

## Off The Fringe

# In Spring, a Superintendent's Thoughts Turn to . . . Tree Disease

## WATCH OUT FOR ANTHRACNOSE AND DUTCH ELM DISEASE

By Jami Pfirrmann

**A**s winter gives way to spring, plant life on golf courses across the country comes to life. Trees, shrubs and turf thrive as weather

becomes wetter. But while ideal conditions not only promote growth in golf course foliage, they also spur the growth and spread of dangerous tree diseases.

The wet weather fuels the growth of many types of fungi that invade and infect trees, using them as a food source. Many of the diseases caused by fungi are specific only to certain species of trees. Anthracnose and Dutch elm disease are two common examples of diseases caused by fungi that affect millions of trees each year.

Anthracnose is caused by a fungus that overwinters in infected dead leaves. When spring arrives, the infected leaves release thousands of spores, and the spores are carried by the wind to new leaves. The fungus then infects new leaves, causing them to fall to the ground and start the cycle again. The fungus is difficult to manage and creeps through ash, maple, oak and sycamore trees.

In general, infected trees have disfigured leaves. In most trees, angular spots can be seen along the veins of leaves. The spots can get larger if cool, moist conditions continue. If the infection is severe, the tree can defoliate prematurely.

Dutch elm disease was introduced from Europe in 1930. Since its introduction, the disease has killed millions of elm trees in the United States and Canada.

The disease is caused by the fungus *Ophiostoma novo-ulmi*. Native and European bark beetles transfer spores of the disease from an infected tree to a healthy one while feeding in twig crotches, and in the bark of branches and small trunks. Direct transmission of the disease can also occur through connecting root grafts of infected and healthy trees. Root-infected trees often wilt and die quickly. Elms that are within 40 feet of each other have a good chance of having root grafts.

Generally, the first indication of a DED-infected tree is "flagging," which means wilting leaves showing on one or more branches. The wilted leaves turn yellow, curl downward and then turn

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brown. Leaves can remain attached or prematurely fall off. Branches exhibiting the wilted leaves typically die.

In infected trees, the wood just under the bark may have brown streaks. Sometimes the streaks are imbedded deeper in the wood, indicating the infection occurred in previous years.

Healthy trees are less likely to be infected with anthracnose or Dutch elm disease. A maintenance program that includes routine fertilization, pruning and pest management will reduce the conditions that stress trees. Fungicide treatments can be used for both prevention and therapy once an infection is detected. Also, regular inspections by a trained and certified arborist can help catch infections at the earliest stages, preventing serious permanent damage.

*Pfirman is a communications specialist for The Davey Tree Expert Co.*

## Shack Back With A New Read

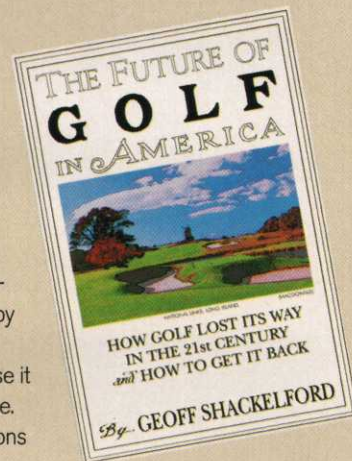
### CRENSHAW CALLS BOOK "VITALLY IMPORTANT"

*Golfdom's* intrepid architecture editor, Geoff Shackelford, is back with a new book, his ninth effort. Shack's *The Future of Golf in America: How Golf Lost Its Way in the 21st Century (and How to Get it Back)* reveals how golf has been "kidnapped by equipment manufacturers and knowingly deregulated by its governing bodies."

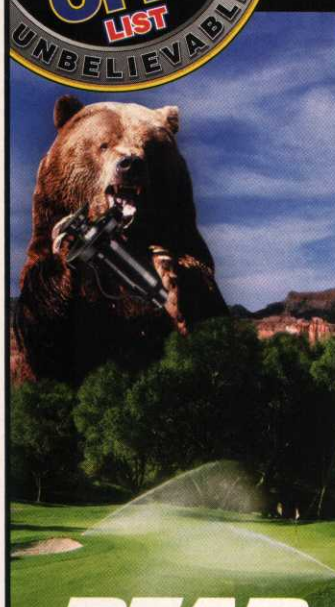
Shack argues that the slumping golf industry has responded to unregulated technology by lengthening and narrowing courses at great expense, even as golfers flee the sport because it takes too long, is too difficult and too expensive. But Shack doesn't stop there. He offers solutions to this mess.

Ben Crenshaw says of the book: "As a golfer, open your mind when reading this treatise on the sport and its future. We all must consider where golf is headed and how best to protect the traditions of the game. I think *The Future of Golf in America* is vitally important."

The 154-page book can be ordered at [www.geoffshackelford.com](http://www.geoffshackelford.com).



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