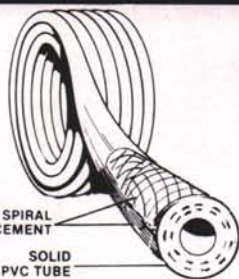


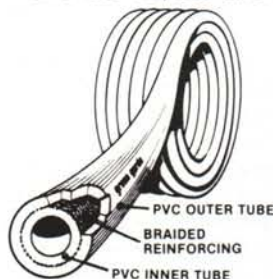


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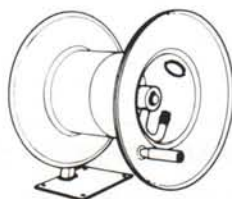
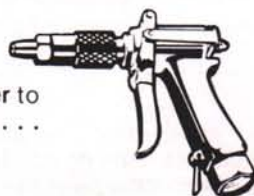
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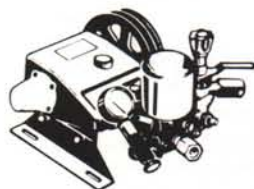
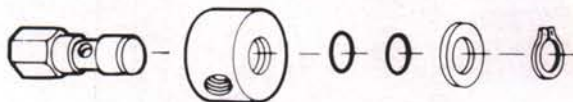
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The lovegrass mounds are thinned each spring to allow penetration of irrigation and rain.

Plantation  
continued from page 20

just on the tees and greens." The attraction of the course has done its job. Most of the lots in the first 700-acre phase are now sold. Jeffords and Purvis are beginning to plan for another 18-hole course for

the 400-acre second phase.

Since 1985, two more private equity golf developments have been started in the Grand Strand. As Jeffords explains, the private equity club is originally financed by an investment group. When all memberships are sold out, the ownership of the club au-

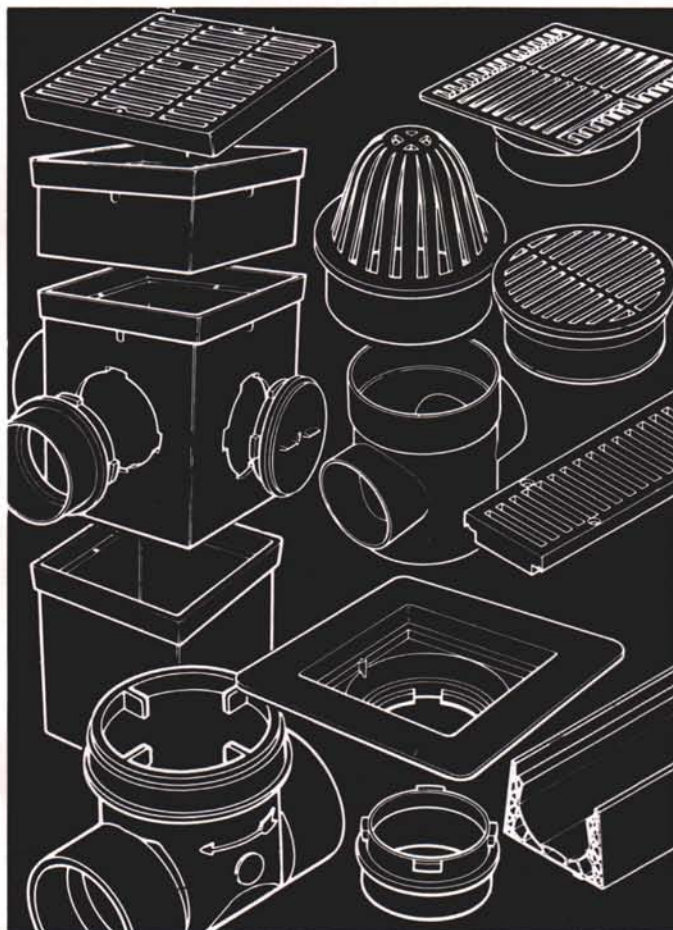
tomatically reverts to the members. To become a member, you must own one of the lots in the development. Both the value of the lots and the membership appreciate. Buyers of lots do not have to buy memberships in the club.

The half-acre lots in Wachesaw Plantation range from a base price of \$39,000 to \$125,000 for premium lots. Membership in the club has risen from the original \$9,000 to \$19,000 today. At present, there are slightly more than 300 members.

The original 57 investors have sold their shares to Olin II and C.G. Mills, of photography fame. The Mills brothers will release their rights of ownership to the members upon sell-out. At that time, Jeffords and Purvis will report to the membership.

But this eventuality is far away in their minds. They are busy working with the architects and planners on the next phase. Wachesaw Plantation's second golf course may be designed by a different golf course architect to provide different types of courses within the same development. "We couldn't be any more satisfied than we are with Fazio's work," says Jeffords. But like a number of new major golf development sites, PGA West for example, the attraction of two varying golf course design styles is great.

After all, attracting buyers is the name of the game in private equity golf clubs. It seems to be catching on in the Grand Strand and in other golf meccas across the country.



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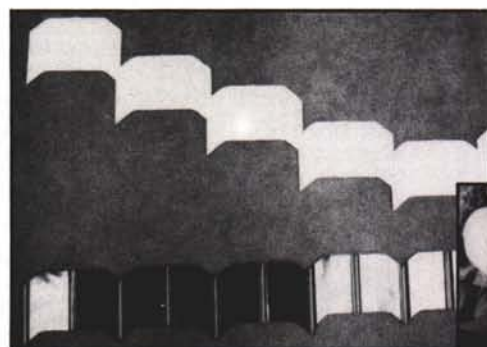
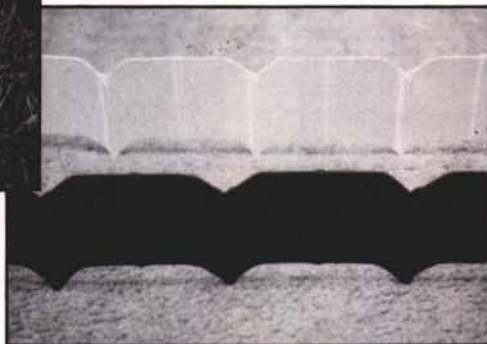
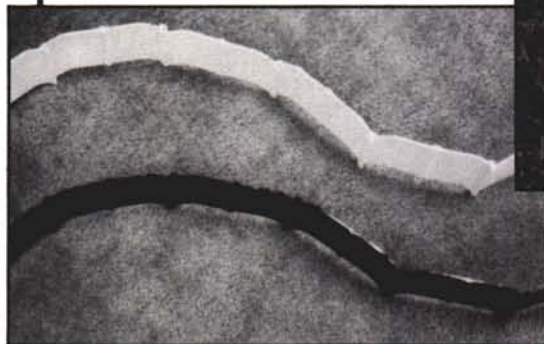


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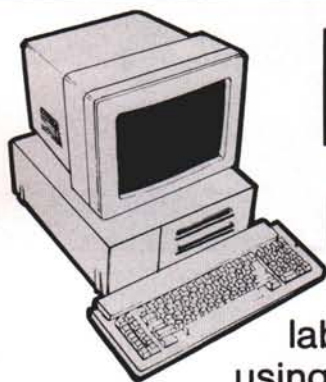
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## CHEMLAWN STOPS 2,4-D USE PENDING TEST RESULTS

ChemLawn Corporation of Columbus, OH, the largest lawn care company in the U.S., has suspended its use of the broad-leaf herbicide 2,4-D following results of a study released in October showing increased incidence of non-Hodgkin's lymphoma (NHL) among Kansas farmers using herbicides. The company will not resume its use of 2,4-D until more tests of the product are completed and conclusive results are reached.

The decision to suspend use of 2,4-D was made out of concern primarily for ChemLawn employees, says Steve Hardyman, the company's manager of legislative affairs. Although the Kansas study was inconclusive according to the National Cancer Institute, it did reveal that farmers using herbicides more than 20 days per year had six times the risk of developing NHL as those who did not handle herbicides. The NCI said 2,4-D was just one of a number of different herbicides used by the farmers in the study.

"During more than 40 years of use and a bank of 30 tests recently completed for the Environmental Protection Agency, 2,4-D has not been conclusively linked with cancer," says Hardyman. "None of the tests have ever implicated 2,4-D with causing cancer in the lawn spray business. In fact, we are volunteering our employees as proof that no such connection exists. All ChemLawn applicators follow strict precautions when applying or mixing chemicals. Gloves, face masks and protective clothing are worn when any concentrated pesticide is handled for mixing.

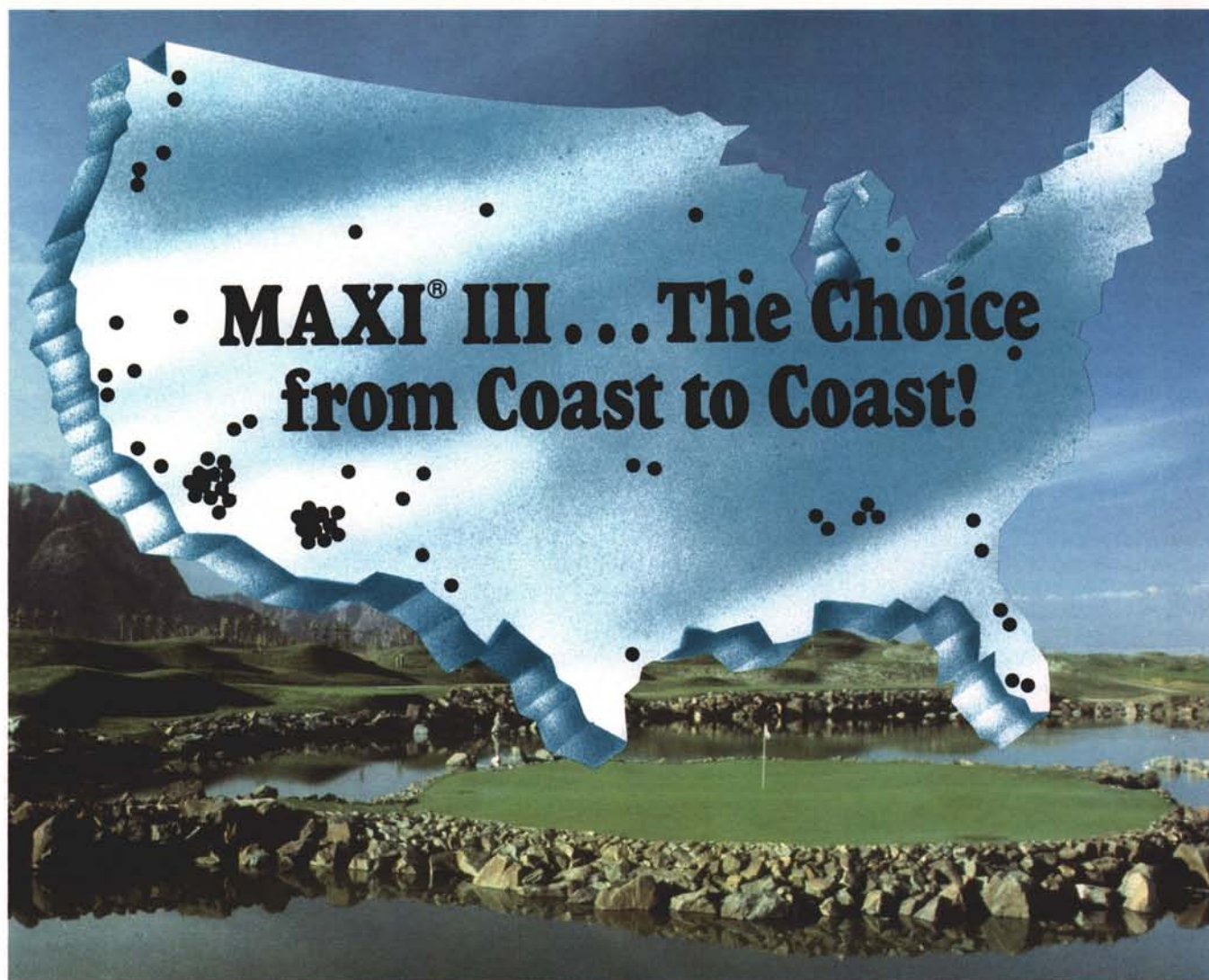
Although the study did not relate directly to lawn care, the company thought it "prudent" to replace 2,4-D with another herbicide until the final set of scientific tests is complete. Hardyman says the company took the step because it tends to receive the most flack from the media even though it spends more on its own safety research than any other company.

More than 40,000 scientific articles have been published about 2,4-D since it was introduced in 1944. Control of dandelions and plantains in lawns and ornamental turf is one of its minor uses. It is also used for selective control of broadleaf weeds in cereal crops and for control of woody plants in rangelands, forests, pastures and roadsides.

In 1980, EPA felt the data on 2,4-D should be updated and required manufacturers to provide additional information through testing. These tests have supported the claim that the herbicide does not represent a health hazard to humans, domestic animals or wildlife when used according to label instructions.

Hardyman suspects the farmers in the most recent test did not utilize the same level of precaution when handling herbicides as ChemLawn does. But, until more conclusive data is presented, the company will use an alternate herbicide.





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## ITT SELLS SCOTTS TO INVESTMENT GROUP

A new company created by Clayton & Dubilier Inc. and part of the management of O.M. Scott & Sons recently purchased ITT Corporation's Lawn and Garden Group. The sale restores the independence of Scotts and assures that it will remain headquartered in Marysville, OH, says Tadd Seitz, president and chief executive officer.

ITT sold the Lawn and Garden Group, says Chairman Rand Araskog, as part of an ongoing program to focus its assets on technology-driven industrial products and growing service businesses. Under the terms of the agreement, the new company will pay approximately \$150 million in cash and assume certain debts.

This is the tenth buyout arranged and financed by Clayton & Dubilier Inc., a New York City-based company specializing in leveraged acquisitions. The company maintains a substantial pool of institutional capital for management buyout transactions. "We are pleased to help return this business, which originally grew and prospered as an independent, entrepreneurial enterprise, to private ownership," stated Martin Dubilier.

Scotts, founded in 1868 as a family-run seed business, today controls more than 30 percent of the do-it-yourself lawn care market and a substantial portion of the commercial and professional market with its lines of fertilizers, pesticides, spreaders and seed.

Professional products are sold under the ProTurf trade name.

ITT purchased Scotts in 1971 when it was a closely-held public company. It bought W. Atlee Burpee Company in 1979 and combined it with Scotts to form a Lawn and Garden Group. The group reported sales of \$200 million in 1986.

## RHONE POULENC BUYS UNION CARBIDE GROUP

Rhone Poulenc, the French chemical company producing Chipco brand turf products, is purchasing the Agricultural Products Co. of Union Carbide for \$575 million. Union Carbide of India, Ltd. was not included in the sale. Both companies boards of directors have approved the sale.

Irwin Fishkin, director of public relations for Rhone Poulenc, Inc., said the acquisition makes the company the third largest agricultural chemical company in the world in terms of sales. Included in the transaction are Union Carbide's Temik, Sevin and Weedone line of herbicides. These will be added to Rhone Poulenc's line of fungicides and herbicides.

The plan is to move Rhone Poulenc's Agrochemical Division staff from the company's U.S. headquarters in Monmouth Junction, NJ, to Union Carbide's award-winning offices in Research Triangle Park, NC, says Fishkin.

Union Carbide announced its intentions to sell the Agricultural Products Co. last summer. "We have known for some time that we were for sale," says Tom Arnold, marketing manager for specialty products. "It's a relief to know that Rhone Poulenc has bought us."

## GCSAA'S PRUSA ANNOUNCES DEPARTURE, BUSINESS VENTURE

James G. Prusa, GCSAA Associate Executive Director and Director of Education, has announced his intention to dedicate his full time to a new business venture beginning in 1987. "While I'm enthused about the future," said Prusa, "I deeply regret the fact that I'll no longer be working regularly with my colleagues at GCSAA."

Executive Director John Schilling remarked, "Jim's ideas, his entrepreneurial spirit, his stimulating approach and his perseverance will be missed at headquarters and throughout GCSAA." Prusa served the organization for five years after a successful career as a golf course superintendent at Pasatiempo Golf Course in Santa Cruz, CA.

GCSAA President Riley Stottern said Prusa's contributions greatly helped the association with educational programming, public relations, financial management and the certification program.

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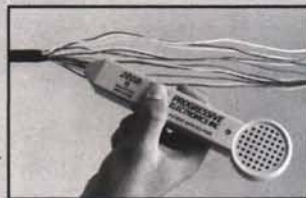


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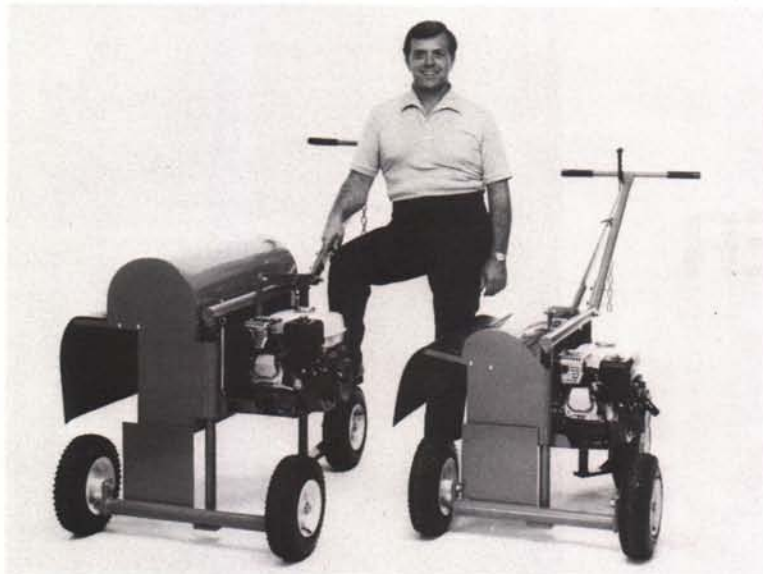


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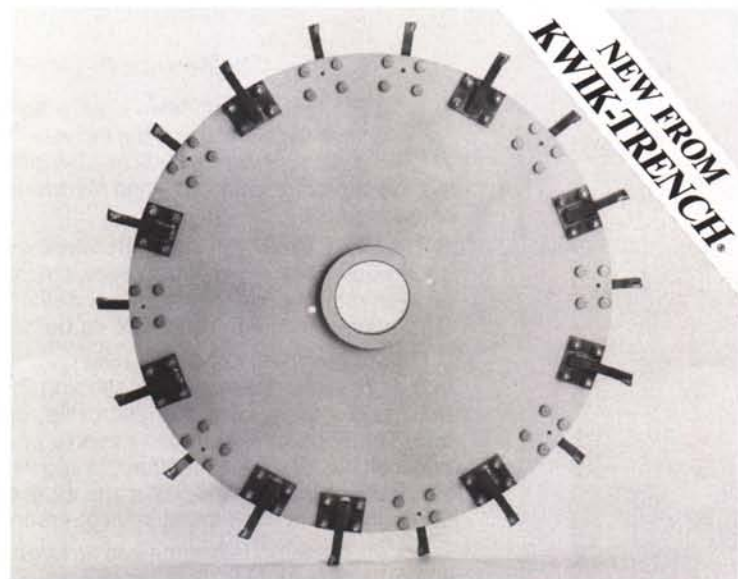


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# THE DAWN OF THE WATER MANAGER



The spectacular ninth hole approaches the clubhouse and a large waterfall.



Richards Jenkins, irrigation supervisor at Gainey Ranch, checks the valve output pressure to the heads.

By Kenneth B. Christley

**A**s the first light of dawn breaks across nearly every golf course the distant purr of a turf vehicle can be heard among the calls of morning birds and the chatter of sprinkler heads. It is the superintendent checking his course before the first four-some tees off.

The sharp eye of the superintendent will catch imperfections such as poor tee or pin placements, untrimmed cart path edges, uneven mowing patterns, fertilizer deficiencies and any condition inconsistent with nature at its best.

One of the most frequently observed conditions of all is the lack or overabundance of irrigation on the course. As the system concludes its early morning cycle, its flaws are most obvious. The superintendent can observe problems with water application, leaking joints, malfunctioning valves and stuck heads. He makes notes for the water manager to take corrective action primarily to keep the system operating as it was designed.

Today, the superintendent has an additional purpose in mind when he checks his irrigation system. Stringent new laws on water conservation are now in effect in many states to control dwindling water supplies in the face of rapid growth. If rising water and pumping costs aren't enough, governmental agencies will soon require proof that water conservation practices are being implemented. Every superintendent must face the fact that he now has to put forth a determined effort to conserve one of our most valuable resources.

*continued on page 30*





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**I**ntroducing Toro's new 610 Series gear-driven rotary sprinkler, the ideal choice for sportsfields, parks and other public installations. With a 45' to 58' watering radius, it offers many of the same highly attractive features as our top-of-the-line 640—at a much more attractive price.

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### *More high performance features.*

The 610 features Toro's proven gear-driven design. So you can count on smooth, quiet operation. Plus, its powerful brass and plastic gears provide added strength to withstand high pressure surges.



We've designed the 610 with a new seal for better performance. It seals tightly against a non-rotating surface. Requires less flush to keep out debris. And helps eliminate stick-up problems in virtually every soil condition.

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including a full 4" pop-up to clear tall grasses. A standard check valve that prevents puddling. And a 25% reducible watering radius for greater flexibility in design and installation.

So when you need a reliable, affordable below-grade sprinkler head for medium to large turf areas, don't settle for anything less than the Toro 610. It offers top-of-the-line performance that fits your bottom line.

For more information, contact your local Toro dealer, or Toro at 5825 Jasmine St., Riverside, CA 92504. (714) 688-9221.







Lakes allow Gainey Ranch Golf Course to take full advantage of rain and to store reclaimed water for irrigation.

### Water Manager

*continued from page 28*

Both superintendents and general managers are realizing they have to focus more of their attention on conservation techniques and employ experienced "water managers" to implement them. Most superintendents or general managers simply do not have enough time to devote to the maintenance or operation of today's computerized control systems. Experienced people who have installed irrigation systems or worked for irrigation supply houses tend to make good water managers. But, even with their years of experience in system design, maintenance and operation, they may not fully understand what's involved with new computerized systems.

When a facility warrants the use of a computerized irrigation system, it also needs a full-time water manager on staff. Golf courses, such as The Phoenician Golf &

Tennis Resort in Scottsdale, the Gainey Ranch Golf Club in Phoenix, the Phoenix Country Club, and many other facilities that use computers to manage their irrigation systems, are currently utilizing training programs for water management personnel. These programs help owners of large irrigation systems to get the full benefit of modern irrigation hardware and software, to provide optimum turf and landscape conditions, and to prove to legislators and the public that the turf industry has a genuine interest in conserving water.

Irrigation management on golf courses in the Desert West started to change in the early '80s when the first computerized central controls were installed. The potential savings of the computerized irrigation were unfortunately hampered by the relative complexity of its operation. The superintendent didn't have the time to devote hours to programming and the irrigation specialist



Water and sand hazards make the fourth hole a tough par 3.

on the course often found the computer difficult to understand. I was one of those irrigation specialists, so I know.

When The Phoenician Golf & Tennis Resort installed the first Rain Bird Maxi II in 1980, I was suddenly being asked to change from a skilled irrigation installer and repairman into a computer operator. All programming was done by numerical codes, not with common English used by personal computers today (such as on the Maxi III). Rain Bird representatives worked closely with us to get the system up and running. It took weeks before I really understood how the computer worked.

But it was that experience with an irrigation computer that raised me up a notch from repairman to water manager. Suddenly I was more valuable to the course because I was able to make that computer do wonders.

From the very beginning, we started utilizing the computer to save water. Because we could control any station on any of the field controllers from the central computer, commands that were difficult to set up on previous controllers became easy. Short repeat cycles were programmed to replace longer continuous cycles to match application with percolation into the soil. If the weather turned cool and calm, the entire system (or portions of it) could be instructed to have shorter cycles since evaporation was less than normal.

It wasn't long before we started monitoring the pump system with computer. Sensors were installed to monitor the on/off operation of each pump. By recheduling the irrigation cycles, we prevented the pumps from running during peak electrical use periods when rates are highest. In one year alone, we saved \$8,000 in pump power usage.

My previous experience with irrigation system maintenance became very helpful in adapting the computer to save water. By combining this experience with many hours behind the computer keyboard, I was able to develop a list of computer-assisted water management practices. This has largely been the basis for the consulting work I do today. After the irrigation manager or the superintendent and I have spent 20 to 60 hours looking at his system, he links his knowledge of golf course water needs to the powers of the computer. The combination of his knowledge and the capabilities of the computer enable him to get the maximum use out of all system components.

Irrigation equipment manufacturers, along with irrigation consultants designing today's systems, are striving to provide water managers with the "tools" to achieve precise water application. They are incorporating pressure-regulating valves, low flow loss sprinkler heads, check valves, matched precipitation nozzles and high-quality drip irrigation equipment with the latest in central control equipment. Never before has more emphasis been placed on designing and manufacturing central control equipment that can allow the water manager to have virtually unlimited flexibility in irriga-