

Root Pythium on Golf Greens

by Dr. Clint Hodges
Iowa State University, Ames, IA

The news is that Pythium does not cause a root rot, but an induced disfunction. According to Dr. Hodges, this knowledge makes a difference. The following points are important.

—Starting about 1977, case histories of a Pythium induced disfunction of roots of putting green grasses developed. The magnitude of this disfunction indicated some degree of seriousness. Was it a disease, or a disease complex?

—Evidence pointed to trouble on high sand content greens. One to two years after renovation of greens, the condition developed. Where golf courses were renovated all over in late summer and early fall and greens were remade with high sand mixes, something changed.

—The following stress season brought about a dying out of the grass, much like foliar Pythium, but foliar pathogens could not be found. Roots were white and appeared healthy. Often, there was a chlorotic line at the interface between sand and soil at the edge of the green. Following this, grass starts to go from the center of the green. No chemical control has seemed effective. In some instances, the grass is all gone in ten days. No Pythium is present in foliar parts of the plant, but Pythium is present in the root system. In time, strips of sod or plugs are killed. Greens lost or damaged from this condition are usually reseeded in July and August. On the third and fourth year the condition becomes less severe.

—Tissue tests indicate that ninety eight percent of the isolates contain **Pythium arrhenomanes** (most common) and **Pythium aristoporum** (less common). **Pythium arrhenomanes** is found all over the country and is particularly severe on very light soils.

—There are two categories of root infection:

- seedling roots;
- association between roots - mature.

Root systems are not rotted. They are white but stunted and full of Pythium. Organisms penetrate through root hairs. Cut the root and within two hours the Pythium grows out of the vascular system. Roots do not seem to be falling apart. Root tips are bulbous like, might be expected from nematode activity; then Pythium grows out behind the area. Eventually a devitalized root tip is developed. This is the only form of rot, but since it is at the tip, it is of critical importance.

—In orchardgrass, the organism completes its life cycle. This does not happen in bentgrass. Apparently bentgrass is not a good host.

—Why is it that in recent years we have started to see this Pythium disease? Can only speculate:

- Leave old collar and green and apron in greens reconstruction. This consists of old contaminated soil.
- Pythium exists in the old soil but is not troublesome because of competition with other organisms.
- Sand in new greens is not highly organic. Pythium spreads through the sand in late fall and early spring.
- When heat stress hits the following year, damage results.
- In three to four years the sand becomes more active biologically and the problem is lessened.
- Pythium is a water mold so it would be expected to spread where heavy irrigation is practiced as on sand greens.
- High fertility is likely to be a factor.

(cont'd. page 20)

PUMP HOUSE SPECIALISTS

ALL FACETS OF
ELECTRICAL CONTROL PANELS

•
CENTRIFUGAL & TURBINE PUMPS

•
PRESSURE REGULATING
VALVE REPAIRS

•
NEW CONSTRUCTION

•
EXPERT TROUBLESHOOTING

FOR SERVICE CONTACT:

LYN-TECH SYSTEMS

(312) 289-7579

ELECTRICAL, MECHANICAL
AND
PUMPING MACHINERY

RANSOMES

Motor 180



Excellent for fairway, tees
Catchers available

ASK FOR A DEMONSTRATION NOW!

OLSEN DISTRIBUTING COMPANY
969 N. Pepper Road
Barrington, Illinois 60010
1-312-381-9333

(Root Pythium cont'd.)

—Should use of sand greens be discontinued? No! Use sand, but be prepared. Watch for this condition where sand topdressing is used. Aerification and wetting agents help to lessen the severity of the condition. Look for the condition where sixty to one hundred percent sand is used in green construction.

—As a last resort, a plastic interface around the rim of the green may help as a barrier to the spread of the organism. Putting green design that eliminates a soil-sand interface at the outer most edge of the green, particularly at the soil surface is recommended.

Golf Leaders Are Present as Joe Dey Accepts Herb Graffis Award

RYE, N.Y. — Virtually all of the leaders in golf in the United States rose to salute Joseph C. Dey as he received the 1986 NGF Herb Graffis Award at the Westchester Country Club October 8. Mr. Dey and his wife were clearly moved by the lengthy standing ovation given them by the leaders of American golf associations, companies, publications and golf courses, gathered to honor the former executive director of the United States Golf Association and first commissioner of what is now the PGA TOUR.

“Joe Dey has not only been a dear friend to me, but he has been a friend to all of golf,” said LPGA Commissioner John D. Laupheimer in making the presentation to Dey. “This award is a true expression of appreciation by the golf community for his tireless efforts to make golf a great game for everyone.”

Mr. Dey was chosen to receive the 1986 Herb Graffis Award by an overwhelming vote of the National Golf Foundation Board of Directors. The award is given annually for long-time and outstanding contributions in preserving the true spirit of the game of golf.

The award's namesake, Mr. Herb Graffis, was unable to make the trip to New York for the presentation, but the 93-year-old co-founder of the NGF did send along some comments, which were read by emcee Jack Whitaker of ABC Sports:

“Joe Dey was a pioneer. I have never met a more honorable person. This award should really be in his name instead of mine,” said Graffis.

The award presentation took place during the 50th Anniversary dinner of the National Golf Foundation, and in his remarks to the audience, Mr. Dey said, “I am truly proud to be honored on such an historic night as this — the 50th Anniversary of the NGF. I accept this award with deep appreciation for the people I have worked with, the friendships I have been granted, all thanks to the game of golf.”

Previous Herb Graffis Award winners include: Joe Jemsek, Arnold Palmer, Carol McCue, Bob Hope, Patty Berg, Jack Nicklaus, Herb Graffis, Bill Davis and Howard Gill, and Howard Clark.

The National Golf Foundation, celebrating its 50th anniversary in 1986, includes in its membership more than 500 golf product companies; national, state and local golf associations; golf course architects and builders; golf publications; and more than 3,000 golf courses across the United States.

Unmatched Dump Reach



Sperry New Holland "Super Boom" loaders lift the payload forward as the boom rises. So you get more forward dump reach where you need it most.

They also feature:

- A longer wheelbase for greater stability.
- An integral cab and rollover structure.
- Operating loads from 1,050 to 2,050 pounds.
- Gas or diesel, air or water-cooled engines from 28.5 to 75 horsepower.

Ask us for a demonstration. You'll see how much better a skid-steer loader can be.

Martin Implement Sales, Inc.
16400 South 104th Avenue
Orland Park, IL 60462
312-349-8430

Your authorized  NEW HOLLAND dealer.



Huber Ranch Sod Nursery, Inc.

Route 41
Schneider, Indiana 46376

Complete Supplier of all
Your Golf Course and
Landscape Needs

- Penncross Sod
- Penneagle Sod
- "Executive" blend
bluegrass sod
- Vertagreen,
Milorganite, etc.
- Full line of NK Seed, etc.
- Full line of chemicals
- Sprayers, Spreaders &
Golf Equipment

All products are palletized
with local fork-lift delivery.

Indiana 219 / 552-0552
Chicago 312 / 641-2898