

North Carolina State University

Roundup Testing in Roundup Tolerant Fescue

Trial ID: 02-D41 Study Dir.: Travis Gannon
 Location: NCSU Turf Field Lab Investigator: Fred Yelverton

GENERAL TRIAL INFORMATION

Study Director: Travis Gannon **Title:** Research Associate
Affiliation: North Carolina State University
Postal Code: 27695
Investigator: Fred Yelverton **Title:** Professor
Affiliation: North Carolina State University
Postal Code: 27695

TRIAL LOCATION

City: Raleigh **Trial Status:** Completed
State/Prov.: NC
Postal Code: 27695 **Initiation Date:** 05-30-02
Country: USA

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

Crop 1: FESAR tall fescue **Variety:** Pure Gold
Planting Date: 10-16-01 **Planting Method:** broadcast seeded
Rate: 8 lb/1000ft²
Seed Bed: tilled

Crop 2: FES hard fescue **Variety:** Aurora Gold
Planting Date: 10-16-01 **Planting Method:** broadcast seeded
Rate: 12 lb/1000ft²
Seed Bed: tilled

Crop 3: FESAR tall fescue **Variety:** Tomahawk RT
Planting Date: 10-16-01 **Planting Method:** broadcast seeded
Rate: 8 lb/1000ft²
Seed Bed: tilled

Crop 4: FESAR tall fescue **Variety:** Confederate
Planting Date: 10-16-01 **Planting Method:** broadcast seeded
Rate: 8 lb/1000ft²
Seed Bed: tilled

SITE AND DESIGN

Plot Width, Unit: 5 FT **Plot Length, Unit:** 6 FT **Reps:** 4
Study Design: SPLIT-PLOT

APPLICATION DESCRIPTION

| | A | B |
|-----------------------------|----------|-----------|
| Application Date: | 10-16-01 | 05-30-02 |
| Time of Day: | 9-5 PM | 10-12NOON |
| Application Method: | SEEDED | SPRAY |
| Application Timing: | PLANT | MAY 30 |
| Applic. Placement: | | FOLIAR |
| Air Temp., Unit: | 78.6 F | 84.1 F |
| % Relative Humidity: | 34 | 51 |
| Wind Velocity, Unit: | 2.2 MPH | 1.1 MPH |
| Dew Presence (Y/N): | N | N |
| Soil Temp., Unit: | 69 F | 78 F |
| Soil Moisture: | GOOD | DRY |
| % Cloud Cover: | 40 | 60 |

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CROP STAGE AT EACH APPLICATION

| | A | B |
|---------------------|-------------|-----------|
| Crop 1 Code, Stage: | FESAR PLANT | FESAR |
| Stage Scale: | | FALL EST. |
| Crop 2 Code, Stage: | FES PLANT | FES |
| Stage Scale: | | FALL EST. |
| Crop 3 Code, Stage: | FESAR PLANT | FESAR |
| Stage Scale: | | FALL EST. |
| Crop 4 Code, Stage: | FESAR PLANT | FESAR |
| Stage Scale: | | FALL EST. |

APPLICATION EQUIPMENT

| | A | B |
|-----------------------|---|-----------|
| Appl. Equipment: | | CO2 SPRAY |
| Operating Pressure: | | 31 PSI |
| Nozzle Type: | | FLAT FAN |
| Nozzle Size: | | VS8001XR |
| Nozzle Spacing, Unit: | | 10 INCH |
| Nozzles/Row: | | 4 |
| Boom Length, Unit: | | 40 INCH |
| Boom Height, Unit: | | 10 INCH |
| Ground Speed, Unit: | | 3 MPH |
| Carrier: | | WATER |
| Spray Volume, Unit: | | 20 GPA |
| Propellant: | | COMP. CO2 |

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| Crop Code | | | | | | | | | FES | FES | FES | FES | |
|-------------------|-------------------------|-----------|-----------|----------|-----------|--------------|-------------------|----------|-----------|----------|----------|----------|--------|
| Rating Data Type | | | | | | | | | PHYTO | PHYTO | PHYTO | PHYTO | |
| Rating Unit | | | | | | | | | % | % | % | % | |
| Rating Date | | | | | | | | | 06-06-02 | 06-12-02 | 06-26-02 | 07-01-02 | |
| Trt-Eval Interval | | | | | | | | | 7 DA-B | 13 DA-B | 27 DA-B | 32 DA-B | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | | | | |
| 1 | Pure Gold Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 2 | Pure Gold Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 3.8 de | 6.3 cd |
| 3 | Pure Gold Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 8.8 b-e | 6.3 cd |
| 4 | Pure Gold Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 11.3 bcd | 6.3 cd |
| 5 | Pure Gold Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 17.5 ab | 32.5 a |
| 6 | Pure Gold Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 22.5 a | 30.0 a |
| 7 | Pure Gold Nontreated | | | | | | | | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 8 | Aurora Gold Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 9 | Aurora Gold Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 10 | Aurora Gold Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 11 | Aurora Gold Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 12 | Aurora Gold Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 13 | Aurora Gold Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 14 | Aurora Gold Nontreated | | | | | | | | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |
| 15 | Tomahawk RT Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 A | | 0.0 a | 0.0 a | 0.0 e | 0.0 d |

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| Crop Code | FES | FES | FES | FES |
|-------------------|----------|----------|----------|----------|
| Rating Data Type | PHYTO | PHYTO | PHYTO | PHYTO |
| Rating Unit | % | % | % | % |
| Rating Date | 06-06-02 | 06-12-02 | 06-26-02 | 07-01-02 |
| Trt-Eval Interval | 7 DA-B | 13 DA-B | 27 DA-B | 32 DA-B |
| Replicate F | 0.000 | 0.000 | 2.377 | 3.133 |
| Replicate Prob(F) | 1.0000 | 1.0000 | 0.0769 | 0.0307 |
| Treatment F | 0.000 | 0.000 | 3.609 | 6.033 |
| Treatment Prob(F) | 1.0000 | 1.0000 | 0.0001 | 0.0001 |

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean separations are based on the complete error term.

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| Crop Code | | | | | | | | | FES | FES | FES | FES | |
|-------------------|-------------------------|-----------|-----------|-----------|-----------|--------------|-------------------|----------|-----------|----------|----------|----------|-------|
| Rating Data Type | | | | | | | | | PHYTO | PHYTO | PHYTO | PHYTO | |
| Rating Unit | | | | | | | | | % | % | % | % | |
| Rating Date | | | | | | | | | 07-08-02 | 07-26-02 | 08-05-02 | 08-13-02 | |
| Trt-Eval Interval | | | | | | | | | 39 DA-B | 57 DA-B | 67 DA-B | 75 DA-B | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Rate Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | | | | |
| 1 | Pure Gold Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 A | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 2 | Pure Gold Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 A | | 5.0 cd | 2.5 bc | 0.0 a | 0.0 a |
| 3 | Pure Gold Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 A | | 0.0 d | 1.3 c | 0.0 a | 0.0 a |
| 4 | Pure Gold Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 A | | 7.5 bcd | 0.0 c | 0.0 a | 0.0 a |
| 5 | Pure Gold Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 A | | 18.8 ab | 5.0 ab | 0.0 a | 0.0 a |
| 6 | Pure Gold Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 A | | 22.5 a | 6.3 a | 0.0 a | 0.0 a |
| 7 | Pure Gold Nontreated | | | | | | | | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 8 | Aurora Gold Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 A | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 9 | Aurora Gold Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 A | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 10 | Aurora Gold Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 A | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 11 | Aurora Gold Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 A | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 12 | Aurora Gold Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 A | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 13 | Aurora Gold Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 A | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 14 | Aurora Gold Nontreated | | | | | | | | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |
| 15 | Tomahawk RT Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 A | | 0.0 d | 0.0 c | 0.0 a | 0.0 a |

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| Crop Code | FES | FES | FES | FES |
|-------------------|----------|----------|----------|----------|
| Rating Data Type | PHYTO | PHYTO | PHYTO | PHYTO |
| Rating Unit | % | % | % | % |
| Rating Date | 07-08-02 | 07-26-02 | 08-05-02 | 08-13-02 |
| Trt-Eval Interval | 39 DA-B | 57 DA-B | 67 DA-B | 75 DA-B |
| Replicate F | 1.725 | 0.950 | 0.000 | 0.000 |
| Replicate Prob(F) | 0.1695 | 0.4210 | 1.0000 | 1.0000 |
| Treatment F | 3.424 | 1.642 | 0.000 | 0.000 |
| Treatment Prob(F) | 0.0001 | 0.0497 | 1.0000 | 1.0000 |

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Location: NCSU Turf Field Lab Investigator: Fred Yelverton

| Crop Code | | | | | | | | | FES | FES | FES | TURF | |
|-------------------|-------------------------|-----------|-----------|-----------|-----------|--------------|-------------------|----------|-----------|----------|----------|----------|-------|
| Rating Data Type | | | | | | | | | PHYTO | PHYTO | PHYTO | QUALITY | |
| Rating Unit | | | | | | | | | % | % | % | 1-9 | |
| Rating Date | | | | | | | | | 08-19-02 | 08-26-02 | 09-03-02 | 06-06-02 | |
| Trt-Eval Interval | | | | | | | | | 81 DA-B | 88 DA-B | 96 DA-B | 7 DA-B | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Rate Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | | | | |
| 1 | Pure Gold Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 2 | Pure Gold Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 3 | Pure Gold Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 4 | Pure Gold Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 5 | Pure Gold Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 6 | Pure Gold Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 7 | Pure Gold Nontreated | | | | | | | | | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 8 | Aurora Gold Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 9 | Aurora Gold Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 10 | Aurora Gold Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 11 | Aurora Gold Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 12 | Aurora Gold Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 13 | Aurora Gold Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 14 | Aurora Gold Nontreated | | | | | | | | | 0.0 a | 0.0 a | 0.0 a | 7.0 a |
| 15 | Tomahawk RT Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 | A | 0.0 a | 0.0 a | 0.0 a | 7.0 a |

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 Location: NCSU Turf Field Lab Investigator: Fred Yelverton

| Crop Code | FES | FES | FES | TURF |
|-------------------|----------|----------|----------|----------|
| Rating Data Type | PHYTO | PHYTO | PHYTO | QUALITY |
| Rating Unit | % | % | % | 1-9 |
| Rating Date | 08-19-02 | 08-26-02 | 09-03-02 | 06-06-02 |
| Trt-Eval Interval | 81 DA-B | 88 DA-B | 96 DA-B | 7 DA-B |
| Replicate F | 0.000 | 0.000 | 0.000 | 0.000 |
| Replicate Prob(F) | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Treatment F | 0.000 | 0.000 | 0.000 | 0.000 |
| Treatment Prob(F) | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

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| Crop Code | | | | | | | | | TURF | TURF | TURF | |
|-------------------|-------------------------|-----------|-----------|--------------|-----------|--------------|--------------|----------|-----------|----------|----------|---------|
| Rating Data Type | | | | | | | | | QUALITY | QUALITY | QUALITY | |
| Rating Unit | | | | | | | | | 1-9 | 1-9 | 1-9 | |
| Rating Date | | | | | | | | | 06-12-02 | 06-26-02 | 07-01-02 | |
| Trt-Eval Interval | | | | | | | | | 13 DA-B | 27 DA-B | 32 DA-B | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Rate Unit | Product Rate | Product Unit | Grow Stg | Appl Code | | | |
| 1 | Pure Gold Roundup Pro | L | | 0.0625 % V/V | | | | MAY 30 A | | 7.0 a | 7.000 a | 7.000 a |
| 2 | Pure Gold Roundup Pro | L | | 0.095 % V/V | | | | MAY 30 A | | 7.0 a | 6.813 a | 6.625 a |
| 3 | Pure Gold Roundup Pro | L | | 0.125 % V/V | | | | MAY 30 A | | 7.0 a | 6.750 ab | 6.813 a |
| 4 | Pure Gold Roundup Pro | L | | 0.156 % V/V | | | | MAY 30 A | | 7.0 a | 6.625 ab | 6.750 a |
| 5 | Pure Gold Roundup Pro | L | | 0.25 % V/V | | | | MAY 30 A | | 7.0 a | 6.000 c | 5.375 b |
| 6 | Pure Gold Roundup Pro | L | | 0.312 % V/V | | | | MAY 30 A | | 7.0 a | 6.000 c | 5.188 b |
| 7 | Pure Gold Nontreated | | | | | | | | | 7.0 a | 7.000 a | 7.000 a |
| 8 | Aurora Gold Roundup Pro | L | | 0.0625 % V/V | | | | MAY 30 A | | 7.0 a | 7.000 a | 7.000 a |
| 9 | Aurora Gold Roundup Pro | L | | 0.095 % V/V | | | | MAY 30 A | | 7.0 a | 7.000 a | 7.000 a |
| 10 | Aurora Gold Roundup Pro | L | | 0.125 % V/V | | | | MAY 30 A | | 7.0 a | 7.000 a | 7.000 a |
| 11 | Aurora Gold Roundup Pro | L | | 0.156 % V/V | | | | MAY 30 A | | 7.0 a | 7.000 a | 7.000 a |
| 12 | Aurora Gold Roundup Pro | L | | 0.25 % V/V | | | | MAY 30 A | | 7.0 a | 7.000 a | 7.000 a |
| 13 | Aurora Gold Roundup Pro | L | | 0.312 % V/V | | | | MAY 30 A | | 7.0 a | 7.000 a | 7.000 a |
| 14 | Aurora Gold Nontreated | | | | | | | | | 7.0 a | 7.000 a | 7.000 a |
| 15 | Tomahawk RT Roundup Pro | L | | 0.0625 % V/V | | | | MAY 30 A | | 7.0 a | 7.000 a | 7.000 a |

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| Crop Code | | | | | | | | | | TURF | TURF | TURF |
|--------------------|-------------------------|-----------|-----------|-----------|-----------|--------------|--------------|----------|-----------|----------|----------|----------|
| Rating Data Type | | | | | | | | | | QUALITY | QUALITY | QUALITY |
| Rating Unit | | | | | | | | | | 1-9 | 1-9 | 1-9 |
| Rating Date | | | | | | | | | | 06-12-02 | 06-26-02 | 07-01-02 |
| Trt-Eval Interval | | | | | | | | | | 13 DA-B | 27 DA-B | 32 DA-B |
| Trt No. | Treatment Name | Form Conc | Form Type | Form Rate | Rate Unit | Product Rate | Product Unit | Grow Stg | Appl Code | | | |
| 16 | Tomahawk RT Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 | A | 7.0 a | 7.000 a | 7.000 a |
| 17 | Tomahawk RT Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 | A | 7.0 a | 6.938 a | 6.813 a |
| 18 | Tomahawk RT Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 | A | 7.0 a | 6.875 a | 6.625 a |
| 19 | Tomahawk RT Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 | A | 7.0 a | 6.813 a | 6.750 a |
| 20 | Tomahawk RT Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 | A | 7.0 a | 6.313 bc | 5.250 b |
| 21 | Tomahawk RT Nontreated | | | | | | | | | 7.0 a | 7.000 a | 7.000 a |
| 22 | Confederate Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 | A | 7.0 a | 7.000 a | 7.000 a |
| 23 | Confederate Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 | A | 7.0 a | 7.000 a | 7.000 a |
| 24 | Confederate Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 | A | 7.0 a | 7.000 a | 7.000 a |
| 25 | Confederate Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 | A | 7.0 a | 6.875 a | 7.000 a |
| 26 | Confederate Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 | A | 7.0 a | 6.875 a | 6.875 a |
| 27 | Confederate Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 | A | 7.0 a | 6.625 ab | 6.438 a |
| 28 | Confederate Nontreated | | | | | | | | | 7.0 a | 7.000 a | 7.000 a |
| LSD (P=.05) | | | | | | | | | | 0.00 | 0.4536 | 0.6784 |
| Standard Deviation | | | | | | | | | | 0.00 | 0.3207 | 0.4797 |
| CV | | | | | | | | | | 0.0 | 4.69 | 7.13 |
| Bartlett's X2 | | | | | | | | | | 0.0 | 34.638 | 21.859 |
| P(Bartlett's X2) | | | | | | | | | | 0.00* | 0.001* | 0.016* |

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| | TURF | TURF | TURF |
|-------------------|----------|----------|----------|
| | QUALITY | QUALITY | QUALITY |
| | 1-9 | 1-9 | 1-9 |
| Crop Code | | | |
| Rating Data Type | | | |
| Rating Unit | | | |
| Rating Date | 06-12-02 | 06-26-02 | 07-01-02 |
| Trt-Eval Interval | 13 DA-B | 27 DA-B | 32 DA-B |
| Replicate F | 0.000 | 0.825 | 1.378 |
| Replicate Prob(F) | 1.0000 | 0.4846 | 0.2565 |
| Treatment F | 0.000 | 3.189 | 5.014 |
| Treatment Prob(F) | 1.0000 | 0.0001 | 0.0001 |

Means followed by same letter do not significantly differ (P=.05, LSD)
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| Crop Code | | | | | | | | | | TURF | TURF | TURF |
|-------------------|-------------------------|-----------|-----------|-----------|-----------|--------------|-------------------|----------|-----------|-----------|----------|----------|
| Rating Data Type | | | | | | | | | | QUALITY | QUALITY | QUALITY |
| Rating Unit | | | | | | | | | | 1-9 | 1-9 | 1-9 |
| Rating Date | | | | | | | | | | 07-08-02 | 07-26-02 | 08-05-02 |
| Trt-Eval Interval | | | | | | | | | | 39 DA-B | 57 DA-B | 67 DA-B |
| Trt No. | Treatment Name | Form Conc | Form Type | Form Rate | Rate Unit | Product Rate | Product Rate Unit | Grow Stg | Appl Code | | | |
| 1 | Pure Gold Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 3.50 e |
| 2 | Pure Gold Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 | A | 6.750 ab | 6.875 ab | 3.50 e |
| 3 | Pure Gold Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 | A | 7.000 a | 6.938 ab | 3.50 e |
| 4 | Pure Gold Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 | A | 6.750 ab | 7.000 a | 3.50 e |
| 5 | Pure Gold Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 | A | 6.188 bcd | 6.813 bc | 3.13 f |
| 6 | Pure Gold Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 | A | 5.625 d | 6.688 c | 3.63 de |
| 7 | Pure Gold Nontreated | | | | | | | | | 7.000 a | 7.000 a | 3.50 e |
| 8 | Aurora Gold Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 6.13 a |
| 9 | Aurora Gold Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 5.88 a |
| 10 | Aurora Gold Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 6.00 a |
| 11 | Aurora Gold Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 5.88 a |
| 12 | Aurora Gold Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 6.00 a |
| 13 | Aurora Gold Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 5.88 a |
| 14 | Aurora Gold Nontreated | | | | | | | | | 7.000 a | 7.000 a | 5.88 a |
| 15 | Tomahawk RT Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 3.50 e |

North Carolina State University

Roundup Testing in Roundup Tolerant Fescue

Trial ID: 02-D41

Study Dir.: Travis Gannon

Location: NCSU Turf Field Lab Investigator: Fred Yelverton

| Crop Code | | | | | | | | | | TURF | TURF | TURF |
|--------------------|-------------------------|-----------|-----------|-----------|-----------|--------------|--------------|----------|-----------|-----------|----------|----------|
| Rating Data Type | | | | | | | | | | QUALITY | QUALITY | QUALITY |
| Rating Unit | | | | | | | | | | 1-9 | 1-9 | 1-9 |
| Rating Date | | | | | | | | | | 07-08-02 | 07-26-02 | 08-05-02 |
| Trt-Eval Interval | | | | | | | | | | 39 DA-B | 57 DA-B | 67 DA-B |
| Trt No. | Treatment Name | Form Conc | Form Type | Form Rate | Rate Unit | Product Rate | Product Unit | Grow Stg | Appl Code | | | |
| 16 | Tomahawk RT Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 3.50 e |
| 17 | Tomahawk RT Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 3.50 e |
| 18 | Tomahawk RT Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 | A | 6.250 bcd | 6.875 ab | 3.50 e |
| 19 | Tomahawk RT Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 | A | 6.625 ab | 7.000 a | 3.63 de |
| 20 | Tomahawk RT Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 | A | 5.875 cd | 6.875 ab | 3.50 e |
| 21 | Tomahawk RT Nontreated | | | | | | | | | 7.000 a | 7.000 a | 3.50 e |
| 22 | Confederate Roundup Pro | L | | 0.0625 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 3.88 cd |
| 23 | Confederate Roundup Pro | L | | 0.095 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 4.13 bc |
| 24 | Confederate Roundup Pro | L | | 0.125 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 4.38 b |
| 25 | Confederate Roundup Pro | L | | 0.156 % | V/V | | | MAY 30 | A | 7.000 a | 7.000 a | 4.25 b |
| 26 | Confederate Roundup Pro | L | | 0.25 % | V/V | | | MAY 30 | A | 6.438 abc | 6.938 ab | 4.13 bc |
| 27 | Confederate Roundup Pro | L | | 0.312 % | V/V | | | MAY 30 | A | 6.250 bcd | 6.875 ab | 4.13 bc |
| 28 | Confederate Nontreated | | | | | | | | | 7.000 a | 7.000 a | 4.13 bc |
| LSD (P=.05) | | | | | | | | | | 0.6482 | 0.1648 | 0.309 |
| Standard Deviation | | | | | | | | | | 0.4583 | 0.1165 | 0.218 |
| CV | | | | | | | | | | 6.76 | 1.67 | 5.11 |
| Bartlett's X2 | | | | | | | | | | 7.198 | 7.522 | 25.258 |
| P(Bartlett's X2) | | | | | | | | | | 0.515 | 0.377 | 0.065 |

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Study Dir.: Travis Gannon

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| Crop Code | TURF | TURF | TURF |
|-------------------|----------|----------|----------|
| Rating Data Type | QUALITY | QUALITY | QUALITY |
| Rating Unit | 1-9 | 1-9 | 1-9 |
| Rating Date | 07-08-02 | 07-26-02 | 08-05-02 |
| Trt-Eval Interval | 39 DA-B | 57 DA-B | 67 DA-B |
| Replicate F | 1.828 | 0.932 | 57.625 |
| Replicate Prob(F) | 0.1498 | 0.4300 | 0.0001 |
| Treatment F | 2.911 | 1.723 | 89.125 |
| Treatment Prob(F) | 0.0002 | 0.0354 | 0.0001 |

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

Mean separations are based on the complete error term.

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Trial Comments

10-2-01 - Trial area which consisted of tall fescue was sprayed with Roundup Pro at 2 qt/a in order to control existing fescue.

10-16-01 - Entire trial area was rotary tilled in two directions four times to prepare seedbed. 250 lb/a of diammonium phosphate was broadcast and tilled to a four inch depth with rotary tiller. Plots were then layed out and seeded with drop spreader with two passes in one direction. Seed bed was then cultipacked in four directions prior to irrigation.

5-30-02 - Roundup applications were applied with a compressed CO2 backpack sprayer with a four nozzle boom. Fescue was well established from fall seeding.

8-5-02 - Reductions in turf quality due to drought.