Turfgrass Disease Management Report - 1989-90

Dr. J.M. Vargas
R. Detweiler
C. Golembiewski
K. Penner

Department of Botany and Plant Pathology
Michigan State University
East Lansing, MI 48824

Introduction

The fungicide field trials conducted this year were established under a standard format of 3 replications/treatment in a randomized block design. Plot size was generally 6' x 9', with the exception of the dollar spot trial on creeping bentgrass and the red-thread trial where a 3' x 6' plot was used and the melting-out and yellow tuft fungicide trials where a 6' x 6' plot size was used.

All sprayable (WP, WDG, FL, EC, etc.) treatments were applied with a CO_2, back-pack sprayer utilizing Tee-jet flat fan nozzles producing 48 gal. of spray volume/acre at 30 PSI. Granular (non-sprayable) treatments were pre-weighed and hand-applied.

Data were analyzed using an analysis of variance test and a Duncan's multiple range test at a 5% level of significance.

Snow Mold Fungicide Study - 1989-90

Boyne Highlands Resort, Harbor Springs, MI

The 1989-90 snow mold (*Typhula incarnata*, *Typhula ishikariensis*) fungicide study was conducted at the Boyne Highlands Resort in Harbor Springs, MI, on an irrigated, moderately fertilized Penncross (*Agrostis palustris*) creeping bentgrass/annual bluegrass (*Poa annua*) fairway which was mowed at ½" height of cut. Treatments were applied preventively on 10/28/89.

The plots were rated as soon as the snow cover melted off on 3/22/90. Both gray snow mold organisms were present in the plots this year, so both are cited in the data table (Table 1) where the total percent gray snow mold/plot is listed, followed, in parenthesis, by the percentage plot area infected by *Typhula ishikariensis*. The remainder of the infection was caused by *Typhula incarnata*.

As the data indicates (Table 1), most treatments gave significant control of gray snow mold this year, compared to the control. Especially encouraging for the future is the disease control obtained with non-mercury-based treatments such as various Terraclor formulations, Scotts F & FII, and the Daconil 2787 & Ch. 26019 combination.

Since we visited the plot site approximately 2 weeks after treatment application, we were able to take a phytotoxicity rating in the fall (11/13/89) as well as the following spring (3/22/90). Both ratings are recorded on data Table 1.

Table 1. Snow Mold Fungicide Study - 1989-90

Boyne Highlands Resort, Harbor Springs, MI
Percent plot area infected with gray snow mold
(*Typhula incarnata*, *Typhula ishikariensis*) on 3/22/90

Treatment	Rate/1000 ft[2b]	I		II		III		Combined AVE	DMR[a]
		incar.	ishi.	incar.	ishi.	incar.	ishi.		
Ch. 26019 + D. 2787	8 fl oz + 8 fl oz	0	0	0	0	0	0	0^{h}	D
Terraclor(DF)	18 oz	0	0	0	0	0	0	0^{c}	D
Calo Gran	6 lbs	0	0	0	0	0	0	0^{cd}	D
Scotts F+FII	2 x	0	0	0	0	0	0	0^{gh}	D
SAN 832F	63.78 gm.ai.	0	.1	0	0	0	0	.03	D
SAN 832F	85.04 gm.ai.	0	0	0	0	.1	0	$.03^{c}$	D
Terraclor(DF)	12 oz	0	0	.1	0	.1	0	.07	D
Rhizolex	85.05 gm.ai.	0	.2	0	0	0	0	.07	D
Terraclor(W)	16 oz	0	.2	0	0	.1	.1	$.13^{c}$	D
Prochloraz + Flutolanil	2 oz.ai. + 2 oz.ai	0	0	0	1	0	0	$.3^{c}$	D
Calo-Clor	3 oz	0	0	0	0	0	1	$.3^{def}$	D
Terraclor(W)	8 oz	0	1	.1	0	0	0	$.33^{c}$	D
Terraclor(DF)	24 oz	0	0	0	.2	1	0	$.37^{c}$	D
Terraclor(W)	12 oz	2	0	0	0	0	0	.7	D
Ch.26019 + D.2787	2 fl g + 8 fl oz	0	.2	0	3	0	0	1.1	D
SDS66791	10 oz	.1	.2	0	0	0	4	1.4	D

Table 1. Snow Mold Fungicide Study - 1989-90 (cont.)

Treatment	Rate/1000 ft[2b]	I		II		III		Combined AVE	DMR[a]
		incar.	ishi.	incar.	ishi.	incar.	ishi.		
CGA-455(W)	16 gm.ai	0	0	.1	0	5	0	1.7	CD
Lesco 001880	7.5 lbs	.1	0	2	3	.2	0	1.8	CD
Lesco 017720	6 lbs	.5	0	.5	0	4.5	.5	2[gh]	CD
SAN 619F	3.78 gm.ai.	.1	2	0	2	2	1	2.4	CD
ICIA 0523	8 gm.ai.	3	1	.2	0	0	4	2.7	CD
Scotts F+FII	1 X	0	.2	5	2	2	0	3[gh]	CD
SAN 619F	7.56 gm.ai.	1	1	1	2	4	1	3.3[c]	CD
CGA 455	8 gm.ai.	.5	0	0	.1	10	0	3.5	CD
Ch. 26019	3 oz.ai	1	1	0	0	1	9	4[cd]	CD
G. 696	2 lbs	1	3	0	0	4	4	4[ce]	CD
T. 1991 + D. 2787	2 oz + 8 fl oz	0	10	0	2	.1	0	4[h]	CD
SDS 66791	6 oz	.1	0	.5	0	20	5	8.6[h]	CD
Banner	16 gm.ai.	1	0	20	10	2	0	11	BCD
Lesco 017720	4 lbs	5	0	14	1	14	1	11.7[gh]	BCD
G 696	1 lb	9	1	0	.2	15	10	11.7[ce]	BCD
CGA-455(G)	16 gm.ai.	35	0	0	0	7	0	14[h]	BCD
PMAS	2 fl oz	.2	0	0	0	40	5	15.1[def]	BCD
EXP 10069A	3 oz.ai.	10	20	2	1	10	5	16	BCD
S-2621	3 X	2	18	1	9	25	5	20	BCD
Ch. 26019	2 oz.ai	10	30	20	0	8	2	23.4	BC
SDS66811	3 oz	18	2	30	5	30	5	30	B

Table 1. Snow Mold Fungicide Study - 1989-90 (cont.)

Treatment	Rate/1000 ft[2b]	I		II		III		Combined AVE	DMR[a]
		incar.	ishi.	incar.	ishi.	incar.	ishi.		
Control	----	30	10	20	15	35	35	48.3	A
Prochloraz	3 oz.ai.	50	20	2	0	55	20	49[c]	A
Prochloraz	2 oz. ai.	20	40	32	3	50	25	56.7[c]	A

[a]5% level of significance.

[b]Rates listed are formulation unless listed as "ai" (active ingredient).

[c]Mild phytotoxicity on 11/13/89.

[d]Mild phytotoxicity on 3/22/90.

[e]Moderately severe phytotoxicity on 11/13/89.

[f]Moderately severe phytotoxicity on 3/22/90.

[g]Greening effect on 11/13/89.

[h]Greening effect on 3/22/90.