

North Carolina State University

TOLERANCE OF OVERSEEDED PERENNIAL RYEGRASS TO ANNUAL BLUEGRASS CONTROL TREATMENTS

Trial ID: 04-D06
Location: ECHO FARMS GC

Study Director: TRAVIS GANNON
Investigator: Fred Yelverton

General Trial Information

Study Director: TRAVIS GANNON **Title:** RESEARCH ASSOCIATE
Affiliation: NORTH CAROLINA STATE UNIVERSITY
Postal Code: 27695 **E-mail:** TRAVIS_GANNON@NCSSU.EDU
Investigator: FRED YELVERTON **Title:** PROFESSOR
Affiliation: NORTH CAROLINA STATE UNIVERSITY
Postal Code: 27695 **E-mail:** FRED_YELVERTON@NCSSU.EDU

Trial Location
City: WILMINGTON **Trial Status:** COMPLETED
State/Prov.: NC
Postal Code: 28412 **Initiation Date:** 10-1-03
Country: USA
Directions:

Objectives:

Conclusions:

Cooperator/Landowner

Cooperator: Brian Stackowith **Country:** USA
Organization: Echo Farms Golf Course **Phone No:** 910.791.3393
Address 1: 4114 Echo Farms Blvd
City: Wilmington
State/Prov: NC
Postal Code: 28412

Crop Description

Crop 1: CYNDA Cynodon dactylon BERMUDAGRASS
Variety: Tifway 419
BBCH Scale: BGRM

Crop 2: LOLPE Lolium perenne RYEGRASS, PERENNIAL
Variety: Quick Trans
BBCH Scale: BGRM
Planting Method: BROADCAST **Rate, Unit:** 12 LB/1000FT2
Seed Bed: MOWED **Soil Temperature, Unit:** 66 F
Soil Moisture: WET

Site and Design

Plot Width, Unit: 5 FT **Site Type:** GOLF COURSE DRIVING RANGE
Plot Length, Unit: 8 FT
Replications: 4 **Study Design:** Randomized Complete Block

Trial Initiation Comments:

Field Prep./Maintenance:

Soil Description

% OM: 0.71 **Texture:** MINERAL
pH: 5.8
CEC: 6.4 **Fert. Level:** GOOD

Moisture Conditions

Overall Moisture Conditions: IRRIGATED AS NEEDED

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Application Description

| | A | B | C | D |
|-------------------------|----------|----------|-----------|-----------|
| Application Date: | 10-1-03 | 11-12-03 | 12-2-03 | 12-15-03 |
| Time of Day: | 8-10 AM | 9-10 AM | 11-12NOON | 12-1:00PM |
| Application Method: | SPRAY | SPREAD | SPRAY | SPRAY |
| Application Timing: | OCT 1 | NOV 12 | DEC 2 | DEC 15 |
| Application Placement: | FOLIAR | SOIL | FOLIAR | FOLIAR |
| Applied By: | T GANNON | T GANNON | T GANNON | T GANNON |
| Air Temperature, Unit: | 73.3 F | 73.8 F | 59.7 F | 53.4 F |
| % Relative Humidity: | 51 | 52 | 16 | 48 |
| Wind Velocity, Unit: | 1.4 MPH | 3.6 MPH | 2.8 MPH | 2.8 MPH |
| Dew Presence (Y/N): | N | N | N | N |
| Soil Temperature, Unit: | 66 F | 66 F | 49 F | 48 F |
| Soil Moisture: | GOOD | GOOD | GOOD | WET |
| % Cloud Cover: | 50 | 20 | 5 | 5 |

Crop Stage At Each Application

| | A | B | C | D |
|--------------------------|------------|------------|------------|------------|
| Crop 1 Code, BBCH Scale: | CYNDA BGRM | CYNDA BGRM | CYNDA BGRM | CYNDA BGRM |
| Stage Scale Used: | BBCH | BBCH | BBCH | BBCH |
| Stage Majority, Percent: | MOWED 100 | MOWED 100 | MOWED 100 | MOWED 100 |
| Height, Unit: | 0.5 IN | 0.5 IN | 0.5 IN | 0.5 IN |
| Crop 2 Code, BBCH Scale: | LOLPE BGRM | LOLPE BGRM | LOLPE BGRM | LOLPE BGRM |
| Stage Scale Used: | BBCH | BBCH | BBCH | BBCH |
| Stage Majority, Percent: | N/A 100 | MOWED 100 | MOWED 100 | MOWED 100 |
| Height, Unit: | | 0.5 IN | 0.5 IN | 0.5 IN |

Application Equipment

| | A | B | C | D |
|-----------------------|-----------|-----------|-----------|-----------|
| Appl. Equipment: | CO2 SPRAY | SHAKERJAR | CO2 SPRAY | CO2 SPRAY |
| Operating Pressure: | 25 | | 25 | 25 |
| Pressure Unit: | PSI | | PSI | PSI |
| Nozzle Type: | FLAT FAN | | FLAT FAN | FLAT FAN |
| Nozzle Size: | VS8002XR | | XR8002VS | VS8002XR |
| Nozzle Spacing, Unit: | 10 INCH | | 10 IN | 10 INCH |
| Nozzles/Row: | 4 | | 4 | 4 |
| Boom Length, Unit: | 40 INCH | | 40 IN | 40 INCH |
| Boom Height, Unit: | 10 INCH | | 10 IN | 10 INCH |
| Ground Speed, Unit: | 3 MPH | | 3 MPH | 3 MPH |
| Carrier: | WATER | | WATER | WATER |
| Spray Volume: | 32.5 | | 32.5 | 32.5 |
| Volume Unit: | GPA | | GPA | GPA |
| Propellant: | COMP CO2 | | COMP. CO2 | COMP CO2 |

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Trial ID: 04-D06
Location: ECHO FARMS GC

Study Director: TRAVIS GANNON
Investigator: Fred Yelverton

| Crop Code | LOLPE | LOLPE | LOLPE | LOLPE | LOLPE | LOLPE | LOLPE | | | | | | | | | |
|-------------------------|----------------|-----------|-----------|--------------------|-----------|------------|-----------------|--------------|-----------|--------|--------|--------|--------|--------|--------|--------|
| BBCH Scale | BGRM | BGRM | BGRM | BGRM | BGRM | BGRM | BGRM | | | | | | | | | |
| Rating Date | 10-28-03 | 11-12-03 | 12-2-03 | 12-15-03 | 1-5-04 | 1-22-04 | 2-3-04 | | | | | | | | | |
| Rating Data Type | COVER | COVER | COVER | COVER | COVER | COVER | COVER | | | | | | | | | |
| Rating Unit | % | % | % | % | % | % | % | | | | | | | | | |
| Days After Last Applic. | 27 | 0 | 0 | 0 | 21 | 38 | 50 | | | | | | | | | |
| Trt-Eval Interval | 27 DA-A | 42 DA-A | 62 DA-A | 75 DA-A | 96 DA-A | 113 DA-A | 125 DA-A | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Other Rate | Other Rate Unit | Growth Stage | Appl Code | | | | | | | |
| 1 | REVOLVER | 0.19 | SL | 0.4 fl oz/1000 ft2 | | | | OCT 1 | A | 48.8 a | 85.0 a | 78.8 a | 75.0 a | 63.8 a | 63.8 a | 65.0 a |
| | RONSTAR | 2 | G | 1.5 lbai/a | | | | NOV 12 | B | | | | | | | |
| | PROGRASS | 1 | EC | 1 gal/a | | | | DEC 2 | C | | | | | | | |
| 2 | REVOLVER | 0.19 | SL | 0.4 fl oz/1000 ft2 | | | | OCT 1 | A | 48.8 a | 85.0 a | 80.0 a | 78.8 a | 67.5 a | 67.5 a | 67.5 a |
| | PROGRASS | 1 | EC | 1 gal/a | | | | DEC 2 | C | | | | | | | |
| 3 | REVOLVER | 0.19 | SL | 0.4 fl oz/1000 ft2 | | | | OCT 1 | A | 51.3 a | 81.3 a | 78.8 a | 77.5 a | 71.3 a | 65.0 a | 66.3 a |
| | RONSTAR | 2 | G | 1.5 lbai/a | | | | NOV 12 | B | | | | | | | |
| 4 | RONSTAR | 2 | G | 1.5 lbai/a | | | | NOV 12 | B | 46.3 a | 83.8 a | 77.5 a | 66.3 a | 61.3 a | 61.3 a | 66.3 a |
| | PROGRASS | 1 | EC | 1 gal/a | | | | DEC 2 | C | | | | | | | |
| 5 | REVOLVER | 0.19 | SL | 0.4 fl oz/1000 ft2 | | | | OCT 1 | A | 43.8 a | 83.8 a | 77.5 a | 78.8 a | 73.8 a | 70.0 a | 67.5 a |
| | RONSTAR | 2 | G | 1.5 lbai/a | | | | NOV 12 | B | 46.3 a | 83.8 a | 76.3 a | 72.5 a | 71.3 a | 62.5 a | 63.8 a |
| | PROGRASS | 1 | EC | 1 gal/a | | | | DEC 2 | C | 46.3 a | 81.3 a | 75.0 a | 72.5 a | 68.8 a | 63.8 a | 65.0 a |
| 8 | PROGRASS | 1 | EC | 0.66 gal/a | | | | DEC 2 | C | 41.3 a | 80.0 a | 73.8 a | 71.3 a | 62.5 a | 60.0 a | 61.3 a |
| | PROGRASS | 1 | EC | 0.66 gal/a | | | | DEC 15 | D | | | | | | | |
| 9 | NONTREATED | | | | | | | | | 48.8 a | 85.0 a | 78.8 a | 80.0 a | 75.0 a | 71.3 a | 70.0 a |
| LSD (P=.05) | | | | | | | | | | 7.13 | 4.79 | 6.64 | 9.54 | 11.65 | 11.05 | 8.10 |
| Standard Deviation | | | | | | | | | | 4.88 | 3.28 | 4.55 | 6.54 | 7.98 | 7.57 | 5.55 |
| CV | | | | | | | | | | 10.43 | 3.94 | 5.88 | 8.75 | 11.68 | 11.64 | 8.43 |
| Grand Mean | | | | | | | | | | 46.81 | 83.19 | 77.36 | 74.72 | 68.33 | 65.0 | 65.83 |
| Bartlett's X2 | | | | | | | | | | 8.626 | 8.338 | 12.952 | 11.512 | 11.819 | 10.527 | 3.857 |
| P(Bartlett's X2) | | | | | | | | | | 0.375 | 0.139 | 0.073 | 0.118 | 0.107 | 0.161 | 0.796 |
| Friedman's X2 | | | | | | | | | | 9.4 | 3.3 | 2.85 | 12.567 | 10.083 | 8.133 | 6.2 |
| P(Friedman's X2) | | | | | | | | | | 0.31 | 0.914 | 0.943 | 0.128 | 0.259 | 0.421 | 0.625 |
| Replicate F | | | | | | | | | | 2.049 | 8.839 | 3.162 | 0.585 | 1.221 | 1.455 | 0.391 |
| Replicate Prob(F) | | | | | | | | | | 0.1338 | 0.0004 | 0.0430 | 0.6304 | 0.3237 | 0.2519 | 0.7606 |
| Treatment F | | | | | | | | | | 1.515 | 1.323 | 0.788 | 1.894 | 1.545 | 1.036 | 0.812 |
| Treatment Prob(F) | | | | | | | | | | 0.2043 | 0.2798 | 0.6182 | 0.1081 | 0.1942 | 0.4372 | 0.5990 |

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Trial ID: 04-D06
Location: ECHO FARMS GC

Study Director: TRAVIS GANNON
Investigator: Fred Yelverton

| | | | | TURF | TURF | TURF | TURF | TURF | TURF | | | | | |
|--------------------|----------------|-----------|--------------------|------------|------------|-------------|------------|----------|----------|--------|---------|--------|--------|--------|
| | | | | 12-2-03 | 12-15-03 | 1-5-04 | 1-22-04 | 2-3-04 | 2-19-04 | | | | | |
| | | | | QUALITY | QUALITY | QUALITY | QUALITY | QUALITY | QUALITY | | | | | |
| | | | | 1-9 | 1-9 | 1-9 | 1-9 | 1-9 | 1-9 | | | | | |
| | | | | 0 | 0 | 21 | 38 | 50 | 66 | | | | | |
| | | | | 62 DA-A | 75 DA-A | 96 DA-A | 113 DA-A | 125 DA-A | 141 DA-A | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Rate Unit | Other Rate | Other Rate | Growth Unit | Appl Stage | Code | | | | | | |
| 1 | REVOLVER | 0.19 SL | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | | 7.1 a | 7.1 a | 6.4 bc | 5.9 a | 6.0 a | 6.0 a |
| | RONSTAR | 2 G | 1.5 lbai/a | | | NOV 12 | B | | | | | | | |
| | PROGRASS | 1 EC | 1 gal/a | | | DEC 2 | C | | | | | | | |
| 2 | REVOLVER | 0.19 SL | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | | 7.1 a | 7.3 a | 6.6 abc | 6.0 a | 6.0 a | 6.0 a |
| | PROGRASS | 1 EC | 1 gal/a | | | DEC 2 | C | | | | | | | |
| 3 | REVOLVER | 0.19 SL | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | | 7.1 a | 7.4 a | 7.0 a | 5.9 a | 5.8 a | 6.0 a |
| | RONSTAR | 2 G | 1.5 lbai/a | | | NOV 12 | B | | | | | | | |
| 4 | RONSTAR | 2 G | 1.5 lbai/a | | | NOV 12 | B | | 7.1 a | 6.7 a | 6.3 c | 5.4 a | 6.0 a | 5.9 a |
| | PROGRASS | 1 EC | 1 gal/a | | | DEC 2 | C | | | | | | | |
| 5 | REVOLVER | 0.19 SL | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | | 7.0 a | 7.3 a | 7.0 a | 6.0 a | 6.0 a | 6.0 a |
| | RONSTAR | 2 G | 1.5 lbai/a | | | NOV 12 | B | | 6.9 a | 7.0 a | 6.9 ab | 5.8 a | 5.8 a | 6.0 a |
| | PROGRASS | 1 EC | 1 gal/a | | | DEC 2 | C | | 6.8 a | 7.1 a | 6.8 ab | 5.8 a | 5.8 a | 6.0 a |
| 8 | PROGRASS | 1 EC | 0.66 gal/a | | | DEC 2 | C | | 6.8 a | 6.9 a | 6.8 abc | 5.4 a | 5.8 a | 6.0 a |
| | PROGRASS | 1 EC | 0.66 gal/a | | | DEC 15 | D | | | | | | | |
| 9 | NONTREATED | | | | | | | | 7.1 a | 7.5 a | 7.0 a | 6.0 a | 6.0 a | 6.0 a |
| LSD (P=.05) | | | | 0.45 | 0.51 | 0.52 | | | 0.45 | 0.51 | 0.52 | 0.68 | 0.46 | 0.12 |
| Standard Deviation | | | | 0.31 | 0.35 | 0.36 | | | 0.31 | 0.35 | 0.36 | 0.47 | 0.31 | 0.08 |
| CV | | | | 4.45 | 4.91 | 5.31 | | | 4.45 | 4.91 | 5.31 | 8.09 | 5.29 | 1.39 |
| Grand Mean | | | | 7.01 | 7.13 | 6.74 | | | 7.01 | 7.13 | 6.74 | 5.78 | 5.89 | 5.99 |
| Bartlett's X2 | | | | 12.943 | 9.339 | 6.5 | | | 12.943 | 9.339 | 6.5 | 12.28 | 0.0 | 0.0 |
| P(Bartlett's X2) | | | | 0.114 | 0.229 | 0.261 | | | 0.114 | 0.229 | 0.261 | 0.031* | 0.001* | . |
| Friedman's X2 | | | | 2.05 | 12.033 | 9.2 | | | 2.05 | 12.033 | 9.2 | 5.0 | 1.5 | 0.6 |
| P(Friedman's X2) | | | | 0.979 | 0.15 | 0.326 | | | 0.979 | 0.15 | 0.326 | 0.758 | 0.993 | 1.00 |
| Replicate F | | | | 3.213 | 0.543 | 3.011 | | | 3.213 | 0.543 | 3.011 | 1.524 | 2.286 | 1.000 |
| Replicate Prob(F) | | | | 0.0408 | 0.6575 | 0.0499 | | | 0.0408 | 0.6575 | 0.0499 | 0.2339 | 0.1044 | 0.4098 |
| Treatment F | | | | 0.863 | 1.959 | 2.391 | | | 0.863 | 1.959 | 2.391 | 1.127 | 0.714 | 1.000 |
| Treatment Prob(F) | | | | 0.5599 | 0.0970 | 0.0472 | | | 0.5599 | 0.0970 | 0.0472 | 0.3811 | 0.6769 | 0.4613 |

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Trial ID: 04-D06
Location: ECHO FARMS GC

Study Director: TRAVIS GANNON
Investigator: Fred Yelverton

| Crop Code | TURF | TURF | TURF | LOLPE | LOLPE | LOLPE | LOLPE | | | | | | | | | |
|-------------------------|----------------|-----------|-----------|--------------------|------------|------------|-------------|------------|------|---------|--------|--------|--------|--------|--------|--------|
| BBCH Scale | 3-2-04 | 3-15-04 | 3-29-04 | BGRM | BGRM | BGRM | BGRM | | | | | | | | | |
| Rating Date | QUALITY | QUALITY | QUALITY | 12-2-03 | 12-15-03 | 1-5-04 | 1-22-04 | | | | | | | | | |
| Rating Data Type | PHYTO | PHYTO | PHYTO | PHYTO | PHYTO | PHYTO | PHYTO | | | | | | | | | |
| Rating Unit | % | % | % | % | % | % | % | | | | | | | | | |
| Days After Last Applic. | 78 | 91 | 105 | 0 | 0 | 21 | 38 | | | | | | | | | |
| Trt-Eval Interval | 153 DA-A | 166 DA-A | 180 DA-A | 62 DA-A | 75 DA-A | 96 DA-A | 113 DA-A | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Unit | Other Rate | Other Rate | Growth Unit | Appl Stage | Code | | | | | | | |
| 1 | REVOLVER | 0.19 SL | | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | | 7.1 ab | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 10.0 b | 5.0 a |
| | RONSTAR | 2 G | | 1.5 lbai/a | | | NOV 12 | B | | | | | | | | |
| | PROGRASS | 1 EC | | 1 gal/a | | | DEC 2 | C | | | | | | | | |
| 2 | REVOLVER | 0.19 SL | | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | | 7.4 a | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 3.8 b | 2.5 a |
| | PROGRASS | 1 EC | | 1 gal/a | | | DEC 2 | C | | | | | | | | |
| 3 | REVOLVER | 0.19 SL | | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | | 6.9 bc | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 0.0 b | 2.5 a |
| | RONSTAR | 2 G | | 1.5 lbai/a | | | NOV 12 | B | | | | | | | | |
| 4 | RONSTAR | 2 G | | 1.5 lbai/a | | | NOV 12 | B | | 6.6 c | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 22.5 a | 18.8 a |
| | PROGRASS | 1 EC | | 1 gal/a | | | DEC 2 | C | | | | | | | | |
| 5 | REVOLVER | 0.19 SL | | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | | 7.3 ab | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 0.0 b | 0.0 a |
| | RONSTAR | 2 G | | 1.5 lbai/a | | | NOV 12 | B | | 7.0 abc | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 3.8 b | 5.0 a |
| | PROGRASS | 1 EC | | 1 gal/a | | | DEC 2 | C | | 7.0 abc | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 2.5 b | 2.5 a |
| 8 | PROGRASS | 1 EC | | 0.66 gal/a | | | DEC 2 | C | | 6.9 bc | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 5.0 b | 7.5 a |
| | PROGRASS | 1 EC | | 0.66 gal/a | | | DEC 15 | D | | | | | | | | |
| 9 | NONTREATED | | | | | | | | | 7.4 a | 7.0 a | 7.0 a | 0.0 a | 0.0 a | 0.0 b | 0.0 a |
| LSD (P=.05) | | | | | | | | | | 0.44 | 0.00 | 0.00 | 0.00 | 0.00 | 12.39 | 13.06 |
| Standard Deviation | | | | | | | | | | 0.30 | 0.00 | 0.00 | 0.00 | 0.00 | 8.49 | 8.95 |
| CV | | | | | | | | | | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 160.83 | 184.1 |
| Grand Mean | | | | | | | | | | 7.06 | 7.0 | 7.0 | 0.0 | 0.0 | 5.28 | 4.86 |
| Bartlett's X2 | | | | | | | | | | 2.234 | 0.0 | 0.0 | 0.0 | 0.0 | 3.908 | 8.402 |
| P(Bartlett's X2) | | | | | | | | | | 0.973 | . | . | . | . | 0.563 | 0.21 |
| Friedman's X2 | | | | | | | | | | 10.85 | 0.0 | 0.0 | 0.0 | 0.0 | 6.95 | 5.167 |
| P(Friedman's X2) | | | | | | | | | | 0.21 | 1.00 | 1.00 | 1.00 | 1.00 | 0.542 | 0.74 |
| Replicate F | | | | | | | | | | 0.604 | 0.000 | 0.000 | 0.000 | 0.000 | 0.270 | 1.650 |
| Replicate Prob(F) | | | | | | | | | | 0.6189 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.8465 | 0.2042 |
| Treatment F | | | | | | | | | | 2.736 | 0.000 | 0.000 | 0.000 | 0.000 | 2.880 | 1.647 |
| Treatment Prob(F) | | | | | | | | | | 0.0268 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0213 | 0.1637 |

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| | | | | LOLPE | LOLPE | LOLPE | LOLPE | LOLPE |
|--------------------|----------------|-----------|--------------------|------------|------------|-------------|----------|-----------|
| | | | | BGRM | BGRM | BGRM | BGRM | BGRM |
| | | | | 2-3-04 | 2-19-04 | 3-2-04 | 3-15-04 | 3-29-04 |
| | | | | PHYTO | PHYTO | PHYTO | PHYTO | PHYTO |
| | | | | % | % | % | % | % |
| | | | | 50 | 66 | 78 | 91 | 105 |
| | | | | 125 DA-A | 141 DA-A | 153 DA-A | 166 DA-A | 180 DA-A |
| Trt No. | Treatment Name | Form Conc | Form Rate Unit | Other Rate | Other Rate | Growth Unit | Stage | Appl Code |
| 1 | REVOLVER | 0.19 SL | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | 0.0 a |
| | RONSTAR | 2 G | 1.5 lbai/a | | | NOV 12 | B | 0.0 a |
| | PROGRASS | 1 EC | 1 gal/a | | | DEC 2 | C | 0.0 a |
| 2 | REVOLVER | 0.19 SL | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | 0.0 a |
| | PROGRASS | 1 EC | 1 gal/a | | | DEC 2 | C | 0.0 a |
| 3 | REVOLVER | 0.19 SL | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | 0.0 a |
| | RONSTAR | 2 G | 1.5 lbai/a | | | NOV 12 | B | 0.0 a |
| 4 | RONSTAR | 2 G | 1.5 lbai/a | | | NOV 12 | B | 0.0 a |
| | PROGRASS | 1 EC | 1 gal/a | | | DEC 2 | C | 0.0 a |
| 5 | REVOLVER | 0.19 SL | 0.4 fl oz/1000 ft2 | | | OCT 1 | A | 0.0 a |
| | RONSTAR | 2 G | 1.5 lbai/a | | | NOV 12 | B | 0.0 a |
| | PROGRASS | 1 EC | 1 gal/a | | | DEC 2 | C | 0.0 a |
| 8 | PROGRASS | 1 EC | 0.66 gal/a | | | DEC 2 | C | 0.0 a |
| | PROGRASS | 1 EC | 0.66 gal/a | | | DEC 15 | D | 0.0 a |
| 9 | NONTREATED | | | | | | | 0.0 a |
| LSD (P=.05) | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Standard Deviation | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| CV | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grand Mean | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bartlett's X2 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| P(Bartlett's X2) | | | | . | . | . | . | . |
| Friedman's X2 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| P(Friedman's X2) | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Replicate F | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Replicate Prob(F) | | | | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Treatment F | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Treatment Prob(F) | | | | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

Means followed by same letter do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Trial Comments

10-15-03 - Trial area was lightly verti cut, mown to 0.63 inch and clippings were blown off. Trial was overseeded with Quick Trans perennial ryegrass (Lot# B10-3-QT-1) which was purchased from Southern Seed. Seedling (1 leaf) annual bluegrass is beginning to appear in trial area.

10-28-03 - Trial was evaluated for perennial ryegrass cover and turf quality. Select treated plots exhibit reductions in perennial ryegrass cover.

11-12-03 - Trial was evaluated for perennial ryegrass cover and turf quality.

12-2-03 - Trial was evaluated for perennial ryegrass cover, phytotoxicity, and turf quality. Ryegrass is thinner in select areas resulting in decreased ryegrass cover ratings, not necessarily a result of treatments. Prograss treatments were applied. Very little annual bluegrass is present in turf canopy.

12-15-03 - Trial was evaluated for perennial ryegrass cover, phytotoxicity, and turf quality. Annual bluegrass is beginning to be more prevalent in non-overseeded areas outside of test area.

1-5-04 - Trial was evaluated for perennial ryegrass cover, phytotoxicity, and turf quality. Annual bluegrass is beginning to be more prevalent in non-overseeded areas outside of test area.

1-22-03 - Trial was evaluated for perennial ryegrass cover, phytotoxicity, and turf quality. Annual bluegrass is beginning to be more prevalent in non-overseeded areas outside of test area.

2-3-04 - Trial was evaluated for perennial ryegrass cover, phytotoxicity, and turf quality. Annual bluegrass is beginning to be more prevalent in non-overseeded areas outside of test area. Cold periods have reduced overall turf quality. 0.75 lb N per 1000 ft2 was applied to trial area.

North Carolina State University

TOLERANCE OF OVERSEEDED PERENNIAL RYEGRASS TO ANNUAL BLUEGRASS CONTROL TREATMENTS

Trial ID: 04-D06
Location: ECHO FARMS GC

Study Director: TRAVIS GANNON
Investigator: Fred Yelverton

2-19-04 - Trial was evaluated for perennial ryegrass cover, phytotoxicity, and turf quality. Additional annual bluegrass is beginning to be more apparent within the trial area. Outside trial area in non-overseeded areas, a few (<10%) of the annual bluegrass plants have emerging seedheads. No seedheads are present in overseeded trial area at this point.

3-2-04 - Trial was evaluated for perennial ryegrass cover, phytotoxicity, and turf quality. Currently, there are no seedheads present in overseeded trial area, thus unable to rate for annual bluegrass control at this time.

3-29-04 - Trial was evaluated for perennial ryegrass cover, phytotoxicity, and turf quality. Poa annua is not dense enough in trial area to evaluate.

4-14-04 - Poa annua is not dense enough in trial area to evaluate, trial concluded.