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FROM



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.

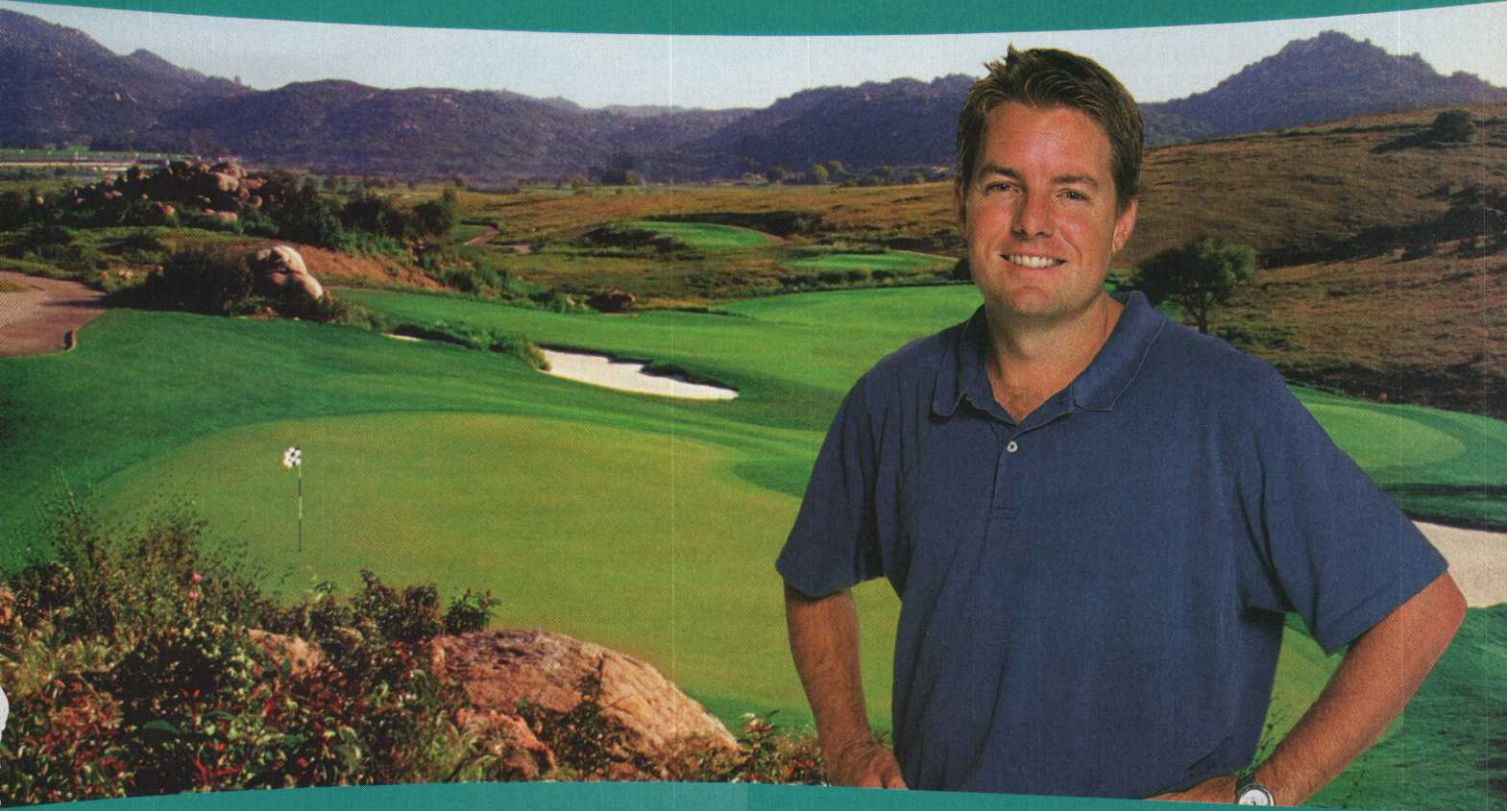
Another critical factor is daily monitoring of salt levels in the root zone and frequent leaching as salts increase to not more than double the baseline level. As reclaimed water is utilized in more courses around the country, this practice may become more widespread.

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.

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For the Birds

Spotters for Audubon International's 2001 North American Birdwatching Open counted 349 species of birds on the 72 golf courses that participated in the day-long event last spring. The event raises awareness of bird conservation on golf courses.



Eagle eye

A good birder knows it takes a keen eye and a little luck to spot the rarest of our avian friends. Even eagles appear as rarely in golf course

skies as they do on your scorecards. Here's a list of federally threatened and endangered species, and the number of courses where they were observed:

1. Loggerhead shrike **23**
2. Sandhill crane **9**
3. Bald eagle **8**
4. Least turn **8**
5. Brown pelican **4**
6. Grasshopper sparrow **2**
7. Clapper rail **1**

Watch the Birdie!

26 most sighted species on golf courses

Rank/Species/ Number of courses

1. Mourning dove .....	.72	14. Canada goose .....	.45
2. Northern cardinal .....	.63	15. Red bellied woodpecker .....	.44
3. Red-winged blackbird .....	.60	16. American goldfinch .....	.43
4. Blue jay .....	.59	17. Northern mockingbird .....	.43
5. American crow .....	.58	18. House sparrow .....	.43
6. Common grackle .....	.57	19. Brown-headed cowbird .....	.41
7. European Starling .....	.56	20. Red tailed hawk .....	.39
8. Mallard .....	.51	21. Eastern bluebird .....	.39
9. American robin .....	.50	22. Barn swallow .....	.39
10. Killdeer .....	.48	23. Eastern kingbird .....	.39
11. Downy woodpecker .....	.47	24. Purple martin .....	.36
12. Great blue heron .....	.46	25. Turkey vulture .....	.36
13. Northern flicker .....	.46	26. Tree swallow .....	.36



Species by the Numbers

Total number of species identified (all courses)	349
Number of courses identifying 50 or more species	29
Number of courses identifying 40-49 species	15
Number of courses identifying 30-39 species	14
Number of courses identifying less than 30 species	14
Greatest number of species identified (at one course)	95
Average number of species identified per course	43
Median	42
Number of federally threatened/endangered species identified	7

ILLUSTRATION: DAN BEEDY

Dual Dedications

Superintendent Larry Powell (below right) always wanted the course his father, William Powell (below left), created in 1946 to be recognized for its historical importance. In a Sep-

tember dedication ceremony, Ohio rewarded the family's dedication to the cause by designating Clearview GC as an Ohio historical site.

William Powell designed, built and owned Clearview golf course after he returned to the United States after World War II. At the time, he discovered the all-white golf courses in East Canton refused to let him play because he was black.

Adams bridge

In McHenry, Ill., McHenry CC dedicated the bridge (upper right) on its signature No. 8 hole to Gary Adams, who changed the game of golf by success-

fully marketing the use of metal woods as an alternative to traditional woods.

Taylor-Made Golf Co., where Adams worked, approached the course's owner to build a bridge across the creek on the hole in memory of Adams, who died in January 2000. Adams' father was the former head golf professional at McHenry, and Adams learned to play the game at the club.



FRANK ANDORKA



PHOTO COURTESY OF MCHENRY CC

It's very dependable.

- Jim Holec,
Prairie Ridge Golf Course,
Owner of 1978 model.

Still runs great!

- David Bergstrom, El Dorado Hills Golf Course,
Owner of 1980 model.

Keeps on going for us.

- Phillip Pensinger,
Ed Oliver Golf Course,
Owner of 1971 model.

*Works good -
very heavy duty.*

- Louis Brockshire, Hillcrest Country Club,
Owner of 1964 model.

*I BOUGHT IT BASED
ON ITS DURABILITY AND
RELIABILITY.*

- Tom Huesghan, Pebble Beach Golf Course,
Owner of 2000 model.

*Still our primary
utility vehicle.*

- Bob Taylor, Tioga Country Club,
Owner of 1980 model.

*STILL THE BEST
VEHICLE WE HAVE*

- Fred Hanson, Fox Den Fairways,
Owner of 1968 model.



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Hole of the

■ No. 6
Coral Canyon GC
Washington, Utah

Month

Golf Course With a Great View

Tucked in the dazzling red rocks of southwestern Utah is Coral Canyon GC, the Keith Foster-designed track that opened in September 2000. Coral Canyon, located in Washington, Utah, borders several of the country's most awesome natural wonders, including the spectacular Bryce Canyon and the majestic Zion National Park.

The 7,029-yard course's signature sixth hole is a short 122-yard, par 3 that plays from a tee box over a deep, rocky ravine. Superintendent Glenn Evans describes the tee shot as a "heaven- or hell-type shot." If you miss it, your ball becomes part of the course's rocky landscape. If you hit it well, you'll make the course's 6,500-square-foot green.

Evans says there are no major maintenance challenges on the hole. A back bunker, however, is carved from rock and fragments often break from the bunker's bottom and turn up in the red sand. Workers must remove the bits by hand.

Coral Canyon is the 34-year-old Evans first head superintendent job. "What a great place to start," he says. "I'm pretty lucky!"

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I'll always remember 2001 as the year in the young 21st century when we learned a lot about the world, our government, our fellow citizens and ourselves. Many of us probably learned that we must be more involved in the decisions of our government if we want to live in a true democracy.

Everything we do is based on the workings of a free society, but sometimes we take that for granted. We don't participate in the process as fully or as often as we could. It's easy to get tunnel vision and focus on our immediate daily concerns and forget that we can make a difference in the big picture with a little effort and a sense of purpose.

That purpose became clear to me in 2001 as I discovered an enormous lack of knowledge about golf course operations among the ranks of legislators and regulators at all government levels. Travel budgets don't allow them to get out from their desks like they should, so the gap between reality and their perception is huge. Their understanding is formed by computer models based on assumptions and activist groups.

With just a little effort, however, superintendents can help bridge that gap with real-world facts. When I meet with government leaders, I don't hesitate to remind them that they serve all citizens — including those who use chemicals, fertilizers and water in their businesses. I also know that many government people are starved for information, and most will not shrink from the facts when they're informed with them.

In fact, grassroots input from superintendents changed many government people's assumptions in 2001. Case in point: the re-registration of the nematicide Nematicur in early 2001. As superintendents told their stories to the EPA about using the chemical primarily for treating tees, greens and spot treating fairways, the EPA revised the acreage and pounds of product it had assumed were used on 150-acre golf courses. EPA's models hadn't been done with real numbers. Now its leaders know the risk is considerably less than they imagined. They also learned that superintendents understand environmental concerns.

Another case in point: In Florida, like many states, drought-induced water shortages were

2001: A Good Time to Get Political

BY JOEL JACKSON



**SUPERINTENDENTS'
INVOLVEMENT IN
THEIR LOCAL
GOVERNMENTS
WILL BE REQUIRED
TO EDUCATE NEW
POLITICIANS AND
REGULATORS WHO
COME AND GO**

the year's biggest news, as arbitrary day-of-the-week watering restrictions handcuffed turf and landscape managers. Inaccurately labeled as "big water users," golf courses became easy political targets for restrictive measures.

To challenge these perceptions, several superintendents sought to fill that knowledge gap by serving on district water advisory boards. Their input and cooperation with water-management authorities was instrumental in changing attitudes among compliance and water-supply managers. The superintendents secured modifications to the rules.

Once the crisis is over, the superintendents hope to make permanent changes to the emergency rules that will make good business and conservation sense for all.

A final case in point: 2001 was the year of the ordinance. Several counties and cities either attempted to draft or did draft local ordinances affecting golf courses on a host of issues.

The counties that involved all stakeholders were able to craft meaningful laws. Those who did not either abandoned the efforts because they didn't have facts to defend their positions or ended up in court once the laws were challenged. Once again, superintendents brought common sense and vital information to the process whenever they chose to be involved.

Superintendents should always choose to be involved with the actions of their local governments, particularly when their livelihoods are at stake. Their ongoing involvement in their local governments will be required to educate new politicians and regulators who come and go.

Want proof that you can make a difference? Just look at last year. It was clear to me that political involvement paid big dividends in 2001.

Joel Jackson, CGCS, retired from Disney's golf division in 1997 and is director of communications for the Florida GCSA.



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