

GOLF COURSE NEWS

Editorial focus:
Speed of Play ...19

THE BUSINESS NEWSPAPER FOR THE GOLF COURSE INDUSTRY

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PGA vice president of agronomy Jon Scott and architect Mike DeVries debate whether green speed thrills or kills.

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COUNTERPOINT

Bayer ES to retain Chipco product line

By ANDREW OVERBECK

MONTVALE, N.J. — Bayer ES has reached an agreement with regulatory officials and BASF AG on the divestiture of its key insecticide active ingredient fipronil. The deal includes back-licenses that allow Bayer ES to continue to market fipronil products, including the Chipco Choice line, to the turf and ornamental markets worldwide. BASF, which bought fipronil, will have rights to the active ingredient in the global professional pest control and agricultural markets.

The divestiture of fipronil and other fungicides was required by the U.S. Federal Trade Commission and European Commission as part of Bayer CropScience's acquisition Aventis CropScience. The planned divestiture was announced in late October and negotiations between Bayer ES and BASF finally wrapped up after the European Commission approved the deal March 24.

Retaining rights to market the Chipco products in the turf and ornamental market gives Bayer ES a solid insecticide lineup.

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MUNICIPAL GOLF UNDER SIEGE



Sassamon Trace Golf Course in Natick, Mass., is one of several municipal courses nationwide experiencing financial hardship.

By DEREK RICE

NATICK, Mass. — In March, the executive-length Sassamon Trace Golf Course became the focal point of an election for town selectman when a candidate proposed closing or selling the course, which was projected to lose \$300,000 in its fiscal year ending June 30.

While this case took place on a small scale — an executive course in a small town — it illustrates the challenges facing municipalities across the country. In a down economy, towns and cities look to improve their fiscal bottom line. And with course revenues

and rounds played numbers either flat or falling nationwide (see story below), municipal golf courses can be seen as good targets for cutting costs.

"It's the towns, cities and golf courses that lose out," said Pat Berger, business manager for Boston-based Sterling Golf Management, which operates Sassamon Trace.

The town of Natick also considered terminating its agreement with Sterling. The town's finance committee has approved the course's \$400,000 budget, which will carry operations through December, or until the Sterling

contract runs out. At press time, the budget still needed to be approved at an April town meeting.

Beyond December, the course's future is uncertain. Before that time, the town will consider whether to renew the contract

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Editorial Focus: Putting Green Management

Morris' Stimpmeter study reveals optimum speed

By ANDREW OVERBECK

FRANKFORT, Mich. — The Stimpmeter has never been a superintendent's best friend, but here at Crystal Downs Country Club, Mike Morris has changed all that. After an exhaustive two-year study that included Stimping two greens twice a day, collecting weather data, recording cultural practices and surveying members, Morris has determined the optimum green speed for the 1933



Asst. superintendent Don Roth checks out a pin placement.

Alister MacKenzie and Perry Maxwell-designed layout.

"We never had a problem with green speed before," said Morris. "But the issue arose at the club after we had a course come in up the street that had A4 bentgrass greens that were fast as lightning. All of a sudden it became a problem.

"The greens committee wanted to know two things: What is the most appropriate green speed for our golf course, and what is

Continued on page 11

Rounds dip, revenues flat

By DEREK RICE

JUPITER, Fla. — According to the National Golf Foundation (NGF), two out of every three golf facilities in the United States reported a decrease in rounds played in 2002. In addition, the NGF said, revenues at facilities were flat, thus creating a potentially dangerous mix for the golf industry.

The research study, conducted in conjunction with several industry organizations, showed rounds played dropped three percent from 2001 levels. Revenues increased, but only by 0.9 percent, according to the NGF. These numbers came from a January 2003 survey of 2,191 golf

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Developer to turn public course into shopping mall

By ANDREW OVERBECK

CANTON, Conn. — Instead of re-opening this spring for its 72nd season, Canton Public Golf Course will be turned into a shopping mall. The \$4.77 million deal closed March 31, five years after the Lowell family put the 130-acre, nine-hole course on the market. W/S Development of Chestnut Hill, Mass., started work on the site in April.

According to superintendent Heather Garvin, whose great-grandfather and grandfather opened the course in 1932, the time had come to sell the property, which is in a developing area 12 miles west of Hartford.

"My Dad owns it with his two brothers and they knew they couldn't pass it on to the next generation," she said. "I am the fourth generation working here. It has been fun, but it is the way progress is going to go and it is part of life."

Garvin, who was recently

named superintendent of the year by the Connecticut Association of Golf Course Superintendents, grew up on the first tee and started working at the course in 1985 after a brief career as a legal secretary. Her husband, Dana Garvin, is the assistant superintendent and mechanic at the course.

While the community will gain a shopping mall, and the town will enlarge its commercial tax base, a venue for learning the game of golf will disappear. "Juniors played free after 6 p.m. on Saturday nights and before 7:30 a.m. on Monday mornings," said Garvin. "It's a

Continued on page 22



The fifth hole and barn at Canton Public GC, which sold in late March for \$4.77 million.



Pellucid says industry down, but not out

By DEREK RICE

BUFFALO GROVE, Ill. — Golf participation was down nearly a million golfers from 2001 to 2002, according to preliminary results from Pellucid Corp.'s second annual golf consumer survey, released in late March.

Pellucid founder James Koppenhaver presented these findings at a panel discussion on growing the game initiatives at the Urban Land Institute's conference on developing golf courses and communities in Naples, Fla.

Koppenhaver told conference attendees that participation was not flat, but that retention continues to be public enemy number one for the golf industry, which he said lost almost 40 percent more golfers than it acquired in 2002.

"This is the first industry-independent survey of participation over multiple years which goes beyond participation rates to the growth/decline components and includes Pellucid's consumer franchise methods, such as rounds per capita, attraction rates and the lost/acquired golfer ratio," Koppenhaver said.

While these findings are definitely bad news for the industry, Koppenhaver was quick to point

Continued on next page



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Bill would allow tax-exempt bonds for reservation courses

By DEREK RICE

WASHINGTON—In late March, Rep. Dave Camp, R-Mich., introduced a bill that, if passed, could open the door for more golf course development on Indian reservations.

The Tribal Government Tax-Ex-

empt Bond Fairness Act of 2003 is a slimmed-down version of a similar bill Camp introduced two years ago. The bill proposes amending the Internal Revenue Code of 1986 to allow Indian tribal governments to act as state governments in issu-

ing tax-exempt private-activity bonds for projects located on reservations. Camp's prior bill called for allowing projects within a 20-mile radius of the reservation.

At present, tribes may issue tax-exempt government bonds only if 95 percent or more of the proceeds are used to fund essential government functions. Camp's bill would allow tribes to use the bonds to finance such non-essen-

tial projects as golf courses and convention centers.

Golf courses in particular would seem to be the target of this bill. The Internal Revenue Service announced last year it would conduct audits of Indian bond issuances as a result of questions about whether proceeds were being used to fund essential government functions. According to The Bond Buyer, in a heavily redacted field-service memo dated

Aug. 12, 2002, the IRS said bonds issued for a golf course with a commercial purpose that "causes it to be other than a governmental function" could be taxable. The memo also concluded that there is no cookie-cutter method to determine whether Indian tribes can issue tax-exempt bonds for golf courses.

Camp's bill would allow tribes to issue bonds to fund any facility located on a reservation – including for-profit ventures such as golf courses – and not only for essential government functions.

The only exclusion to the bill, which has been referred to the House Ways and Means Committee, would be casinos or other gaming facilities.

Pellucid: Industry down, but not out

Continued from previous page

out that it is not too late to turn things around.

"This isn't necessarily doom and gloom for the industry, but it cannot be interpreted as a positive indicator on one component

Key preliminary findings in Pellucid's Golf Customer Franchise report:

- Participation measured as both a percent or as a total number declined in 2002.
- The industry lost almost 40 percent more golfers than it acquired in 2002.
- The percent decline of female golfers was three times that of male golfers.
- The number of junior golfers remained constant against adult segment declines.

of the consumer franchise," he said. "If the frequency component holds steady or goes up, then we'll start to see the wisdom in Pellucid's approach to measuring the industry in rounds per capita rather than just participation rates."

One way the industry can turn things around, Koppenhaver said, is to work on retention as hard as, or harder than, it has worked on bringing new players to the game.

"Those who do not study history are doomed to repeat it," Koppenhaver said. "These preliminary findings suggest that perhaps the key to grow the game initiatives lies not in opening the front door wider, but simply closing the back door."

Pellucid's full report was not available at press time. Koppenhaver said Pellucid would release its industry report on the golf customer franchise, which is based on a survey of 130,000 U.S. households, in mid-April. ■

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Bayer survey demonstrates importance of Internet to superintendents

MONTVALE, N.J. — According to a survey of superintendents conducted by Bayer Environmental Science, more than 90 percent of respondents believe the Internet and related online services have a moderate to high impact on the golf course industry.

Bayer ES conducted the survey at the Golf Course Superintendents Association of America's International Conference and Show held in Atlanta in February. The results were released in late March.

Most superintendents who responded to the survey use the Internet for gathering news and product and technical information, not to purchase products.

Clearly the Internet has become an essential tool for superintendents, as nearly all those surveyed use the Internet for

some facet of their jobs. Only one respondent claimed to never use the Internet. The rest of those surveyed said they use the Internet mainly to:

- Research product and technical information — 62 percent
- Read news — 37 percent
- Review employment oppor-

tunities — 31 percent

- Make purchases, both general and work-related — 21 percent
- Get updates on events — 21 percent
- Just curious — 17 percent
- Correspond through forums or chat rooms — 3 percent
- Don't use it — 1 percent

While a relatively small percentage said they currently make purchases online, 71 percent indicated they would do so in the future. Some of the reasons superintendents gave for not making online purchases were unfamiliarity with Internet purchasing and familiarity with local distribu-

tors and sales people.

Online functions superintendents would like to see in the future included golf-specific weather information, thorough MSDS and chemical information and forums or chat rooms specific to golf course management and maintenance.

First Tee revives Lakeland course

LAKELAND, Fla. — Former PGA Tour player Andy Bean has been named honorary chairman of The First Tee of Lakeland YMCA, which will be built on the site of a former par-3 course where Bean learned to play golf as a child.

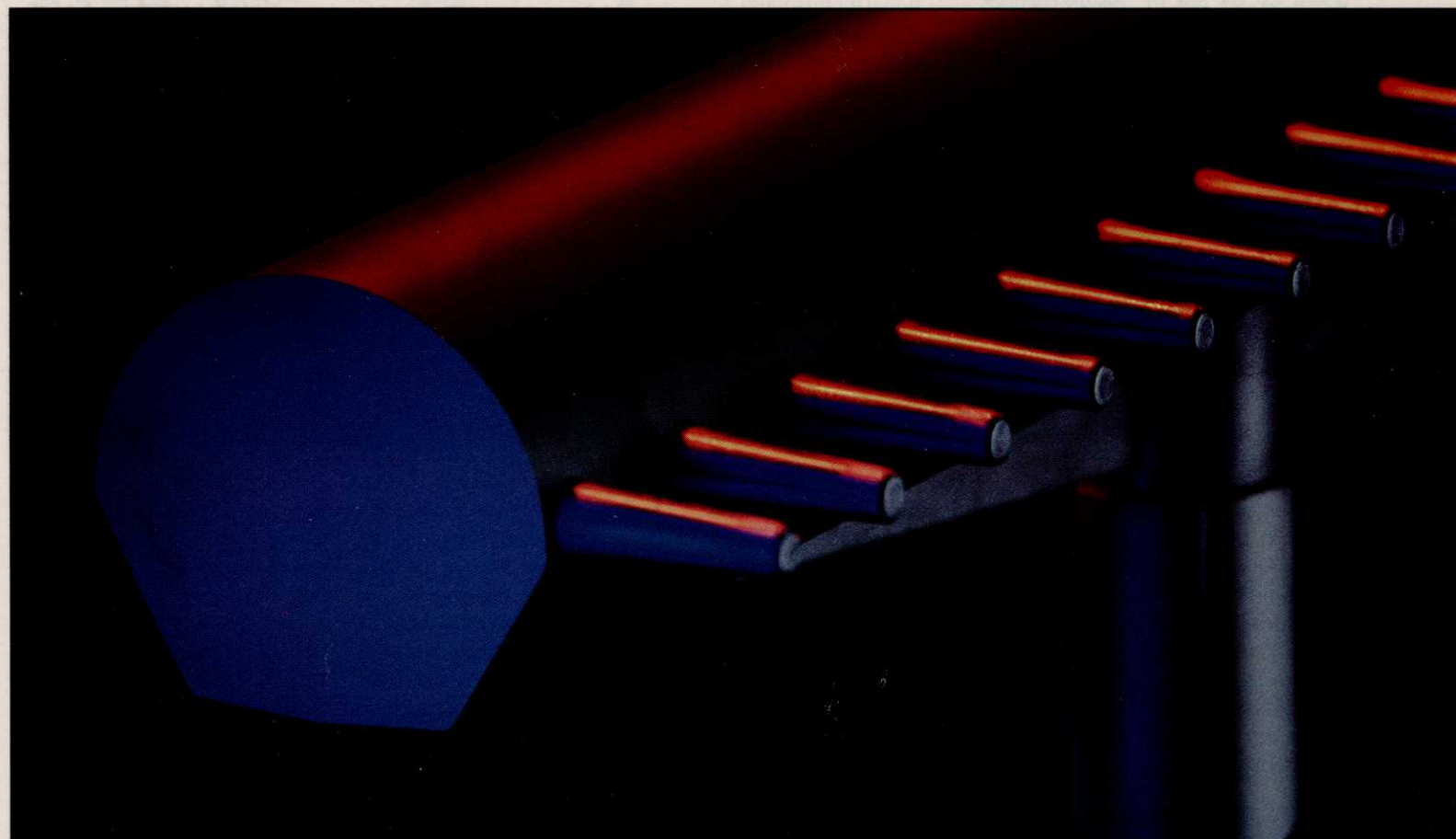
The course was built by Publix SuperMarket Inc. founder George Jenkins to give his employees a place to play golf. The 18-hole par-3 closed last June.

Former LPGA Tour player Sherrin Smyers spearheaded the effort to bring a First Tee program to Lakeland. Her husband, architect Steve Smyers, is donating his design services to the project.

Sherrin Smyers is joined on the advisory committee by LPGA players Rachel Teske, Wendy Doolan and Michelle Ellis. Retired Florida Southern College golf coach Charley Matlock is also involved in the project.

Members of the community have pooled their efforts to make the First Tee facility a reality. Publix SuperMarkets is in the final stages of drafting a lease that will make the 25-acre parcel of land available for \$1 a year for three five-year leases. City-owned Lakeland Electric Co. installed \$125,000 worth of lights for the facility's driving range and also donated \$50,000 annually toward maintenance for the first five years.

Construction is expected to begin in the fall, with the facility opening in summer 2004.



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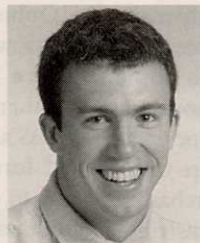
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Get real: Set your own speed

Does speed thrill or does speed kill? When it comes to maintaining greens, that is the central question. However, the answer is far from clear-cut.



Andrew Overbeck, editor

When we set out to write about putting green management for this issue, we were surprised at the hornet's nest of emotions that were stirred up when we posed that question to everyone from architects to superintendents.

The issue is so thorny we went through more industry insiders trying to get someone to weigh in on the side of speed than a porcupine has quills. In our GCN Newspoll, nearly 65 percent of respondents said increased green speed was bad for the game of golf.

Why, then, are superintendents continually lowering cutting heights and pushing their turf to the limit to get faster and faster greens when many of them don't believe in it? Because golfers and members demand them, that's why. As Kevin Ross notes in his story this month, mowing greens at 3/16 inch will get superintendents a pink slip these days (see story on page 8). Fast is fun and like rock n' roll,

its here to stay.

Many blame NBC announcer Johnny Miller for calling greens that are Stimping at 12 feet slow. Heck, pin it on Augusta National for maintaining unrealistically slick greens. That's

the reason members are quipping, "Green is good, but fast is better," and "I'd rather putt on fast dirt than slow greens," right?

Speed has clearly gotten out of control if superintendents are going low just to keep their jobs. But as we discovered in our reporting this month, it's not too late for superintendents to take control of speed and use the Stimpmeter to their advantage.

As Ross points out in his story, technological advances have made faster greens possible, but how low can you go? One way to escape the cutting height limbo is to take the Stimpmeter out of the closet (or buy one already) and use the damn thing. Follow the lead of Mike Morris at Crystal Downs (see story on page 1) and determine the optimum

green speed for your particular course. By maintaining a range of green speeds day in and day out, Morris has eliminated complaints from members and come up with

done. It will take more than a scolding editorial to affect change. Golfers need to have their perspectives altered for them. Michigan State University's Thom Nikolai is working on research that may do just that (see story on page 10). Under his proposal, we would no longer describe greens



a realistic maintenance plan.

By keeping his greens within the optimum range, Morris has also gotten off the cutting height roller coaster. He no longer has to speed up greens for the member-guest and then field complaints from members when he goes back to maintaining "normal" conditions.

I know this is easier said than

in terms of speed, but in terms of contour. Fast, medium and slow would be replaced with flat, undulating and severely contoured.

This change in thinking would take the pressure off everyone from architects to superintendents and give golfers a healthier perspective on the game. If we could only apply rational thinking to the distance debate...

POINT

Speed doesn't have to kill

By JON SCOTT

Speed kills, right? At least that has been the mantra of superintendents and agronomists ever since courses started using the Stimpmeter to gain bragging rights at the 19th hole rather than to get consistency in putting quality from green to green on the same golf course. At the risk of losing friends and getting hate mail, I'm going to stick my neck out and say speed does not necessarily kill.

Today we have at our disposal the means to grow and mow greens at heights and stress levels that would have made the greenkeepers of old go into early retirement. Superintendents do this as a matter of daily routine without giving it a second thought.

What sacrilegious tripe are you throwing about here, Mr. Scott? I'm trying to say that everything is relative, and at different times in the history of golf course maintenance, there have been breakthroughs that have allowed for faster greens without sacrificing turf health.

When I started growing and killing grass over 30 years ago, my 328 bermuda greens were mowed at a whopping 5/16 inch. On special occasions, I dared to go down to 1/4 inch, but only for short periods. Green speed, if you could call it that, was probably somewhere between four and five feet, but we didn't measure it that way; we just tossed the ball toward the hole and watched where it stopped. Some of the greens were so steeply sloped that the ball didn't stop, and you had to get your driver out to putt it back uphill. This was golf in 1972.

Why didn't we stay at 1/4 inch? Because a few superintendents dared to trim their 328 down to 5/32 inch with the new nine-blade reels and the golfers loved it. This drove a demand for a turfgrass that would hold



Jon Scott

Continued on next page

COUNTERPOINT

Speed is not good for game

By MIKE DEVRIES

Contrary to the desires of many contemporary golfers, blistering green speeds do not increase the enjoyment we derive from the game. In fact, super-fast greens actually reduce options for attacking the hole, making golf less interesting and also, in many instances, unnecessarily difficult.

Don't get me wrong, fast greens can be fun when they force golfers to make a longer comeback putt after misjudging the first, but if players are consistently in fear of the ball rolling off the green, then things are out of hand.

Green speeds frequently become a problem on older courses when the greens are resurfaced with new varieties of bentgrass that demand shorter cutting heights in order to survive. Many greens designed and constructed during the pre-World War II era, when today's putting speeds were unfathomable, tend to feature steep slopes and bold contours. In many cases, when those original features are retained, the new turf cover has made such greens unplayable, which has, in turn, led many clubs and course owners to rebuild putting surfaces on a flatter pitch. As a result, the original, unique character of many older greens has been lost, simply to accommodate faster putting speeds.

In 1928, pioneer golf architect Charles Blair MacDonald, designer of the National Golf Links of America, wrote: "Putting greens to a golf course are what the face is to a portrait... the face tells the story and determines the character and quality of the portrait - whether it is good or bad." MacDonald's wisdom still applies today. Interesting greens are enjoyed by all classes of golfers. And, perhaps more importantly, such greens make each individual course distinctive.



Mike DeVries

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Povec to lead *Golf Course News*

New publisher announces renovation of the year award

Before I introduce myself as the new publisher of *Golf Course News*, I have a special announcement to make.

With course openings on the decline in the United States, renovation work is becoming a major source of business for architects and builders. In fact, several companies who entered the 2002 *Golf Course News* Builder of the Year Awards will be busier this year than last because of increased renovation work.

Another hot-button issue in the industry is golf and the environment. Many organizations and courses are setting ambitious goals for meeting environmental standards, including Audubon International's 50 in Five campaign to sign up half the courses in the United States within five years' time (GCN, Jan. 2002).

Recognizing the emerging importance of these two issues, we here at *Golf Course News* are announcing this month our Renovation of the Year Award (see ad on page 25), the first of which will be given in February 2004. GCN will solicit proposals from recently remodeled golf courses and have them judged by a panel of industry experts. The award will be given to the golf course and its superintendent. Special recognition will also be given to the course architect, builder and participating vendors, with an emphasis on environmental enhancements.

As for your new publisher, my name is Jim Povec and my first job in life was caddying and cutting greens at Sleepy Hollow Country Club in Brecksville, Ohio. Since those early days, I've spent most of my career managing magazines, trade shows or Web sites with companies such as Forbes magazine, IDG, Softbank and Ziff/Davis.

My passion and my vocation finally meet here at *Golf Course News*. I am committed to a healthier golf course industry, giving way to more ideas like the Renovation of the Year Award. I am committed to faster play, which is an editorial focus of this issue. I am also committed to introducing more new players to the game, especially young players.

And finally, I am committed to prove that more investment in our golf courses means more revenues and more growth for the game. Please contact me at 207-846-0600, ext. 272, or e-mail me at jpovec@golfcoursenews.com.



Jim Povec, publisher



GCN will solicit proposals from recently remodeled golf courses and have them judged by a panel of industry experts. The award will be given to the golf course and its superintendent. Special recognition will also be given to the course architect, builder and participating vendors, with an emphasis on environmental enhancements.

Speed = Excitement

Continued from previous page

up under that absurdly low mowing height and the market for Tifdwarf was born. The same thing happened with bentgrass, only with lesser gradients; that is until we took a quantum leap with L-93 and the A and G series in recent years.

What drove this march toward lower mowing heights and better grasses to withstand them? Excitement. It is just pure fun to putt on fast greens. I'm not talking about the 12-plus speeds they talk about on TV (and don't believe everything you hear), I mean a good, solid 10 feet on a well-contoured surface that tracks pure and feels firm. The current breed of greens grasses can do this far more often than those in past years without causing harm, and there is no turning back as far as the golfer is concerned.

Notice I said "far more often."

That doesn't mean always, and never should. There will always be reasons to mow grass higher and accept slower green speeds when environmental conditions warrant. Further, if you don't have the new grasses and equipment at your course, mowing close to produce fast greens will be detrimental to your mental health. But don't blame Augusta, Bethpage or Muirfield Village for showing just how much skill it takes to get a ball in the hole on glass surfaces. Admit it; you like to see these guys challenged with fast greens. And, if you are really honest with yourself, you'll say you enjoy the excitement of putting when the ball takes one more half turn before it stops and falls in the hole. Speed doesn't have to kill if you have the right grass. ■

Jon Scott is the vice president of agronomy for the PGA Tour.

MAILBAG: MORE COURSES SHOULD JOIN AUDUBON



TO THE EDITOR:

You raise an excellent question in your editorial (GCN, March 2003). Are most golf courses in line with Audubon International and are they already practicing IPM? I think that the answer is yes.

I am in the process of becoming certified through Audubon International and have found that my IPM program fulfills many of the requirements. What superintendent doesn't watch weather conditions and scout to monitor disease pressure? More and more golf courses are updating to centrally controlled irrigation, installing environmentally responsible wash areas and building safer chemical storage facilities. Inviting a local school to participate in creating naturalized areas, putting up some bird houses and mapping your golf course are the additional requirements.

Why don't more superintendents write up a plan to fulfill these things, have it approved, then go back and implement and document that they are actually accomplishing these goals? Because it is time-consuming and can appear to be a lot of paperwork just to prove what we already know and do at our facility.

However, I recently witnessed a county official state that "we all know golf courses pollute." What will his response be when I tell him we are a Certified Sanctuary and I have the documentation to prove it? I think it is worth heading off the critics.

Sincerely,
Scott Brooke, superintendent
The Golf Club at Hawks Prairie
Lacey, Wash.

ROSE: OUR PLANTS WON'T PRODUCE TRANSGENIC POLLEN

TO THE EDITOR:

In a recent article ("Debate over Roundup Ready bent rages on" GCN, March 2003), Dr. Bob Harriman from Scotts Co. was quoted as saying, "Gene escape in male-sterile varieties is still possible because you still have fertility, gene flow and sexuality in half the system. It doesn't make it an ounce safer." Dr. Harriman does not understand that the male-sterile Penn A-4 plants containing the transgene for herbicide resistance cannot contaminate the environment because they have no pollen. The only truth in Bob Harriman's statement is that the seed we market will have some normal plants with normal pollen, which is no different from the Penn A-4 we market today. What needs to be clarified is that our transgenic plants will never produce fertile transgenic pollen. There lies the difference in our production practices. The Scotts/Monsanto production can and will pollinate, spreading transgenic glyphosate resistant pollen.

All the standard bentgrass production practices noted in the article are adequate for seed containment and have proven satisfactory for normal certified seed production. The new problem that is now presented is pollen containment. There are approximately 6,000 pollen grains produced for each seed. With a pollen grain contributing half the DNA to a seed, and in this case carrying the Roundup gene, pollen containment is essential to prevent gene trespass to other *Agrostis*

species. A study by Pure Seed Testing showed that transgenic pollen was received by *Agrostis* plants 3,000 feet away in the first year. The 11,000-acre control area does little good when pollen grains live one to three hours and the wind blows five miles per hour. Even with dedicated equipment, pollen trespass will contaminate the irrigation district and then move on to other areas in successive generations.

Sincerely,
Bill Rose, president
Hybrigen, Turf-Seed and Tee-2-Green

COOK DISPUTES ACTIVIST'S SCIENTIFIC CLAIMS

Editor's note: In response to several readers who questioned Jay Feldman's science in his Point "Golf contaminates environment" (GCN, March 2003), *Golf Course News* turned to Dr. Tom Cook, associate professor of horticulture at Oregon

Continued on page 29

CORRECTION

Due to a reporting error, GCN incorrectly stated that HybriGene was working on developing male sterile glyphosate tolerant bentgrass ("Debate over Roundup Ready bent rages on" GCN March 2003). HybriGene is working with male sterile glufosinate tolerant plants.

Faster is not better

Continued from previous page

Sadly though, if maintenance equipment technology and agronomic advancements continue to make even lower mowing heights possible, we'll certainly be left with putting greens as flat as billiard tables — everywhere. Flat greens are completely devoid of any interest and only test a golfer's ability to judge speed, rather than a combination of speed, slope and contour. The game will definitely suffer for it.

Instead of speed, emphasis should be placed on maintaining a true roll and a firm putting surface. In other words, as long as the green rewards a well-struck approach and the ball isn't bouncing off-line on its way to the hole, what does speed matter? Maintaining firm greens that roll true — as opposed to simply fast ones — will permit classic putting surfaces, with steep pitch and bold contours, to be retained and continue to provide the same challenge and enjoyment to contemporary golfers, and golfers of the future.

By raising mowing heights, steeply pitched and boldly contoured greens will be allowed to continue to do what they were designed to do: direct the strategy of a well-designed hole, reward well-struck approach shots and demand creativity and skill from golfers attempting to recover from their surrounds. And, moreover, in this age of environmental stewardship, a higher cut on the greens will yield a stronger grass plant, better able to ward off disease and drought without assistance from expensive artificial inputs.

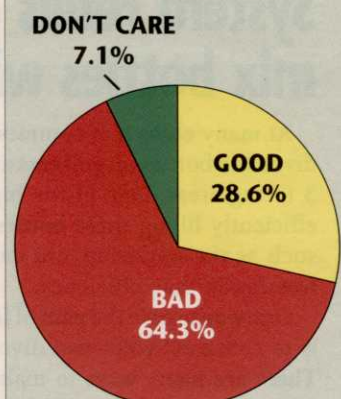
Let's do what's best for golf. Being economically responsive and environmentally conscious in regard to putting speeds is not only smart — such an approach also yields many fringe benefits. The most interesting greens on older courses can be saved. And, even more exciting from my view, golf architects will be provided future opportunities to create new greens with distinct character. ■

Mike DeVries is the principal of the golf course architecture firm DeVries Designs Inc. He is based in Traverse City, Mich.

GOLF COURSE NEWS POLL

THE BUSINESS NEWSPAPER FOR THE GOLF COURSE INDUSTRY
www.golfcoursenews.com

Are ever-increasing green speeds good or bad for the game of golf?



MAINTENANCE



BRIEFS

LATHAM WINS PIPER AND OAKLEY AWARD

FAR HILLS, N.J. — James M. Latham has been honored with the USGA Green Section's Piper and Oakley Award. Latham was actively involved on the USGA Turfgrass and Environmental Research Committee from 1995 to 2002. He attended numerous research-monitoring visits and offered advice on the research being considered by the committee. Latham worked as a USGA Green Section Agronomist from 1956 to 1960 and from 1984 to 1994. In the interim, Latham worked for 25 years with the Milwaukee Sewerage Commission, helping to promote one of the nation's first businesses designed to recycle waste products into landscape fertilizers. The Piper and Oakley award was established in 1998 to periodically recognize those who have contributed to the programs and activities of the USGA Green Section.

NEGCSA HONORS KURPOSKA

DELMAR, N.Y. — The Northeastern Golf Course Superintendents Association (NEGCSA) has presented its Distinguished Service Award to James Kurposka, superintendent of Normanside Country Club here. Kurposka previously worked at Colonie Country Club, Albany Country Club and Noyack Golf & Country Club. The NEGCSA presented Kurposka with the award to recognize his involvement, interest and commitment to the association. The award has been presented annually by the NEGCSA since 2000.

EPIC ADDS SPANISH TITLES

WEST BEND, Wis. — EPIC of Wisconsin has added two new Spanish titles to its Superintendent's Video Workshop series of golf course maintenance training programs. Both "The Fine Art of Hand Watering with Paul Latshaw" and "Sun Safety" are now available in English and Spanish. The company now has 12 Spanish titles in its 26-program series, which are supplied on both VHS tape and CD-ROM.

Editorial Focus: Putting Green Management

Technology permits lower, leaner and faster greens

By KEVIN J. ROSS, CGCS

There is no debating the fact that managing golf greens today has changed over the last 25 years. Today, greens management uses technology and years of experience to produce the finest conditioned greens surfaces ever. It wasn't too many years ago, the 1970s, that we were cutting greens at 3/16 inch and producing speeds of seven feet on the Stimp meter. Times have changed.

CONSTRUCTION

The greens that superintendents produce today are, in large part, a result of greens construction techniques that have been refined through the years to offer the ultimate in soil physics. The USGA has done an excellent job in continually reviewing and improving their specifications for greens construction. Present specifications are based on scientific laboratory testing, which will ensure that, with proper construction, a green will

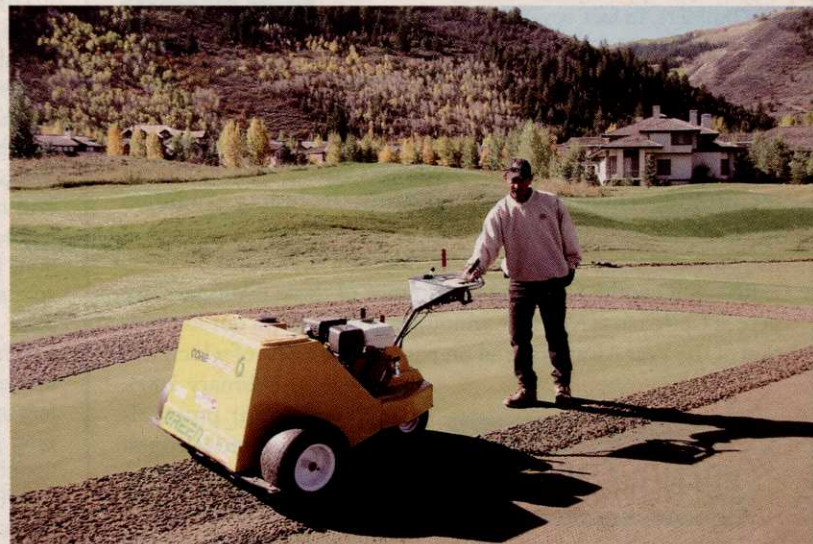
perform for many years.

With technology, we have also improved the ability to match the proper sand particle sizes of a USGA spec green. Golf course material suppliers now have very sophisticated sand screening and mixing machines. These machines ensure the proper material will be produced and mixed for greens rootzones.

TURFGRASSES

Since the late 1950s, Penncross creeping bentgrass has dominated the bentgrass market.

Even with the newer bentgrasses on the market, Penncross is still the world's top-selling bentgrass, with some 750,000 pounds sold



Quad-tine-type aerification units allow courses to aerify more often without interrupting play.

annually. While Penncross still dominates the market, the grass we now play on is one of the biggest changes in greens sur-

faces. The new "superbents" (As, Gs, L-93, SR1119, etc.) offer finer texture, greater density, upright

Continued on page 12

UMass study determines pesticide exposure figures

By ANDREW OVERBECK

PROVIDENCE, R.I. — A University of Massachusetts researcher has completed the first phase of a golf course pesticide study that provides, for the first time, accurate exposure estimates for golfers. The research is significant because it will give the U.S. Environmental Protection Agency realistic human exposure data to use when reregistering pesticides under the Food Quality and Protection Act (FQPA).

At a presentation delivered during the New England Regional Turfgrass Conference and Show here March 19, Dr. John Clark outlined the results of the three-year, \$250,000 study. The work was sponsored by the USGA, the New England Regional Turfgrass Foundation, the United States Department of Agriculture, Dow AgroSciences and Bayer.

"The EPA didn't ask us to do it [the study]," said Clark. "The driving issue is they are in the



Researchers had volunteer golfers wear special suits to absorb pesticide residues.

process of reregistering through FQPA and as the industry looks

Continued on page 13

Anthracnose proliferation continues

By ANDREW OVERBECK

As new chemicals to fight anthracnose proliferate, so does the disease. The combination of warm winters, hot summers, lower cutting heights and leaner greens has led to increased outbreaks of anthracnose over the last few years.

"It used to be a hot-weather phenomenon, but it has become a disease that starts up in the spring," said Dr. Gail Schumann from the University of Massachusetts. "I need to put a thing on my phone that says, 'If you are calling about anthracnose, press 2.'"

According to Schumann and other turfgrass pathologists, the disease that attacks *Poa annua* and has even been seen on bentgrass, is becoming more prevalent and more

Continued on page 28

SUPERideas

System refills divot mix bottles with ease

At many clubs it is common practice to have divot mix bottles on golf cars and located on par-3 teeing areas. One of the biggest problems is efficiently filling these bottles. Some methods, such as the ice scoop, are more of a means of frustration than efficiency.

One way to ease the pain of filling divot bottles is to construct your own divot sand tube filler. There are many ways to make a filling device. The unit I made holds slightly more than three 150-pound bags of mix and can be mounted in



Ross' tube filler refills divot mix bottles efficiently many ways. In the photo, the tube sits in a welded square of two-inch angle iron that is

Continued on page 10



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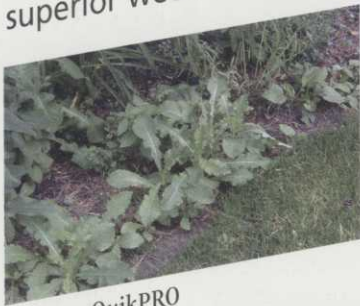
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TOOLS OF THE TRADE

Elliot readies Colonial CC amid Sorenstam buzz

By ANDREW OVERBECK

FORT WORTH, Texas — Annika Sorenstam, the best female golfer in the world, is creating extra excitement at Colonial Country Club as superintendent Jeff Elliot makes the final preparations for this year's Bank of America Colonial May 22 to 25. The PGA Tour event, which was been at the club since 1946, always attracts a top field, but it has never included a player from the LPGA Tour.

"She is creating quite a stir," said Elliot. "We are counting on more media and more fans, so we are putting up more bleachers, adjusting crowd control measures, putting up more scoreboards and moving around marshal's tents."

In addition to getting the course into tip-top shape, Elliot has to oversee these logistical tasks that have been made even more hectic because Sorenstam is playing. From lining up contractors for portalets, trailers and Dumpsters, to running new power and phone lines, to putting up new electronic scoreboard pedestals, he has his hands full.

However, Elliot doesn't mind the extra work, or the pre-tournament buzz.

"Everyone's excited, which takes all the limelight off me," he

said. "That's good because we don't want to hear them talking about the golf course, we want the players to be the focal point."

With the added logistical challenges this year, having a staff that functions like a well-oiled machine is the key to Elliot's success. "I have a staff that has been here for so many years that it goes really smoothly, they all know what to do," he said.

According to Elliot, agronomic preparations are also going smoothly.

"The PGA Tour agronomist did his dry run in March and we are going through our usual tournament preparations," he said. "We have changed fertilization practices to try not to have too much grass out there and get the green speed to stay consistent. We did granular applications early, but as of the beginning of April, we are total foliar once or twice a week."

The course also put in a sulfur burner this year to help deal with its poor irrigation water, which has high pH and sodium and bicarbonate levels.

"We pull water out of the Clear Fork of the Trinity, which runs out of Lake Benbrook," said Elliot. "The sulfur burner helps the soils flush better, helps with drainage

problems and gives us firmer greens. The Tour players want fast and firm."

Elliot is aiming for a green speed of 10.5 for the tournament, because, he said, if they get up past 11, wind can cause the ball to move on greens. The greens were upgraded to A4 bentgrass during the 1999 Keith Foster bunker and green renovation.

"As a putting surface, A4 can't be beat," Elliot said. "But because of its upright growth, it lacks a little bit on recovery and healing from ball marks and stress."

The rough is another area Elliot is watching carefully.

"The 419 bermudagrass is always slow to bounce back," he said. "We fertilize in February with ammonium sulfate to push the roughs and we put down slow-release nitrogen to carry us over in the fall. They are greening up now, but in the shade they don't grow up to two-and-a-half to three-and-a-half-inch rough like they like to see on Tour."

With tournament preparations in hand, what does Elliot think about Sorenstam's chances?

"This is an old-style, short course where you have to work the ball" he said. "That's why she's coming. It fits her game better. Hitting it 10 miles is not going to be as much of an advantage here. It's a player's golf course." ■



Jeff Elliot

ELLIOT'S TOOLS

GREENS MOWERS:

12 Toro 1000

TEE MOWERS:

3 Toro 1000 26"

FAIRWAY MOWERS:

1 Toro 6500, 2 Jacobsen LF-128

ROUGH MOWERS:

1 Toro Groundsmaster 4500-D, 1 Jacobsen Turfcut 72

RIDING BUNKER RAKE:

1 Toro, 1 Smithco

BEDKNIFE GRINDER:

Foley Accu Pro 670

IRRIGATION PUMP STATION:

Flowtronex, 2,500 gpm

IRRIGATION SYSTEM:

Rainbird Nimbus

GOLF CAR FLEET:

60 E-Z-GO gas

FLAGSTICKS:

Par Aide, Standard

COMPUTER & ACCESSORIES:



The PGA Tour event has been at Colonial CC since 1946.

TURF UTILITY VEHICLES:

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VERTI-CUT REELS:

5 Jacobsen 3810, 3 Greens King IV

AERIFIERS:

3 Ryan GA 24

TOPDRESSERS:

1 Ty-Crop 300, 1 Turfco

GROOMING REELS:

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TOURNAMENT SPEED ROLLER:

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Editorial Focus: Putting Green Management

Nikolai: Green contour, not speed, matters most

LANSING, Mich. — In the course of researching his upcoming book on green speed and helping Crystal Downs Country Club superintendent Mike Morris identify his course's optimum green speed, Michigan State University turfgrass research specialist Thom Nikolai may have found the answer to end the constant debate over green speed.

"When the USGA perfected the Stimpmeter in the late 1970s they set up a chart for tournament play and named [the readings] fast, medium and slow," said Nikolai. "They should not have done that, because no one is going to say 'I want to play on the slow ones.' Whenever a golfer hears the speed they say they want to play something that fast. It is synonymous with wanting a faster car."

Instead, Nikolai argues, the chart should be changed from describing speed to describing the contour of the green. This would replace fast, medium and slow with flat, undulating and severely contoured.

"It would be better for all golfers on each individual course, it would be better for superintendents and it

would be better for the turf," said Nikolai. "You can tell people that speeds are different from course to course, but people are not very good at communicating why speeds are different. It comes down to contours.

"What needs to be done is to find and evaluate the correct green speed for each particular course and that can be done very simply with the superintendent identifying a range by surveying members," he added. "This could be done over the course

of a year. And the results would be a determined green speed range that is the best speed for each particular course."

Although more research is necessary, Nikolai hopes to develop a model that takes into account the topography of the green,

'I think golfers would rather play on contoured greens as opposed to flat greens.'

— Thom Nikolai

making the fastest possible numbers less appealing.

"I think the majority of golfers would rather play on contoured greens as

opposed to flat greens, thus fastest should not be perceived as the best to play on," he said. ■



Divot sand filler

Continued from page 8

mounted to a shelving unit and secured at the top for stability.

The following parts are needed to construct the tube filler:

- 1 piece of eight inch PVC Pipe, four to five feet long
- 1 eight inch by two inch PVC reducer
- 1 two inch by one inch FPT bushing
- 1 one inch threaded nipple
- 1 one inch brass ball valve
- 1 eight inch glue end cap (optional)

To assemble the unit, thread the nipple into the ball valve, then thread the nipple into the bushing. Then glue the bushing into the reducer, and attach it to the eight-inch pipe. The opposite end of the pipe is used to pour the divot mix into the device. You can, however, grind the outside diameter of the pipe so an eight-inch cap will fit over the pipe if needed.

— Kevin J. Ross, CGCS, superintendent Country Club of the Rockies, Edwards, Colo.

•••

Got a SUPERidea of your own? Email your ideas to editor Andrew Overbeck at aoverbeck@golfcoursenews.com. If your idea is selected for publication, we'll send you a *Golf Course News* golf shirt. ■

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Morris determines optimum green speed for Crystal Downs CC

Continued from page 1

the range of green speed that we can maintain consistently," he continued.

Morris turned to Michigan State University turfgrass research specialist Thom Nikolai to find answers to these questions.

"He asked me if you could have the same speed every day

throughout the year," said Nikolai. "I told him the easy answer is 'No way.' But a better answer is 'Let's find out.' So we started this study."

In addition to recording weather data, Morris took Stimpmeter readings at two different greens twice a day for two years to determine the actual

green speed.

"We measured speed and what inputs impacted speed and tried to get a range," said Morris. "But the way we determined the appropriate range was by doing a golfer survey. For two years we surveyed 20 golfers who play regularly and who represent a cross-section of skill levels."

The blind survey asked golfers whether they thought the greens were too fast, fast but okay, okay, okay but too slow, or too slow. Looking at the survey results side-by-side with the actual Stimpmeter readings



Morris collected two years' worth of Stimpmeter data.

allowed Morris and Nikolai to compare perceptions with reality.

"When we compared the survey with the actual green speed, we found that when our greens were between 9.5 and 10.5, 80 percent of the golfers were answering fast but okay or okay. This is what we were shooting for," said Morris. "When we went to 10.5 to 11.5 we got 20 percent saying it was too fast, so there is an upper limit."

Morris found that it was possible to maintain the range between 9.5 and 10.5 on his bent/Poa annua greens throughout the year.

"We do everything we can to hit the target range," he said. "We have gone to every other day rolling and spoon-feeding fertilizer to eliminate the ups and downs caused by fertilizer."

With the comparison results in hand and maintenance regime finalized, both Morris and his greens committee feel they have found the optimum green speed range for the course that can be maintained consistently and make the members happy consistently. This has solved numerous problems.

"There is now an optimum speed that can be managed and maintained," said Morris. "In the past we would speed up the greens for the member-guest and then go back to our routine maintenance and that's when the complaints came. So we have developed a policy that this is the green speed for our course and we don't speed them up for events. These are the speeds that the members have chosen to play, so we have taken that issue out of the equation."

In the process, Morris has eliminated complaints from members.

"This process worked because we involved them," he said. "It has been great and everyone is buying into it."

Nikolai would like to see more courses follow Morris' lead.

"He has taken control of green speed from his membership because he uses the Stimpmeter and they know he uses the Stimpmeter," he said. "Now they have an understanding that Mike has this under control. I want to see more superintendents do this." ■

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Specialty Insecticide

Technology allows for finest conditioned greens ever

Continued from page 8

growth patterns, and the ability to be cut at preferred heights of 1/8 inch and lower. These bents also offer tremendous rooting potential, which translates into a very water-efficient plant.

IRRIGATION

The old design of a common irrigation system that watered both the greens surfaces and the surrounds has been thrown out the door. This may be one of the biggest reasons for improved greens quality. Now we have dedicated greens sys-

tems that water the green surface only. Irrigation companies must also be commended for developing very efficient sprinkler heads, along with computerized controls, that offer the greatest of flexibility.

Over-watering was the biggest mistake made when superintendents switched from managing a soil push-up green to managing a sand-based USGA green. The perched water table theory of the USGA green ensures very efficient water usage. This perched water table, along with independent watering systems, has changed the

face of watering practices to more of a "fill the glass" approach. For many, this approach means irrigating to fill the rootzone cavity (the glass) to field capacity, plus an additional amount for flushing through positive drainage. Then let the turf dry down the cavity water (drink the glass) to nearly empty and repeat the cycle. This method of watering has produced excellent turfgrass and water conservation results. Many of the past failures of the USGA green have been directly related to over-watering. Now through experience, these over-watering failures have been all but eliminated.

CULTURAL PRACTICES

One big side benefit of the new "superbents" has been the development of equipment that will help manage these new bents, and contribute to maintaining older bents at a higher level. Quad-tine-type aerification setups and machines have been developed by almost all of the major manufacturers. These give the superintendent the option to aerify more often with much less intrusion to play. Small 1/4 inch and 5/16 inch tines spaced close at one-inch centers have moved front and center as the preferred method of aerification. Some manufacturers are even developing larger diameter tines, which will fit quad-tine set-ups for a more aggressive approach when needed.

The development of true dethatching units has been very beneficial for managing the thatching potential of these new bents. These machines offer depths of up to 1.5 inches and various blade widths from 1mm to 3mm. The combination of these de-thatching units and quad-tine type aerification units has made thatch management much easier.

When it comes to topdressing, the approach of frequent and light is the present standard. Some clubs use fertilizer-type rotary spreaders with kiln-dried sand, and even green colored sand has been used. This is a far cry from the past where larger machinery was consistently used, and sand applications to greens were only a few times per year.

MOWING AND GREEN SPEED

As mentioned above, it wasn't that long ago that 3/16 inch was the normal cutting height for greens surfaces. At most golf courses today, 3/16 inch will get you a pink slip. We now see this height on tees, approaches and some fairways. Today, some golf courses are cutting greens below 1/10 inch. The question now becomes, how low can we go? One fact is for sure, we are rapidly approaching the bottom.

There is no question that the need for speed has brought us to these low limits. Whether TV golf or superintendent competition is responsible for lower cutting heights, speed is here to stay. When determining the perfect speed, a variety of input should be considered, from green design to playability, to name a few. The best way might be to follow the model of Mike Morris, superintendent at Crystal Downs Country Club in Michigan (see story on page 1).

FERTILIZATION PRACTICES

Fertilization practices are also evolving. There is no doubt that the biggest management changes in this area are less nitrogen and the use of foliar products. Application amounts of nitrogen per thousand square feet have gone down consistently through the years, and now are in the 1-4#N/M range per growing season. The most popular method of fertilizing has changed from granular application to foliar feeding programs. The spoon-feeding (light and frequent) approach is certainly the en vogue method. Even though foliar is the hot topic for fertilizing, kudos must be given to the fertilizer manufacturers. They have produced some great fertilizer materials, with extremely small particle size, that work very well with the new, denser bents.

SEEDING VS. SODDING

For years, seeding had been the preferred

Continued on next page



Since being on the ROOTS® program, root depth has increased. The roots seem to have more mass, even in summer, and the turf seems to be a lot denser, with fewer ball marks. The greens are definitely rolling faster, at least 12 on the Stimp meter, and the program gives me superb color, with no flush of growth.

The 2000 season was wet and hot. On the greens and tees, I had virtually no disease and that really sold me on the ROOTS® program. The program has saved me money due to less time on the spray rig, and less money on chemicals. I have used other systems, mainly chemical fertilizers with organic additions, but the results are not even close to what I get with the ROOTS® program.

Randy Harris
Superintendent
Lexington Country Club
Lexington, VA

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Study: chlorpyrifos exposure within allowable limits

Continued from page 8

at this, if you don't have numbers to show what a chemical's input is into the EPA's risk cup, then they just make the numbers up. Once the risk cup is full, they have to drop uses and the first ones to get dropped would be turf and other home uses."

However, the research did more than just quantify critical risk values for the EPA. Clark's study also demonstrated ways superintendents can minimize exposure risks. Further research will develop data that covers the physical chemistry of compounds allowing exposure rates and allowable daily intake (ADI) figures to be calculated for an individual active ingredient without any additional study.

In this first phase, Clark studied chlorpyrifos (Dursban Pro), carbaryl (Sevin) and cyfluthrin (Tempo). The three compounds were chosen because of their differing levels of toxicity, volatility and water solubility.

At this point, full results are only available for chlorpyrifos, but the results are encouraging. Under the previously allowed four pound per acre rate of chlorpyrifos, the ADI was right at the one microgram per kilogram a day limit. However, under the new EPA allowable rate of one pound per acre, the ADI falls to .25, well below the limit. While ADI for the other compounds is not currently available, Clark said the initial figures are favorable.

CALCULATING RISK

In order to calculate pesticide exposure to golfers, Clark constructed a 110-meter by 20-meter "golf course" on a bentgrass field. With greens and tees on both ends of the field, Clark's two foursomes played a simulated 6,800-yard golf course, which took an average of four hours to finish.

The first foursome, the dosimetry group, had to wear special solvent extractive cotton shirts, hats, gloves and pants and air samplers. After a round of golf, these suits were analyzed to see how much pesticide matter golfers come into contact with. The

results found that the greatest exposure occurred in this order: lower legs, hands, lower arms and face.

The second foursome, the biomonitoring group, wore shorts and golf shirts instead of white suits, but they were subjected to urinary metabolite tests. These tests use existing toxicologic data to measure the amount of the compound that is excreted in urine and calculate the amount of pesticide absorbed by each individual.

The third part of the study involved

environmental sampling that collected residue data from areas on the treated plots and in areas surrounding the treated plots to determine the spread of the compounds.

REDUCING EXPOSURE RISKS

While the research has shown the current rate for chlorpyrifos to be below the ADI, Clark also confirmed the usefulness of several cultural practices that further reduce exposure risks.

Clark obtained the ADI figures by irrigating with a quarter- to a half-inch of water following an application and waiting one full hour before re-entry into the treated area. Irrigating with this amount reduced resi-

dues by 90 percent, and the exposure risk was reduced by 50 percent by waiting an hour before re-entry. By applying chlorpyrifos to just tees and greens, Clark lowered the ADI from .25 to .2.

"You can further reduce risks by only applying pesticides to six holes at a time or by following the last group off the course at night, giving the materials overnight to dissipate," said Clark.

Going forward, Clark will be completing the extensive testing on carbaryl and cyfluthrin in addition to several other compounds that cover other physical chemistries. ■



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Technology and greens

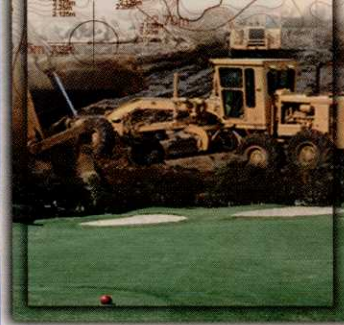
Continued from previous page

method for greens establishment and sodding was labeled taboo. However, in recent years sodding greens has made major gains over seeding. These gains have been made primarily because of the ability of the sod producers to grow excellent sod quality and address the layering phenomena. In the past, failures from sodded greens have been mostly related to an incompatible match of the rootzone mix with the sod medium. Presently, sod is even being grown on plastic. When harvested, the roots stay completely intact, suffer less shock, and have very fast rooting potential.

LOOKING TO THE FUTURE

No one can predict the future, but we certainly can guess what it holds. Are we at the ultimate in greens management? Maybe. Can the height of cut be dropped much lower? Probably not. However, years ago, Penncross was considered the ultimate, as was 5/32 of an inch and 10 feet on the Stimpmeter. So who knows, anything could be possible 10 years from now. ■

DEVELOPMENT & RENOVATION



BRIEFS

WET WEATHER DELAYS LAKE JACKSON OPENING

LAKE JACKSON, Texas — In the wake of an abnormally wet summer last year, which featured two tropical storms, the city of Lake Jackson has been forced to postpone the opening of The Wilderness Club. Grassing on the Jeffrey Brauer-designed layout was originally scheduled to begin this month, with an eye toward an October opening. As a result of the setbacks, grassing should begin this fall, with the opening pushed back to spring or summer 2004.

SUGARLOAF TO UNDERTAKE FINAL RENOVATION PHASE

CARRABASSETT VALLEY, Maine — Sugarloaf/USA will begin the final phase of its three-year, \$800,000 capital improvement project this spring. This year's work includes installing a computerized irrigation system and expanding the ongoing water and drainage management program. Sugarloaf will also pave the car paths, rebuild all the bunkers and connect a second source of water for course irrigation. Future improvements at the course will include building a new clubhouse and pro shop. In addition, boosted by a PGA For the Good of the Game Grant, Sugarloaf will host hundreds of children for golf camps, intensive instruction and after-school programs.

CONSTRUCTION UNDERWAY AT FARMLINKS' FIRST TEE FACILITY

SYLACAUGA, Ala. — Pursell Technologies Inc. (PTI) has broken ground on a First Tee facility that will complement its Pursell Farms project and serve as a demonstration area for the company, as well as for other First Tee suppliers. The Hurdzan-Fry design, which is being built by Landscapes Unlimited LLC, will occupy 3,000 acres near the entrance to PTI's Pursell Farms. It will initially include a driving range and three holes, but will eventually be expanded to nine holes.

Oakland's Metro opens after eight years of obstacles

By DOUG SAUNDERS

OAKLAND, Calif. — The newest public golf course in the northern California region, Oakland's Metropolitan Golf Links, opened to players April 16. This Johnny Miller-designed venue brings a challenging layout to a wide-open 125-acre site near San Francisco Bay that sits under the landing patterns for Oakland Airport. The course is a first-rate replacement for the former Lew Galbraith Golf Course that closed back in 1994.

"Johnny Miller and I have designed a course that all players will enjoy as well as a superior practice facility that should draw families from the community," explained co-designer Fred Bliss. "We feel that in time Metropolitan Golf Links will be considered one of the best public venues anywhere."

While it took nearly three years to complete the 7,045-yard course, that hardly begins to explain how this course came about as a critical part of solving an extremely complex issue for the city of Oakland.

The old Lew Galbraith Golf Course provided the first golf experience for thousands in the Bay Area during its 30 years of existence. But the course was built over a landfill that was mandated by the EPA to be closed down properly in 1992. This closure process called for capping the old

landfill with a one-foot thick clay cap.

The city took the initiative to tackle two problems at once. Along with the need to deal with the old landfill, the Port of Oakland was preparing to dredge the

Oakland estuary in order to bring larger ships into the bustling port. While the city was in need of capping material, the port was in need of a place to dump dredge material. The Galbraith site be-

Continued on page 18



Oakland's reconstruction of the old Lew Galbraith Golf Course is complete and the course reopened in April.

Photo: Freddy Bird

ASL, developer overcome Cape Cod regulations

By DEREK RICE

MASHPEE, Mass. — When ASL Construction and Willowbend Golf Development collaborated on adding a third nine holes to Willowbend Golf Club here, they had to overcome a number of strict environmental and historical regulations, said ASL's Jim Despres.

"That area is heavily regulated and rightly so," Despres said. "It's a small parcel of land. It's incredible with the traffic in the summertime. It's a very intense place."

To meet the stringent demands, ASL used rubber lining in some fairways and on all tees and greens surrounds.

"The lining was used because there were historical preservation areas on the property. The areas that received the lining were not disturbed with any machinery or traffic," he said. "The lining went

Continued on page 16

Doak giving 'a leg up' with internships

By DEREK RICE

TRAVERSE CITY, Mich. — The response to golf course architect Tom Doak's search for interns to learn about golf course design first-hand has been greater than even he anticipated.

"We've waded through about 60 applications," Doak said. "We got a bigger response than we expected."

Doak and his staff at Renaissance Golf Design pored through the applications and chose two interns in early April.

"It was really hard to sort through them," Doak said. "Now I know what college admissions officers feel like. You just get a lot of good applications and it's hard to try to pick among them."

The two interns Doak and his



The positive reception to Tom Doak's Pacific Dunes in Bandon, Ore., has led to 'at least two jobs' for Renaissance Golf, Doak said.

staff selected were George Waters, 24, who is a master's candidate at the University of Guelph in Ontario, and Philippe Binette, 21, a junior at the University of

Montreal. Doak said the two would probably begin working with the company in early May.

While Doak has had interns

Continued on next page

Winterstone GC to play around excavation

By DEREK RICE

INDEPENDENCE, Mo. — With above-ground construction completed on the 18-hole Winterstone Golf Course here and an opening scheduled for this month, there are still four years of below-ground construction

to contend with, said Rick Boylan, president of Mid-America Golf and Landscape Inc.

The course's developer, Rocca Processing, is mining 4.5 million square feet of underground warehouse space, which will be linked to nearby Carefree Indus-

trial Park via a tunnel under Interstate 291.

The blasting below the course began while construction above ground was still in progress, Boylan said.

"That's been going on for two years," Boylan said.

Continued on page 16

Doak hopes to open doors for future architects

Continued from previous page

before, this is the first time he has gone through a formal process, he said.

"We've had interns at various times over the last 10 years, but it's been hard to do a formal program because our workload varies so much from one year to the next," Doak said.

Going forward, Doak said he plans to award at least two internships a year to college students pursuing a career in golf design through a landscape architecture or turf management curriculum. Each internship will consist of three parts: a month in the firm's Traverse City office, four to six weeks of work on the site of a current project and at least two weeks of travel with Doak or a senior design associate to see projects in the planning phase, including an opportunity to see and play some of the great golf courses built in the last century.

"We want to give them not only office experience, but some experience in the field and if we didn't have much going to construction in a particular summer, it was hard to set anything up," Doak

'I feel like whoever we do pick, we're giving them a leg up like I had 20 years ago. As far as my career went, having that experience was crucial to my being able to get out on my own.'

— Tom Doak

said. "We do 25 percent of the design in the office and 75 percent out in the field. Certainly, if there's a chance for them to work with us longer term, that's where they're going to contribute."

The positions will pay \$5,000 for three months, plus housing and expenses while in Traverse City, as well as all travel expenses while on the road.

The program Doak has proposed mirrors his progression as a golf course architect. Upon graduation from Cornell, Doak received a scholarship to study the great golf courses of the British Isles, an experience he followed with an apprenticeship with Pete Dye. These two experiences helped shape Doak's design style and gave him an entry into the design field that others may not have had.

"I feel like whoever we do pick, we're giving them a leg up like I had 20 years ago," he said. "As far as my career went, having that experience was crucial to my being able to get out on my own."

One reason Doak decided to formalize the internship program at his firm was the volume of work Renaissance will have this year, he said.

"We've got enough lined up for the next couple of years that we've got some interesting things going on," he said. "This summer, we have a couple of renovation things we're doing and we'll have somewhere between one and three golf courses

start construction and we're still looking at other new projects."

Among the projects Renaissance has lined up is a private equity club on the shores of Lake Oconee in Georgia called the Harmony Club.

Doak's highly-rated Pacific Dunes Golf club in Bandon, Ore., has led to some of the work his firm is currently undertaking, he said.

"We've gotten at least two new jobs out of people that played the golf course and loved it," Doak said. ■

Heritage, SAJO merge

HOUSTON — Golf course builders Heritage Links and SAJO Golf recently combined their companies in an effort to offer a full range of golf course construction services. The combined company will operate under the Heritage Links name.

Founded in 1988, SAJO Golf won *Golf Course News'* Small Builder of the Year Award in 1997 and is a certified builder with the Golf Course Builders Association of America (GCBA). SAJO president Sam Sakocius is a member of the GCBA board. He will serve as president

of golf construction for Heritage Links. Terry Brown, SAJO's vice president, will manage the newly created utility group for Heritage Links under the name HL Construction.

The merger made sense because the two companies are so complementary, Sakocius said.

"Heritage Links is a great match for us," Sakocius said. "Together, we will be able to offer a broad base of knowledge, the latest tools and technologies, integrated utility services and strong financial stability to assure our customers that every new project is the best it can be."



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Course to open with blasting beneath

Continued from page 14

"Sometimes it made you want to look up and see if there was a thunder cloud coming and sometimes you felt like you'd better run for cover."

Boylan said communication was key during the construction phase.

"There was always a coordination meeting. They'd know where we were working if there were some areas like underneath lakes where they were going to be blasting," Boylan said. "We had to make sure the lakes were sealed so they could never leak down underneath the ground when they're all done."

Aside from some of the basics, Boylan was tight-lipped on his company's process of sealing the lake beds.

"I can't give my secrets away," he said. "We just put PVC liner down on the bottom of it. It was a little bit more involved than that, but there's a 40mm liner under all the lakes."

In early April, Mid-America was finishing up some last-minute work in preparation for

the opening, which Boylan said will be about 30 days ahead of schedule.

"The owner has retained us to do the site work for the parking lot and irrigation and landscaping around there—just to help get the 11th-hour stuff done," he said.

Boylan said rather than perform blasting during off-hours, Winterstone has built the excavation below the course into its marketing plan.

"I really think this is one of the first of its kind in the country—an actual operating mine underneath the ground," he said. "Every day at 3 o'clock, you can hear charges go off. That's actually going to be the motto of the golf course: 'Come feel the thunder at Winterstone.'"

Boylan said the Craig Schreiner-designed course will still be unique once the mining is complete, as well.

"For the Kansas City area, it has an Ozark feel. We've got some rolling terrain with a lot of 50- to 100-foot elevation changes, where most of the Kansas City courses are flat," he said. ■

ASL, Willowbend practice environmental, historical protection

Continued from page 14

down and then a layer of sand covered that lining so the undisturbed ground will exist in perpetuity.

"For environmental reasons, all of the tees and greensides were lined with rubber liners and also had to have perimeter drainage. This was for nitrate reclamation," Despres added.

Permitting for the property took longer than construction, Despres said.

"It was very difficult. In fact, the permitting process was about three to four years," Despres said.

Despres said Willowbend Golf, owned by Reebok founder Paul Fireman, worked hard to address the concerns of all involved parties throughout the process.

"Willowbend really did a great job of addressing environmental issues and also addressing the historical community for preserv-

ing old lands," Despres said. "It was right out on the water on Cape Cod, and as you know that was a very historical area for settlement of not only Native Americans, but early American settlers as well."

"Willowbend agreed to a lot of things to make this happen. I think also the local government wanted to preserve the area as open space rather than open it up for residential development," he added. ■



In building nine new holes at Willowbend Golf Club in Mashpee, Mass., ASL had to line fairways and tees and greens surrounds with rubber to protect the site's environmental and historical lands.

IN A PERFECT WORLD
THERE'D BE NO
BROWN
PATCH.

Municipalities rethinking golf courses

Continued from page 1

with Sterling, lease the course or close it altogether. However, the town still owes money on a construction bond, so it appears unlikely the town would close Sassamon Trace, town administrator Philip E. Lemnios told a Finance Committee meeting in late March, according to the Boston Globe.

Sterling also manages a municipal course in nearby Chelmsford with much different results for that city. That contract calls for Chelmsford to receive \$50,000 a year or 16 percent of the course's revenue, whichever is higher.

According to Berger, the situation in Natick is just the latest in a line of similar problems. Sterling also faces a lawsuit from a competitor who lost out on a bid to manage Strawberry Valley Golf Course for the town of Abington last fall.

"Things are particularly difficult in this area right now between trying to do the best job we can managing the courses we have and having our bid contracts delayed by the legal battles of the losing bidder whenever our proposals are chosen over theirs," Berger said.

The course was built three years ago atop a former landfill. In its history, its revenues have never covered expenses, but officials had always been willing to give it time to grow.

A sampling from around the country shows a number of municipalities taking a hard look at their golf courses in an attempt to keep spending under control, with varying results.

RECLAIMING CONTROL

Some cities, like Seattle, are reclaiming control of their courses from third-party managers. In Seattle's case, this was a non-profit organization, Municipal Golf of Seattle (MGS). Faced with a \$1.2 million operating deficit, the city decided to take back operations at three of its largest golf courses, West Seattle GC, Jackson Park GC and Jefferson Park GC.

In the beginning of the relationship, MGS promised to upgrade the city's courses, but never got around to doing so. The Seattle Times reports MGS was \$1.3 million behind in payments to the city for maintenance.

The future of the courses is un-

clear, but according to reports, the city has already fired two of the three directors of golf and reassigned the third to a new department. Seven temporary maintenance positions have also been eliminated.

GETTING OUT OF GOLF

A number of municipalities are washing their hands entirely of their golf courses. The city of Scranton, Pa., recently sold its municipal course at an auction for nearly \$3.5 million. Among the prospective buyers for the course was nearby Jefferson Township, which dropped out of the bidding because it could not bid any higher without raising taxes, the Scranton Times reported.

The move appears to make fiscal sense for Scranton. With \$695,000 remaining on a note against the sale, the city stands to pocket a tidy sum on the sale and will no longer have to incur operating costs.

GETTING INTO GOLF

The news is not entirely bleak on the municipal golf front. There are some municipalities, like Jefferson Township, looking to add a golf course to their budgets without having to take on the expense of construction. One such city is Raleigh, N.C., which is considering the purchase of the

Donald Ross-designed Raleigh Country Club, currently mired in Chapter 11 bankruptcy.

Of course, for this tentative plan to work, the club would have to miss its June 9 deadline for emerging from Chapter 11, something one of the club's members told the Charlotte News Observer he is confident it will do.

MUNICIPAL GOLF'S FUTURE

Where the future of municipal golf lies is up in the air, but there are a number of organizations that would like to see more cities getting into the golf course business in order to preserve the notion of affordable public golf.

The American Society of Golf Course Architects (ASGCA) has encouraged towns and cities to pursue building and operating golf courses as a way to grow the game.

"Research by Golf 20/20 shows that there is a pent-up demand for courses that are fun to play by people new to the game, and we believe that growing communities, especially in non-metropolitan areas, will recognize the opportunity," ASGCA president Jay Morrish said.

Morrish said he hopes communities will realize that golf courses can be as important to the recreation

mix as other types of facilities.

"Most growing communities are quick to provide baseball fields, soccer complexes and tennis courts, and now we are seeing a realization that simpler, less-expensive golf courses can be part of the overall recreational mix," Morrish said. "And, unlike the other free facilities, municipal golf courses can support themselves and even provide additional funding for the other sports fields."

Courses like Sassamon Trace that are built atop less-than-desirable sites like landfills also will play an important role in the progression of municipal golf, Morrish said.

"Many communities are converting landfills, brownfields, quarries and abandoned rail yards, mines and other degraded sites into golf courses," Morrish said. "If there's enough land for a regulation 18-hole course, that's great. If there isn't, an executive course, par-three or short course will work, too."

As a means of controlling expenses and boosting revenues, Morrish suggested municipalities may want to look into building such "alternative" courses, such as Sassamon Trace. ■

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City of Oakland finally gets its long-awaited course

Continued from page 14

came the solution.

The city also hoped to bring golf back to the site to replace the Galbraith course so a concerted effort to develop a plan with the city, the port and Johnny Miler Design was initiated. The plan called for the dredge material to be put on the Galbraith site and then graded to the contours provided by the designers for the golf course.

Once the site was sufficiently prepared, Oakland Golf LLC, a partnership between CourseCo Inc. and several Bay Area business partners, including former Oakland Raider Raymond Chester and real estate investor Ned Spieker, would then build and manage the new course. But getting the site to that stage was a monumental task.

Engineers estimated that 1.2 million yards would come from the dredging and the material was delivered to the site in a slurry form.

"A large dike was built around the site and the slurry was placed over the 120 acres. This slurry took six years to dry out, and the remaining material included heavy clay and sand. The bottom of the bay now covers the site," explained CourseCo head agronomist Ray Davies, CGCS.

The dredging was then "worked," as clay and sand were separated so the clay

material could be used first for the cap. Two feet of clay material were placed and then compacted down to one foot to create this critical cap.

As CourseCo prepared for construction, the first of several problems arose. The initial estimates of the amount of material brought from the estuary turned out to be flawed. It was thought that around 320,000 cubic yards of sand material would be available for the course, but only 112,000 cubic yards were on site.

"It was easy to see how the estimates could be wrong. The top priority for the port was to make sure that the capping and closure of the landfill was completed to the satisfaction of the EPA. But the contractor also then had to shape the site to the specification for the golf course," Davies said.

When CourseCo began construction in 2001, only 30 acres were ready to work on. The port had to provide more material for capping and for shaping to satisfy their end. This caused a series of delays and the port also needed a new contractor to complete the initial work.

It took three years to build the course, and throughout the project a host of problems confronted the construction team. Because the cap layer was so thin in places, laying out drainage

and irrigation so as not to interfere with each other dictated careful planning. Builders had to figure out how to grow grass on soil of high salt and sodium content.

"This project just became a fascinating agronomic and construction task to re-work so many issues," Davies said.

The course is planted with perennial rye fairways and Dominant Extreme bentgrass for the greens. During the grow-in process the trick has been to water the course heavily enough to leach out the salts while maintaining a good growing medium. More than 20 miles of subsurface drainage lines were installed to manage the flushing phase and ensure dry, firm turf in all seasons. To add to the salty challenge, the course uses reclaimed water for irrigation as well as some well water. Superintendent Gary Ingram, CGCS, works to find the perfect level of watering to make the

course flourish.

It has been estimated that the cost of the landfill closure was nearly \$35 million and the cost of the golf course itself was nearly \$14 million. But even with these costs, it was significantly less than if the Port of Oakland had to haul the dredged material away.

Now, nine years after losing their local course, Oakland residents can return to golf on this revamped Galbraith location, even though few will understand how intricate a project the creation of the Metropolitan Golf Links actually was. The city now has a first-class golf venue available to them at affordable rates. But Davies said CourseCo and the crews at Metro will thrive on the satisfaction of surmounting the numerous challenges in order to bring back a golf course that will truly be an integral part of the community. ■

'It was easy to see how the estimates could be wrong. The top priority for the port was to make sure that the capping and closure of the landfill was completed to the satisfaction of the EPA. But the contractor also then had to shape the site to the specification for the golf course.'

— Ray Davies



Reconstruction work at the Fred Bliss and Johnny Miller-designed Metropolitan Golf Links included using dredge material from the Port of Oakland to cap an existing landfill.

Photo: Freddy Bird

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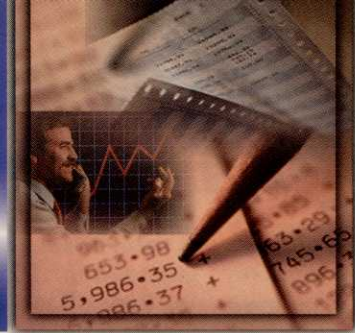
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MANAGEMENT



BRIEFS

FORMER AGC PRESIDENT MOVES TO NIKE GOLF

BEAVERTON, Ore. — Less than two months after leaving American Golf Corp. (AGC), David Pillsbury has a new job as U.S. general manager for Nike Golf. Pillsbury left AGC in February, after the company was acquired by an investment group comprising GS Capital Partners 2000, Goldman Sachs Whitehall Street Real Estate Fund 2001 and Starwood Capital Group. Pillsbury is a respected golf industry insider who has been involved with many industry organizations. He currently serves on the executive steering committee for Golf 20/20, the board of directors of the American Golf Foundation, as vice chairman of the USGA's 2003 U.S. Women's Open and as vice chairman of the National Golf Foundation. He also works with the Tiger Woods Foundation, USGA, LPGA and PGA of America to operate inner-city golf programs across the country.

KEMPERSPORTS HIRES FORMER U.S. NAVY DIRECTOR OF GOLF

NEW ORLEANS, La. — KemperSports Management has hired Gordon Digby as general manager of Bayou Oaks here. Digby comes to Bayou Oaks, from the U.S. Navy, where he served as golf program director and was responsible for overseeing 39 Navy golf courses nationwide. The New Orleans City Park District recently extended its agreement with KemperSports to include full operational control of Bayou Oaks.

RAVENWOOD NAMES ROEDER GM, HEAD PROFESSIONAL

VICTOR, N.Y. — Ravenwood Golf Club has appointed Mike Roeder as general manager and head golf professional. Before joining Ravenwood, Roeder was director of golf and head professional for seven years at Bristol Harbour Resort in the Finger Lakes region of western New York. Ravenwood will host the New York State Amateur Men's Golf Championship in July.

GMACCM enters golf lending sector with a bang

By DEREK RICE

REDBANK, N.J. — GMAC Commercial Mortgage (GMACCM) recently entered the golf lending market with a splash — by providing \$650 million in financing to the investor group that purchased National Golf Properties (NGP) and American Golf Corp. (AGC), both of Santa Monica, Calif. GMACCM provided the financing to GS Capital Partners, Goldman Sachs Whitehall Street Real Estate Fund 2001 and Starwood Capital Group for the acquisition of 253 golf courses, the majority of which are located in the United States.

While this was one of the largest standalone, single-transaction financing deals in the history of

the golf industry, GMACCM isn't resting there, said GMACCM executive vice president Jerry Earnest, who heads the company's specialty lending and hospitality and golf finance groups.

"We'd like to talk to good players. We're looking to do portfolio transactions if we can but also if it makes sense to do individual transactions as well. We have an appetite for both," he



Pumpkin Ridge Golf Club in North Plains, Ore., was one of the 253 courses involved in the NGP transaction.

said. "We're active, we're here to stay and it's still a relatively competitive market from our perspective."

While the company is affiliated with former golf lender GMAC, Earnest said because the two are

separate entities, this is more of an entry into the market than a return.

"It's really a first foray. There was a mortgage banker who worked for the company four or

Continued on next page

Editorial Focus: Speed of Play

Forecaddies keep the pace at Bear's Best

By DEREK RICE

DALLAS — Slow play on golf courses is not only an inconvenience for golfers, but can also be a revenue buster for golf courses. If players aren't moving around the course in a timely fashion, it affects the number of groups a course can move through on a given day.

Slow play affects players' perception of the course, and may be a leading factor in their decision not to return on another occasion. At a resort course, like Dallas-based ClubCorp's Bear's Best clubs in Atlanta and Las Vegas, where there are few regulars who know the course well, one would expect slow play to be a part of the package.

However, ClubCorp has



In addition to being a draw for golf purists, the forecaddies at ClubCorp's Bear's Best in Atlanta and Las Vegas have helped the courses speed up play.

found that an antiquated service instituted at the clubs has helped address this age-old problem. Through forecaddie programs, the courses have been

able to maintain average round times that are more than a half-hour shorter than at other area clubs.

Continued on page 30

Editorial Focus: Speed of Play

GUEST COMMENTARY

Slow play: you don't need to suffer anymore

By BILL YATES

Course managers fight it day after day, and players hate it. Can anything really be done about slow play? The answer is yes. Working with private clubs, high-end public courses, resorts, municipal courses and even the R&A Championship Committee on the 2002 Open Championship at Muirfield, I have proven that golf course management teams can consistently improve the pace and flow of play, resulting in increased revenue, more valuable starting times throughout the day, more satisfied customers, and higher volume opportunities in their other profit centers. Now players can find the golfing experience they have been looking for, one that is relaxed and free of delays.

The good news is that every course can solve the problem of slow play. All it takes is a strong management commitment, and the ongoing cooperation of the players. The solution sounds simple, but it is buried within two age-old myths: that every round of golf should take four hours, and that players are the primary cause of slow play. Add

Continued on page 21

GolfGM adds equipment financing division

By DEREK RICE

SCOTTSDALE, Ariz. — In an effort to give key decision-makers and members of the buying team more flexibility in purchases, golf business solutions provider GolfGM debuted GolfGM Finance in March.

According to GolfGM's president and CEO Elliot Lewis, industry need drove the creation of the program.

"The golf industry has

sorely needed a program like GolfGM Finance," he said. "The industry's leading vendors and hundreds of PGA professionals and purchasing managers facilitated the creation of GolfGM Finance. These industry leaders envisioned a financing program that enabled vendors and courses to do more business in a more efficient manner."

Through the GolfGM Finance program, facilities will be able to finance up to \$50,000 in pur-

chases from GolfGM's participating vendors, which represent more than 40 companies.

In addition, facilities will be able to extend payment terms to up to 150 days.

Lewis said the program will help courses and other facilities from having to make difficult cuts, which are prevalent in this lagging economy.

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GMACCM makes big entry into lending

Continued from previous page

five years ago, who specialized in golf and was teamed up with us to try to do some of that business with us," Earnest said. "It all happened around 1998 when we had the capital markets crisis and a lot of lenders got out of the business. The timing was not the best. There is a sense that GMAC Commercial Mortgage did try to do something here several years ago, but that never really got started."

The good news behind this large deal is tempered by published reports that parent company General Motors may be looking to sell GMACCM, which also recently closed on a joint fund between one of its subsidiaries and Apollo Real Estate Advisors. Earnest did not discuss either topic.

The main reason behind GMACCM's entry into the market, Earnest said, was the company's vision for the segment's potential to be hot in coming years.

"Clearly, we thought this was an industry that had a lot of opportunity. There are only a few national lenders that are consistently in the industry," he said. "Bank of America capital and others, when they were active in the mid- to late-'90s, were very active and had a very good book of business and a good product type, so we spent some time studying it."

Earnest said the company is also looking to create relationships with industry players. The NGP financing deal came about mainly because of GMACCM's existing relationship with members of the investment group.

"We have a long-standing relationship with Whitehall, Goldman Sachs and we've done some things with Starwood as well. It was people we knew and understood," Earnest said. "That group was also an owner of Troon Golf, so they're not just novices in the industry. They brought some real expertise and some significant capital."

"It was not the easiest thing, but it was one that we were able to work through with very good, established clients," he added.

In addition to the NGP deal, GMACCM has also completed two other golf financing deals totaling nearly \$50 million. However, because those deals were not yet public at press time, Earnest declined to name the principals, but did say both deals involved players new to GMACCM.

"With these other two new deals this year, we've formed two new relationships with very prominent players in the indus-

try," he said.

Earnest said he hopes the announcement of the NGP financing deal will give a boost to the financing segment of the golf industry, which has been an area that has been going in reverse for several years.

"We may be a little early in terms of the industry's problems,

but we think we may be if not at the bottom, then we're approaching it," he said. "We may be a little early in terms of capital coming back, but we do think that, opportunistically the problems of the past two or three years – the oversupply and slowdown in demand – are behind us. That's not to say this year, and potentially next year, won't be tough years, but we think we're at the trough,

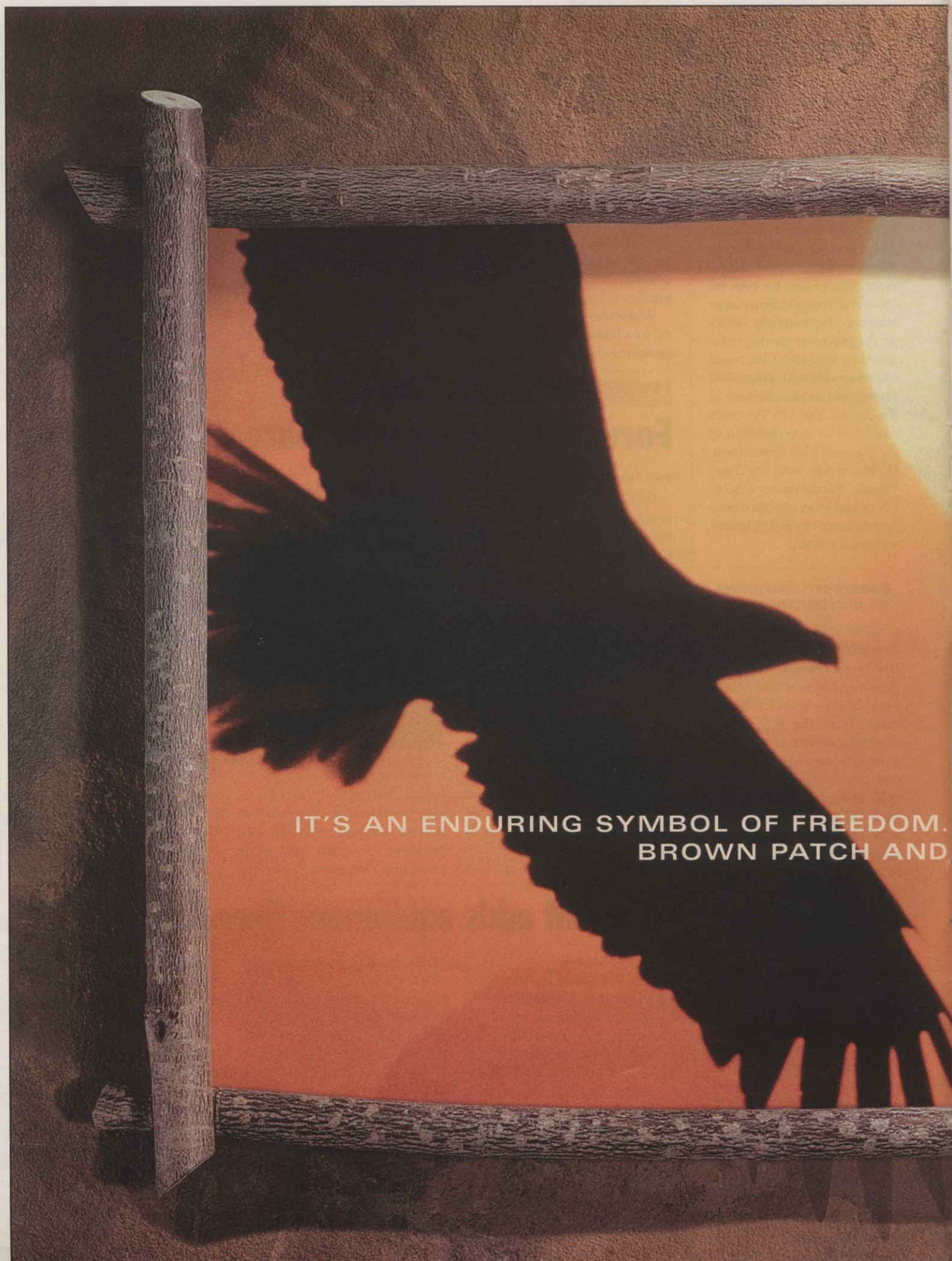
or very close to it."

As for industry competitors, Earnest said it is too early yet to tell where GMACCM fits in the picture.

"I don't know what they're doing. Two of our other major competitors – I don't want to mention their names – seem to be pretty busy right now," he said. "I think in six months, we'll all know better what each other have done."

For now, GMACCM is looking for more financing deals, regardless of their size, Earnest said.

"We can do larger deals, and as small as one-offs, and we've done some in-between," he said. "We'd like to talk to good players. We're looking to do portfolio transactions if we can but also if it makes sense to do individual transactions as well. We have an appetite for both." ■



IT'S AN ENDURING SYMBOL OF FREEDOM.
BROWN PATCH AND

Slow play doesn't have to be a way of life

Continued from page 19

to that the fact that the real solution plays into every manager's greatest fear; no wonder this problem has plagued the game for decades.

To solve the slow play problem, I use a "management/player equation." On one side are all the management operational ele-

ments, and on the other side are all the player elements. Until now, most slow play tools and solutions have focused on fixing only the player's side of the equation, where small improvements could be made but radical and consistent change was impossible. Today, using my Pace Manager Systems approach, we create a

partnership in which management and players share the responsibility and the problem can be solved.

First, managers must learn how to properly load the course. Poor loading and overcrowding cause players to slow to a crawl like cars on a congested freeway. Finding the right rhythm for the course maintains a smoother flow onto the course and makes it

possible in many cases to accommodate more groups, dispelling a manager's greatest fear. Secondly, managers must provide and use tools to monitor and manage the flow of play from sunup to sundown, day after day.

When I work with a course, they learn to do just that. Over a decade of helping courses improve their operations, I've catalogued all the seemingly hun-

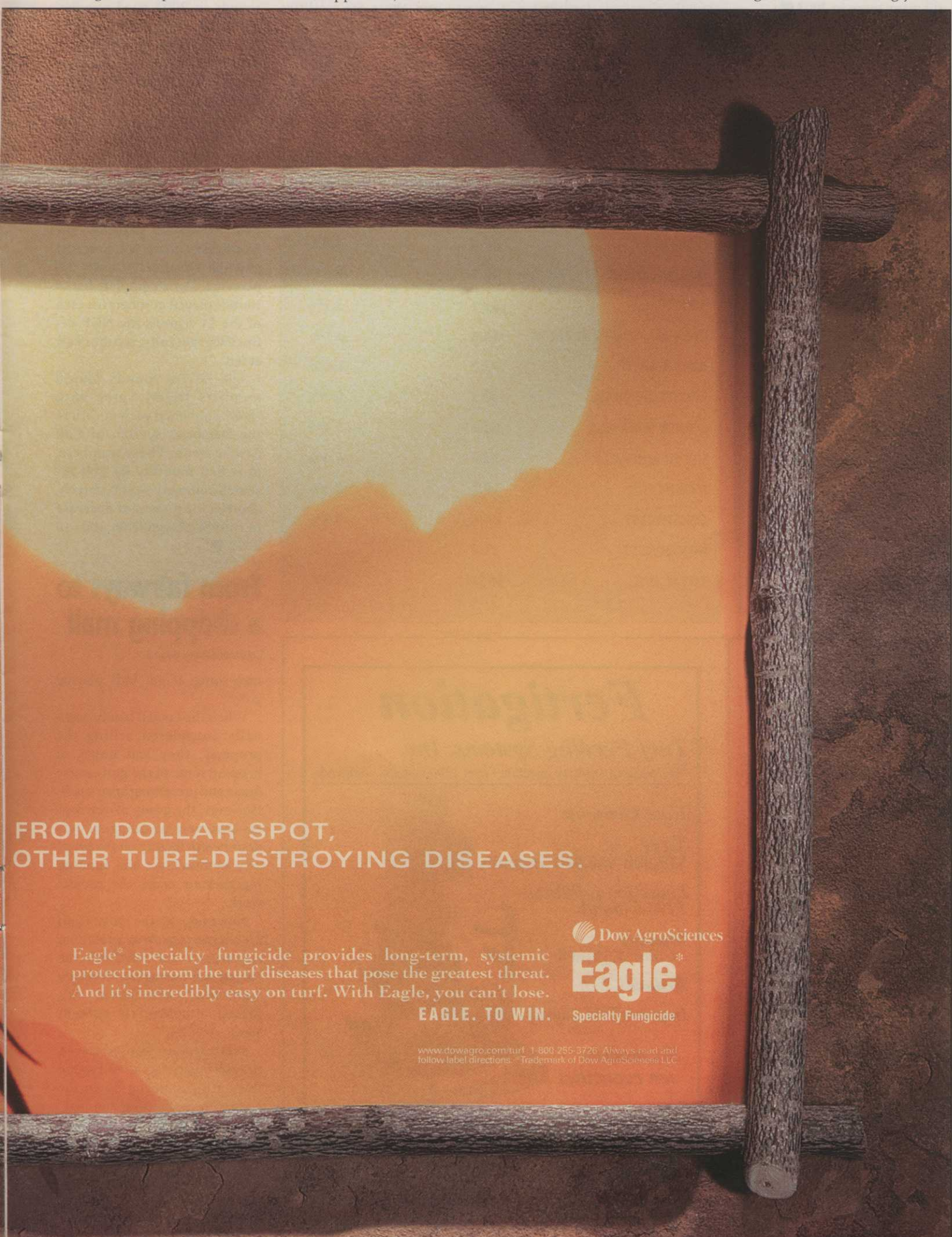
dreds of things that cause slow play into five functional areas. The "Five Cornerstones that Impact the Pace of Play" are: 1) management policies, 2) player behavior, 3) player ability, 4) course maintenance and setup, and 5) course design. My training helps courses define these areas and identify strategies for improvement. We also use a USGA Pace Rating and its eighteen individual hole "time pars" for the course to compare their actual time with the "should take" time to play eighteen holes. Not only does this objective measurement tool bring expectations in line with what the course can actually deliver (dispelling the myth of the four-hour round), but now we can determine which groups really are "slow." Now management teams can create effective monitoring tools, look for specific problem areas on their course, make changes, and directly quantify the improvement.

I use my computer simulation program to determine the optimum starting interval for each course, one that will allow maximum course loading (without overcrowding) and optimal flow of play on the course. With this in place, average round times plummet even on the busiest of days, while revenue and the player's experience and perception of value soar. Management teams can now control and deliver a consistent high quality golfing product day in and day out.

Players have a responsibility to themselves and to every other player on the course. When a starting time is issued, a "contract" has been created between management and player: management guarantees a starting time, access to a well-conditioned course, and a smooth uninterrupted pace of play, and the player agrees to arrive in time to check in, warm up and be on the first tee ten minutes prior to starting time. At the best managed courses, a group's starting time is "the time the group's first ball is in the air." When a foursome honors their part of the contract, they help ensure that they tee off exactly when scheduled.

Don't settle for delivering less than an excellent golf experience. When management teams and players partner to take the lead in the slow play challenge, wonderful things happen. The battle against slow play can be won by any course wanting to do so.

Bill Yates is chairman and CEO of Grey Town LLC and has helped lower round times on more than 90 courses worldwide.



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GolfGM adds finance

Continued from page 19

"Golf professionals and purchasing managers want to increase their purchasing power," Lewis said. "GolfGM Finance enables facilities to stay current with their vendors and capitalize on off-price purchases when funds are tight."

One of the main selling points of GolfGM Finance, Lewis said, is

the speed and ease with which facilities can sign up and have access to a credit line.

"There is no cost to participate in the GolfGM membership program," he said. "Within 24 hours, most clubs will increase their purchasing power by up to \$50,000."

To date, more than 500 facilities have registered for the service. Lewis said the company plans to add many more in 2003. ■

NGF report details decline in rounds, flattening revenues in 2002

Continued from page 1

facilities, with the data weighted to be nationally representative.

According to NGF president Joe Beditz, the decrease in total rounds played was not unexpected.

"Lack of growth in the number of golfers continues to inhibit any material growth in rounds played or facility revenues, making facility owners and operators vulnerable to increased competition and the poor economy," Beditz said.

Rounds revenue, defined as the sum of green fees, golf car rentals, annual dues and trail

fees, increased 0.6 percent, from \$13.1 billion to \$13.8 billion. The rest of the increase in revenues was attributed to food and beverage and merchandise revenues.

The rounds data cloud is not without its silver lining, however. Despite being outnumbered in the survey by nearly two to one, there are facilities around the country that experienced an increase in total rounds played in spite of difficult economic times, according to National Golf Course Owners Association executive director Mike Hughes.

Hughes said facilities cited a number of factors as having contributed to the changes in rounds played in 2002.

"Operators who had fewer rounds in 2002 than in 2001 cited weather, the economy and competition as the top reasons for the decline," Hughes said. "Meanwhile, those who had more rounds in 2002 cited weather, improved course conditions, improved or increased advertising/marketing and improved management as the main reasons for the increase."

On a regional basis, only central/south Florida and the Gulf Coast posted moderate gains in rounds of 0.2 percent and 1.4 percent, respectively. Hardest hit regions were the lower Midwest (down 5.5 percent), the Southeast (down 5.1 percent) and the Northeast (down 5.0 percent). For a complete list of rounds played numbers for each of the 11 regions the NGF defined for the study, see the chart at left.

The NGF's rounds played numbers largely agree with those published each month in the Databank section of *Golf Course News*. Those numbers, provided monthly by golf research company Golf Datatech, showed a 2.9 percent decrease in rounds played from 2001 to 2002. ■

2002 ROUNDS PLAYED IN THE UNITED STATES

REGION	ROUNDS (MILLIONS)	% CHANGE
NORTHEAST	67.6	-4.9%
MID ATLANTIC	30.9	-2.5%
SOUTHEAST	62.5	-5.1%
CENTRAL/SOUTH FLORIDA	36.6	0.3%
GULF COAST	29.2	1.4%
SOUTH CENTRAL	32.5	-0.1%
LOWER MIDWEST	85.6	-5.4%
UPPER MIDWEST	52.6	-4.4%
MOUNTAIN	19.2	-2.3%
SOUTHWEST	64.4	-0.2%
NORTHWEST	21.4	-2.7%
TOTAL U.S.	502.4	-3.0%

Source: National Golf Foundation

From fairways to a shopping mall

Continued from page 3

nice thing, it got kids playing golf."

When the Lowell family originally considered selling the property, they had hopes of keeping some of the golf course intact and preserving open space. However, the group of developers that were planning an outdoor health facility on the property couldn't get the funding together to make the project work.

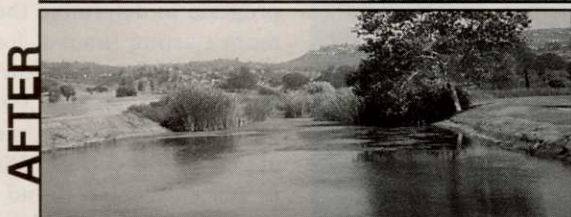
However, as the once-rural area began to grow as a bedroom community for Hartford, the change was inevitable. "It is very busy now," said Garvin. "It's turned into a pretty affluent area."

While Garvin plans to stay in the golf business, she will spend this spring shutting down the golf course, helping her parents move off the property and auctioning off two barns full of antiques. After that, she said, she plans to "take the summer off for the first time in a long time." ■

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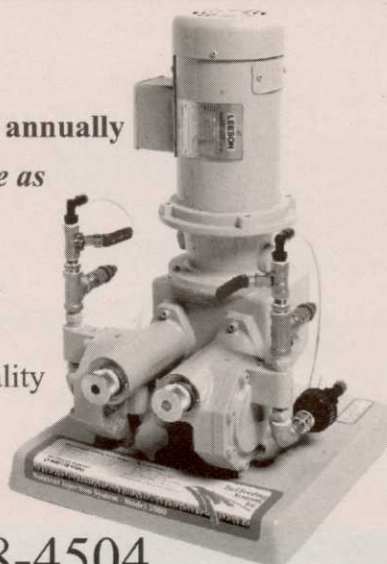
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SUPPLIER BUSINESS



BRIEFS

PURSELL NAMES FAIRLY, PROMOTES HIGGINS

SYLACAUGA, Ala. — Pursell Technologies Inc. (PTI) has added Erle Fairly as director of Pursell Farms Tours and has promoted Dr. Jeff Higgins to executive director of business development. Fairly will handle all aspects of Pursell's PTI Tour, which brings in more than 1,000 golf course superintendents annually to tour Pursell Farms, a 3,000-acre education and recreation facility created to showcase the company's technology and product performance. Higgins, who was formerly in charge of the PTI Tour, will now work with other PTI staff in identifying new market opportunities and direct all research at FarmLinks, the 18-hole demonstration golf course at Pursell Farms.

FINN ADDS GRADY OUT WEST

CINCINNATI, Ohio — FINN Corp. has strengthened its sales and support staff in California and Nevada with the appointment of Mark Grady as manager of the northern California and northern Nevada territory. Grady will be responsible for direct sales for the entire line of FINN products in addition to providing support for the area's dealer network and end-users.

TRAPMASTER APPOINTS GROSCH

WRENS, Ga. — Terry Grosch has been appointed director of marketing for erosion-control fabric manufacturer TrapMaster. Grosch has worked in the golf industry for 30 years as a director of golf and golf professional and played a pivotal role in the development of the company's patent-pending bunker erosion-control product.

USG REVAMPS WEB SITE

CHICAGO — United States Gypsum Co. (USG) has updated its Web site (www.gypsumsolutions.com) to provide more comprehensive content and an enhanced interactive experience to its customers. The site offers new product highlights, market updates and applications and product usage sections.

Golftech develops greens usability mapping system

By ANDREW OVERBECK

CANTON, Ohio — Golftech has developed a greens analysis mapping system that helps courses determine the usability of their putting surfaces. The high-tech maps use GPS and robotic technology to quantify the relationship between slope and speed on a given green. The process identifies what percentage of the green can be used for hole locations.

The system, which has been evaluated by the USGA and used by several courses including Oakmont (Pa.) Country Club and Baltimore (Md.) Country Club, is particularly useful for helping older courses with contoured greens deal with increased green speeds.

"This is high-tech meets hole locations," said Golftech principal Steve Hatfield. "Courses can find more hole locations and then

we give them a map that shows hole locations as a percentage of greens area."

The accurate maps are a result of Golftech's wheeled robotic total station, which collects data every foot.

"At the second hole at Oakmont, we found that less than two percent of the green was pinable," said Hatfield. "Once the USGA takes away the 12-foot inside perimeter on a green, they have less than one-half of a percent of the green that is usable for hole locations. They have three options: play it and deal with the consequences, renovate the green or slow it down."

While no action was taken as a result of the test at Oakmont, the technology has been embraced at



Golftech's system uses GPS and robotic technology to create slope zone analysis maps.

Baltimore CC, where architect Keith Foster and builder McDonald and Sons used it to scale back slopes on three greens without altering their original character.

"We had three greens that had

severe slopes where we didn't have any pin spots," said superintendent Tim Kennelly about the 1926 A.W. Tillinghast-designed layout. "We had 9,000 square-foot greens that only had

Continued on page 25

JustAir enters subsurface aeration fray

By ANDREW OVERBECK

ST. LOUIS, Mo. — After eight years working in the subsurface aeration installation business, Paul Tabor and Bill Fishburne have started JustAir, a division of Subsurface Technologies, based here. Both previously worked for the former Sub Air Inc., which has since been bought by a group of investors and renamed SubAir Systems (GCN, Jan. 2003).

"We started JustAir last year in the sports field market and in the past six months we have gotten into golf," said Fishburne.

With their combined field knowledge the pair has "built a better mousetrap" according to Fishburne.

"We have stainless steel vaults that are welded and are waterproof, we have redesigned the directional valving to be more efficient and achieve higher pressures and air volumes and we have stainless steel air and water separators that

Continued on next page

Greenside Injection unit customizes applications

By ANDREW OVERBECK

GLASTONBURY, Conn. — BioSafe Systems has developed a Greenside Injection unit to provide economical and convenient chemical injection for problem greens. The system was developed as a device to supply Zeritol to keep greens clean of algae, bacterial and fungal disease, but can also be used to distribute other products labeled for chemigation.

"Everyone has a green that does not respond to their program, this allows superintendents to zero in on the needs of a problematic green," said John

Wynne, BioSafe's director of sales for the turf division. "Whether its algae, anthracnose or LDS, this



BioSafe's Greenside Injection system customizes applications.

unit gives them the ability to provide parts of a specialized program for that one micro-environment."

The below-ground unit is installed in an enclosed box that connects to existing irrigation piping. A control valve and Mazzei injector allows for scheduled and regulated applications that can be controlled through computerized irrigation systems.

"This is direct injection into the greenside loop and you can time the application at the front or the back end of the irrigation cycle," Wynne said.

The first prototype went in last year at Glastonbury Country Club here and another is being installed

Continued on page 25

Eastman adds new hover model, wheeled mowers

By ANDREW OVERBECK

PORTLAND, Maine. — Eastman Industries has expanded on its Hover Mower product line and made its first entry into the wheeled mower category with two new models.

The company has been a strong player the floating mower market since being bought in 1999 by local businessman and former nuclear engineer Nicholas Nikazmerad. At that time, the company was known as Grass Craft, but Nikazmerad re-engineered the mowers and

changed the name to Hover Mower.

"We started from new," said Nikazmerad. "We redesigned the deck and impeller. About the only thing we didn't modify was the engine mount."

There are now three Hover Mower models, the newest being the model HM 19H4 that features a 5.5-hp 4-cycle Honda engine and a 19-inch deck.

"This engine was specifically engineered for

Continued on next page



JustAir jumps into market

Continued from previous page

are easier to install and less prone to damage," he said.

Additionally, the firm has also added a switch valve to allow vault units to be shared by two different greens that are close together and introduced climate-control components that can help control rootzone temperatures.

Fishburne said the new company will grow slowly so it can concentrate on customer service and quality installation.

"We want to stay small and not expand

too quickly," he said. "My emphasis has always been more hands-on with installations to make sure they are done properly and correctly."

One of JustAir's first golf course jobs was at Colonial Country Club in Fort Worth, Texas, last fall.

"We put an electric in-ground unit on the first green that we use to evacuate water out of the green profile after heavy rains or when we flush greens heavy to get sodium through the profile," said superintendent Jeff Elliot.

Although Elliot said he had not used the system to its full extent this season, he did

use it through the winter to remove frost from the green because it is the most shaded one on the course.

"We are still in the experimental stage with it, we have an existing manual system on all the greens," he said. "We are looking for something to help carry the rootzone and the bentgrass through the summer. We already have fans on all the greens and we are looking for another tool to keep the greens alive."

Darby Colen at Chenal Country Club in Little Rock, Ark., also brought in JustAir. At Chenal CC, JustAir is retrofitting an existing SubAir Inc. system that was get-

ting water in the vaults.

"They were put in places that were too low and would get water into them," said Colen. "JustAir is retrofitting them with stainless steel vaults."

For now, JustAir is focusing on the Southeast, Texas and southern Calif., and Arizona markets.

"We see a market throughout the United States," said Fishburne. "Initially subsurface aeration was targeted toward bentgrass greens, but it can control rootzone health in any type of green. The units can help the plant and enhance a course's operation."

Pricing for the JustAir units run from \$8,000 for the portable unit, to \$15,000 for the in ground unit, to nearly \$20,000 for an in-ground unit with climate control. ■

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- L. Golf Course Management Company Executive
- B. Green Chairman/Grounds Director
- C. Director of Golf/Head Pro
- D. Club President
- E. General Manager
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- G. Builder/Developer
- H. Architect/Engineer
- I. Research Professional
- Z. Others allied to field: (please specify) _____

2 My primary business is: (check one only)

- 21. Public Golf Course
- 22. Private Golf Course
- 23. Semi-Private Golf Course
- 24. Municipal/County/State/Military Golf Course
- 25. Hotel/Resort Course
- 26. Par 3/Executive Course
- 27. Practice Facility
- 29. Other Golf Course (please specify) _____
- 30. Golf Course Management Company
- 31. Golf Course Architect
- 32. Golf Course Developer
- 33. Golf Course Builder
- 39. Supplier/Sales Rep
- 99. Other (please specify) _____

3 Number of holes:

- A. 9 holes
- B. 18 holes
- C. 27 holes
- D. 36 holes
- F. More than 36 holes
- Z. Other (please specify) _____

4 Purchasing involvement: (check all that apply)

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- 3. Approve equipment for purchase

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Eastman has rolled out its first wheeled mower

Nikazmerad is also taking the company in a direction it has never been before – wheeled mowers. This year Eastman introduced two new commercial mowers with 20-inch decks and a choice between a 6-hp 4-cycle Kawasaki engine and a 5-hp 4-cycle Honda engine.

"Golf courses have two choices when it comes to buying a mower to use around the clubhouse or other areas," said Nikazmerad. "They can either buy a \$900 to \$1,000 mower, or buy a \$300 disposable mower from Home Depot. We wanted to make a sturdy commercial mower that can take the abuse, but that bridges the gap and doesn't cost an arm and a leg." The mowers will retail for \$650 and \$700, respectively, and have a two-year commercial warranty.

Nikazmerad plans to continue to add products to the Eastman lineup and said commercial wheeled mowers will just be the beginning of the firm's expansion beyond the Hover Mower into other niche markets. ■

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HA03

Maps identify hole locations

Continued from page 23

two or three pin spots. At 10 on the Stimpmeter they were too fast, almost unplayable. You could miss an 18-inch putt and have 18 feet coming back."

The goal of the renovation work was to gain an additional three to four pin placements per green by softening the slopes while still retaining the general shape and feel of the greens. As a result, seven- and eight-percent grades were reduced to three- or four-percent grades, but not all parts of the green were modified. This is where Golftech's technology proved priceless.

"We took the slope analysis maps and identified what we could do with minimum disturbance," said Foster. "Once we shot grades we calculated what we were raising and cutting and then blended it all back in together. It doesn't look like I did anything, it all blends in so well."

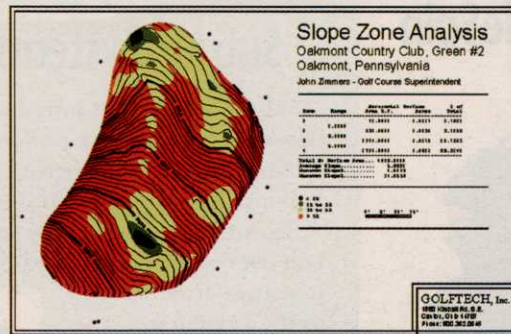
The push-up greens were carefully dismantled, and the existing sod and profile mix was put back exactly where it was before the renovation work began.

"You would be a fool to build a new green," said Foster. "The work is too good. This allows you

to respect the early design and modify it ever so slightly and seamlessly."

The new greens will be ready for play later this month.

Golftech's maps not only made the renovation process easier, they also helped Kennelly sell the



The green areas on this map identify possible hole locations.

project to his members.

"There were a lot of members who thought we were destroying the greens and that they would never be the same," he said. "We needed something to show them what adding the cupping space would do because there was nothing under five-

percent slope on the green.

When we finish, we are going to do another series of maps to show them how we have softened areas up. We will be able to put pins in places they have not been in 20 years."

Golftech charges \$1,500 per green for the mapping service and offers discounts for courses that map than seven or more greens. ■

Greenside Injection

Continued from page 23

at Doylestown Country Club in Warrington, Pa.

"We are putting in a new irrigation system right now," said Doylestown CC superintendent Paul Bevan. "We have one green that gets anthracnose so we are going to try the injector system on that hole. We may put more out there if need be."

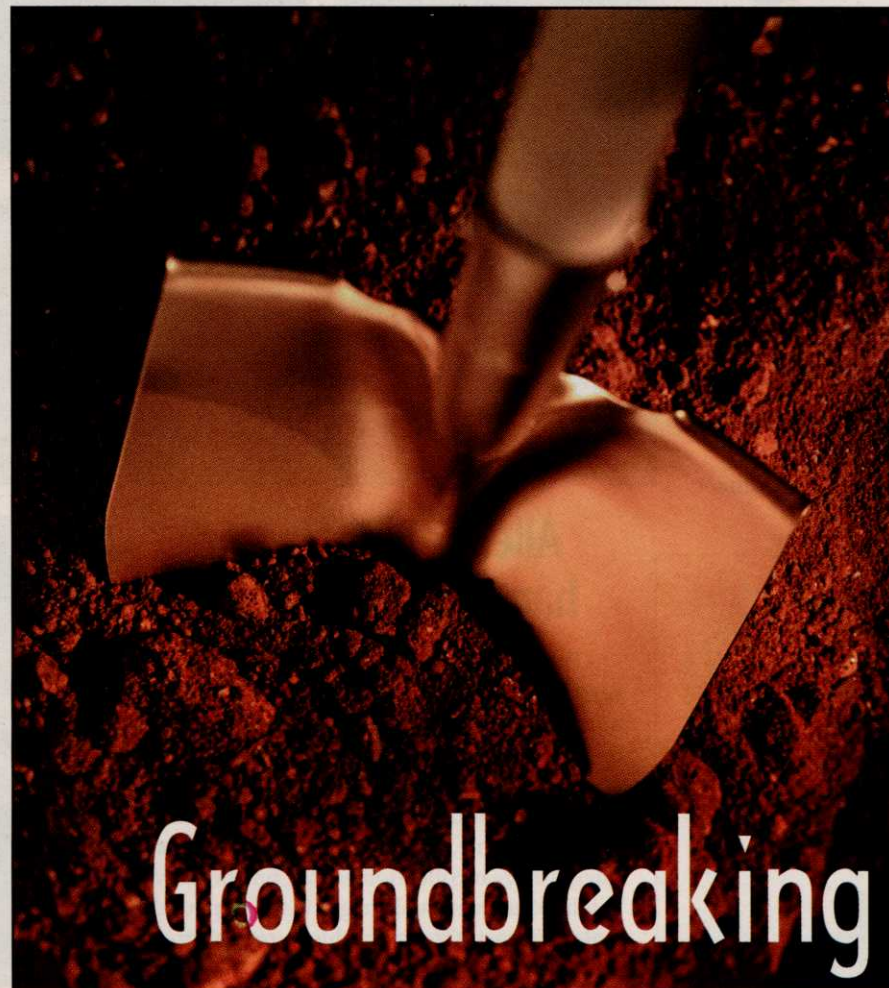
Bevan said the system will not only allow him to focus on his trouble green, but it will also save labor.

"If I have to go out there and spray one green, I have to have a guy mix it up, go out and spray it and then rinse out three times," he said. "It ends up being a two- or three-hour ordeal. Also, the injector takes it right out of the bottle, so you are not limited to using Zeritol, you could also use a wetting agent to control hot spots. It's a neat deal."

The Greenside Injector costs \$650, takes half a day to install and is customized to each individual green.

"Once you figure out the size of the green, how long the heads are spinning and how many gallons are coming out of the head, the injector is sized for the correct ratio of gallons of concentrate to gallons of water," said Wynne. ■

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Golf Course News announces a new awards program to recognize the outstanding remodeling or renovation of a golf course. This award will highlight the exceptional collaboration among the golf course architect, builder and superintendent, with special emphasis on environmental enhancement.

With golf course renovation projects on the rise, many organizations and golf courses today are setting ambitious goals for meeting environmental standards. *Golf Course News* is proud to recognize this effort and will encourage proposals from recently remodeled golf courses and coordinate a panel of judges for this achievement.

Awards will be presented in a gala ceremony at the GCSAA annual meeting to the golf course and its superintendent. Special recognition will be given to the golf course architect, builder, and participating vendors.

Look for details in our June issue on how you can nominate a golf course remodeling project that deserves recognition.

GOLF COURSE NEWS
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Turfco rolls out truck-mounted WideSpin



The new truck-mounted WideSpin 1530 broadcast topdresser.

Turfco has introduced the WideSpin 1530 truck-mounted broadcast topdresser.

The WideSpin 1530 combines the light topdresser with new technology that delivers heavy applications at greater widths. With a few adjustments, the WideSpin 1530 can switch from heavy to light topdressing in minutes with no attachments and no hydraulic

connections.

Twin spinners provide uniform application at any speed, and the spinner angle is adjustable for maximum penetration. The large capacity, lengthwise hopper loads fast with a front-end loader, so one operator can do the entire job.

For more information, contact: 763-785-1000.

SubAir Systems introduces new aeration units

SubAir Systems has introduced two aeration systems, a battery-powered version of its electric model and a newly designed vault to house its below-ground systems.

SubAir's new single-mode permanent system uses vacuum airflow to remove excess moisture from greens and oxygenate the rootzone. By reducing system components, the company was able to price the system at \$11,900. Based on sourcing efficiencies, the price for an electric dual-mode permanent system has been reduced to \$13,500 from \$19,000.

A new above-ground system also has been introduced for all electric models. This system is housed in an insulated fiberglass box and sits on a concrete slab, which reduces installation time and cost. The unit keeps key components out of the weather and

provides effective sound shielding – 72 db at 15 feet. The electric above-ground system is available in both dual-mode and single-mode models for \$10,900 and \$9,400, respectively.

SubAir has also introduced an electric model that operates on DC battery power, eliminating the need for the installation of 220-volt electrical service. The system uses eight six-volt batteries and a 110-volt charger drawing only 10 amps. It is priced at \$9,600 for a dual-mode system and \$7,900 for a single-mode system.

Also reducing installation time and cost is the company's redesigned low-profile vault for electric permanent systems. The new design reduces installation depth from six feet to three feet in height.

For more information, contact: 866-641-6663 or www.subairsystems.com.



The above-ground system reduces installation time and cost.

Allen's Turf Doctor handles dethatching

Allen has unveiled the Turf Doctor verticutter to handle dethatching needs. The unit is powered by a 5.5-hp Honda GX160K1 engine and is designed as a precision verticutting machine to clear out thatch and provide a healthy, playable surface in a short amount of time. The Turf Doctor features an integrated rear collection basket, on-the-move height adjustment and weighs in at 105 pounds making it easily transportable to remote areas on the course.

For more information, contact: 800-780-9889.



The Turf Doctor is powered by a 5.5-hp Honda engine.

Tree Clipper removes hard-to-reach trees, branches

Worksaver has made trimming and cutting hard-to-reach tree branches or unwanted trees easier with its new Tree Clipper. Designed for use with a tractor loader or a skid steer, the Tree Clipper features a welded steel frame and cutting blades built from T-1 steel. The cutting head on the unit rotates 113 degrees.

The Tree Clipper is available in two models, the TC8-FL and TC8-SS. The TC8-FL is designed for use with a tractor loader and comes with standard pin-type attachment brackets. This model requires a minimum of 45 PTO hp. The TC8-SS is designed for use with skid steers and uses a universal attachment system.

For more information, contact 217-324-3356 or www.worksaver.com.



The Tree Clipper's cutting blades take out a tree.



Collins Machinery Engineering's new backhoe is priced under \$5,000.

Collins ready with low-cost backhoe

Collins Machinery Engineering has introduced a portable low-cost backhoe that can be easily towed to a job site and put to work. The unit is powered by a 9-hp Briggs & Stratton industrial engine and features balloon tires, support legs, boom arms and a four-spool control valve

for regulating hydraulic pressure.

Four models are available and each are priced under \$5,000. Options include a choice of 9-foot or 12-foot reach from boom pivot and a 12-inch or 8-inch bucket.

For more information, contact 816-455-5035.

Non-lethal Fog Force sends birds packing

Becker Underwood's Fog Force is an effective, low-cost and non-lethal bird repellent, which contains methyl anthranilate, an EPA-registered naturally occurring compound also used as an additive in juices, candy and lotions. Fog Force acts as a sensory stimulant by irritating trigeminal chemoreceptors in a bird's eyes, mucous membranes and throat. Fog Force

gives off a harmless, grape odor to humans, but it completely overwhelms the targeted birds. Since it does not harm target or non-target birds, people or the environment, Fog Force can be used for fogging in high-traffic areas, such as golf courses and parks to deter birds.

For more information, contact: 800-232-5907 or www.beckerunderwood.com.



Geese beat a hasty retreat from Fog Force

DaVinci available this fall

Lebanon Turf Products has rolled out DaVinci tall fescue, a new turfgrass that was selected for improved disease resistance, fine leaf texture, high endophyte level and dark green genetic color. DaVinci also exhibits excellent drought and heat tolerance. The tall fescue will be available this fall in Lebanon's Winning Colors tall fescue blend. For more information, contact: 800-233-0628 or www.lebanonturf.com.

SUPPLIER BUSINESS

Bayer ES keeps Chipco line

Continued from page 1

"It is a very strong product line and it gives us a good strong position in South with fire ant control and mole cricket control," said Jim Fetter, director of marketing for Bayer ES. "We are clearly the leader in terms of insecticides and this helps us maintain our strong leadership position there. These products are new, patented, proprietary products and are rapidly growing because they have been introduced within the last five years. They are on a strong growth curve."



Jim Fetter

The deal ends months of speculation about how the back-license of fipronil products would be structured.

"There was negotiation going on," Fetter said. "It has been up in the air because it is a complicated deal. You have to work out all the details about which assets go, which plants are included and all that kind of stuff. It has taken time to work out the details." ■



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Fungicide rotation is key to anthracnose control

Continued from page 8

difficult to control because of increasingly stressful cultural practices.

"Turf management has changed," she said. "The key things are lower mowing heights and more compaction from increased play and the sand topdressing that gets brushed in. I think it is a signal from the turf that they [courses] are going too far. You can throw every kind of chemical in the world at it, but if you don't modify those cultural practices you are going to still be dealing with it."

According to Rutgers University's Dr. Bruce Clarke, maintaining proper levels of fertilization, raising the height of cut and maintaining consistency are the keys to managing anthracnose culturally.

"Superintendents need to get off the mowing roller coaster," he said. "Going back and forth and raising it and lowering it again and again in the heat of the summer is difficult on turf. Greens can still be fast and have less disease but it is a compromise that needs to be made because you can't keep lowering the height of cut forever."

Weather, however, has also played a part in the severity of the disease pressure. Warmer winters in 2000 and 2001 allowed the pathogen to survive and hit earlier than before. Hot, drought-plagued summers served to worsen conditions.

ROTATION IS KEY TO CONTROL

While anthracnose wreaked havoc on courses last year, it yielded valuable information to those studying the disease that will be helpful in future outbreaks.

"Last year was the best fungicide study I have had in the last 20 years because it was very easy to evaluate. We got a natural infection," said Clarke.

Clarke's research took place at three different sites and confirmed the importance of rotating fungicides to control the disease and reduce the chances of resistance.

"In the study, we had tolerance from strobilurins and benzimidazoles but at other courses they worked just fine," said Clark. "So you can't say they don't control anthracnose, that is not the point. Many courses have had success with those two chemistries. This is why we need to tank

mix and rotate. Where strobilurins and benzimidazoles are affected they should be alternated with other products."

Superintendents have taken the rotation suggestion seriously, and many have reported success.

Bob Mogel, superintendent at Galen Hall Country Club in Wernersville, Pa., got hit hard in 2001 and was ready for anthracnose in 2002. His arsenal included Signature, Zerotol, Daconil, Compass and Banner MAXX and he managed to make it through 2002 unscathed.

"It hit in the end of March a couple of years ago, so I started off early last year. I am about to put out Zerotol pretty soon here. It smokes the spores with hydrogen dioxide. Last year I sprayed every Friday throughout the summer. I used a lot of Signature and Daconil and threw in some triple 20 fertilizer to keep the fertility up," he said.

Mogel also tried not to stress out the turf. He started the season at 1/10 inch and eventually went up to 1/8 inch. He also used solid rollers and stayed away from aerifying or verticutting after the beginning of May.

At Doylestown Country Club in

Warrington, Pa., superintendent Paul Bevan has managed to stay anthracnose-free as well while also keeping the greens lean and mean.

"When I came here we had six greens that were riddled with it," said Bevan. "Right now we don't have any."

Bevan has reduced fungicide applications to twice a month by rotating applications between Zerotol every other week and a mixture of fungicides every other week. Last year he used Daconil, 3336, Compass, Alliette, Heritage, Banner MAXX, Bayleton and Endorse.

"I mow greens at 1/10 of an inch and I roll three times a week," said Bevan. "I push them and I have not had any problems with it. When I have had little bouts of it, five or six spots on each green, I hit it with Zerotol for three straight days and then come back with Endorse or Daconil and I seem to get some recovery out of it."

While superintendents continue to press the envelope, more research is planned. Clarke will focus future research on the impact of fertility, mowing practices, plant growth regulators, herbicides and improved fungicide application strategies on the development of anthracnose. ■

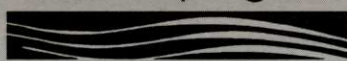
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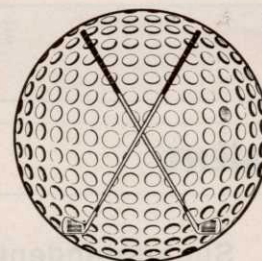


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Cook disputes activist's pesticide science

Continued from page 7

State University to put golf course pesticide use in the proper perspective.

It is difficult to respond to this kind of sweeping condemnation of golf course pesticide use. By combining a hodgepodge of miscellaneous claims with no apparent context, the author has created a scary image of impending doom. All I can do is ask some questions.

1. How can anyone fairly evaluate the relative intensity of pesticide use without factual information?

The amount of pesticide applied per treated acre is an argument that has been used for many years. This argument exaggerates and skews the actual use of pesticides in my opinion. For example, if a 150-acre planting of corn received a pre plant herbicide application at one pound of active ingredient (ai) per acre followed by two later applications of insecticide for corn earworm each at one pound of ai per acre, what would the statistics show? They would show a total of three pounds of ai per treated acre. They would also show a total of 450 pounds of ai applied to the corn crop.

If you had a 150-acre golf course with two acres of putting greens and those greens received six fungicide treatments at one pound of ai per acre plus two insecticide applications

'I feel it is a giant leap to equate superintendent health issues with pesticide use'

— Dr. Tom Cook

at one pound of ai per acre, what would the statistics show? Total pesticide ai per treated acre would be eight pounds. Total pesticides applied per 150-acre golf course would be 16 pounds of ai. Which site used the most pesticide? Per treated acre, the golf course did. Per site, the farm used 450 pounds vs. 16 pounds for the golf course. If I want to defend golf courses, I talk about total pesticide use for the entire area. If I want to disparage golf courses I talk about pesticide use per treated acre.

In reality, pesticide use varies dramatically from one golf course to another. Unless New York has official mandated reporting guide-

lines, there is no way the attorney general could accurately calculate the actual pesticide use on Long Island golf courses. He would have to invent his numbers by making numerous assumptions that may or may not be correct.

2. What conclusions can you draw from the GCSAA survey regarding health of golf course superintendents?

Are we to assume that the apparent increase in cancer is due to exposure to pesticides? Perhaps it is the natural consequence of people working in high-stress jobs who have poor general health habits including poor diet, smoking, alcohol consumption, sleep deprivation, etc. Add to that the emotional strain of trying to produce perfect playing conditions under all manner of weather-related stresses and it is probably surprising that superintendents don't have even more health problems. At many if not most golf courses, the superintendent isn't even directly involved in pesticide application and has probably no more exposure to pesticides than the general golfing public. I feel it is a giant leap to equate superintendent health issues with pesticide use. ■

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Forecaddies keep the pace at Bear's Best

Continued from page 19

WHAT'S OLD IS NEW AGAIN

According to Adam Owen, general manager at Bear's Best Las Vegas, the forecaddie program was initiated as a means of providing better service to the course's customers by helping to familiarize them with an unfamiliar layout.

"It's always difficult when you go to a brand-new golf course that you've never played before, and you have forced carries where you don't know how far you have to carry it or greens where you can't really see the green, just the flagstick," Owen said. "We're able to help them out with yardage and with navigating around the course."

The reduction in average round

times was a pleasant side effect of the program, Owen said.

"For the last 14 or 15 months of our operation, we've been able

"On some of our spring days, we have 180 or 190 players, so pace of play is critical. That's what we always try to stress is that we're not only guaranteeing happiness with pace of play for the group on the tee, but also for the group 30 groups behind them."

— Adam Owen

to keep our average pace of play to four hours and 20 minutes, which for a resort round of golf is very quick," he said. "Most average rounds in Las Vegas are around five hours."

Owen said the caddies at his club attack pace of play before a round even begins by making sure

groups arrive at the first tee five minutes prior to their tee time.

"The program ensures proper starting times, so they're acting as not only starters but course marshals," he said.

Owen said the club stresses the importance of maintaining a consistent pace of play to ensure that everyone can play the course in a timely fashion.

"On some of our spring days, we have 180 or 190 players, so pace of play is critical. That's what

we always try to stress is that we're not only guaranteeing happiness with pace of play for the group on the tee, but also for the group 30 groups behind them," he said.

Despite the high costs associated with the program, Owen said the benefits of offering the ser-

vice far outweigh those costs.

"We are taking a severe hit on our cash flow as a result of offering this service because every one of our caddies is an employee of Bear's Best. It is financially daunting for us to keep this program in place," he said. "But we think it is a nice enough service that adds such an experience and adds a value to our green fee that it would be difficult to do without."

The cost for forecaddies is built into green fees, Owen said, so paying for the service is as easy as possible for customers. The only charge that isn't included in the service is the caddie gratuity.

Owen also said the program pays off for Bear's Best, since the club has a built-in representative who spends four hours with a group and can answer questions about things like the availability of home sites and other amenities at the club. ■

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NATIONAL GOLF ROUNDS PLAYED*

REGION	FEBRUARY	Y.T.D.
NEW ENGLAND (ME, NH, VT, MA, RI, CT)	-94.4%	-91.7%
MIDDLE ATLANTIC (NY, NJ, PA)	-91.1%	-88.0%
EAST NORTH CENTRAL (MI, OH, IN, IL, WI)	-71.3%	-74.1%
WEST NORTH CENTRAL (MN, IA, MO, KS, NE, SD, ND)	-24.6%	-32.8%
SOUTH ATLANTIC (DE, WV, VA, MD, NC, SC, GA, FL)	-1.1%	-3.4%
EAST SOUTH CENTRAL (KY, TN, AL, MS)	-21.1%	-23.7%
WEST SOUTH CENTRAL (AR, LA, OK, TX)	-19.4%	-14.3%
MOUNTAIN (MT, ID, WY, CO, NM, AZ, UT, NV)	-1.8%	12.7%
PACIFIC (WA, OR, CA, AK, HI)	-2.7%	5.3%

* The percentages above represent the difference in number of rounds played in the month of February 2002 from the number of rounds played in February 2003.

Source: Golf Datatech

Golf Course News STOCK REPORT (4/7)

Company(Symbol)	Price	Change(%) 3/14/03	52-wk range
Aventis (AVE)	43.49	-1.3	41.85 - 72.06
BASF (BF)	41.55	22.3	31.22 - 46.85
Bayer AG (BAY)	15.33	30.2	10.80 - 35.85
Central Garden and Pet (CENT)	23.33	-1.1	10.58 - 25.30
Deere & Co. (DE)	41.24	5.4	37.50 - 51.60
Dow Chemical Co.(DOW)	28.95	7.7	24.10 - 34.73
Golf Trust of America (GTA)	2.40	17.0	0.88 - 5.40
Ingersoll-Rand (IR)	41.05	9.4	29.69 - 54.40
Lesco Inc. (LSCO)	10.35	-3.4	9.50 - 14.60
Monsanto Co. (MON)	16.10	-2.9	13.20 - 33.99
Syngenta AG (SYT)	9.83	7.2	8.50 - 13.20
Textron Inc. (TXT)	29.80	-10.1	26.00 - 53.60
Toll Brothers (TOL)	20.16	6.4	17.63 - 31.80
Toro Co. (TTC)	72.79	5.6	46.30 - 75.50

CURRENT U.S. GOLF PROJECT ACTIVITY (CHANGE FROM 2002)

	NEW	ADDITIONS	TOTAL
PROPOSED	349 (-26)	65 (-1)	414 (-27)
IN PLANNING	397 (-63)	74 (-11)	471 (-74)
UNDER CONSTRUCTION	349 (-95)	164 (-44)	513 (-139)
COMPLETED	19 (+4)	4 (-1)	23 (+3)

Source: NGF

Renovation numbers

The National Golf Foundation's monthly Golf Project Report numbers do not include courses classified as reconstructions or renovations. At present, 53 renovated/reconstructed courses are under construction, and two renovated/reconstructed courses have opened this year.

GOLF COURSE NEWS

THE BUSINESS NEWSPAPER FOR THE GOLF COURSE INDUSTRY
www.golfcoursenews.com

Information Center

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Becker Underwood	29	800-232-5907	515-232-5961	www.beckerunderwood.com
BioSafe Systems	18	888-273-3088	888-273-3388	www.biuosafesystems.com
Bird-X	30	312-226-2473	312-226-2480	www.bird-x.com
Chestnut Identity Apparel	9	831-336-8977	831-336-8977	—
Colorado Lining	30	800-524-8672	303-841-5780	www.coloradolining.com
Continental Bridge	29	800-328-2047	320-852-7067	www.continentalbridge.com / conbridg@continentalbridge.com
Crompton/Uniroyal Chemical	15	203-573-3025	203-573-3394	www.cromptoncorp.com
Dow AgroSciences *	10-11	800-255-3726	800-905-7326	ww.dowagro.com/turf
Dow AgroSciences	20-21	800-255-3726	800-905-7326	ww.dowagro.com/turf
Dow AgroSciences	16-17	800-255-3726	800-905-7326	ww.dowagro.com/turf
Dow AgroSciences	4	800-255-3726	800-905-7326	ww.dowagro.com/turf
E.P.Aeration	22	800-556-9251	805-541-6149	www.epaeration.com / mike@epaeration.com
Excel Bridge Mfg.	29	562-944-0701	562-944-4025	www.excelbridge.com / excelbridg@gte.net
Flowtronex PSI	9	214-357-1320	214-357-5861	www.flowtronex.com
Formost Construction Co.	28	909-698-7270	909-698-6170	formost@inland.net
Georgia Pine Straw	28	800-944-4753	—	www.georgiapinestraw.com
Grinnell Mutual Reinsurance Co.*	27	800-362-2041	800-892-2304	www.gmrc.com
Grund Guide	29	800-971-7233	626-969-3724	www.grundguide.com
Harrington/Harco Corporation	29	434-845-7094	434-845-8562	www.harcofittings.com / sales@harcofittings.com
Hunter Industries	22	800-248-6561	209-277-1383	huntergolf.com
Irrigation Technical Services	29	724-935-2339	724-935-8233	—
John Deere	3	919-850-0123	919-954-6343	www.deere.com
LESCO	32	440-782-4390	440-783-4383	ww.lesco.com
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Markers, Inc.	30	800-969-5920	440-933-7839	www.markersinc.com
Monsanto	9	314-694-1000	—	www.monsanto.com
Newman Enterprises	18	888-685-2244	920-582-4787	www.bitingflies.com
Patten Seed	9	800-634-1672	770-463-3039	www.pattenseed.com
Precision Small Engine	29	800-345-1960	954-973-8032	www.precisionusa.com / andym@precisionusa.com
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Quail Valley Farms	28	800-666-0007	501-975-6286	www.quailvalley.com
Reliable Golf Course Supplies	28	800-274-6815	518-793-2812	www.reliablegolf.com
Roots, Inc.	12	800-342-6173	816-254-1408	www.rootsinc.com
Sandboss	28	87-SandBoss	850-574-2675	www.sandboss.net
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Seepage Control	28	480-763-1180	480-763-1182	www.seepagecontrol.com
Spectrum Technologies, Inc.	30	800-436-4440	815-436-4460	www.specmeters.com
Standard Golf	5	319-266-2638	319-266-9627	www.standardgolf.com
Steadfast Bridge Co.	30	800-749-7515	256-895-9750	www.steadfastbridge.com / sales@steadfastbridge.com
Turbo Technologies	28	800-822-3437	724-846-3470	www.turboturf.com / sales@turboturf.com
Turf Feeding Systems	22	800-728-4504	713-849-9047	turffeed@aol.com
Turflite	30	636-441-8588	636-441-8180	www.truesurface.com
U.S. Chemical	28	828-264-6198	828-264-5228	www.uschemicalstorage.com
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*Appears in regional editions.

When requesting information, please mention Golf Course News 5/03.



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