Grow | Appl | | | | | |
| No. | Name | | | Rate | Rate Unit | Stg | Code | 1 | 2 | 3 | 4 | 5 |
| 42 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWAL | 35 l-r | 68 e | 60 f-k | | 78 d-j |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAL | | | | | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTWAL | | | | | |
| 43 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWBL | 28 qr | | 40 l | | 61 k |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBL | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTWBL | | | | | |
| 44 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWBL | 40 k-o | | 60 e-k | | 77 e-j |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBL | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTWBL | | | | | |
| 45 | Touchdown HiTech | 0.56 | lb ae/a | 14.3 | fl oz/a | POST | THTWBL | 38 l-q | | 63 d-j | | 82 a-h |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBL | | | | | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTWBL | | | | | |
| 46 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWAH | 34 m-r | | 57 g-k | | 78 c-j |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAH | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTWAH | | | | | |
| 47 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWAH | 41 k-n | 95 a | 64 d-i | | 82 a-h |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAH | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTWAH | | | | | |
| 48 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWAH | 45 kl | | 81 ab | | 91 a |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWAH | | | | | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTWAH | | | | | |
| 49 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWBH | 36 l-r | | 50 jkl | | 80 b-i |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBH | | | | | |
| | NIS | 0.125 | % v/v | 0.125 | % v/v | POST | THTWBH | | | | | |
| 50 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWBH | 36 l-r | | 65 d-i | | 85 a-g |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBH | | | | | |
| | NIS | 0.25 | % v/v | 0.25 | % v/v | POST | THTWBH | | | | | |
| 51 | Touchdown HiTech | 0.75 | lb ae/a | 19.2 | fl oz/a | POST | THTWBH | 39 l-p | 95 a | 66 d-i | | 90 ab |
| | AMS | 2.5 | lb ai/a | 2.5 | lb ai/a | POST | THTWBH | | | | | |
| | NIS | 0.5 | % v/v | 0.5 | % v/v | POST | THTWBH | | | | | |
| 52 | Weed free check | | | | | | | 0 s | | 0 m | | 0 l |
| LSD (P=.05) | | | | | | | | 10.6 | 12.8 | 13.2 | 11.7 | 9.9 |
| Standard Deviation | | | | | | | | 7.5 | 9.1 | 9.4 | 8.3 | 7.0 |
| CV | | | | | | | | 15.02 | 11.08 | 15.85 | 9.62 | 9.37 |
| Grand Mean | | | | | | | | 50.24 | 81.88 | 59.05 | 85.9 | 75.1 |
| Bartlett's X2 | | | | | | | | 37.019 | 20.247 | 33.957 | 34.86 | 17.868 |
| P(Bartlett's X2) | | | | | | | | 0.851 | 0.568 | 0.066 | 0.054 | 0.765 |
| Replicate F | | | | | | | | 3.188 | 1.221 | 3.917 | 2.404 | 3.966 |
| Replicate Prob(F) | | | | | | | | 0.0255 | 0.3088 | 0.0118 | 0.0745 | 0.0111 |
| Treatment F | | | | | | | | 33.861 | 15.989 | 19.191 | 21.766 | 43.943 |
| Treatment Prob(F) | | | | | | | | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

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

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| | | | | | |
|--------------------|------------|------------|-------------|-------------|-------------|
| Weed Code | CHEAL | CHEAL | CHEAL | CHEAL | CHEAL |
| Crop Code | NA | NA | NA | NA | NA |
| Part Rated | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P | PLAQUA P |
| Rating Data Type | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
| Rating Unit | % | % | % | % | % |
| Rating Date | 3/Jun/2005 | 8/Jun/2005 | 10/Jun/2005 | 20/Jun/2005 | 24/Jun/2005 |
| Crop Stage | NA | NA | NA | NA | NA |
| Crop Stage Scale | NA | NA | NA | NA | NA |
| Weed Stage | 1-6" | 1-8" | 1-8" | 2-12" | 3-14" |
| Weed Density, Unit | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 | 300 YD2 |
| Assessed By | VD & WJ | VMD+VAM | VMD+VAM | VMD | VMD |
| Tri-Eval Interval | 10 DA-A | 15 DA-A | 14 DA-B | 27 DA-A | 28 DA-B |

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 1 excluded from analysis.