

1998-99 FUNGICIDE REPORT
J.M. Vargas, Jr., A. R. Detweiler and N. M. Dykema
Department of Botany and Plant Pathology
Michigan State University

Melting Out Fungicide Trial, 1999

The 1999 melting out (*Dreschlera poae*) fungicide trial was conducted at the Hancock Turfgrass Research Center on the MSU campus in E. Lansing, MI on irrigated Kenblue Kentucky bluegrass (*Poa pratensis*) turf maintained at 1 ½ " height of cut. The study area was fertilized in late 1998 at 1 lb nitrogen per 1000 sq ft and on May 31, 1999 and June 9 at 0.125 lb nitrogen per 1000 sq ft.

Treatments were applied to 4 replicate plots in a random complete block design using a CO powered backpack small plot sprayer operating at 32 PSI and a volume of 48 GPA. We utilized a double nozzle boom with 8002E flat fan nozzles. Preventive applications were made initially on May 9, with subsequent applications being made at the intervals cited in the data table.

At the time of the rating (June 17, 1999), the 10 day treatment had been applied four times (5/9, 5/20, 5/29, 6/8), the 14 day treatments had been applied three times (5/9, 5/23, 6/5), and the 21 day treatments had been applied twice (5/9, 5/29).

As the data indicates (table 1), all treatments gave statistically significant control of melting out when compared to the untreated controls. Disease pressure was moderate this year due to a warm, relatively dry spring. Therefore, treatment separation related to subtle rate and interval differences was not evident.

No quality differences were evident, nor was any phytotoxicity observed at any time during the study duration.

Table 1. Melting Out Ratings – 1999

Rating Scale: 1 = less than 10% of leaves infected, with no thinning or discoloration, 10 = 100%of leaves infected with severe thinning and browning.

Rating Date: June 17, 1999

| <u>Treatment</u> | <u>Rate per 1000 ft^{2b}</u> | <u>Interval (days)</u> | <u>Mean (LSD - .05)^a</u> |
|--------------------------------------|--------------------------------------|------------------------|-------------------------------------|
| Ch. 26GT | 4 fl oz | 21 | 1.3 A |
| Polyoxorim-Zn | 4 oz | 14 | 1.3 A |
| Polyoxorim-Zn | 8 oz | 14 | 1.3 A |
| Daconil Ultrex | 3.7 oz | 10 | 1.5 A |
| Polyoxorim-Zn | 8 oz | 21 | 2.0 A |
| Polyoxorim-Zn + non-ionic surfactant | 4 oz + 0.25%v/v | 14 | 2.0 A |
| Compass | 0.15 oz | 14 | 2.0 A |
| Compass | 0.1 oz | 14 | 2.0 A |
| Control | — | — | 4.5 B |

^aTreatments followed by the same letter are not significantly different from each other (Least Significant Differences Test - .05).

^bR.ates are formulated product.

TAKE-ALL PATCH FUNGICIDE TRIALS, 1999

The 1999 take-all (*Gaeumannomyces graminis*) fungicide studies were established on irrigated creeping bentgrass (*Agrostis palustris* Huds.) fairways on the Whittaker Woods Golf Course in New Buffalo, MI, and on the Lynx Golf Course in Otsego, MI. The duplicate studies were laid out in a randomized complete block design with 4 replications, and a plot size of 6' x 18'. This larger plot size was

Summer Stress Syndrome in Annual Bluegrass

This trial was conducted on a *Poa annua* fairway at the Hancock Turfgrass Research Center, E. Lansing, MI. The plot area was mowed at 1.5" and fertility was as listed below with all fertilizer applications being made on a 30-day schedule. The study was set up in a randomized complete block design with four replications of each treatment. Plots measured 2' x 4.5' with 1' alleys. Treatments were applied at 34 psi in a 48 GPA spray volume using a CO₂ backpack sprayer and a single 8002E tee-jet flat fan nozzle. All treatments were applied beginning on June 9, 1999 and were reapplied on June 23, July 7, July 22, August 4, August 19, and September 1. Fertilizer applications were made on July 7, August 4, and September 2. Chipco 26GT was applied to the entire plot area on June 23 (2 oz), July 7 (2 oz), July 23 (2 oz), and August 5 (4 oz) to prevent severe loss in our control plots due to dollar spot outbreaks. Quality ratings were visually estimated using a 0 to 10 scale, where 0 = poor, 10 = excellent, and 7 = acceptable. Data are presented in tables 10 – 11. Data were analyzed using ANOVA and means separated with LSD (p=0.05)

The Chipco Aliette Signature + Daconil Ultrex + fertilizer combination provided good turf quality all season long and, for most of the season, this was significantly better quality than all of the other treatments in this test. The Nutri-Grow P + K + Daconil Ultrex combination did not receive nitrogen during the trial. The Nutri-Grow P + K + Daconil Ultrex provided good quality turf (July 27 – August 11) during the most stressful period of the summer when the control plots showed the poorest quality.

Table 10. Quality Rating (0-10, 7 acceptable)

| <u>Treatment</u> | <u>Rate/1000ft²</u> | <u>Interval (Days)</u> | <u>Quality^a</u> | | | |
|---|--------------------------------|----------------------------|----------------------------|---------------|---------------|---------------|
| | | | <u>29-Jun</u> | <u>14-Jul</u> | <u>20-Jul</u> | <u>27-Jul</u> |
| Ch. Aliette Signature + Daconil Ultrex + Terra Fert. (22-4-7) | 4 oz + 3.8 oz + 0.5# N | 14+ 30 | 7.3 AB | 7.0 A | 7.5 A | 6.5 A |
| Nutri-Grow P+K + Dac. Ultrex | 5 fl oz + 3.8 oz | 14 | 6.5 AB | 6.0 BC | 6.3 B | 6.0 AB |
| Unfertilized Control | — | — | 6.3 B | 5.8 BC | 5.8 BC | 5.8 BC |
| Terra Fert. (22-4-7) Control | 0.5# N | 30 | 6.0 B | 5.3 C | 5.3 C | 5.3 C |

Table 11. Quality Rating (0-10, 7 acceptable)

| <u>Treatment</u> | <u>Rate/1000ft²</u> | <u>Interval (Days)</u> | <u>Quality^a</u> | | | |
|--|--------------------------------|----------------------------|----------------------------|---------------|---------------|---------------|
| | | | <u>3-Aug</u> | <u>11-Aug</u> | <u>17-Aug</u> | <u>24-Aug</u> |
| Ch. Aliette Signature + Daconil Ultrex + Terra Fert. (22-4-7) | 4 oz + 3.8 oz + 0.5# N | 14+ 30 | 7.8 A | 8.5 A | 8.5 A | 9.0 A |
| Nutri-Grow P+K + Dac. Ultrex | 5 fl oz + 3.8 oz | 14 | 6.5 B | 7.3 B | 6.8 B | 7.5 B |
| Unfertilized Control | — | — | 4.5 C | 6.0 C | 6.0 BC | 7.0 BC |
| Terra Fert. (22-4-7) Control | 0.5# N | 30 | 4.0 C | 5.0 D | 5.3 C | 5.8 C |

^aMeans followed by the same letter are not significantly different (LSD, p=0.05).

1998-99 Snow Mold Fungicide Studies A and B

Two corporation-sponsored snow mold fungicide field studies were conducted during the fall and winter of 1998-99. Study A was applied on the Boyne Highlands Resort in Harbor Springs, MI on 28 Oct, 1998 (except where noted in Tables 12-13), and study B was applied on the Treetops/Sylvan Resort in Gaylord, MI on 30 Oct, 1998 (except as noted in Tables 1 - 4). Treatments were applied preventively to three replicate 6' x 9' (Boyne Highlands) or 3' x 9' (Treetops) creeping bentgrass (*Agrostis palustris*)/annual bluegrass (*Poa annua*) fairway plots where the turf was maintained at approximately ½" height of cut. Liquid treatments were applied with a CO₂ backpack sprayer at a pressure of 36 psi and a volume of 100 GPA (except where noted in Tables 12-13). Granular products were pre-weighed and hand-applied.

Studies A and B were rated on 31 March 1999 immediately following snow cover melt off. The predominant snow mold species was *Typhula incarnata* at Boyne Highlands and *Typhula ishkariensis* at