

Anthracnose: The Classic 'Oops' Disease

Q For the first time, my course experienced a lot of anthracnose this year. Why?

A I don't know your specific situation, but here are some general thoughts: Anthracnose is caused by *Colletotrichum graminicola*. There are nearly 50 *Colletotrichum* species currently listed, several of which are important economic pathogens on a number of crops worldwide, including corn, potato, alfalfa, citrus and numerous tropical fruit crops.

Many cereals and grasses are susceptible to anthracnose during its favored environmental conditions, including bentgrass and poa annua. The first published identification of anthracnose on turfgrasses was apparently in 1930 in New Jersey. Bentgrasses most often get a foliar blight form of the disease, while poa, at least in Southern California, generally gets the basal rot form.

Anthracnose is a facultative parasite on turf, living most of the time as a saprophyte on organic matter in thatch. It's a relatively weak parasite compared to some other turf diseases, and Virginia Tech turfgrass professor H.B. Couch goes so far as to deny that it's a pathogen at all, calling it a "senecotroph," which can only colonize already-dying tissue.

Turfgrass pathologist J.M. Vargas describes anthracnose as an active pathogen, and part of the HAS (Helminthosporium/Anthracnose/Senescence) decline syndrome in poa. In his dissertation, The Ohio State University's Karl Danneberger presented an accurate degree-day model for anthracnose infection in bentgrasses in the upper Midwest.

In any case, it is undisputed that anthracnose can infect and finish off weakened and/or stressed turf, making

Been there, seen that

BY MIKE HEACOCK



a difficult situation much worse. It's a very stubborn disease, once you've got it, until environmental conditions change.

The key to anthracnose control is stress control on the turf. I think of anthracnose as an "oops" disease — one that you'll get when someone makes a mistake on the green during hot weather. A typical outbreak of anthracnose in Southern California occurs after the Fourth of July when many courses receive heavy play, the weather often turns suddenly hot, and the maintenance crew is short-staffed for three days in a row. With extra traffic and heat, areas of greens that receive less-than-perfect irrigation (too little or, more often, too much water) will be stressed, will start senescence, and within a week will have the classic and distinctive anthracnose fruiting bodies visible on leaf blades. Of course, the weather will remain hot

Getting It Straight

In my column on certified superintendents (August), I didn't make it clear that I believe acquiring the CGCS title is worthwhile and valuable. You'll learn a lot, be stimulated and feel good about that achievement. My qualms about the CGCS title and what it implies were in regard to the employer's perspective of job performance down the road, not the value to the individual of the initial experience. I'm sorry I didn't make that clear.

— Mike Heacock

the rest of the summer, and you'll be in for a long battle. Stress avoidance in hot weather is the key to anthracnose avoidance.

A number of heavily played public golf courses in Southern California have been successful in preventing anthracnose from taking hold by using an aggressive preventive fungicide program in combination with frequent green aeration. By "frequent," I mean biweekly through the summer, using a variety of equipment with smaller tines or blades. The idea is to keep soil aeration optimal to avoid root loss from anaerobic conditions. Topdressing is not applied after these aerations, and golf play is virtually uninterrupted.

Another critical factor is daily monitoring of salt levels in the root zone and frequent leaching as salts increase to not more than double the baseline level. As reclaimed water is utilized in more courses around the country, this practice may become more widespread.

Of course, fertility, irrigation, mowing and preventive fungicide programs all need to be appropriate if one is to escape anthracnose. However, preventing loss of roots by maintaining soil aeration and minimizing salt buildup has been the factor that has kept many of these courses essentially anthracnose-free for several years.

Naturally, these courses also practice an aggressive conventional aeration plus topdressing program, generally three or four times per year during the cooler months, including at least one deep-tining. Even if you've got relatively new greens, you can be susceptible to layering and begin to develop anaerobic and/or salty soil conditions.

Editor's Note: Mike Heacock, former vice president of agronomy and maintenance for American Golf Corp., fields your questions in his bi-monthly column. You can reach him at: mike.heacock@verizon.net or 310-849-5011.