



Pythium — Our Number One Summer Disease Problem?

By Dr. Gayle L. Worf

I hate Pythium. Probably not for the same reason you do. You dislike it because of its destructive ways, its constant summer threat, and the fact that it takes a special group of chemicals to control it.

My abhorrence comes from its difficulty in the laboratory on some occasions to get a good diagnosis, the easy errors that are made with field diagnosis, and the lack of good information regarding some aspects of its control.

It seems to me that Pythium has become more important to us in the recent years. Part of the reason for that is because dollar spot control is easy to achieve, if you have a budget for it, and you can play "catch up" with it if early infections have gotten ahead of your last fungicide application. Also, I've personally not seen nearly as much dollar spot in the last few years. (I'm writing this on August 4 — watch this month make me wish I hadn't said that!) Ironically, dollar spot has shown up heavily in the variety plots at Yahara Hills this year, and you'll have a chance to see whether there are differences there, including in the bluegrass plots. I've attributed the reduction not only to good fungicide programs, but I've also wondered whether picking up fairway

clippings might also be helping. But even the roughs have not been hit so hard.

Maybe the hotter seasons have reduced dollar spot — and increased Pythium problems.

Most of us know classical Pythium. Sudden appearance. Greasy, water-soaked look, the grass quickly turning from green to gray, then brown. Accompanying white cob-web mycelium of the fungus active around the expanding margins. But sometimes the fungus isn't evident, and more often, there's fungus growth over the surface of healthy turf that **scares** us into thinking it's Pythium — and we make an expensive chemical application — even when the fungus is a mucor or some other non-pathogen. And after the attack, the symptoms can mimic scalped turf, dry spots, and other disorders, so it can be hard then to diagnose.

In the laboratory, when we try to make a quick diagnosis, we also look for the fungus, which most often has dried up and disappeared by the time we get it. So we look for the presence of oospores or oogonia. Trouble is, we nearly always can find a few scattered about even in healthy turf, if you look hard enough. So it sometimes be-

comes a judgment call. Isolations are a lot better, if it comes out in abundance within 24-48 hours on the right media from freshly affected tissue. But that takes time, which we don't usually want to give when treatment decision time is at hand.

Diagnostic kits available. That's why I've become a believer that the Pythium diagnostic kits are probably worth having around most golf courses, just in case. Some of you are acquainted with them, and are probably using them. There's one each for Pythium, Rhizoctonia brown patch, and dollar spots. They're being sold under the trade name "Reveal", six units to a pack, and should have a shelf life of a year. It might be useful in some situations for adjacent golf courses to share the costs of having them around, if cost is considered a problem with them.

Their early version had some legitimate complaints. It took up to three hours of "off and on" time to run. Now you can do it in 15 minutes easy. They now contain positive and negative controls to help you with your interpretation of results and know that you conducted the test properly.

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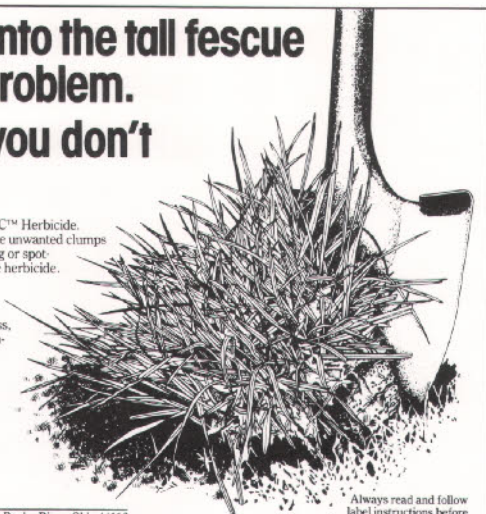
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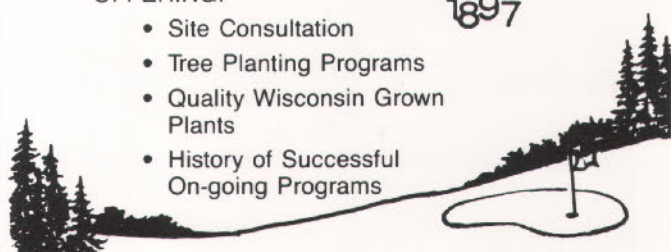
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The Ciba-Geigy Company had plans this year to offer some free kits to anyone who bought sufficient quantities of either Banner or Subdue. Their rationale was to insure better customer satisfaction when treating either brown patch or Pythium, to be sure you are treating the right disease! I don't know whether that was followed through, but I'd be anxious to hear from any kit users regarding your experiences this year.

Another reason for my disdain of Pythium is the reported difficulty in stopping damage on some occasions, and the varied explanations that are being offered, without really knowing for sure what's true and false. The pri-

mary chemicals on the market today for Pythium include Aliette, Banol, chloroneb, Koban and metalaxyl (Subdue and ProTurf Pythium Control). Fore is also registered. Some reports concerning the systemics, such as metalaxyl, say that they're poor at stopping existing infections because the chemical must get into the plant first in order to be effective. Could be. But if that is the case, how can we use them in in vitro laboratory tests to detect possible resistant strains? (The chemical is added to agar at different concentrations, upon which the fungus is seeded and growth rates compared.) So if we don't get control, is it misdiagnosis? Is it fungicide resistance? Is it improper fungicide application or timing?

And the questions about "low temperature Pythiums" re-cycle every year. There have been confirmations of certain strains causing foliar attacks in eastern states — I'm unaware of it here but it could occur. Also, there's nervousness at times about lower temperature, root attacking strains such as Dr. Clint Hodges reported out of Iowa on younger greens some years ago.

So there are lots of reasons for not liking Pythium! Even so, we've been making a few collections of Pythium isolates this summer, maybe to look at them a little more closely this winter, when the weather's not right for disease! Our thanks to those of you who have been providing us with sampling materials.

THE GENTLE GIANTS

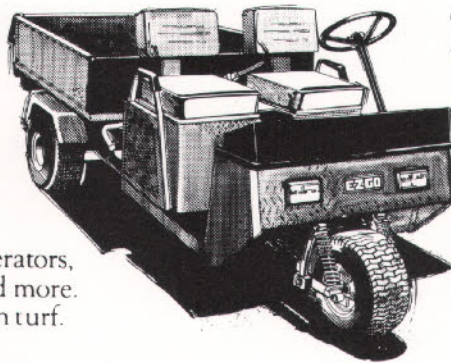
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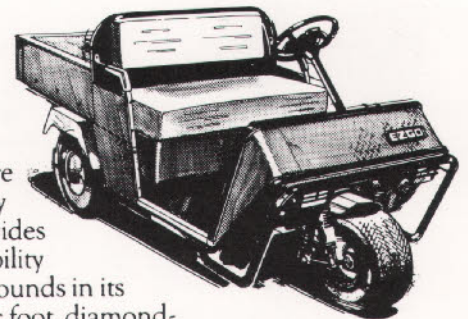
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