

New Fungicides for Anthracnose Control, Fungigation, Fairway Yellowing,
and Chemical Control of *Typhula* blight, *Helminthosporium* melting-out,
and *Sclerotinia* dollarspot.

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Snow Mold Fungicide Trials - 1979-1980

The 1979-80 snow mold fungicide trials were conducted at the Boyne Highlands Resort on Penncross creeping bentgrass mowed at 1/2 inch. Treatments were applied to 6 feet x 9 feet plots in three replications of a random block design on October 31, 1979. The wettable powders and flowables were applied with a small-plot CO₂ sprayer at a volume of 40 gal/acre. The granular applications were made with a 3 foot Scott's drop-type spreader. The plot ratings were taken on April 8, 1980 (Tables 1, 2 and 3).

Results

Temperatures were moderate up through mid-December, 1979. This was followed by freezing temperatures before the snow fell in mid-January. Therefore, when the snow fell it was on frozen ground. Under these conditions, the two prevalent snow molds were *Typhula* blight caused by *Typhula ishikarensis*, and *Fusarium* patch caused by *Fusarium nivale*. The majority of the *Typhula* blight in the Harbor Springs area has been due to *Typhula incarnata* over the past 12 years. Perhaps the frozen ground prior to snow fall caused the population shift. There was also more *Fusarium* patch than in previous years.

The PCNB products (Pro Turf F+FII, Acti-dione RZ, and Terraclor 75W), the mercury fungicides (Calo-clor, Calo-gran), and the Daconil 2787 combination products (Daconil 2787 plus Tersan 1991 or Chipco 26019) were the highest ranking fungicides of those that gave significant total snow mold reduction compared to the untreated control.

In tables 2 and 3 when the specific snow molds are factored-out, Daconil 2787 and CGA-64251 are seen to have activity against *Typhula* blight but not *Fusarium* patch.

Table 1. Percent Area Infected With All Snow Molds. *Typhula* Blight (*Typhula ishikarensis*) and Fusarium Patch (*Fusarium nivale*) in Boyne Highlands Snow Mold Fungicide Trials 1979-80.

Treatment	Rate/1000 ft ²	Replication			AVE	DMR (5%)
		I	II	III		
Pro Turf F+FII	2X	0	0	2	.7	A
Acti-dione RZ	8 oz.	0	1	1	.7	A
Calo-clor	3 oz.	1	2	2	1.7	A
Calo-gran	6 lbs.	5	1	7	4.3	A
Daconil 2787 (500) + Tersan 1991	11 fl. oz. + 2 oz.	10	2	10	7.3	AB
Daconil 2787 (WP) + Tersan 1991	8 oz. + 2 oz.	15	2	5	7.3	AB
Terraclor 75W	8 oz.	2	1	25	9.3	ABC
Daconil 2787 (WP) + Tersan 1991	4 oz. + 2 oz.	10	5	20	11.7	ABC
Daconil 2787 (500)	6 fl. oz.	20	10	15	15	ABCD
Daconil 2787 (WP) + Chipco 26019	4 oz. + 4 oz.	15	15	15	15	ABCD
Daconil 2787 (500) + Tersan 1991	9 fl. oz. + 2 oz.	20	15	15	16.7	ABCD
Daconil 2787 (500) + Chipco 26019	6 fl. oz. + 6 oz.	5	15	30	16.7	ABCD
Daconil 2787 (WP)	8 oz.	30	10	10	16.7	ABCD
BFN 8099	25 fl. oz.	10	5	40	18.3	ABCD
Daconil 2787 (500)	11 fl. oz.	15	20	30	21.7	ABCD
CGA-64251	10 gm. ai.	5	40	25	23.3	ABCD
Daconil 2787 (500)	9 fl. oz.	60	5	10	25	ABCD
Tersan SP	9 oz.	45	15	20	26.7	ABCD
Pro Turf Broad Spectrum	2X	40	0	40	26.7	ABCD
Chipco 26019	4 oz.	15	30	40	28.3	ABCD
Daconil 2787 (500) + Tersan 1991	6 fl. oz. + 2 oz.	25	5	15	30	ABCD
BFN 8099	12.5 fl. oz.	15	15	60	30	ABCD
Bayleton + Dyrene	1 oz. + 6 oz.	40	20	30	30	ABCD
Bayleton	1 oz.	50	25	20	31.7	ABCD
CGA-64251	20 gm. ai.	1	10	90	33.7	ABCD
Bayleton	6 oz.	35	30	60	41.7	BCDE
Chipco 26019	6 oz.	30	30	70	43.3	CDE
Bayleton	20 oz.	40	70	25	45	CDE
Bayleton	12 oz.	90	15	40	48.3	DE
Daconil 2787 (WP)	4 oz.	40	40	70	50	DE
Check	-	90	40	80	70	E

Note: All treatments followed by the same letter are not significantly different from each other at the 5% level of significance.

Table 2. Percent Area Infected With Typhula Blight (*Typhula ishikarensis*) in Boyne Highlands Snow Mold Fungicide Trials 1979-80.

Treatment	Rate/1000 ft ²	Replication			AVE	DMR (5%)
		I	II	III		
Daconil 2787 (500)	6 fl. oz.	0	0	0	0	A
Daconil 2787 (500)	9 fl. oz.	0	0	0	0	A
Calo-clor	3 oz.	0	0	0	0	A
CGA-64251	10 gm. ai.	0	0	0	0	A
Calo-Gran	6 lbs.	0	1	0	.3	A
Acti-dione RZ	8 oz.	0	0	1	.3	A
Pro Turf F+FII	2X	0	0	2	.7	A
Daconil 2787 (WP)	8 oz.	10	0	0	3.3	AB
Daconil 2787 (WP) + Tersan 1991	8 oz. + 2 oz.	15	2	0	5.7	AB
Daconil 2787 (500) + Tersan 1991	11 fl. oz. + 2 oz.	10	0	10	6.7	AB
Bayleton	20 oz.	0	0	25	8.3	AB
Terraclor	8 oz.	2	0	25	9	AB
CGA-64251	20 gm. ai.	0	0	30	10	AB
Bayleton	12 oz.	20	10	0	10	AB
Bayleton + Dyrene	1 oz. + 6 oz.	10	10	10	10	AB
Daconil 2787 (500) + Tersan 1991	6 fl. oz. + 2 oz.	25	5	5	11.7	AB
Daconil 2787 (WP) + Tersan 1991	4 oz. + 2 oz.	10	5	20	11.7	AB
Daconil 2787 (500)	11 fl. oz.	15	20	5	13.3	AB
Daconil 2787 (500) + Chipco 26019	6 fl. oz. + 6 oz.	0	15	30	15	AB
Daconil 2787 (WP) + Chipco 26019	4 oz. + 4 oz.	15	15	15	15	AB
Daconil 2787 (500) + Tersan 1991	9 fl. oz. + 2 oz.	20	15	15	16.7	AB
Daconil 2787 (WP)	4 oz.	0	40	10	16.7	AB
BFN 8099	25 fl. oz.	10	5	40	18.3	AB
Chipco 26019	4 oz.	0	30	40	23.3	ABC
Chipco 26019	6 oz.	0	0	70	23.3	ABC
Bayleton	1 oz.	25	25	20	23.3	ABC
Bayleton	6 oz.	30	30	10	23.3	ABC
Tersan SP	9 oz.	45	15	20	26.7	ABC
Pro Turf Broad Spectrum	2X	40	0	40	26.7	ABC
BFN 8099	12.5 fl. oz.	15	15	60	30	BC
Check	-	80	20	40	46.7	C

Note: All treatments followed by the same letter are not significantly different from each other at the 5% level of significance.

Table 3. Percent Area Infected With Fusarium Patch (*Fusarium nivale*) in Boyne Highlands Snow Mold Fungicide Trials 1979-80.

Treatment	Rate/1000 ft ²	Replication			AVE	DMR (5%)
		I	II	III		
Daconil 2787 (500) + Tersan 1991	9 fl. oz. + 2 oz.	0	0	0	0	A
Daconil 2787 (WP) + Tersan 1991	4 oz. + 2 oz.	0	0	0	0	A
BFN 8099	12.5 fl. oz.	0	0	0	0	A
BFN 8099	25 fl. oz.	0	0	0	0	A
Daconil 2787 (WP) + Chipco 26019	4 oz. + 4 oz.	0	0	0	0	A
Tersan SP	9 oz.	0	0	0	0	A
Pro Turf F+FII	2X	0	0	0	0	A
Pro Turf Broad Spectrum	2X	0	0	0	0	A
Acti-dione RZ	8 oz.	0	1	0	.3	A
Terraclor	8 oz.	0	1	0	.3	A
Daconil 2787 (500) + Tersan 1991	11 fl. oz. + 2 oz.	0	2	0	.7	AB
Daconil 2787 (WP) + Tersan 1991	8 fl. oz. + 2 oz.	5	0	0	1.7	AB
Calo-clor	3 oz.	2	2	1	1.7	AB
Daconil 2787 (500) + Chipco 26019	6 fl. oz. + 6 oz.	0	0	5	1.7	AB
Daconil 2787 (500) + Tersan 1991	6 fl. oz. + 2 oz.	10	0	0	3.3	AB
Calo-Gran	6 lbs.	7	0	5	4	AB
Chipco 26019	4 oz.	0	0	15	5	ABC
Daconil 2787 (500)	11 fl. oz.	0	0	25	8.3	ABCD
Bayleton	1 oz.	25	0	0	8.3	ABCD
Daconil 2787 (500)	6 fl. oz.	20	10	5	11.7	ABCD
Daconil 2787 (WP)	8 oz.	20	10	10	13.3	ABCD
Bayleton	6 oz.	50	0	5	18.3	ABCD
Bayleton + Dyrene	1 oz. + 6 oz.	30	10	20	20	ABCD
Chipco 26019	6 oz.	30	30	0	20	ABCD
Check	-	10	20	40	23.3	ABCD
CGA-64251	10 gm. ai.	5	40	25	23.3	ABCD
CGA-64251	20 gm. ai.	1	10	60	23.7	ABCD
Daconil 2787 (500)	9 fl. oz.	60	5	10	25	ABCD
Daconil 2787 (WP)	4 oz.	40	0	60	33.3	BCD
Bayleton	20 oz.	40	70	0	36.7	CD
Bayleton	12 oz.	90	5	20	38.3	D

Note: All treatments followed by the same letter are not significantly different from each other at the 5% level of significance.