"We had a tremendous algae problem. To solve the problem we purchased an OTTERBINE® Aerator".

Bob Jackson, Superintendent MEADOWLANDS Country Club

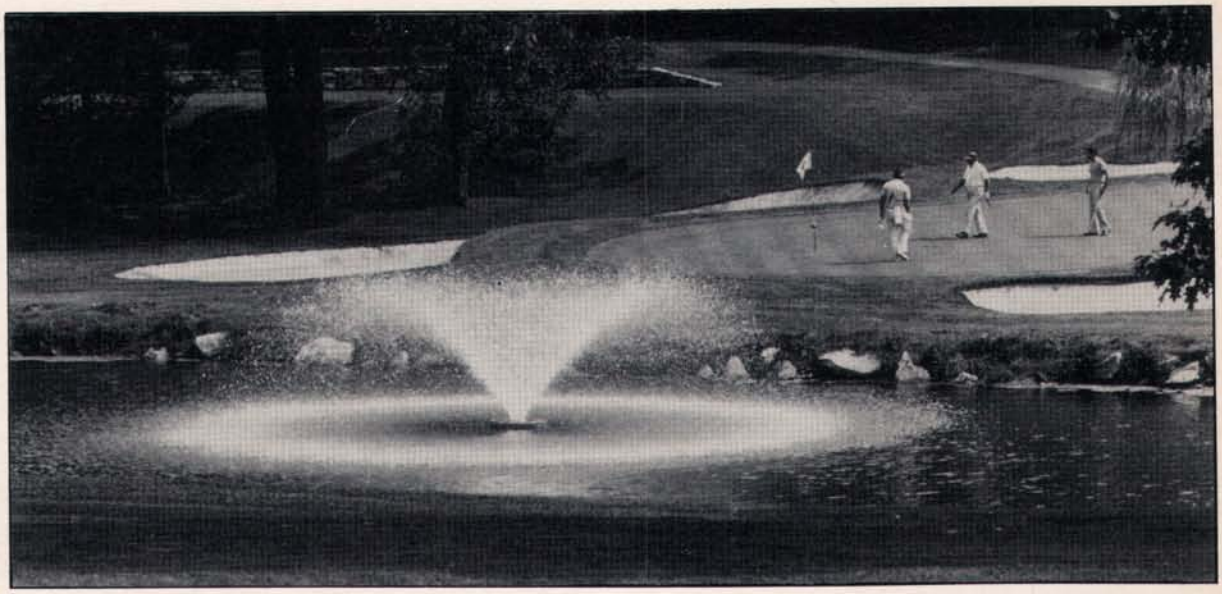

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Photo — Lehigh Country Club

THE FRONT OFFICE

OPINION PAGE

A PAGE OF GCSAA HISTORY

Sixty-two years ago, a "greenskeeper" by the name of Colonel John Morley convinced 60 of his peers to gather at Sylvania Country Club in Toledo, OH. Morley's purpose was to launch a national organization to raise the status of his profession through education and cooperation. On September 13, 1926, the National Association of Greenskeepers of America (NAGA) was formed and Morley served as its president for the next six years.

From this humble beginning the Golf Course Superintendents' Association of America (GCSAA) has developed into an international group of high esteem. The International Golf Course Conference and Show in Anaheim, CA, is a shining example of the success of GCSAA and the economic importance of golf in the world.

To really appreciate the progress GCSAA has made, you need some background on its growth and development over 62 years. During this period, the group has carried three different names. Just 12 years after its founding, the NAGA began to move away from the title of greenskeeper by changing its name to Greenskeeping Superintendents Association (GSA). That year the association had 500 members. The term greenskeeper was laid to rest in 1951 with the change to the Golf Course Superintendents Association of America (GCSAA).

By 1957 membership had grown to 1,000. After nearly 30 years, GCSAA finally hired its first executive director and moved the headquarters from Illinois to Jacksonville Beach, FL. Between 1957 and 1970, the post-war golf boom helped GCSAA triple its membership. Land Grant universities and the Agricultural Extension Service started devoting more effort to golf course research and training superintendents. GCSAA strengthened its relationship with the United States Golf Association and the National Golf Foundation.

In the last two decades, operating from its headquarters in Lawrence, KS, GCSAA has increased its membership to 7,500. The conference now ranks among the 200 largest in the country.

Throughout its history, the secret to GCSAA's strength has been its deep roots at the chapter level. Created primarily through the cooperation of local organizations in cities like Chicago, Toledo, Philadelphia, Buffalo, and New York, GCSAA has built a national organization on top of a foundation of nearly 100 chapters. The chapters have helped the national get out of some pretty sticky situations in the past, including during the Depression, when the group lost $16,000 when its bank went belly-up.

On the other hand, GCSAA has accomplished things that its chapters could not have achieved on their own. The show is a prime example, not only for the number of exhibits, but for the large selection of educational sessions it offers.

Another example is certification. The letters CGCS after a superintendent's name have national significance and have led, in part, to perhaps the highest salaries in the Green Industry. And by working with PGA and NGF, GCSAA has obtained for the superintendent a few well-deserved moments of recognition on television during tournaments.

As John Morley and the 60 other superintendents who gathered at Sylvania Country Club realized in 1926, you can't do it alone. Your reputation and skill can't improve if others in your profession stand still. To improve yourself, you must help improve the profession.

That's what GCSAA and its 100 chapters have done and continue to do. It's a record other associations would do well to follow.

Bruce Shank

EVENTS

CALENDAR

FEBRUARY

21-23 Western Pennsylvania Turf Conference, Pittsburgh Expo Mart/Radisson Hotel, Monroeville, PA. Contact Dr. Tom Watschke, Dept. of Agronomy, 405 Ag. Admin. Bldg., University Park, PA 16802, (814) 863-1613.

28 South Carolina Annual Grounds Maintenance Conference, Sheraton Columbia Northwest, Columbia, SC. Contact: Dr. Bob Mazur, Clemson University, Dept. of Horticulture, Clemson, SC 29631, (803) 656-3403.

28-1 Northeastern Pennsylvania Turf and Grounds Maintenance School, Lucerne County Community College, Nanticoke, PA. Contact: William Pancek, Lackawanna County Extension Service, 200 Adams Ave., Scranton, PA 18503, (717) 963-4761.

MARCH

11-15 Canadian Turfgrass Conference, Vancouver, British Columbia. Contact: Canadian Golf Superintendents Association, 2000 Weston Rd., Suite 203, Weston, Ontario, Canada M9N 1X3, (416) 249-7304.

15-18 Sports & Events Management '89 Conference, Phoenix, AZ. Contact: Steve Mountain, International City Management Association, 1120 G Street, N.W., Washington, DC 20005, (202) 626-4600.

21 Western Sports Turf Institute, California Polytechnic Institute and University, Pomona, Ca. Contact: STMA, 400 N. Mountain Ave., Suite 301, Upland, CA 91786, (714) 981-9199.

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Gary Myers

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Las Vegas, Nevada

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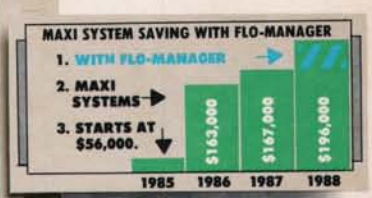

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THE EXTRA POINT

STMA NEWS

FROM THE EXECUTIVE DIRECTOR

This, my inaugural message as STMA's new executive director, gives me the great pleasure to report that our first international conference and trade show was a great success. All of the educational sessions were well attended and I heard nothing but praise from those attending for the quality of the presentations, the demonstrations, and the trade show exhibits.

On behalf of STMA, I would especially like the thank Carol Thomas and her staff at Dodgertown for all of their fine efforts in helping make our conference a great success. I would also like to thank the exhibitors for their support and the sports turf managers from across the country who attended the meeting.

Florida is a shining example of the potential of the sports turf industry. One speaker estimated that more than three billion dollars will be invested in Florida sports turf over the next ten years. The Florida sports turf managers attending the conference were also professionals in every sense of the word. I know the exhibitors were impressed with their professionalism, as well as that of the sports turf managers from other parts of the country.

STMA has come a long way, but as I look ahead there is still a lot of work to be done. This year STMA is planning to conduct four regional conferences, in addition to our second annual international meeting. Watch for upcoming announcements in *sportsTURF* magazine regarding dates, places and times.

I am anticipating the same kind of support and growth for these activities that we have had in the past. 1989 promises to be another great year for STMA and the sports turf industry!

Mark Hodnick

COCKERHAM ELECTED PRESIDENT

Steve Cockerham, superintendent of agricultural operations of the University of California at Riverside, is the new president of STMA. Cockerham has been a golf course superintendent, sod farm manager, county agent, turf researcher and sports turf consultant during his career. He is also a past president of the American Sod Producers Association and the California Chapter of the American Society of Agronomy.

Currently, Cockerham is the academic administrator of agricultural research at UC Riverside and turf consultant to the Los Angeles Coliseum. His research specialties are managing high-traffic turf and the adaptability of turfgrasses to Southern California. He holds a bachelor's degree in agronomy from Purdue University and a master's degree in weed science from New Mexico State University.

"I'm grateful to have been elected president of an association with such importance," said Cockerham. "So much rides on what STMA can do for all types of sports facilities across the country. The only way it can be effective, however, is for all sports turf managers to join and contribute to the cause. We need you as much as you need us."

David Frey, director of property for Cleveland Stadium Corp. in in Cleveland, OH, was elected first vice president. Dr. James Watson, chief agronomist and vice president of The Toro Company, was voted in as second vice president.

The final two officers are secretary Twyla Hansen, grounds manager at Nebraska Wesleyan University in Lincoln, NE, and treasurer George Rokosh, director of buildings and grounds for the College of DuPage, in Glen Ellyn, IL.

FLORIDA LAUNCHES FIRST LOCAL CHAPTER

"Florida Chapter Number One" is the name of the first officially recognized chapter of the STMA, launched in December by seven Miami-area sports turf specialists. "We talked about forming a chapter for months," said pro tem chairman Tom Mascaro. "We needed a reason to get together regularly to discuss sports turf problems on a regional basis, but we also wanted to be part of STMA."

The problem was STMA never had chapters before, so Mascaro, Dale Sandin (Orange Bowl) and Ed Birch (Broward County Schools) approached the board during the conference at Dodgertown. Not only did the board approve the chapter concept, it recognized Florida Number One as the first chapter and agreed to recognize a chapter to be formed in the Chicago area by Mike Schiller of the Glenview, IL, park district.

Mascaro said the new chapter will meet monthly at the Fort Lauderdale Research and Education Center. John Cisar, extension turf specialist at the center, handles meeting arrangements.

"Every part of the country has its own unique problems," explained Mascaro. "The only way to solve them is to get together frequently and discuss them. We might also be able to help convince local universities and the extension service to conduct research into local sports turf problems."

continued on page 42

CATCH THE ACTION

Mark your calendar.

March 21 — Western Sports Turf Institute
California Polytechnic Institute and University, Pomona, CA.

June 21 — Midwest Sports Turf Institute
Harper College, Palatine, IL.

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Desert Mountain: Built to Enhance *and* Preserve the Native Landscape

Renegade's 12th hole at sunset.

Of all the sports played on turf, golf brings the player into closest contact with some of nature's most spectacular scenery. From the sport's beginnings in Scotland, golf course architects and superintendents have sought to blend the acres of turf necessary for golf with the surrounding native landscape, regardless of the location. In doing so, they have helped preserve the relationship between man and this earth during a period of massive urbanization.

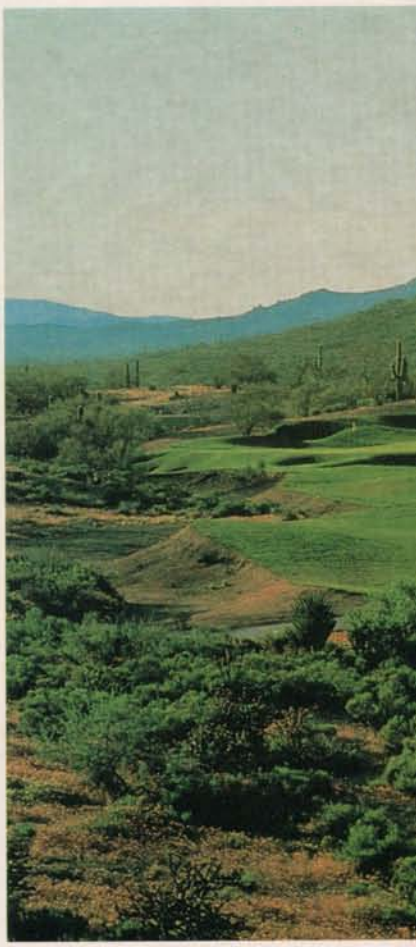
Creating and maintaining golf courses is a continuous process of give-and-take. In exchange for the plants, soil, and water that are taken from an area to build and maintain a course, golf courses can enhance the remaining native landscape and generate a greater public awareness and appreciation of it.

The Desert Mountain Development Company is keenly aware that it must take as little as possible from nature and return as much as possible. This responsiblity covers more than 8,000 delicate acres of the Sonoran Desert which lie within the city limits of Scottsdale, AZ.

As its name implies, Desert Mountain Development and its three golf courses are perched in mountainside canyons of granite ranging in elevation from 2,700 to 4,900 feet. Dramatic desert plants such as cactus, acacia, brittlebush, yucca and sage in the lower approaches yield to scattered juniper and pine at the higher elevations. To the south is a panoramic view of the Valley of the Sun.

More than 2,000 acres of the land will be left untouched. The remainder is master-planned and zoned for the golf courses, plus over 5,000 homes, resorts, offices, and commercial retail development.

Conservation is the key to the planning and development at Desert Mountain. The master plan, devised by Taliesin Associated Architects, an Arizona firm founded by pioneering modern architect Frank Lloyd Wright, seeks to preserve the beauty of the desert. No hill is flattened, no majestic saguaro cactus is disturbed, without careful consideration of the effects on aesthetics and ecology.



The two different pin positions are evident

The landscaping of the community and golf courses is being designed to preserve the natural beauty of the desert terrain. Steve Martino and Associates, a Scottsdale-based landscape architecture firm specializing in native plants, has been hired to incorporate the existing vegetation into the project and to protect the native habitat.

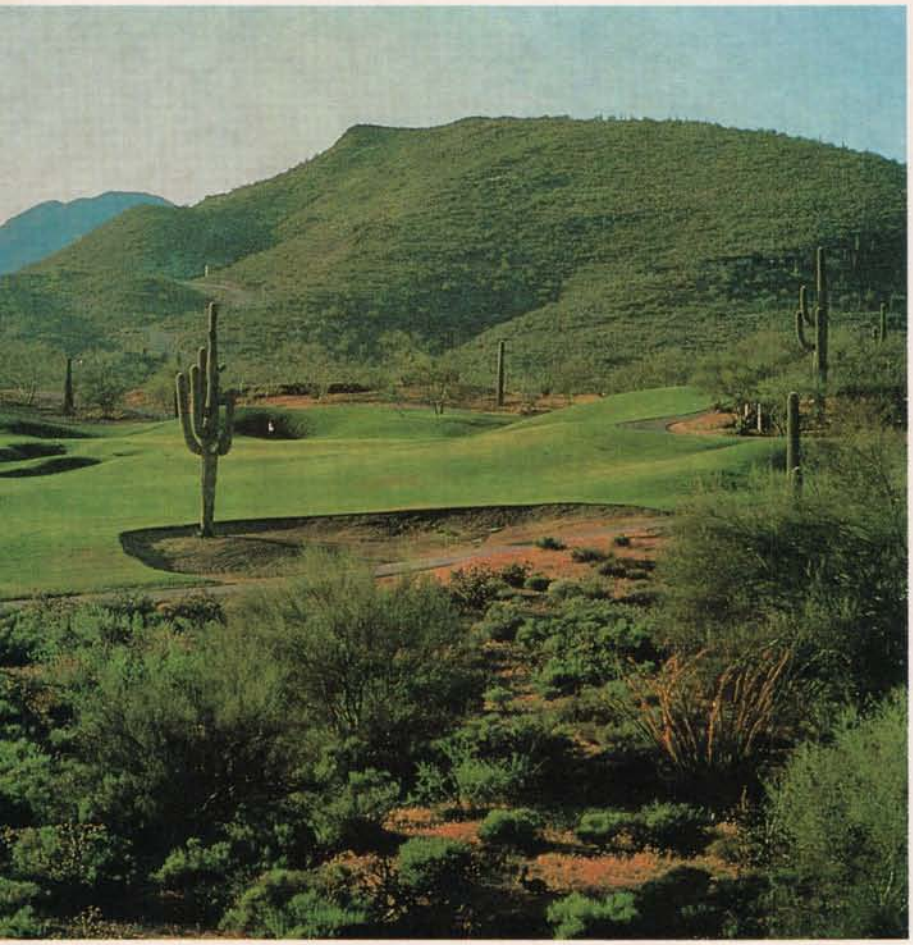
"Native landscaping has struck a chord with the people of Arizona," Martino enthuses. "They are finally starting to celebrate the desert rather than apologize

for it. They want this area to be part of the desert character instead of making it look like somewhere else. Desert Mountain Development is a fabulous example of this."

The community is planned around the three golf courses, appropriately given names reminiscent of Arizona's native American Indian heritage: Cochise, Geronimo and Renegade (warriors). Jack Nicklaus sought the challenge of designing the three courses and won the opportunity. The project began in 1985 with Renegade, located in the foothills, and now continues with the highest course, Geronimo.

Cochise has very soft, smooth slopes with dramatic elevation changes. For Geronimo, I'm planning the course to feature very severe, steep banks. There will be big elevation changes, deep ravines and plateaus."

His plan for Renegade was even more unique. "Renegade is like many courses in one," Nicklaus reveals. "You have a choice of two flags at every green—one with a demanding target area and the other considerably easier. The biggest advantage of this concept is that the average golfer and the good golfer can play together. . .yet be equally challenged. It's ideal for family play as well as a great competition course."



ge green divided by bunkers.

Cochise, which lies between the other two courses, was the site of the first Desert Scramble last April. The televised event matched Nicklaus and partner Lee Trevino against Greg Norman and Ian Woosman. The two teams played to a cliff-hanging tie. The tiebreaker was played on the completed 18th hole of Geronimo.

Describing the overall design concepts of the Cochise and Geronimo courses, Nicklaus explains, "It's my intention to create Geronimo as the strong-looking golf course, with Cochise being the soft-looking one.

Both the more difficult yellow flag course and the white flag course require good basic skills. On six holes the two flags are on separate greens, the yellow flag always further away and better guarded. On each of the other holes there is only one green, but it is large and irregularly shaped to provide room for the more difficult yellow flag pin placement.

Four tees on each hole, combined with two pin placements, provide eight separate course ratings. At 7,515 yards, the yellow flag course from the back tees is the longest in Arizona. The United States Golf Association has given it a handicap rating of 77.6, reportedly making it the toughest course in the country.

The white flag course is more forgiving with ratings ranging from 69.5 to 74.1 from the women's tees and 65 to 75.1 from the men's tees. Renegade carried more than 20,000 rounds in 1988.

Nicklaus brought out superintendent Phil Shoemaker from Muirfield Village Golf Club in Dublin, OH, to manage the courses during construction. Shoemaker didn't have to look far to find his assistant. Ron Ruppert, a fellow Rutgers graduate, was the assistant at Desert Highlands, four miles away.

Upon completion of Renegade, Ruppert took over as superintendent so Shoemaker could concentrate fully on Cochise and Geronimo.

"Renegade is like two golf courses in one," says Ruppert, "and it's spread out. You can't see one hole from another because the course is one big loop around the foothills." Mounds, huge outcroppings of rock, and hills make golfers feel they are alone in the desert. For the most part, the Renegade locale still looks just as it did when renegade warriors rode through more than a century ago.

The course is intermingled with the desert. "There is no out-of-bounds," explains Ruppert. "We have 4,500 sprinkler heads of just about every type Rain Bird makes, because the water needs of the turf are so different from the desert plants."

There are 108 Rain Bird SBM Field Satellites to control the multitude of heads, and these are linked to a MAXI System IV central computerized control system. "It would be impossible to irrigate this course without a computer and specialized software," says Ruppert.

The turf is separated from the desert with a transition zone that ranges in width from five to 40 feet. This area helps keep the desert out of the playing area and the golfers out of the desert.

A few desert plants are located within the transition zone to conceal equipment, but it is mainly decomposed granite, rock outcroppings or Caliche clay. "At first we spread sand over these areas, but the wind just blew it away," recalls Ruppert. "So now we keep it bare native soil. We treat them like bunkers, raking and using a harrow to get all the rocks out."

The transition zone also protects the desert plants from the more intensive irrigation of the turf. Provision had to be made when planning the irrigation system to provide the very small amounts of water required for some transition zone areas and replanted desert sites. These plants could be easily damaged or destroyed by overwatering.

Beyond the transition zone lies the native desert in all its awesome grandeur. Some areas were enhanced by relocating plants and rocks during construction. "Plants that

continued on page 18

Desert Mountain
continued from page 17

had to be moved during construction were relocated rather than destroyed," Ruppert explains. "When we walk the course, we are checking the condition of the native plants at the same time we check the turf. They are equally important."

The challenge of maintaining turf in the relatively hostile environment is immense. "We have 301,000 square feet of Penncross (bentgrass) greens," states Ruppert. "That's nearly twice as much as some golf courses." Greens range in size from 5,500 to 26,000 square feet. Each one is constructed to USGA Green Section specifications. "We even have two large greens with bunkers in the middle!" Every foot is mowed at 1/8-inch with walk-behind greensmowers.

"It took me a month to figure out the best pin placements for the dual greens," says Ruppert. "The white flags have to be aligned differently from the yellow to maintain the right amount of difficulty for both levels of players. At the same time, we have to spread the wear out. Working the two things together was a challenge! Now we have the combination of positions for each green in an assigned rotation."

Renegade's multiple tees are Tifway 419 growing in sand atop of the native decomposed granite soil. Altogether, they cover four acres. The wear on every tee also has to be planned in advance so that the bermuda has time to fill in divots. Regularly topdressing with sand keeps the tees smooth and level. Ruppert's crew mows them with greensmowers at 1/4-inch.

The balance of Renegade's 90 acres of turf is Tifway 419 hybrid bermudagrass growing in decomposed granite. The fairways are mowed at 1/2-inch. Ruppert verticuts the fairways every two weeks during the summer with a Lely dethatcher or a Jacobsen HF-15 with verticut reels. "I subscribe to the 'light and often' theory of verticutting," he adds.

The 419 roughs, which range in width from 90 inches to 50 yards, are trimmed at 1½-inch year-round. Ruppert edges the bermuda where it meets the transition zone—both mechanically and chemically.

"The native soil has a percolation rate of 60 inches per hour," says Ruppert, "so drainage isn't a problem—but it packs down to become hard as a rock. The only aerifiers that will penetrate are the Aerway spiker and the Verti-Drain shatter aerifier. We've been trying a new prototype Toro fairway aerator that seems to work." He uses a Toro greens aerator on the greens and tees.

The course is closed for two weeks in October to overseed the tees, fairways and rough with a blend of perennial ryegrasses. "We keep the course green year-round except during overseeding," Ruppert explains. Two weeks prior to overseeding he verticuts heavily and does not apply either liquid or granular fertilizers.

While the course looks as natural as the surrounding desert, it depends greatly on technology that is completely man-made. This technology is largely the brainchild of an electrical engineer named Rene Evelyn-Veere in Glendora, CA. Thanks to him, Ruppert has a high degree of control over every one of the 4,500 sprinkler heads on the course, using only the water and energy necessary to keep the millions of plants as healthy as if they grew there naturally.

"Control is essential in the desert," states Ruppert. "The control I have over the irrigation system, whether I'm at home, 2,000 miles away, or in my office, is amazing. It's all computer-based, but I don't have to be a computer expert to run it."

Superintendent Ron Ruppert at keyboard of MAXI IV.

"The white flags are aligned differently from the yellow to maintain the right amount of difficulty for both levels of players."

That was Evelyn-Veere's intention when he first started to develop Rain Bird's MAXI System in 1976. "An irrigation computer has to be an extension of the irrigator," he says today. "The approach needs to be practical, not scientific. Once the basic concepts are built into a computer program, the irrigator must be able to refine them easily to meet his needs. Everything must work in harmony—the computer, the superintendent, the water delivery system, the water source and the plants. That was the ultimate goal."

He started by developing an "irrigation language" to instruct a computer what to do. Since there was no such thing as a personal computer at the time, Evelyn-Veere personally had to design a computer for Rain Bird.

The first MAXI was tested in Phoenix at Ahwatukee Golf Course in 1978. It consisted of a "blue box"(the computer) and operated the valves directly by using decoders, simple on/off switches controlled by electrical signals. The biggest problem was that it didn't allow for manual operation in the field.

By adding field satellites with memory, Evelyn-Veere was able to endow the irrigator with control over his system in the field as well as from a central computer. "If the wires between the computer and satellites were cut, the satellites would operate on a standby program stored in them," he explains.

At the same time, he gave the central the ability to accept a wider range of instructions based upon sensors for wind, rain, soil moisture and water pressure. For exam-

continued on page 22

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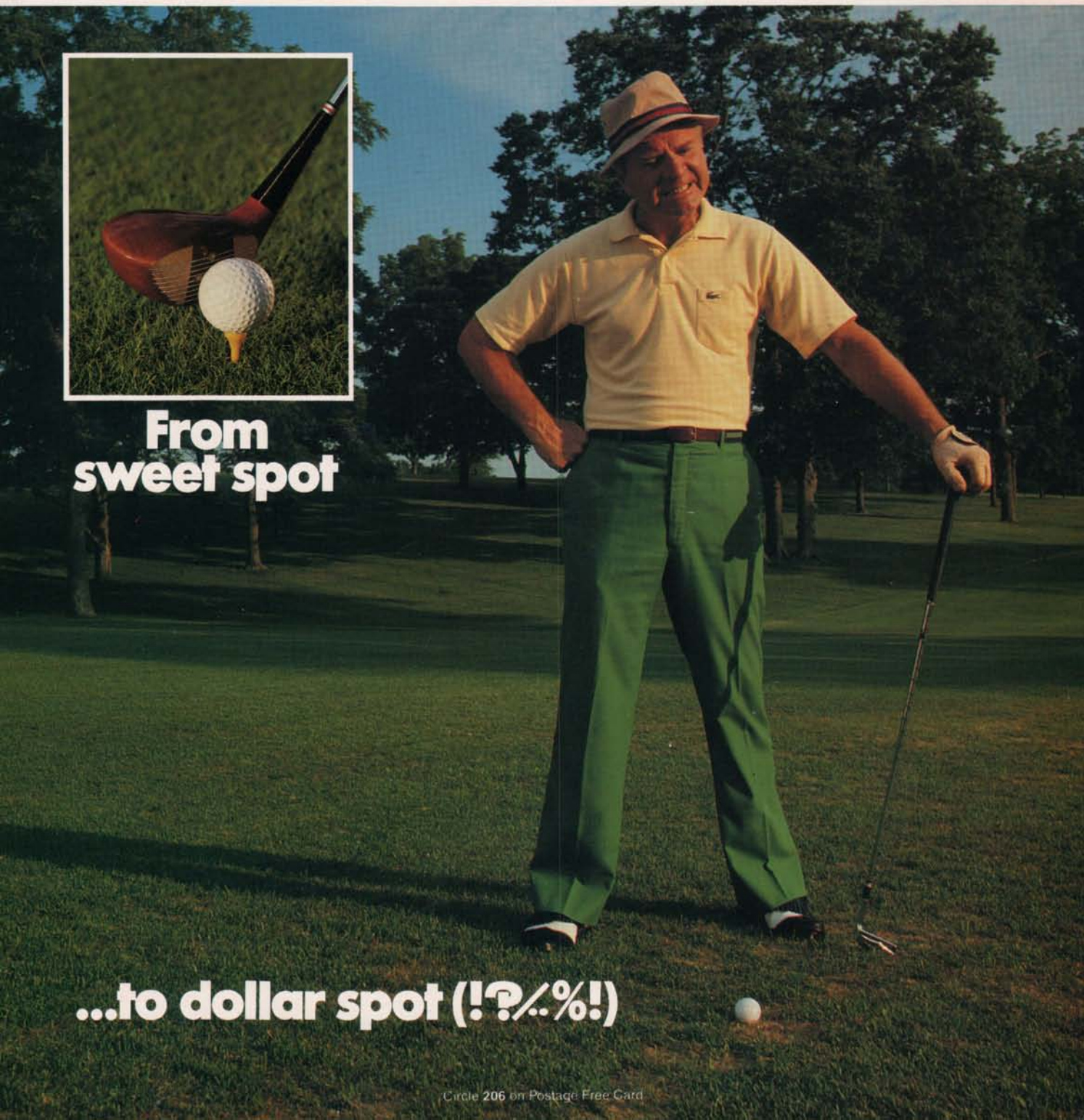

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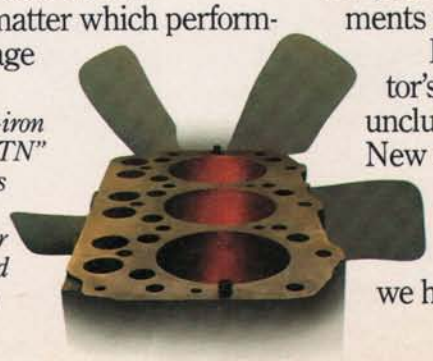

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