

Golf course construction has reached new heights. Competition increases among golf courses to attract golfers. And that means more pressure on superintendents. It may not be the shot heard 'round the world, but it's being heard in the U.S.

by Jerry Roche, editor

Golf booms. A record number of golf courses are in the planning stages, under construction or recently-completed, according to statistics from the National Golf Foundation. The NGF has determined that 102 new facilities were expected to open last year, 275 were under construction and 224 were being planned. More than 100 of those have opened or will open in Florida, America's favorite retirement state.

Many reasons exist for why golf booms. One of the most obvious is that post-war baby boomers are reaching ages where they are settling down to less strenuous athletic endeavors, and

golf fills the bill. The NGF says that 20.2 million Americans golf today. The organization also theorizes that in 13 years, it could be 30 million to 40 million.

Robert Adams, Ph.D., of the University of New Hampshire, recently predicted "a coming crisis in golf course availability." Adams, speaking at an NGF event, said that the crisis would be the result of:

- the current inadequacy in golf course supply;
- the recent downturn in public course construction; and
- the projected significant increases in demand for golf.

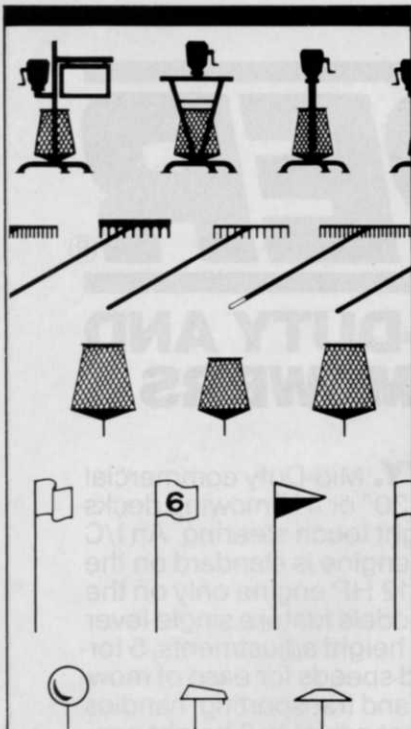
Travel, too, to recreational havens

like North and South Carolina is increasing. The World Tourism Organization, a division of the United Nations based in Madrid, predicts travel will be the world's largest industry by the year 2000.

"There's a sizeable market of people willing to pay top dollar for a non-plastic, uncrowded experience," says Donald Holecek of the Michigan Travel, Tourism and Recreation Resources Center. "What a lot of people need is to get away from the computer terminal and TV, and get back to situations they can control."

And—again—golf certainly fills the bill.

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the value of a golf course as a recreational facility for its residents, an attractive green belt, and as a magnet for tourists, golf course development will continue to boom," says Roger Rulevich, president of the American Society of Golf Course Architects.

Yet the increased number of courses and cries from the public for increasingly higher maintenance have placed a greater pressure on golf course superintendents: pressure to use more sophisticated chemicals, equipment and seed.

"The trend toward more play on golf courses will challenge the most sophisticated superintendent," says Don Parsons of Old Ranch Country Club in Seal Beach, Calif. "Our technology is increasing at a phenomenal rate, (but) there always seem to be new problems that rear their ugly heads."

Golf vs. EPA

One recent problem superintendents face is a more critical look at golf course pesticides by the Environmental Protection Agency.

"A large portion of our most effective chemicals have been taken off the market; some rightfully so, some not," wrote Reed LeFebvre of Plant City (Fla.) Golf & Country Club in *The Florida Green*. "We don't have the answers right now, but we are working hard to find them."

LeFebvre, president of the Florida Golf Course Superintendents Association, pointed out these figures:

- In 1977, it cost \$25 to \$50 per acre to treat a course for nematodes;
- In 1987, it costs up to \$300 an acre to treat a course for nematodes;
- Treatment for mole crickets (a big problem in Florida) this year cost his golf course \$400 to \$800, depending on which rate was used.

And the problem could get worse before it gets better.

Black layer

Anaerobic black layer has taken the golf industry by storm. Every day, reports come in about another course that has developed this black layer that kills greens.

Many hypotheses have been put forth on the cause.

Michigan State suggests that the layer is made up of insoluble precipitates formed by the reaction of hydrogen sulfide with metal ions. The hydrogen sulfide is produced by anaerobic bacteria that live under high moisture conditions.

Iowa State believes that algae and their mucilaginous by-products cause poor water infiltration, thus causing the anaerobic material.

No matter its cause, attempts are being made to find acceptable solutions through university research. Until such solutions are found, superintendents cannot rest easy.

Technology

The introduction of new bentgrasses to the seed market is an indication of increased need for more material to handle more golfers. In the recent past, it has been extremely difficult to obtain bentgrass seed, so the seed industry is answering the superintendent's call.

Spurred by wholesome competition, equipment-makers continually improve their products. Despite more restrictions imposed by the EPA, chemical companies continue to release new, better pesticides. Last year, the newest control product—Triumph insecticide—received the

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EPA's official blessing.

Infrared thermometers that can read the drought stress level of turf have hit the market. Michigan State has developed a set of disease models that are very accurate at predicting the possible introduction of pathogens in turf. Some disease testing kits have been marketed recently.

And university research is creating options to chemical control. In recent years, insect-resistant endophytes have been found in certain grasses, decreasing the need for pesticide use. Biological control for annual bluegrass is being worked on at Michigan State (see Research Update page 92).

"Biotechnology is on the cutting edge of new discoveries. They are developing plants that are disease and insect resistant," says Parsons. "They may be none too soon. The pesticide restrictions and regulations are absolutely scary. The ability to make adjustments will be essential as we continue to experience more restrictive environmental restraints."

The outlook for golf course superintendent-ing, then, is bright, despite some problems. The future looks both exciting and challenging. **LM**

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