

## Spring Disease Summary

by Randy Kane  
CDGA Turf Advisor

As usual, the disease situation in Chicagoland varies with the weather — and as usual, the weather this spring wasn't the best for turf, but was favorable to a couple of troublesome fungi. We had a couple of record highs in mid-March and the warm weather continued into early April. However, the latter part of April and most of May were cold, cloudy, and wetter than normal. Because of these extended cold and wet conditions, I found more than the usual amount of two diseases — Fusarium patch (aka Microdochium patch) caused by *Microdochium nivale*, and take-all patch of bentgrass caused by *Gaeumannomyces graminis avenae*.

Fusarium patch is the same disease as pink snow mold, only it doesn't occur under snow. *M. nivale* is favored by prolonged periods of leaf wetness and temperatures anywhere from the mid 30s to 55 or 60°F. Cold damp nights and cloudy days are highly favorable. The fungus seems to prefer *Poa annua* under these conditions, which generally occur in mid-spring and mid-to-late autumn. Symptoms are typically small yellow to copper red colored spots that enlarge up to several inches across. Larger spots may have a blue-gray wilted "smoke ring" around the edge. On mixed bent-*Poa* greens, the *Poa* is preferentially attacked, similar to anthracnose.

In some cases, usually in warmer weather, *Microdochium* can cause a diffuse leaf blight that can be confused with several other problems. Also, surface water movement or mowing patterns can cause streaking of symptoms and the disease can be confused with some type of *Pythium* problem. Control of Fusarium patch is relatively easy with fungicides, but it often takes quite a while for the plants to recover and wounds to heal — because of the cool temperatures.

Take-all patch symptoms are usually much more severe when we have hot and/or dry early summer conditions after a cold and wet spring (sound familiar?). In most cases, symptoms appear on new construction or newly renovated bentgrass areas, although this year I have seen quite a bit on older, long-established golf course fairways. Patches are usually first seen in early morning when no dew forms on the stressed plants. (This can be separated from localized dry spots by the almost perfect circles of take-all). Affected patches often turn yellow to reddish brown. Older patches often have healthy grass or weeds in the center, giving the "frog eye" appearance. Patches can be small circles of 6 inch diameter, all the way up to 3 or 4 foot diameter circles. On half-inch bent fairways, most of the plants will survive the disease, making the patch noticeable but not critical. On sand based greens under more stress, take-all can be quite devastating.

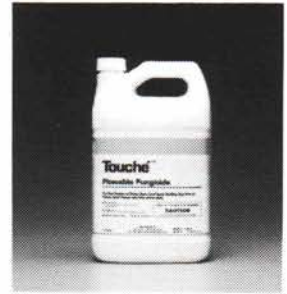
In the short term, once you see that you have the disease, there is not much you can do for control. The fungus was actively colonizing roots much earlier in the season, and curative fungicide applications will have marginal effects, at best. The best course of action is to

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(Spring Disease continued)

“baby” symptomatic areas with additional water and fertilizer to relieve stress and promote recovery. Unfortunately, in many cases **Poa annua** and other turf weeds recolonize take-all patch infected areas.

If this problem becomes recurring, there are several courses of action to take over the long term. One course is to utilize ammonium-based acidifying fertilizers spring and fall. These fertilizers may decrease disease by stimulating bacteria in the rhizosphere that inhibit **Gaeumannomyces**. Also, core aeration promotes rooting and microbial competition and breakdown of thatch, which can lessen the impact of take-all.

Finally, we have seen some success with repeated applications of DMI fungicides such as Rubigan. However, the best timing for fungicide use is a question, and the expense of multiple applications to several greens or many acres of fairways makes this option less palatable. Research on possible cultural and biological controls for take-all continues, as do fungicide timing and rate studies.

A final note — the hot and dry conditions we saw in June also caused a number of complaints about dark rings on putting greens. These rings are very common on older golf courses, and are commonly referred to as “superficial fairy rings”. These very rarely cause any damage to the turf, and act as an indication that fertility levels are low. Extra N may be needed this year because of the heavier than normal rainfall we had in May.

## How hot does it *feel* today?

Temperature and humidity are the most important factors influencing your summertime comfort. This table, using figures from the National Weather Service, shows the “apparent” temperature — how the hot weather really *feels*.

RELATIVE HUMIDITY	AIR TEMPERATURE (DEGREES F.)				
	80	85	90	95	100
	APPARENT TEMPERATURE				
<b>20%</b>	77	82	87	93	99
<b>30%</b>	78	84	90	96	104
<b>40%</b>	79	86	93	101	110
<b>50%</b>	81	88	96	107	120
<b>60%</b>	82	90	100	114	132
<b>70%</b>	85	93	106	124	144
<b>80%</b>	86	97	113	136	
<b>90%</b>	88	102	122		
<b>100%</b>	91	108			

The National Institute of Health warns that hot weather can be especially difficult for the elderly and people with heart problems, stroke or diabetes. To avoid heat-related problems this summer, the Institute recommends:

Stay out of direct sunlight.

Wear a hat and light-colored, loose-fitting clothes.

Avoid strenuous exercise, and drink plenty of liquids.



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