



Brown Patch Control is an Interesting Dilemma

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When a serious disease threatens, we want to know what to do about it. Brown patch disease represents one of those problems. Lots of fungicides are registered for the control of this disease, including the decarboximide—Chipco 26019 and Vorlan; the benzimidazoles—Cheary's 3336, Fungo 50, ProTurf Systemic Fungicide and Tersan 1991; sterol inhibitors—Banner, Bayleton, Fluid Fungicide II, Fungicide 7 and Rubigan; and old standbys such as Daconil 2787 and Dyrene. Even such products as Fore, captan, thiram, and especially PCNB (Terraclor, Turfcide and ProTurf FF II) have brown patch on their label. So with all of these compounds, what's the problem? Mainly, it's recurring reports of failures or disappointments by superintendents with so many of them over a period of time.

Maybe that shouldn't be surprising. The disease is caused by a very common fungus, *Rhizoctonia solani* (perfect stage is *Thanatephorus cucumeris*), which is widespread throughout the world in both cultivated and noncultivated soils. It is readily isolated from diseased plants and soils, with isolates differing in both pathogenicity and morphology. Several intraspecific groups are known, and there are international experts who spend much of their time learning the relationships and specific characteristics among them. It is believed that cultivated crops exert a strong influence upon the prevalence of a given intraspecific strain. Thus, those found in turf are especially adapted to working and living on that crop, and their population theoretically increases during the growing season because of the presence of grass and favorable temperature. All of us know that it is especially a problem during periods of higher temperature like we had this past season. Although it was drier than ideal for the disease, I suspect our irrigation provides all the moisture needed, just as it also did for Pythium. So we received several reports of brown patch along with ques-

tions concerning product failure. The fungus survives from season to season by means of sclerotia, and can live saprophytically as well as parasitically, so it's no wonder that it can be a problem for us.

I'm not acquainted with any study that has examined variability of isolates to fungicides, but I suspect that such variability exists, and therein may rest part of our problem. That is, what works against one strain on one course may not work someplace else. I think there's another reason, too: it's a very difficult disease about which to gather any reliable fungicide evaluations. In the years of our evaluation of fungicides, we have yet to encounter a single instance where we have had enough brown patch to compare chemicals! And we are not alone. In annual fungicide/nematode tests shared by colleagues over a long period of time, there are very few legitimate published reports. This leaves the chemical manufacturers with rather scanty data. It's not their fault, just the state of the art. And of course if they have any hint at all there's activity they want to get it on the label.

I've been tempted to begin a collection of *Rhizoctonia* isolates from Wisconsin golf courses and do some inoculating for screening purposes. I'm reluctant to do it on a cooperator's course, because I don't want to introduce a difficult-to-control strain. We inoculated at Camelot with a local strain last summer to demonstrate the diagnostic kits, and got just a little infection. I'm told by colleagues that's the normal field reaction, though the next year symptoms often show up better. We could do it in the greenhouse, but that has some limitations, too. Perhaps that's the kind of thing we should do—with some isolation—at the new O.J. Noer Center for Turfgrass Research.

Discerning superintendents can play an important role, I believe, in sharing their experiences and results with each other. It may be a project that the Golf

Course Superintendents would want to take up. I'd be willing to participate if there's a strong feeling that such an organized effort is needed.

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