

## TURFGRASS DISEASE MANAGEMENT REPORT 1987-88

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## SNOW MOLD FUNGICIDE TRIAL - 1987-88

Boyne Highlands Resort, Harbor Springs, MI

The 1987-88 snow mold fungicide studies were conducted at the Boyne Highlands Resort in Harbor Springs, MI, on irrigated Penncross creeping bentgrass (Agrostis palustris)/annual bluegrass (Poa annua) fairways which were mowed at 1/2" height of cut. Treatments were applied preventively to 6' x 9' plots in three replications of a random block design on various dates, as indicated on the data table, ranging from October 6 through December 10. The sprayable formulations were applied with a CO<sub>2</sub> small-plot sprayer at 30 PSI and a volume of 48 gal/acre. The granular treatments were pre-weighed and applied by hand. The plots were rated for disease immediately upon snow cover melt-off on April 5, 1988.

As can be seen from the control plot ratings (Table 1), disease pressure was fairly heavy this year with Typhula incarnata being the predominant gray snow mold species (compared to T. ishkariensis in recent years). Most of the standard snow mold fungicides continued to provide consistent control across all replicates. These products include Calo-Clor, Calo-Gran, Proturf FF II, Daconil 2787, and the Daconil 2787 + Tersan 1991 combination. PCNB formulated as a 10% a.i. granular (Turfcide 10G) did not seem to be reliably effective while PCNB formulated as an emulsifiable concentrate (Turfcide 2EC) was effective, although mild to moderate phytotoxicity was noted. A number of experimental compounds (SAN. 619, Rizolex, RH-3486, FBC 39865, Prochloraz) seemed to provide excellent control of gray snow mold and warrant further investigation in future years.

Very little pink snow mold (Fusarium nivale) was present in the plots this year, so no ratings were taken.

## KENTUCKY BLUEGRASS MELTING-OUT FUNGICIDE TRIAL - 1988

Hancock Turfgrass Research Center

The 1988 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 1/2" 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 at a volume of 48 gal/acre.

Treatments were initiated preventively on May 11 with subsequent applications being made on 14, 21 or 28 day schedules or as otherwise noted on the data table. The plots were rated on June 18, at which time the 14 day treatments had been applied three times (5/11, 5/25, 6/9), the 21 day treatments had been applied twice (5/11, 5/31) and the 28 day treatments had been applied twice (5/11, 6/9). Disease levels were moderate this year due to early season heat and drought. As the data table (Table 2) shows, the

Table 2. Kentucky Bluegrass Melting-Out Fungicide Trial - 1988

Hancock Turfgrass Research Center, M.S.U., E. Lansing, MI

Disease rating scale: 1 (no disease) - 9 (90% or more of leaves infected)

Plots rated 6/18/88

Treatment	Rate/1000 ft <sup>2</sup>	Interval	I	II	III	Ave	DMR(.05) <sup>a</sup>
Dac 2787	6 fl oz	14 day	1	1	1	1.0	D
Chipco 26019	4 fl oz	28 day	2	1	1	1.3	CD
Banner	2 fl oz	21 day	2	2	2	2.0	BCD
Dac 2787	3 fl oz	14 day	1	3	2	2.0	BCD
SDS-66608	11.2 oz	1 appl only	2	2	2	2.0	BCD
Vorlan	1 oz	21 day	2	2	3	2.3	BC
SDS-66608	3.7 oz	2 appl - 14 days apart	2	2	3	2.3	BC
SDS-66608	7.4 oz	1 appl only	1	3	4	2.7	B
Banner	4 fl oz	21 days	3	3	3	3.0	B
Control	----		4	5	5	4.7	A

a = Treatments followed by the same letter are not significantly different from each other at the 5% level

standards (Dac 2787, Chipco 26019) continue to work well against melting-out. All treatments gave significant disease control compared to the controls.

No phytotoxicity was observed.

#### BROWN PATCH FUNGICIDE TRIAL - 1988

Hancock Turfgrass Research Center, MSU, E. Lansing, MI

The 1988 brown patch (Rhizoctonia solani) fungicide trial was conducted on irrigated Loretta perennial ryegrass (Lolium perenne L.) mowed at a 2" height of cut. Treatments were applied preventively to 6' x 9' plots in three replicates of a random block design beginning on June 24 with reapplication at the intervals listed on the data table. The treatments were applied with a CO<sub>2</sub> small-plot sprayer at a volume of 48 gal/A and 30 PSI. The area was fertilized at 1 lb N/1000 ft<sup>2</sup> per month to promote disease development.

At the time of the rating (8/3/88), the 7 day treatments had been applied 6 times, the 14 day treatments had been applied 3 times and the 21 and 28 day treatments had been applied twice. As the controls indicate (Table 3), disease pressure was relatively light this year, probably due to the dry, hot weather we experienced through June and July. Much of the disease that did occur was expressed as a sweeping and superficial leaf spot symptom as opposed to the more typical defined, crown and sheath-level patches. Nevertheless, a number of compounds such as Daconil 2787 and the SDS 66534 experimental did give significant control of this disease compared to the control.

#### SUMMER PATCH FUNGICIDE STUDIES - 1988

As a result of our 1987 summer patch (Magnaporthe poae, formerly Phialophora graminicola) studies which suggested preventive fungicide applications were more effective and practical than curative treatments for the control of summer patch, we decided to conduct all summer patch fungicide trials preventively in the 1988 season. We, therefore, established preventive studies on irrigated, annual bluegrass (Poa annua) golf course fairways in three different locations in Michigan where the disease was observed in previous years. All treatments were applied prior to disease occurrence in three replications of a random block design utilizing a 6' x 9' plot size. The fairways were maintained at 1/2" cutting height and were fertilized with 1/2 #N/mo (except as noted on data tables). They were also treated for weed and insect pests as necessary. No fungicides, other than those being tested, were applied to the studies.

Applications were made foliarly using a CO<sub>2</sub> small-plot sprayer at 30 PSI and a volume of 48 gal/A (except as noted on data tables). Granular treatments were pre-weighed and applied by hand.

In general, summer patch disease pressure was severe this summer because of the record high temperatures we experienced in Michigan. We, therefore, experienced a break-down of disease control by August, as the data tables indicate. It is still our feeling, however, that preventive fungicide control of summer patch is preferable to curative control efforts, although recommendations for timing and number of treatments may be modified for next