

## Kentucky Bluegrass Melting-Out Fungicide Study - 1990

### Hancock Turfgrass Research Center

The 1990 melting-out (*Dreschlers poae*) fungicide trial was conducted at the Hancock Turfgrass Research Center on the MSU campus at East Lansing, MI, on irrigated Kenblue Kentucky bluegrass (*Poa pratensis*) turf maintained at 1½" height of cut. The study was set up in three replications of a random block design with a 3' x 6' plot size. All treatments were applied with a CO<sub>2</sub> small-plot sprayer at 30 PSI and a volume of 48 gal/A. The plot area was fertilized dormant in 1989 (fall) and at the rate of ¼# N/1000 ft<sup>2</sup> on May 25, 1990 and June 6, 1990.

Treatments were applied preventively on May 9, with subsequent treatments being applied at 14 and 21 day intervals as indicated on the data table (Table 2). Disease pressure was mild this year, with the controls exhibiting approximately 43% of maximum disease levels.

As the data indicates (Table 2), a number of standard fungicides (Vorlan, Chipco 26019) and experimental fungicides (CGA-455, Pace) exhibited excellent disease control this year. Most treatments gave significant disease control compared to the untreated control plots.

## Summer Patch Fungicide Study #1 - 1990

### Dearborn Country Club, Dearborn, MI

The summer patch fungicide study at Dearborn Country Club was initiated preventively on April 30, 1990 (except as noted on data tables). A second application was made on May 30, 1990 (except as noted on data table). Treatments were foliarly applied (sprayed) or sprayed and then drenched into the root zone as requested in the protocols.

The disease pressure was very light this year due to a relatively cool, moist summer. Early season yellowing caused by the summer patch pathogen faded in and out during the summer, but resulted in only mild thinning of the turf. In a typically stressful July-August period, these chlorotic areas would have thinned drastically.

On September 15, disease pressure peaked for the season and the study was rated (Table 3). As the data indicates, statistical significance between treatments was limited by low disease pressure and variability within treatments.

Phytotoxicity was first documented on June 25, following the second application on May 30. The SAN 619 (.66 oz) treatment created a dark green turf with some undesirable leaf necrosis. This effect persisted throughout the season and is reported in the September 15 rating table. The lower rate of SAN 619 (.33 oz), however, caused a dark green turf which was aesthetically acceptable, without the necrosis observed at the higher rate. Unfortunately, low levels of disease in the controls reduced statistically significant differences in disease control among the various treatments.

## Summer Patch Fungicide Study #2 - 1990

### Highland Golf Club, Grand Rapids, MI

The summer patch fungicide study at Highland Golf Club was initiated preventively on May 2, 1990 (except as noted on data tables). A second application was made on May 31, 1990 (except as noted on data tables). Treatments were either applied foliarly (sprayed) or sprayed and then drenched into the soil, as requested in the research protocols.

Whereas summer patch disease pressure was light at Dearborn, it failed to develop at all in the Grand Rapids study, hence, no summer patch data was obtained from this study this year. Dollar spot (*Lanzia sp.*, *Moellerodiscus sp.*), however, moved aggressively and uniformly into the study and two ratings (mid-late summer) are included in this report. As Table 4 indicates, at approximately 3 months after the last application, some products, such as SAN 619, Banner, Bayleton, Chipco 26019, and Lesco 017530 were still controlling dollar spot quite effectively.

#### Dollar Spot Fungicide Trial - 1990

##### Hancock Turfgrass Research Center, MSU, East Lansing, MI

The 1990 dollar spot (*Moellerodiscus sp.*, *Lanzia sp.*) fungicide trial was conducted on an irrigated Emerald creeping bentgrass (*Agrostis palustris huds*) putting green at the Hancock Turfgrass Research Center on the MSU campus. The green was maintained at ¼" height of cut and fertilized at 3/8 lb N/Mo. Treatments were applied curatively to 3' x 6' plots in three replications of a random block design on 7, 10, 14, 21 and 28 day schedules as indicated on the data tables. The initial treatments were applied on August 17, 1990. By the end of the study, weekly treatments had been applied 7 times, 10-day treatments were applied 4 times, 14 day treatments were applied 4 times, 21 day treatment were applied 3 times, and 28 day treatments were applied twice.

Disease pressure was moderate this year, reaching a peak for the season around September 20 when the enclosed rating (Table 5) was taken. As the data indicates, all treatments gave significant control of dollar spot, compared to the controls. Many standard and experimental compounds gave complete control of the disease but Fungo and the fertilizer treatments were least effective. It should be noted that the dollar spot strain in this plot area is resistant to the benzimidazole fungicides, such as Fungo.

To phytotoxicity was noted in this study although a "greening effect" was observed in some treatment plots as noted on data Table 5.

#### Yellow Tuft Fungicide Trial - 1990

##### Hancock Turfgrass Research Center, MSU, East Lansing, MI

The 1990 yellow tuft (*Sclerophthora macrospora*) fungicide study was conducted on an irrigated Penneagle creeping bentgrass putting green at the Hancock Turfgrass Research Center on the MSU campus. Foliar treatments were applied preventively to 6' X 6' plots in three replications of a random block design.

Initial applications were made on May 24, 1990 with subsequent applications being made at 14 and 21 day intervals through Sept. 28.

Disease pressure was light this year but it peaked around the time of the August 22 rating. As Table 6 indicates, both Subdue and Aliette gave significant control of the disease compared to the control. Aliette at the 8 oz. rate was mildly phytotoxic to the bentgrass from approximately day 3 to day 10 following each application throughout the season.

Table 4. Dollar Spot Fungicide Study #2.

Highlands Golf Course, Grand Rapids, MI  
Dollar spot rating scale: 0 (no disease) - 10 (100% of plot area infected)  
Rating date: 8/28/90

| Treatment              | Rate/1000 ft <sup>2b</sup> | Applic. interval (dates) | I | II | III | AVE | DMR <sup>a</sup> |
|------------------------|----------------------------|--------------------------|---|----|-----|-----|------------------|
| Bayleton               | 2 oz                       | 75°+30 days (6/20,7/19)  | 2 | 1  | 1   | 1.3 | F                |
| Ch.26019               | 8 fl oz                    | --- (7/19,8/16)          | 1 | 2  | 1   | 1.3 | F                |
| SAN-619 F              | .66 oz                     | 65°+30 days (5/2,5/31)   | 2 | 1  | 2   | 1.7 | F                |
| Lynx (EC)              | 1.67 fl oz                 | 75°+30 days (6/20,7/19)  | 2 | 1  | 2   | 1.7 | F                |
| Lynx(DF)+X-77          | 1 oz + 0.6% v/v            | 75°+30 days (6/20,7/19)  | 2 | 1  | 2   | 1.7 | F                |
| Ch.26019               | 4 fl oz                    | --- (7/19,8/16)          | 1 | 2  | 2   | 1.7 | F                |
| Banner                 | 4 fl oz                    | 75°+30 days (6/20,7/19)  | 2 | 2  | 2   | 2.0 | F                |
| Lynx (F) + X-77        | 1 fl oz + .06% v/v         | 75°+30 days (6/20,7/19)  | 1 | 2  | 6   | 3.0 | EF               |
| SAN-619 F              | .33 oz                     | 65°+30 days (5/2,5/31)   | 2 | 6  | 4   | 4.0 | DE               |
| Bayleton               | 2 oz                       | 75° only (6/20)          | 7 | 6  | 4   | 5.7 | CD               |
| Bayleton               | 2 oz                       | 65°+30 days (5/2,5/31)   | 8 | 3  | 8   | 6.3 | BC               |
| Rubigan <sup>d</sup>   | 2 fl oz                    | 65° only (5/2)           | 8 | 5  | 7   | 6.7 | ABC              |
| Rubigan <sup>d</sup>   | 4 + 4 fl oz                | 65°+30 days (5/2,5/31)   | 9 | 7  | 5   | 7.0 | ABC              |
| Rubigan <sup>d</sup>   | 2 + 2 fl oz                | 65°+30 days (5/2,5/31)   | 9 | 5  | 7   | 7.0 | ABC              |
| Banner                 | 4 fl oz                    | 75° only (6/20)          | 5 | 8  | 8   | 7.0 | ABC              |
| Vorlan (F) + Fungo (F) | 2 fl oz + 2 fl oz          | 65°+30 days (5/2,5/32)   | 5 | 8  | 9   | 7.3 | ABC              |
| Lesco 017530           | 6 lbs                      | 65°+30 days (5/2,5/31)   | 9 | 7  | 6   | 7.3 | ABC              |
| Banner                 | 4 fl oz                    | 65°+30 days (5/2,5/31)   | 9 | 7  | 6   | 7.3 | ABC              |
| Asc-66811              | .06 oz ai                  | 65°+30 days (5/2,5/31)   | 7 | 7  | 8   | 7.3 | ABC              |

Table 4. Dollar Spot Fungicide Study #2 (cont.)

| Treatment              | Rate/1000 ft <sup>2b</sup> | Applic. interval (dates) | I | II | III | AVE | DMR <sup>d</sup> |
|------------------------|----------------------------|--------------------------|---|----|-----|-----|------------------|
| Banner <sup>d</sup>    | 4 fl oz                    | 65°+30 days (5/2,5/31)   | 7 | 8  | 8   | 7.7 | ABC              |
| Control                | ---                        | ---                      | 8 | 6  | 9   | 7.7 | ABC              |
| Rubigan <sup>d</sup>   | 4 fl oz + 4 oz             | 75°+30 days (6/20,7/19)  | 8 | 8  | 8   | 8.0 | AB               |
| Rubigan <sup>d</sup>   | 4 fl oz                    | 65°+30 days (5/2,5/31)   | 9 | 8  | 7   | 8.0 | AB               |
| Ch.26019               | 4 fl oz                    | 65°+30 days (5/2,5/31)   | 8 | 9  | 7   | 8.0 | AB               |
| Lynx (EC)              | 1.67 fl oz                 | 65°+30 days (5/2,5/31)   | 9 | 8  | 7   | 8.0 | AB               |
| Terraguard             | 6 oz                       | 65°+30 days (5/2,5/31)   | 7 | 8  | 9   | 8.0 | AB               |
| Vorlan (F) + Fungo (F) | 1 fl oz + 1 fl oz          | 65°+30 days (5/2,5/31)   | 8 | 9  | 8   | 8.3 | AB               |
| Ch.26019+Banner        | 4 fl oz + 2 fl oz          | 65°+30 days (5/2,5/31)   | 9 | 8  | 8   | 8.3 | AB               |
| Ch.26019 + Rubigan     | 4 fl oz + 2 fl oz          | 65°+30 days (5/2,5/31)   | 8 | 8  | 9   | 8.3 | AB               |
| Lynx(F)+X-77           | 1 fl oz + .06% v/v         | 65°+30 days (5/2,5/31)   | 9 | 8  | 8   | 8.3 | AB               |
| Lynx(DF)+X-77          | 1 oz + .06% v/v            | 65°+30 days (5/2,5/31)   | 9 | 7  | 9   | 8.3 | AB               |
| RH-3866                | .5 oz ai                   | 65°+30 days (5/2,5/31)   | 9 | 8  | 8   | 8.3 | AB               |
| ASC-66811              | .015 oz ai                 | 65°+30 days (5/2,5/31)   | 9 | 8  | 8   | 8.3 | AB               |
| ASC-66617              | .4 fl oz                   | 65°+30 days (5/2,5/31)   | 9 | 8  | 8   | 8.3 | AB               |
| Terraguard             | 2 oz                       | 65°+30 days (5/2,5/31)   | 9 | 8  | 8   | 8.3 | AB               |
| Terraguard             | 4 oz                       | 65°+30 days (5/2,5/31)   | 7 | 9  | 9   | 8.3 | AB               |
| Rubigan <sup>d</sup>   | 8 fl oz                    | 65°+30 days (5/2,5/31)   | 9 | 8  | 9   | 8.7 | A                |
| Vorlan (F)             | 2 fl oz                    | 65°+30 days (5/2,5/31)   | 8 | 9  | 9   | 8.7 | A                |
| Lesco "Twosome"        | 4.4 fl oz                  | 65°+30 days (5/2,5/31)   | 9 | 8  | 9   | 8.7 | A                |

Table 4. Dollar Spot Fungicide Study #2 (cont.)

| Treatment <sup>c</sup> | Rate/1000 ft <sup>2b</sup> | Applic. interval (dates) | I  | II | III | AVE | DMR <sup>d</sup> |
|------------------------|----------------------------|--------------------------|----|----|-----|-----|------------------|
| Lesco "Twosome"        | 8.8 fl oz                  | 65°+30 days (5/2,5/31)   | 9  | 8  | 9   | 8.7 | A                |
| Ch.26019               | 8 fl oz                    | 65°+30 days (5/2,5/31)   | 9  | 9  | 8   | 8.7 | A                |
| CGA-455                | 28 gm ai                   | 65°+30 days (5/2,5/31)   | 9  | 8  | 9   | 8.7 | A                |
| ASC-66811              | .03 oz ai                  | 65°+30 days (5/2,5/31)   | 8  | 9  | 9   | 8.7 | A                |
| ASC-66617              | .2 fl oz                   | 65°+30 days (5/2,5/31)   | 9  | 8  | 9   | 8.7 | A                |
| ASC-66791              | 8 oz                       | 65°+30 days (5/2,5/31)   | 9  | 8  | 9   | 8.7 | A                |
| Bayleton               | 2 oz                       | 65° only (5/2)           | 9  | 8  | 9   | 8.7 | A                |
| Terraguard             | 8 oz                       | one app. (5/2)           | 9  | 9  | 8   | 8.7 | A                |
| Rubigan <sup>d</sup>   | 4 oz                       | 75° only (6/20)          | 10 | 9  | 8   | 9.0 | A                |
| Banner                 | 16 gm ai                   | 65° only (5/2)           | 9  | 9  | 9   | 9.0 | A                |
| ASC-66791              | 6 oz                       | 65°+30 days (5/2,5/31)   | 9  | 9  | 9   | 9.0 | A                |

<sup>a</sup>5% level of significance

<sup>b</sup>Rates listed are formulation unless listed as "ai" (active ingredient)

<sup>c</sup>Blanked out treatments are proprietary

<sup>d</sup>Treatments sprayed and drenched into soil