



# Why Take-All Patch and Anthracnose Are the Most Commonly Diagnosed Diseases at the TDL?

By Dr. Geunhwa Jung, Department of Plant Pathology, University of Wisconsin-Madison

At this time of the year, I like to think back to what has been accomplished in the Wisconsin turfgrass pathology program. One of the activities of the lab has been to serve clientele such as golf course superintendents, sod producers, homeowners as well as chemical, seed, and equipment suppliers through the Turfgrass Diagnosis Lab (TDL). I want to express deepest gratitude to those people and associations that have helped with the University of Wisconsin turfgrass pathology research and extension efforts. They include superintendents, the Wisconsin Turfgrass Association, the Wisconsin Golf Course Superintendent Association, the Northern Great Lake Golf Course Superintendent Association, the Wisconsin Sod Producer Association, Olds Seed Company, Spring Valley, graduate students, and the staff at the TDL. My appreciation also extends organizations and individuals that were not listed here.

Do you know which turfgrass diseases are most commonly diagnosed each year at the TDL? Is this because of the prevailing occurrence of the disease or because of its difficulty and confusing diagnosis by the superintendent? Here I attempt to answer the question by presenting a summary of turfgrass disease samples diagnosed over the last three years.

On right, each individual figure represents each year's turfgrass samples received from golf courses only and diagnosed at the TDL (Fig. 1). Hopefully the information will broaden your perspective on what is happening in terms of disease activity outside your own golf course. Most importantly, you will equip yourself with more knowledge. In fact, it was an eye-opening experience for me to learn that several turfgrass diseases stand out consistently.

I am sure that there will be a certain degree of confusion and difficulty in diagnosis by superintendents. However, it is more likely that those diseases have severe consequences so that superintendents want to have positive identification of it before any curative applications. Regardless of what causes some pathogens to be the higher number of samples diagnosed, you have utilized the TDL this year and will use it next year. That is the primary reason for the existence of the TDL in Wisconsin.

Here are a few facts drawn from the samples diagnosed over the past three years.

1. Take-all patch caused by *Gaeumannomyces graminis* var. *avenae* was the most frequently

diagnosed disease at the TDL every year. The reason is probably due to several factors: slow attack of root invading fungus, difficulty of diagnosing with the initial appearance only being vague symptoms, and fast loss of turfgrass under warm and dry weather conditions. It is most likely due to the difficulty of controlling the disease. Just for your information, this soil borne pathogen is most prominent on 2 to 5 year-old-creeping bentgrass greens with a high sand content and a pH above 6.5. It attacks the roots and crowns of grass. The way of diagnosing the pathogen is low shoot density of grasses with the

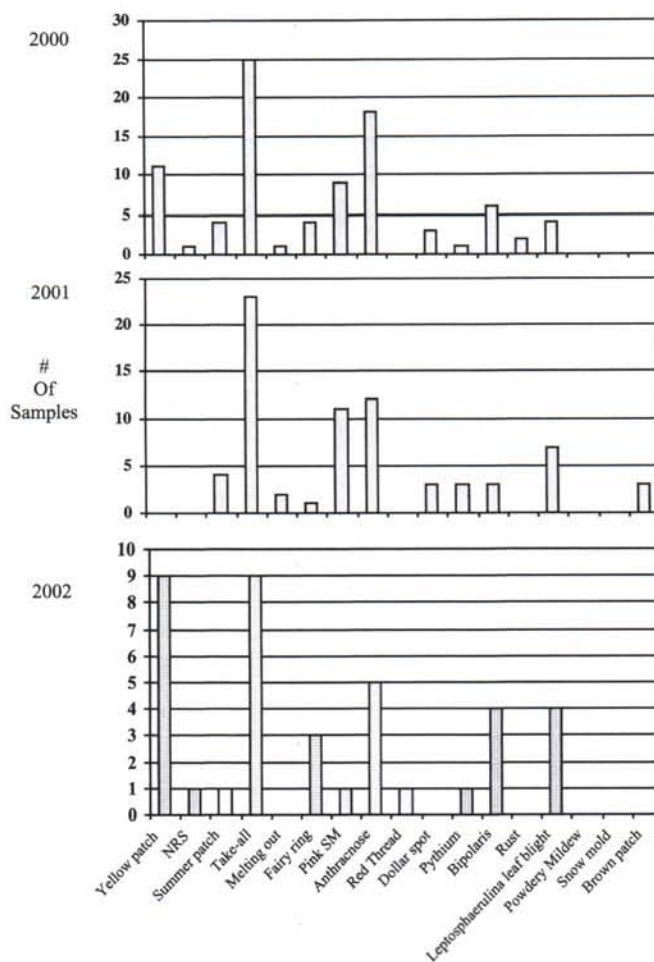


Figure 1. Frequency distribution of the number of samples from golf courses which were diagnosed for turfgrass diseases at the Wisconsin turfgrass diagnosis lab during the past three years 2000, 2001, and 2002. Note: NRS (necrotic ring spot) and SM (snow mold).

leaves turning yellow, then bronze at the tip and progressing downward. Using a low-power magnifying glass (50x), it can be diagnosed by its black or dark-brown ectotrophic mycelium on the lower leaf sheaths, crowns, and roots of grasses. The best recommendation would be the use of fungicides for reducing symptom severity. These should be used on preventive basis in late fall and early spring. This should also be followed with careful irrigation management of the disease. Frequent shallow irrigation has shown to reduce disease symptoms throughout the summer.

2. Anthracnose caused by *Colletotrichum graminicolar* was another commonly diagnosed disease in Wisconsin. This pathogen attacks the shoots and roots of grasses, primarily *Poa annua* and occasionally creeping bentgrass. It is becoming a very serious pathogen at times. This disease is not hard for superintendents to diagnose, but the damaging impact is so severe that they want to reconfirm it via the TDL before curative application of

fungicides. Please find more information on fungicide efficacy from an article titled "Why has it been so hard to control anthracnose these past few years?" in 2002's Nov./Dec. issue of The Grass Roots. Most of samples came in during July and August, but some samples from areas such as Milwaukee and Sheboygan were submitted in June and even May.

3. Yellow patch and *Leptosphaerulina* leaf blight are the other diseases commonly diagnosed. *Leptosphaerulina* leaf blight occurs on bentgrass, ryegrass, and *Poa*. The disease symptoms may easily be confused with dollar spot. This pathogen attacks the leaves of the grass usually under some sort of stress (moisture, herbicide, traffic, and etc.). Abundant ascospores (muri-form with 2-6 transverse septa and 0-3 longitudinal septa) can be easily diagnosed microscopically. Most samples came into the lab between July and September depending on environmental conditions each year. On the other hand, all yellow patch samples came into the lab between April and May. ♣



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