

University of GA Coop Ext Service

Efficacy of Pendulum for Preemergence Crabgrass Control in Tall Fescue

Trial ID: Turf14-03

Study Dir. : Bill Nutt

Location: Griffin

Investigator: Tim R Murphy

GENERAL TRIAL INFORMATION

Study Director: Bill Nutt

Title: ARC I

Affiliation: UGA-CAES

Investigator: Tim R Murphy

Title: Weed Scientist

Affiliation: UGA-CAES

TRIAL LOCATION

City: Griffin

Trial Status: ARCHIVED

State/Prov. : GA

Initiation Date: 2-24-2003

Planned Completion Date: 8-28-2003

COOPERATOR/LANDOWNER

Cooperator: Kyle Miller

Org: BASF

City: Chesterfield

State/Prov: VA

CROP AND WEED DESCRIPTION

| Weed | Code | Common Name | Scientific Name |
|------|-------|--------------------|---------------------------|
| 1. | DIGSP | Southern Crabgrass | <i>Digitaria ciliaris</i> |

Crop 1: FESAR Tall Fescue/*Festuca arundinacea* Variety: Ky 31 Perennial Age: 1 yr

SITE AND DESIGN

Plot Width, Unit: 6 FT Plot Length, Unit: 10 FT Reps: 4

Study Design: RANDOMIZED COMPLETE BLOCK

APPLICATION DESCRIPTION

| | A | B |
|----------------------|-----------|-----------|
| Application Date: | 2-24-2003 | 4-16-2003 |
| Time of Day: | 2:30 pm | 3:45 pm |
| Application Method: | Broadcast | Broadcast |
| Application Timing: | Pre | Pre |
| Applic. Placement: | Soil | Soil |
| Air Temp., Unit: | 62 F | 79 F |
| % Relative Humidity: | 70 | 46 |
| Wind Velocity, Unit: | 2.9 mph | 4.0 mph |
| Dew Presence (Y/N): | N | N |
| Soil Temp., Unit: | 55 F | 72 F |
| Soil Moisture: | High | Good |
| % Cloud Cover: | 5 | 60 |

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CROP STAGE AT EACH APPLICATION

| | A | B |
|----------------------------|--------------|--------------|
| Crop 1 Code, Stage: | FESAR Active | FESAR Active |
| Height, Unit: | 2.5 inch | 2.5 inch |

WEED STAGE AT EACH APPLICATION

| | A | B |
|----------------------------|----------------------|----------------------|
| Weed 1 Code, Stage: | DIGSP | DIGSP |
| Density, Unit: | 0, 0-100 Index/Scale | 0, 0-100 Index/Scale |

APPLICATION EQUIPMENT

| | A | B |
|------------------------------|----------|----------|
| Appl. Equipment: | Backpack | Backpack |
| Operating Pressure: | 26 psi | 26 psi |
| Nozzle Type: | Flat fan | Flat fan |
| Nozzle Size: | 8004 | 8004 |
| Nozzle Spacing, Unit: | 20 inch | 20 inch |
| Boom Length, Unit: | 5 feet | 5 feet |
| Boom Height, Unit: | 19 inch | 19 inch |
| Ground Speed, Unit: | 3 mph | 3 mph |
| Carrier: | Water | Water |
| Spray Volume, Unit: | 25 gpa | 25 gpa |
| Propellant: | CO2 | CO2 |
| Tank Mix (Y/N): | Y | Y |

Trial Comments

2-24-03

Broadcast 1 lb N/1000 sq ft. as 10-10-10 fertilizer over entire test area.

5-20-03

No emerged Crabgrass observed in untreated or treated plot. No Tall Fescue injury observed in any plot.

6-26-03 and 7-29-03

No Tall Fescue injury observed in any plot.

7-24-03

Entire area sprayed with Trimec Classic at 3 pt/A + 0.25% v/v non ionic surfactant.

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| Weed Code | DIGSP | DIGSP | DIGSP | DIGSP | DIGSP | | | | | | | |
|--------------------|------------------------|-----------|-----------|--------------|-----------|----------|------|-------|--------|--------|--------|--------|
| Rating Data Type | Control | Control | Control | Density | Density | | | | | | | |
| Rating Unit | 0-100 | 0-100 | 0-100 | 0-100 | 0-100 | | | | | | | |
| Rating Date | 6-26-2003 | 7-29-2003 | 8-25-2003 | 6-26-2003 | 7-29-2003 | | | | | | | |
| Trt-Eval Interval | 122 DA-A | 155 DA-A | 182 DA-A | 122 DA-A | 155 DA-A | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Grow Unit | Appl Stg | Code | | | | | |
| 1 | Dimension Ultra WSP fb | 40 | WP | 0.5 lb ai/a | Mar. 1 | A | | 100 a | 87 a | 50 abc | 0 b | 7 cd |
| | Dimension Ultra WSP | 40 | WP | 0.25 lb ai/a | May 1 | B | | | | | | |
| 2 | Dimension Ultra WSP | 40 | WP | 0.5 lb ai/a | Mar. 1 | A | | 100 a | 63 abc | 38 a-d | 0 b | 15 bcd |
| 3 | Dimension Ultra WSP | 40 | WP | 0.75 lb ai/a | Mar. 1 | A | | 100 a | 87 a | 49 abc | 0 b | 8 cd |
| 4 | Barricade fb | 65 | WG | 0.38 lb ai/a | Mar. 1 | A | | 100 a | 88 a | 61 ab | 0 b | 6 d |
| | Barricade | 65 | WG | 0.38 lb ai/a | May 1 | B | | | | | | |
| 5 | Barricade | 65 | WG | 0.75 lb ai/a | Mar. 1 | A | | 100 a | 83 ab | 64 a | 0 b | 8 cd |
| 6 | Pendulum fb | 3.3 | EC | 1.5 lb ai/a | Mar. 1 | A | | 100 a | 43 cd | 20 cd | 0 b | 18 bc |
| | Pendulum | 3.3 | EC | 1.5 lb ai/a | May 1 | B | | | | | | |
| 7 | Pendulum fb | 3.3 | EC | 2.0 lb ai/a | Mar. 1 | A | | 100 a | 43 cd | 15 cd | 0 b | 19 b |
| | Pendulum | 3.3 | EC | 2.0 lb ai/a | May 1 | B | | | | | | |
| 8 | Pendulum fb | 3.3 | EC | 1.0 lb ai/a | Mar. 1 | A | | 100 a | 53 bcd | 26 a-d | 0 b | 15 bcd |
| | Pendulum | 3.3 | EC | 2.0 lb ai/a | May 1 | B | | | | | | |
| 9 | Pendulum | 3.3 | EC | 3.0 lb ai/a | Mar. 1 | A | | 98 b | 31 d | 21 bcd | 1 b | 20 ab |
| 10 | Pendulum fb | 3.8 | CS | 1.5 lb ai/a | Mar. 1 | A | | 100 a | 64 abc | 39 a-d | 0 b | 13 bcd |
| | Pendulum | 3.8 | CS | 1.5 lb ai/a | May 1 | B | | | | | | |
| 11 | Pendulum fb | 3.8 | CS | 2.0 lb ai/a | Mar. 1 | A | | 100 a | 75 abc | 45 abc | 0 b | 10 bcd |
| | Pendulum | 3.8 | CS | 2.0 lb ai/a | May 1 | B | | | | | | |
| 12 | Pendulum fb | 3.8 | CS | 1.0 lb ai/a | Mar. 1 | A | | 100 a | 70 abc | 48 abc | 0 b | 13 bcd |
| | Pendulum | 3.8 | CS | 2.0 lb ai/a | May 1 | B | | | | | | |
| 13 | Pendulum | 3.8 | CS | 3.0 lb ai/a | Mar. 1 | A | | 100 a | 57 a-d | 29 a-d | 0 b | 16 bcd |
| 14 | Untreated Check | | | | | | | 0 c | 0 e | 0 d | 4 a | 29 a |
| LSD (P=.05) | | | | | | | | 1.9 | 28.5 | 34.2 | 0.6 | 9.0 |
| Standard Deviation | | | | | | | | 1.3 | 19.9 | 23.9 | 0.4 | 6.3 |
| CV | | | | | | | | 1.44 | 33.18 | 66.46 | 154.21 | 45.25 |

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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| Weed Code | | | | | | | | DIGSP |
|--------------------|------------------------|-----------|-----------|------|---------|----------|-----------|-----------|
| Rating Data Type | | | | | | | | Density |
| Rating Unit | | | | | | | | 0-100 |
| Rating Date | | | | | | | | 8-25-2003 |
| Trt-Eval Interval | | | | | | | | 182 DA-A |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Unit | Grow Stg | Appl Code | |
| 1 | Dimension Ultra WSP fb | 40 | WP | 0.5 | lb ai/a | Mar. 1 | A | 28 abc |
| | Dimension Ultra WSP | 40 | WP | 0.25 | lb ai/a | May 1 | B | |
| 2 | Dimension Ultra WSP | 40 | WP | 0.5 | lb ai/a | Mar. 1 | A | 35 abc |
| 3 | Dimension Ultra WSP | 40 | WP | 0.75 | lb ai/a | Mar. 1 | A | 29 abc |
| 4 | Barricade fb | 65 | WG | 0.38 | lb ai/a | Mar. 1 | A | 23 bc |
| | Barricade | 65 | WG | 0.38 | lb ai/a | May 1 | B | |
| 5 | Barricade | 65 | WG | 0.75 | lb ai/a | Mar. 1 | A | 19 c |
| 6 | Pendulum fb | 3.3 | EC | 1.5 | lb ai/a | Mar. 1 | A | 45 ab |
| | Pendulum | 3.3 | EC | 1.5 | lb ai/a | May 1 | B | |
| 7 | Pendulum fb | 3.3 | EC | 2.0 | lb ai/a | Mar. 1 | A | 50 a |
| | Pendulum | 3.3 | EC | 2.0 | lb ai/a | May 1 | B | |
| 8 | Pendulum fb | 3.3 | EC | 1.0 | lb ai/a | Mar. 1 | A | 44 abc |
| | Pendulum | 3.3 | EC | 2.0 | lb ai/a | May 1 | B | |
| 9 | Pendulum | 3.3 | EC | 3.0 | lb ai/a | Mar. 1 | A | 47 ab |
| 10 | Pendulum fb | 3.8 | CS | 1.5 | lb ai/a | Mar. 1 | A | 34 abc |
| | Pendulum | 3.8 | CS | 1.5 | lb ai/a | May 1 | B | |
| 11 | Pendulum fb | 3.8 | CS | 2.0 | lb ai/a | Mar. 1 | A | 30 abc |
| | Pendulum | 3.8 | CS | 2.0 | lb ai/a | May 1 | B | |
| 12 | Pendulum fb | 3.8 | CS | 1.0 | lb ai/a | Mar. 1 | A | 29 abc |
| | Pendulum | 3.8 | CS | 2.0 | lb ai/a | May 1 | B | |
| 13 | Pendulum | 3.8 | CS | 3.0 | lb ai/a | Mar. 1 | A | 41 abc |
| 14 | Untreated Check | | | | | | | 53 a |
| LSD (P=.05) | | | | | | | | 21.6 |
| Standard Deviation | | | | | | | | 15.1 |
| CV | | | | | | | | 42.04 |

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)