



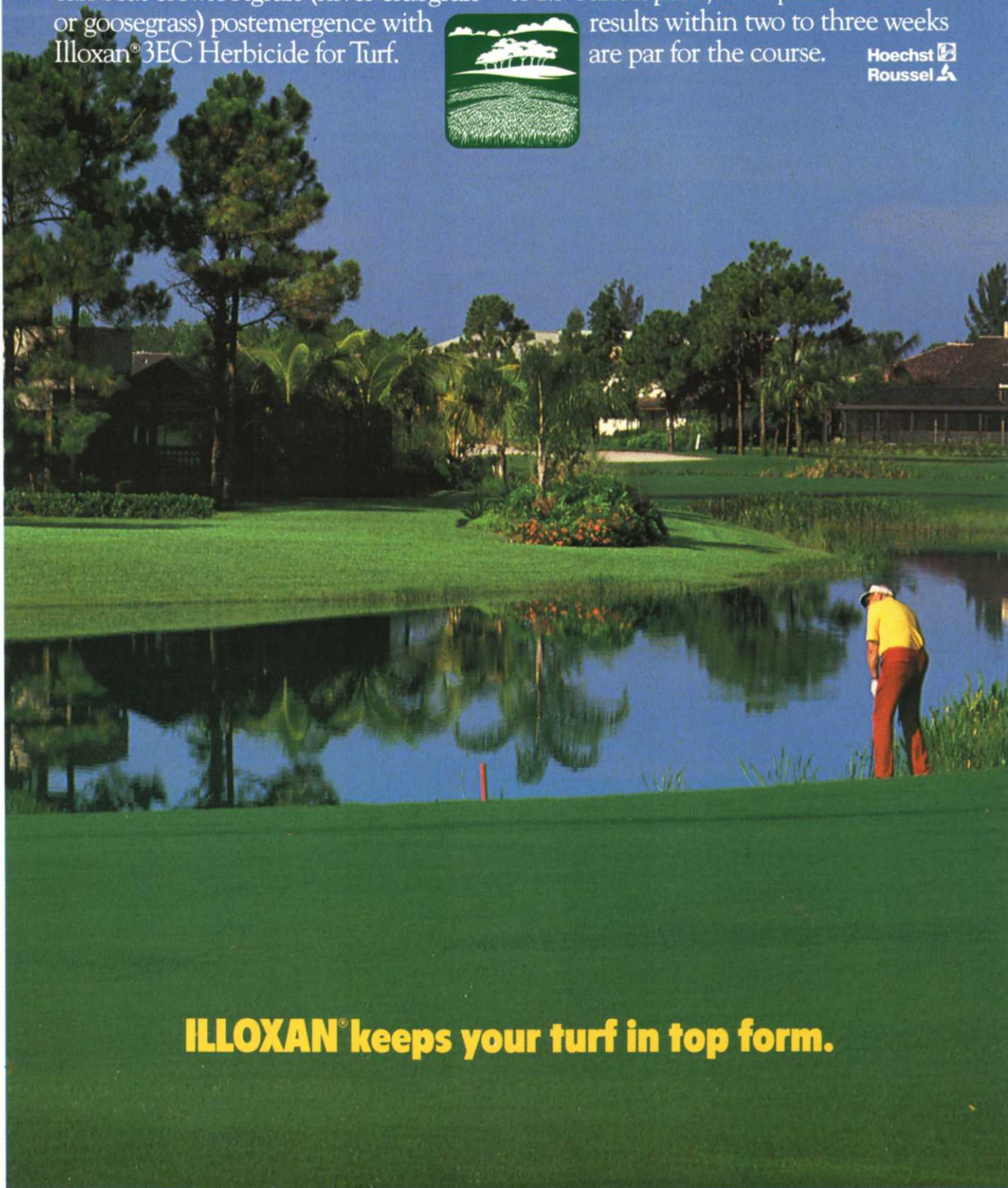
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This season there is a solution to a problem that has cropped up on a lot of golf courses—crowfootgrass. Now you can beat crowfootgrass (silver crabgrass or goosegrass) postemergence with Illoxan® 3EC Herbicide for Turf.

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Dan worked with his father on about 25 of the 65 courses with which the senior Maples was credited before he died.

"We are well aware of environmental concerns and are taking every precaution to make sure that our golf courses blend in with the environment," said the new ASGCA president. "If wetlands are used for a golf course, other wetland areas are developed so the natural habitat will not be disturbed."

2 Palm Beach architects join ASGCA

Two Floridians were among eight golf course architects elected to associate membership in the American Society of Golf Course Architects at the association's annual meeting in Pebble Beach, Calif., this past March.

Jan Beljan of Fazio Golf Course Designers Inc., who also became the second woman elected to membership, and Tom Pearson of Golden Bear International were among the group of new associates who brought the society's total membership to 108. Both firms are located in North Palm Beach.

Alice Dye of Delray Beach, the first female architect so honored, was elected in 1983.

In order to qualify for election, an architect must establish a record of individual work that meets with the approval of his or her peers, who also must deem the candidate "qualified to execute and oversee the imple-

mentation on the ground of his plans and specifications to create an enjoyable layout that challenges golfers of all abilities and exemplifies the highest standards and traditions of golf. He will counsel in all phases of the work to protect the best interest of his client."

The other associates elected this spring were Nai Chung "Lee" Chang, Atlanta; Robert Cupp, Atlanta; Keith R. Foster, Tempe, Ariz.; Tom Marzolf, Greenville, S.C.; W. Bruce Matthews III, Okemos, Mich.; and Mark A. Mungeam, Whitinsville, Mass.

Beljan's courses include Pelican's Nest in Bonita Springs, Windstar on Naples Bay in Naples, Bluewater Bay in Niceville and Gateway in Fort Myers. She also remodeled The Bayou Club at Bardmoor in Largo.

Pearson served as inspector of construction for Bear Lakes in West Palm Beach and Boca Pointe GC in Boca Raton and is credited as co-designer of Ibis-Seminole in Palm Beach Gardens.

Dan Maples of Pinehurst, N.C., was elected president; Thomas Clark of



Jan
Beljan



Tom
Pearson

Wheaton, Md., vice president; Arthur Hills, Toledo, Ohio, secretary; and Gerald Matthews, Lansing, Mich., treasurer. Other members of the board of governors include Pete Dye, Jeff Brauer, Keith Evans, Tom Fazio, Bob Graves, Denis Griffiths, Gary Kern and Ed Seay.



Members of the executive committee of the American Society of Golf Course Architects, from left: Tom Clark, Wheaton, Md., vice president; Gerald Matthews, Lansing, Mich., treasurer; Robert Trent Jones Jr., Palo Alto, Calif., immediate past president; Dan Maples, Pinehurst, N.C., president; Arthur Hills, Toledo, Ohio, secretary.

USGA commits \$3 million to research

The United States Golf Association last month made good on its promise to aid golf's environmental battle by committing \$3 million to research of the subject over the next three years.

Specifically researched will be the effects of fertilizers and pesticides.

The project will be managed by the Green Section Committee with the cooperation of the GCSAA.

The USGA committee which oversees research has been expanded to include recognized authorities from environmental agencies and has been renamed the Turfgrass and Environmental Research Committee.

The USGA also announced plans to appoint a wildlife ecologist specifically to assist golf courses in developing and preserving wildlife habitat.

"Right now, the game is threatened by the lack of knowledge about the environmental impact of pesticides and fertilizers used to maintain golf courses," said USGA President C. Grant Spaeth.

The work will be done by universities throughout the United States, assuring that studies are relevant to a variety of conditions.

Spaeth said the USGA will enter the program with no preconceptions. "We must maintain a position as the honest independent broker," he said.

Studies also will be geared toward the development of alternative and non-chemical pest control, and the influence of golf courses on people and wildlife.

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REPORT

Gray water on the green

Golf course superintendents help scientists decide between rose-colored glasses and a jaundiced view for recycled water.

BY DARCY MEEKER

When contaminants showed up in groundwater near drought-ridden Tampa, nobody knew where they came from, but there were lots of instant theories.

One possibility was the treated effluent (“gray water”) used as irrigation water at a number of sites including some golf courses. Some sticky questions are at stake. Is gray water bringing those contaminants with it? Is it changing soil bonding characteristics so that materials leach through more rapidly? Or is the data flawed?

The FGCSA moved quickly toward the only cure for fear: true truth and real reality.

Cooperators are Florida’s Department of Environmental Regulation, the Department of Agriculture and Consumer Services which licenses pesticides, and the U.S. Geological Survey.

“The purpose of the study is to poke around in the gray water area a little more. We’ll compare golf courses with similar soil types and management practices, where the only difference is that one uses recycled effluent and the other doesn’t,” said Tom Latta, chairman of external affairs for the Florida Turfgrass Association.

“The objective is to replace questions and fears with data and answers so we don’t have to work on fears and speculations, but can answer with hard scientific fact.”

Latta listed two ideas that need to be investigated.

“One idea is that, as you apply pesticides to soil and turf, you build up communities of organisms which break down these pesticides. Gray water may have some ingredient which kills these organisms and prevents breakdown of those pesticides.”

Another hypothesis is that gray water may gum up the soil. Sites in the soil which normally bind the pesticides may be pre-empted by components of gray water. Soil that used to filter out pesticides would then allow the chemicals to pass through.

“The important thing to remember in all of this,” Latta says, “is that this is a research project which is trying to develop some insights on some theories, but the theories may not be proven, and even the concern may not be confirmed. The data may be flawed. The monitoring wells that were in place are in place because of the need to monitor effluent. They’re not designed for highly sophisticated,

sensitive, groundwater monitoring studies.”

Latta said, “What we may be seeing here are problems of sampling technique or well installation, rather than pesticide leaching.”

Other data Latta has seen from sandy soils show very little evidence that pesticides leach.

“So far, in my exposure to the data, there’s very little evidence of pesticide moving below the root zone. Soil is a good filter, but you can saturate the sponge. If you irrigate much heavier than you should, you can wash the pesticides down through the absorptive layer before they can be absorbed.”

Turf management is urban agriculture, Latta said, and it’s especially important to make sure it is environmentally compatible since high concentrations are nearby.

Chip Lewison, golf course superintendent at Dunedin Country Club, is cooperating in the project.

“They want to collect good quality data to help set future standards. We provide background information on maintenance, use and levels and so on as a guideline as to what we (the golf industry) are doing or not doing to affect groundwater contamination.”

Lewison said, “What I’ve been trying to do is talk with some area supers who have monitor wells on their courses — what they are testing and what some of the results might be.”

Lewison said the data surfacing within the last 18 months has brought the subject to light, but golf course superintendents had discussed the

subject in Anaheim, Calif., in January, 1989.

“We knew it was going to become more of a problem and decided we’d better start collecting data, and keep ourselves abreast of people who are against pesticide usage and so on. We want to avoid the scare tactics some people are using and we want to see if we’re doing something that is harmful.”

Lewison pointed out that most of the products used on golf courses can be bought by homeowners at garden stores. “We buy in larger quantities, and we’re trained and certified — we get four to eight hours of classes and testing every year. That’s the difference between us and the homeowners.”

Mark Jarrell, super at Palm Beach National GC, says he has been doing testing for some time and turf seems to be insurance against groundwater contamination.

“We’re trying to do our part to make sure our use of products and materials is going to be for the benefit of everybody and not end up causing problems for other people down the road. We’ve put a lot of money and research into research.”

Jarrell cited a study of golf course effects on groundwater in Cape Cod. Some 19 wells on 30-year-old golf courses were tested for 17 turf chemicals. Of these, seven were not found, one was at 20 percent of the health advisory level (maximum healthy exposure) and the rest were 6 percent or less of HAL.

DER officials wanted to wait until a formal report was ready to comment.

Red-eyed flies secure beachhead in Bradenton



Some golf courses near Bradenton have busy little silent partners helping them control mole crickets, those brown burrowers who cost Floridians over \$40 million per year, browning out golf courses, lawns, pastures and vegetable fields.

In October, 1988, entomologists from the University of Florida’s Institute of Food and Agricultural Sciences released a biological control agent at the IFAS Research and Education Center in Bradenton.

The result: “red-eyed flies,” *Ormia depleta*, a natural enemy from mole crickets’ native chomping grounds of

IFAS biologist Sue Winewriter



Brazil, have prospered in their new Florida home.

"Descendants of those flies are now abundant and they occupy an area of at least 78 square miles surrounding the IFAS station," said Howard Frank, director of the mole cricket bio-control research at IFAS.

Red-eyed flies respond to the mole cricket mating call and lay living lar-



Howard Frank

vae on or near that scourge of Florida turf. The young burrow into the mole cricket and kill it as they grow.

Before the experiment could

begin, of course, it had to be demonstrated that the fly would not attack any other Florida creatures, and the proper permissions had to be obtained from U.S. and Florida departments of agriculture.

IFAS biologist Sue Winewriter invented the techniques which allowed her to rear *Ormia depleta* in the lab. It was a first, not only for this species, but for its close relatives, too.

Flies showed up in Manatee County and northern Sarasota when Frank's colleague Tom Walker and grad student John Amoroso set traps to measure the spread of the fly. It is not known how far north and south the fly can establish populations. It comes from a moderate climate in Brazil,

though, and the IFAS scientists hope the fly can cover the Sunshine State.

Nematodes meet nemesis in battle with bacteria

Nematodes, worms so small they look like fuzz, are a big problem for golf courses in Florida, but an IFAS scientist thinks he's on the trail of some even smaller organisms that can give the tiny worms a big problem of their own.

"It's exciting, but we're a long way from being there," says Donald Dickson, an IFAS nematologist, studying nematode nemeses — two

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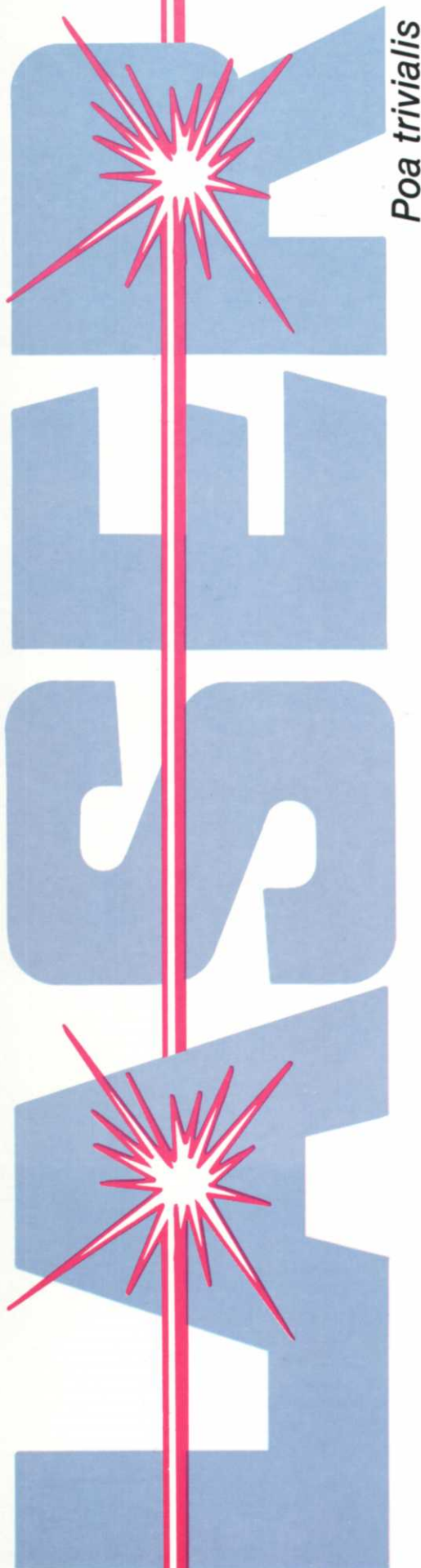
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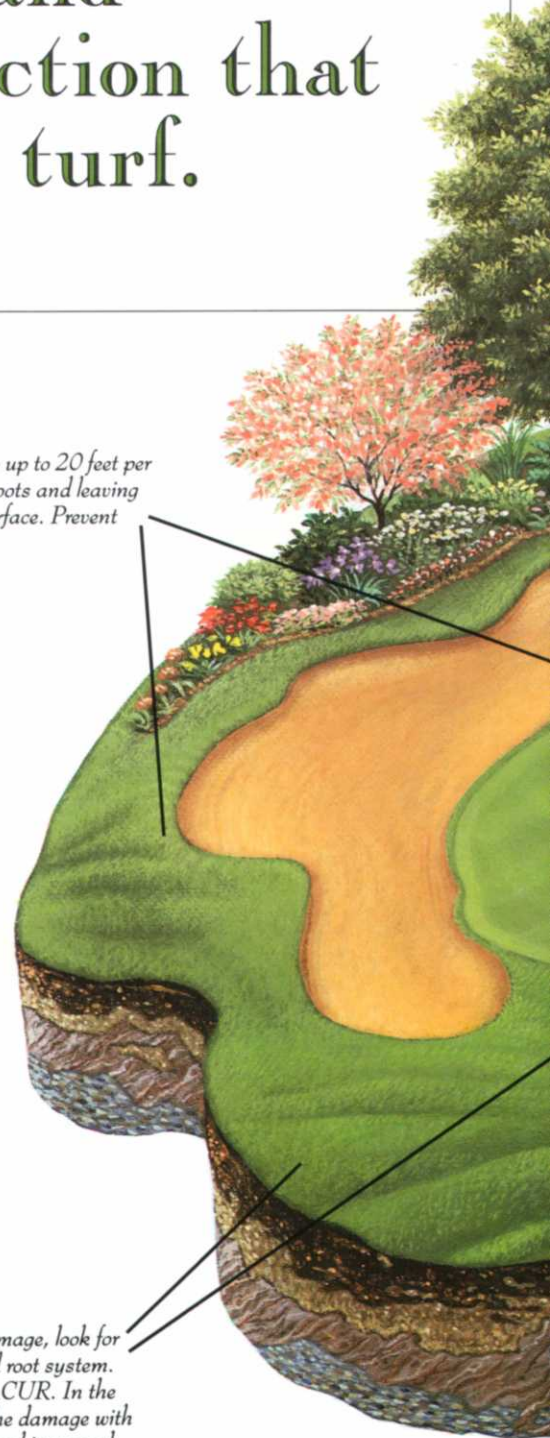
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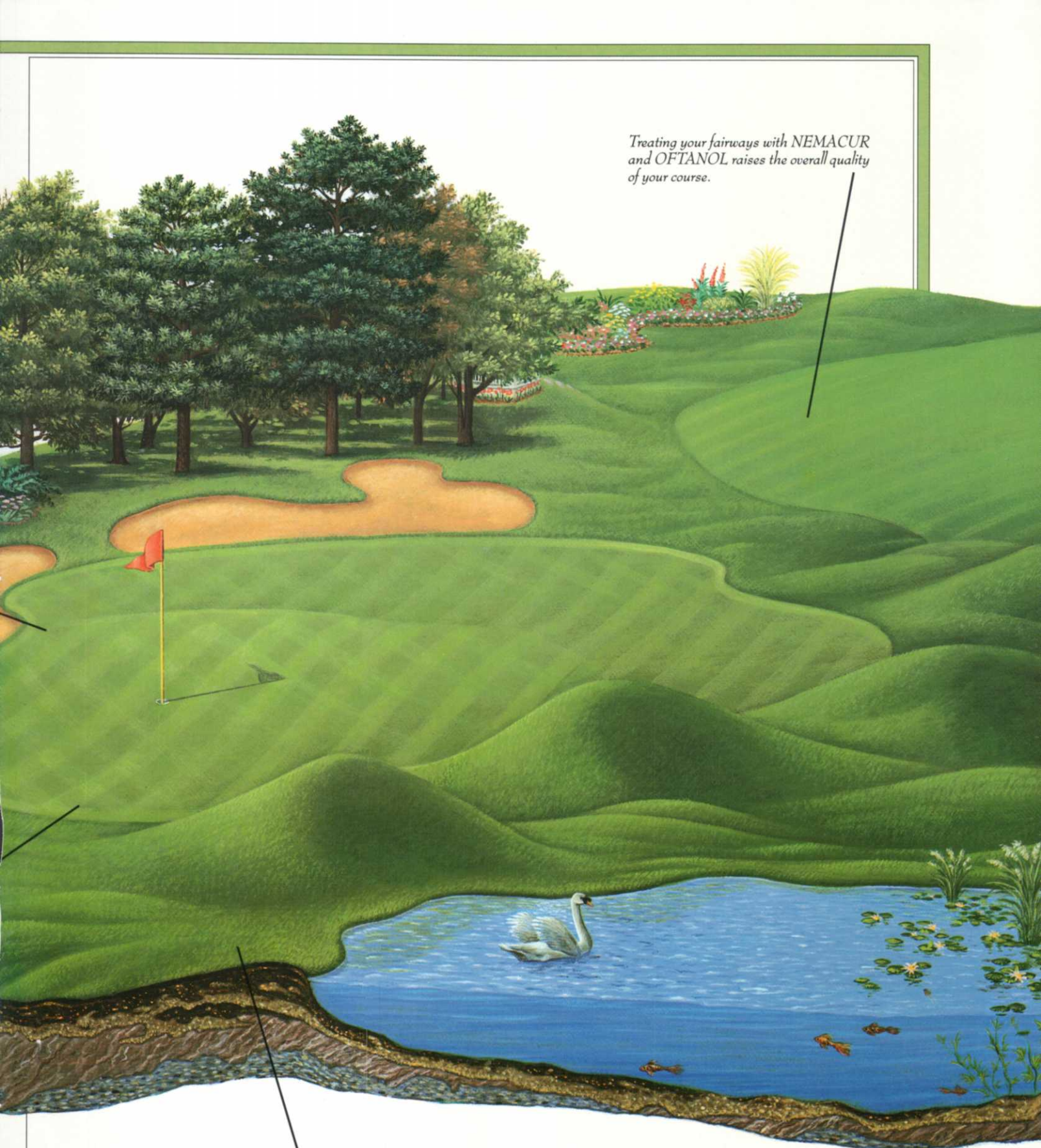
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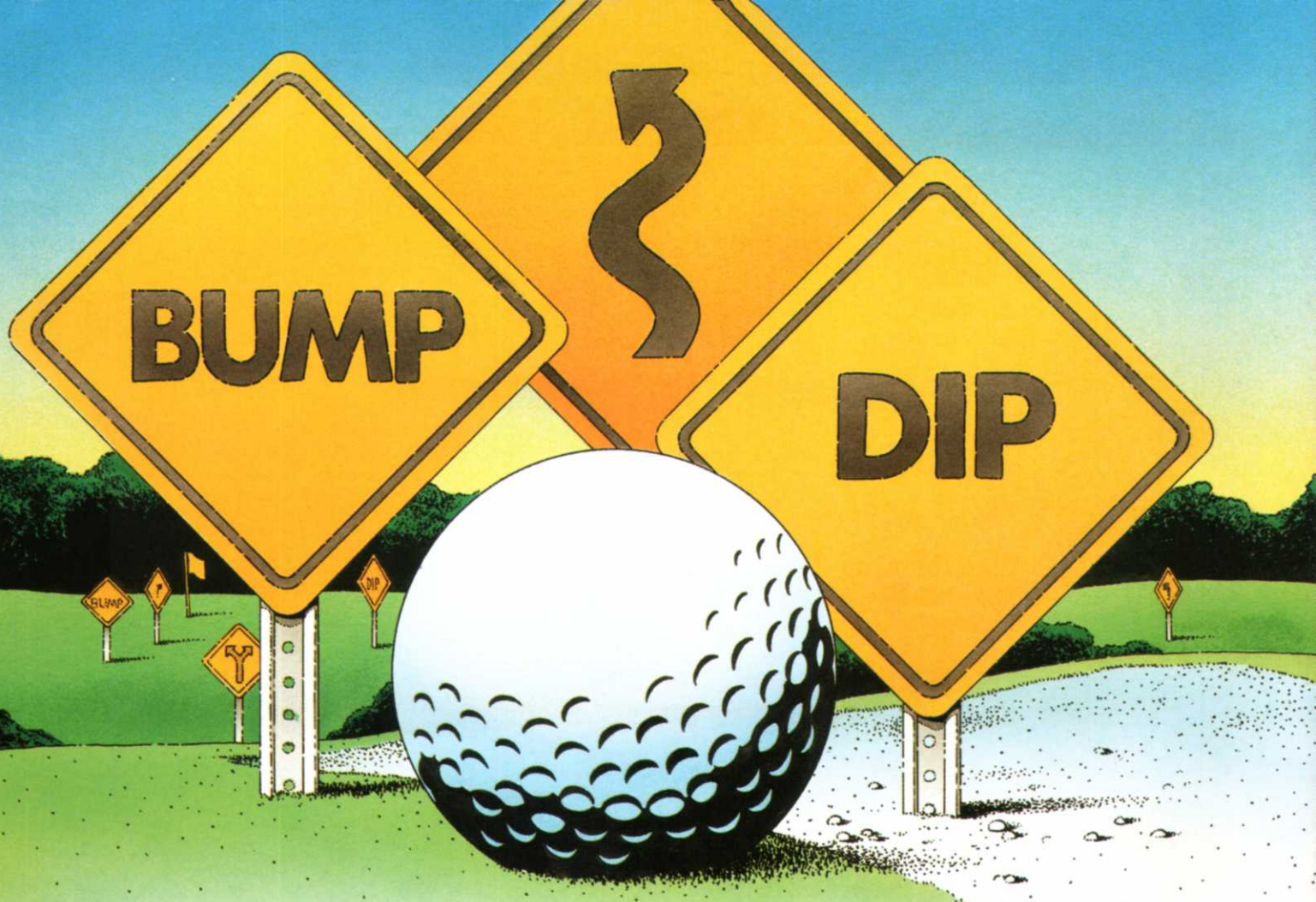
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