

Par 3 on Pinehurst No. 2. Inset shows *Poa annua* in bermudagrass fairways.

uses a CBS perennial ryegrass overseed. Mowing is done every day or as needed. Greens vary from 1/4 inch to 4/32 inch; fairways and tees 1/2 to 3/4 inch; roughs 2 inches with 1 1/2-inch intermediate roughs. Aerifying is done from tree line to tree line with a Ryan Greensaire. Top-dressing is a 3-2-1 sand, soil,

sawdust mixture. The irrigation

“Sparse-looking greens are my main problem.”

systems (Toro, Griswold and Moody) on five courses are auto-

matic, while No. 2 is semi-automatic and manual.

“Golf is such a psychological game. An apple green color may be healthy for turf, but it won't be aesthetically pleasing to most golfers,” said Maples, a quiet 35-year-old who considers experience the best teacher.

“I was raised on the courses



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Wayne Maples grew up on the courses at Pinehurst and manages the development's most prestigious course, No. 2.

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here at Pinehurst," he said.

He worked with his uncle, Ellis Maples, who designed course No. 5.

Starting off his career as a superintendent at Pinehurst, Maples left to build a course in Alabama, worked at Lake Surf (now Woodlake) and Foxfire, both in North Carolina, and then

returned to Pinehurst. Short courses at Virginia Polytechnic Institute and Clemson have rounded out Maples' work experience.

Pinehurst uses Toro Parkmasters, Greensmasters and Groundsmaster fairway mowers, Jacobsen Greensking walking greens mowers and Cushman-

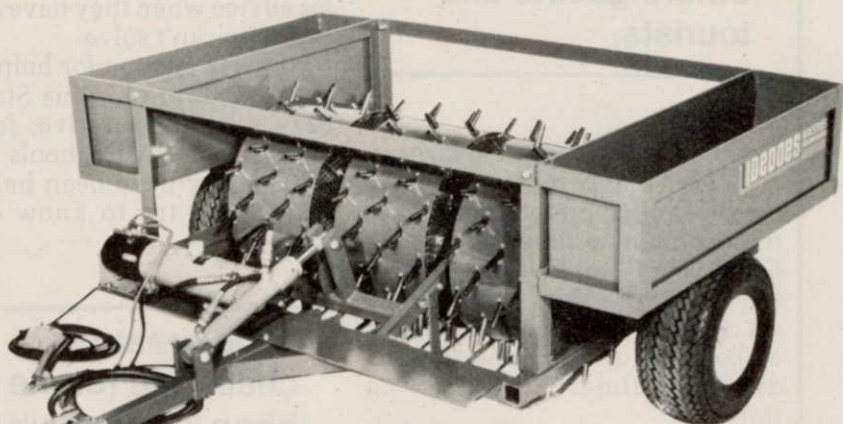
Ryan trucksters and outfront mowers. The more than 500 golf carts are taken care of outside the turf maintenance operation.

Working with Mother Nature

The climate is Metts' biggest problem.

"We're in the transition zone and it's hard to deal with," he said.

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Metts controls pythium with Subdue and Terrazole. Chipco 26019, Acti-dione and Thiram take care of dollar spot and brown patch.

"Our disease program is both preventive and curative," he said. "There's a big difference growing bent and bermudagrass down here than in other parts of the country."

Metts, 40, a superintendent for the past 12 years, got his B.S. in Agronomy from Penn State, studying under Dr. Joe Duich. He

About half of Pinehurst's players are members, the others guests and tourists.

has been at Pinehurst 2 1/2 years.

"There's more pressure to keep the level of maintenance up here than at other courses I've been at because of the heavy playing schedule," he said. "You never get caught up from the standpoint of keeping up with the golfers' divots, ballmarks and raking traps."

About half of Pinehurst's players are members, the others guests and tourists.

Metts grew up in Johnstown, PA. He worked at Norfolk Golf Club in Pennsylvania, did a stint in the military, was superintendent at Oxbow in Ohio for three years and worked at Parkersburg Country Club in West Virginia before coming to Pinehurst.

Needs in the industry

Both men, while recognizing very distinct needs in their industry, are realists.

"The greatest challenge for me has been keeping up with all the changes in equipment and chemicals," said Metts. "There have been more changes in the last year than I've ever seen. The EPA has

banned chemicals that I've used with success for years. The equipment, on the whole, though, is better."

Equipment-wise, Maples disagrees.

"I don't mind change," he says. "There is always going to be change, but it has to be progressive change. Some technology has surpassed its usefulness like a lot of the hydraulic junk that's on the market. Everything seems to be hydraulic and with hydraulic equipment there's more chance of damaging the turf."

Metts would like to see the market introduce a small, light-weight mower that won't compact soil and better tee mowers.

Both superintendents use extension agents and universities for advice when they have a problem they can't solve.

"I'll ask anyone for help," said Metts. "North Carolina State has been very cooperative; for that matter most turf schools across the country have been helpful. I don't even try to know everything."

"The greatest challenge for me has been keeping up with all the changes in equipment and chemicals."

Metts also says superintendents' associations are useful for the "intangible benefits" they offer.

And on days off will you find Maples' out playing the course he nurtures during the week? An emphatic "no."

"I really don't have enough time to become a good golfer. Besides I go out and see everything that's wrong or that I'd like to do better. I can't help but look at it from the maintenance angle."

WT&T

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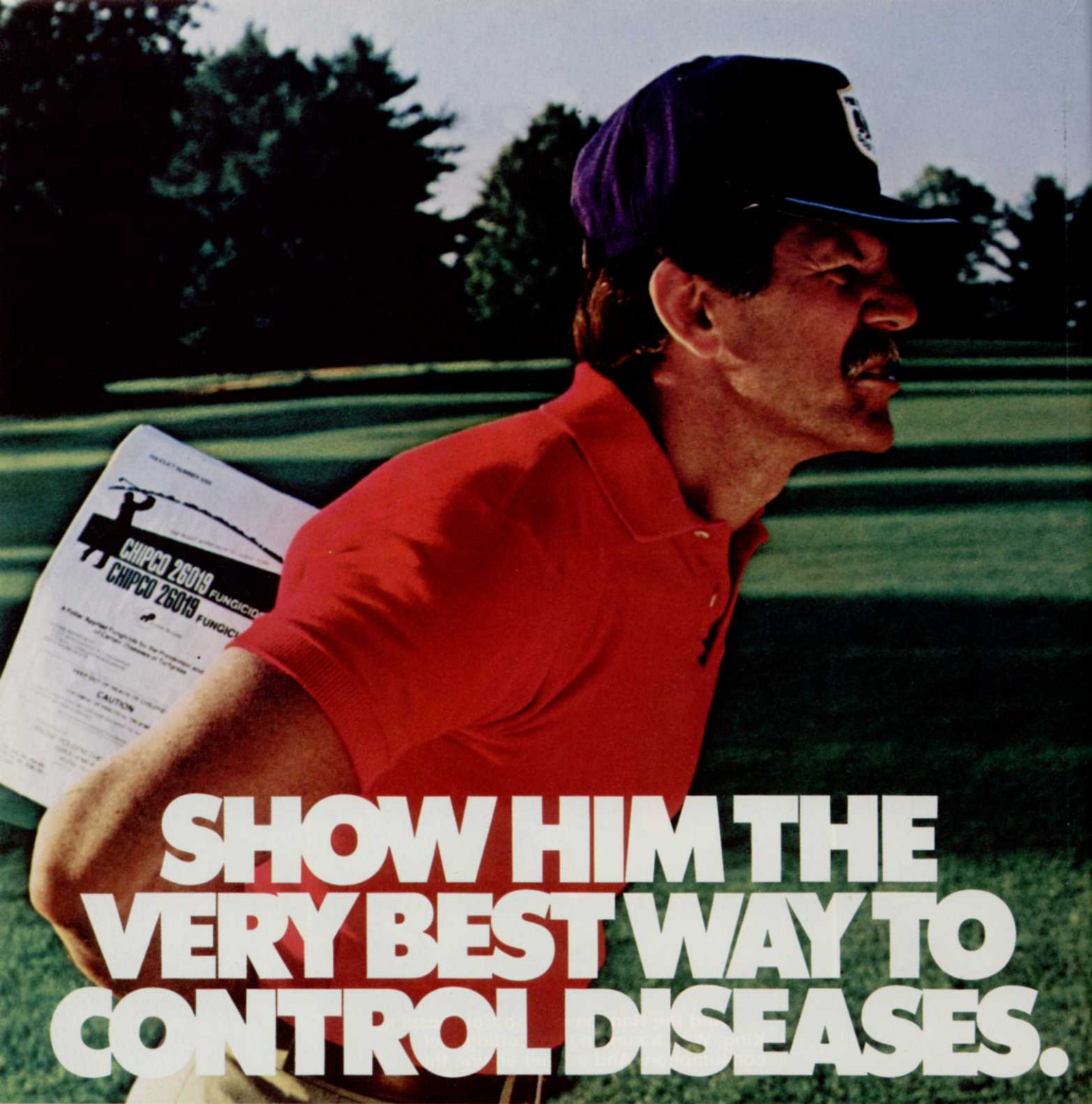
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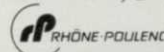
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Milwaukee Country Club

Dan Quast delegates responsibility
and encourages ideas to turn turf
graduates into great superintendents.

by Bruce F. Shank, executive editor



Danny Quast and arborist **Dennis Fermenich** stand in the Club's nursery.

When the Golf Course Superintendents Association of America coined the term "thinking superintendent" for information-sharing sessions at its conference and show, it may have been thinking of Dan Quast, superintendent at Milwaukee Country Country, Milwaukee, Wisconsin.

Quast, a 20-year veteran superintendent, enjoys the respect of MCC's 350 members, and consequently their support for his "thinking". They support a full-time arborist and crew, a tree replacement program to counteract losses from Dutch Elm Disease, a tree nursery, a student training program, an annual bluegrass reduction program, and Quast's time away from the Club to travel to national turf conferences and to be an instructor at Jacobsen Manufacturing Company's student seminars in Racine, WI.

After graduating from the turf program at the University of Massachusetts, Quast was hired by W.A. Cleary Chemical Corp. to work on its golf course, then became superintendent at Troy Country Club in Troy, OH, and later superintendent at Springfield Country Club in Springfield, OH. He moved to MCC in the fall of 1973 to help implement a number of improvements in the course recommended by golf course architect Robert Trent Jones.

Milwaukee Country Club was founded in 1926. The course, designed by Colt Allison, served its members faithfully for more than 42 years when the decision was made to host the Walker Cup in 1968. Fairways were narrowed and permanent bridges were built to cross the Milwaukee River.

About this time the membership started to feel the course was too rewarding to the low handicapper and too punishing to the high handicapper. "The course needed to be updated," says

Quast. "In three short years we made all the changes Jones suggested. We repositioned and added traps. We expanded tees to withstand increased play and to make the golf shot more challenging. Aprons around greens were eliminated and some greens were expanded and traps added. Trees were planted along certain fairways to create doglegs. In general, the hazards were made more realistic for today's golfer."

Reducing Poa annua

Tees, fairways, and greens at Milwaukee Country Club are a mixture of South German and Seaside bentgrass. A major problem with annual bluegrass

**"The course needed updating. It was too rewarding to low handicappers and too punishing for high handicappers."
Dan Quast.**

appears to be solved by a program put together by Quast, USGA Green Section Director Stan Zontek, and Jim Latham of the Milwaukee Sewerage Commission. It combines clipping removal, reduced compaction by use of light-weight equipment on fairways, low fertilization levels, an improved irrigation system, and use of Rubigan on greens.

Fairways are mowed with a prototype Jacobsen HF-5 with baskets to remove clippings. Tractors and reel gangs are confined to the bluegrass roughs. Milorganite is the only fairway fertilizer. A two-row Toro Irrigation system was installed in 1981. Fairways are aerified once per year in September.

Quast uses Cleary's FLUF on the greens. He is very pleased at the new turf fungicides (Bayleton, Subdue and Rubigan) and uses

them all for his greens depending upon the problem. "No one chemical is a panacea for all turf diseases," Quast says. "I mix the new fungicides with Thiram to cover as many diseases as I need." Quast is especially pleased with the secondary benefit of Rubigan as a suppressant to annual bluegrass.

Arborist on location

When Quast arrived at Milwaukee Country Club he was faced by the casualties of Dutch Elm Disease (DED) and massive defoliation by cankerworms. Since he had his hands full with the redesign and knew the elms lining the fairways would eventually fall to DED, Quast proposed the club hire a full-time arborist to develop a treatment and replacement program for trees, and to be responsible for the plantings around the clubhouse.

Quast had discussed his tree problems with Dennis Fermentich who was completing work for the North Shore Elm Research Project. The challenge interested Fermentich so much he applied for the job and got it.

The first year Fermentich cut down 102 elms on the course and took counts of the elm bark beetle using pheromone traps. He used weak elms to attract the beetles, then killed them with tree-killing injections of cacodylic acid. Removal of dead and dying trees, dormant oil sprays, injection of Arbotect, and fertilization of healthy elms has reduced the loss to one or two trees per year.

Fermentich replaced the elms with a variety of trees, including zelkova, plane tree, maple, linden, honeylocust, pin oak, red oak, and ash. These younger trees act as a frame for the remaining, majestic elms.

Many of the trees come from the nursery established by Fermentich behind the maintenance building. Whips are purchased and grown in the club's nursery to adapt to local conditions. They are moved onto the course when they reach three- to four-inch caliper.

Clippings are removed on German bent fairways to reduce annual bluegrass.



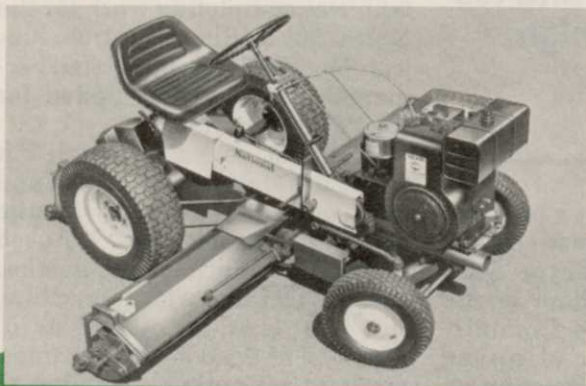
Fermenich and his crew of two keep the clubhouse grounds immaculate and act as a reserve to the golf course crew when necessary.

The next challenge for Fermenich is the tussock moth which has doubled each of the last three

"We had to cut down 102 elm trees the first year," said Fermenich

years. He has already established a prevention program using *Bacillus thuringiensis*. He hopes to catalog each tree in the next
continued on page 86

The Milwaukee River separates one tee from a green. Wire baskets filled with rock stabilize shoreline.



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