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*Mark A. Pierce*



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## BRIEFS

**BRADENTON, Fla.**— Work is underway and a January opening planned at Waterlefe Golf & River Club near Bradenton. "Nine of the greens are sprigged and sodded already," Director of Sales Rob King said. Plans at Waterlefe include a championship golf course, fitness center, pool and nature trails that wind through the course and along the river. The Ted McAnlis-designed, 18-hole championship course, which includes practice greens and driving range, will be semi-private.

...

**ALPHARETTA, Ga.**— Bergin Golf Designs has two projects scheduled for construction starts this fall. They are The Golf Club of Alabama, in Oxford, Ala., and Woodfin Golf Club, on Lake Bowen, north of Spartanburg, S.C. Bergin has also been selected to design the total renovation of The Sportsman of Perdido, former home of the PGA Tour's Pensacola Open.

...

**AURORA, Colo.**— The city of Aurora has completed Murphy Creek Golf Course. Located east of Gun Club road, the Ken Kavanaugh-designed course was completed in September by RBI Golf of Littleton. A late-spring 2000 opening is expected.

## Pine Valley Golf Club neighbor breaks ground

**PINE HILL, N.J.**— Golf course designer Tom Fazio, course developer Eric Bergstol, and local state and town officials have broken ground on a new 18-hole championship golf course here. Due to open in the fall of 2000, it will be situated on the highest elevation in southern New Jersey overlooking the Philadelphia skyline.

The high-end, daily-fee club will be constructed less than a mile from the celebrated Pine Valley Golf Club.

The financial backing for Pine Hill Golf Club came from Bergstol. Bergstol developed and assisted in the design of New Jersey National Golf club in Basking Ridge, Minisceongo Golf Club in Pomona, N.Y., Hudson National Golf Club in Cro-



Architect Tom Fazio describes the Pine Hill Golf Club layout.

ton-on-Hudson, N.Y., and Pine Barrens Golf Club in Jackson, N.J.

"Our goal is to add to the growing list of premier golf destinations not only recognized within the state, but also nationally," said Bergstol.

"My goal is for Pine Hill to reflect the natural beauty of its setting," said Fazio. "This course will make optimum use of the existing property and will offer golfers of all skill levels a course that is fun, yet challenging."

## Griffiths designs new 36 at St. Andrews

By PETER BLAIS

**ST. ANDREWS, Scotland**— Developers held a ground-breaking ceremony here Oct. 13 for a new 36-hole golf facility and 200-room hotel located just two miles east of the most famous golf course in the world.

Developer Don Panoz of Savannah, Ga.,

hired Denis Griffiths to design the two courses. Griffiths and Panoz have worked together on five courses, including Chateau Elan, a Griffiths' effort outside Atlanta.

"The town of St. Andrews is the backdrop for many of the holes," Griffiths said. "It's just a spectacular piece of property."

Routing plans have not been finalized, although Griffiths said he is working with Scottish golfer Sam Torrance on the first 18 holes and Australian Bruce Devlin on the second.

The Georgia architect described the parcel as gently rolling farmland. "We won't have to do a lot of artificial earth

Continued on page 4

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## Lee scholarship program readied

TEQUESTA, Fla. — The Joe Lee Scholarship Foundation, a non-profit organization representing more than 300 Joe Lee-designed clubs and courses, launched the Joe Lee Scholarship Fund, an initiative dedicated to providing financial assistance and scholarships to children of employees of those courses.

The Joe Lee Fund will award grants to children of current or retired Joe Lee course employees to assist their continued education.

"Nothing is more important to the future of our extended golfing family than the ability of the children of dedicated golf course employees to continue their educations," said Lee. "I'm extremely proud to have my name on this effort and very grateful to our Joe Lee board of directors and members clubs and courses for their enthusiastic support."

To date, through the contributions of the Joe Lee board of directors and several friends, the fund has raised more than \$50,000 as seed money to support the continuing education of deserving Joe Lee course employees' children.

Now, the fund — on behalf of Lee courses and clubs — is broadening its efforts including inviting members of the supplier/vendor community to consider supporting the scholarship fund.

Donations can be sent to: The Joe Lee Scholarship Foundation, P.O. Box 1270, Boynton Beach, Fla. 33435. People may contact Tom Minnehan, golf professional at Turtle Creek Club, 561-746-8884, for further information.

## Griffiths

Continued from page 3

work. We'll do a lot with native plant material and probably only use about 40 percent of the site.

"We'll revegetate with native materials because it's described as an 'agriculturally degraded' property. We'll put heather, gorse and U.K. grasses back in. The course will probably be mostly heathland with a bit of parkland. We probably won't be planting any trees."

Griffiths said the first course should open in August 2001 and the second a year later. No builder has been selected.

"It's taken awhile to get the permits," Griffiths said. "The property came with some permits in place, but we've gone over a few hurdles with the city of St. Andrews." 

## Calif. layout set for Nov. opening

GILROY, Calif. — Eagle Ridge Golf Club, a Crown Golf Properties-managed facility, is on schedule for a Nov. 19 soft opening.

Scott Hathaway was recently named general manager/director of golf of the 7,035-yard layout, which was designed by golfer Johnny Miller and architect Ronald Fream. The course is spread over 197 acres in the western foothills of Gilroy.

The course is part of the 890-home Eagle Ridge master-planned community being developed by Shapell Industries of Northern California, Standard Pacific Homes of Northern California and Gilroy-based Glen-Loma Group.



Eagle Ridge GC

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## Kentucky plans to build seven new state courses

FRANKFORT, Ky. — Kentucky has selected a Colbert-Burns & McDonnell to conduct preliminary analysis for the construction and improvement of seven golf courses located throughout the state for the Department of Parks.

The Kansas City firm will analyze what's needed to develop

and build the courses, which were funded by the 1998 General Assembly. Adopting an approach used elsewhere but new to Kentucky, the state could use the same firm to do both design and construction and will review work at the end of each phase prior to moving ahead to the next step. The first phase will be com-

pleted by mid-fall and a determination on how to proceed will be made at that time.

Parks that will be analyzed for new courses include Dale Hollow near Burkesville, Yatesville near Louisa, Mineral Mound near Eddyville, Pennyriple near Dawson Springs, and Kincaid Lake near Falmouth. Two exist-

ing courses at My Old Kentucky Home in Bardonia, and Grayson Lake outside of Grayson, will be scoped out for improvements under the contract.

Kentucky currently owns and operates 16 courses, which vary from 9-hole par-3 courses to 18-hole par-72 layouts. Ground was broken last fall for a new course at Pine Mountain State Park.

In addition to the Kentucky

State park project, Colbert-Burns & McDonnell is completing Sycamore Ridge in Spring Hill, Kan. Projects in advanced planning are located in Kansas, Missouri, New Mexico, Illinois, Michigan and Minnesota.



PGA Senior Tour player Jim Colbert and Burns & McDonnell are partners in Colbert-Burns & McDonnell. Burns & McDonnell is a 101-year-old engineering, architectural, construction and environmental services firm.

## Golfers prove to be a hardy lot

JUPITER, Fla.— Sixty percent of golfers don't mind playing in the rain, but even those who don't like to will, according to almost 600 golfers, mostly avid (those who play an average of 36 rounds per year), participating in the latest USATODAY/NGF "Golf in America" on-line survey.

Eighty percent said they have actually started a round of golf while it was raining.

Even more applicable to the golfer's resolve to play may be that 60 percent have played during partial snow cover, while 15 percent have played when the ground was completely covered.

But what may be the most telling sign that golfers are a resilient group is that over one-third of the survey participants will still play golf when temperatures are close to or below freezing.

## Atlantic City GA adds two courses

ATLANTIC CITY, N.J.— The Greater Atlantic City Golf Association (GACGA) has added two of South Jersey's newest golf clubs to its membership — Sea Oaks in Little Egg Harbor Township and Blue Heron Pines East, an extension of Blue Heron Pines Golf Club. Both courses are targeting a spring 2000 opening.

Located minutes from the Garden State Parkway's exit 58, Sea Oaks encompasses more than 316 acres of natural terrain in the pine barrens of southern New Jersey.

Designed by Steve Smyers, Blue Heron Pines East will be distinctly different from the Four-Star Blue Heron Pines Course.

The new East Course features bentgrass tees, greens and fairways. The championship black tees play 7,300 yards. Additionally, the new course includes a 58,000-square-foot practice tee with three greens.

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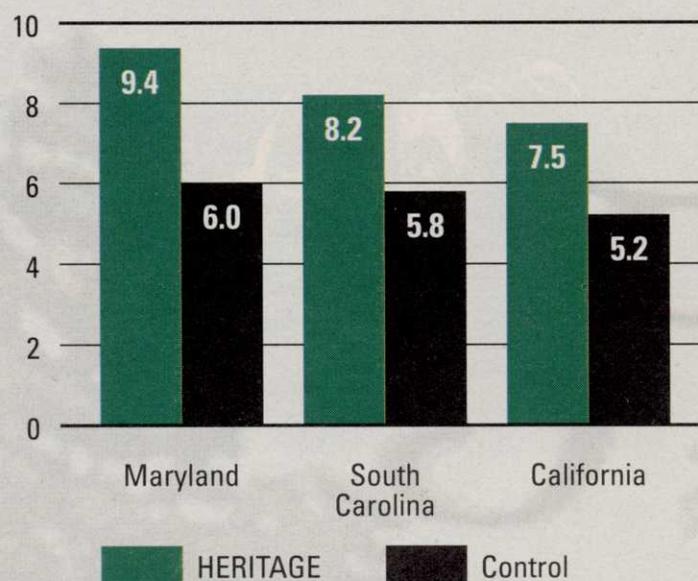
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CIRCLE #104



## New cry: Hang up and drive!

Imagine, if you will (with me and Rod Serling), a land beyond sight and sound... Golfers on a golf course actually scurrying along... hitting the ball as soon as they get to it, with no closest-to regulations... not plumb-bobbing each putt for a full 60 seconds... not romping through the woods looking endlessly for a lost ball while the next foursome waits... Look closely with me. Do you see in the woods — yes, there — a sniper up in a tree!



Mark Leslie  
editor

OK, I know it's not reality. But I wonder if any superintendent, grounds crew member, or general manager — watching play creep along on their course — ever envisioned a sniper every few holes. Slow down too much and those snipers will "urge" golfers along with a potshot. Knowing that a B-B (not a bullet, please) to the backside might await them if they stayed too long over a shot, might take care of the slow-play problem, don't you think?

But it also might discourage repeat play as well. So people try this way and that way to speed up slow play — a growing nemesis to the industry. National Golf Foundation studies confirm that slow play is among the great distresses of golfers.

And now an instrument that has been quite outside of golf has invaded fairways and added to slow play: cellular phones. What to do? The sniper on your 2nd fairway could blast it out of the hands of the offending golfer. But if you're not into that remedy, how about a simple "No Cell Phones" sign, like the universal circle with the slash through it?



Draw a little cell phone drawing in the middle of the circle and the message is clear: This golf course is for golf, not telephone conferences. Tell the golfers: "Go ahead, take your phone with you, but just for emergencies — like your partner having a heart attack, or your expectant wife calling when she goes into labor. Otherwise, cell calls are forbidden!"

We realize slow play is a mammoth problem — too much, perhaps, to conquer all at once. But this would be a quick and easy way to remove this particular nail in the coffin.

So let's hear the cry from every golf course: "Hang up and drive!"

## Carolina turf groups help distressed

Hurricane Floyd is gone but not forgotten in the Carolinas. Many courses closed, some for almost a month, due to the winds and subsequent rains (see story, page 1). But as tough as that was for the golf industry, it pales next to the suffering of individual Carolinians who lost relatives, friends and personal property.

Two of the Carolinas' major golf organizations realized the personal difficulties faced by those working in the area's golf industry and rushed to their assistance.

In late September, the 2,100-member Turfgrass Council of North Carolina and the 1,300-member Carolina Golf Course Superintendents Association jointly funded a \$50,000 humanitarian aid fund to cover personal losses suffered by their members and their members' employees. The two groups indicated they will seek additional contributions from their members.

Those eligible for assistance include golf course superintendents and their staffs. The direct grants are limited to \$1,000 per person.

"The people who were affected the most just haven't had time to let us know what's going on," said Turfgrass Council Director Gene Maples, when asked how many people were expected to take advantage of the program. "We need to know."

Those needing assistance can obtain the one-page application form by calling the Turfgrass Council of North Carolina at 910-695-1333, or the Carolina Golf Course Superintendents Association at 800-476-4272.

"We don't see ourselves offering aid to businesses themselves," Maples said. "But I have received offers from a number of volunteers saying they would go wherever and do whatever is required at someone's home or golf course."

As for the area's golf courses, Maples said there had been no reports of catastrophic destruction to golf course turf. Most of the flood waters were rising rather than rushing, meaning little erosion was taking place. The flooding has also deposited little silt or mud, Maples added. That left long-term submersion of turfgrass as the major concern of golf course operators.

"People have called to find out how long their grass will live underwater," Maples said. "Generally that's not a problem with bentgrass or Bermudagrass. Centipedegrass is a whole other story, although there is little centipedegrass on golf courses."

Most of the flood damage occurred in the eastern third of North Carolina, Maples said. "It covered at least a dozen counties," he added, "running through the Rocky Mount area, Smithfield, Goldsboro, Clinton, down to Wilmington and points east."

"Anything east of Interstate 95 from Myrtle Beach, S.C., north through all of North Carolina is an ecological disaster," said Carolina GCSA Director Chuck Borman.



Peter Blais  
managing editor

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## Meeting the challenges of golf course development

By FRANK J. GETCHELL  
and WILLIAM K. BECKMAN

Whether you personally agree with Mark Twain's view of golf as "a good walk spoiled," or count yourself among the growing number of avid golfers for whom there is nothing finer than playing 18 holes on a sunny day, one thing is certain: developing a golf course is more challenging than ever. The approval process is becoming lengthier as regulatory agencies and the public require more detailed assurances that a new golf course will not adversely impact surface and groundwater systems and the environment overall. But developers can minimize delays and other problems by addressing water and other environmental issues early in the planning process.

One of the major issues is water allocation and public acceptance of the proposed diversion. In the past, if water were drawn



Frank Getchell



William Beckman

from a surface-water source, planning boards typically were not concerned about potential adverse impact on groundwater, and vice versa. But as awareness has grown of the complex nature of hydrologic systems, developers today must evaluate the potential impact of a new golf course on the quantity and quality of both surface and groundwater — whatever their source.

As a result, it may take one to two years to obtain a water-allocation permit, depending on what state the course is located in. This

schedule can be extended due to local planning board approvals, which may be contingent upon receipt of a state permit.

### WATER RESOURCE MANAGEMENT

The availability of an adequate supply of potable water for a golf course is of minimal concern in most regions. Instead, irrigation water supply and water resource management are key concerns. Even after the turf-growing period, water consumption for golf course irrigation is significant. Peak irrigation demand tends to coincide with the peak period for community water supply use, as well, and the season when aquifer recharge and surface water flow are at their minimum.

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Frank J. Getchell and William K. Beckman are vice presidents of Leggette, Brashears & Graham, a water resources and environmental services consulting firm that has worked on many golf course projects. The firm's offices are in Ramsey, N.J., and Trumbull, Ct.

By KEVIN ROSS

## Diary of a Ryder Cup volunteer

**Day #1 Sept. 22** — When the alarm rang at 4 a.m., the long trip and work schedule as a 1999 Ryder Cup grounds crew volunteer suddenly set in. Dragging myself out of bed to prepare for the two-hour drive from Vail to Denver for my flight, I realized I hadn't seen 4 a.m. in about a month. I could feel the bite of the 36-degree morning and hoped Boston would bring a little warmer morning starts. Armed with the largest cup I could find, my joe was in hand and I was off. One stop in Denver to pick up my cohort for the trip, Scott Gault, who works for Hall-Irwin Co., a supplier of golf course construction materials. Scott spent some time in New England as an assistant superintendent and helped give Jeff Baker (present assistant at Ryder Cup host Country Club of Brookline) his start in the business.

Once in the air with the *USA Today* sports section in hand with Woods and Duval on the cover, I realized I was attending "The Battle at Brookline" my first Ryder Cup experience. I thought, "Wow! What a Cup to make my first!" With the dreaded Euro's holding the cup, the players compensation issue, a gem of a golf course, and to return to my native New England, I was getting more and more excited.

When the plane set down in Manchester, N.H., our host for the week, Glenn White, greeted us. Glenn is the superin-

tendent at Campbell Scottish Highlands Golf Club, and a former assistant of mine when I was at Falmouth Country Club in Portland, Maine.

**Day #2, Sept. 23** — Another day up at 4 a.m., which is 2 a.m. MST and our body clock time. A quick bite to eat, cup of joe in hand and into the rental car for the one-hour drive to the Country Club of Brookline. Walking out the door, we felt rain on our heads and were not thrilled with the thought of a damp Ryder Cup experience.

At the CC of Brookline Maintenance Center, we had a quick meeting with Sean McCormick (volunteer coordinator from the Valley Club of Montecito in California) and off we went. Seven of us were assigned to the dew whip team. We were to take the dew off any low spots in the fairways, break up clippings, and check fairway divots. The overnight rain deposited a half inch, which made the course soggy. The Brookline crew had the complete arsenal out: a helicopter, waterhogs and fans to dry the fairways. The dew whip team followed, cleaning up anything that was left. What a sight, seeing the helicopter hover over the course to help dry it out! When the first tee time arrived at 9:30 a.m. for the final practice round, the course was ready for play.

My fellow Dew Whippers and I re-



Ross' Dew Whipper teammates in action on the 18th fairway: Scott Gault, right, and Jeff Brooks.

turned to the maintenance center for a quick breakfast and our next assignments. It was off to the cover the 12th green, 13th tee and 14th green. My assignment (with two other volunteers) was to keep all debris off the two greens and the tee, rake bunkers if needed, and seed any divots taken on the tee or in the approach. Our staging area on the 12th green was directly behind the green next to a large beech and oak tree. Little did I know that what a wonderful spot this would be to watch the action and meet many dignitaries over the next few days.

Our day throughout the practice round was very busy. Players who came through each played six or more shots from the bunkers, practiced various approach shots, and generally made a mess. Play finished about 5 p.m. and we headed home.

*The Brookline crew had the complete arsenal out: a helicopter, waterhogs and fans to dry the fairways.*

**Day #3, Sept. 24** — OK, this was it, the first day of competition. The assignments were the same as the previous day, so we Dew Whippers headed to the first fairway to prepare for the first tee time at 7:30 a.m. Once the dew draggers showed, it was time to go into action. You could feel that today was a big day. All in our group had perfection on our minds. It didn't take long to work up a good sweat on a near perfect day.

As we finished the 18th fairway and walked through the clubhouse area, we could feel the buzz in the air about the matches. As we continued walking back to the maintenance center, we could hear the roars of the crowd from all over the golf course in response to each hole won by the Americans. This puzzled us to some degree because the players had only made it through eight holes. We soon learned that for \$10, you could purchase a small radio that carried the golf tournament live. It seemed like almost everyone had these. So, whenever the American Team won a hole, it didn't matter what hole the players were on — the roar was from everywhere on the course.

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# Ryder diary

Continued from page 9

At the maintenance center, it was some quick eats and off to our holes. I drew the same assignment as the previous day. As I walked up the 12th fairway to the green, I was amazed with the crowds — a sea of spectators.

Upon reaching our post behind #12 green, our team of three

volunteers — Gault, Brett Henk, 2nd assistant at Nantucket Golf Club in Cape Cod, and I — was ready for action. Our goal was to have our areas flawless. As we got to the green and set our tools of the trade down by the TV tower, we put our game faces on and scoured the entire green and tee area with perfection in mind. Not a leaf, blade of grass, sand particle, divot, acorn, or anything could stop us. With four morn-

ing and afternoon groups, play moved very quickly. In no time, the morning fourball matches were finished through the 12th and we ran to the tent for lunch.

Returning to our green for the afternoon, we stayed busy all day as the 486-yard par-4 uphill hole was a battle for all players. It played more like a par-5. The front right bunker was very active and the approach to the green saw its share of activity.

Friday's most exciting shot on the 12th came from Jasper Parnevik (teamed with Sergio Garcia), who pitched in the hole from 30 yds out for a par-4. He had been imitating a Boston Bruin playing hockey until that point. When the shot went in, Sergio did his 200 beats per minute, five laps around the approach, jumping up and down as if he had won the PGA. Brett and I were amazed with his enthusi-

asm, but were more concerned with the footprints and spiking on our approach. As the group went to the next tee, we inspected the damage but found very little. It's a good thing Sergio is just a kid (in size anyway). There were eight points available for the day, with four each from the morning alternate shot format, and the afternoon better-ball competition. There wasn't much to cheer about for the American side as the Euro's were on fire and put it to us for the day, 6-2.

Other than golf, my highlight for the day was that the Bush family, Michael Jordan, Tom Kite, Ray Floyd, and others viewed the action from inside the ropes next to our post. I especially remember Tom Kite saying what a great old course the Country Club was and how the presentation for the tournament was perfect.

**Day #4, Sept. 25** — We arrived at Brookline around 4:45 a.m. We wondered, Why so early? Maybe the players were coming by the shop to have breakfast with us — **not!**

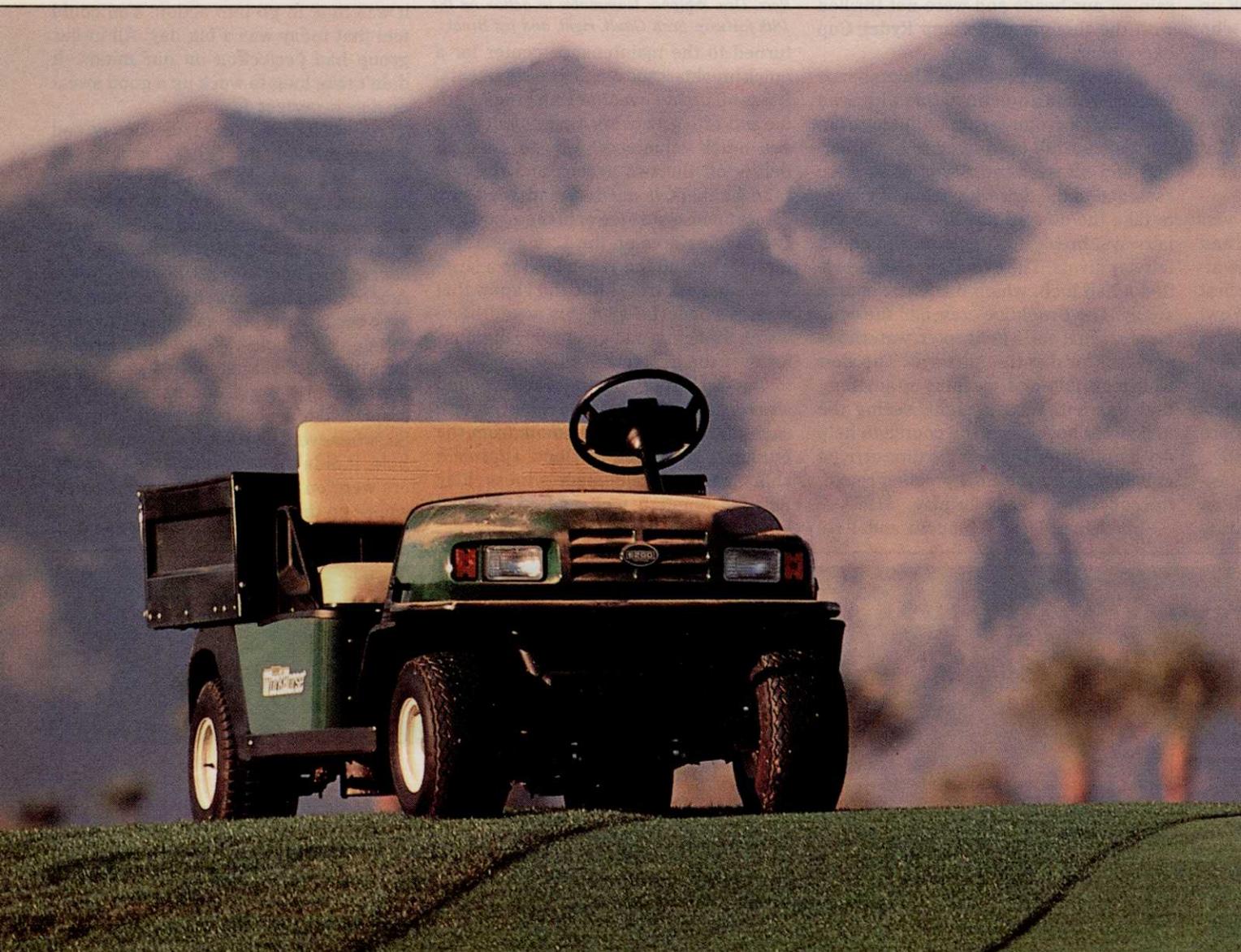
As daylight broke, it was the dew whippers in action again. So, off we went to the 1st fairway, where we went through our morning ritual of stretching and performed the ceremonial toast of our dew whips. This being the third consecutive day and knowing the crowds would be at their largest, we knew the comments concerning our dew whips might border on hilarious.

The previous two days we heard the usual ones, such as "Caught any fish?" "Where is the reel?" "What kind of antennas are those?" "Where is the scoreboard?" I mentioned to the rest of the team to keep track of the comments so we could vote on the best remark concerning our tools of the trade.

As we finished the 10th fairway, the sky darkened and raindrops started falling. A few holes later, the rain increased in intensity and we donned our rain gear. The thought of whipping the last eight fairways in the rain was not appealing to anyone, but we kept trucking. The skies continued with a light rain for the remainder of our morning duty. We were never happier to see the maintenance center after finishing #18 fairway. Once back at the volunteer tent, we swapped complaints about how wet and damp we were (sounded like my crew back home). After drinking as much hot coffee as a person could, it was time to gather our afternoon tools of the trade and off we went.

At this time I was beginning to like the 12th hole. It was like a second home. We changed our tack on this wet Saturday. We decided to split up the 12th and 14th greens because the crowd density was so intense that one

Continued on page 13



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BRIEFS



**ALMA MATER HONORS TONY MANCUSO**  
STARKVILLE, Miss. — Bellerive Country Club superintendent Anthony "Tony" Mancuso is one of eight leaders in a variety of private and public service areas who have been named Alumni Fellows of Mississippi State University (MSU). Mancuso is a certified golf course superintendent and a 1979 agronomy/turfgrass management graduate of MSU. He lives in Creve Coeur.



Anthony Mancuso

**NTEP PROGRESS REPORTS ON WEB**

BELTSVILLE, Md. — Progress reports containing data collected in 1998 have been mailed and are also available on the National Turfgrass Evaluation Program's web site, <http://www.ntep.org>. The hard-copy reports (booklet format) have been mailed for Kentucky bluegrass (high and low input), perennial ryegrass, tall fescue, Bermudagrass, zoysiagrass, buffalograss, St. Augustinegrass, and on-site bentgrass/Bermuda tests.



**N.H. TURF EDUCATION DAY SET**

CONCORD, N.H. — Featured speakers for the 1999 Turfgrass Education Day on Dec. 8 at the Holiday Inn here include Drs. Houston Couch and Joe Vargas. The day's festivities start at 8 a.m. and the cost is \$60. Four pesticide credits have been applied for New Hampshire, Massachusetts, Maine, Connecticut, Rhode Island and Vermont.

**OTF SHOW DRAWING EXHIBITORS**

COLUMBUS, Ohio — Already nearly 200 companies have reserved more than 400 booths for the Ohio Turfgrass Foundation's (OTF) Annual Conference & Show, Dec. 6-9, in the Greater Columbus Convention Center here. The event is sponsored by The Ohio Turfgrass Foundation, The Ohio State University, and Ohio Agricultural Research & Development. For more information, people may call 888-683-3445.



**Biocentric environmentalism threat to man, PhDs tell superintendents**

By JOEL JACKSON

NAPLES, Fla. — A couple of Ph.D's gave an audience of golf course superintendents and vendors a one-two punch presentation on environmental activism and mass communications at the September meeting of the Everglades GCSA meeting held at Collier's Reserve here.

Speaking first was Dr. Michael Coffman, whose book *The Saviors of the Earth* details how environmental extremists are introducing regulations through executive orders and United Nations global policies without ever going through legislative processes.

Coffman believes that 97 percent of the



Dr. Michael Coffman

people who engage in well-meaning conservation efforts are decent human beings trying to find the right balance between man and nature. He also believes the career activists who head up many of



Dr. Tom Morgan

the large environmental foundations have a more sinister agenda.

And Coffman, a former forestry professor, is devoting his time and energy exposing this shadow world of environmental duplicity.

At the heart of this agenda, according to Coffman, is an almost religious zeal by the extremists, which he labels Biocentrism. This philosophy contends

Continued on page 11

**Breaking the ice before it breaks you**

By MARK LESLIE

LEEDS, Maine — Whether global warming is fact or fiction, recent warm winters are causing Northern superintendents to rethink and experiment with their winter maintenance regimes.

Instead of the normal frozen ground and snow cover that insulates turfgrass on greens, the last few winters have featured snowstorms followed by rainstorms. This compresses the snow and tends to freeze it, layering the greens in ice and causing various problems that can be deadly to turf.

Superintendent Rick Newbauer at Springbrook Golf Club here



ON THE GREEN

experimented with ice chippers, wooden snow scoops and snowblowers before finding the best method to rid his greens of ice cover.

"We've tried everything," Newbauer said. "But the last two or three years there have been 3 or 4 inches of ice that supported the weight of a tractor without harming the greens. So we've taken out the tractor with a bucket and pushed the snow right far enough away that those piles would drain off the greens."

Newbauer's crew then spreads a dark fertilizer on the ice with a rotary

Continued on page 12

**At Cherry Hills with super Mike Burke**

*Editor's Note: This is the first of an ongoing column which will enumerate the "tools in the toolboxes" of superintendents across the country — what equipment, chemicals and other gear they use to keep their courses in shape. We will look under the roofs of the maintenance buildings of superintendents at public, private, resort and municipal facilities. Contributing Editor Terry Buchen will work with GCN on the column.*



Superintendent Mike Burke at Cherry Hills Country Club in Englewood, Colo.

**CAN'T LIVE WITHOUT: My golden retriever Palmer**

- Greens Mowers:** 10 Toro GR1000 22-inch
- Tee Mowers:** 10 Bunton GS26s 26-inch
- Fairway Mowers:** 5 Toro 5200-D
- Rough Mowers:** 2 National triplex 84-inch; 1 Jacobsen 5111
- Bunker Rakes:** 2 John Deere 1200
- Turf Utility Vehicles:** 3 Cushman Truckster; 2 Mitsubishi
- Aerifiers:** 4 Greencare Coremaster 12; 3 Toro walking aerifiers

**OLDEST PIECE OF EQUIPMENT: '68 Ford 41123C Tractor**

- Top dressers:** 2 Metermatic III; 1 Vicon
- Reel Grinder:** Express Dual
- Bedknife Grinder:** Angle Master
- Irrigation Pump Station:** Toshiba H3 VFD, 3000 GPM by Danfoss, Mid-Continent Engineering Co.
- Irrigation System:** Toro
- Golf Car Fleet:** E-Z-GO (12 gas, 4 electric)
- Flagstick:** Southern, Par Aide
- Hole Liner:** Par Aide
- Type of Computer:** Hewlett Packard, Windows 98, map info.
- Favorite Chemical:** Primo, Surfside 37, ROOTS
- Favorite Fungicide:** Heritage
- Favorite Insecticide:** Merit
- Favorite Herbicide:** Confront
- Favorite Slow-Release Fertilizer:** Nitroform
- Maintenance Building:** 11,500 square feet
- Annual Rounds of Golf:** 30,000
- Normal Green Speed:** 10

MAINTENANCE

# Mower storage rack a winner

By TERRY BUCHEN

ARCADIA, Mich. — Paul Emling, golf course superintendent at the Arcadia Bluffs Golf Club here, uses walk-behind greens mowers for his greens and tees and walk-behind rotary mowers and blowers for maintaining miscellaneous areas on the grounds. To ease their transport, Emling uses tow-behind trailers that can be entered and exited from the rear or side while towing them individually or in tandem.

Property manager John Fisk and equipment manager Patrick Sullivan solved Arcadia Bluffs' trailer storage situation by building a rack that holds six trailers of either type in a vertical position — all in a 4- by 5-foot space. The rack can be moved anywhere in the



use in an alternating storage fashion," he added.

The material and approximate costs for the rack follow:

2 by 2 by 3/16 square-48 feet \$ 71.10

2 by 1/4 flat -24 feet \$ 18.00

8 by 1/4 flat -1 foot \$ 2.50

2 by 3/16 flat \$ 2.40

1-1/2 by 1-1/2 by 3/16 square 11 feet \$ 15.50

1 by 3/16 angle - 5 feet \$ 1.75

Total cost: \$111.25

maintenance building area, and a holder for extra hitch pins can be added easily, Emling said.

"The swinging arms hold each individual trailer upright and there are two separate tracts for each trailer model to use in an alternating storage fashion," he added.



The trailer storage rack fits in a 4- by 5-foot space.

# GIS, GPS saving time and money

Continued from page 11

this case, and access stored data — its hole number or square footage, for example. The layered structure enables the user to view all features or only specific ones on the map display at a given time.

More powerful, however, is the GIS's ability to process data entered by the user or stored in the database to generate new information. GroundLinkx has leveraged this capability by programming numerous golf-specific functions into the system so that, with a few clicks of the mouse, superintendents can:

- measure precise distances between any points;
- calculate bunker volumes and acre-foot of lakes;
- compute precise square footage of fairways, tees and roughs;
- determine fertilizer, seed, or pesticide application totals;
- locate trees by name or other parameters;
- isolate sensitive habitat and wildlife areas;
- design new course features to scale;
- locate a specific sprinkler head valve or piping route; and
- plan precise layout of tents, bleachers

ers and other tournament facilities.

"The result of every computation is extremely precise because of the accuracy of digital mapping which lies at the heart of the system," said Mike Platt, president of IntraSearch, a mapping and aerial survey firm. "Features are located on the course basemap with an accuracy of less than 1 foot."

### GIS IS DYNAMIC

Superintendents point to the dynamic GIS functions as the reason they turn to the GroundLinkx program daily.

For example, the TurfCare routine prompts the superintendent to enter the N-P-K ratios of any fertilizer product and then select the desired application area on screen. The system determines the exact chemical amount and spreading rate required to treat the area properly.

"The long-term effect of the TurfCare function is that I keep less material in storage," said Doug Anderson, superintendent at The Vintage Club in Indian Wells, Calif. "It's so exact it takes the guess work out of management. There's no way you can't save money."

In addition to computing spray and spread rates, this routine also tracks when and where the chemicals are applied and

stores the information in the database.

Other databases can be built in GroundLinkx with direct input from the course staff. The tree database, for instance, prompts the superintendent to enter the tree name, pruning date and other maintenance data he chooses for every tree on the course. When completed, the database offers two ways to retrieve information from the system — either by clicking on a tree visible on the basemap to view a dialogue box, or by querying the database directly so that it highlights all trees of a given type or with a specific problem on screen.

"We had an infestation of ash saw flies last year and called in a sprayer," said Jim Wilkins at Westwoods Golf Club in Arvada, Colo. "GroundLinkx showed where every ash tree was so the sprayer knew how much chemical to mix and where to spray it."

### MAPPING CHANGES

Design routine is another GIS function that gets a lot of attention on courses where expansions are proposed. Meadow Springs Country Club in Richland, Wash., was considering building a new practice green. Superintendent Mark Dalton simply drew a green and bunkers on the GroundLinkx basemap with the mouse. He showed it to greens committeemen, drew in modifications and sent it to the

architect for final design.

"The advantage was being able to measure the exact size of the planned green on the screen and make sure it would fit in the space we had available next to the tennis courts," said Dalton.

When dealing with course architects and irrigation designers, Kevin West at Olympia Fields Country Club in Illinois simply exports the digital course basemap into AutoCAD format from GroundLinkx to the designer so construction plans can be drawn to scale from the outset. Once the work crews arrive, he hands them paper map printouts with greens, irrigation lines and other relevant features highlighted so they know exactly where to excavate.

The Vintage Club's Anderson uses the same procedure with his employees. "It keeps me from constantly having to go out in the field with them," he said.

### PLANNING TOURNAMENTS

Most of the newer GroundLinkx systems use highly precise aerial photographs acquired by IntraSearch as their GIS basemaps. Superintendents have found they get a better perspective on their course when viewing an air photo on screen rather than a colored line map. The rich information content of the photograph, coupled with the mapping and measuring capabilities, convinced the USGA to employ the system in tournament planning.

The program allows the tournament director to measure and lay out the locations of tents, portable toilets, bleachers, and other facilities right on the basemap. The USGA is using the program now at Pebble Beach to prepare for the 2000 U.S. Open.

"We are using the software in corporate sales to show sponsors where their tents will be located," said Frank Bussey, manager of U.S. Open Operations and head of field operations at Pebble Beach.

Bussey and superintendents familiar with GroundLinkx say GIS technology will be commonplace in course maintenance offices in the near future as more superintendents become computer-savvy.

### PIGMATO GROUP FORMS SITEDATA

WEST PALM BEACH, Fla. — The Pignato Group Inc., a golf irrigation consulting firm based here, has unveiled SiteData Inc., a firm specializing in GPS/GIS services for golf and commercial landscape projects. Pignato has provided construction as-builts as part of its services since 1995. The decision to start a separate firm for SiteData reflects the growing need for accurate digital information that provides superintendents with site-management tools. SiteData offers irrigation as-builts, drainage as-builts and digital mapping of any component that a superintendent may require.

# Breaking the ice

Continued from page 11

spreader.

"By the end of the day, the ice is breaking up on its own," he said. "We've had luck on 8 to 9 inches of ice. In 15 minutes on a sunny day you can see it working through the ice, just enough to open pockets to get rid of the gas trapped under the ice, and get good oxygen exchange."

Newbauer related the problems with other methods of handling ice cover:

- Ice chippers were too dangerous. "When we had 3 or 4 inches of ice we used chippers to break it up, but the chipper would pierce the turf," he said
- Wooden snow scoops were too slow. "We went out with four or five guys and shoveled the greens by hand. But we could only do 1-1/2 to two greens a day. So we picked out the ones that would give us trouble," Newbauer said.
- Snowblowers came up short. "That worked well except we'd have a hard time getting down through the layers of snow and ice," he said.

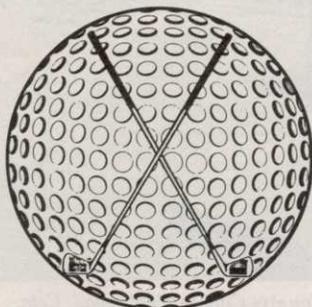
Meanwhile, at the beginning of winter Springbrook's crew continues mowing as long as the grass is growing, just raising the height of cut. "We want as much of the leaf blade as we can, but don't want grass so long that it will lay down and contribute to snow mold problems," Newbauer said.

"We mow until we close in November."

He also dormant fertilizes, generally the last week of October or the first of November before the ground freezes completely and after mowing has stopped.

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# The Diary of a Ryder Cup superintendent volunteer

Continued from page 10

team couldn't cover both. On the way up to the 12th, the rain stopped and the sun attempted to appear. Suddenly, as we were making our rounds, the siren sounded for suspension of play. The 45-minute delay was a blessing in disguise, giving us a chance to take a few minutes rest.

As the sun broke, the massive crowd applauded and play resumed. Since play was suspended on hole #9, it didn't take long to reach our hole. As with the previous day, with four morning and afternoon groups, play moved quickly. In no time, the morning fourball matches were finished through the 12th and we ran to the tent for lunch, then back to our green for afternoon duty.

As in the day before, when we arrived at the green a staff member was mowing the green and the new hole location was being cut. We had to re-rake our greenside bunkers, as the PGA official required the rake lines to be all toward the hole location. As Brett and I analyzed them, we thought the lines might have been off, maybe, 5 degrees. But we sucked it up, gave him his wish and prepared for play. This was a definite blow to our pride. In between each group we gave our area the white glove treatment.

The shot of the day for us was a pitch shot from 30 yards by Phil Mickleson. It wasn't so much that the shot coozied to 3 feet; it was because of the size and story of the divot. As Brett and I went to repair the large crater, I picked up the divot and he filled it with the mix. As I was walking back to the TV tower, I heard from the gallery, "Hey, divot man, can I have that?" Why, I don't know, but I tossed the divot to the guy and the gallery applauded. It turned out to be one of the classics of the week. I told Brett the guy offered me \$20 for the divot. Being a young assistant,

and not knowing me well, he still probably believes it.

When the last group finished we headed to the maintenance center. On our walk down, we noticed [Country Club superintendent] Bill Spence had the mowing

crew out on fairways. The fairways, composed of 95 percent bentgrass, were cut at 3/8 inch and mowed in two halves in the afternoon using a team of seven triplex mowers with no baskets. In all my years in the business, I've never seen fairways of that age with such a quality stand of bentgrass. As we watched them mow for a few minutes we could tell the staff's pride and concentration.

As the evening sun set and the matches finished, we halved with the Euro's for the day, 4-4. This still gave them a commanding 10-6 lead going into Sunday's play. The best news of the day, however, was that the start time for Sunday morning was backed up one hour. As we drove through the traffic on the way home, that extra hour of sleep sounded very nice.

**Day #5, Sept. 25** — At a 5:45 a.m. meeting of volunteers and regular staff in the maintenance complex, Bill Spence thanked his crew for the dedication and the years of preparation it took for the event. He also thanked the volunteers for the help throughout the week. What really hit home to me was how Bill explained that this was the highlight of his career, and maybe if somehow the Americans could pull off a miracle it would make it all the sweeter. Walking down the stairs on the way out, I thought how Bill and his staff had spent countless hours

*What really hit home to me was how Bill explained that this was the highlight of his career, and maybe if somehow the Americans could pull off a miracle it would make it all the sweeter.*

and energy only to have the Euro's come here and kick our butts. There weren't many people that morning who thought the Americans stood a chance of even a miracle.

As we met for the final day's assign-

ment I heard the familiar sound of "Kevin — dew whip team." Heck, I did it the previous four days, one more couldn't hurt. Then suddenly the best news of the week: We only had to whip holes #1-7 and didn't start until 9 a.m. This was because of the late 10 a.m. singles start. This gave me a couple of hours to take some pictures of the course conditioning and set-up by the maintenance staff. I marveled at the bunkering with a slight laced-edge appearance and the non-mowed lips of the bunkers. The grass around the bunkers was very long. This caused it to lay over toward the sand and give a true Scottish flavor. My sentiments were echoed when I chatted with Dana Fry of Hurdzan/Fry Golf Design in Ohio. Dana, too, could not stop talking about how magnificent the bunkers were. After the photos, I regrouped with the Dew Whippers and we went into action. A quick seven holes of whipping, back to the maintenance center for lunch and off to our green for the remainder of the day.

As we anticipated, the matches went very fast. The stunning comeback of the Americans had the gallery in a frenzy. The Cup seemed to hinge on one match, Mark O'Meara vs. Padraig Harrington. The word from the NBC crowd was that the United States was dominating eight of the 12 matches and they only needed a

halve from one of the other four. O'Meara's was the only close match of the others. Justin Leonard was four down as he arrived at the 12th green. He then made a great par putt to cut his deficit to 3. The rest, as they say, is history! Shot of the day was Jim Furyk's second to 15 feet and knocking in the slippery side-hiller for a birdie 3. It was only the second birdie of the week there.

As we drove home that evening we were still stunned that the Americans pulled it off. I was happiest for Bill Spence and his staff for the miracle that happened to make their Ryder Cup truly special.

#### AFTERTHOUGHTS FROM THE CUP

Little did I know when I volunteered for the Ryder Cup what an historical event it would become. Some two weeks later, the magnitude hasn't set in. Still today, it is the talk of the golfing world. I reserve my comments concerning fan behavior, #17 green celebration, heckling, etc. I will say that the event peaked interest of golfers and non-golfers. It can only be good for golf, and whatever is good for golf can only be good for our profession.

#### GOLFER OF THE WEEK AWARD

Tie between Hal Sutton and Colin Montgomerie. Sutton because he was an absolute horse for the U.S. Team; Montgomerie because of his tenacity. Although heckled by fans, his play was truly outstanding.

#### NBC MAN OF THE WEEK

Johnny Miller. You can never blame anyone for saying what he believes!

#### MAN OF THE WEEK

No, not Ben Crenshaw. No, not Justin Leonard. Bill Spence for one awesome golf course!

#### DEW WHIP COMMENT OF THE WEEK

"Hey, could you tell me what are those things you're carrying?" I couldn't believe someone actually wanted to know! ▶

## Hurricane Floyd leaves its mark on golf

Continued from page 1

"We lost quite a few trees. Everybody in the area had pretty much the same thing — a messy cleanup, a lot of standing water, trees and debris.

The worst of the flooding occurred farther north and west.

At one point, water covered half the bentgrass greens, Bermudagrass fairways and roughs of River Landing Country Club in Wallace, said first assistant pro Lonnie Knowles. In mid-October, roughly a month after Floyd arrived, 18 of the 27 Clyde Johnston-designed holes remained closed. The newest nine, which first opened in late August, is located farthest from the river and reopened first, Knowles explained.

"We're reseeding the greens on the front nine and resodding the greens on the back nine," Knowles said. "Come late November we should be back to 18 and to 27 next May."

Significant amounts of silt remained on the greens once the waters receded at River Landing, Knowles said. The flood waters also contained oil, gasoline and other contaminants from cars.

"The silt killed the greens," Knowles said. "The fairways should be fine. The rain helped wash much of the silt away."

Jeremy Shadle, head pro at Bradford Creek Golf Course in Greenville, N.C., said: "We've come through this pretty well. We got a lot of rain during the storm. There were some large ponds out there. But less than 25 percent of the course was underwater right after the hurricane struck."

The rivers began rising two days later, the bridges closed leading to the course, and eventually the entire layout was underwater.

"The local television station took some aerial shots," Shadle said. "The only thing you could see was the clubhouse and a little patch of grass around it. We were completely underwater for several days."

Bradford Creek has hybrid Bermudagrass fairways, common Bermudagrass roughs and a bentgrass blend consisting of L93 and Crenshaw on the greens.

"We had two greens underwater for seven to eight days," Shadle said. "We'll replant those. The others came through real well. In fact, they seemed to grow underwater. They were just as green as a gourd and the turf was very long when they popped out."

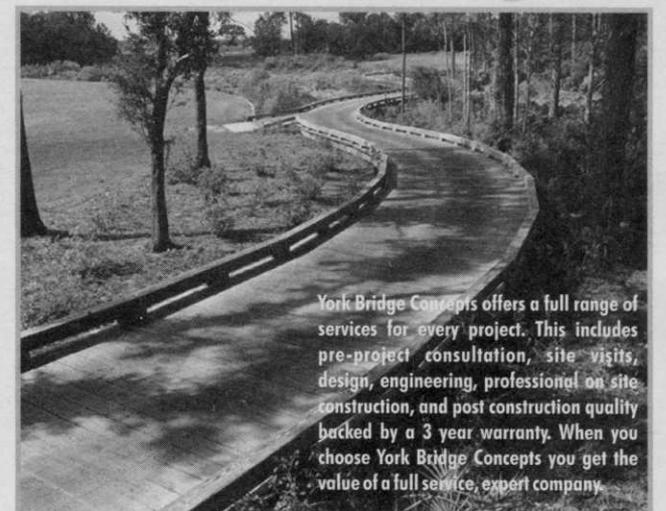
"Unfortunately the waters were contaminated with animal waste, oil and gas. So we had to fight a little fungus and disease with fungicides and a lot of fertilizer. We'll open nine holes this weekend [Oct. 16-17]. We've been closed for a month... Under the circumstances, we came through pretty well." ▶



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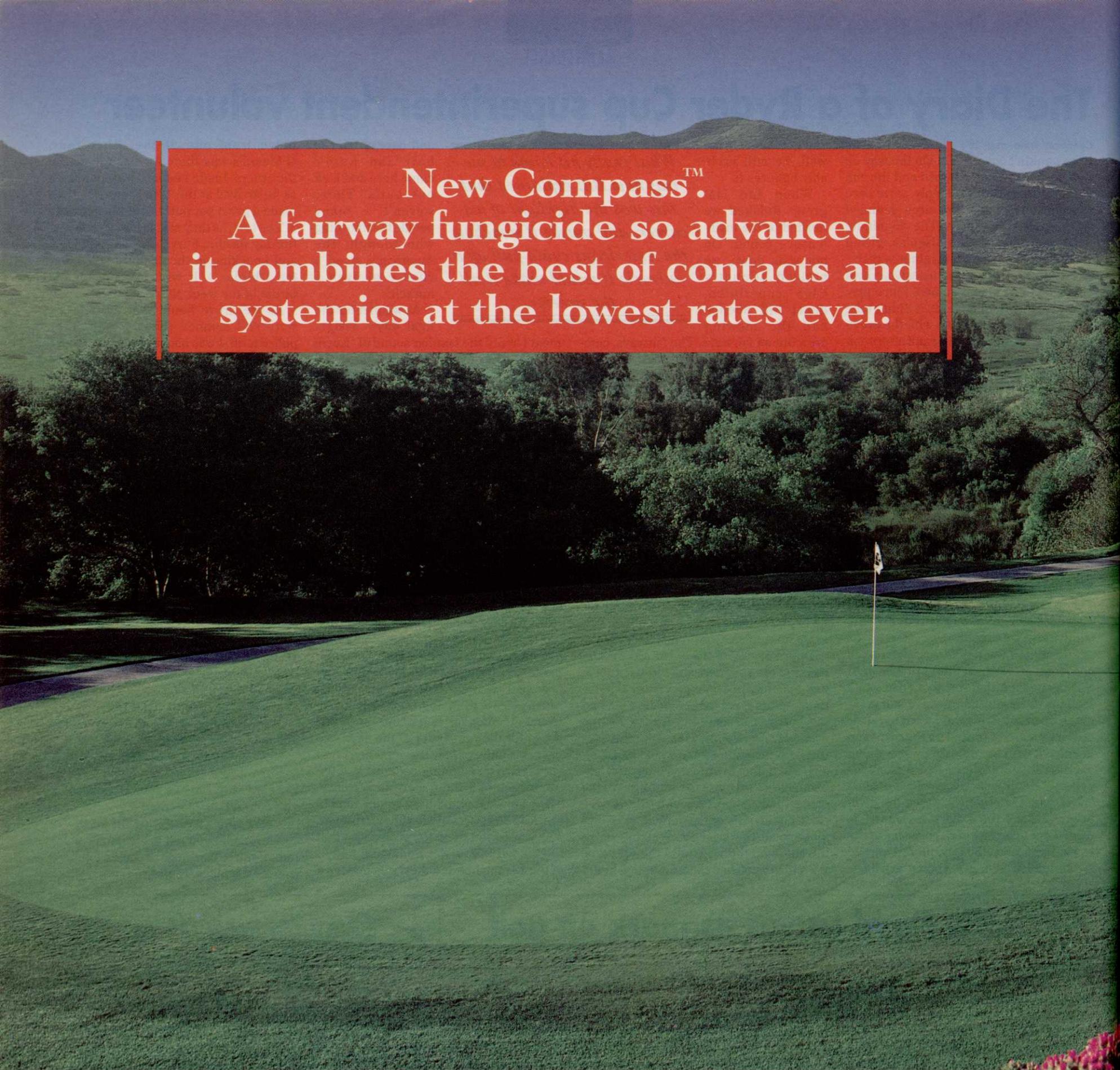
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 **NOVARTIS**

## Lopez the Old Tom winner

LAWRENCE, Kan. — Nancy Lopez, a 48-time winner on the LPGA Tour, has been selected to receive the Old Tom Morris Award from the Golf Course Superintendents Association of America (GCSAA). The award presentation will take place Feb. 18 at the Golf General Session during the association's 71st In-

ternational Golf Course Conference and Show, Feb. 14-20, in New Orleans.

GCSAA's most prestigious honor, the Old Tom Morris Award, is presented each year to an individual who, "through a continuing lifetime commitment to the game of golf, has helped to mold the welfare of the game

in a manner and style exemplified by Old Tom Morris."

"When you look to those who have made a positive and lasting commitment to golf, Nancy Lopez has few peers," said GCSAA President Dave Fearis. "She truly has been a great ambassador for the LPGA and the game of golf. Her 48 career wins are impressive, but her professionalism, integrity and honor distinguish her from others."

## PhDs unmask biocentrism

Continued from page 11

the rights of nature should be defended first and foremost due to nature's intrinsic value rather than on the basis of its use by man. Man is considered to be just another biological resource in the scheme of things.

Coffman asserted that the ecospiritual practices and prin-

ciples of the biocentric leadership call for radical changes in laws, attitudes, values and behavior. These same radical biocentric values can be found in Vice President Al Gore's book, *Earth in the Balance*.

Following Coffman's chilling forecast of things to come, Dr. Tom Morgan, a professor of mass communications, reviewed the changing face of mass media and news reporting in modern times.

"The news is what the media says it is!" Morgan said. "News is a business. It is a product that is gathered, handled and distributed like any other tangible product."

Morgan explained that, to attract viewers and readers, news depends on stories of catastrophe, crisis, corruption, conflict, crime, change and human interest. Good news is normal. Bad news is unusual and provocative.

Here are Morgan's tips for superintendents to provide the media with their side of an issue:

1. Form a coalition of groups with similar interests.
2. Agree to disagree. Find the big issues and unite behind them.
3. Find common ground. In the face of danger all men are brothers.
4. Designate and train spokespersons.
5. Set simple and achievable goals.

Morgan said that after organizational steps have been taken:

1. Hit the rubber chicken circuit. Get the word out. Speak to other groups.
2. Go back to school. Volunteer to make presentations in local public schools. Let the children hear the facts. They are the voters and leaders of tomorrow.
3. Stand up in church. If the sermon gets secular and disagrees with your thinking, speak up.
4. Write the editor. You may not get published, but your letter is usually put into the story file of the topic you were writing about, and may be considered if they try to recycle the "bad news" story again.
5. Talk back. Radio talk shows love a spirited debate. Call in and respond if you hear someone bashing golf.
6. Start conversations. When you're out socially it's perfectly OK to mention the positive things going on at your club. Tell people about the good things you're doing.
7. Keep the faith. The time to get going is now. Don't wait for someone else to move first and put you on the defensive all the time.



If it's on it,  
the best is in it.

Now it's easy to know whether you have the best turfgrass mixtures and blends available. Just look for the *Jacklin Genetics* label.

The *Jacklin Genetics* label on the bag says you're planting turf seed varieties with:

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BRIEFS



**FAZIO PLANS DRAMA IN TEXAS**

FRISCO, Texas — Many specimen trees will be planted and an environment will be created “that is very dramatic and exciting,” said Tom Fazio of the 18-hole Stonebriar Country Club he will design in this Dallas suburb. “Stonebriar gives us a great opportunity to produce an outstanding golf course.” The 7,045-yard, par-72 course, which will be Stonebriar’s second 18-hole layout, will cover approximately 160 acres and include a practice range, chipping area and putting green. It is expected to be completed by fall 2000. It will be accessible to club members and their guests and guests of the planned Westin Stonebriar Resort Hotel. Stonebriar’s original course, designed by Ken Dye, will remain private.

**PHELPS LANDS VAIL JOB**

VAIL, Colo. — The Eagle Vail Metro District has received \$3.5 million of bond financing for improvements to the Eagle-Vail golf course. Architect Richard Phelps has been asked to plan significant improvements throughout the entire course, including new tees, greens, sand and grass bunkers and irrigation. The goal is to make the course stand out in Vail valley’s increasingly competitive market. It is anticipated that it will take approximately three to four years to complete the work, not including the work currently underway at the practice range. The remodeled practice range includes a new 10,000-square-foot putting green, 5,000-square-foot chipping green, 30-station tee line; two new grass tees and target greens.

**TIDEWATER RECEIVES FACELIFT**

MYRTLE BEACH, S.C. — Tidewater Golf Club here will be renovated by year’s end, to help celebrate its 10th anniversary. Tidewater, designed by owner Ken Tomlinson and named best new course of the year when it opened, will replace the turf on the greens with an improved variety of bentgrass, rebuild the bunkers and make other cosmetic improvements.

**SMITH TRACK OPENS IN NY**

VERONA, N.Y. — Sandstone Hollow Golf Club, a par-3 nine-hole track at Turning Stone Casino Resort in Verona, N.Y., has opened. The dramatic course was designed by Rick Smith and Warren Henderson. Former Golf Course Superintendents Association of America President Joseph Baidy is the superintendent.

# Coore, Crenshaw make Island music



Ben Crenshaw

By MARK LESLIE

EAST HAMPTON, Long Island — The 40-year dream of the three-generation Bistran family to build East Hampton Golf Club here has come true, and with one improbable improvement: Ben Crenshaw, with partner Bill Coore, designed it.

“I never dreamed of involvement from someone [with Ben’s fame],” said Barry Bistran, son of Bistran family patriarch Pete. “People here on the island want a high-end golf course. We wanted it the best it could possibly be. But it’s a lot more golf course than I ever imagined.”

The entire Bistran family has been heavily involved in the project, including Pete and his wife Mary, both in their 80s, their children Bonnie Krupinski and Barry, president of Bistran Gravel Corp., and Barry’s sons, BJ and Patrick (a zero handicapper).

“Some of the nicest people,” Coore said about the Bistrans. “We were so fortunate to get this job.”

Pete Bistran, whose contracting business had worked on some golf courses, first envisioned a course on the property in the mid-1940s. He cleared the “links” part of the land to raise potatoes in 1946-47, farmed it until the mid-1960s, then received approvals for the golf course in 1978.

But, because of the demands of their wide-ranging businesses and various environmental and water permitting problems, the Bistrans got only as far as laying out some holes. But when Crenshaw and Coore were on Long Island’s north

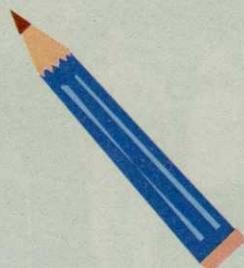
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## RTJ II designs private golf club in Las Vegas

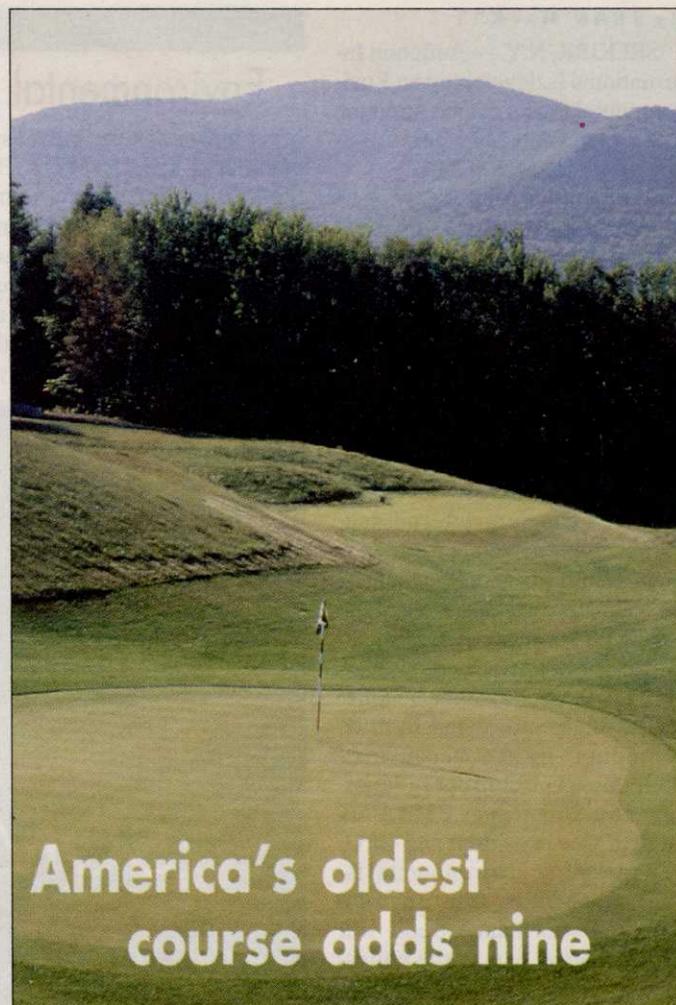
LAS VEGAS, Nev. — Golf course designer Robert Trent Jones Jr.’s newest Las Vegas creation, Southern Highlands Golf Club, is expected to open in December.

“Now we are creating the golf course’s personality,” Jones said as he fine-tuned it in September. “You can only do so much at the drafting table or computer terminal. Unless you visit the course while it’s being built, you can’t really get a sense of how it will relate to its surroundings and the various natural conditions that exist, like prevailing winds, mountain views, etc. In many ways this is the most exciting and

Continued on page 19



The par-3, 17th “Peninsula,” sets against the city backdrop. The tee takes a commanding view of the valley below. At 251 yards from the back tee, many rounds may be saved or lost here.



## America’s oldest course adds nine

Dorset Field Club

DORSET, Vt. — Like many private golf clubs with a strong sense of history and tradition, change does not come quickly at Dorset Field Club here. Therefore, it’s big news that after 113 years of operating as a nine-hole course, the southern Vermont club has added another nine holes.

Dorset’s move to 18 became official in mid-July, when the new holes opened for play. But why did it take so long for Dorset to make the move? Dorset Field had just bought an adjoining plot of land when course architect Steve Durkee approached the club in 1995 with his plans for expansion. The members were convinced that the move to 18 holes was needed, and that Durkee was the right man for the job.

“Steve came to us with several exciting alternative, and was our architect of choice because of his excellent presentation,” said Dorset President Tom Barnet.

The nine new holes evoke a links-style feel and are interspersed seamlessly into the historic course. Although the original architect is unknown, many historians point to the Dorset Field Club as the oldest continually operating course in the United States. Members have played over the same golfing grounds since 1886.

Continued on page 19

## Harbottle, Zoeller team up in Reno

RENO, Nev. — Designed by John Harbottle with assistance from PGA Tour star Fuzzy Zoeller, The Challenge at ArrowCreek Golf Club has opened as the city’s newest private course.

The Challenge is part of a 36-hole development by Jeff Dingman. ArrowCreek’s other course, The Legend, which is open to the public, was designed by Arnold Palmer.

“What makes The Challenge unique,” said Harbottle, “is the character of its bunkering and the deep canyon which plays along and across several holes on the back nine.”

The course lays out on more than 200

Continued on page 19

## GOLF AND THE ENVIRONMENT

By JEAN MacKAY

SELKIRK, N.Y. — Audubon International is developing an Environmental Performance Audit for use by the Club Managers Association of America (CMAA).

With a nationwide network in place to disseminate environmental information to its membership, CMAA looked to Audubon International as the leading environmental resource to develop a full-facility environmental audit to address all components of a facility, including golf, food and beverage, aquatics, tennis and more. The audit is intended to be an internal self-assessment or evaluation that uses standard, widely accepted environmental management practices to measure overall environmental performance.

"Club managers have become increasingly interested in environmental issues because of their impact on club operations," said Jim Singerling, CMAA executive vice president and CEO. In addressing environmental issues at facilities, the Environmental Performance Audit will be an integral part of the education program for the more than 5,000 CMAA members who manage more than 3,000 country, city, athletic, faculty, yacht, town and military clubs. Understanding and managing the impact of their club operation on the surrounding environment is vital to protecting the environment, preserving the natural beauty of a facility, and making positive contributions to the communities and customers they serve.

The focus of the audit is to allow managers to assess the status of their clubs relative to environmental issues that their facilities may face. Once the audit is completed, an Environmental Performance Index will be calculated for the entire facility. The audit, together with the index, will provide a straightforward, inexpensive means to evaluate management practices that ensure environmental quality.

Scheduled to be unveiled at the CMAA World Conference in Atlanta, Ga., next February, the audit will include six key components to measure overall environmental performance. For each component, a series of Environmental Performance Indicators is being developed to help evaluate performance in each area.

- Environmental planning, training, and communication
- Wildlife and habitat management
- Water conservation and water quality management
- Waste reduction and recycling
- Chemical use reduction and safety through integrated pest management and best management practices
- Energy conservation

"We're designing the audit to

### Environmental Performance Audit to help club managers

be comprehensive, but easy to complete," said Dr. Miles (Bud) Smart, director of environmental planning for Audubon International. "We also want managers to be able to evaluate themselves instead of having a regulatory agency look over their shoulders. The user-friendly au-

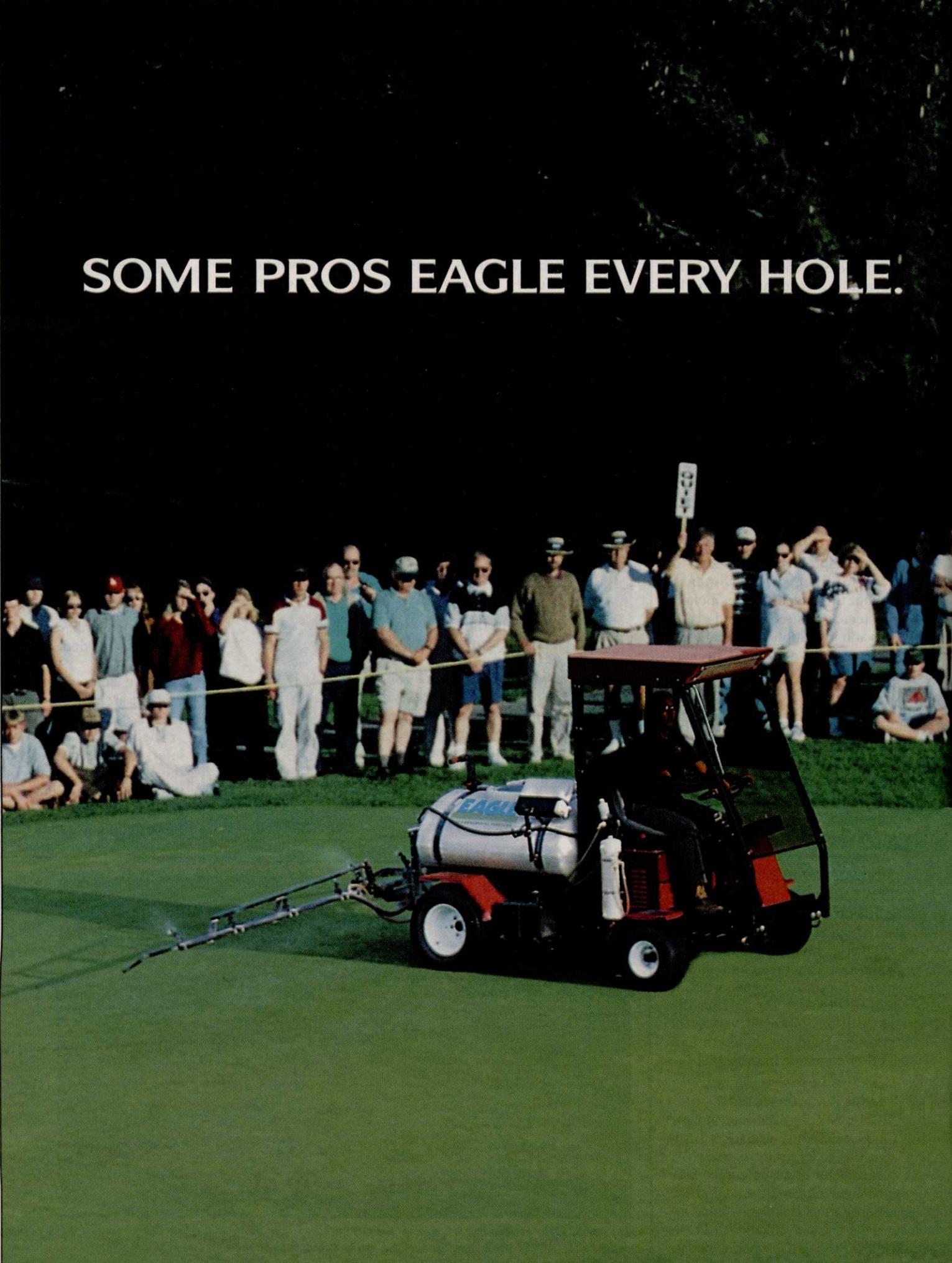
dit will help managers identify their strengths as well as any areas that need improvement."

Facilities will also be invited to join Audubon International's Cooperative Sanctuary System to increase their knowledge, gain support for environmental projects, and work toward certification.

"Working in cooperation with Audubon International and the U.S. Golf Association [USGA], this full facility audit allows us to go beyond just the golf course and assess all facility components that impact the environment — from the kitchen to the tennis courts," said Singerling.

"We believe the existing relationship between the USGA and Audubon International — combined with the dedication of both organizations to environmental issues — offers an unparalleled partnership in CMAA's effort to take environmental management to an exciting new level."

*Jean MacKay is education director for Audubon International, headquartered in Selkirk, N.Y.*



# SOME PROS EAGLE EVERY HOLE.

## N'east Golf busy in New England

CHESTNUT HILL, Mass. — The Northeast Golf Co. has been retained to provide master planning and design services for the Putterham Meadows Golf Club here. Improvements to the drainage system, irrigation, tees, greens and bunkers will be considered within the master plan.

Putterham Meadows is located adjacent to The Country Club, host

of the 1999 Ryder Cup matches. Construction of the proposed improvements will begin following the Ryder Cup in October.

Meanwhile, Northeast Golf has completed the routing phase for the Housatonic Rapids golf course project in Sherman, Conn.; has begun construction at Stryker's Pass, a new 27-hole daily-fee facility in Lopatcong,

N.J.; and the shaping of Skyview Golf and Country Club in Sparta, N.J., is nearly complete.

At Housatonic Rapids the owners are considering a semi-private operating structure. The site is approximately 15 miles north of Danbury. Development is pending zoning approval from the town.

At Stryker's Pass, the 18-hole championship and 9-hole pitch-and-putt courses, designed by

Robert McNeil of Northeast Golf, will be built by Turco Golf Course Construction.

At Skyview, seeding is scheduled this fall. Mike Candeloro has joined the development team as the golf course superintendent, handling grown-in and ongoing maintenance thereafter. Candeloro served as the assistant superintendent at White Beeches Golf & Country Club in Haworth, N.J.

## Harbottle

Continued from page 17

acres. Naturally rolling fairways are wide with a links touch. The Challenge measures 7,425 yards from the back tees and 5,703 yards from the forward. Playing at about 6,000 feet above sea level, the test is not as long as it seems.

Noting that the wind comes into play from a variety of directions, Harbottle said, "Wind is an important element of design. Great early American golf course designer C.B. McDonald wrote: 'You can have a good golf course without wind, but you can't have a great one.'"

## RTJ II

Continued from page 17

crucial stage of Southern Highlands' development because what we do now will have a profound impact on the drama and beauty of the golf course."

While at Southern Highlands, Jones made several adjustments, primarily concerning the placement and shape of the bunkers and water features on the course as well as the positioning of the tee boxes.

These adjustments served to improve the playing strategy and enhance the aesthetic nature of the golf course.

"You design a golf course like an artist paints a painting — first come the broad strokes, then the fine detail," Jones said. "I fell in love with the original design, and now I am working on the more subtle aspects that will lend a richness to the course's character. After every visit, I am more and more certain Southern Highlands will be a truly spectacular golf course."

## Dorset Field

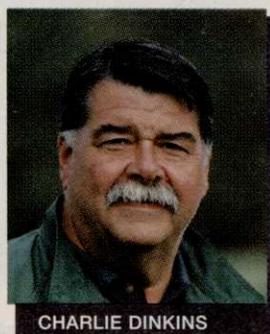
Continued from page 17

One standout hole is the new 10th. As members make the turn, they'll be greeted by a dramatic par-3 that is reminiscent of another great short hole — The Dell at Lahinch, Ireland. Standing on the tee to survey the partially hidden, punchbowl green below, golfers will have views of mountains that were hidden for more than 100 years.

Durkee's first golf course design Green Mountain National Golf Course, which opened in 1997 in Sherburne — was done in partnership with Gene Bates. It was recently named the best public course in the state by *Golf Digest*. Since that time, he has made nine-hole additions to Neshobe Golf Course and Brattleboro Country Club; and has begun work on a project at Okemo Mountain Resort.

When the pressure and the heat are on—when people expect your best on every outing—Eagle® fungicide is one of the tools every pro should have in his bag of tricks. With Eagle, professional superintendents can control more than 15 tough diseases in a single stroke.

Here's what Golf Course Manager Charlie Dinkins of Binder Park Golf Course in Battle Creek, Michigan, has to say about Eagle turf fungicide:



CHARLIE DINKINS

*"I used Eagle this year to control dollar spot and brown patch on greens and fairways. I got 15 to 18 days of control on greens and even longer on fairways. Like a lot of municipal courses, we are on a very limited budget. I have to have a product I can count on to give me longevity. I'll definitely use Eagle again next year."*

Adds Jeff Frontz, greens superintendent, CGCS, of Royal American Links in Galena, Ohio:

*"For dollar spot control, I want a product that will be effective for 14 to 21 days. Other products are cost-prohibitive at that interval. Eagle is the best choice. I got three weeks of control. That was good with all the disease pressure we had. You could see exactly where we left off spraying. It's hard to keep the course spotless, but Eagle came pretty close."*

And now Eagle is available in the convenient Full Course Keg. When you tap a Keg, you get just enough Eagle for a single application to your greens and fairways. Eagle offers unbeatable disease control, exceptional turf safety, and simpler container disposal. With all these advantages, it's no wonder so many pros Eagle every hole.



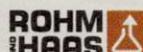
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## Golf course architecture hits Web

EUGENE, Ore. — What began as the submission of additional golf courses over WON.net by devoted computer golfers to supplement the shipping of Sierra Sports' PGA Championship Golf, has escalated into a creative phenomenon. The golf simulation's Course Architect has inspired even casual and first-time computer gamers to create and post favorite home courses, fantasy courses, and even a masterfully constructed venue in Georgia, all ready for download with the click of a mouse.

To date, more than 35 Course Architect creations have been posted on WON.net (<http://wonswap.won.net/pgaswap.shtml>), expanding upon the eight that shipped with Sierra Sports' PGA Championship Golf, 1999 Edition in May. Players who purchase the CD-ROM for Windows 95/98, which holds an MSRP of \$29.95, are directed to WON.net and its state-of-the-art WONswap tool, which enables easy and intuitive downloading of Course Architect submissions over the

Internet. The Course Architect is a tool that creates golf courses with exacting 3D detail, right down to the elevation of greens and vegetation surrounding the fairways. With names like "18 The Hard Way," "Deerfield Trace," and "Bogey Shores," Course Architect submissions are designed to meet the standards of the Sierra Sports Golf Association (SGA).

To further personalize the experience of Internet golf and Course Architect creativity, log on to the SGA on WON.net (<http://www.won.net/sga>) and download the new Library Creator, which works with the

Course Architect to import the player's choice graphics, textures, and even location-specific sounds. From banners to beer carts, the player determines how his or her home course will appear for each round.

The SGA officially launched the SGA Season II in July. Its Amateur Tour, PGA Championship Tour and exclusive SGA Tour inspire players of all skill levels to compete for prizes.

## Crenshaw

Continued from page 17

shore on another project last year, former Mid-Amateur champion Kenny Bakst tipped them off about the Bistrans. Contact was made, and today the 18-hole private East Hampton Golf Club sits waiting to open the doors next spring.

"I can't tell you how much fun it's been," said Coore. "We did some things we would not normally do. The greens are extremely interesting — one might even say 'quirky' in places. The National [on Long Island] or Somerset Hills Country Club [in New Jersey] have some of the most incredibly creative and yet workable greens that have ever been done in this country, so we felt as if we should make these greens imaginative and fun. You can do that on a course that is not overly demanding from tee to green, and this sits on only 123 acres. And so we did.

"From the standpoint of contours and types of holes, we had long wanted to do this. But we felt it would be received better in this part of the country, given the people who will be playing it. We certainly could not do this in a resort and most other courses."

"East Hampton is wonderful because of the main ingredients of sand and the native grasses," said Crenshaw. "There is a myriad of things that sand helps so much. It's certainly aesthetics, it's raw material, it's slashes of sand that lead one to believe the course is more natural..."

Coore described the 18 holes as three different types of courses. "Some of it is an open field that is flat — very much like Garden City [Golf Club in New York], with native grasses and some hummocks and interesting bunkers and greens," he said. "Then the 17th and 18th holes have beautiful rolling terrain — almost a parkland look. And the front nine has a Pine Valleyish look. It has some 30-foot elevation changes. As a result of the sand, we did some holes with large exposed sand areas."

The property, Coore added, "is not the likes of The National or Shinnecock [Hills Country Club in Southampton]. We started with the concept of just doing an interesting, fun golf course. We knew it was not going to be long. The family wanted us to do the best for this property — and for golf."

To that end, there are no homes on the property and Crenshaw and Coore designed it to be a walking course. There are no cart paths.

Crenshaw and Coore, Barry Bistran said, "came here and, right from the get-go, what we wanted to do fit in with the way they do things."

Coore gave accolades to shapers Jimbo Wright, Dave Axland and Jim Craig, and to bunker-building expert Jeff Bradley.

General Manager Tom Barnard of Buena Vista Hospitality Group, a veteran of the Orlando and Hilton Head areas, said he is in the midst of getting permits for an interim clubhouse. Membership, he said, will not exceed 250.

GOLF COURSE NEWS

# The best overcoat you'll buy this winter



Protect your valuable plants with the best winter overcoat you can buy — Transfilm Antitranspirant.

- ❄ Overcoat trees and ornamentals to protect from winter dessication.
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- ❄ Overcoat fungicide applications on greens, tees and other highly managed turf sites.

*"For some 15 years we have used Transfilm for winter protection of new evergreen transplants and specimen stock in vulnerable sites. Road salt and salt vapors coming from ice melt plus exposure to drying winter winds can create dissatisfied customers and problems for us. Transfilm reduces these risks. We view it as winter insurance."*

Eric Moore, President  
Moore Landscape  
Glennview, IL

*"During the construction of this course in 1989-90, our owner bought a nearby tree farm, a spade truck and enough Transfilm for 2,700 Scotch pines 6 to 15 feet tall. Also, over 700 deciduous trees were planted. We were told to expect losses of around 300 trees, but thanks in part to Transfilm, our replacements totaled less than a hundred."*

Frank Moran, GCS  
Beaver Run Golf Course  
Grimes, IA



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The updated ProGator utility vehicle

## John Deere revamps ProGator

The John Deere ProGator utility vehicle combines modern styling and operator-friendly features with rugged durability and power. Available in 23.5-hp diesel and 26-hp gas versions, this vehicle has the strength and versatility to tackle the toughest jobs on or off the golf course.

A 5-speed, fully synchronized transmission lets you keep going without stopping to change gears. A one-piece axle supporting the rear wheels allows for more capacity while providing more reliability. The front and rear suspension of the ProGator vehicle feature dual leaf spring suspension and hydrostatic steering provides for precision control, and a tight turning radius of only 33 inches.

The ProGator utility vehicle weighs in with a 2,650-pound load capacity. The cargo box is solid steel and, combined with a hydraulic power lift, lets you dump loads cleanly and accurately. A versatile, 3-pin system lets you take the cargo box on or off in minutes without tools. A walk-through operator platform makes getting on and off the machine easy. Comfortable, high-back seats; easy-to-reach controls and smooth steering increase operator comfort and productivity.

CIRCLE # 201

## E-Z-GO rolls out PDS golf cars

E-Z-GO unveils the patented Precision Drive System (PDS) featuring three distinct performance options, allowing golf course management to tailor the operating characteristics of its golf cars to the course's individual and unique terrain. The rationale for this new technology came from a very simple observation: no two golf courses are exactly alike.

PDS offers three different factory pre-set performance options that allow golf course management to choose the amount of vehicle top-end speed and pedal-up and pedal-down braking strength necessary to ensure optimal performance. The all-terrain option is intended for flatter golf courses that want similar performance characteristics to existing E-Z-GO cars. The steep hill option is intended for courses with plenty of elevation change and steep hills. These cars have a maximum level of regenerative braking adding pedal-up braking when the car is traveling in excess of 10 mph. The mild hill option is intended for courses that are not extremely hilly, with milder pedal-up braking.

Additional features include: walk-away braking, anti-rollback protection, anti-stall protection and high-pedal disable. An on-board troubleshooting system can detect 15 of the most common faults for vehicle downtime, from low battery voltage to solenoid coil failure, allowing the vehicle to be diagnosed and returned to service much faster.

CIRCLE # 202



E-Z-GO's golf cars are now available with the Precision Drive System



The handy Miltona Trimmer

## Miltona Trimmer makes the cut

The Miltona Irrigation Head Trimmer makes clean cuts around sprinkler heads quick and easy.

The trimmer's cutting blade is adjustable to fit head diameters from 6 to 10-1/2 inches. Cutting blades in fixed diameters fitting 7- and 7-1/2-inch heads are also available.

The trimmer is to be used when turf is thoroughly wet.

Place trimmer over sprinkler head. Using your foot, simply press the blade into the ground. No twisting or turning is needed. Remove turf cuttings and the job is done.

The Miltona Irrigation Head Trimmer features all-steel construction and steel cutting blades.

CIRCLE # 204

## New Hover Mower from Eastman Industries

Eastman Industries has developed the HM16R2, a new hovering mower powered by a proven and reliable Robin 2-hp, two-stroke engine. Its new deck design virtually eliminates scalping and ensures a quality cut.

It is ideal for steep slopes and banks and other hard-to-reach areas. A constant cushion of air beneath the deck also allows operators to mow in any direction at any time, increasing productivity. The mower's aluminum cutting disc and three stainless steel blades cut a 16-inch path. Cutting height is adjustable from 1 to 3 inches. Other features include ergonomically constructed steel handles and a 12-inch impeller to generate optimum airflow.



The Hover Mower gets to hard-to-reach areas

The mower's unique "air-mulching system" neatly cuts and re-circulates the grass continuing the mulching process.

CIRCLE # 203

## Toro's Reelmaster rolls light, cuts big

The new Toro Reelmaster 5500-D combines a light-footed, smaller tractor unit with large-diameter cutting reels to deliver a high level of productivity and quality of cut.

The Reelmaster 5500-D's cutting units deliver a 100-inch cutting width. The 7-inch cutting units have turf compensation adjustments and new rear rollers so they follow the ground's contours smoothly. The front wheel rollers are machined rather than cast, resulting in a



The new Toro Reelmaster 5500-D

smoother finish that rolls cleanly and easily over the turf. The cutting units' height of cut can be adjusted between 3/8 and 1-1/2 inches.

The new cutting units add versatility to a fleet of Reelmaster mowers since they are interchangeable and can be used on Toro Reelmaster 6500-D and 6700-D models.

Its Kubota D1105-TE 32.5-hp turbo diesel engine provides power to operate the 5500-D's aggressive cutting units, on challenging, uneven terrain.

The Reelmaster 5500-D's larger, wider footprint results in lower compaction of the turf and the tractor unit rolls on wide, large-diameter tires that minimize scuffing.

CIRCLE # 205

## INSIDE

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This is a preview of **GCN Product News**, which will be a supplement to *Golf Course News* and will debut in March. Please send press releases to Andrew Overbeck, Fax: (207) 846-0657, e-mail: aoverbeck@golfcoursenews.com. Please direct advertising inquiries to Jean Andrews, Phone/Fax: (207) 925-1099.

**Precision's ProBlow moves air into turf**

The TurfAeration system from Precision Small Engine, is a portable, self-contained, variable pressure system for sub-surface air movement. It displaces air into the drainage system of your USGA green to aerate roots or remove excess water. Precision's ProBlow units come in a variety of configurations including: a trailer mount, bed mount and a 3-point hitch. Each



Precision's ProBlow unit is powered by an 18-hp Kohler Command, 4 Cycle, V-twin engine.

CIRCLE # 206

**Mid Vac cleans up**

The new Goossen Mid Vac is a compact self-powered vacuum system that is the right size for quick clean up. The Mid Vac features a unique rotating rubber finger dethatcher to help lift debris out of the turf and into the vacuum. It's 5-foot width and short wheel base allow the Mid Vac to be used in smaller areas where turning radiuses are tight.



Get cleaning with the Goossen Mid-Vac

It is powered by a 22-hp Robin engine and can be towed behind utility vehicles and tractors.

CIRCLE # 207

**Cut it close with the Pro-Flex 120**

Progressive Turf Equipment introduces the Pro-Flex 120, a new rotary finishing mower that is well-suited to contour mowing. The Pro Flex 120 requires a 35-hp engine and has five 28-inch decks and a cutting width of 10 feet. The two wing decks can be raised,



The Pro-Flex takes the contours

reducing the cutting width to 6 feet and allowing the remaining decks to mow in more confined areas. The mower also features an open rear discharge that gives a clean, even dispersion of clippings providing excellent after-cut appearance.

CIRCLE # 208



Make some turf with the Turfmaker

**Turfmaker seeds it**

The Brillion Turfmaker Junior seeder, available in 4-foot and 6-foot models is maneuverable in tight seeding conditions. The Turfmaker Junior has a 7-bushel hopper capacity and 11 high-rate seed metering cups that evenly distribute grass seed over the 48-inch seeding width. The 6-foot model has an 11-bushel hopper capacity and 17 high-speed seeding cups across the 72-inch seeding width.

Turfmaker Junior seeders come with a standard speed-up kit for fast and easy seeding rate changes in the field, an optional electric acremeter for precise measurements and a loader support bracket for loading the unit onto a trailer or truck.

CIRCLE # 209

**On-the-spot sprayer**

The spot sprayer from Earth and Turf is designed to fit in the bed of utility and ground maintenance vehicles. The 25-gallon spot sprayer features a 12-volt, 7-amp Shurr Flo pump with on/off controls that connect to the transport vehicle. The non-corrosive hand-gun comes standard with a 12-foot hose. Its rubber feet prevent the unit from slipping on metal beds.

CIRCLE # 210

**You've Seen it on TV**



**The INTERNATIONAL CASTLE PINES GC 14 YEARS**

BEAUTIFUL -MANICURED-BENTGRASS  
The most stressful summer weather is Tournament Time in Castle Rock, CO

- Average 40 days over 90°
- Humidity: Single digits to 30%
- Expect 3 to 5 months of no rain
- Drying 5 to 15 MPH winds daily sweeping off the Rocky Mountains

**SURF-SIDE 14 YEAR PARTNER ON TV**



For "The INTERNATIONAL" we spray everything inside and outside the gallery ropes with SURF-SIDE 37



...plus added nutrients. Our greens receive 1-quart per 1000 sq. ft. to start the season. We have claygravelly fairways and treat them bi-weekly or monthly during the season depending on variable weather conditions Problem (LDS) areas receive additional Surf-Side treatments.....It's been a joy challenging the elements for the last 15 years with this product.

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SURF-SIDE SEAWEED COCKTAIL  
Great for rooting and toning of greens



The SP-1530 broadcast topdresser

**Turfco's faster, lighter topdresser**

Turfco's SP-1530 broadcast topdresser offers fast and light top dressing. Its twin spinners provide uniform application from ultra-fine to 1/8 of an inch. The broadcast pattern is adjustable from 15 to 30 feet, so a green can be covered in two passes. The spinner angle can also be adjusted from light to maximum penetration. The equipment can be quickly hooked up to turf trucks or tractors. In addition, the unit features a 21-cubic-foot capacity hopper that can handle the bucket size of front-end loaders for fast loading.

CIRCLE # 211



The Spray Star 1600 in action

**Spray Star 1600**

Smithco's Spray Star 1600 Hydro features a hydraulic drive system and a low profile spray tank. Powered by a 25-hp gasoline engine, the unit's hydraulic drive operates with quick response and tight, easy maneuverability. The spray tank is polyethylene with cross-linked construction, with a capacity of 160 gallons, and a new even lower profile for the best stability and visibility, and for easy loading.

CIRCLE # 212

**Mow-n-Go redesigned**

Smithco introduces a redesigned model of the Mow-n-Go trailer. It is engineered to give a mower complete protection from damage to reels, bed-knives, rollers and any changes in adjustments. When loaded, the mower is locked down onto the trailer's bed and rides securely, preventing movement or shifting.

The trailer handles all brands and models of portable mowers. Its bed is can be lowered and raised for quick, no-lift roll-on/roll-off loading and unloading. The open-bottom design gives complete accessibility from underneath for easy adjustments and maintenance. With low-PSI tires, it rides smoothly on all types of terrain and its drawbar adapts for towing by all types of vehicles.

CIRCLE # 213

**Micro-Trak's MT-3405 offers total control**

The MT-3405 automatic 5-boom rate controller from Micro-Trak is a new generation electronic rate controller. The MT-3405 monitors up to eight different functions: application rate, flow rate, total flow, speed, distance and area per hour, plus two area counters with independent resets. Individual boom switches are included on the

console to control up to five separate boom sections. The delta adjust feature changes the application rates automatically without stopping to re-calibrate the unit.

The MT-3405 comes complete with console, 3/4-inch flow meter, 1-inch servo valve, hall-effect speed and flow sensors and weatherproof connectors.

CIRCLE # 214

**New Hilliard brakes and clutches**

The Hilliard Corp. introduces clutch and brake products including a bi-directional differential, bi-directional clutches, centrifugal clutches, an engine braking system and a wheel clutch. Applications include commercial mowers, utility vehicles, snow-removal equipment, golf cars, blowers and chipper-shredders. Hilliard has developed this product line in cooperation with engineers at John Deere, Toro, MTD and Crary Bear Cat. All of the new Hilliard products are designed to minimize turf maintenance problems and reduce equipment damage.

CIRCLE # 215

**Competitive Prices**

*Always.*

**Quality Raw Materials**

*Always.*

**On Time Delivery**

*Always.*

**Correct Shipments**

*Always.*

**Accurate Invoicing**

*Always.*

**You get what you expect and more with our fertilizer products and service...always.**



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www.hojo4turf.com



**Roll-sod provides ground cover**

Bitterroot Restorations, Inc. now offers two new pre-vegetated coconut fiber products from Bestmann Green Systems. Sod pallets are pre-vegetated wetland pallets measuring 4 inches by 2.5 inches and wetland roll-sods are pre-vegetated roll-sods measuring 16.5 inches by 3.2 inches.

These products are ideal for situations where instant cover and visual impact are required such as around created ponds, lakes and stream banks. The pallets and the roll-sods can be pre-vegetated with variety of wetland plant material from shallow emergent to deep emergent species. They can also be planted with riparian trees and shrubs.

**CIRCLE # 216**



Roll-sod ready for service

**SRO's new releases**

Brighton SR 1120 creeping bentgrass is the newest variety in Seed Research's bentgrass line, combining the heat stress tolerance and aggressive growth of SR 1020 with improved dollar spot resistance from Providence. Brighton has excellent root growth and high shoot density.

SR 4500 perennial ryegrass is a new generation of perennial ryegrass. It forms a dense, dark green turf with the

ability to withstand summer stress, and has excellent resistance to dollar spot and brown patch.

SR 8600 tall fescue is a dwarf variety with a dark green color and high turf quality. It has high disease resistance and the ability to persist under poor conditions. Unlike many dwarf tall fescues SR 8600 combines high turf quality with high stress resistance. It has high levels of endophyte to help survive adversity.

**CIRCLE # 219**

**COURSE ACCESSORIES**



This rake has its own bunker

**Underground and out of sight**

The Hide-A-Rake hides the sand trap rake, eliminating the question of whether the rake goes in or out of the sand trap. The rake is now out of the way of the golfer, and your maintenance crew. The patented design protects the rake and allows for faster maintenance and more efficient use of equipment. The enclosed box is durable for many years of use and savings.

**CIRCLE # 217**



Smithco's new bunker finish rake

**Finish first with the Tournament Rake**

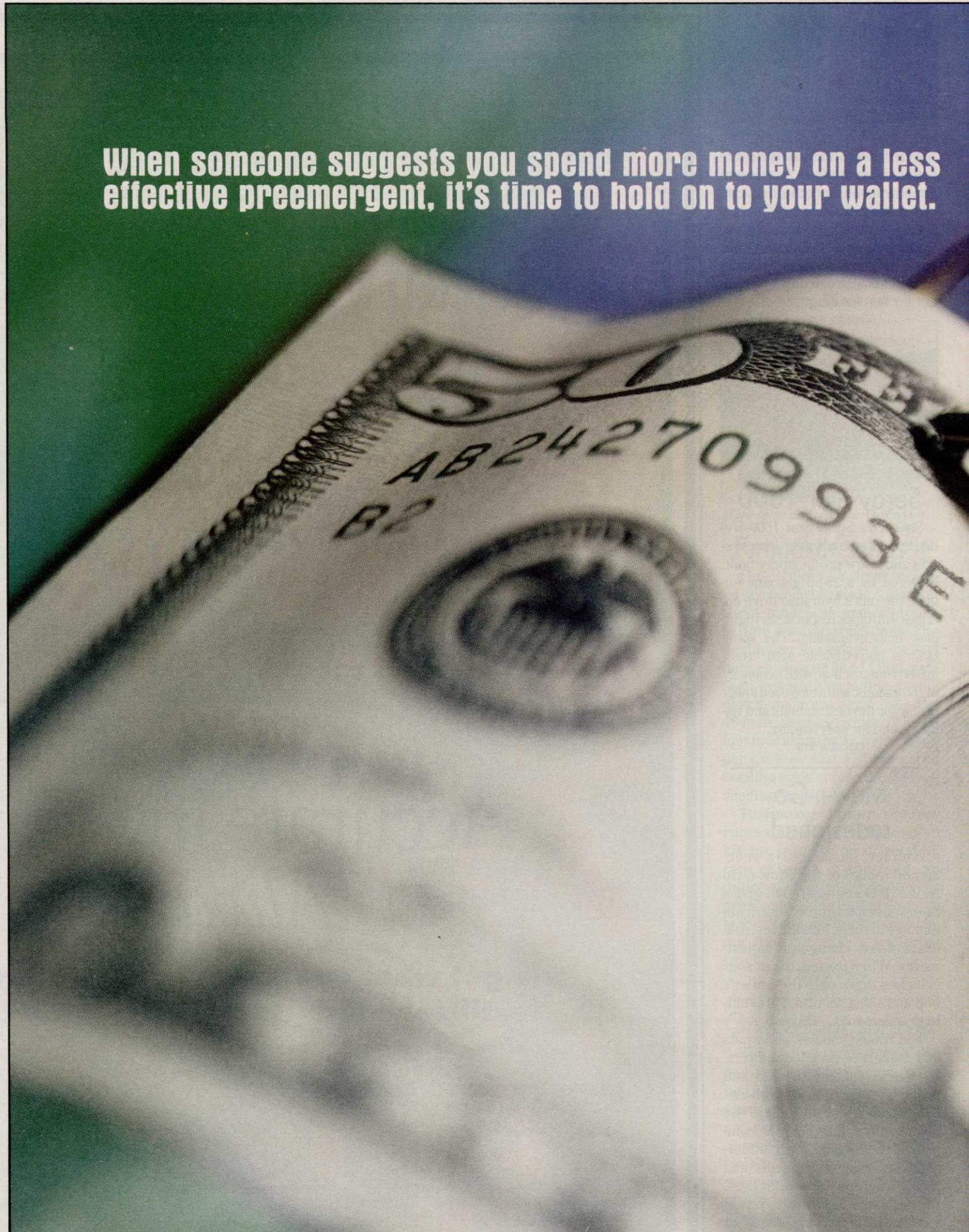
Smithco introduces a new type of sand bunker finish rake, the Tournament Rake.

The firming blades prefirm and plane the sand, then the free-working finish blades further firm the sand and deliver the most playable surface.

The sharply-pointed teeth blades are of spring steel and can be replaced, if necessary—and the teeth are buffered for quiet operation.

Its three firming blades and four finish blades are constructed of high grade, rust-proof stainless steel, for extra long life. The Tournament Rake is available in 84-inch and 72-inch widths.

**CIRCLE # 218**



**When someone suggests you spend more money on a less effective preemergent, it's time to hold on to your wallet.**

## High-grip surfaces from Carlisle

Carlisle Surfacing Systems (CSSI) offers the golf industry two high-traction and resilient rubber surfaces that are ideal for high-traffic areas. Carlisle's Softpave and Softroll surfacing systems give golfers a durable, comfortable and high-traction walking surface.

Softpave and Softroll are inexpensive flooring alternatives that consist of cushioning and impact-absorbing recycled rubber. Both products are available in a variety of hues and flecked patterns and are quick and easy to install.

**CIRCLE # 220**

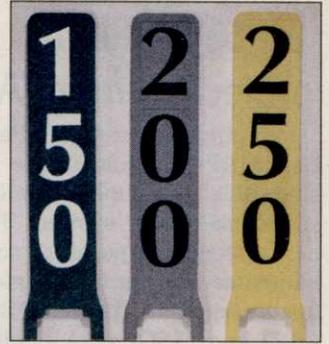


*A non-slip surface*

## Pro 2000 markers count it off

Wittek Golf Supply Co. introduces Pro 2000 vertical yardage markers for golf course practice ranges. The Pro 2000 markers stand 55 inches high and feature bold graphics. The markers are available in hunter green with white numbers and yellow with black numbers. They are made of high-density polyethylene for long-lasting wear and virtually no maintenance. Each marker comes with two 10-inch PVC ground anchors for easy installation.

**CIRCLE # 221**



*Yardage is no longer a mystery*

## IRRIGATION

### Keep track with the WatchDog

The new WatchDog data loggers from Spectrum Technologies, Inc. allow you to build a customized mini-weather station to suit your IPM needs. These compact weather recorders are economical, feature a LCD display and are operated by SpecWare 4.0 software. Battery powered, the WatchDogs are ideal for monitoring remote microclimates.

WatchDogs can be configured with up to four sensors including air temperature, relative humidity, rainfall, leaf wetness, soil temperature, soil moisture and PAR light. SpecWare 4.0 software simplifies data management and analysis, features a variety of popular plant disease models, turfgrass disease prediction models (for: Dollar Spot, Brown patch Pythium) and produces reports for degree-days as well as daily, monthly, and yearly summaries. Reports also provide documentation to support pesticide spray decisions and activities.

**CIRCLE # 222**

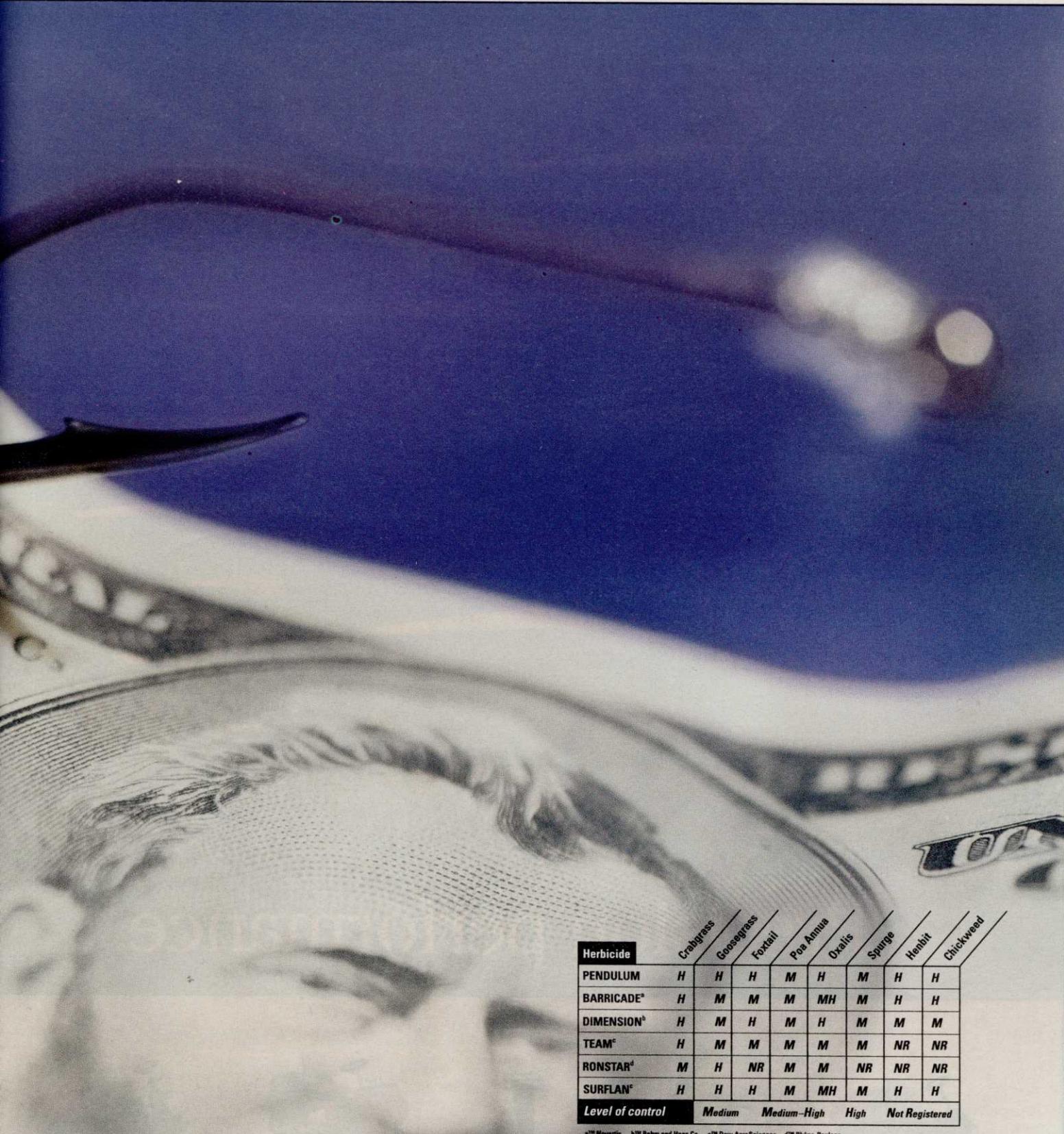


*SyncroFlo's Gator handles small jobs*

### No job too small

SyncroFlo's Gator Series has been developed for applications such as driving ranges, sports fields and commercial and residential landscapes. It is a self-contained one-pump package that includes pump, motor and controls housed in a lockable steel enclosure. The Gator line is perfect for small irrigation applications that require a reliable and affordable pump station for flows up to 250 GPM at up to 130 PSI.

**CIRCLE # 223**



| Herbicide               | Crabgrass     | Goosegrass | Foxtail            | Poa Annua | Oxalis      | Spurge                | Henbit | Chickweed |
|-------------------------|---------------|------------|--------------------|-----------|-------------|-----------------------|--------|-----------|
| PENDULUM                | H             | H          | H                  | M         | H           | M                     | H      | H         |
| BARRICADE <sup>a</sup>  | H             | M          | M                  | M         | MH          | M                     | H      | H         |
| DIMENSION <sup>b</sup>  | H             | M          | H                  | M         | H           | M                     | M      | M         |
| TEAM <sup>c</sup>       | H             | M          | M                  | M         | M           | M                     | NR     | NR        |
| RONSTAR <sup>d</sup>    | M             | H          | NR                 | M         | M           | NR                    | NR     | NR        |
| SURFLAN <sup>e</sup>    | H             | H          | H                  | M         | MH          | M                     | H      | H         |
| <b>Level of control</b> | <b>Medium</b> |            | <b>Medium-High</b> |           | <b>High</b> | <b>Not Registered</b> |        |           |

<sup>a</sup>™ Novartis <sup>b</sup>™ Bechtel and Haas Co. <sup>c</sup>™ Dow AgroSciences <sup>d</sup>™ Rhône-Poulenc

Field trials confirm that PENDULUM<sup>®</sup> consistently gives you more dependable, broad-spectrum weed control than any other preemergent herbicide.

So, even when compared to premium-priced products, PENDULUM controls more weeds. You can take that to the bank.

For the PENDULUM herbicide distributor nearest you, call 1-800-545-9525, ext. T2611.

Or visit our website at [www.turfacts.com](http://www.turfacts.com).



**Unmatched value. Unbeatable performance.**

**CIRCLE # 115**

## IRRIGATION

### SuperSurge protection from IAP

Irrigation Aftermarket Parts Corp. (IAP) announces the release of its new SuperSurgeRB+ surge-protection system. The new system incorporates a complimentary design for seamless integration into the Rain Bird PAR+ and MSC+ field satellite controllers. The system incorpo-

rates a motherboard central platform with built-in surge protection for the two-wire communications circuit and at-a-glance indicator lights for easy in-field troubleshooting. The OEM wiring harness is utilized with no modifications. It is easy to install in either existing systems or by adding it to the satellite controller prior to installation using only simple hand tools.

CIRCLE # 224

### New manual Turbo Disc Filters

Miller-Leaman, Inc. has released its new manual Turbo-Disc Filters. The filters are designed to be used on surface water and well-water applications.

As water enters the housing, a high-velocity spinning action occurs, spiraling heavier particles away from the disc cartridge, down to the bottom of the filter. These accumulated particles are then flushed from the filter via the 3/4 inch connection at the base of the filter housing.

The Turbo-Disc Filter is also available in a fully automatic, self-cleaning version.

CIRCLE # 228



Clean water with the Turbo Disc

## CHEMICALS



New 15-2-8 formulation

### Nature Safe adds Meth-Ex 40

Nature Safe Fertilizers introduces a new homogeneous formulation, 15-2-8 with Meth-Ex 40. 15-2-8 combines the organic nutrition and fertility of Nature Safe with the predictable release of Meth-Ex 40. 15-2-8 with Meth-Ex 40 will replace the urea fortified 14-3-6 formulation previously offered.

CIRCLE # 225

### Clean lakes from top to bottom

Aqua Control Inc. announces the release of Clear Away and Waste Away, two new products that offer an all natural, environmentally safe way to clean lakes and ponds of surface and bottom organic matter. Both contain freeze-dried microbes inside micronutrients that are activated when applied to water. The microbes work by reducing the nutrients organic matter needs to grow.

Clear Away enhances water quality and clarity by eliminating floating organic matter. Microbes metabolize nitrogen and phosphorus, preventing excessive proliferation of organic matter and disrupting the cycle of growth, death, decomposition, and re-release of nutrients. Waste Away helps regain the natural depth of a pond or lake by consuming the build up of bottom waste. Microbes metabolize organic waste including: leaves, grass clippings, dead marine life, decaying algae and weeds and feces.

CIRCLE # 226



# Precision performance.



JACOBSEN CUSHMAN RANSOMES RYAN

AJACFAM-0299 © 1999 Textron Turf Care And Specialty Products.

## Odorless Primo MAXX PGR

Novartis introduces Primo MAXX, a formulation plant growth regulator (PGR) that eliminates the odor often associated with PGR's while providing the same performance as Primo Liquid. Primo MAXX is a microemulsion, concentrate formulation that contains no petroleum solvents, cre-

ating a PGR that mixes clear in water and is odorless.

Primo MAXX can be used at the same application rates on all the same cool-season and warm-season turfgrasses as Primo Liquid. Repeat applications of Primo have proven to improve turfgrass quality and stress tolerance to heat, drought, traffic wear and divots throughout the season.

CIRCLE # 230



Take it to the MAXX

## Millennium controls

Howard Johnson Enterprises, Inc., announces the addition of Millennium to its line of commercial broadleaf weed control fertilizers. Millennium, a premium broad-spectrum weed control product containing 2, 4-D, Clopyralid and Dicamba, is now available impregnated on fertilizer. Millennium will control weeds such as clover, ground ivy, spurge, and oxalis.

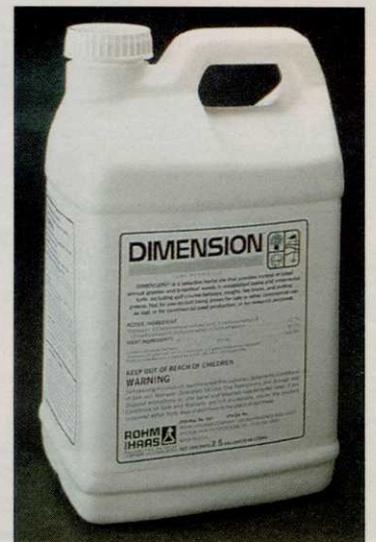
CIRCLE # 231

## Flexx speeds recovery, improves turf density

Plant Health Care, Inc. introduces Flexx, a dry, water-soluble biostimulant premix for use in golf turf installation and maintenance programs to reduce stress, stimulate root growth and correct nutrient deficiencies. Flexx is a 3-in-1 package with fully chelated micronutrients, biostimulants and beneficial bacteria, and Yucca extract wetting agent. Flexx Premix speeds turf recovery from traffic and disease damage, improves turf density and durability, and increases rooting depth to create optimal playing conditions.

The biostimulant ingredients in Flexx include humic acids, cold water sea kelp extract, natural sugars, vitamins and other organics that encourage microbial activity in soil and root growth. Flexx is available in 7 lb. bags, which can be added directly to the spray or injection tanks before spraying or watering.

CIRCLE # 232



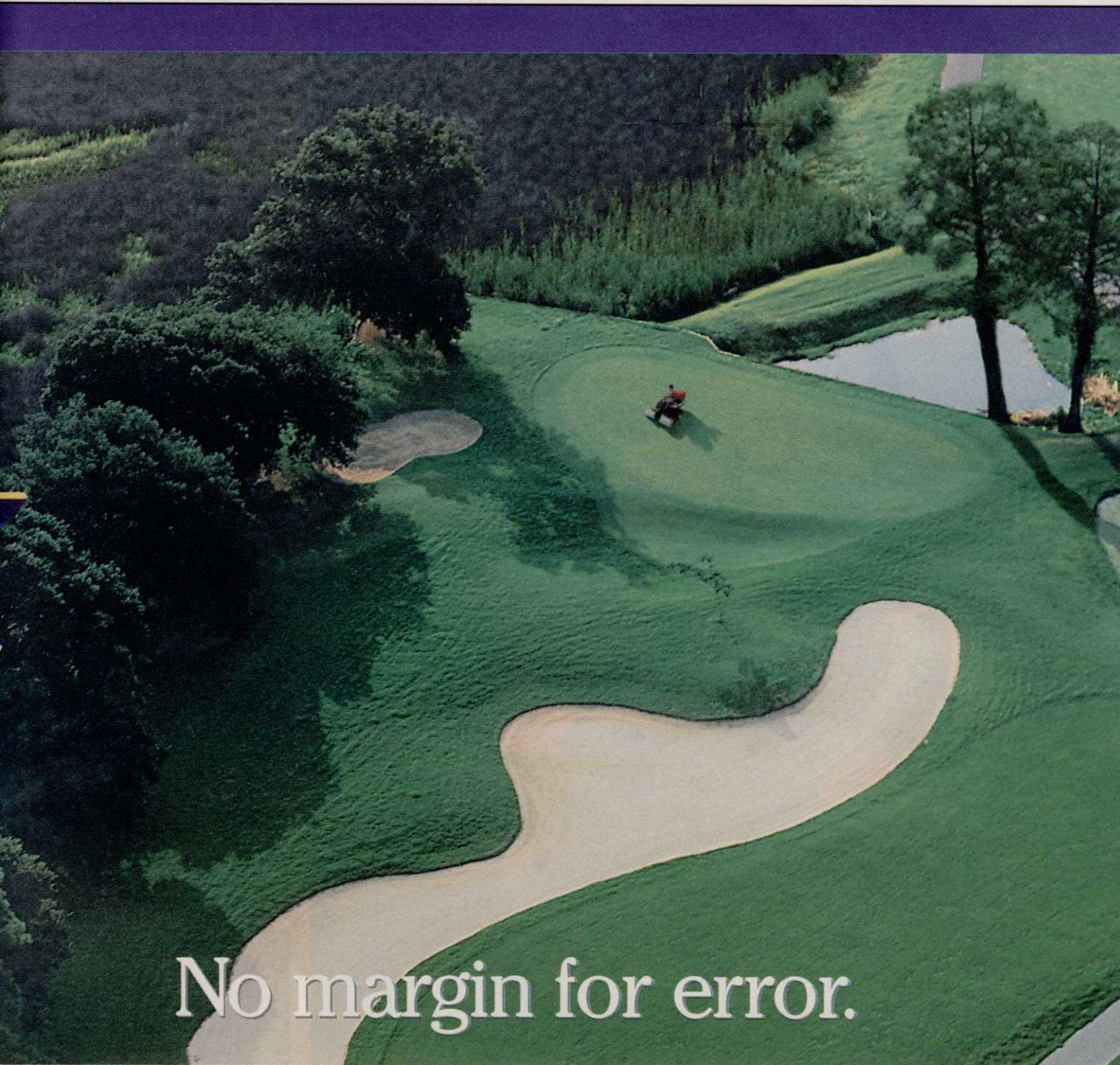
Dimension 15-2-8

## Dimension label expands

The Rohm and Haas Company announces a new supplemental label for Dimension herbicide. The new label allows turf managers to overseed with perennial ryegrass eight weeks after the application of Dimension turf herbicide, instead of waiting 90-days as required by the previous label. Dimension is also approved for use on a number of ornamentals.

According to Jim Walter, turf and ornamental product development manager for the Rohm and Haas Company, "This unique label enables superintendents to apply the product closer to Poa annua germination without negatively impacting their plans to overseed later. The timing interval is critical to those turf managers who normally overseed in the fall or early winter."

CIRCLE # 234



No margin for error.

## In a world separated by millimeters, Jacobsen greens mowers are the only choice.

The most comprehensive fleet in the industry is also the most recognized for delivering a precision-perfect cut with every pass. Our legendary reels feature exclusive metal alloys and an uncompromising machining process. Flawless bedknife-to-reel tolerances, optimum clipping rates, exact cutting heights, superior ground speed control and superb balance come together in perfect order to deliver consistent precision performance. Unequaled in design. Unparalleled on the green. That's why more superintendents count on Jacobsen greens mowers for their most critical maneuvers. Shouldn't you? Call 1-888-922-TURF or visit [www.ttcsp.textron.com](http://www.ttcsp.textron.com) for your nearest dealer.

JACOBSEN

**TEXTRON**  
TURF CARE AND SPECIALTY PRODUCTS



CIRCLE #116

## Blade grinding quick and easy

The Blade Rite 2000 from Bernhard and Co. Ltd. is designed for the golf course with a small number of reels. You can spin grind cylinders, add relief, single blade grind and sharpen your bed knives all with this all-in-one unit. Features include: compact variable speed drive



Grind it with the Rapid Relief 1000 control, a built-in vacuum system and a hydraulic lift integrated into the grinding table to eliminate heavy lifting.

If you have to backlap then

you need to maintain relief on your mowers. The Rapid Relief 1000 will do it in minutes—right on the mower. Simply snap the machine onto the mower using the magnets and turn it on. With one to three passes per blade, relief is restored. The machine is driven by standard shop air and can save you hours of dismantling, relief grinding and re-mounting.

CIRCLE # 235



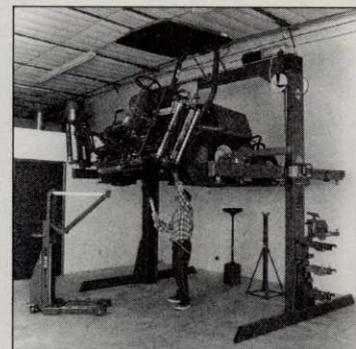
Landa's CL-304 keeps it clean

## Landa's new above ground CL-304

Landa Water Cleaning Systems introduces a new economical, above-ground, self-contained, wash-water recycling system. Model CL-304 is a compact version of Landa's most popular environmental systems that is economical, but large enough to handle the typical flow of a single pressure-washing operation.

The unit handles waste water flows of 1 to 5 gallons per minute. It offers a raised solids-separation tank for above-ground handling of medium- to light-dirt loads in a wash operation; a system that is self-contained, making installation remarkably simple and quick; and filters that are easily backwashed or cleaned for reuse. The CL-304 comes in three electrical configurations, 230V 1ph, 230v 3ph, and 460V 3ph.

CIRCLE # 236



The Pro-M gets you underneath

## Lift it with the Pro-M

Trion Lifts introduces the model Pro-M workstation as an integral component of a state-of-the-art turf equipment maintenance shop. New optional accessories allow you to further customize the Pro-M as a complete full-service maintenance bay specific to your unique shop needs, including truck service capability.

CIRCLE # 237

## Store safely

Safety Storage, Inc. introduces the model 1610 prefabricated, relocatable steel building designed for the safe storage, handling, and use of chemicals and hazardous materials.

The model 1610 buildings provide 129 square feet of storage space. They are fabricated from heavy gauge steel, structural channel, and tubing. Standard features include built-in secondary containment, removable galvanized steel floor grating, chemical-resistant coatings inside and out, and a security locking system with an inside safety release on each door.

CIRCLE # 238



Breakthrough cup design.  
Innovative non-stick technology.

## Ask for Standard Golf

and eliminate stuck ferrules and pulled out cups. The ST2000™ features a non-stick design that allows dirt and debris to pass right through. A unique network of points holds the flag stick firmly in place, yet sand-covered ferrules slip right out. Fluted or grooved ferrules won't fit, but that's okay, they're not necessary. The ST2000 even makes a distinctive sound when the putt drops. Cups are available in plastic or aluminum, and meet all USGA regulations. Don't get stuck. Ask for Standard Golf.

Talk to your Standard Golf distributor today. Or call 1-319-266-2638 for more information.

**STANDARD  
GOLF COMPANY**

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CIRCLE #117

# Engineering feats exemplify '90s construction

## A bridge too far...

World's 2nd and 3rd stressed-ribbon structures installed at Calif. track

By MARK LESLIE

RANCHO SANTA FE, Calif. — To a man who builds \$60-million freeway bridges, work on the new golf course at The Bridges at Rancho Santa Fe here was "the most unique project we've ever done."

FCI Constructors of San Diego built two 285-foot "stressed-ribbon" bridges over a canyon to access several holes of the Robert Trent Jones II-designed course.

"We usually build \$20-million to \$60-million bridges, but we saw this [call for bids] and thought it would be interesting," said project manager Tom Cameron. "It was. They are the first ribbon-type bridges we've built. It's new technology."

In fact, only one other bridge, that which crosses the Sacramento River in Redding, has been built with this technology.

The stressed-ribbon technology was chosen, according to course superintendent Mike Hathaway, because of environmental conditions — to avoid habitat mitigation.

"It allows you to avoid the canyons altogether," Cameron explained. "Normally when you build a bridge you build false work up from the ground (poles and bracing, etc.) to support the concrete until you pour it and brace it and it can support itself. In this case that was not necessary because of the cables..."

"We built abutments that are anchored into the rock on each edge of the canyon, and then strung



An FCI Constructors crew works on a stressed-ribbon bridge at The Bridges.

*You have to have rock at either end for this procedure. If not, you could put a load in the middle and it might pop out of the ground. There is tremendous uplift force to support the bridge.'*

— Tom Cameron, project manager  
FCI Constructors

cables between the abutments," Cameron added. "Then we suspended 10- by 13-foot x-slabs from the cables. They are concreted together and stressed a second time... All the work is done from the ends."

At each end of the bridge where the abutments are located, 12 shafts were rock-drilled into the canyon and rock anchors were sunk at various angles down 70 feet into rock.

Continued on page 30

## And a beach too short

Daufuskie Island Club's 3-1/2 miles of beachfront gets 'renourished'

By MARK LESLIE

DAUFUSKIE ISLAND/HILTON HEAD ISLAND, S.C. — Using supercharged equipment and 5-foot-diameter pipes that ran along the ocean floor, contractors have "renourished" 3-1/2 miles of beach at Daufuskie Island Club & Resort in a \$6-million project here.

Setting up oil rig-like gear 2-1/2 miles offshore at Barret Shoals, Great Lakes Dredge and Dock Co. of Illinois dredged up and pumped more than 1.4 million cubic yards of sand along the beach. Bulldozers spread the new sand from the beachfront 50 to 200 yards out into the ocean.

With the additional sand, the tides no longer reach, and threaten, the bulkheads that run along the 17th and 18th holes of Daufuskie Island Club's Jack Nicklaus-designed Melrose Course and for a half mile to the beach club. And the salt water no longer sprays onto those fairways, making turf maintenance difficult.

Natural erosion had severely depleted the beaches at the resort. Resort management worked with U.S. Fish and Wildlife Service and South Carolina Department of Natural Resources officials to plan the project. It was delayed at one point last year until a nest of osprey chicks had fledged.

"The company feels strongly that it is our responsibility to protect the wildlife and environment that make Daufuskie Island unique," Club Resorts

Continued on page 30

### GUEST COMMENTARY

## Building's progress huge in last decade

By BILL KUBLY

"High velocity" best defines the vast changes that have occurred in the golf course construction industry over the past 10 years.

The game of golf is healthy. Its popularity throughout the media continues to reach more new viewers. The economy is making it possible for investors to direct dollars to the golf industry confident in successful returns on their investments. These factors have driven the demand for new golf facilities and the restoration of existing ones. Golf course contractors across America have been, and are constantly looking for the best methods to meet the demand.

With demand comes the need for contractors capable of delivering a product that meets the high expectations of a game rich in tradition, and a philosophy

Continued on page 32

Bill Kubly is president of Landscapes Unlimited in Lincoln, Neb., and of the Golf Course Builders Association of America, headquartered in Chapel Hill, N.C.

## Some course architects adding construction to portfolios

By PETER BLAIS

Golf course architects are becoming increasingly involved with the actual construction of their designs.

Offering limited construction services — usually shaping and related finish work — provides architects both extra revenue and additional control over the completed product.

Among the more active architects/builders are Roger Rulewich, Bob Lohmann, Denis Griffiths, Craig Schreiner, Tom Fazio, Rees Jones, and Robert Trent Jones Jr. Following is a brief look at three of those construction firms.

### ROGER RULEWICH

The Roger Rulewich Group in Bernardston, Mass., has done finishing and feature work since the mid-1990s.

"We're not golf course contractors like a [Wadsworth Golf Construction] or Landscapes Unlimited or any of the major golf course builders," Rulewich said. "We specialize in shaping, grading and, at times, putting in materials and drainage. We finish greens, tees and bunkers and sometimes do the grassing. But we don't handle the major

earthwork, major drainage and irrigation, and most often not the final grassing.

"The shaping is so important and integral to the design that we offer to combine those services with our design. We've gotten to the point that if people want us to do the design without the shaping, we're not interested... We give our clients a price for design and shaping right up front."

Rulewich said his design/shaping requirement excludes the firm from many municipal jobs, which usually require those services go out to bid. "We find we don't work with golf course contractors, either, because taking the shaping out of it isn't of much interest to them," Rulewich said. "We usually end up working with local earth-moving contractors, people who do clearing and drainage work. Our jobs usually are a combination of other contractors along with our own people."

Despite warnings from fellow architects that requiring developers to use his construction company might scare away business, Rulewich said: "I found it to be an easy sell."

Continued on page 31

### GUEST COMMENTARY

## Designers exceeding letter and spirit of regs

By BILL LOVE

Golf course architects, builders and superintendents certainly have intensified their effort in recent years to develop and maintain golf courses in concert with Mother Nature. In some ways, the regulatory process has progressed in a similar pattern, becoming much more sensitive to complex local and national issues.

However, in certain areas the process could be streamlined for the benefit of both regulators and developers. The ability to develop layouts in a way that balances environmental, economic and design concerns has become the norm rather than the exception.

Earlier this year, the Environmental Committee of the American Society of Golf Course Architects (ASGCA) updated "An Environmental Approach to Golf Course Development." First published

Continued on page 30

Bill Love is chairman of the Environmental Committee of the American Society of Golf Course Architects.

## \$6M renews beach

Continued from page 29

Senior Vice President of Project Developments George Blonsky said at the time. "We will continue to work with representatives from USFWA and SCDNR to monitor the progress of the osprey as well as other wildlife concerns like the tea turtles."

Great Lakes Dredge and Dock's restoration project, overseen by Applied Technology and Management Inc. of Mt. Pleasant, S.C., was an amazing process and a pretty satisfying accomplishment," said Blonsky. "First, you had to see Daufuskie Island without its beaches, the ocean eroding into the actual headlands, live oak trees falling into the ocean — even a couple of houses had fallen down on the beach."

The huge pipeline, hooked up in 30-foot links, sometimes ran 200 feet under the ocean. On the barge, three full-sized locomotive engines pushed the sand toward the beach. A mile from the beach, a booster pump kicked in.

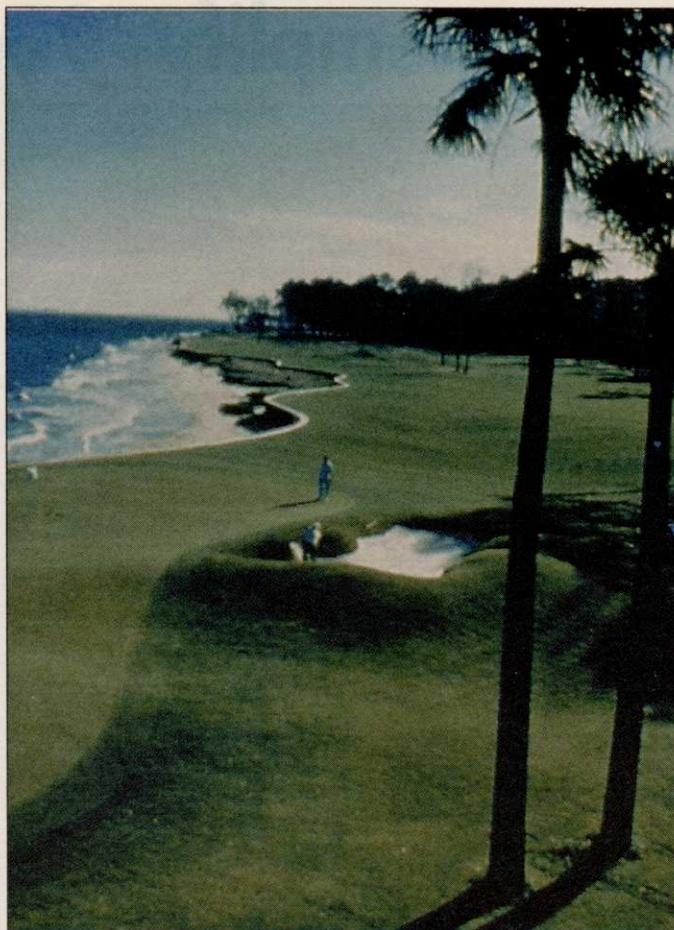
When the sand reached the beach, it literally flew out of the pipe, according to Vice President of Sales and Marketing Jack Bickart.

Three hundred-yard stretches of beach were renourished at a time until the entire 3-1/2 miles was restored in this project that took 60 days to complete, working 24 hours a day.

"To me, the most amazing fact was the commitment of \$6 million by ClubCorp to pay for this," said Blonsky. "If they had not paid for this private project, none of this would have happened."

The beach project was part of a \$22-million capital improvement campaign by owner Club Resorts that also included \$1 million in renovations at the Melrose course and the Tom Weiskopf/Jay Morrish-designed Bloody Point Course.

Bunkers were refurbished and a two-row irrigation



The par-5 18th hole on the Melrose Course at Daufuskie Island Club & Resort was threatened by beach erosion (right) before a "renourishment" project returned 1.4 million cubic yards of sand to the beach, which extends 3-1/2 miles.

system and cart paths were installed on the Melrose Course. New cart barns were built for both courses, and Bloody Point received a new maintenance building and clubhouse.

## Bridges a major feat

Continued from page 29

"You have to have rock at either end for this procedure," Cameron said. "If not, you could put a load in the middle and it might pop out of the ground. There is tremendous uplift force to support the bridge."

The new bridge allows 18,000 pounds per axle, and Cameron said his company drove a 3-ton backhoe and other equipment over the span.

Construction consumed eight months, including two months of pre-construction work and two months of finish work, like pouring a half-inch of polyester concrete with aggregate over the bridgewalk.

Landscapes Unlimited President Bill Kubly, whose firm built the course, was thankful for the bridges, because without them, he would not have been able to build several holes on the far side of the canyon.

"The only way to finish those holes was to get water there to irrigate them," Kubly said. "That is one of the most dramatic sites you'll see for a golf course. Wonderful bunkers and golf holes. It has an opportunity to be one of the best new courses of the year and one of the best for years to come."

The course had a soft opening Oct. 9. A gated community and private course, The Bridges at Rancho Santa Fe encompasses more than 550 acres of rolling hills, deep canyons, creeks and natural vegetation.

The project started a decade back, but came to a halt eight years ago. After two changes in ownership, construction began again under the eye of Lennar Communities, the second-largest home builder in the country.

## Architects exceeding letter, spirit of regs

Continued from page 29

in 1992, this booklet introduces town councils, permitting boards and other regulatory committees to the environmental issues and process inherent to golf course design and construction.

Education and communication are still the best methods to efficiently create and implement a development process that satisfies the needs and concerns of both developers and regulatory groups. Most ASGCA members would probably agree that progress toward this end should include developing dialogue to recognize important local and regional issues.

In an effort to initiate this dialogue, the ASGCA has teamed with officials at the Environmental Protection Agency (EPA). In the last few months, they have collaborated to distribute more than 500 copies of "An Environmental Approach to Golf Course Development" within the EPA organization. Activities such as these indicate a commitment to open communication.

Regulations, by definition, set the environmental parameters concerning the environmental issues and land development of a site. In order for regulations to be effective they should welcome input concerning their application and effectiveness.

First, more quantification on the environmental characteristics involved would contribute to better design solutions. For instance, a non-functioning, manmade wetland abandoned years ago may carry the exact same restrictions as a naturally occurring wetland. How can different levels of environmental settings be delineated in an appropriate manner?

Second, the regulatory process should involve more people familiar, if not well versed, in golf course development. This would create a situation in which innovative solutions are discussed with the hope of attaining a more environmentally beneficial goal.

Innovative design solutions may not always exactly match the rigidity of regulations. However, upon closer examination,

they may still exceed them in spirit, creating a better method of development.

The golf industry continues to keep the environment top of mind through research, communication and education. Golf course architects are striving to embrace the environmental issues involved in golf course development.

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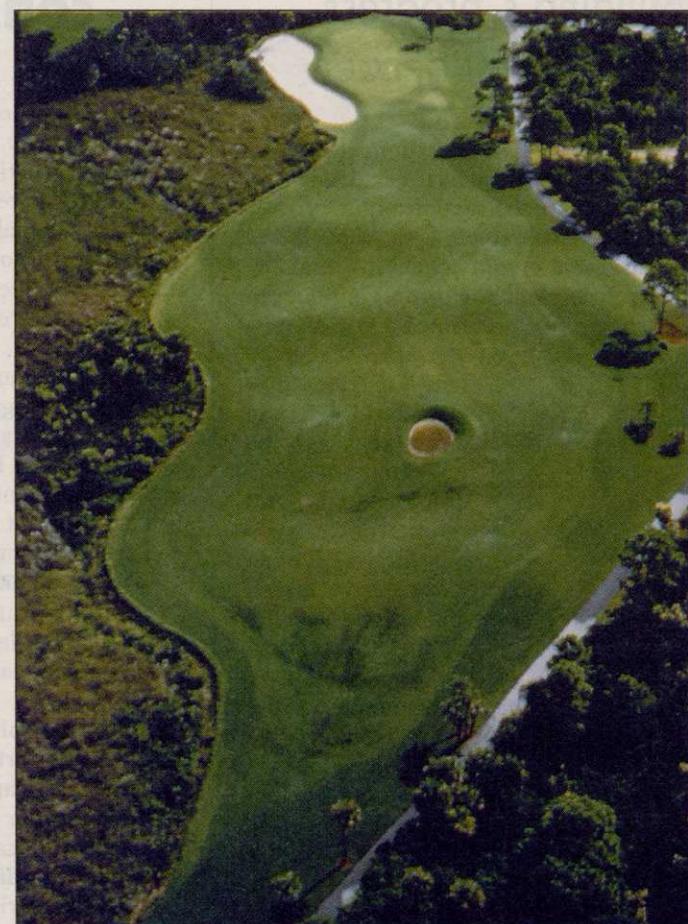
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The 48-page "An Environmental Approach to Golf Course Development" can be obtained by sending a check payable to the ASGCA for \$10 (per copy) to the following address: American Society of Golf Course Architects, 221 N. LaSalle St., Chicago, IL 60601. Valuable information is also available on line at the ASGCA Web site <http://www.golfdesign.org>.



### SKILLFULL, ENVIRONMENTALLY SENSITIVE

The par-4 16th hole at Arthur Hills-designed Bonia Bay (Fla.) Golf Club is a prime example of skillfully laying out a golf course in an environmentally sensitive area.

## Some architects using own construction divisions

Continued from page 29

Clients have become more aware of how courses get built and are much more sophisticated than they used to be... Most of our clients are quick to accept that combination."

The majority of the people involved in the Rulewich Group come from construction backgrounds.

"We have seven shareholders who are part of the Roger Rulewich Group," Rulewich said. "Five of them are involved more with construction than design. All seven of us were with [Robert Trent] Jones [Sr.]."

Rulewich's construction services work particularly well on renovation projects. "Remodeling is probably the place where the idea works best because we can work quickly, efficiently and we're right there with it... Most of our remodeling projects start small but end up expanding into something bigger once the clients see how well everything goes," Rulewich said.

Working directly with the architect's construction team can also minimize the type of work-order changes that usually result in higher construction costs. "The promise we make when we do the shaping is that there are no change orders, there are no extras," Rulewich said. "We'll eat any changes if we have to."

The Rulewich Group has a fairly large equipment inventory, mainly because several of the principals worked on Alabama's Robert Trent Jones Trail and held onto the machinery when they started their own firm.

"Equipment is something you can play with," Rulewich said. "You never want to carry more than you need or can keep busy. So you have to be ready to buy and sell and move equipment

around rather quickly... I'm often surprised when I get out on a site and find out how much we have. In Alabama, we even had a D-8, which is a big machine that I wouldn't think most shapers would have. But it made sense on that project, and now it's making sense on our project in Myrtle Beach."

### DENIS GRIFFITHS

Griffiths' construction firm is a rather low-key affair that evolved from the Georgian's love of automobiles and anything mechanical.

In the early 1970s and 1980s, Griffiths and then-partner Ron Kirby dabbled in the construction arena, but more to satisfy Griffiths' passion for machinery than to embark on a new venture.

"We did a lot of work out of the country, which gave me the opportunity to climb on a lot of machinery," Griffiths remembered. "I started on a box blade and ended up on dozers. When you couldn't speak the language and explain something to someone, it was often easier to climb on a machine and try to show them what you wanted to accomplish."

Kirby left in 1986 and Griffiths signed on to do a project for an Atlanta developer who had little use for architects who couldn't act as builders, too.

"It was one of those deals we had to do, the first course at Chateau Elan in 1988," Griffiths said. "We bought some pieces of equipment and rounded up some people. Since then we've done seven or eight projects."

Far more of Griffiths' projects are done with major golf course builders than with his own construction company. "We try to stay in the Atlanta area if we get involved with the building," he said. "There are a lot of great contractors out there and

we want them to know we are not in competition with them."

The real benefit to using Griffiths' construction services, he explained, comes when a developer already has a relationship with major earth-moving, drainage and clearing contractors. This is often the case with a residential golf course development.

"The developer knows he's getting the most competitive numbers on the market already and we can make a real good fit with them by picking up the shaping, features and irrigation subcontracting," Griffiths said.

Griffiths also noted that design changes are easier to implement with his own construction crew. And there is no additional expense to the developer.

"We spell out to our clients that this is the price and if we build it, no matter if we have to change it 14 times, it's our money, not yours," he said.

### ROBERT LOHMANN

Lohmann has been in the design business since 1984 and started his construction firm, Golf Creations, two years later.

"Basically, it was providing a shaper on remodeling jobs that were too small for a construction firm but too large for the superintendent to handle alone. We'd bring in a shaper to help shape tees, greens or bunkers, then the superintendent would finish the job," Lohmann said.

Frequently, the superintendent ended up asking Lohmann to finish the drainage, put in an irrigation system or do some sodding. Over the years, the firm grew. "Today, we may do the whole project and have a construction superintendent on site with an entire crew," Lohmann said.

Being able to take the architect's

vision all the way through to the final product is a key advantage of using his construction firm, Lohmann said.

Early in his career, Lohmann found himself drawing plans for developers who would then finish the job using their own crews.

"Sometimes," Lohmann said, "it would turn out bad. The first question people would ask is 'Who's the architect?' So we started asking for the opportunity to work with the developer through construction and provide the key shaper or construction superintendent to make sure it turned out okay."

Lohmann rarely gets involved in heavy earth moving, irrigation or cart-path installation. "We're more of a landscape company that does golf course work," he said. "It's a turnkey situation that allows me to satisfy the developer who wants to make sure the job turns out right at a guaranteed price. We can give the developer a plan and promise that it will cost this much and no more."

Being the builder also gives Lohmann the chance to get in and out of a job quickly, without having to deal with an outside contractor.

Since many renovation jobs are done when play is at a minimum — i.e. off season or after dark — speed is important. "It's just me and the owner," Lohmann said. "We know what we need to do and we just get it done."

Lohmann estimates Golf Creations is involved with half the jobs he designs. The rest are done by golf course builders.

Lohmann's regular construction crew consists of three shapers, three superintendents and a seasonal crew that peaks at 40. His equipment includes tractors, skid loaders, trenchers, small bulldozers (the biggest is a D-4). Dump trucks are rented or the task subcontracted out. ▶

### ARCHITECTS SURVEY

## Wetlands regs, financing get mixed reviews

By MARK LESLIE

As developers fire down the home stretch towards opening more than 400 courses for the third consecutive year, it appears neither wetlands regulations nor finding enough good builders will stop the growth — although both may hamper it a bit. On the other hand, easier financing may enhance opportunities.

A *Golf Course News* survey of course architects discovered that 42.8 percent of those polled felt it is getting difficult to find qualified golf course builders for their projects, while 57.2 percent replied it is not difficult.

Asked if their clients were finding it easier to obtain financing, 73.2 percent replied "yes."

### WETLANDS REGULATIONS

Meanwhile, feelings ran the gamut on the impact of wetlands regulations. Forty-three percent of the architects responded that wetlands regulations are slowing the planning process, but an equal 43 percent said they are having no effect, while 14 percent felt the regulations are actually speeding the process.

"It is getting more difficult each year. The rules keep changing," said Rick Robbins of Cary, N.C.

"Every new regulation slows the process," said

Gary Linn of Knott & Linn in California. "The new wetland rules essentially require a full 404 Permit, which can take one year to obtain. Complete avoidance is the goal in design, although usually that is not feasible."

The regulations are "slowing down the permit process at all levels," said Bobby Weed of Ponte Vedra Beach, Fla.

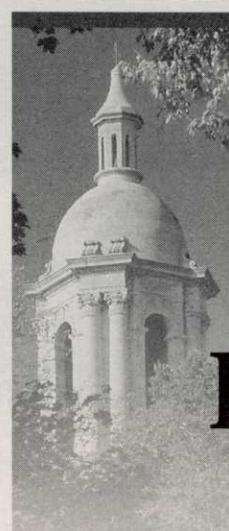
But Lloyd Clifton of Deltona, Fla., was one of the 43 percent who reported "no change in the time frame" with the new regulations.

And in some places there is actual encouragement.

"Regulations are speeding the process somewhat," said Scott Applegate of Signature Course Design in Stuart, Fla. "Misinformation from environmentalists is a major cause of slow permitting and planning."

Perry Dye of Denver reported: "It depends on the state and the circumstances. Everyone is gaining experience in mitigating these conditions, so the process moves faster, more professionally."

"It is slowing down out of state, but here in Michigan it seems to be the same as before — not too slow," said Lorrie Viola of West Bloomfield.



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## Kubly comment

Continued from page 29

that is very exacting in its effort to maintain the integrity that has survived the test of time.

If volume is an indication of change, the growth of new golf course contractors in the last decade attests to that fact. In 1989, there were approximately 40 members of the Golf Course Builders Association of America (GCBA). Unlike today, the level of requirements and certification in 1989 was in its infancy, with much work to be done. Today, there are

236 GCBA members, including:

- 26 Certified Builders — members who have met the requirements established by the GCBA through its Professional Certification Program, which has become the standard by which all golf course builders are judged. The purpose of the Certification Program is to identify competent and experienced golf course builders and ensure uniform quality standards in the industry.

- 27 General Contractors.

- 185 Associate Members — new contractors, manufacturers, suppliers and subcontractors.

The budget necessary to facilitate the GCBA has risen twentyfold in these last 10 years. With 42 companies joining in 1999 alone, change will be ever-present in the days and years to come.

If GCBA members expect to succeed, they must look at the change of the past 10 years, take a positive approach with what they have learned, and factor this into today's planning. The demand for players to choose one course over another requires golf course investors and owners to provide the best of the best. Investors and owners are looking for a return today, not tomorrow. Because of this mentality,

today's contractor is expected to meet the demands of today's client. These expectations include:

- Time Schedules. Opening day of every golf course is critical. Today's contractor is given less time to do more, and must accomplish this feat within a schedule that allows the investor to generate revenues on opening day. Failure to deliver can be very damaging to all involved.

- Complexity of scope of work. In the effort to provide golfers with the best, contractors must be significantly more qualified than 10 years ago. Contractors must be able to deliver:

- ✓ bigger and better waterfalls.
- ✓ more lake construction.
- ✓ more elaborate rock and water features.
- ✓ wall-to-wall sod applications.
- ✓ the ability to move massive amounts of dirt.
- ✓ highly sophisticated irrigation systems.
- ✓ elaborate drainage capabilities.

- Equipment. Clients today are much more knowledgeable than clients of the late 1980s. Today they are aware of what it takes to deliver on the contractor's promise. Construction demands state-of-the-art equipment. Time is money, and failure to supply every project with the correct equipment will cost the contractor time and, ultimately, his ability to run a business.

- Technology. With the birth of the computer and other high-tech capabilities, each contractor must be well informed about what will lead the industry into Y2K. The internet has given contractors the ability to deliver on the latest in communication services. Unlike the late 1980s, the team of owner, developer, architect and contractor can now communicate with the speed and accuracy never before thought possible. Job scheduling, tracking and documentation help all key team members to manage each project day to day.

- Safety. Longer days, faster schedules and more equipment all test the human realities on every project. Keeping employees safe must remain the industry's No. 1 priority. Training each employee to understand the value of a safe working environment is just as important now as in the past. The change that must occur today is the discipline to make safety a priority in each employee's activity. Contractors must walk the walk, and provide a safe environment for their most valuable resource.

All of this being a given, the Y2K contractor must be prepared to deliver, regardless of the weather, a rocky site, multiple owners all demanding their own agenda, and, most importantly, doing all the above in a professional manner.

The last 10 years have been the ride of a lifetime for everyone in the industry. We have learned first-hand that in order to meet the demands of the golfing public, we must continue to learn from yesterday's experience, and be willing to change as we approach every tomorrow.

Failure to meet change head-on will ultimately diminish the quality of the product we deliver. Lack of quality will cause today's golfer to consider alternative forms of recreation. The **game** is too important not to do whatever it takes to secure its future.

The Y2K contractor plays a key role in the evolution of every golf course. Every contractor must remain committed to learning from the 1990s and keeping the game alive for all who want to experience its true meaning in the future. ▶

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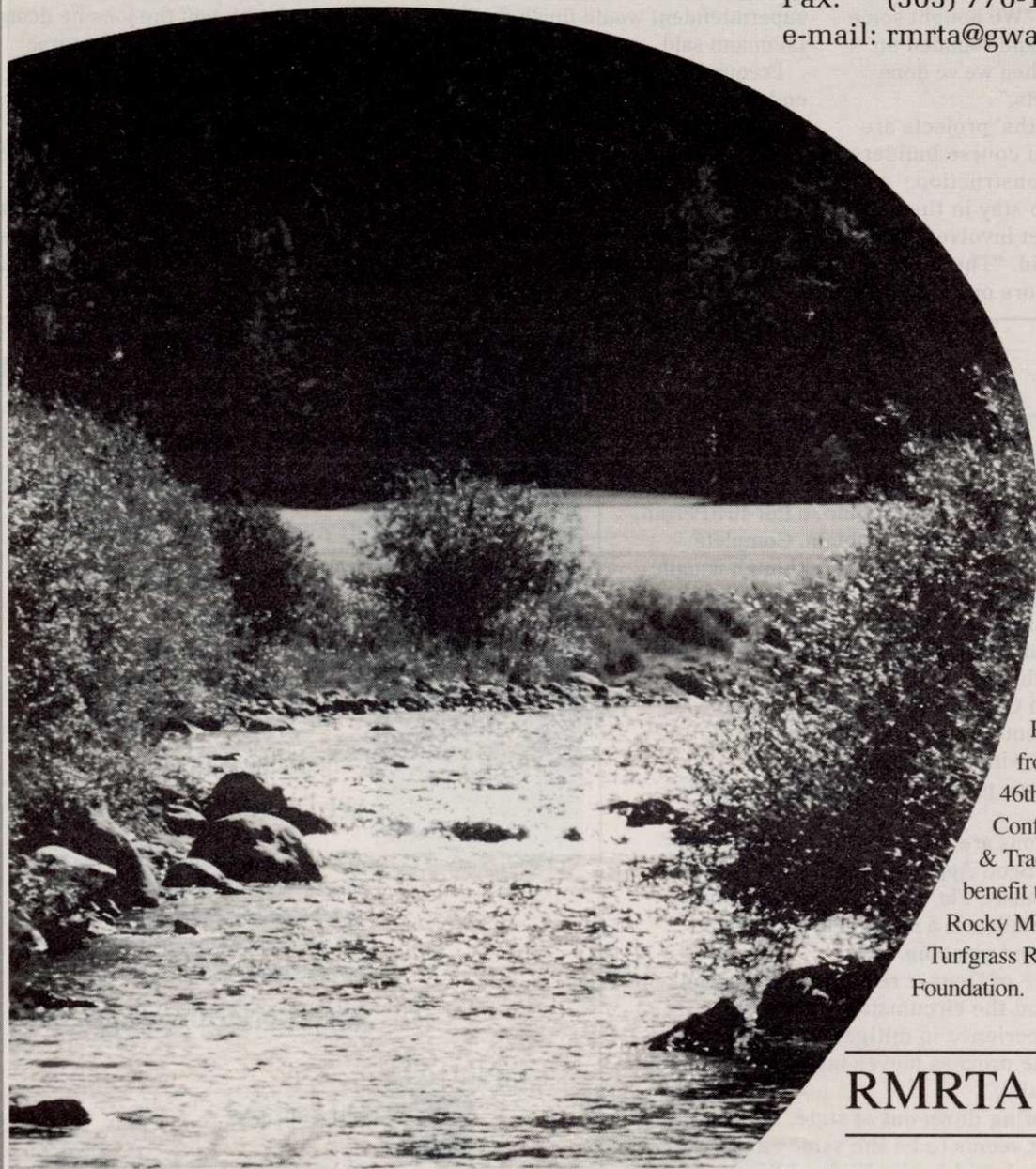
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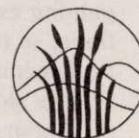
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## Meeting challenges of golf development

Continued from page 8

This impact on local water resources and off-site usage must be addressed in siting irrigation wells. In certain instances, water may be pumped from wells into a surface water body, from which it is distributed through the irrigation system. Elsewhere, it may be feasible to pump water directly to the irrigation system.

Where hydraulically feasible, the latter tends to be the best option because the temperature of the ground water (52-56 degrees Fahrenheit) is optimum for turf, and there is no evaporation loss associated with the use of a pond.

Many developers are using effluent for irrigation. But this is not necessarily the "free" resource it appears. First, the site must be near enough to a treatment plant to make it practical economically. And the potential impacts of diverting gray water that may have been discharged into a local river or provided as recharge to a local aquifer must be assessed.

Another groundwater resource issue revolves around the fact that typically more than 80 percent of the water used for irrigation is consumed by evaporation and transpiration. Not much percolates back to the aquifer.

Developers also may be required to site and install monitor wells to track the impact of chemicals on the local groundwater and surface-water resources. Concern about this issue often is one of the first to be expressed by nearby residents and water purveyors.

These issues are faced not only in developing new golf courses, but in permitting for existing courses wishing to switch from using surface water to groundwater sources. Technological advances — from turfgrasses to chemicals — can all work to minimize the impacts on water resources.

### FROM WETLANDS TO TRAFFIC

Sensitivity to wetlands has increased. Almost any type of large-scale land development will most likely have some kind of wetland. It often is difficult to avoid those features. Developers are required to identify wetlands, assess where the impacts will occur, and spell out ways to reduce the impacts. If this is not possible, they may be required to create additional wetlands to offset those that will be affected.

Sanitary waste disposal is another key issue. Often a golf course is to be sited in an area not served by sanitary sewers, and this requires design and approval of an on-site septic system. If the development consists only of a golf course, the design and approval for an onsite septic system differs little from that for the average residence. If the course has a lot of amenities, then a large waste disposal system will be needed.

Officials are becoming increasingly careful to ensure that the design protects both the environment and public health. They often require a groundwater professional's assessment of the potential impact on the local aquifer and mandate an engineer's supervision during construction to avoid later failures in the system.

There is also heightened concern about stormwater management and the impacts on local water resources. Local and state requirements have become more strict, and officials are taking increasing care to ensure streams and neighboring properties are not impacted either during construction, when soils and sediments can be a problem, or after completion, when turf management chemicals are in use and paved areas increase the stormwater

run-off and reduce ground-water recharge.

Permits and approvals on the local (i.e., planning and zoning, wetlands), state and federal (i.e., U.S. Army Corps of Engineers) levels each require an application and supporting documentation that addresses all of these topics and more, some major, others relatively "minor," including fuel storage, grading and landscaping, lighting for parking lots and roads (i.e., "light pollution"), hours of operation, parking and traffic.

### HOW TO SMOOTH THE PROCESS

The process of obtaining permits and approvals for development is becoming lengthier, more detailed and more expen-

sive. Today, applications usually are many pages and require a substantial amount of supporting documentation.

Permitting and approval can be more effective with early involvement of both engineering professionals and regulators.

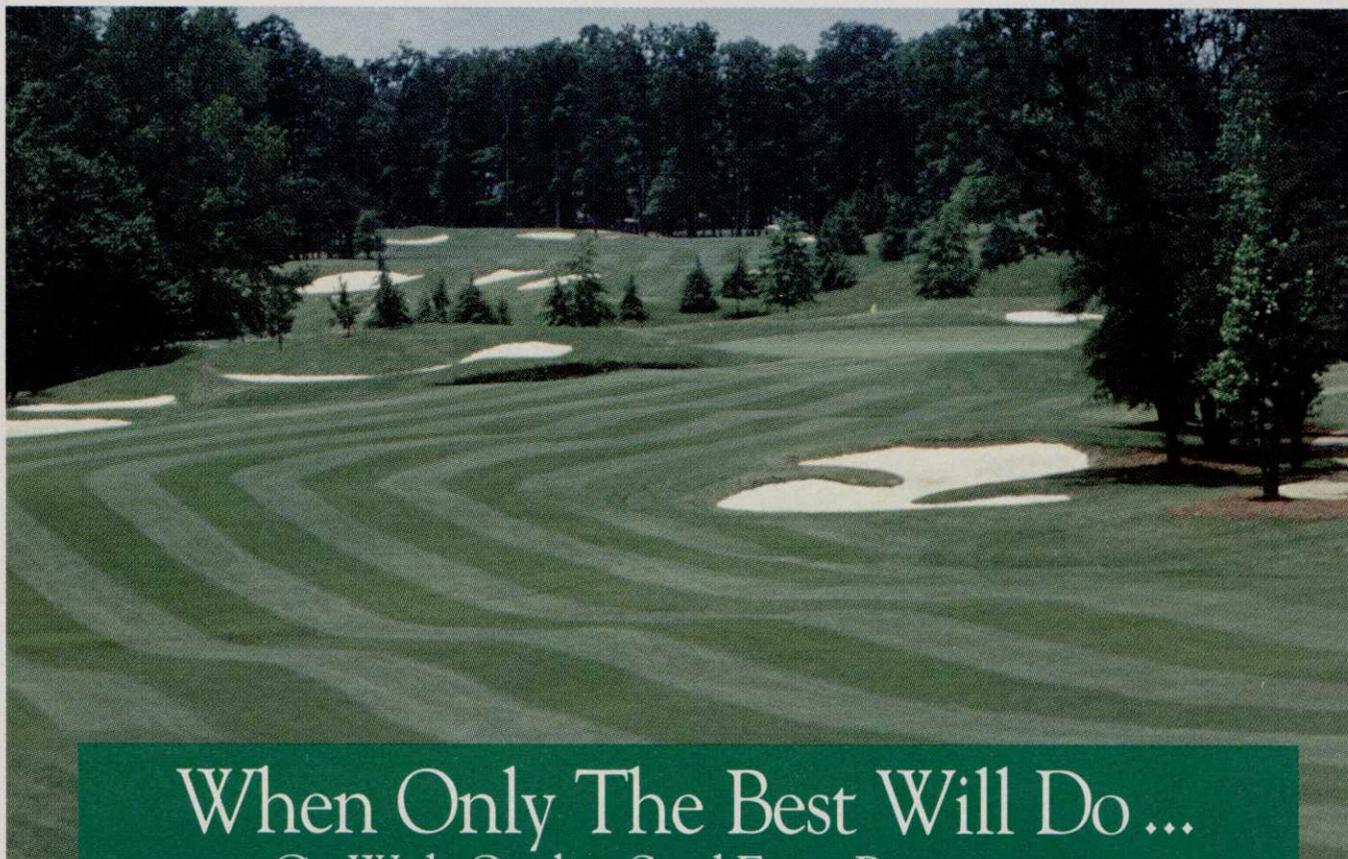
Participate in meetings with agencies before submitting applications to answer questions, and incorporate their concerns into the planning process to the extent possible.

This approach will help minimize questions and delays during the ap-

proval process itself. Be sure that permit and approval applications are complete and easy to understand by the permitting agencies — that they are clearly written well indexed and cross referenced.

Finally, be realistic about the time involved in the process: some questions are inevitable in any case, and any changes in plans after submittal of applications will create delays.

Planning and follow-up will not always guarantee a smooth shot down the center of the fairway, but it can minimize the amount of time spent hacking around in the rough, or worse yet, stuck in a sand trap.



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## Development management: Going one step further

Continued from page 1  
Scottsdale, Ariz., and in Hamilton, Mont. "There are people who do construction management, to a degree, in this business, but they do it for a clubhouse or a golf course. We go one step beyond the that — development management — and then there is no

need for construction management.

Bryant and Shaw, who have a combined 30 years experience in golf course and other developments, are concentrating solely on high-end golf course projects. Their portfolio includes The Quarry in Palm Springs and The Estancia Club

in Scottsdale, Ariz., two Tom Fazio-designed courses recently voted into *Golf Digest's* Top 100 list; The Tradition, designed by Arnold Palmer, in La Quinta; Fazio-designed Stock Farm in Hamilton, Mont.; and Robert Trent Jones II-designed The Bridges at Rancho Santa Fe in California.

"We either act as partial owners or on behalf of the owner to do everything necessary to develop a golf course project," Bryant said. "This includes coordinating all the design, engineering and construction efforts, personnel staffing, purchasing of merchandise, and building the

infrastructure of the golf course, clubhouse and all related amenities. We also do some of the marketing."

Some projects include aspects far from golf — like The Stock Farm's equestrian center, fishing, hiking and fine cuisine.

This work, according to Bryant, "is a big deal to owners who want to do a golf course project, but haven't the foggiest idea how to get started. They can throw tons of money away with false starts."

### TIME, MONEY AND INTEGRATION

Time, money and integration are the major factors this new niche company influences, Bryant said.

"Usually, we can save owners between 10 and 15 percent on what they would otherwise pay on a net basis," he said. "And we can usually get it done in two-thirds the time. We built The Quarry in six months.

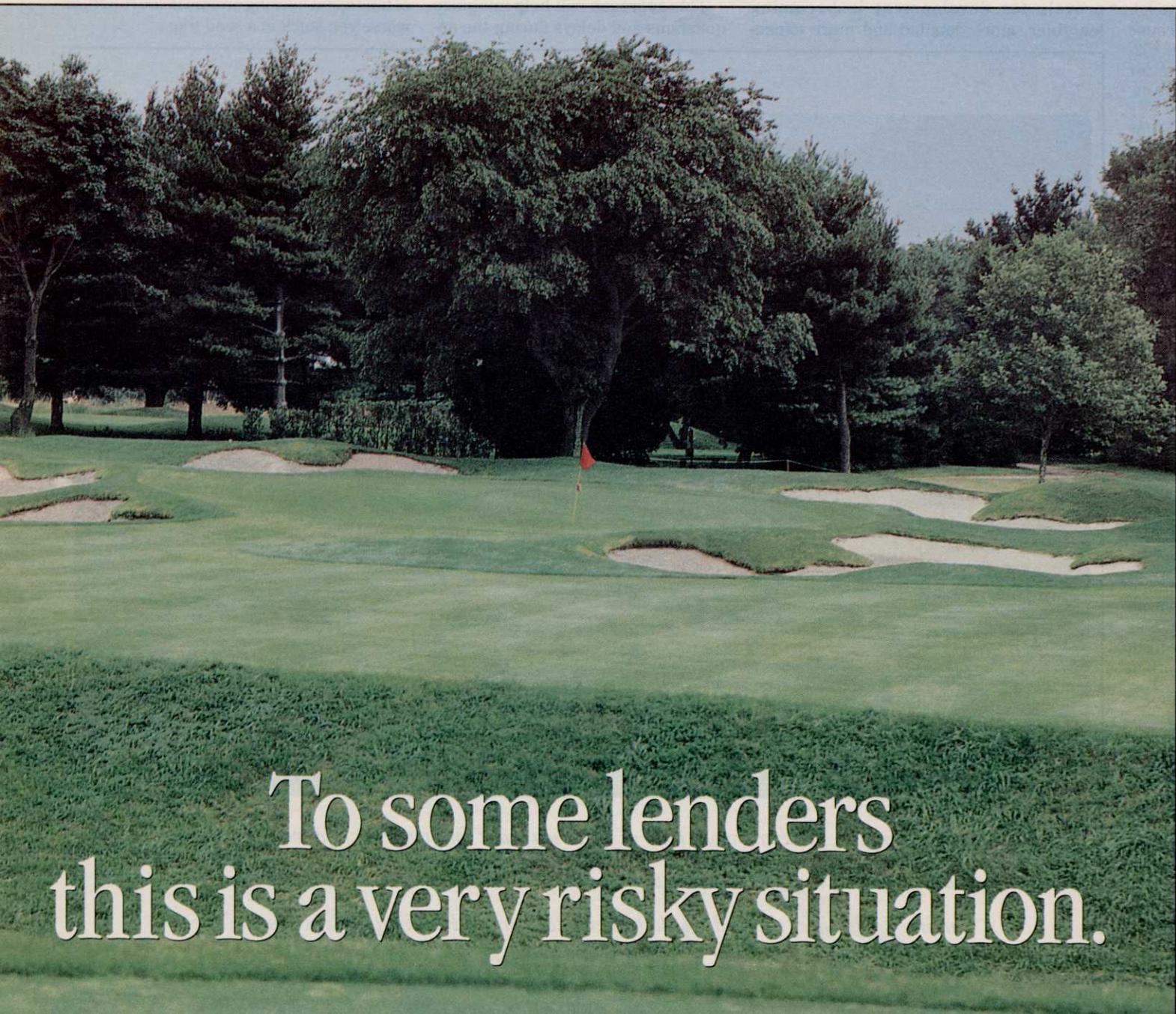
"Our projects run in the neighborhood of \$30 million to \$60 million. That's a big figure when you're talking about that 10- to 15-percent discount."

In its five years of existence concentrating on golf-related developments, Winchester has worked with a team of course and building architects and contractors, and others, Bryant said. These contacts, and volume, mean "significant savings," he said. "For instance, whether it's golf carts or maintenance equipment, since this is all we do we get significant discounts. Same with the components that go into the golf course, and the infrastructure suppliers and things of that nature."

Meantime, Bryant, Shaw and their personnel "know what the next step is," Bryant said. "If you build this, then you have to do this, and that has to fit in. You're speaking of a totally coordinated project which includes the golf course, clubhouse, maintenance buildings, off-site situation and all the employees who have to be hired to run it. All of that has to be integrated. That integration process alone is a significant factor in the eyes of the owner."

With 11 projects under its belt and five under construction, Winchester boasts that "all of our projects have either sold out, or will be sold out in a matter of time," Bryant said.

"We are always ahead of the forecasted sell-out in both real estate and memberships," he added, pointing to The Stock Farm, which has sold out its memberships, and has a waiting list, one year after opening.



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BRIEFS



NEW GM AT ROYAL MELBOURNE

NORTHBROOK, Ill. — W. Paul Pearce has been named to succeed Paul V. Blaze as general manager at Royal Melbourne Country Club in Long Grove, Ill., a Kemper Sports Management golf facility. Blaze is joining Kemper Sports' home office as vice president of operations. Prior to joining Royal Melbourne, Pearce was general manager of The Meadow Club in Rolling Meadows, Ill. Previously, he served as general manager at English Turn Golf and Country Club in New Orleans and general manager/regional manager at Brookhaven Country Club in Dallas. Pearce is an active member of the Club Managers Association of America, Greater Chicago Club Managers Association, and United States Golf Association. He is a graduate of Austin College and earned his master's degree at Texas Christian University.

NGP BUYS ONE, SELLS ONE

SANTA MONICA, Calif. — National Golf Properties (NGP) has acquired Coyote Lakes Golf Club, an 18-hole, daily-fee facility located in a northwest suburb of Phoenix, for approximately \$4.1 million, NGP also sold Crescent Oaks Country Club in Tarpon Springs, Fla., to a local investor for approximately \$1.5 million.



NEW COMPANIES ADDED TO VGM MANUFACTURERS LIST

WATERLOO, Iowa — VGM Golf Inc., a major buying alliance for golf courses, has added several new companies to its list of 120 participating manufacturers. Among the new firms are Textron Turf Care and Specialty Products, a manufacturer of golf course maintenance equipment; The VGM Technologies, a telecommunications consulting service; The Kennon Group Audit Co., a utility bill auditing firm based in Stillwater, Okla.; ECO Golf Tee Co., manufacturers of environmentally friendly golf tees; and Maruyama U.S. Inc., Group, a quality brand power tool line based in Richmond Wash. The National Golf Foundation and VGM have formed an agreement in which the NGF's golf facility members can get a discounted membership to VGM, and vice-versa.

Software links courses, travel companies

PHOENIX — More than 400 courses have signed on with GolfSwitch, a recently introduced tee time software system that allows individuals and companies to book tee times at multiple golf courses using a variety of automated reservation systems.



GolfSwitch software enables airlines, central reservation systems, tour operators, hotels, golf vacation companies, travel agents and Internet users to make tee times at any course using one of 16 different automated tee time reservation systems including Computer Golf Systems, T-Links, Smyth Systems, Tee Master, Fore Reservation Systems and Fairway Systems.

GolfSwitch can be integrated into the tee time reservation system's software, meaning course owners need not worry about which of the 16 reservation systems they choose.

Likewise, marketing partners such as airlines, hotels and golf vacation packagers can easily install GolfSwitch into their operations. America West Golf Vacations, Delta Golf Vacations, Pam's Golf, Resort Suites of Scottsdale, the Mirage Hotel in Las Vegas and the PGA of America's PGA.com are among the travel and Internet partners using GolfSwitch software.

GolfSwitch displays up to seven differ-

Continued on page 37



Chestatee Golf Club in Dawsonville, Ga., a Signet property.

Signet extending Southern reach

By PETER BLAIS

SALISBURY, N.C. — Signet Golf Associates has signed a management contract with Crescent Golf Club here, giving the Pinehurst, N.C.-based firm five properties in its growing portfolio. Signet will operate the John LaFoy-designed layout for owner Bill Kubly, president of Landscapes Unlimited, a major golf course construction firm.

"We hope we can do a good job for him," said Signet principal Peter Dejak, noting that Kubly has an ownership interest in a dozen courses nationwide. "It could mean some future business."

Dejak and partner Barry Embler founded Pinehurst, N.C.-based Signet in March 1996. The two had worked for Legacy Golf Management, an Atlanta development firm previously located in Pinehurst. Dejak's background is in agronomy and construction, while Embler's is in finance and operations.

"We had a lot of in-the-trenches experience and saw a need for a company where the principals were actually doing the work," Dejak said. "Many companies hire professionals to handle different divisions. What makes us unique is that we handle everything."

Continued on page 36



CMAA SHOW COMING UP

ATLANTA — The Club Managers Association of America will hold its 73rd Annual Conference on Club Management and 23rd Annual Exposition at the Atlanta Marriott Marquis and Georgia World Congress Center here on Feb. 20-24, 2000. Plans call for pre- and post-conference workshops, more than 100 educational sessions and golf tournaments. For more information, contact 703-739-9500.

Troon adds, promotes key personnel

SCOTTSDALE, Ariz. — Troon Golf has promoted several existing personnel and added additional members to its corporate staff.

Within Troon Golf's corporate office in Scottsdale, Gloria McKee was promoted from assistant vice president to vice president, human resources. McKee will continue her efforts to support the staff through the development of new systems and resources in order to handle Troon's continued growth. Prior to joining Troon,

McKee was the director of human resources for Robinson's May department stores.

Newly appointed at the corporate office is Charlene Lowry, vice president, procurement. Lowry leaves the Getty's Group, a Chicago-based design and purchasing company, where she was the director of purchasing. Lowry will be responsible for vendor relations, purchasing initiatives and price negotiations for all Troon facilities.

Continued on page 36

ClubCorp, Golden Bear team up on Georgia acquisition

DALLAS — A joint venture involving ClubCorp and Golden Bear International, Inc. has acquired Laurel Springs Golf Club in Suwanee, Ga.

Located 27 miles north of Atlanta, Laurel Springs features a Jack Nicklaus Signature Course and an award-winning 8,100-square foot clubhouse. Opened in 1998, the golf club lists 300 members.

"Laurel Springs complements the clubs that we have in the Atlanta area," said Dave Richey, senior vice president of development of ClubCorp.

Other ClubCorp golf properties in the area include Eagle's Landing Country Club, Northwood Country Club and Trophy Club of Gwinnett. The company also owns and operates three business clubs in Atlanta: Ravinia Club, Buckhead Club and One Ninety One Club.



ACQUISITIONS

## Signet

Continued from page 35

"We have superintendents, golf professionals and food and beverage people. But we handle day-to-day operations and construction ourselves. That's where we thought we could be different. We're not only the guys who sell the management contract to clients, but also meet with the clients on a daily basis."

Rocky River Golf Club at Concord (N.C.) was the company's first development/management contract. Signet built and manages the 18-hole, Dan Maples-designed municipal course that opened in September 1997.

"We lease equipment, so we're not a true construction company," Dejak said. "We do some construction management and do a lot of the work in house."

Signet began overseeing the grow-in of Chestatee Golf Club in Dawsonville, Ga., last November and assumed management when the Denis Griffiths-designed course opened this June. Signet became construction manager at Bear Creek Golf Club in Douglasville, Ga., last June and will assume the operational reins when the Integrated Golf Services-designed layout opens in April. The firm also has a seasonal management contract with Bayonet at Puppy Creek in Raeford, N.C.

## Troon

Continued from page 35

Dan Budzius has been named area managing director for the Rocky Mountain Region and facility manager for The Ridge Course at Castle Pines North. Budzius leaves his position as director of golf for the Hyatt Regency Hill Country Resort in San Antonio, Texas, bringing with him an extensive background in sales and marketing. Prior to San Antonio, Budzius served as the general manager at Bridlewood Country Club in Dallas.

Scott Tuggle and Ed Shimkus will each fill the newly created position of senior agronomist. Tuggle and Shimkus are responsible for solidifying and maintaining the agronomic standards for all Troon properties.

Kathy Grayson leaves her position as assistant director, group sales at Troon North Golf Club to join Troon Golf's marketing and sales department as sales manager. Grayson's 15 years experience in the golf and special events industry include facilities such as The Westin Innisbrook Resort, the PGA of America, the United States Olympics and Desert Highlands Golf Club. Grayson's duties include management of Troon Golf's individual and group database, trade show representation and spearheading the Scottsdale hotel group sales effort.

Signet believes its strength lies in combining development and management. "We can develop and open a golf course," Dejak said. "Many owners don't understand how complicated opening a course is. The gray area between construction and opening is an intensive transition period that can make or break you during that first couple years."

"Marketing, preparing your staff, customer service, establishing policies and procedures

and grow-in are all complicated. That's a strong part of our portfolio. That three-month period before opening is a real important step in introducing the course to the public."

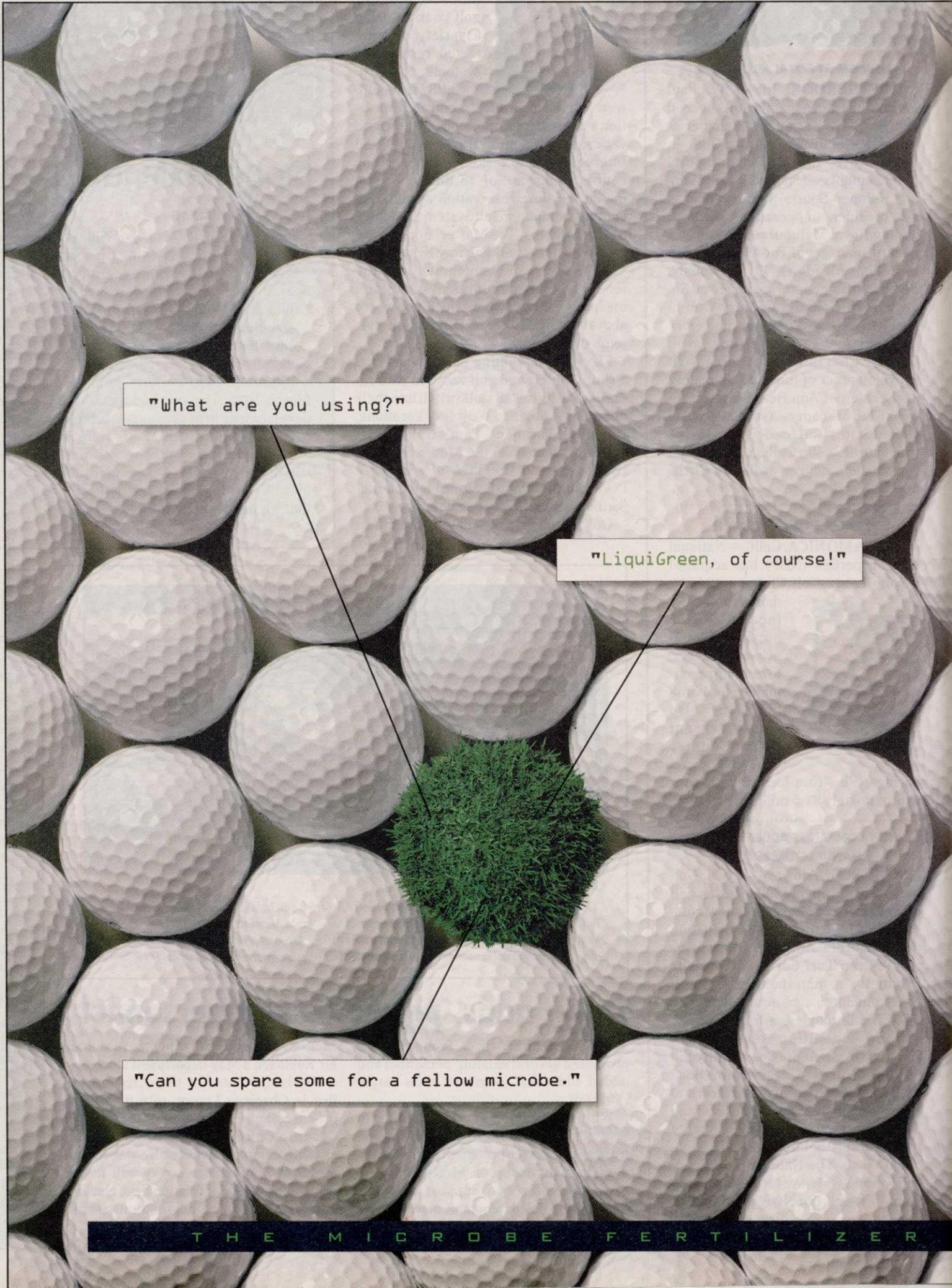
Signet also does feasibility studies, consulting and renovation work. The firm recently completed a driving range and tee renovation at Cabarrus Country Club in Concord, N.C. and a drainage renovation project at Whispering

Pines Country Club in Pinehurst.

Dejak said the firm would like to add a couple courses annually to its management portfolio while maintaining a hands-on approach to daily operations. "We're targeting the Charlotte, N.C., Pinehurst and Atlanta markets primarily as far as new management contracts. We want to hire people, like superintendents, who could make the transition to a regional person overseeing two or three courses

while working with a professional at each facility... We think that [adding two courses annually] is a growth rate that allows us to maintain quality levels. There are a lot of management companies out there, but the firms that control growth and quality are the ones that will survive."

So far, Signet has concentrated on management contracts. But the company is also looking into acquiring facilities, Dejak said.



"What are you using?"

"LiquiGreen, of course!"

"Can you spare some for a fellow microbe."

T H E M I C R O B E F E R T I L I Z E R

## Outsourcing

Continued from page 1

example, going to bulk fertilizer applications means that the crew doesn't have to spend time unloading bags and filling up spreaders or putting it out."

Outsourcing not only helps to streamline operations but it also helps keep capital expenses to a minimum.

"Instead of paying \$10,000 to buy

an aerifier, clubs are more than happy to budget \$2,000 a year to aerify the greens," said Buchen.

Time is money, according to Tim Anderson, superintendent at Prestwick Country Club in Frankfort, Ill.

"I could buy a Vertidrain and a Hydroject machine and over time and I may save money," said Anderson. "But the bottom line is that the contracting company can come out with three tractors and

three Vertidrain and in one day get through the whole course. It would take me a whole week."

Matt Taylor, director of golf course operations at Bonita Bay East in Bonita Springs, Fla., also uses outsourcing to handle several tasks that were at one time eating away at his manpower hours. Taylor employs contract maintenance to handle fire ant bait, mosquito insecticide and fertilizer applications and has

been pleased with the results.

"It is cost-effective and the efficacy is improved," said Taylor of the aerial fire ant bait and mosquito insecticide applications. "We just started this year with the wall-to-wall fertilizer applications. When I first looked at it I was dead set against it, because I'm already paying for the labor and I've got a 160-gallon sprayer. But since the bulk fertilizer truck has 40-foot booms

and greater capacity, it gets done twice as fast."

For these reasons, bulk fertilizer applications and other specialized services have become more popular.

Elwood, Ill.-based Tyler Enterprises, a manufacturer of custom-blended fertilizer, rolled out its first bulk fertilizer application truck this fall and has been overwhelmed by the response from area golf courses.

"We started the service in September and we are fully booked through the end of November," said Bill Davis, sales manager for Tyler Enterprises. "We are already ordering a second truck."

According to Davis, superintendents are getting into bulk fertilizer applications not only because it saves time but because it is more accurate. "We map the course in GPS as we apply, showing exactly how much has been applied and where," said Davis. "At the end we can give the superintendent a read-out of the course. It takes the hit and miss out of the way."

For Anderson this is definitely a plus.

"The truck can tell you how much went out where and can correct for mistakes as they ap-

Continued on next page



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traffic areas – like tee boxes, greens

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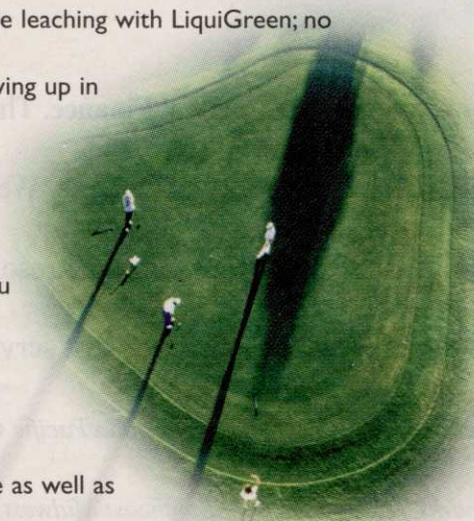
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microbes in the soil begin to convert LiquiGreen

to available nitrogen. The LiquiGreen slow release

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creates thicker and healthier turf.

Healthier plants

stand up better in high

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Ask any microbe....

## GolfSwitch

Continued from page 35

ent golf course tee sheets at a time on a single computer monitor, allowing travel companies to book tee times at multiple courses for customers.

America West Golf Vacations realized that for their vacation planners to effectively make automated golf reservations they would have to become fluent in the numerous systems in use. That was a daunting, if not impossible task.

"We needed some interface that would allow us as a third-party provider to talk to multiple tee sheets," said Jeff Reich of America West. "GolfSwitch provided that interface. It gives golf courses the autonomy to pick the automated tee sheet that fits their needs and allows third-party providers, like ourselves, the opportunity to book tee times electronically."

Tee times are booked and confirmed in seconds. The GolfSwitch system accepts all major credit cards, allowing tee times to be guaranteed and held with a customer's credit card number.

There is no charge to courses installing GolfSwitch. And course operators can make as many tee times available to GolfSwitch users as they desire.

GolfSwitch makes its money by assessing a surcharge to the travel or vacation planner for every tee time booked using its software.

## IGM adds World Woods to portfolio

LAKELAND, Fla. — International Golf Maintenance, Inc., (IGM) has reached a multi-year, multi-million-dollar agreement with World Woods Corp. to provide maintenance services at its three courses. It is the largest volume maintenance agreement ever executed by IGM.

Designed by Tom Fazio in 1993, the World Woods complex is a combination of three courses: Pine Barrens, Rolling Oaks, and the Short Course. Pine Barrens is rated 75th in Golf Digest's annual ranking of "America's 100 Greatest Courses."

## Outsourcing

Continued from previous page

ply," said Anderson. "Our equipment is a ground-driven spreader and so we have to trust our initial calculations because we don't have that type of knowledge as we are putting it out."

However, not everyone is that impressed with the with bulk fertilizer applications. The 40-foot throw of bulk application trucks is

one limiting factor. "I have a lot of narrow fairways and wetlands areas that make using a truck with a 40 foot spread impractical," said Chuck Anfield, superintendent at Heritage Bluff Golf Club in Channahon, Ill. "It is better suited for a wide-open course."

Control over timing is another issue. "I can buy bulk fertilizer and store it myself," said Anfield. "I am old school. I want to be able to put it down right when I

think it needs it. Using bulk application, you are locked into a date and have no flexibility."

Indeed, timing limits the capabilities of some applications. Nick Spardy, vice president of the Western region for Turf Partners, has seen the company's fertilizer application business take off, but is hesitant to get too involved in time-critical services such as overseeding.

"We just did 300,000 pounds of overseeding in San Diego," said Spardy. "But seed is not something that we really want to do a great deal of because it is very difficult and logistically it is tough because courses are on such a narrow time frame."

For that reason Spardy and Turf Partners are focusing on the bulk fertilizer application business. The company has 10 trucks in service throughout the country, three new ones on order and is expanding service into Arizona and Nevada.

### NEW TECHNOLOGY

As the outsourcing industry continues to grow, it brings new technology to the forefront.

In order to remain competitive with national distributors, regional companies like Jacksonville, Fla.-based Southeastern Turf Grass Supply have been driven to devise new ways of doing business. The company created a contract maintenance division, Turf Solutions, that among other standard services offers a revolutionary overseeding technology that blows seed directly into the turf canopy (see *GCV* story Oct. 1999).

However, new ideas are not limited to regional companies. Memphis, Tenn.-based Resource One, the marketing division of newly formed Cenex/Land O'Lakes Agronomy Co. (see story page 40) bought Florida-based Subsurface Granular Injection in March.

"It is a prescription injection service for fine turf that puts out granular products and liquid products simultaneously at 4,000 psi," said Jeff Mobley, marketing manager of turf and ornamental for Resource One. "You can apply compatible products such as insecticides and wetting agents or micronutrients and mole cricket insecticide together. And by injecting these products directly into the turf it keeps them away from surface runoff and improves the efficacy."

The service is available only in Florida, but Resource One is looking to expand prescription injection services throughout the Southeast in the next year and is building more machines to handle the increasing demand.

"It is attractive because superintendents know it is being taken care of correctly and they don't have to worry about liability or restricted pesticides," said Mobley. ▶

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BRIEFS



**BARENBRUG PROMOTES MULDER TO VP**

OGEDENSBURG, N.J. — Michael F. Mulder has been named vice president, general manager of Barenbrug Northeast, a subsidiary of Netherlands-based Barenbrug.



Michael F. Mulder

Mulder has been with Barenbrug for 17 years. He most recently served Barenbrug in the United Kingdom as managing director, Barenbrug UK Ltd.

His new responsibilities at Barenbrug will include introducing proprietary varieties into the U.S. market and expanding the number of Barenbrug locations. He will also focus on the development of the forage grass market in the United States.

**JACKLIN GOLF NAMES DEBOLT**

POST FALLS, Idaho — Jacklin Golf has named Scott DeBolt national marketing director. DeBolt will coordinate marketing efforts related to new golf course construction for all branches of Simplot Turf & Horticulture.

DeBolt joins Jacklin Golf after having served for five years with Medalist America as a Regional Turf Specialist working with golf courses in the Midwest and Southeast.

**DIEHL JOINS RAIN BIRD**

AZUSA, Calif. — Rain Bird's Golf division announced the hire of Denise Diehl as sales specialist in the Great Lakes region. Working closely with area distributors, Diehl is responsible for the promotion of Rain Bird's golf products in Michigan and part of Ohio and Illinois.



Denise Diehl

**LEGACY ADDS KOVACH, MARMELESTEIN**

SAN MARCO, Calif. — Joe Kovach and Tom Marmelstein have been named eastern regional sales managers for Legacy by Hunter.

Kovach will cover the Southeastern states and Marmelstein will handle the East Coast, including the Maritime Provinces of Canada.

They will be responsible for product introductions, training and after-sales support.

**AquaSO2 expands production facility, eyes future growth**

By ANDREW OVERBECK

GRASS VALLEY, Calif. — AquaSO2, the exclusive manufacturing, distribution and marketing arm of the Harmon SO2 generator, has expanded its Bakersfield manufacturing facility in an effort to increase its market penetration in the United States and abroad.

While the original SO2 generator technology was intended for agricultural applications, Jim Webb, president of AquaSO2, has been installing 'modified generators on golf courses nationwide for the past four years. To date, 200 golf courses have installed the generators to improve soil and water conditions on their courses.

"The SO2 generator was designed to improve soil, not water," said Webb. "But soil mirrors what your water is, and on the East Coast and in the Carolinas where the business took off, you have bad water that is hurting otherwise good soil."

Webb's team assesses each course individually, performing a water and soil analysis to see what exactly is happening.

"We make four different sizes of SO2 generators and we then select the appropriate model for the course," said Webb.

The SO2 generator is a stainless-steel, sulfur-burning unit that is fueled by a self-feeding hopper. A negative-pressure aspirator mixes the SO2 with water capturing 100 percent of the SO2. The water is then pumped into an irrigation pond at a rate of 180 gallons a minute at a pH of 2-2.5 pH. The generator is capable of maintaining an irrigation pond at a pH of 6.5 to 6.8.



The AquaSO2 generator going full-steam

"The SO2 removes the carbonates, bicarbonates, salts and minerals from the water," said Webb. "The soil then opens up and lets water come through. It also cleans algae out of ponds, lines, heads and breaks down calcium."

Bill Shrum, superintendent at the Golf Club at Chapparral Pines and the Rim Club in Payson, Ariz., has seen an improvement since installing an SO2 generator last year. "We use 70 percent effluent and before treatment our sodium and bicarbonate levels are 300 parts per mil-

Continued on page 41

**Husqvarna snaps up Yazoo/Kees' turf care division**

By ANDREW OVERBECK

CHARLOTTE, N.C. — In a move to become a total source provider for lawn and garden and commercial needs, Husqvarna Forest and Garden Co. has acquired the turf care assets of Jackson, Miss.-based Yazoo/Kees.



"The green industry is in a powerful growth phase and we intend to be the leading source for all outdoor power equipment needs," said Dave Zerfoss, president of Husqvarna Forest and Garden Co. "This acquisition creates a complete line of offerings — everything from professional trimmers to commercial lawnmowers."

Husqvarna will take over the Yazoo/Kees facility in Beatrice, Neb., which employs 100 people and did \$20 million in sales in 1998.

As part of the agreement, Yazoo/Kees will continue to provide services to Husqvarna in the next twelve months in the areas of manufacturing, customer service, parts distribution and accounting. Husqvarna will continue to market the Yazoo/Kees brand through its current and existing dealer and dis-

Continued on page 46

**Internet auction moves golf cars online**

By ANDREW OVERBECK

LOS ANGELES — Lincoln Golf Car and Leasing International based here has launched GolfCarAuction.com, an Internet-based online auction designed to help golf courses, golf car dealers and leasing agents dispose of fleet cars in a more efficient and expedient manner.



"One of the reasons for the creation of this company was the lack of information we faced at Lincoln when looking for golf car units," said Felix Zajdman, president of GolfCarAuction.com. "This is the best solution we found."

GolfCarAuction.com, which opened

for business Nov. 1, aims to quickly match buyers with sellers.

"When people are looking for units, there may be sellers that are just a few miles away from them looking to unload their golf car fleet," said Zajdman. "And here they are wasting time looking all over the country. GolfCarAuction.com will provide a central listing location."

The online auction operates just like other Internet auction sites such as ebay.com or ibidGOLF.com.

GolfCarAuction.com is broken up into several product categories including, gas and electric golf carts, utility

Continued on page 40

**Cleary to market Nutri-Gro fertilizer**

DAYTON, N.J. — W.A. Cleary Corp. announced that Cleary Chemical Corp. has received approval from Biagro Western Turf and Ornamental to be the exclusive marketer of the Nutri-Gro line of fertilizers for the turf and ornamental markets.

"The acquisition of the rights of the Nutri-Gro fertilizer products opens a door to Cleary into the fertilizer business with outstanding new technology," said Bob Alvarez, vice president, sales and marketing for Cleary



Chemical Corp.

Biagro Western is a leader in the development, introduction and use of this new phosphorous fertilizer technology.

Patented by the University of California, the products have evolved as a superior phosphorous delivery and management tool. Nutri-Gro fertilizers have been proven safe and effective through extensive trials conducted by researchers at major universities and independent research companies. Observed results include improved plant health, stronger rooting and transplant establishment and improved quality and longevity.

**Golf Course News STOCK REPORT (10/15)**

| Company             | Symbol | Stock Price | %Change 1/1/99 | %Change 9/15/99 | P/E   | 52-week Range | Proj.5-yr Earn. Growth |
|---------------------|--------|-------------|----------------|-----------------|-------|---------------|------------------------|
| Astrazeneca         | AZN    | 45.19       | 0.70           | 15.13           | 51.25 | 31-48.94      | 9.90%                  |
| Deere & Co.         | DE     | 37.13       | 11.86          | -7.76           | 20.43 | 29.48-45.94   | 9.40%                  |
| Dow Chemical Co.    | DOW    | 105.13      | 15.60          | -8.88           | 21.09 | 85.25-138     | 8.00%                  |
| Family Golf Centers | FGCI   | 1.63        | -91.77         | -43.48          | 6.15  | 0.72-24.5     | N/A                    |
| Golf Trust of Amer. | GTA    | 18.00       | -35.14         | -4.64           | 13.48 | 17.25-28.75   | 12.00%                 |
| Ingersoll-Rand      | IR     | 53.50       | 13.23          | -10.93          | 16.15 | 36-73.82      | 11.70%                 |
| Lesco Inc.          | LSCO   | 13.44       | 4.37           | -11.89          | 15.33 | 9-19.5        | 17.50%                 |
| Nat'l Golf Prop.    | TEE    | 21.50       | -25.70         | 5.20            | 19.77 | 20.87-30      | 9.90%                  |
| Toro Co.            | TTC    | 37.00       | 29.82          | -1.50           | 21.06 | 16.5-39.5     | 13.00%                 |
| Textron Inc.        | TXT    | 72.88       | -4.03          | -5.43           | 5.16  | 59.50-98      | 14.08%                 |

\* — DATA PROVIDED BY THE VALUE TREND LINKS

## Cenex/Land O' Lakes creates new marketing arm following Terra Distribution buyout

**M**EMPHIS, Tenn. — Resource One is the new marketing division of Cenex/Land O'Lakes Agronomy Company combining Terra Professional Products with Land O'Lakes East Turf & Ornamental Products. This follows the acquisition of Terra Distribution by Cenex/Land O'Lakes Agronomy Co. on June 30.

Resource One will supply fertilizer, plant protection products,

seed and services to the turf, ornamental, pest control, vegetation management, aquatic and forestry markets in the U.S. It will also service the specialty crop market in Florida.

Combining the two organizations creates greater access to internal product sources of the

parent companies, such as Research Seed, Inc. turfgrass seed, RSA MicroTech, Inc. micro nutrients, formulated plant protection products, and specialty fertilizers from blending and impregnation facilities of the parent companies.

"Our mission is to provide the

resources that help solve customers' problems. To accomplish this, we'll continue to employ a highly trained sales force and implement a new distribution system that manages inventory. Our customers will have the products and services when and where they need them," said

Tom Perkins, vice president professional products.

Resource One will distribute its own brands of fertilizers, seed and plant protection products as well as establish marketing partnerships with basic manufacturers.

Resource One's new management structure and operating systems are currently being implemented and will be fully functional by the end of the year.

### GolfCarAuction

Continued from page 39

and industrial vehicles, multi-passenger people carriers and turf maintenance equipment. After selecting the appropriate category, participants register, describe their listing and provide photographs of the product. The seller then determines the opening bidding price, chooses the length of the auction and waits for the bids to come in. The auction is capped at a maximum length of 14 days.

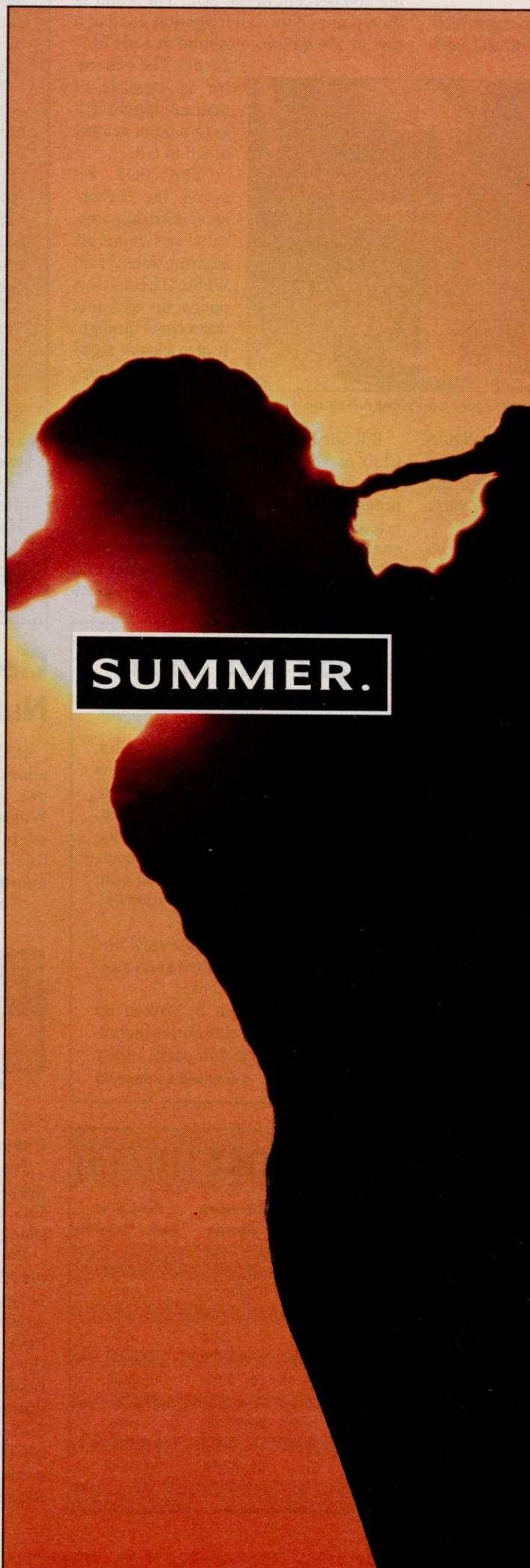


After examining bids and wrapping up the auction, the seller can decide whether to act on the bids. If the bids are unsatisfactory, the seller can pull out of the auction. When a bid is accepted, the seller and buyer are solely responsible for arranging shipping and payment. "The site allows both parties to contact each other directly," said Zajdman. "We are just the intermediaries."

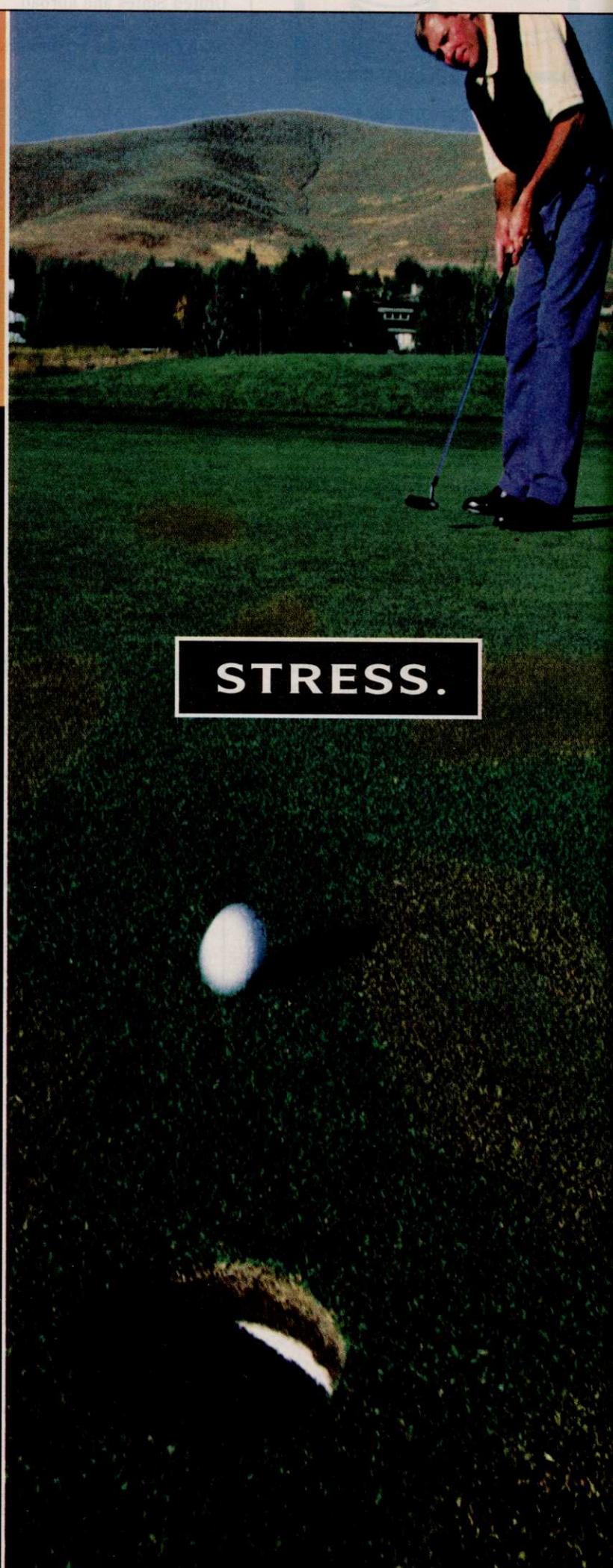
GolfCarAuction.com then charges a transaction fee of three to five percent on the total sale.

While it will take time to get the site off the ground, Zajdman expects the auction to attract many sellers. "People that have a large stock of cars will be able to not only get the full market value, but they will consummate a sale in a faster manner," said Zajdman. "Course owners and managers could dispose of their fleet cars months before the new or replacement fleet comes in." The site will eventually feature golf car parts and accessories as well.

GolfCarAuction.com also looks to do extensive business internationally. "We get a lot of international inquiries already and the markets in Asia, Central America, South America, Australia and Europe are huge," said Zajdman. †



**SUMMER.**



**STRESS.**

## Redexim Charterhouse moves into new digs

PITTSBURGH, Pa.— Redexim Charterhouse Inc. has moved its North American headquarters from Kingston to a new, larger facility in nearby Pittston Township.

The company cited expanding U.S. sales activity as the principal reason for its move.

Sales increased 25 percent in 1998 and year-to-date sales for 1999 are up an additional 28 percent over 1998 figures according to Philip

Threadgold, executive vice president, Redexim Charterhouse Inc.

The new facilities include increased office space and warehouse space for equipment and parts. The new building is situated on a five-acre lot to accommodate additional future growth.

Redexim's turf management products are represented in North America by a network of 47 distributors.

## AquaSO2

Continued from page 39

lion (ppm) — now they are around 20-30 ppm," said Shrum. When Shrum flushed the greens last year, he noticed the benefits immediately. "The water was going in clean and coming out pretty gucky," said Shrum. "That proves that the water is mobile enough to get through the system."

For his two courses, Shrum burns 40 tons of elemental sulfur a year at a cost of around \$14,000.



George Frye, superintendent at the Ocean Course in Kiawah Island, S.C., deals with substantially worse water but has had similar results. "We have a bicarbonate count of 1,100 ppm, a carbonate count of 500 ppm and high sodium levels," said Frye. "The SO2 generator has reduced these allowing us to maintain the course at the required level."

Additionally, Frye is now using 15 percent less water and applying fewer chemicals and fungicides. "We are getting more results out of the water we are using and the soil profile has improved the vigor of the turfgrass to the point where it is less susceptible to disease."

An AquaSO2 generator costs between \$12,000 and \$30,000 depending on the size of the unit. The company sells or rents the units to courses and charges a one-time set-up fee of \$500. "We also assist in getting the machine up and running and we train the staff and do ongoing consulting to make sure the machine is performing adequately," said Webb.

AquaSO2 completed the expansion of its manufacturing facility in Bakersfield this month and expects to up production from 15 a month to 60 a month by the end of November.

"We have been selling everything we can build," said Webb. "The new facility in Bakersfield will help us meet demand and we are planning to open a new facility in Dallas and eventually one in the Southeast, either in Charleston, S.C. or Jacksonville, Fla."

Webb is also working to build a distribution network that will include expanding into the Midwest, the Northeast and internationally.

"We are gathering the staff that is going to help us penetrate these markets," said Webb. "The Midwest and the Northeast have tremendous potential. I have also visited Europe and have gotten requests from China and Malaysia. They all have similar problems that we can help to remedy. Our market is substantial over there."

With this kind of growth on the horizon, Webb expects the company to go public in the next 18 to 24 months.

Certain to drive AquaSO2's growth, is the increasing reliance of golf courses on smaller water supplies and effluent or inferior irrigation sources.

"With more courses going to effluent water, they are going to have to have an SO2 generator in order to maintain courses at the levels expected," said Webb. ▽

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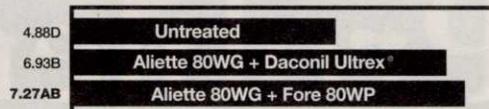
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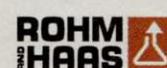
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Source: Martin, Clemson University, 1996

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**CONTROL.**

## Chlorpyrifos

Continued from page 1

and Organophosphates are one of the first groups to undergo renewed scrutiny. The risk assessment that determines the "risk cup" for chlorpyrifos was released by the EPA in October and is open for a 60-day public comment period.

"This is the most significant change in pesticide laws since

the original Federal Insecticide Rodenticide and Fungicide Act of 1972," said Tim Maniscalco, manager of government and public affairs for Dow AgroSciences. "FQPA sets new standards for how pesticides are evaluated and assessed, in particular, the EPA now looks at the aggregate or potential exposure from a pesticide."

The risk cup is quantified by the accumulation of every potential exposure to chlorpyrifos. "If

the risk cup runs over, the EPA has to look at mitigating or reducing certain uses," said Maniscalco.

While Maniscalco and other industry leaders agree with the risk cup concept in principal they question how accurately the EPA is measuring these exposures.

"It is easy to measure exposure when it comes to food," said Maniscalco. "But when you look



at non-ag uses it gets hard. There really hasn't been enough good science done to date and the EPA meanwhile has been using worst-case default assumptions to formulate their estimations."

Dow AgroSciences has submitted data to the EPA in order to balance the risk cup, but this data cannot be compiled overnight, said Maniscalco. "There

have to be standards, the EPA has to let us know what tests they want us to run," said Maniscalco.

In order to protect the industry and to ensure that sound science and data are being used in the risk assessment process, legislation has been introduced in the House and the Senate. "The Regulatory Fairness and Openness Act of 1999 would alter the process of FQPA by forcing the EPA to use real data when available," said Allen James, executive director for Responsible Industry for a Sound Environment. "Companies have been providing data to the EPA that the agency has not taken the time to study. These bills have already put significant pressure on the EPA."

According to Jack Housenger, associate director of the special review and re-registration division for the EPA, his department has taken Dow's data on chlorpyrifos into account and feels that the risk assessment is more refined than previous efforts. "We didn't have to use default assumptions as much with this because we had actual data," said Housenger. "We have tried to put out a refined assessment first so that people can see the assumptions that went into it and comment back."

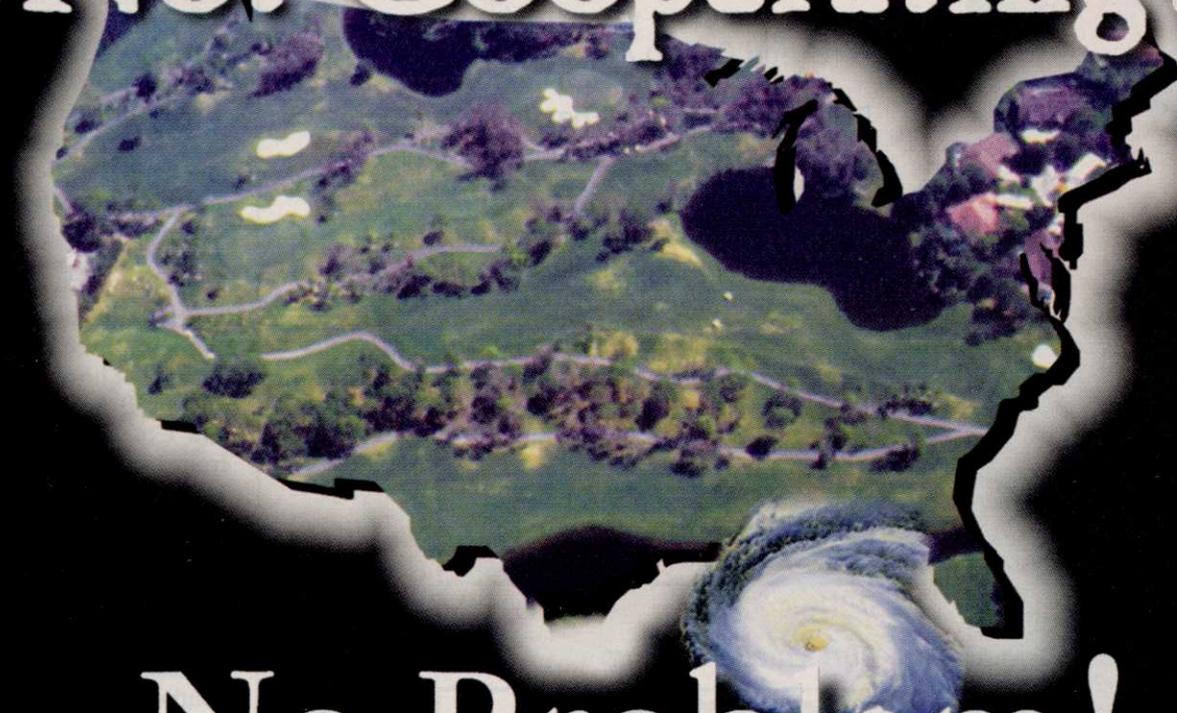
The public comment period is especially important said Maniscalco because it provides superintendents a seat at the negotiating table. "Under statute, the EPA has to consider the risks and the benefits of a particular use," said Maniscalco. "They have already weighed down the risk side of the scale. The best thing for the use community to do now is to let the EPA know why the compound is important, how it is used and what the benefits are. Because if the EPA doesn't hear about benefits they will assume that there aren't any."

Housenger admits that the process of weighing the benefits has changed under FQPA. "We used to look at benefits as well as risks when we were evaluating tolerances," said Housenger. "Now we use benefits to determine which uses are the most beneficial in deciding which uses may need to be modified or canceled to get within the risk cup."

Once the public comment period is complete, the EPA will release a revised risk assessment that will be followed by another 60-day public comment period. The reassessment could result in label modifications, rate reductions and use restrictions.

And chlorpyrifos is just the beginning. "This is one of the first turf and ornamental products to go through the process," said Maniscalco. "All of them will go through FQPA at some point along the way." ▶

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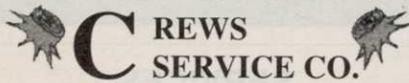
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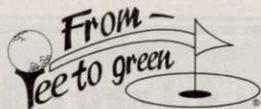
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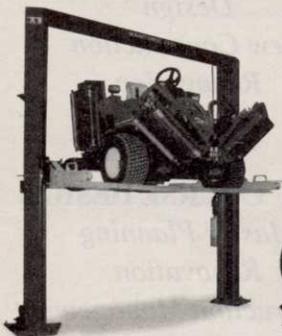
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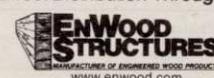
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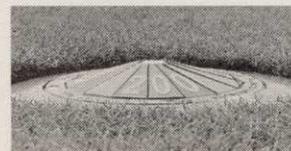
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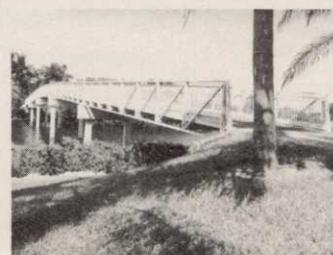
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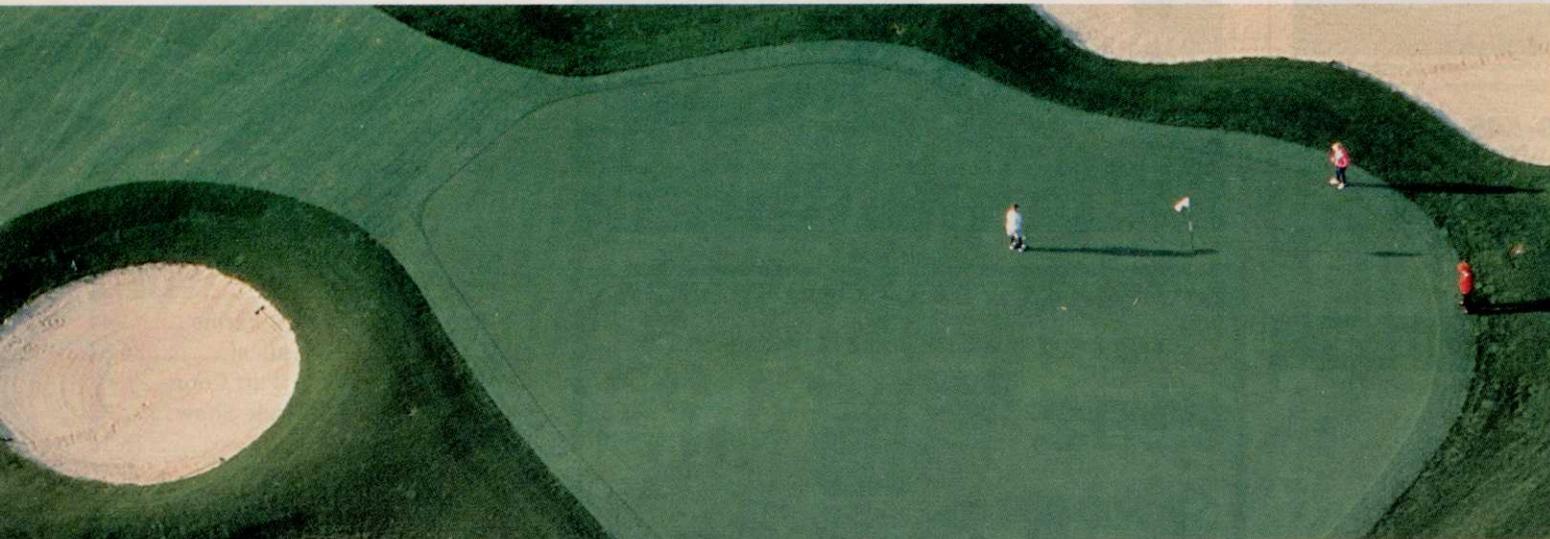
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**ACQUISITIONS**

**Husqvarna**

Continued from page 39

current and existing dealer and distribution network until June 30, 2000. During the transition phase, Husqvarna will be evaluating the efficiency of this business channel.

The Yazoo/Kees acquisition is just the beginning for Husqvarna according to Zerfoss. "We intend to be a major player in the commercial lawn and garden industry within the next two years, it is our intention to increase our commercial offerings to our retailers through both internal growth and acquisitions," said Zerfoss.

Yazoo/Kees, however, was looking to unload its turf care business because of diminishing returns. The company will use the proceeds from the sale to reduce outstanding debt and provide additional growth capital for its utility vehicle and compact construction equipment business.

"Strategically we have decided that the competitive growth and value are more favorable in the utility vehicle and compact construction equipment industry," said Tom Lutes, ceo of Yazoo/Kees. "Over the long-term it would have taken a significant amount of investment to remain competitive in the turf care industry where there are many successful large and small players.

We have the marketing, distribution and product development skills necessary to make a significant impact in the utility vehicle and compact construction industry," said Lutes.

Yazoo/Kees will continue to manufacture Haul Master utility vehicles and Dig-It construction equipment at its Jackson plant and the Chetech utility vehicles at its Chetek, Wis. facility.



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