The Wilkinson-Kane Report: What's Rotting the Turf?

Each year golf and other turfs experience problems, including disease, wear from use, insect damage, and environmental stress (drought, heat, compaction, suffocation, etc.). While the severity of these problems will vary from season to season, they can generally be expected to develop annually. In the case of diseases, which will include nematodes, fungi and bacteria, there are over 100 different types that could reduce the quality of your turf during any given season. Between the two of us, we have spent 24 years studying the diseases that affect your turf, and we have the dubious privilege of discovering eight new turf diseases.

Turf pathology is the study of turf diseases, and it is not a stagnant field by any means. Changes in management, construction techniques and materials, weather patterns, grass cultivars, pesticides, fertilizers, herbicides and so on, collectively keep turf managers and scientists from having the answers to all the problems. For this very reason, it is important to keep a careful eye out each season for what is developing in your turf. By determining which problems are increasing in frequency and severity, and which are declining, we can effectively direct our resources and research time to minimize the impact of problems and better prepare you to manage turf diseases when they do develop.

We spend considerable time collecting information about what diseases are present each year, where they are observed, and what controls have worked or failed. This information is collected through visits to courses, discussions with superintendents at meetings, discussions with other scientists at meetings, or on the phone. There is a lot of "buzzing" between turf pathologists during the season. This is very useful for predicting problems before they develop. Fortunately, diseases do not all of a sudden appear on one green or tee. Generally, disease conditions develop over large areas and move along with the prevailing weather patterns. For example, problems in Minnesota, Wisconsin and Iowa are often a preview of what is coming to Illinois. Likewise, northwest Illinois can be used to assist us in predicting diseases in the Chicago area. During the past two years, we have employed another technique to assess the types and intensities of diseases affecting superintendents in Illinois and other midwest states. At meetings in which we participate, we have attending superintendents fill out a survey card. The information from these cards is used in several ways.

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By understanding which diseases are problems on golf courses in contiguous areas, we can alert Illinois superintendents of what to expect. We can rapidly diagnose what problems are developing in Illinois. Most importantly, we can prioritize our time and resources to address the most pressing turf disease needs. In particular, these data guide us in preparing lectures, short courses, and descriptive articles for superintendents. For example, these data are used to assist in the design and planning of the educational sessions at the NCTE. Another excellent use of these data are for directing and focusing our research activities. If managing summer patch is the most common problem for superintendents, then we need to understand this and direct a significant portion of our time and energy toward improving your ability to manage this disease.

What are the most important diseases that superintendents face? We have collected the information

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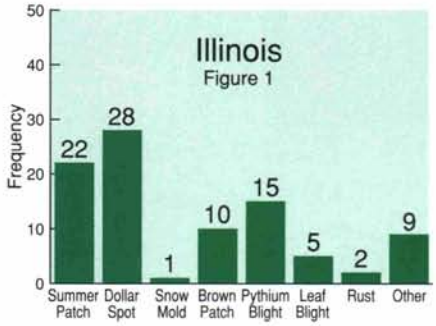
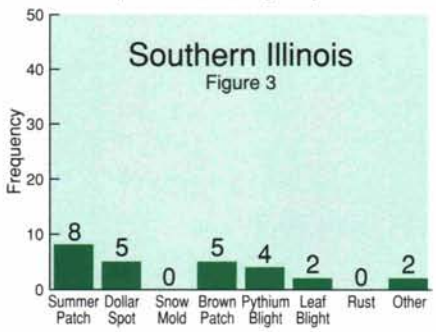
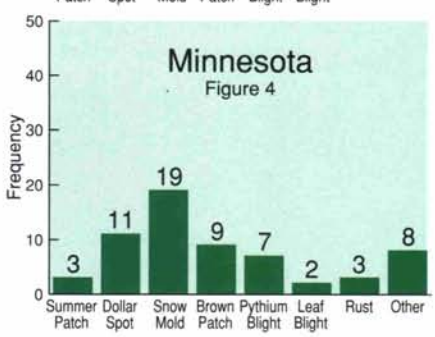
below from you, the superintendents.

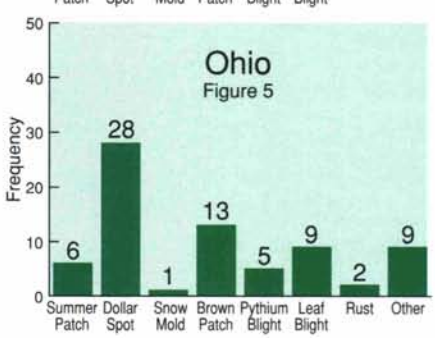
ILLINOIS— In Figure 1, you can see that 28 superintendents out of 87 ranked dollar spot as the disease that they deal with most. Next, you ranked summer patch as the second most frequently experienced problem. You will also notice that *Pythium* is ranked higher than brown patch. This surprised us! We thought brown patch was a more frequent disease than *Pythium*. In Figures 2 and 3, representing northern Illinois and central and southern Illinois, respectively, you will see that in the central and southern parts of the state, the important diseases are hot summer patch and dollar spot. This is reasonable because the climate downstate is hotter longer, which tends to encourage more diseases. The northern third of Illinois is cooler longer; and, therefore, fewer diseases can develop during a given season.

MINNESOTA— As you can now tell, we gave a talk in Minnesota, so we have data for it (Figure 4). As you might expect, snow molds are the big problem there. However, during the growing season, dollar spot is again the main problem, followed by brown patch and *Pythium*. It stands to reason that summer patch would not be a major concern in Minnesota because it requires stressful conditions in the summer to fully develop. On the other hand, you can see that the Minnesota superintendents have a bigger problem with necrotic ring spot and take-all patch, which were indicated as their "other" problems. Both of these diseases require cool, wet conditions in the spring and fall to be serious problems.









OHIO— Yes, we got over to the Buckeye state, and there we found that dollar spot was again the big problem; but after that, brown patch was in second place (Figure 5). Leaf blights were a solid third, and fourth place was shared by *Pythium* and summer patch.

Collectively, these data tell us that dollar spot is the most persistent disease that we deal with. No wonder there are more fungicides available for it than for any other disease. You might wonder if common old dollar spot warrants more research and attention, since it is readily controlled by sound fertilization and fungicides. I would suggest, however, that the persistence of dollar spot, immense area of turf that it affects, and the large amounts of fungicides that are annually applied to control it are excellent justification for seeking alternative management strategies. As we see the situation based on these data, dollar spot, summer patch, *Pythium* blights and brown patch are the main diseases for which more information or management options are most needed for superintendents in Illinois.

How About Your Opinion?
We need your opinion! Take the time to fill out and mail us the survey card that will be enclosed with your next month's meeting notice. If you send us your information, you are supporting yourself and your golf course. ■

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