Fall (and Snow Mold) is Almost Here

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Though we're currently entrenched in the dog days of summer, subtle changes are signaling fall is on the way. The days have grown a bit shorter, nights are starting to turn a touch cooler, and in many cases summer workers have lost all concentration as school nears. When coupled with professional, college, and high school football players beginning their practice regime it signals that fall is just around the corner. While normally a time to wind down and relax after a stressful summer, worries about controlling disease during the upcoming winter season can make the fall more stressful than many turfgrass managers had hoped for. The probable future loss of PCNB for turfgrass uses, coupled with new snow mold control products released into the market in recent years, may have golf course superintendents thinking about changing the products they have traditionally used. But with all the products available for controlling snow mold, which products are the most effective? And which products give you the best protection for a price your budget can afford?

While you'll have to haggle with the salesmen over which products fit your budget, I have included a table out of the 2005-2006 University of Wisconsin Snow Mold Research Reports at Gateway Golf Club in Land O' Lakes, WI to help determine which products are the most effective (Table 1). This trial from two years ago was chosen because of low disease pressure and ice damage in our 2006-2007 trials, and also because the high disease pressure in this trial differentiated between those products providing superb disease control and those that allowed significant breakthrough (Figure 1). Treatments were applied on October 15th (early), November 5th (late), or both depending on the protocol provided by the fungicide provider. Though damage was seen from gray snow mold (*Typhula incarnata*) and pink snow mold (*Microdochium nivale*), the great majority of damage seen in this trial resulted from speckled snow mold (*T. ishikariensis*). The plots were rated for percent disease on April 14th, and the mean disease ratings are expressed in Table 1. Those means that have a matching letter following the mean do not significantly differ.

Damage to the untreated controls was 100%, and no treatment provided complete control of all snow molds under this extreme pressure. But several treatments did provide excellent disease control, holding disease infection to under 5%. Those treatments are numbers 3, 8, 9, 14, 15, 19, 22, 23, 28, 32, 37, and 38. An important thing to note with all these treatments is that almost all of them contain a mixture of three separate active ingredients, which is essential to obtain proper control under heavy disease pressure.

	Treatment	Rate	Timing[a]	% Snow mold[b]
1	Untreated Control			100 a
2	18 Plus	4 FL OZ/M	Early	22 g-l
	Manicure Ultra	5 OZ/M	Early	
	Revere 4000	12 FL OZ/M	Late	
3	18 Plus	4 FL OZ/M	Late	5 kl
	Manicure Ultra	5 OZ/M	Late	
	Revere 4000	12 FL OZ/M	Late	
4	Spectator Ultra	4 FL OZ/M	Early	8.7 jkl
	Revere 4000	12 FL OZ/M	Late	
5	AMVAC Par-Flo	12 FL OZ/M	Late	63.3 a-k
6	Revere 4000	12 FL OZ/M	Late	85 a-e
7	Insignia	0.7 OZ/M	Early	25.3 e-l
	18 Plus	4 FL OZ/M	Late	
	Manicure Ultra	5 OZ/M	Late	
8	Spectator Ultra	4 FL OZ/M	Early	3.3 kl
	Insignia	0.7 OZ/M	Early	
	Manicure Ultra	5 OZ/M	Late	
9	Insignia	0.7 OZ/M	Early	1.7 l
	Manicure Ultra	5 OZ/M	Late	
	Revere 4000	12 FL OZ/M	Late	
10	Armada	1.2 OZ/M	Early	49 a-l
	Revere 4000	12 FL OZ/M	Late	
11	Manicure Ultra	5 OZ/M	Early	43.3 a-l
	PCNB 12.5% plus 10-3-23E	6 LB/M	Late	
12	Headway	3 FL OZ/M	Early/Late	60 a-l
13	Headway	5.25 FL OZ/M	Late	33.3 d-l
14	Headway	5.25 FL OZ/M	Late	4 kl
	Daconil WeatherStik	5.5 FL OZ/M	Late	
15	Headway	5.25 FL OZ/M	Late	1.3 l
	Medallion	0.5 OZ/M	Late	
16	Banner MAXX	4 FL OZ/M	Early/Late	17.7 h-l
	Medallion	0.5 OZ/M	Late	
17	Banner MAXX	4 FL OZ/M	Late	12.3 h-l
	Medallion	0.5 OZ/M	Late	
18	Daconil WeatherStik	5.5 FL OZ/M	Late	13.3 h-l
	Medallion	0.5 OZ/M	Late	
19	Instrata	5.5 FL OZ/M	Early/Late	3.3 kl
20	Instrata	4.7 FL OZ/M	Late	33.3 d-l
21	Instrata	6 FL OZ/M	Late	24.7 e-l
22	Instrata	9.3 FL OZ/M	Late	1 l
23	Instrata	11 FL OZ/M	Late	1.3 l
24	Medallion	0.14 OZ/M	Late	26 e-l
	Daconil WeatherStik	2.36 FL OZ/M	Late	
	Banner MAXX	1.7 FL OZ/M	Late	

Table 1. Percent snow mold at Gateway Golf Club in Land O' Lakes, WI from the winter of 2005-2006.

But what about lesser snow mold disease pressure, such as is usually seen in central and southern Wisconsin? It is true that in most years superintendents in the southern part of the state can get acceptable snow mold control with little or even no fungicide protection. But the problem with snow mold lies in the fact that you only have one shot at getting it right. If you decrease your snow mold protection in the anticipation of a benign winter, there is nothing you can do if the winter turns out to be unexpectedly cold and snowy. Damage from snow molds and winter injury can significantly affect the playability of the course well into springtime, which could reduce play and ultimately the revenue of the golf course. So take the time this fall to choose the products that will provide acceptable snow mold control at a price you can afford, and then sit back and enjoy the cooler temperatures and the changing leaves.

	Treatment	Rate	Timing[a]	% Snow mold[b]
25	Banner MAXX	2 FL OZ/M	Late	61.7 a-l
	Daconil WeatherStik	5.5 FL OZ/M	Late	
26	Banner MAXX	2 FL OZ/M	Late	27.7 e-l
	Turfcide 400	6 FL OZ/M	Late	
27	Turfcide 400	12 FL OZ/M	Late	63.3 a-k
28	Insignia	0.7 OZ/M	Late	1 l
	Manicure Ultra	3.2 OZ/M	Late	
	Iprodione Pro	4 FL OZ/M	Late	
	Revere 4000	8 FL OZ/M	Late	
29	Heritage TL	2 FL OZ/M	Late	35 c-l
	Medallion	0.5 OZ/M	Late	
30	Heritage TL	2 FL OZ/M	Late	10.7 kl
	Medallion	0.5 OZ/M	Late	
	Daconil WeatherStik	5.5 FL OZ/M	Late	
31	Heritage TL	3.5 FL OZ/M	Late	56.7 a-l
	Daconil WeatherStik	5.5 FL OZ/M	Late	
32	26 GT	4 FL OZ/M	Late	3.3 kl
	Daconil WeatherStik	5.5 FL OZ/M	Late	
	Turfcide	4 FL OZ/M	Late	
33	Tartan	2 FL OZ/M	Late	81.7 a-g
34	Tartan	2 FL OZ/M	Late	73.3 a-h
	26 GT	4 FL OZ/M	Late	
35	Tartan	2 FL OZ/M	Late	25 e-l
	Turfcide	4 FL OZ/M	Late	
36	26 GT	4 FL OZ/M	Late	58.3 a-l
	Compass	0.25 OZ/M	Late	
37	Lynx Flo	1 FL OZ/M	Late	2.3 kl
	Compass	0.25 OZ/M	Late	
38	Lynx Flo	1 FL OZ/M	Late	4.3 kl
	Compass	0.25 OZ/M	Late	
	26 GT	4 FL OZ/M	Late	
39	Insignia	0.9 OZ/M	Late	23.7 h-l
	Iprodione Pro	4 FL OZ/M	Late	
	Revere	8 FL OZ/M	Late	
40	Insignia	0.9 OZ/M	Late	25.7 e-l
	Iprodione Pro	4 FL OZ/M	Late	
	Manicure Ultra	3.2 OZ/M	Late	
41	Insignia	0.7 OZ/M	Early/Late	23.3 h-l
	Iprodione Pro	4 FL OZ/M	Early/Late	
	Manicure Ultra	3.2 OZ/M	Early/Late	
42	Turfcide 400	12 FL OZ/M	Late	71.7 a-l
43	Turfcide 400	9 FL OZ/M	Late	25.7 e-l
44	AND5017	6.66 LB/M	Late	50 a-l
45	AND5174	6.66 LB/M	Late	13.3 h-l
46	AND4334	9 LB/M	Late	53.3 a-l
47	AND4333	9 LB/M	Late	38.3 b-l
48	AND5176	6.36 LB/M	Late	70 a-l
49	AND5177	6.36 LB/M	Late	66.3 a-j
50	AND5173	10 LB/M	Late	15 h-l
51	AND3224	6.35 LB/M	Late	95 abc
52	26/36	4 FL OZ/M	Late	90 a-d
	Endorse	4 OZ/M	Late	
53	26/36	4 FL OZ/M	Late	83.3 a-f
	Daconil WeatherStik	5.5 FL OZ/M	Late	
54	26/36	4 FL OZ/M	Late	96.7 ab
	Daconil WeatherStik	5.5 FL OZ/M	Late	
	Alude	5.5 FL OZ/M	Late	
55	Endorse	4 OZ/M	Late	100 a
56	Endorse	4 OZ/M	Late	96.7 ab
	Spectro	5.75 OZ/M	Late	
57	Spectro	4 OZ/M	Early	90 a-d
	Endorse	4 OZ/M	Late	
	Spectro	4 OZ/M	Late	
58	CL-EXP-4	1 FL OZ/M	Late	95 abc
59	CL-EXP-4	1 FL OZ/M	Late	91.7 a-d
	Spectro	5.75 OZ/M	Late	
60	Spectro	4 OZ/M	Early	93.3 a-d
	CL-EXP-4	1 FL OZ/M	Late	
	Spectro	4 OZ/M	Late	

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
Early and late fungicide treatments were applied on Oct. 15, 2005 and Nov. 5, 2005, respectively
Mean % diseased area
Phytotoxicity was rated on a scale of 1-9 where 1 = straw colored, 6 = acceptable, 9 = dark green

Table 1. ***continued.***

Figure 1. The differences between treatments that provided excellent control of snow mold and those that fall short are very clear in this trial.