

THE DEMON OF EXORCISM

BY CARMEN MAGRO



The power of cultural practices compels you! A sound management program is the best strategy to cast out the demon possessing your *Poa* greens – **ANTHRACNOSE.**

As a golf course superintendent, I battled forms of anthracnose that I believed were the work of the Devil – out to make sure that my turf suffered and to ensure my life was a living hell.

Anthracnose is a common scourge on the minds of many superintendents. As we enter a new spring in the northern hemisphere, there are many things to consider so we can limit the chances of this disease showing up. Note that anthracnose is primarily a disease affecting *Poa annua* and creeping bentgrass – both cool-season grasses – putting greens in particular although incidents of warm-season

hosts being affected are being identified. Many genetic enhancements, primarily to creeping bentgrass, have made the turf plant more resistant to anthracnose pressure. However, the facts support a sound management program is the best defense against this disease.

It was early in my career and, like many others, clueless as to how to handle it most effectively since the reports from academia were conflicting, to say the least. Some of us tried every mode-of-action pesticide we could to get a handle on the disease because the reports were saying if you have it, you have to treat it...period. Inheriting a slew of

pesticide technologies, my course hadn't seen the likes of anthracnose due to the residual effects of some very potent pesticides formulated decades ago. All of these I gladly gave up to the EPA amnesty collection program. We had no desire to use outdated or past pesticides that were no longer being made or were proven harmful to the environment. That one decision led to new ailments my turf hadn't seen when environmental stresses heightened early in my career. But with regard to knowing how to handle anthracnose, how things have changed.

Anthrachnose basically has two forms. One is the not so lethal foliar form that discolors turf, but can be treated fairly effectively with fungicides labeled for its control. The other, basal rot anthracnose, hollows out all life in the plant down through the crown and at the key junction where lower plant stems meet the crown. If anthracnose has matured to this level in your turf, control is typically not a viable option on the affected plants, and most efforts are more effectively



aimed insuring the surrounding turf does not get infected. Since anthracnose attacks *Poa annua* more severely than other common species, particularly on putting greens, many will over-seed with creeping bentgrass or simply perform cultural practices that allow *Poa annua* to establish from its viable seed bank in the soil. If I had a nickel for every course that believed they were making progress through over-seeding efforts where *Poa annua* was primarily coming in... One good thing about *Poa* is you can always expect it to return if you do the right thing to insure it does. Overseeding is typically pretty effective despite the fact that we are not seeding *Poa*.

In early turfgrass courses, we learn that a committed program to sound practices beginning with the proper turf species and sound irrigation, cultural and fertilization practices is the best defense against ailing stresses on our turf. Of all the diseases, this statement is not as important as it is with the control of anthracnose. It is controllable through sound practices, espe-

cially those affecting the nutritional uptake and movement through the turf plant. In nearly every anthracnose episode, there is some tie to a condition that is limiting the delivery, availability and movement of nutrients into

some of which may be very costly as the interval and rates typically increase when we have unexpected outbreaks of disease pressure.

So how do we limit the need for unexpected pesticide ap-

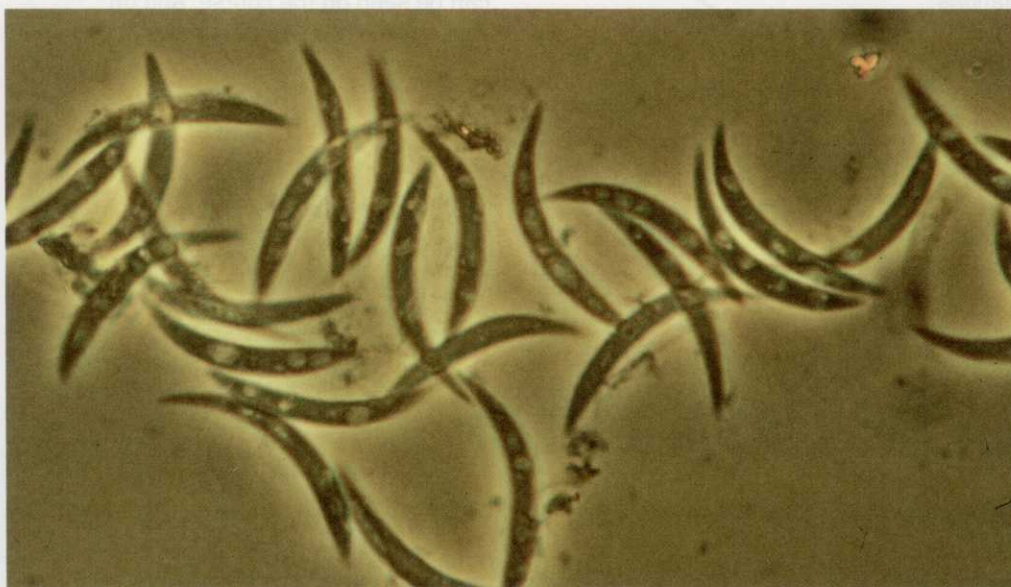
Keeping in mind the needs of the turf and considering those needs to adjust your fertility, irrigation and soil management practices appropriately in a timely manner will in fact greatly reduce your chances of anthracnose.

the plant. I've seen again and again how not-so-sound practices affected the movement of water, air and nutrients through the soil, and this almost always leads to increased episodes of disease. At the very least, it always leads to a lack of desired turf performance.

Remember, managing stresses and diseases or any other non-desirable influence on turfgrass performance is simply a checks-and-balances system. If the ailment or stress outweighs the plant's ability to tolerate it, then we will see non-desired results. This will lead to the need for increased pesticide applications,

plications? Better yet, how do we improve the performance of our turf and limit the chances for anthracnose showing up? A sound program has never been more important than it is with the control of Anthracnose. This is particularly the case as the spring season progresses. Last year, many experienced anthracnose outbreaks, and the industry rumor was that anthracnose "strains" were getting stronger. That was not the case. As many experienced unusual weather patterns that basically led to early spring growth activity – some areas experiencing spring growth in later winter – the plant's biological clock started earlier than usual. In nearly every situation where the management of the turf did not meet the early growth, there was a void left in the plant, particularly a nutritional void.

Two things should always match the growth of turf. One includes cultural practices like topdressing and irrigation management where we match the organic deposits of turf by diluting with sand (or removing with cultivation alternatives) or replace water that is being removed by plant activity. The other includes nutritional inputs. Turfgrass has an internal clock that does not operate by the calendar. Root growth begins



Colletotrichum graminicola (400X), causal agent of anthracnose diseases.

DISEASE MANAGEMENT

when the soil starts to climb just above freezing in the north (about 10 degree F warmer for warm-season grasses), then the need for nutrition exponentially gets greater with each passing day. Since turfgrass is typically grown in high-sand environments – on putting greens in particular – there is not a huge buffer of nutrients waiting to be picked up from the soil. In addition, the roots are not overly extensive early on and therefore do not cover a lot of soil area to pick up necessary nutrients that are present.

Therefore, more damage can be done to both cool- and warm-season grasses early in the growing season than many imagine. This damage can lead to disease issues later on, especially anthracnose (again primarily on cool-season turf), which is just waiting to thrive as soon as the turf is injured in some way (like cultivation practices or poor mowing practices).

While foliar anthracnose typically shows up in summer months, basal rot anthracnose can be found in any season of the year and



Basal rot hollows out all life in the plant down through the crown and at the key junction where lower plant stems meet the crown.

has even been found to be active underneath snow cover. Much work has been done and proven in recent years to support what we have seen in the field around the world... that anthracnose is directly related to nitrogen and other nutrient availability in the turf, as well as the overall conditioning of the turf. In other words, if your nutritional program is limiting or primarily depending on uptake from soil reserves of key nutrients like nitrogen, or

if you have injured turf from dull mowers, mechanical or other physical damages, you could be a prime candidate for an anthracnose outbreak. On the flip side, if you have a nutritional delivery system that meets the day-to-day needs of turf and you have a sound system that insures sharp mowers and limited physical damage to the turf plant, you greatly reduce anthracnose outbreaks.

Like many diseases, anthracnose thrives in extended moist conditions, particularly those that exceed 10 hours of moisture a day where the canopy remains wet. Insuring that thatch and soil conditions conducive for water control and movement through the profile exists greatly reduces the chances for anthracnose outbreak, as well. So don't skip that cultural practice designed to keep the profile performing well and be mindful of irrigation inputs to insure the water is always targeted to just beneath the root tips.

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(MORAGHAN continued from page 28)

ready to hit, hit!

- Get off your cell phone
- Practice on the range, not the course. And those five practice swings before each shot don't help
- Mulligans? Extra shots through the green? Certainly not if anyone is waiting. And even if they're not waiting. Don't
- When it comes to choosing which tees to play, leave your ego in the car and play to your skill level. And even then, "playing it forward" is always a smart idea
- If you must use a rangefinder or GPS, do it quickly and appropriately: It doesn't help on a shot less than 60 yards
- Plumb-bobbing and walking around the hole checking the breaks isn't necessary to make your two-footer for a 7
- Rake footprints when leaving a bunker
- Fix ball marks on the green
- Park your cart or place your bag or trolley on the side of the green closest to the next tee
- Be honest with yourself. Know and accept your limitations. You'll play better and have more fun
- Understand the biggest reason for slow play among us 20 handicappers is the \$5.00 golf ball

If we all do our part, the USGA can concentrate on its core competencies: the Rules of Golf, conducting national championships, and causing/settling equipment controversies. **GCI**

(ANTHRACNOSE continued from page 76)



Like many diseases, anthracnose thrives in extended moist conditions.

Keeping in mind the needs of the turf and considering those needs to adjust your fertility, irrigation and soil management practices appropriately in a timely manner will in fact greatly reduce your chances of anthracnose. If you have a chronic and recurring condition for Anthracnose development, take a strong look at your

soil profile, your cultural practices, your irrigation management and of course your fertility program. If following the sound practice of applying nutrients foliarly in addition to key granular applications, insure that your foliar program is in fact a foliar one and that your droplets are covering the leaves effectively. This will aid in not only your fertility program but in pesticide applications, as well.

If pesticide applications are necessary, speak with your colleagues in your regions about what is working for them as that is probably the most effective advice you will receive. In addition, follow key research coming out of universities like Penn State, N.C. State and Rutgers in particular that have done a lot of work in Anthracnose control methods. But always remember that universities can never match your conditions or stresses, so use the research as a guideline to finding a program that works best for you... and always follow label recommendations. **GCI**

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