Wadsworth to receive Don Rossi Award

CHAPEL HILL, N.C. — Brent Wadsworth, touted by many as the inventor of the golf course construction industry, will receive the Don A. Rossi Award for the year 2000 from the Golf Course Builders Association of America (GCBA). The award will be presented Feb. 18 at the GCBA’s annual awards dinner in New Orleans.

Wadsworth is the first golf course builder to receive the award, which was inaugurated by the GCBA in 1991 to honor its late executive director, Don Rossi.

"Going into the millennium, we wanted to honor the man who invented the golf course construction business," said James J. Kirchdorfer, Continued on page 10

Leiweke leaving First Tee Program

By Mark Leslie

PONTE VEDRA BEACH, Fla. — Tod Leiweke, executive director of the First Tee program, has officially been named president of the National Hockey League’s new Minnesota Wild expansion team.

Leiweke, who had spearheaded the First Tee nearly since its inception in November 1997, was expected to join the team by December. Director of Resources Len Stachitis

Continued on page 38

ClubCorp obtains additional $300M from Cypress

By Peter Blais

DALLAS — The Cypress Group LLC, a New York-based private equity firm, has committed to invest $300 million in ClubCorp.

Said Robert Dedman Jr., chief executive officer of ClubCorp: "We examined a variety of alternatives to support the growth initiatives we intend to pursue, and we found that Cypress was the most compatible choice for us. ClubCorp has been a leader in consolidating our industry, and we believe today’s investment from Cypress will position us to continue to proactively take advantage of that trend through the growth of our existing properties and the acquisition of others, both in the U.S. and abroad."

What are those growth initiatives ClubCorp will pursue?
"Penn A-4 enhances the game of golf. It is my personal feeling that Penn A-4 is one of a number of significant contributions to the game of golf by Dr. Joe Duich." "Awesome."

Cutler Robinson, CGCS, Supt.
Bayville GC, Virginia Beach, VA

"Simply stated, everyone who has played Bayville comments the greens are 'the best they have ever putted.' This grass allows our members to experience 'tour' quality putting and green speed without jeopardizing fairness and enjoyment. Properly managed, Penn A-4 is, in my opinion, the best grass to date and has set a new standard for excellence."

Dean Hurst, PGA Professional
Bayville GC, Virginia Beach, VA

"Even though summer temperatures can reach 115-120°, we’ve cut our Penn A-4 at 7/64" for more than a year with no problems."

Doug Anderson, CGCS, Supt.
The Vintage Club, Palm Desert, CA

"For me, the lower the cutting height, the better the management (Penn G-6)."

Pete Gerdon, Supt.
Grandfather Golf and CC, Linville, NC

"Because of the short season at our 7,500 ft. elevation, we sodded our rebuilt greens with 42” wide rolls of Penn A-4 from West Coast Turf in California. There, we found a source for rootzone sand that closely matched our own, and the long, wide rolls minimized seams. We re-opened 5 weeks after sodding, and dense, fibrous roots reached 10-12” in a matter of months."

Kevin Ross, CGCS, Supt.
CC of the Rockies, Edwards, CO

"Quality of the Penn A-4 putting surfaces at The Estancia Club is beyond comparison. Ball roll and the pace of the greens are excellent. I would not hesitate using Penn A-4 again."

Carl Rygg, CGCS, Supt.
The Estancia Club, Scottsdale, AZ

"Penn A-4 Greens do not cost more. While they do need more topdressing and aerification, they require significantly less water, fertilizer, and pesticides."

Ted Hunker, Supt.
Tartan Fields GC, Dublin, OH

"We’ve overseeded Penn G-6 into our Poa/bentgrass greens after aerifying a total of five times. We fill the holes within 1/4 to 1/8” with sand, seed with one lb. per 1,000 sq. ft., then topdress. When the Poa stresses under heat pressure, Penn G-6 will re-populate that area."

John Lof, Supt.
Michelbook CC, McMinnville, OR

"Penn A-4 greens do not mean more work, more trouble, and do not cost more money to maintain. In fact, just the opposite may be true. We have found that they require fewer cultural practices such as vertical mowing and brushing. In two years of managing Penn A-4, we have not observed any brown patch or dollar spot, and greens require limited amounts of fertilizer."

Kurt Thuemmel, CGCS, Supt.
Plum Creek CC, Fishers, IN

"I overseeed our 18 old greens with 1/4 lb. per 1,000 sq. ft. of Penn A-4 each time we aerify. Now, with single cut and roll, our green speeds are consistently fast at 12 to 12-1/2’. Where ball marks tend to tear older bents, they just make dents in Penn A-4."

Pat Franklin, Supt.
Plum Creek CC, Fishers, IN

"We resodded high stress areas in our PennLinks fairways with Seaside II, and are very pleased with its performance. I selected Seaside II with improved dollar spot disease resistance and salt tolerance to address two major turf challenges; the coastal influence and potential sodium buildup from irrigation. We find Seaside II a strong ally to our PennLinks fairways, and in the future, will slit seed with Seaside II where needed to enhance turf quality."

David Major, CGCS, Supt.
Del Mar CC, Rancho Santa Fe, CA

"We have 36 putting greens and 4 practice greens that have been converted from Toronto C-15 to Penn A-4 Creeping bentgrass. When the greens were placed in play the spring after conversion, comments from our golfing membership were very positive even though turf maturity had not been reached. Putting trueness and turf appearance were among the positive remarks most often mentioned. Now that the putting surfaces have additional development, comments are the greens are superior to anything they’ve played."

Bill Byers, CGCS, Supt.
Des Moines G & CC, West Des Moines, IA

"Comments from golfers have been extremely positive (Penn G-2)."

Jeff Hill, CGCS, Supt.
Pinehurst Resort and CC, No. 8, Pinehurst, NC

Penn A-1
Penn A-2
Penn A-4
Penn G-1
Penn G-2
Penn G-6
Seaside II
NuPenn Blend

©1998 Tee-2-Green Corp.
The vagaries of the weather often dominate the news pages of Golf Course News. So it was again this year. The two major weather-related stories involved the drought that lasted from early spring through late summer in much of the Eastern United States, followed by the wind and water damage Hurricane Floyd and the subsequent rains visited along the East Coast, particularly in the Carolinas.

Some high-profile courses were in the news. Pebble Beach opened the year by breaking ground on a new 5th hole that officials believe will improve the layout immensely. This summer an American group, led by Arnold Palmer, purchased the Pebble Beach Co. for $820 million from a Japanese firm that had owned the resort and its four courses since 1992. Farther down the California course, a leak in a sewer line was believed to have undermined a portion of Ocean Trails Golf Course in Rancho Palos Verdes, sending a 200-by-400-foot section of the course 50 feet toward the Pacific Ocean and leaving behind a deep ravine.

On the opposite coast, Southern New Jersey's Pine Valley Golf Club, annually ranked the top course in the world, saw architect Tom Fazio break ground on a daily-fee layout called Pine Hill Golf Club less than a mile away.

The news was mixed on the golf course supply-and-demand front. The 448 new U.S. golf facilities opened in 1998, the second-highest number ever, may be matched or exceeded when the final count becomes available for 1999. Nowhere was the growth more evident than in Myrtle Beach, S.C., where the Grand Strand's 100th layout was witnessed. But while golf course supply headed up, the number of rounds played (the major measure of golf demand) took a slight dive, down 3.4 percent overall. Increased supply and decreasing demand is the type of news that bothers course operators. Still, that news was tempered somewhat by another NGF study that showed playing fees rising roughly 12 percent annually since 1994.

While it's too early to tell, anecdotal information from superintendents and others in the golf industry indicate that, Hurricane Floyd aside, 1999's generally dry weather resulted in greater demands for tee times.

Seaside course trying to stay out of water

By ANDREW OVERBECK

RANCH PALOS VERDES, Calif. — Southern California's answer to Pebble Beach suffered a massive setback June 2 when a 200-by-400-foot section of the 18th hole shifted out 50 feet from the rest of the course leaving behind a 60-to-90-foot deep ravine between the 18th and 12th holes.

The section of the course that shifted sat on an ancient landslide, which was bisected by an aging Los Angeles County sewer line. It is widely speculated that a leak in that sewer line touched off the land movement.

The Ocean Trails Golf Course, designed by Pete Dye, was only weeks away from opening and developers are now faced with the task of reconstructing the damage.

"It has always been complicated with this project," said developer Ken

Continued on page 5
Dry weather plagues East Coast

By PETER BLAIS

During his travels throughout his five-state area—Pennsylvania, Maryland, Delaware, Virginia and West Virginia—United States Golf Association Green Section’s Mid-Atlantic agronomist Stan Zontek has witnessed the effects of what some are calling the worst drought in the past 100 years.

“It’s a notch above awful,” Zontek said. “Today [Aug. 5], the state of Maryland imposed mandatory water restrictions. Watering of fairways is only allowed with syringe irrigation with an 80-percent reduction in water usage required. Greens and tees are limited to the minimum necessary.

“Delaware is on voluntary restrictions and will probably go into mandatory water restrictions by noon on Friday [Aug. 6] north of Wilmington.

“Pennsylvania went to mandatory water restrictions last week. They allow watering of tees and greens only and syringing to a maximum of 15 minutes a day to heat-sensitive grasses, which are defined as bentgrass and poa annua fairways. Any irrigation of sodded or seeded areas can only occur from 9 p.m. to 5 a.m., which isn't going to help for sodding or seeding.

“In Maryland, they don’t even allow that. No agricultural irrigation is allowed at all.

“West Virginia was just designated a drought emergency by the President. Virginia has voluntary restrictions, although in the far western corner of the state it’s wet, like an oasis. The courses around Bristol are the first green courses I’ve seen in two months.”

Most watering restrictions apply to courses whether they are on municipal water or have their own wells.

“The superintendents are irate,” Zontek said. “You can have an impounded pond that doesn’t rely on city water, streams or wells, and it doesn’t matter. You’re still under the same restrictions.”

In addition to brown grass, the drought has led most courses to restrict golf carts to cart paths and/or roughs.

According to Zontek, it’s too early to tell what long-term problems could arise from the prolonged dry spell.

“Cool-season grasses have a very efficient dormancy cycle under drought stress,” he said. “The grass may look white, but if you get rainfall for recovery, it will pop back just fine. High-traffic areas are the problem.

“The second major effect will be on trees. The ground is powder dry four feet down, and most tree roots are in the top three feet. They are losing leaves now. I’m seeing trees literally wilting. That’s sayonara. Arborists say it takes up to five years to see the effects of a drought on trees. So that’s where the greatest long-term effect is likely to be.

“The bent and poa annua greens are taking it on the chin. Anthracnose is out there... There definitely will be some reseeding this fall.”

ClubLink, RCGA strike course deal

KING CITY, Ontario—ClubLink Corporation has completed its $40 million (Cdn) purchase of Glen Abbey Golf Club, the top-ranked public course in Canada and site of the 1999 Bell Canadian Open.

ClubLink will continue to operate the Jack Nicklaus-designed, 18-hole course as a daily-fee facility.

ClubLink will host the Bell Canadian Open at Glen Abbey a minimum of four times through 2009. The Open will be held a minimum of one time between 2010 and 2014, and a minimum of one time between 2015 and 2019. ClubLink will lease Glen Abbey to the Royal Canadian Golf Association (RCGA), at market rates, for the Open.
Hurricane Floyd leaves mark on North Carolina

By Peter Blais

WILMINGTON, N.C. — Hurricane Floyd and the heavy rains that followed in mid-September left numerous courses submerged and forced many to close for a month or more. Floyd came ashore here Sept. 13. The Wilmington area was hit full force by the hurricane, but escaped the worst of the floods, according to Joey Hines, head pro at Cape Fear Country Club. "We got 33 inches of rain, but never flooded to the point many other courses did," Hines said. "Anything from Wallace to Kenston to Greenville was badly flooded. The perimeter roads leading into and around Wilmington were washed out. But Wilmington did not have real bad floods. "We lost quite a few trees. Everybody in the area had pretty much the same thing — a messy cleanup, a lot of standing water, trees and debris. The worst of the flooding occurred farther north and west.

The best greens aren't built. They're maintained. And no machine maintains them better than the John Deere 2500 Tri-Plex Greens Mower. After years of extensive testing feedback from literally thousands of superintendents worldwide, the 2500 has been engineered to give an exceptional quality of cut, the utmost in operator comfort, and the highest level of serviceability. Cut is king on the 2500. The cutting unit suspension carries the weight of the lift arms and grass catchers on the traction unit instead of the cutting unit. The 2500 also has the lowest psi of any tri-plex greens mower. And all controls are conveniently located at the operator's fingertips. For a better look at the 2500, call your local John Deere distributor or 1-800-537-8233. www.deere.com

Ocean Trails

Continued from page 3

Zuckerman, who has spent 15 years trying to turn the Ocean Trails concept into a reality, knew about the ancient landslide prior to construction and took the following measures to ensure that golf course irrigation would not effect the stability of the land. "We put down a three-foot layer of impermeable clay and six inches of sand and then a herringbone drainage system," said Zuckerman. "That fed into a sump pump, which pumped the water to an irrigation lake on the course." Unfortunately, the leaking sewer line was buried beneath the clay cap. Dye, who was on his way to Ocean Trails the day of the slide to give the course his final stamp of approval, has already examined the damage. "When I got there the next day it looked like the shoreline had been there for a million years, you could see the fairway, the bunkers and the green," said Dye. "I have been around for 73 years and I have never seen anything like it." There are a couple of repair options available to the developers, according to Dye. "They can put the hole back where it was without a great deal of fight, or you could leave it out there," said Dye. "All you really have to do is clean out the valley, grass the thing and fix what has been broken out of 18." Whatever is decided, the ground will have to be stabilized. Although preliminary reports from geologists suggest that major earth movements are unlikely to happen again along the ancient landslide and the leaking sewer line has been repaired, Zuckerman plans to proceed with great caution.

"We would like to get the work done by the end of the year," said Zuckerman.
Unsurpassed control of Brown Patch and 10 other diseases.

Compass is the best Brown Patch value on the market. Period. It provides the highest efficacy against Brown Patch at the lowest rates ever, as well as excellent control of diseases such as Gray Leaf Spot, Anthracnose, Leaf Spot, and many others.

Tank mix with Banner MAXX™ for Dollar Spot control and Subdue® MAXX™ for Pythium control.

Compass is an excellent tank-mix partner for Banner MAXX in controlling Dollar Spot and providing additional protection against Anthracnose, Leaf Spot, and Summer Patch. Tank mixing with Subdue MAXX provides exceptional control of Pythium.

Affordable on fairways, yet effective on greens.

Use of Compass is not limited to fairways. With its revolutionary technology, it can be used on greens and tees, as well. Affordably priced, it is the ideal solution for all areas of the course.

New Compass™
A fairway fungicide so advanced it combines the best of contacts and systemics at the lowest rates ever.
Mesostemic power delivers locked-in, rainfast control up to 21 days.

Mesostemic activity, a revolutionary feature unique to Compass, allows it to securely lock into the plant surface. The result: a protective reservoir of fungicide for long-lasting, rainfast disease control.

Lowest rates ever reduce chemical load up to 95%.

Compass delivers the value of a contact with the power of a systemic.

Reduced-risk classification means environmentally sound disease control.

www.cp.us.novartis.com
An honorable profession

Out of the barn and into the “maintenance complex.” Out of the era of horse-drawn equipment and into the era of cyber-hotlines, GPS systems and subsurface injection. Out of the era of widespread chemical applications and into the era of custom-made composts and biological controls, with an eye on wildlife, waterfowl and winged bug-eaters.

My, what a trip golf course superintendents have ridden these last 100 years of this last century of this third millennium.

The profession of golf course superintendent — soon to be called golf course manager, I predict — has long been an honorable one. As my friend John Ebel points out, God even made Adam the first “tender of the green.” What higher appointment could you ask for?

Now they have taken their work to a higher level. Superintendents have long worked the soil, the dirt, the land, the turf. They have cared for the waterways, the pathways and the skyways (read trees). They have put in an honest day’s work and more — yes, usually more during playing season — welcoming in the sun and then ushering it out.

The fruits of their work has been that others may play. But today, the fruits of their work encompass much more:

- Bird counts on golf courses have been shown to outnumber those in bird sanctuaries, for goodness sake.
- Runoff water carrying oils and chemicals from streets are now proven to be cleansed by turfgrass, so in some places (like Purdue University) courses actually are used to improve water quality.
- After study after study have shown that impact of modern golf course chemicals on runoff and leachate are so minuscule as to be harmless.
- In a time of urban sprawl, superintendents are maintaining 100 or 200 acres, perhaps more, of open green space that people so desire. In case after case we see course properties shared with hikers, birdwatchers and equestrians. And from one corner of North America to the other, grounds crews are planting native vegetation, installing birdhouses, doing myriad tasks to enhance their properties as habitats for wildlife of all sorts.
- All the while, superintendent chapters across the country are supporting, with their money and labor, research projects to even better do their jobs in an environmentally superior manner.

Superintendents continue today to prove that public, perhaps even the golfing public, know. From their environmental work with school children to their scholarship aid to their support of youth programs, they are proving an honorable profession. And to the golf course operator, I ask this question: Who is the most important employee on your payroll?

The expertise with which the superintendent maintains the course usually determines whether golfers will return to play again. The future economic, as well as environmental, well-being of a golf course is, to a large extent, in the hands of that superintendent.

In North America we’ve come a long way. Superintendents are most often considered part of a vital golf course triumvirate along with the general manager and head professional. I just spoke with two superintendents who are also the general managers of their clubs — one private and the other daily-fee. The Dallas-based Multi-Course Operator of America, the chapters themselves, and the U.S. Golf Association Green Section can take a bow for gaining this recognition.

And our superintendents need only look across the Big Pond to see how far they have come. At some European courses, the greenkeepers are not even allowed into the clubhouse.

As Audubon International President Ron Dodson told me: “There are some really topnotch superintendents in Europe who are doing great work. But in other places, the greenkeepers are still relegated to the barn with Bill Murray,” the slobby groundkeeper in the movie “Caddyshack.”

Yes, in America at least, superintendents are hailed as members of an honorable profession and as key figures in the most honorable game.

When it comes to environmental commitment, sometimes it’s never enough

In the past year, the golf course industry has continued to make great strides to lessen its impact on the environment. From new classes of low-rate chemicals to innovative new techniques and technologies and ground-breaking pacts, the industry is becoming increasingly environmentally friendly.

Back in March, fertilizer manufacturer, Griffin Industries, joined more than 200 golf courses and became the first company to sign on to the Audubon Cooperative Sanctuary System. Griffin’s 20-odd properties and thousands of acres across the United States are a part of the program. Eco Soil and Chubb Insurance also announced a unprecedented agreement in March that gave courses using the BioJect biological distribution system a reduced insurance rate.

The deal gave Eco Soil customers using Chubb insurance expanded environmental liability and property coverage because they identified courses using biologicals as a lower financial risk. Chubb, in turn, protects the club, its owners, officers and directors from environmental claims.

New chemistry that reduces the amount of pesticides, chemicals and fungicides used on courses has also come to the fore. Novartis introduced Compass fungicide that utilizes a mesosomic mode of action and can be applied at a greatly reduced rate of 15 ounces per 1,000 square feet.

Continued on page 10

Future bright for management

S core $300 million from a lender and you’ve got to be feeling pretty good about your industry in general and your company in particular heading into the new millennium.

Gerry Smith, ClubCorp’s executive vice president of marketing and communications, was still on a financial high shortly after The Cypress Group’s recent $300 million commitment in private equity capital to fund future growth of the Dallas-based multi-course operator (see story page 1).

Smith’s confidence heading into the third millennium echoes that of many who see consolidation as the wave of the future in the golf course industry.

“A handfull of companies will continue to grow and emerge as the industry leaders,” he predicted. “We believe we are among those, certainly in the private club and resort business. The market, from our perspective, seems to have swung more to an acquisition-oriented market rather than a to-be-won market. That should be obvious from the Cobbledstone deal.”

ClubCorp, which operates roughly 200 golf courses, and fellow management company giant American Golf Corp. (AGC), formed a joint venture earlier this year to purchase Cobbledstone Group’s 45 courses for $385 million.

Novartis and Management Associates announced the sort of financial clout, they are also gaining experience. The perception is that management companies are a relatively new concept. But AGC has been around for more than 30 years and ClubCorp more than 40.

“We understand this business, what it takes to have a successful property,” Smith said. “When we look at an acquisition, we can look at it through 42 years of experience, and make an investment that will give us the returns we are looking for. That’s the key.”

ClubCorp made its mark in the private course arena, but with the shift toward public golf, the firm has adapted to the times. The company currently owns 25 public-access courses, making it one of the largest operators of public-access courses in the country.

“Understanding the membership component and having the ability to deliver what members expect has been a key to our success,” Smith said. “We try to apply that philosophy to our public-access courses and resorts. We have an interesting mix.”

He is equally confident about the future of golf. “This as an extraordinarily attractive sport, both from an individual perspective and from a corporate entertainment, networking and socializing. It will continue to grow.”

The Pebble Beach Co.

Future bright for management

from the editors

Peter Biais
managing editor

An honorable profession

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Architect Borland dies on Payne Stewart flight

NORTH PALM BEACH, Fla. — When golfer Payne Stewart's private Lear jet crashed in South Dakota on Oct. 25, golf course architect Bruce Borland was among those killed. Mr. Borland, 40, a senior design associate with Nicklaus Design, is survived by his wife, Kate, of Jupiter, Fla., and children Daniel, 13; Thomas, 12; Benjamin, 10; and Elizabeth, 8.

"I am truly shocked and saddened by today's tragic events," Jack Nicklaus said after the crash, pointing to the loss of "a long-time friend and employee."

Mr. Borland was traveling with Mr. Stewart to discuss a golf course design project he would perform with Payne, but under the Nicklaus Design banner.

"I feel terrible that the two will not get that opportunity to work together, because Bruce was not only a wonderfully talented designer but a wonderful person," Nicklaus said. "Barbara and I will greatly miss both Bruce and Payne. Our hearts go out to their families, as well as the families of the other victims in the accident."

Mr. Borland joined Nicklaus Design during a 1990 expansion of the golf-course design firm. He was the design associate on 10 Jack Nicklaus Signature Golf Courses, including nationally acclaimed Colleton River Plantation in Hilton Head, S.C., and one co-design course, all of which have opened since 1992.

Mr. Borland was also the solo designer on two projects over that period of time and was the design associate on seven projects currently under construction or under design.

"Bruce Borland had been with me for almost 10 years," Nicklaus said. "In that time, we've done a lot of golf courses together, we've traveled together, and we've had a great deal of fun together. He was simply a terrific addition to our company, and a good friend. He was also a wonderful husband and father. This is an extremely difficult time for his family, as well as his extended family at Golden Bear."

Born Nov. 4, 1958, in Peoria, Ill., Mr. Borland was a 1981 graduate of the University of Illinois, where he earned his degree in landscape architecture. He began his golf course design career by working with Chicago firms David Gill & Associates, then Killian and Nugent and Hitchcock Landscape Architecture Design. He earned membership into the American Society of Golf Course Architects in 1986, and established his own Chicago-based design firm in 1989.

He then joined Nicklaus Design in 1990.

Mr. Borland was among the first course architects to use computer design. Among his projects with Dick Nugent were Oak Brook Hills in Oak Brook, Ill., Ivanhoe (Ill.) Club and Seven Bridges Golf Club in Woodridge, Ill. His work with Nicklaus included Colleton River Plantation on Hilton Head Island, S.C., and Barrington Country Club in Aurora, Ohio. The Borland Family has asked that people send donations to one of three places:

- Palm Beach Community Church
- Bruce E. Borland Building for Life Fund
- Palm Beach Gardens, FL 33410
- First Union National Bank
- Memorial Fund to Benefit the Bruce E. Borland Children
- Palm Beach Gardens, FL 33408
- Wycliff Bible Translators
- c/o Mark/Deb Borland and Linda/David Captain
- P.O. Box 626200
- Orlando, FL 32862-8200

Arthur Davis dies

GAINESVILLE, Ga. — Golf course architect Arthur Davis, 59, died on Jan. 31. Mr. Davis was a member of the American Society of Golf Course Architects (ASGCA) since 1974 and was involved in the design and/or construction of over 150 golf courses.

Born in Georgia, Mr. Davis attended Abraham Baldwin College in Tifton. He received a degree in landscape architecture from the University of Georgia in 1963.

Davis began his career with ASGCA Fellow Willard Byrd, striking out on his own in 1967. In 1970, he formed a partnership with ASGCA member Ron Kirby, which soon included tour golfer Gary Player. In 1973, Davis established his own practice, which continued to be based in Georgia and eventually included his son, Lee.

Most of his work through the years was in the Southern Belt of the United States, from Georgia on the east to New Mexico on the west, but also included Asia, South America, Africa and Europe. His designs include Lake Lanier Island Golf Course (now Stouffer’s Pine Isle) in Buford, Ga.; River North in Macon, Ga.; Cartersville Country Club in Cartersville, Ga.; El Paraiso in Marabella, Spain; and Alto Village in Alto, N.M.

Mr. Davis is survived by his wife, Joyce, mother LaRue, daughter and son-in-law Cindy and Chris White; son Lee and three grandchildren.
Wadsworth chosen
Continued from page 1

Wadsworth, 70, began his career as a golf course architect after obtaining a degree in landscape architecture from the University of Illinois. He worked briefly in the office of Robert Bruce Harris and then, following service with the U.S. Air Force during the Korean Conflict, he formed a golf course design firm with Edward L. Packard. In 1958 he created Wadsworth Golf Construction Co. “to fill a void since very few people were specializing in golf course construction and there was a general lack of devotion on the part of contractors to accomplish what the architect was trying to achieve,” Wadsworth said from his office in suburban Chicago. “Besides, I wanted to get back to my roots.”

Four decades later, Wadsworth Golf Construction Co. had completed 505 projects from three principal offices — Chicago, Phoenix and Tampa Bay — and satellite offices near Philadelphia and San Francisco. There is no secret to his success, Wadsworth maintains.

“I applied the basic elements of good business practice, selecting good, hard-working people who came devoted employees,” he said. “And I always try to do the right thing.”

“With Brent Wadsworth, you absolutely know that the job will be done right, that you will stay there until you’ve done your part of it right, that it will be done on time and on budget,” said ISCO’s Kirchdorfer, who has supplied irrigation products for many Wadsworth projects. “And you know you’ll get paid.”

Continued from page 9

Innovation does not however require new technology. AquaS02 has adapted existing agricultural technology with its S02 generator. The machine improves soil and water conditions on golf courses and allows them to better use irrigation resources and reduce the amount of chemical applications.

Not to be lost in the shuffle are advancements made on the alternative energy front. Metallic Power made a strong entry with its Zinc/Air battery which recharges quickly, is recyclable and contains seven times the energy of a conventional lead/acid battery. The company is working with Toro and Textron on prototypes.

Overshadowing these advancements, at least at the moment, is the Oct. 28 release of the Environmental Protection Agency’s (EPA) preliminary risk assessment for chlorpyrifos — known to superintendents as Dursban.

The report states that children, as well as workers who apply chlorpyrifos-based chemicals, could be exposed to enough of the toxin to harm their central nervous systems. Predictably, this has touched off a two-way battle between the pro-environment camp and the companies who produce and use the chemical.

The Washington, D.C.-based watchdog Environmental Working Group wasted little time declaring support for the EPA’s position, admonishing: “Dursban must be banned.” Meanwhile, primary chlorpyrifos producer Dow AgroSciences maintains in a recent fact sheet that the EPA risk assessment contains “numerous errors and omissions of critical data that significantly skew the results.”

Although chlorpyrifos-based products have hundreds of applications from agricultural pesticides to residential insecticides, you can bet that the media attention regarding the potential dangers of Dursban will put added pressure on the golf course industry.

The 60-day public comment period has begun and any EPA use restrictions on Dursban will follow next spring. Stay tuned.
Golf course equipment: A history of progress, initiative

By CLAY LOYD

Roughly a half millennium ago, the only use made of the linkshands of northern and eastern Scotland was to pasture sheep. They found shelter in natural hollows. Turf, such as it was, consisted of bentgrass and some fescue with stiff blades. The sheep kept it mowed. Rabbits were among the other animals that shared the land. They dug holes. Then, as some accounts would have it, bored shepherds began challenging each other to see who — using the staffs that were the tools of their trade — could strike the most rocks into the rabbit holes. But look out. Don’t land in those hollows.

That, they say, was the beginning of golf. It really took off as railroads came in and began transporting people from the cities to the coasts on holidays and weekends to see how this new game was played. Soon, the city folks, too, were swinging golf clubs. Then they carried their newfound sport back to town.

And grow golf did. Eventually, it became a struggle to keep pace with the demand for more and better golf course management equipment. It’s easy to see how such an industry has grown up around the game. Those hollows where sheep sought refuge centuries ago, for example, would become the bunkers of today and would have to be maintained.

The rabbit holes of yesteryear would someday be the cups of modern golf and would need to be leveled, and lined to prevent collapse. And — try though they did to keep the grass cut — those sheeps eventually would have to go.

This is a quick look at the evolution of some of the many pieces of golf course management equipment required to build and maintain the venues for the game today.

The first real breakthrough came with the invention of the mower. You might call it the superstar of the century in the golf course management equipment inventory. "Mowers," wrote Drs. Charles V. Piper and Russell A. Oakley in their landmark book Turf for Golf Courses in 1917, "are the most essential element on every golf course."

That was true in the beginning, and it is true today.

Until the mid-to late-1800s, scything was about the only practical way to cut grass, except for sheep. But scything was only effective when the grass was wet. That meant you had to get up before dawn to take advantage of the dew. And it took teams of women and children following the "scytemen" to collect the clippings.

Most of the credit for advancing beyond the scything era should go to Edwin Beard Budding, an engineer from Gloucester, England. In the mid-1800s, he adapted rotary knife machines used in textile factories to remove nap from cloth and invented what is believed to have been the first mechanical lawn mower. Its main advantage was that it could cut dry grass.

After obtaining a patent, Budding and a partner began granting licenses to manufacturers, and the commercial turf mowing business was born.

A retired director of publications at GCSAA, Clay Loyd is an active member of GCSAA’s Historical Preservation Committee and has written a book about the association’s history.

A historical perspective of the golf course greenkeeper

By MEL LUCAS

As we enter into a new century where vast new horizons await all professions, we too must be prepared to advance with new technology and research. The last 25 years have pushed our industry into the most robust time a golf course superintendent has ever experienced.

Every segment of our earning power has been dramatically influenced by mowing equipment, irrigation technology, hybridization of turfgrass cultivars, bio-stimulants, putting green construction, fertilizer and chemical specificity toward fine-turf management, educational opportunities through journals, conferences geared toward turf care and the strong promotional activities of the Golf Course Superintendents Association of America (GCSAA).

We must take note that in no small way, the environmental movement has helped us a great deal.

How did we get to this point? We should reflect on our humble beginning. Oftentimes superintendents refer to ourselves as a bit of art and a bit of science. This is, of course, preaching to the choir. Let us trust that the choir is well informed as to where we are and from where we came.

Many people judge us on an individual basis, be it private or public golf course. As much as GCSAA makes people aware of an honorable profession, there have been times that we have been cast as a true artisan of turf grooming; times we have been vilified via TV coverage; and times regarded as journeymen, as perceived by a judge during a case involving geese killed on a New York golf course many years ago.

The very first mention of a person responsible for the golfing grounds was in 1774. The records from The Royal Burgess Golfing Society of Edinburgh mentioned that “a boy was engaged to convey messages to and from members, to serve as waiter at dinner, carry the Captain’s clubs and to alter and mend golf holes on the links.” Later in their records of 1774 the titles he was given were “our cady — our officer — our greenkeeper.”

The terms “greenkeeper,” “keeper of the green” and “custodian of the links” have been used throughout the
Oakhurst Links
‘Real golf’ as it used to be played

By PALMER MAPLES JR.

WHITE SULPHUR SPRINGS, W.Va. — We have this area’s medicinal sulphur springs to thank for drawing the builder and other Scotsmen to this part of the country, in 1876, to eventually build Oakhurst Links golf course here.

Arriving at the course early in the morning, with the sun rising and a mist hanging over the creek down by the lower holes, you don’t hear the hum of a fuel pump, or the cranking of motors for mowing equipment. What you do hear at the course maintenance building is the creaking of the gate as opens and the patter of many feet as the two dozen sheep head out for their day of grazing.

There are no lines of golf cars ready with top, sand jugs, score cards, tees, small drink coolers, double-wide golf bag storage, and a GAD measure of distance. You select four, yes four, clubs to play with and they are carried by hand, no golf bags. Arriving at the 1st tee, there is not the usual tossing of golf tees to determine the sides, for there are no golf tees to be had, not in the 1880s. And it is the 1880s to which you have retreated.

The bucket of water and sand on the tee are not for cleaning balls or repairing divots, for the entire 8-by-8-foot tee is all sand. The water and sand are used to make your tee for the ball by placing a small handful of water in the sand, and then using the wet sand to form a small mound on which to place your ball. Real golf.

The clubs have wooden shafts, two with wood heads and two with metal heads. These are the clubs before the niblick or mashie: a driving wood, a driving long iron, a short iron, and a putting wood. There is the choice of a “rut iron” if you wish. And with only four clubs, who needs a bag or a caddie?

Now with my driving wood in hand and my mound of sand in place (oh yes, there are no tee markers), I am ready to place my ball for play. No fancy number of dimples, or layers of materials, or indications of expected flight — just a molded gutta percha composition ball with a lattice mesh pattern. Now we are set to play.

The course, length is about 2,300 yards and is divided into one one-shot hole, six two-shot holes, and two three-shot holes. There are but three rules listed on the card and you will not see “USGA” named anywhere. It had not be organized in 1880.

• Rule I. The stymie is used for play.
• Rule II. If ball breaks, finish hole with larger piece.
• Rule III. Free drop from sheep castings.

To be at such a place and to play golf under these conditions is pure pleasure. Having grown up around golf, playing at Pinehurst, St. Andrews and other famous courses, I am aware of the charm and excitement of playing golf in such a course maintenance building.

As you find it and the ball as it lies. No distance markers or sprinkler-head numbers. Just hit the ball, go find the ball and hit the ball until you sink your putt. Real golf.

In 1960 Lewis Keller Sr. bought the land and in 1990-1992 re-established the course. He supplied the clubs and balls made to the standards of 1884. As you play a few holes, you soon learn the power swing is out and the smooth swing is the only way to keep the ball in play. There is a bit of timing with the wood shaft clubs and a feel that needs to be developed to get the best shots. There are uphill holes, downhill holes, dogleg holes, creeks, ponds and bunkers.

By the time you come to the finishing holes — a three-shot hole and a two-shot hole — you are overtaken by the sense of playing golf as in the days of old. Walking along slowly, talking to your partners, enjoying the view, watching out for sheep castings, and realizing from this beginning how much golf has grown over the 120 years since 1880.

l for one, thank the good Lord for allowing me to be in this business. To be a third-generation “golf man,” it meant a lot to play Oakhurst Links.

There’s no huge locker room, no long bar, no cart to park or caddie to pay. You just turn in your four clubs and sit around the table, sip hot tea with gingersnaps for a treat and discuss and replay each hole, trying not to forget one moment and hating the thought of having to leave. “You do remember that second shot...”

The evening cool starts to come, the sun is going behind the mountain, and the sheep are gathering at the barn door ready to come in for the night. The car winds down the drive and you say, “It was good to have been here, if only for a day.”

As one man said: “When in the course of human events it became necessary to bring golf to the colonies, a course was devised and a century later, at Oakhurst Links you can still play the game as it used to be played. Real Golf.”

I’ll be back next year.

Palmer Maples is a former president and acting executive director of the Golf Course Superintendents Association of America. He retired two years ago.

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Equipment: A History of Invention

Continued from page 11

agement equipment industry was born.

Eventually, someone got the idea of a power lawn mower. One designer tried to combine a mower with a tricycle. There were several attempts to perfect a steam-driven model. A gasoline-powered mower was marketed in 1896.

The next major advance in mowing technology came in 1910 in America when Charles C. Worthington introduced his conventional reel mower. It was a design that came to dominate the commercial market. It was a 30-inch model built to cut Worthington's own private golf course.

Shortly thereafter, two or more units were linked — "ganged" — into groups. The next 10 years or so were the first real heyday of the gang mower, pulled by tractors as well as horses and used on fairways. Tractors pulling five, seven and nine mowing units could cut 20-foot swaths.

But horses were heavy, and the wheels of the day were made of steel. Damage to turfgrass could be a problem. To rectify it, powered walk-behind mowers were introduced toward the end of the Roaring '20s. Powered rotary mowers came along in the 1930s but didn't begin to enjoy popularity until the 1940s.

In the 1960s, all-electric units, including electric greensmowers, began to be marketed with some success. The 1960s also saw the advent of hydraulic lifts to adjust cutting heights, and — with clipping already becoming something of an environmental problem — somewhat primitive mulching mowers.

The 1990s brought much-improved mulching mowers, and there has been a trend toward a return to walk-behind greensmowers instead of tractors.

Generally speaking, the emphasis on improving mowers, especially in recent times, has been on safety features; distributing weight; diagnostic aids for simplified maintenance; rubber, turf-type tires to reduce compaction and damage to turfgrass; and a vast array of attachments.

SOIL AERIFICATION

In the old days, soil was aerified laboriously with hand forks if it was aerified at all by anything except earthworms. The Turfator, an early aerifier with 12 times, was introduced in the mid-1920s. A major advancement occurred in 1946 with the introduction of the FG Aerifier by Tom J and Tony Mascaro.

Even more dramatic improvements were made in the 1990s, beginning with the use of water under extremely high pressure to blast holes. With that, there were no more cores to clean up. And the wear and tear on turf was virtually eliminated. Aeration could be done quickly and more frequently, and players could get back to their game in shorter order.

OTHER EQUIPMENT CHANGES

Other developments in golf course management and the tools that it requires as the world's second millennium draws to a close have dealt with such things as a grooming of turfgrass, pesticide spraying and computers.

Modern groomers to supplement more aggressive verti-cutting appeared in numbers in 1986 as attachments to triplex units. They were introduced to the fairway in 1990.

Greenkeepers of not too long ago had to use hand brooms to work top dressing into greens. Dragmats later were towed behind utility vehicles, but several passes were required, and soil compaction could be a problem.

Today, brushing attachments are available for triplexes. Everything is mechanized, rollers included.

Spraying equipment also has been greatly improved. Calibration is far better. Droplets can be made larger to reduce drift. Further protection has been made possible with skirts to reduce chemical drift and enclosed cabs to shelter operators. And in the offing is chemical mixing equipment requiring no contact by the operator.

COMPUTERS AND COMMUNICATION

Some people say the biggest technological advance in the history of golf course management began with the introduction of computers to the field in the 1980s. Today, computers control parts inventories; schedule equipment maintenance; track maintenance records; record chemical applications; fill out government records; watch budgets; design irrigation systems; and control irrigation systems.

Another modern convenience is radio. In times gone by, there was a lot more shouting and waving of hands and arms by superintendents to communicate, and, often, galloping around the golf course on horseback to direct staff.

One superintendent several decades ago even developed a comprehensive and apparently satisfactory semaphore system using flags, gestures and other symbols.

GAZING INTO THE CRYSTAL BALL

What's ahead for golf course management and the equipment it will require in the third millennium? The possibilities are unlimited.

Robots probably will do more of the work of men and women.

Greenkeeping will take on a new dimension as robots become more common, faster and cheaper. Once Ryan tried was done at Rhode Island Country Club, where we used up to 20 former Army cavalry horses. We used them to haul off trees, stumps and ledge after they had been dynamited into manageable chunks.

"Horses also pulled scoops used in excavating traps [bunkers]. I feel, however, that horses had the hardest time in irrigating the grass on fairways. We often worked late into the night to make it easier and less tiring on the horses. In filling the swamps, a horse would sometimes break a leg and had to be shot.

"Before the modern aerifier, we used to fork the greens 8 inches deep and 4 inches apart. The putting surfaces were rough for a week..."

The inventor of the modern aerifier, Tom Mascaro (1915-1997), once pined: "The day may not be far off when a horse will be a strange sight on a golf course."

The industry has kept pace with growing demand for more and better maintenance equipment, especially over the 20th century. It has been done largely by listening to golf course superintendents, then heading for the drawing boards to help them solve equipment problems.

"Industry," Mascaro said, "exhibited at the very first GCSAA trade show, providing money that drew everybody together... and it's been supportive ever since."

Indeed, golf course management equipment has come a long way since midway through the second millennium, especially in its last century. Today there is sophisticated, high-tech mowing equipment that hogs the contours of the bunkers in which sheep once escaped the wind.

And remember the rabbits who dug the holes in golf's infancy? Today, tools dig the holes and line them. At least one manufacturer of hole cutters has a "fool-proof" bubble to help make the hole level.

Now, would rabbits ever have thought of that?
Audubon International announces Best of Environmental Golf List

By JEAN MACKAY

SELKIRK, N.Y. — What if the nation’s 16,000 golf courses not only met the demands of golfers but were also maintained to prevent pollution and provide significant nature reserves? The result would be green spaces in nearly every community that contributed to local environmental quality and added to existing wildlife habitat.

Since 1991, the non-profit environmental organization Audubon International has been training golf courses to do just that. To recognize golf courses that have made a significant commitment to environmental stewardship and to inspire additional courses to do the same, Audubon International is releasing the Best of Environmental Golf List. The select list includes the nation’s top-rated golf courses that have conserved local biodiversity, reduced water and pesticide use, and maintained water quality.

“There are all kinds of ratings for the top golf courses in the United States, but none of them pay attention to the environmental quality from turfgrass management to wildlife habitat conservation to water-quality improvements.”

The top 200 courses on the Best of Environmental Golf List have achieved Audubon International’s stringent standards for certification through the Audubon Cooperative Sanctuary or Audubon Signature programs. Each course has implemented and documented its environmental efforts over a number of years and contributed to case studies, environmental education programs, and data collection on golf and the environment.

“We are proud to recognize these golf courses for their contribution to the environment” said Dodson. “Through their positive example, we hope they inspire others to do the same.”

For more information, or to register a golf course in the Audubon Cooperative Sanctuary Program for Golf Courses, people may contact Audubon International, 46 Rarick Rd., Selkirk, N.Y. 12158; telephone 518-767-9051.

Al’s Best of Environmental Golf List

Arkansas
Hindman Park Golf Course, Little Rock

Arizona
Forest Highlands Golf Club, Flagstaff
TPC at Scottsdale, Scottsdale
Troon Golf & Country Club, Scottsdale

California
Crystal Springs Golf Course, Burlingame
Cypress Ridge Golf Course, Arroyo Grande
Del Paso Country Club, Sacramento
Granite Bay Golf Club, Granite Bay
Links at Spanish Bay, Pebble Beach
Morro Bay Golf Course, Morro Bay
Old Brokeways Golf Course, Kings Beach
Resort at Squaw Creek, Olympic Valley
Silver Creek Valley Country Club, San Jose
Stevenson (Ca) Ranch Golf Club, Savannah Course*

Colorado
Applewood Golf Course, Golden
Aspen Golf Course, Aspen

Connecticut
Aspetuck Valley Country Club, Weston
Hop Meadow Country Club, Simsbury
Simsbury Farms Golf Course, Simsbury
TPC at River Highlands, Cromwell
Woodway Country Club, Darien

Florida
Bonita Bay Club, Bonita Springs
Bay Island Course
Creekside Course
Marco Island
Bonita Bay Club East, Naples*
Collier’s Reserve, Naples*
Country Club at Florida, Village of Golf
Floridian, Stuart
FoxFire Golf and Country Club, Naples
Gainesville Country Club, Gainesville
The Habitat Golf Course, Mulhav
Hole-in-the-Wall Golf Club, Naples
Indian River Country Club, Vero Beach*
Interlachen Country Club, Winter Park
Ironwood Municipal Golf Course, Gainesville
Lake Bueno Vista Club, Lake Bueno Vista
The Legacy Club at Algun Lakes, Longwood*
Lemon Bay Golf Club, Englewod
Loblolly Pines Golf Club, Hobo Sound
Lost Key Golf Club, Perdido*;
Old Florida Golf Club, Naples
Old Marsh Golf Club, Palm Beach Gardens
Panama Country Club, Lynn Haven
PGA Club at the Reserve, Port St. Lucie*
PGA St. Lucie West Country Club, Port St. Lucie
River Hills Country Club, Valrico
Royal Palm Cay Country Club, Naples
Sandridge Golf Club, Vero Beach
Tampa Palms Golf & Country Club, Tampa
TPC at Eagle Trace, Coral Springs
TPC at Heron Bay, Coral Springs
TPC at Prestancia, Sarasota

Golf Courses in Maine

TPC at Beavertail Golf Resort, Narragansett
TPC at Chippewa Creek Golf Club, Chippewa
TPC at Ocean Edge, Harwich
TPC at Port Royal, Port Royal
TPC at Sand Point, Windham
TPC at Vesper, Vesper

Golf Courses in Maryland

TPC at Indian Point, Indian Point
TPC at Nine Iron, Nine Iron
TPC at Sleepy Hollow, Sleepy Hollow

Golf Courses in Massachusetts

TPC at Cape Cod, Cape Cod
TPC at Highlands, Highlands
TPC at Manchester, Manchester
TPC at Metedeconk, Metedeconk
TPC at Springfield, Springfield
TPC at Taconic, Taconic

Golf Courses in Michigan

TPC at Grand Traverse Bay, Traverse Bay
TPC at The Reserve at Traver Bay, Traverse Bay
TPC at The Reserve at Whitehall, Whitehall

Golf Courses in Minnesota

TPC at Black Bear, Black Bear
TPC at Indian Hills, Indian Hills
TPC at Oak Ridge, Oak Ridge

Golf Courses in Mississippi

TPC atという、TPC atという場所

Golf Courses in Missouri

TPC at Blue Springs, Blue Springs
TPC at Branson West, Branson West
TPC at Augusta, Augusta
TPC at The Legends, The Legends

Golf Courses in Montana

TPC at Blackfoot, Blackfoot
TPC at Belgrade, Belgrade

Golf Courses in Nebraska

TPC at Westpointe, Westpointe
TPC at Lincoln, Lincoln

Golf Courses in Nevada

TPC at the Sun, The Sun
TPC at the Desert, The Desert

Golf Courses in New Hampshire

TPC at Bretton Woods, Bretton Woods
TPC at The Manchester, The Manchester
TPC at The Mountain, The Mountain

Golf Courses in New Jersey

TPC at Cape Henlopen, Cape Henlopen
TPC at The Breakers, The Breakers
TPC at The Falls, The Falls

Golf Courses in New Mexico

TPC at Sandia, Sandia
TPC at The Pinetree, The Pinetree
TPC at The Reserve, The Reserve

Golf Courses in New York

TPC at the Links, The Links
TPC at the Country Club, The Country Club
TPC at the Castle, The Castle

Golf Courses in North Carolina

TPC at Cardinal Golf Club, Cardinal Golf Club
TPC at the Greensboro, The Greensboro
TPC at the Greensboro Country Club, The Greensboro Country Club

Golf Courses in North Dakota

TPC at Country Club, The Country Club
TPC at the Golf Club, The Golf Club

Golf Courses in Ohio

TPC at the Columbus, The Columbus
TPC at Columbus Country Club, The Columbus Country Club
TPC at the Dublin Country Club, The Dublin Country Club

Golf Courses in Oklahoma

TPC at the Greens, The Greens
TPC at the Country Club, The Country Club
TPC at the National, The National

Golf Courses in Oregon

TPC at the Oregon, The Oregon
TPC at the Country Club, The Country Club
TPC at the National, The National

Golf Courses in Pennsylvania

TPC at the Greens, The Greens
TPC at the Country Club, The Country Club
TPC at the National, The National

Golf Courses in Rhode Island

TPC at the Country Club, The Country Club
TPC at the National, The National
TPC at the Village, The Village

Golf Courses in South Carolina

TPC at the Myrtle Beach, The Myrtle Beach
TPC at the Augusta, The Augusta
TPC at the The Reserve, The Reserve

Golf Courses in South Dakota

TPC at the Brook, The Brook
TPC at the Country Club, The Country Club
TPC at the National, The National

Golf Courses in Tennessee

TPC at the Greens, The Greens
TPC at the Country Club, The Country Club
TPC at the National, The National

Golf Courses in Texas

TPC at the Lubbock, The Lubbock
TPC at the Midland, The Midland
TPC at the Amarillo, The Amarillo

Golf Courses in Utah

TPC at the Ogden, The Ogden
TPC at the Park City, The Park City
TPC at the Provo, The Provo

Golf Courses in Virginia

TPC at the Virginia, The Virginia
TPC at the Country Club, The Country Club
TPC at the National, The National

Golf Courses in Washington

TPC at the Redmond, The Redmond
TPC at the Bellevue, The Bellevue
TPC at the Kirkland, The Kirkland

Golf Courses in West Virginia

TPC at the Charleston, The Charleston
TPC at the Beckley, The Beckley
TPC at the Parkersburg, The Parkersburg

Golf Courses in Wisconsin

TPC at the Milwaukee, The Milwaukee
TPC at the Racine, The Racine
TPC at the Door County, The Door County

Golf Courses in Wyoming

TPC at the Cheyenne, The Cheyenne
TPC at the Casper, The Casper
TPC at the Gillette, The Gillette

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Developed at the Coastal Plains Experiment Station, TifSport is by Wayne Harmon. U.S.4-A83 Genetically
Greenkeeping: a work in progress

Continued from page 11

years, and are now shared with the title "golf course superintendent" in the British Isles.

Looking at the technologies we deal with today, one must ponder the marvels of the major step forward made by Robert Gay. His invention of an instrument to form holes was purchased in 1828 by Musselburgh Golf Club. This is the first reference to such a tool. If we accept that golf came into being in 1457 and 371 years later the first greenkeeping tool was created, it must have produced a major impact on greenkeeping.

Prior to this invention, the greenkeeper was noted mainly for his ability to cut a circle and extricate the soil, by hand, in such a manner that the surrounds of the hole were not damaged. Should we dare think that this invention might have negatively affected their earning power?

When we read the wonderful books written from 1890 to 1910 that not only played in its development, we learn in depth accounts. Throughout these volumes come the passages of the greenkeeper's bent in life. His basic, if not only, duty to the golf course was to change cups, tend sheep and repair rabbit burrows as well as iron skelps (divots).

Horace Hutchinson wrote in Golf Greens and Greenkeeping (1906) that the rabbit was known at some courses as the "chief, and almost the only greenkeeper."

Hutchinson continued that "the rabbits crop the grass short and produce an admirable quality of springy turf."

The names of early greenkeepers are legion in the golfing world. Among them, Hurd, Dunn, Robertson, Denham, Gourlay, Gunn, Park and Tom Morris all worked prior to the turn of the century. As we read into "Auld Tom's" background of greenkeeping prowess, he was very much in favor of sand top dressings, and often. He was a beloved figure in St. Andrews as well as all of Scotland. His expertise had him visiting many courses to advise on maintenance as well as architectural changes. It would be appropriate to say that he pushed the greenkeeping envelope a bit higher.

In North America golf was born in 1880. A Mr. McNulty was paid for his services in connection with caring for the green. In 1894 St. Andrews (N.Y.) engaged Lees and brought him to the United States in 1914 to help build and be greenkeeper of Lido Links (N.Y.).

During his stay, Lees wrote very scientific (at that time) articles on greenkeeping for the first monthly Bulletin of Golf Course Construction and Upkeep (Peterson, Sinclair & Miller, Inc. of N.Y.), 1916. In 1917 the USGA encouraged Pipe & Oakley of the USDA to publish Turf for Golf Courses. Lees then wrote the first book on practical greenkeeping, Care of the Greens (1918).

From the infancy of golf in 1457, 542 years later the golf course superintendent has become the Winkelstein in every club. Our journey through these years illustrates our lineage as pure greenkeepers to being golf professionals, ball makers, club makers, caddies

A sure sign that Cascade™ Plus IS DOING ITS JOB. The best choice for firmer, faster greens.

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Greenkeeping
Continued from page 15
and stewards, all tied into one.
As years progressed, each phase of this "jack of all trades" became a specialized field of endeavor. The ranks of professional golfers grew from the ranks of caddies, who in turn were assuming greenkeeping roles at clubs. The club and ball makers came from iron mongers and carpentry trades, thus adding to the professional golfer and, too, the greenkeepers' role. In the United States it was a lucrative opportunity for the Scots to be the pro/greenkeeper and, in several cases, this still exists today.
However, major shifts in golfers' desires for better playing conditions and having a person devoted to teaching the game to them at designated times, no longer allowed one person to handle both jobs. This became the true American way, which created two professions.
During the years since the PGA and GCSAA were formed, the two have been as far apart from their beginnings as any groups could be. But over the last 25 years the windows of golf have opened and the organizations have embraced each other. The USGA, PGA, GCSAA and Club Managers Association of America have recognized that in unity there is overwhelming strength to better the interest of golf and everyone's intrinsic value to this game.
From the perspective of a golf course superintendent, to identify what has happened over the last 81 years, when Lees wrote his book, will take several authors to sift through the collection of the past, housed at GCSAA headquarters, in Lawrence, Kan.

Al's best
Continued from page 14
Izzy's Golf and Yacht Club, Oma


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West Course (10th and 15th hole shown in left photo) was treated with 1 quart of InfillTrx per acre on a monthly basis beginning February 1998, the East Course (4th and 5th hole shown in right photo) was left untreated.
Y2K AND THE EVERYDAY

President Clinton may have been telling the populace that all was hunky-dory in regards to Y2K scares, but golf course superintendents generally took matters into their own hands early in 1999 in order to be prepared for the turning of the millennium clock. From upgrading computers and software programs to stocking inventory, superintendents were preparing, late into the year, for the moment the clock ticks from 12:00 midnight to 12:01 a.m. Jan. 1, 2000.

Meanwhile, they continued to wrestle with hurricanes, droughts and diseases; invent some interesting devices for operating their maintenance shops and keeping their turf alive and well; contribute in a major way to new research efforts by the U.S. Golf Association and the National Turfgrass Evaluation Program; and even handle day-to-day business.

Turfgrass scientists continued their drive to breed bentgrasses that reach into the deep South and Bermudagrasses that will thrive in the Transition Zone.

And as time seemed to race on for most, some superintendents took the lead of Gordon Witteveen of the Toronto Board of Trade Golf Courses — and slowed down by retiring.

Quotable Quotes

"Southern superintendents like to tease us about working six months a year. We tease them that it’s a tough job to kill Bermuda grass."

— Bob Heron

Canadian Superintendent of the Year

"We could have had 100 volunteers, without question, which shows the industrywide dedication to Pinehurst and the U.S. Open."

— Paul Jett, superintendent of Pinehurst #2 course

"Water is getting as expensive, if not more, than providing electricity. It’s our biggest challenge of the future."

— George Frye

New turf care takes bent toward Deep South

By MARK LESLIE

PALM BEACH GARDENS, Fla. — With his sights keen on growing the cool-season bentgrass into the Deep South, Dr. Milt Engelke has broken the mold of turfgrass care and developed a regimen he feels will, once and for all, make his dream come true.

He already points to success here. Working with Old Marsh Golf Club superintendant Steve Ehrbar, the Texas A&M professor said, "We feel strongly that we will be okay [with the regimen]."

What does it entail?

• Lean water management, irrigating every fourth day.
• Frequent flushing.

Continued on page 21

A MAN’S MAINTENANCE BUILDING IS HIS CASTLE

Superintendent Andy Mottel’s maintenance building at Fieldstone Golf Club in Greenville, Del., is unlike any we have seen.

"The World 2000 Crisis," or Y2K, and the scenarios of its effects are endless — from hospitals where lives may hang in the balance to golf courses where the effects will be more mundane, but perhaps far more far-reaching than at first glance.

The whole thing seems so simple. Many computers are programmed to recognize only the last two digits of a year. So when "00" appears at 12:01 a.m., Jan. 1, 2000, it could be interpreted as 1900 or, on some computers, 1980, 1984 or even 1999. This could cause turmoil in how data is analyzed or result in freeze-ups or massive blackouts.

Continued on page 19

Superintendent, thy middle name is Invention

August

Flagstick storage within easy sight and reach.

Bunker rake blower aerates root zone

By TERRY BUCHEN

NAPLES, Fla. — A new portable turf aeration blower system can supply oxygen to the root zone of putting greens, suck water out of a green’s drainage pipes, and even blow away surface debris in sand bunkers.

Superintendent Darren Davis of Olde Florida Golf Club here reports the versatile blower is "another great tool in our golf course maintenance equipment arsenal."

Davis has two of the self-contained blower units which can be mounted easily onto a turf truckster bed, trailer, tractor three-point hitch, or on the back of a riding bunker rake.

The blower, he said, can move a significant amount of air through the perforated drainage piping of a U.S. Golf Association green, he said, and it is much more effective than a simple hand blower.

Continued on page 18

Y2K:

Two little numbers, one big problem

By MARK LESLIE

"On New Year’s Day I wouldn’t want to be on a golf course because the sprinkler systems will probably be going nuts," said Pebble Beach Co.’s Dominic Van Ness.

Van Ness, director of the Information Services Department, foresees major problems beginning — and then perhaps snowballing — when the world’s clocks tick from midnight Dec. 31 to 12:01 a.m. Jan. 1.

The situation has been dubbed “The Year 2000 Crisis,” or Y2K, and the scenarios of its effects are endless — from hospitals where lives may hang in the balance to golf courses where the effects will be more mundane, but perhaps far more far-reaching than at first glance.

The whole thing seems so simple. Many computers are programmed to recognize only the last two digits of a year. So when "00" appears at 12:01 a.m., Jan. 1, 2000, it could be interpreted as 1900 or, on some computers, 1980, 1984 or even 1999. This could cause turmoil in how data is analyzed or result in freeze-ups or massive blackouts.

Continued on page 20

Flackstick storage using unused ceiling space

By TERRY BUCHEN

PARAMUS, N.J. — Irrigation technician Dave Zollinger turned wasted space into valuable at The Ridgewood Country Club here, at the same time solving where to store flagsticks for the 27-hole facility.

Zollinger’s “brilliant idea,” said superintendent Todd W. Raisch, “was to store all of our spare flagsticks on the horizontal and sloping ceilings, which is totally out of the way from any of our activities.”

Zollinger bought enough fishing pole holders at a local store to handle all the flagsticks. Each unit can hold six flagsticks. The holders have a foam-type slit so when the circular part of the flagstick is pushed all the way in it snaps into place.

Not only do the fishing pole holders work well, they are inexpensive, Raisch said. “Storage space is always of paramount interest to me when new developments are considered,” he said.

Continued on page 19

From Canada with love: Bubble covers for greens

By MARK LESLIE

TORONTO — Be it laser shooting, Global Positioning Satellite technology or soil sensors, some of the greatest advances in the world of golf have been borrowed from other industries. Enter the latest: Bubble Covers, originally designed to lay over swimming pools to keep them warm.

Quebec superintendents have been experimenting with Bubble Covers to protect their greens from winter injury, and, according to Serge Gauthier, they have found success while saving money.

Speaking at the Canadian International Turfgrass Conference here, the superintendent at Islesmere Golf and Country Club in Laval, Quebec, said his...
A blower of another kind

Continued from page 17

A blower of another kind

A blower of flux of oxygen to the root zone, improving soil quality. This improves soil quality.

Continued from page 17

removes gases, which helps stimulate root growth and improve soil quality.

"To keep the air volume (5,000 cfm - 175 mph) on each green high enough to get our desired results," Davis said, "we isolate our greens' drainage system after it exits the green, so any excess air does not enter the surrounding drainage systems."

Olde Florida has a buried vault setup on the 15th and 18th greens, with green-colored removable plastic covers. A 4-inch-diameter slide valve is shut off during the blowing operation so no air can escape. Next to the slide valve is a 4-inch-diameter female hose fitting that is connected to the green's subsurface drainage piping. The blower has a 4- or 6-inch-diameter flexible ADS-type non-perforated discharge hose that is easily connected to the valve fitting with or without a reducer, to begin the blowing operation. It is hooked up to the blower by a 4-inch quick connect cam lock male (plastic) and female (aluminum) apparatus.

"When we wish to remove excess water from the green's subsurface drainage piping, we simply move the 4-inch-diameter hose to the cam lock quick connect in the center of the fan housing to provide a sucking action," Davis said. "The excess water proceeds rapidly through the blower discharge outlet."

Mounted on a riding bunker rake, the blowers remove debris from sand bunkers prior to their being mechanically raked. When used on the rake, the blower's electrical hookup connects to the bunker rake's battery and its fuel hookup is connected to the bunker rake's fuel tank.

When the blower is mounted to a turf truckster bed, trailer, or tractor three-point hitch, there usually is a separate fuel tank and battery to operate the engine starter.

"We have been blowing our greens' subsurfaces for five years now, giving each green one to two hours per day when needed, depending on the local climatic conditions," Davis said. "We are fortunate to be able to blow during play because our vaults are far enough away from our greens for a mostly quiet operation."

Davis is involved in construction of the neighboring Golf Club of the Everglades that Rees Jones is designing, and said, "We are installing vaults to hook up blowers on all 18 greens, the putting green and chipping green there."

Davis said the manufacturer of the self-contained blower also makes a new electrically operated low-pressure system that can produce heated and cooled air. Specifications include an air volume of 1,000 cfm, dual mode sucking and blowing, two 3 horsepower 230-volt motors with a power draw of 13 amps full load with a 60-amp start, quiet operation at 51 dba at 30 feet, and 4- or 6-inch outlets with quick disconnect hoses.

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A PVC pooh

BRUTUS, Mich.—Think dogs are just good for chasing geese off golf courses? Well, Steve Sump, superintendent at Hidden River Golf & Casting Club here has a PVC-seeking missile of a Labrador retriever who can find clogged drainage caps through the deepest, murkiest standing water allowing Sump to get the flooded parts of his course back in play in two shakes of a dog's tail.

Buddy is an 18-month-old, 80-pound yellow lab. Buddy loves to pick things up and bring them to Sump. He was a green drainage cap which became a favorite toy. When parts of the course flooded last June, Sump said, "For some reason I said, 'Bud, find your drain,' the name we'd given his cap toy. He starts looking around, paws under the water and pops out one of the drain caps."

"I thought maybe it was a fluke, that he'd just happened to step on it. So we went to another area and I said, 'Hey Bud, go find a drain.' He starts sniffing around and sniffing around, paws under the water again, lifts out another drain cap and the water starts draining down the hole. He must have found 10 caps that day."
Bubble Cover makes transition from pools to golf

Continued from page 17

Experience with Bubble Cover over the last three winters has been extraordinary in terms of effectiveness, ease of installation and removal, and cost compared to using straw.

Traditionally, Gauthier had protected his greens during winters by laying down a strong netting, spreading a layer of straw over that and then covering both with a greens cover.

"This was effective in most cases, but was time-consuming, and removal was also very time-consuming," he said. "But the main problem is, it's a living material... Also, in a mild winter, the greens did not come out so well."

Gauthier and his colleagues in the Northern regions considered that a perfect method of winter greens protection would include:
• control of water;
• isolation, such as an inorganic temperature buffer;
• ease of installation.

When a Bubble Cover salesman knocked on his door in late 1995, Gauthier jumped on the idea. "I knew it would be perfect," he recalled.

The product is sold from 4- to 28-foot widths, and Gauthier spent $26,400 at 11 cents per square foot. He figures the Bubble Covers, which should be usable for at least six years, will save $5,336 or more per year. Using straw cost $7,000 per year for the straw and $4,500 in labor and disposal costs. The Bubble Cover costs only $1,824 in labor, and the $26,400 spread over six years equals $4,400.

Gauthier spelled out the process of covering his greens with the bubble material, which is so strong the bubbles do not pop even when jumped upon.

First, the plastic netting is laid over the green. Mouse repellent is sprayed over the green. The Bubble Cover is spread out over the netting and is clamped down with long, fluorescent-pink staples so they can be easily found come spring. All this is held down by a permeable greens cover.

"This top cover," he said, "is very important and we have to pull it all the way back from the green. If not clamped down well, wind will tear it out."

In his experiments Gauthier placed household heat monitors inside the greens, with a sensor near the middle of the green and the monitor in a Ziploc bag at the edge of the green.

The temperature never dipped below 5 or 6 degrees Celsius (32 to 34 degrees Fahrenheit), which poa annua can survive, he said.

A bonus of the Bubble Covers is that they are fairly translucent which helps kick-start the grass in the spring when the top cover is removed.

Since each cover is tailor-fit to a specific green, it is labeled for use the next year.

"The method is not perfect. Sometimes water infiltrates under the cover," Gauthier said. "But we are fine-tuning it. We are pulling the top cover even more taut. And some results are incredible."

"This is really taking off in Quebec," said Fern Maille of Charm Services Inc. in Bellefeuille, Quebec, who sells Bubble Cover. Although Bubble Cover is being shipped across North America for swimming pools, it is sold only in the Province of Quebec for golf courses, he said.

"I believe this year we will be selling it in Nova Scotia and New Brunswick, and looking for distributors in the United States."

"It's just a question of having enough testimony to convince the guys to at least use it on one or two greens."

Ceiling storage

Continued from page 17

Mount importance," he added, "and it is always fun trying to use storage space properly in all of the miscellaneous areas throughout our maintenance building complex."
Y2K and you
Continued from page 17

malfunctions.

According to Brad Kocher, director of golf course maintenance at Pinehurst (N.C.) Resort and Country Club, an expert hired to whip the resort into “Y2K compliance” told department heads “if it plugs in, it’s subject to [Y2K]. It could have date-sensitive parts in it.”

The consultant, Kocher said, “walked into my office, took one look at my TV set, and said, ‘That probably won’t work in 2000.’ It has a timer in it. There are so many things to check out. Irrigation clocks, computers, VCRs…”

Clocks, timers, embedded chips — these gadgets that have made life easier — loom as the culprits in a bad prank, golf course superintendents and general managers fear. Embedded chips, for instance, on which programming is written, are used instead of clocks in many devices. Billions of them are in use in satellites, water and sewage systems, desktop and laptop computers, airplanes and trains, nuclear power stations, power grid systems, pipelines, credit card systems, telephone systems, cellular phones and answering machines, facsimile machines, photocopiers, cameras, time-recording systems and voice mail, air conditioning and heating systems, fire alarms, sprinkler systems, Global Positioning System receivers, microwaves and VCRs, and digital organizers. The list goes on.

“There are things you wouldn’t think were date-driven that have a date chip,” said Dave Wilber of Wilber Turf & Soil Services in Rocklin, Calif., “[like] the solid-state brain in the Fairway 5100.”

And their effects more wide-reaching than expected.

“Remember when a satellite went down a couple of months ago and shut off cell phones?” asked Ron Andrews of Grand Harbor Golf Course in Vero Beach. “[Weather service provider] DTN went down as well. Look what losing one satellite did in terms of temporarily losing beepers and DTN. Make that losing 10 satellites and I don’t have a clue what would happen.”

“Basically, it boils down to two ways you can have a problem,” Andrews said. “First, on your site with your equipment. Second, with your vendors. That is really the difficult issue to get a handle on because they all have shippers and vendors and suppliers, who all have shippers and vendors and suppliers, who all have… You can quickly see that we are so interconnected in this society, that the problems expand away from our own site.”

“Our biggest concern is the things that we have no control over,” Van Ness said. “We have no control over power, or water, or whether the municipalities are ready. We have no control over our vendors. For instance, the vendors who provide our clothing. It is shipped from the Far East, and it’s dubious whether they’re ready. Who knows? Our stores might go empty… a couple of months down the road.”

Unable to affect outside sources, golf courses should ensure their own operations.

“Our Information Systems people will not be celebrating New Years Day in the traditional fashion. They will be here,” said Pebble Beach Golf Operations Manager Shawn Smith.

Indeed, Van Ness said: “I’ve told everybody not to plan on going to the pyramids in Egypt for that time. We will have one or two staff on that night and have everybody come in to work on Jan. 1 to see what happens. It will be the best of all worlds if we’re sitting there bored.”

Many feel Jan. 1, 2000, will be an interesting, and challenging, time. They feel it will neither be the end of the world, nor nothing, but somewhere in between.

As superintendent Scott Cybulski, of Falmouth (Maine) Country Club, said: “I don’t see us falling apart. Y2K’s not going to stop photosynthesis, is it?”

“Jan. 1, 2000, will be interesting but not that bad,” Van Ness said. “I think it will be the longer-term effects that will start to show up. It will build — small problems at first and then more small problems and more, and before you know it, there will be all kinds of things going wrong. And if it affects the worldwide economy, it means less money, less expendable income. And what do you do when you stop income? You stop playing golf.”
Bentgrass care
Continued from page 17

• Watering, not syringing.
• Keeping the nutrition level up in the summer time.
• Top dressing every three weeks.
• Light grooming and brushing every third week.
• Core aerifying twice a year, removing the cores and top dressing every third week.

Continued from page 17

Bentgrass care

• Watering, not syringing.
• Light grooming and brushing every third week.
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“Continued from page 17 Bentgrass care in early May and late September.

• Watering, not syringing.
• Light grooming and brushing every third week.
• Top dressing every three weeks.

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Indeed, in late December, three months after planting G-2 bentgrass over an existing sod layer, Ehrbar reported roots 6 to 7 inches deep. And, he said, he made only one fungicide application during the summer that he tested: G-2, L-93 and Crenshaw bentgrasses before his final decision to plant.

“We found that a drier soil profile is much less prone to disease than water-soaked,” Ehrbar said.

The four-day watering cycle was proven effective during re-sodding at College Station, Texas, where Iowa State graduate student John Jordan worked under Texas A&M Associate Professor Dr. Richard White.

In the late summer of 1998 (the hottest summer on record in Texas), Jordan tested nine varieties of bentgrass, watering some plots every day, some every second day and others every fourth day.

“The best overall quality on all the varieties always occurred when we irrigated every fourth day,” said White. “Irrigation frequency had a dramatic effect, particularly in '98 because John operated the system for a much longer period, starting in late May through early September. He found that between the first week in June and the end of August the root systems in the frequently watered plots actually decreased. But in the four-day treatment, the root system actually tripled and had five times more roots than frequently watered plots.” Few roots in the frequently watered plots reached 6 inches, while some in the four-day cycle reached 12 inches.

Does the turf appear less lush under his new regimen?

“For top growth, yes,” Ehrbar said. “If we were applying more water than we needed, it would appear to look better. But you're only as good as your roots.”

But White saw no reason these practices would not work elsewhere, so long as the greens are sand-based or U.S. Golf Association-type, not “push-up” greens.

Ehrbar is still determining exactly what he must do to maintain his bentgrass, saying his plan “is not black and white. Every course is unique and different and we're building the program as we go. It's day to day. We monitor the grass.

“But our feeling is, if we can get through the day without watering, we do it. By the same token, if it needs water, we will water it. In the wintertime there are times we can go over three weeks without giving it any water. But when summer comes we're lucky to go three to four days because the heat is up, evapotranspiration is up and the plant is pumping more water.”

Engelke attributes the success of this Deep South experiment partially to the grasses.

“The new genetics give you the edge,” he said. “Those three [L92, Crenshaw and G2] are the most heat-tolerant bent of which we had sufficient seed. But these new varieties will grow at higher soil temperatures, and especially at soil temps that are too high for the plant. And that is influenced more by irrigation scheduling than anything.”

December 1999 21
Outsourcing grows, to supers’ benefit

By ANDREW OVERBECK

Using outsourcing for various tasks is becoming increasingly attractive to superintendents and golf course operators across the country. Independent contractors can often out-perform the regular maintenance staff in specialized tasks like fertilizer applications and aerification or relatively simple jobs like maintaining the clubhouse grounds. More and more superintendents are employing these services because it saves time, manpower and maintenance costs and provides access to specialized services and new technology that were previously out of reach.

“ Outsourcing jobs means there is one more headache that superintendents don’t have to worry about,” said Terry Buchen, president of Terry Buchen Golf Agronomy International, a consulting firm based in Williamsburg, Va. “They can make more use of their existing crew. For example, going to bulk fertilizer applications means that the crew doesn’t have to spend time unloading bags and filling up spreaders or putting it out.”

Outsourcing not only helps to streamline operations but it also helps keep capital expenses to a minimum. “Instead of paying $10,000 to buy an aerifier, clubs are more than happy to budget $2,000 a year to aerify the greens,” said Buchen.

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

However, not everyone is that impressed with the bulk fertilizer applications. The 40-foot throw of bulk application trucks is one limiting factor. “I have a lot of narrow fairways and wetlands areas that make using a truck with a 40-foot boom impractical,” said Chuck Anfield, superintendent at Heritage Bluff Golf Club in Channahon, Ill.

Control over timing is another issue. “I can buy bulk fertilizer and store it myself,” said Anfield. “I am old school. I want to be able to put it down right when I think it needs it. Using bulk application, you are locked into a date and have no flexibility.”

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

“I could buy a Vertidrain and a Hydroject machine and overtime I may save money,” said Anderson. “But the bottom line is that the contracting company can come out with three tractors and have it done in one day. or get through the whole course. It would take me a whole week.”

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

“It is cost-effective and the efficacy is improved,” said Taylor. “We just started this year with the wall-to-wall fertilizer applications. When I first looked at it I wasn’t sure of it. But then the response from area golf courses, it gets done twice as fast.”

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

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

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

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

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Pebble Beach’s Missing Link

PEBBLE BEACH, Calif. — Making changes to a golf course the age and stature of Pebble Beach can be construed as obtrusive tinkering. But to add an entirely new golf hole can seem like changing the smile on the Mona Lisa, or rewriting Beethoven’s 5th Symphony.

But when Pebble Beach Co. broke ground on a new par-3 5th hole, its officials felt it would actually be the missing link bringing the course into the configuration that it was meant to have 80 years ago.

The new 187-yard hole will play along a bluff overlooking the ocean. Jack Nicklaus designed the hole to reflect the character of the rest of the course — a hole that should have been built in 1919.

It will replace the awkward par-3 5th that, in the original design, inexplicably played away from the ocean. Why this hole was laid out as it was illustrates how conflicts occur when golf courses and real-estate projects meet.

Pebble Beach Golf Links was created to stimulate land sales of the ocean properties of Del Monte Co. It was one of the first real-estate-driven golf developments in the West. As such, the balance between land sales, cash flow and construction costs were all factors in creating the golf course.

Over the years, the coveted property twice came up for resale — during the Great Depression and World War II. But Pebble Beach Co. did not have the funds to buy it back. A Mrs. Jerkins bought the land and held onto it until her death in 1995. It was at this time that Pebble Beach finally secured the five-acre parcel, for $9.5 million.

Construction of the new hole began last June and should be completed by January. Plans are to have it ready for the AT&T Pebble Beach National Pro Am.

New wetlands regs may stifle development

WASHINGTON, D.C. — The U.S. Army Corps of Engineers is implementing a new cadre of wetlands regulations in early 2000 that is expected to impact a far greater number of residential and commercial developments, including golf courses.

Public comment on the proposed Nationwide Permits (NWPs) expires Oct. 6, making the way for the new rules which affect jurisdictional waters of the United States — wetlands, streams, lakes, etc.

Although the new NWPs have not been officially confirmed, experts in the field anticipate few changes before the current NWP-26 expires at midnight Dec. 30.

Forrest named Hills’ associate

TOLEDO, Ohio — Golf course architect Arthur Hills has named longtime associate Steve Forrest a principal in his company. The firm, now titled Arthur Hills/Steve Forrest and Associates, has been involved in the design of more than 150 new courses throughout the United States.

Meanwhile, Brian Yoder and Drew Rogers have been promoted senior design associates and have been made partners in the firm.

"I want to recognize Steve's efforts through the years and call attention to the key role he has played in our success," Hills said.

Hills and Forrest are both members of the American Society of Golf Course Architects (ASGCA).

A landscape architecture graduate from Virginia Tech, Forrest has worked with Hills for more than 20 years. His design philosophy reflects Hills’ desire to create courses that are visually exciting, innovative, strategically challenging yet playable, and sensitive to the environment.

Yoder is an ASGCA member and has been with Hills since 1990. Rogers has been with the firm since 1992.

Niebur, Furness named GCN’s best builders

COLORADO SPRINGS, Colo. — Niebur Golf, which former cowhand Joe Niebur created in 1991, has been named Golf Course Builders Association of America in Orlando during the International Golf Course Conference and Show.

Niebur and Furness received their awards at the annual banquet of the Golf Course Builders Association of America in Orlando during the International Golf Course Conference and Show.

The Niebur announcement followed an extensive survey of architects, developers and superintendents involved in projects for 18 builders nominated for the award. Of a possible rating of 80, Niebur Golf scored 78.675. MacCurrragh Golf Construction, Inc. of Jacksonville, Fla., finished second with a rating of 77.96, and Landscapes Unlimited of Lincoln, Neb., placed third at 76.14.

Niebur Golf Construction, Inc. received near perfect ranking from the developers, architects and superintendents on the three projects it completed in 1998. The principals were queried on such areas as meeting deadlines and budget, sufficient personnel and equipment, quality of work, and project supervisor. Of a possible score of 80, Niebur finished at 79.2.

Furness was followed in the survey by Turf Drain Inc. of Novi, Mich., with a score of 78.17, and Quality Grassing & Services, Inc. of Lithuania, Fla., at 77.48.
Your reputation never looked better.

First Audubon Int’l course ready

By MARK LESLIE

MEMPHIS, Tenn. — It was a different process but the same result: The first Audubon International Golf Course will open here this fall — the Jack Nicklaus-designed Spring Creek Ranch.

“This is not how we thought we’d get there,” said Audubon International (AI) President Ron Dodson, “but it is truly the first Audubon International Golf Course.”

AI courses, thought for the last year to partner with AI and identify and build AI Golf Courses across the country, stalled for one reason or another — to a great extent because Dodson and AI-affiliated scientists are writing the “rules book” as they go. In fall 1997, the Al Golf and the Environment Land Trust was formed to develop courses that would also serve as environmental research and demonstration centers. In September 1997, with a reported $300 million to $500 million in pledges from its principles, The Golf Co. was formed to be the verge of reality, have been

President Ron Dodson, “but it is truly the first Audubon International Golf Course.”

AI courses, thought for the last year to partner with AI and identify and build AI Golf Courses across the country.

But that first project, Dodson said, had to be “a home run,” and, for one reason or another, none lived up to that billing.

That is, until Dr. David Meyer came along. Meyer and Dodson had been in discussions for a year about a 900-acre property Meyer owns east of Memphis. Meyer had signed Spring Creek Ranch for the Audubon Signature Program, meaning AI’s involvement would begin in construction.

Then, in another surprise, Dr. Meyer and his son Robb, who is project manager for Spring Creek Ranch, decided in February to build an Audubon Community on the 500 acres not consumed by the golf course. Dodson had not envisioned the Spring Creek Ranch property — and a family like Meyer’s — as the answer to his dreams.

Last summer, Dodson decided that he could accomplish his goals without actually acquiring, building and managing golf courses. He only needed “a venue on which Audubon International can’t be tossed off; where we can develop environmentally friendly research, with control of that research, in different eco-regions. Why, then, own it?”

Meyer’s plan made any decision easy for Dodson. He was to give AI a “conservation easement” on the entire 400-acre golf course.

“I want you to have control,” Meyer told Dodson. A conservation easement is “a deeded, fee-simple ownership,” Dodson explained. “We own any future development rights on that 400 acres. And they are telling me that if they do other things on the rest of the 900 acres, they will give us an easement on that, too.”

The easement, he added, “seriously gives us a hammer. If anybody wants to do anything on this course, they must get our permission. It outlives Dr. Meyer and me.”

AI is still looking at lands that individuals and agencies have offered under the original process, including a couple of “dream properties,” Dodson said. “But it has taken so long because there is no recipe guide to do this; we are writing it as we go.”

Does Spring Creek Ranch meet the “home run” criteria?

“The property will be a home run. There’s no doubt about that,” Dodson said. “What we originally envisioned was being involved in the selection of the land and doing an ecological design for the property, and so forth and so on. In this case, we weren’t involved in that. They already owned the land, had retained a golf course architect and had a preliminary routing before they joined the Audubon Signature Program. But they are in the program and we have been working for them a couple of years.

“What I really want to do is document the process of selecting the right kind of land on which to build a golf course. We did not participate in that part of this project. Other than that, yes, this is a home run.”

Indeed, according Robb Meyert: “This land is rare. When people think of Mem-phis they think delta flat. But this property has a lot of rolling hills and elevation changes, and the mature trees — sy-camore and willows — are amazing.”
Richmond First Tee facility receives judicial nod

By MARK LESLIE

RICHMOND, Va. — A judge’s stunning reversal of his own decision has paved the way for the Richmond First Tee project to, finally, get under way.

Richmond organizers, who had hoped to open the nation’s initial new First Tee facility, had been stalled for months by opponents using legal challenges and appeals to administrative county approvals. Now, it appears, they can proceed.

On Feb. 3, Circuit Court Judge Jack B. Stevens reportedly told a court hearing he had been negligent when ruling that the county could lease land but only if it controlled fees and oversees the leasee’s operation. That flew in the face of the county-First Tee agreement for the youth-oriented course at Iron Bridge Park. First Tee advocates argued that the decision also appeared incongruent with the current leases the county has in effect with an airport and various other entities.

Now, according to Richmond First Tee Executive Director Tim Merry, it will probably be mid-March to early April before construction can begin at the park which sits outside the city in Chesterfield County.

“We are relieved,” he said. “We have hoped this [reversal] would be the case. We are prepared to move ahead. We remain very committed, and look forward to the day when we can have kids out there playing on the golf course.”

Local businessmen, led by Fred Tattersall, had raised $2 million for the facility — $1.5 million to build it and $500,000 to operate it for five years, by which time it should be self-sustaining. The goal is to make golf affordable for area children.

Golf course architect Lester George, who is donating his services, and builder Quality Grassing & Services, which will earn no profit on the project, are prepared to get started. Shortly after Stevens reversed his decision, George submitted a new course routing, eliminating an irrigation pond that was a safety issue for some. And Quality Grassing stood ready to begin clearing, once the new plans were approved by the Chesterfield county commissioners.

Opponents to the project, led by park neighbors, promised to appeal Stevens’ decision. But Merry said: “We’re not waiting for the appeal. By the end of February I will have all the permitting we need. Construction could only be held up by a judge granting a restraining order while awaiting appeal.”

Richmond First Tee supporters see the year-long entanglement as a possible blessing in disguise, for two reasons:
- “When we go through it this time around, [national] First Tee is in a much better position to help us, and we’re in a better position to do it,” Merry said, referring to the fact that a year ago the national program had just been created by the PGA of America, PGA Tour, U.S. Golf Association, LPGA and others.
- “Though not the first facility, we’ll still have a unique project here,” Merry added.
- While the county project was stalled, Richmond First Tee opened talks with the city of Richmond concerning an inner-city site the city wanted them to build on in the first place. The project would be a three-hole layout next to an existing driving range, with another six holes in the future.

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Wetlands regs
Continued from page 23
"There may be minor tweaking, but nothing major," said Dr. Richard W. Whiteside of Wetland and Ecological Consultants in Woodstock, Ga. "But the Army Corps of Engineers [USACE] is encouraging all its districts to modify them [NWPs] to meet their specific needs. Every district I know has published their own add-ons to this headquarters program, and they are all even more restrictive."

But Carol Sanders of the USACE public affairs office said: "We are still accepting comments. After Oct. 7, we will decide what is appropriate. The schedule calls for us to issue the final NWPs in early November, with implementation 60 days later."

Whiteside, who deals with a number of golf-related developments, predicted the new NWPs will affect more than half the new golf projects. According to plans, NWP 26 will be replaced by five new NWPs, but a USACE statement reported: "Permittees will have up to 12 months to complete activities authorized under NWP 26, provided construction activities commence, or are under contract to commence, before the existing NWP 26 expires."

"NWP 26 was perceived as too broad," said Sanders. "With the NWPs you are trying to look at activities that are similar and have similar effects, such as recreational activities."

"A lot of the golf courses we're working on are in low-lying areas," Whiteside said. "Stand-alone courses normally don't have many problems [with NWPs] because they don't need to go so low. But courses associated with residential or ancillary development are usually forcing the architects down into floodplain areas. That's when these NWP effects come into play."

NWP 26 was last revised in January 1997, reducing the number of acres a project could affect. Before then, a developer could impact one to 10 acres of isolated wetlands or stream headwaters. One acre could be affected without seeking permits. Under the 1997 revision, permits were required for any impact of more than 1/3 acre. The 10-acre maximum of wetlands that could be affected was reduced to three acres.

NWP 39, the major revision expected to take effect in January, will reduce that 1/3 acre to 1/4 acre. The three-acre maximum would remain in place but may often not be met because the limit on any project will be 1/4 acre plus 2 percent of the total project acreage. For example, a 100-acre project site may have a maximum impact acreage of 2-1/4 acres — 1/4 acre plus 100 acres times .02. The three-acre cap would be achieved when the size of the project site reaches 137-1/2 acres.

Under the anticipated new regulations, mitigation is going to be required for even the smallest of impacts — anything exceeding 1/4 acre, Whiteside said. "And you'd better be in-tuned to your local district restrictions."

The relatively recent cottage industry, land banks — wetlands people have bought and set aside for mitigation — should be in high demand.

According to USACE, NWP 39 will be joined by NWPs 41, 42, 43 and 44.

NWP 39 is intended for residential, commercial, and institutional development activities, including construction or expansion of building foundations or pads, as well as attendant features such as roads, utilities, sidewalks, and other similar infrastructure, as well as playgrounds, ballfields, golf courses, and nature trails.

If the proposal remains intact, a pre-construction notification submitted to the USACE "will be required for wetland impacts exceeding 1/4 acre, or for any impact to open waters such as intermittent and perennial stream and lakes."

The regulation, Whiteside said, may be more applicable to clubhouse and maintenance building construction than the golf course for many developers.

Another new rule, NWP 42, authorizes construction or expansion of recreational facilities, which could include golf courses and ski areas, "provided substantial grading and filling is not required."
Walters strikes gold in St. Louis golf market

By PETER BLAIS

Dennis Walters is bullish on the St. Louis marketplace. "Twelve years ago it was probably on the endangered species list, according to the National Golf Foundation," said Walters, president of St. Louis-based Walters Golf Management. "Since then we've opened a number of new facilities. It's become a very competitive market."

Walters entered the golf business in 1962 when his father bought Bogey Hills Golf & Country Club, a Wayne Clark-designed layout in St. Charles, Mo. The course had lain dormant for 25 years. Walters, who was in high school at the time, did some redesign work with his dad (an optometrist), and the course reopened as a nine-hole layout.

Missouri Bluffs GC

Continued on page 30

ClubCorp, AGC team for Cobblestone purchase

By PETER BLAIS

DEL MAR, Calif. — Two major players in the golf course management industry — American Golf Corporation and ClubCorp Inc. — have joined together to acquire Del Mar-based Cobblestone Golf Group from the Meditrust Companies for $393 million.

The new partnership, Golf Acquisitions LLC, closed on the 45-course acquisition last spring and divided the facilities between them.

Meditrust, a Massachusetts-based real estate investment trust (REIT), bought Cobblestone in late 1997 for $241 million. The REIT, which owns and operates 105 golf properties, bought Cobblestone golf properties last fall. A half-dozen groups were reportedly interested in acquiring Cobblestone.

"It was such a large transaction, it made sense for the two largest firms in the industry to get together and purchase it jointly," said ClubCorp President and Chief Executive Officer Robert Dedman Jr. "We basically split the assets 50-50. There are probably 95 percent of the assets we'd both love to own. But there were some assets that fit better with their strategic plan and some that fit better with ours, based on our existing markets and the ability to cluster some of the Cobblestone assets with our existing properties."

Having AGC and ClubCorp team up on the purchase "just seemed common sensical," Dedman said. "It allowed us to be as competitive as we could from a price perspective. It was in both of our best interests to acquire these assets. From American Golf's perspective, it made as much sense for them as it did for us."

Santa Monica, Calif.-based American Golf took over 23 of the properties, including eight in Texas, six in California, four in Arizona, three in Virginia and two in Georgia. American Golf is negotiating to transfer substantially all these courses to its publicly traded affiliate.

USGA turns over U.S. Open mgt. reins to ClubCorp subsidiary

By PETER BLAIS

PINEHURST, N.C. — The United States Golf Association (USGA) has handed over responsibility for managing June's U.S. Open at Pinehurst No. 2 to an outside party — Pinehurst Championship Management (PCM).

PCM is the sports marketing and division of ClubCorp, the Dallas-based firm that owns and operates Pinehurst. PCM will be responsible for everything from handling transportation issues to developing corporate partners.

The USGA will retain control over what occurs "inside the ropes," according to the USGA's Tim Moraghan, who oversees course preparation for Open events for the USGA Rules and Competition Committee. "Outside the ropes," said PCM head Jon Wagner, "everything with regard to marketing, corporate hospitality sales, operations, presentation, and volunteer coordination will be done by PCM. Inside the ropes, we will receive guidance from the USGA and do as they tell us."

Pinehurst is one of golf's shrines. It was famed architect Donald Ross' longtime home and has hosted many prestigious championships including the North and South Open (the nation's longest continuous-running golf championship), the 1936 PGA Championship, 1951 Ryder Cup and 1982 U.S. Amateur.

Pinehurst suffered from neglect in the late 1970s, but was restored to prominence by ClubCorp, which purchased the complex in 1984. ClubCorp restored Course No. 2 to its original condition and hosted the 1989 USGA's Women's Ama-
Wilson becoming major force in Upper Midwest

By Peter Blais

WHITE BEAR LAKE, Minn. — Wilson Golf Group (WGG) has acquired Turtleback Golf Course in Rice Lake, Wis., giving the White Bear Lake-based management firm seven golf facilities in the Upper Midwest.

"We're trying to acquire a course per year," said Greg Stang, WGG's director of acquisitions.

WGG courses include four in Minnesota and two in Colorado. The Minnesota facilities are Oak Glen and Applewood Hills in Stillwater, Gem Lake Hills in White Bear Lake and North Links in North Mankato.

The Colorado tracks are 15 miles apart on the Western Slope — Adobe Creek in Fruita and Chipeta in Grand Junction. The company also owns a piece of land outside St. Paul that will see construction of course No. 8 within the next 18 months, Stang said.

With four Minnesota courses apiece, WGG, Continental Golf Group and American Golf Corp. are the largest course operators in that Upper Midwest state.

"There are a couple others [management firms] that have started up that have one or two on hand," the Wilson Golf Group executive said.

This is no place for an

Pinehurst

Continued from page 27

tour, the 1991 and 1992 Tour Championships and 1994 U.S. Senior Open.

Pinehurst was awarded the 1999 men's U.S. Open in 1993. Rather than hire one of the larger tournament management firms to oversee the Open — firms such as IMG, Advantage International and Executive Sports — ClubCorp opted to start its own tournament management company. To head up the new firm, ClubCorp selected Wagner, a former PGA Tour marketing and championship director, who had overseen the 1991 and 1992 TOUR Championships on Course No. 2.

Since its inception, PCM has managed golf championships at both ClubCorp and non-ClubCorp facilities, including the 1996 U.S. Women's open at Pine Needles Lodge and Resort in Southern Pines. The firm plans to manage at least one major championship a year and was recently chosen to manage the 2001 U.S. Women's Open Championship again at Pine Needles. By mid-April, PCM also expected to be named manager of the 2002 U.S. Senior Open at Caves Valley near Baltimore.

PCM realized the need for state involvement in hosting a major tournament like the U.S. Open. To make this a North Carolina event, PCM developed a President's Council consisting of 16 of the state's biggest company chairmen, including Gov. James Hunt and former Gov. James Martin. Through PCM's work with that committee, North Carolina agreed to expand state roadways (primarily US1) leading to Pinehurst.

Other aspects of the Open that PCM has dealt with have included:

- Attracting corporate sponsors — PCM recruited 50-plus sponsors, a record number that included many first-timers.
- Building The U.S. Open Hospitality Village — Construction began in late March. The village, which includes more than 300,000 square feet of covered canvas tenting, will sit along holes 1, 2 and 18 of Pinehurst No. 4, another Ross design that architect Tom Fazio is redesigning and will be renamed The Tribute. Construction of The Tribute will begin following the tournament. A Media Village is also planned.
- Preparation of Course No. 2 — The course will close almost three weeks prior to the Open. PCM recruited 60 volunteers, many of them superintendents at U.S. clubs, to help prepare the layout. There will also be close to 18,000 bleacher seats.
- Traffic issues — Coordinating traffic and the 50,000 daily spectators in and out on the one road leading to and from Pinehurst will involve shuttles operating from two remote parking facilities.
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For every weed problem, Trimec has the solution.
ClubCorp, AGC team up

Continued from page 27

"We are delighted to have joined forces with ClubCorp to acquire this portfolio of distinctive properties and to work with Cobblestone's co-workers, members and guests to continue providing the highest quality golf experience," said AGC Chairman David Price. "This acquisition, the largest in the history of the golf course industry, is a testament to the unparalleled acquisition and operating experience presented by the combined efforts of American Golf, National Golf and ClubCorp." Dallas-based ClubCorp acquire a total of 24 courses in Texas, Florida, Georgia and North Carolina. Several of the specific courses include Stonebridge Country Club (CC) in McKinney, Texas; The Hills CC in Austin, Texas; Morgan Run in Rancho Santa Fe, Calif.; and Eagles Landing in Stockbridge, Ga. Dedman sees the joint purchase as continuing the trend toward consolidation of the golf course industry.

"Our business goes through cycles," he said. "We were in a cycle for a number of years where we didn't acquire things because we felt they had become too pricey. Now we feel we are at a point in the cycle where it makes sense to acquire some of these assets.

Walters

Continued from page 27

that year. Bogey Hills expanded to 18 holes a decade later and went private in 1980. Walters became the club pro.

In the early 1980s, Walters decided to follow in his father's entrepreneurial footsteps and developed Whitmoor Country Club, a private, 36-hole, Karl Litten design in St. Charles that opened in 1988. That was followed by:

• Missouri Bluffs Golf Club, an 18-hole Tom Fazio layout in St. Charles that opened in 1995 and Golf Digest later ranked the No. 1 public golf course in the state.

• The Links at Dardenne, an 18-hole public course in O'Fallon, and Gateway National Golf Links, an 18-hole Keith Foster design with bentgrass fairways in Madison, Ill., both came online in 1998.

• The Golf Club of Wentzville (Mo.), an 18-hole public facility opened in 1999. Walters also signed a management contract with Cherry Hills Golf Club in Wildwood, Mo., earlier this year.

Walters' facilities cover the price spectrum, ranging from $20 per round at The Golf Club at Wentzville, to $30 at The Links at Dardenne, $40 at Cherry Hills, $50 at Gateway National and $80-100 at Missouri Bluffs.

As for the two private facilities:

"We probably do more tournaments than anyone in the marketplace," Walters said. "We do about 90 a year at Whitmoor. Missouri Bluffs does about 75. We can help any tournament organizer, from the group that wants to spend $40 per player to the one that wants to spend $200 per player."

With the exception of Cherry Hills and The Links at Dardenne, which is owned by the Whitaker family, Walters has an ownership interest in all the above facilities.

"We would prefer to build rather than acquire courses," Walters said. "We know what we get when we build it ourselves. That doesn't mean we wouldn't look at acquiring a course if everything we wanted was in place, the numbers worked right, and the quality of the course was adequate to make it the way we would like to have it."

Whenever he has built, Walters has attempted to hire local contractors. "It's not that outside contractors don't do quality work," he said. "It's just that they have to make a profit when they do that. If we hire local contractors, we feel we can get more for our dollar."

To date, Walters has concentrated on the St. Louis marketplace. "We'll be another 18 months to two years in just St. Louis. We have two potential projects in St. Louis we want to look at first. After that, we may look to go more regional."
New technologies, techniques paving the way...

Dry Sprayer takes overseeding to the next level

By ANDREW OVERBECK

JACKSONVILLE, Fla. — Turf Solutions has developed the Dry Sprayer, a machine using new overseeing technology that dramatically increases the speed, accuracy and germination time over standard overseeding techniques. Adapting air-blown technology commonly found in agricultural equipment, the Dry Sprayer blows seed directly into the turf canopy. “We have modified this ag-based small crop machine into one suitable for turfgrass applications,” said John Wicker, vice president of Turf Solutions, the service arm of local distributor Southeastern Turfgrass Supply. “We built our first machine three years ago and we do the final assembly, modifications and shipping out of Jacksonville.”

The Dry Sprayer features a 1,000-pound ground-driven hopper-unit that distributes seed via a clutch-driven paddle to tubes that run down to the 16-foot boom. The seed, which is blown at a speed of 65 mph, then hits diffusers that run along the length of the boom, orienting the seed downward and blowing it into the turf canopy. “The ground-driven distribution system ensures every application of seed and forces it through the thatch layer providing better seed-soil contact,” said Wicker. “This leads to better germination, uniform coverage and a reduced outlay of seed by 10 to 15 percent.”

The Dry Sprayer is ideally suited for fairway applications and can cover 120 acres in one day. “We typically make two passes with split applications and with three or more machines we can easily do a course in one day,” said Wicker. “One machine on a course could easily handle 25 to 30 acres a day, a significant time savings over traditional overseeding. The Dry Sprayer improves seed-soil contact by using air-blown technology to blow seed into the turf canopy.”

Continued on page 34

Metallic Power gets boost for zinc/air power

By MICHAEL LEVANS

SAN DIEGO — Metallic Power Ltd. has been awarded a $350,000 contract from the California Energy Commission’s South Coast Air Quality Management District to demonstrate a prototype zinc/air fuel cell-powered riding electric greensmower by January 2000. The company will collaborate with the Toro Co. on the project. “With this contract we’re now on a rapid trajectory to develop the zinc/air fuel cell technology,” said Jeff Colborn, Metallic Power’s chief executive officer. Founded in 1995, the company has won more than $1.5 million in government research and development contracts. The zinc/air fuel cell combines zinc pellets, approximately 1 mm in diameter, with oxygen. The reaction takes place in the presence of potassium hydroxide, the liquid electrolyte found in alkaline disposable batteries.

Continued on page 33

SUPPLIER BUSINESS '99

Rolling through '99 news of industry consolidation and reorganization managed to make multiple headlines. Indeed, changes were abundant in the past year, as many companies made moves to improve market share, enter new markets and introduce new technologies.

AgriBioTech retooled its upper management in June and sowed the first seeds of consolidation in the formation of its new wholesale division, Independent Seeds. Scotts Co. announced a switch from direct selling to distribution and is working to improve its position in the seed market. Seed Research of Oregon teamed up with Advanta Seeds to form a new research and marketing agreement in order to make up for its lack of cool-season turfgrass varieties.

On the new technology front, ideas and products were introduced this year that not only make more sense for superintendents, but also for the environment. Take, for example, the Dry Sprayer produced by Turf Solutions of Jacksonville, Fla., that reduces the time and labor of overseeding. Or consider the alternative energy breakthrough by Metallic Power’s Zinc/Air battery that runs longer, is cheaper and more efficient than a conventional lead/acid battery. This year’s lesson: Don’t be afraid to make the move to improve.

JUNE / OCTOBER

ABT consolidation, integration continues

ABT reshuffles management, moves towards consolidation

By ANDREW OVERBECK

HENDERSON, Nev. — AgriBioTech Inc. (ABT) marked the completion of the acquisitions phase of its three-pronged business plan by completely reshuffling it’s upper management.

Citing a need to shift gears into integrating and consolidating the 34 companies that ABT acquired since 1985, the company’s board of directors decided in late February to replace Dr. Johnny Thomas, chairman and chief executive officer. Kent Schulze, president and chief operating officer resigned in late March. The board felt that former Lofts Seed president Richard Build and others would be better suited to operate the company as it moved into consolidation.

Budd, who joined the board of directors when Lofts was taken over by ABT in January 1998, is now chairman and chief executive officer and is joined by a new executive officer.

Continued on page 34

ABT launches new wholesale business unit

By ANDREW OVERBECK

SALEM, Ore.—AgriBioTech’s integration efforts continue to take shape with the formation of Independent Seeds as the company’s new turf, forage and international wholesale business unit. Allied Seed Company, Burlingham Seeds, Clark Seeds, Olsen-Fennell Seeds, Osasco, Inc., Peterson Seed, Seed Resource, Van Dyke Seed, W-D Growers Idaho, Wilber’s Seed, Willamette Seed Company, W-L Research and Zajac Performance Seeds have been combined to form Independent Seeds.

“This business unit will have a separate and distinct product line that will be marketed through existing wholesale distributorship networks,” said Zajac. “We are entering into cooperative breeding projects, primarily in perennial ryegrass, tall fescue and Kentucky bluegrass, and we will also be getting into genetic engineering,” said Mike Robinson, president of SRO.

The research agreement between SRO and Advanta will manifest itself in new products down the line, according to Robinson. “There are 160 varieties of perennial ryegrass and they are relatively similar,” said Robinson. “We would like to come up with something that is unique and there is a lot of work going on in Europe at the moment.” The agreement gives SRO an instant fix to what it saw as an inadequate cool-season grass program. “With all the species that we work with and the expansion of our warm-season grass program it is hard to keep the intensity up,” said Robinson. “We were toying with two new breeders before we talked with continued on page 34

AUGUST

Seed Research and Advanta sign marketing and research agreement

By ANDREW OVERBECK

CORVALLIS, Ore. — In an effort to improve and enhance its current cool-season turfgrass offerings, Seed Research of Oregon (SRO) has acquired the North American turfgrass marketing program of Netherlands-based Advanta Seeds Inc. In addition, SRO has assumed responsibility for Advanta’s turf and forage seed production.

Terms of the agreement were not disclosed. The two companies have also agreed to participate in a cooperative research program to develop new and improved turfgrass varieties through conventional breeding and biotechnology.

“We are entering into cooperative breeding projects, primarily in perennial ryegrass, tall fescue and Kentucky bluegrass, and we will also be getting into genetic engineering,” said Mike Robinson, president of SRO.

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Scotts turns to distributors for golf market

MARYSVILLE, Ohio — Scotts Company has reorganized its North American Professional Business Group, a move the company said will strengthen distribution and technical sales support, integrate brand management across market segments, and reduce annual operating expenses by approximately $2.1 million.

According to Scotts, the savings will be equally split between reduced head count and lower shipping costs.

In mid-December, Scotts' ProTurf division head count was winnowed from approximately 100 to 40 employees, a reduction of 60 percent.

In turn, Scotts will now sell into the golf market via four independent distributors: Turf Partners, Inc., a subsidiary of Eco Soil, in the Midwest and Northeast; BWI Companies, Inc. in the Southwest and Southeast; Wilbur Ellis Company in the Pacific Northwest, and Western Farm Services, Inc. in California.

"We've maintained some of those people for the Tech Rep group to work with the distributors," said Kristen Bibby, Scotts' manager of its investor relations office. "So there will still be tech rep., but it will be a Scotts' tech rep. working with a sales person from the distributor."

Scotts is retaining a field sales force and field-based technical group to provide distributors with product training, address questions from customers, and maintain involvement in university trial work.

The reorganization consolidates marketing, sales management, and customer service, into a single group staff. In addition to cutting costs, the consolidation integrates brand management across all customer segments in the Professional Business Group for the first time.

Landmark to handle Scotts seed distribution

MARYSVILLE, Ohio — In a move to increase its seed business, the Scotts Company has reached an exclusive distribution agreement with Spokane, Wash.-based Landmark Seed Company.

Scotts, which has sold seed direct for the last 35 years, will now be utilizing an extensive distribution network to move its seed products. Under the new arrangement, Scotts will grow, supply and market seed, and Landmark will be responsible for sales, invoicing and distribution.

The financial terms of the agreement were not disclosed.

According to Wayne Horman, director of national accounts and the marketing manager for seed, the distribution changes are the first step in making Scotts more of a seed company.

"We have really been a fertilizer company that sold seed. We did not operate as a seed company," said Horman. Citing technologically advanced varieties like Round-Up-ready bentgrass and bluegrass, Horman said it was time that Scotts seed stood on its own and gained an identity.

"We asked ourselves: 'Can we continue to do business the same way?' Probably, we could have kept things the same and continued to grow incrementally every year," said Horman. "We work in times where small growth is not good enough. We had to change and go in a different direction."

Scotts and Landmark have pulled together an experienced sales team, with the addition of Don Woodall from Burlingham Seeds/ABT and Ray Brubakken and Orlin Reinhold who all have established relationships with distributors. So far, Scotts has 20 distributors across the country. Distributors will now send orders through Landmark.
Zinc/Air battery
Continued from page 31

"In a lead/acid battery you're using the lead/hydrogen reaction. In this you're using the zinc/oxygen reaction which generates electrons," said Dana Lang, director of advanced turf care at Toro. "This device consumes zinc and creates zinc oxide and in the process gets electrical energy out of it."

When the zinc/air fuel cell is exhausted, zinc pellets are pumped into the cell along with a liquid electrolyte from a "vending-machine-sized" recycling/refueling unit. At the time of refueling, the zinc oxide byproduct produced by the reaction is pumped into the unit and is turned back into zinc pellet form.

According to Colborn, this refueling takes approximately five minutes, while the recycling inside the "vending machine" is continuous. "Aside from the recycling advantage, there's up to seven times the energy per pound in zinc/air versus lead/acid," said Colborn. "We're not promising that at the beginning, but we are promising nearly double the range of the lead/acid system as development continues."

Metallic Power is taking product development one step at a time. "It's not going to happen tomorrow," said Colborn. "We're producing Alpha prototypes this year. Next year we're planning a field demonstration with 50 units. The following year we go into production."

SRO deal
Continued from page 31

Advanta."

While SRO will benefit from Advanta's strong technological knowledge and research and development capabilities, Advanta will gain a powerful marketing arm.

Advanta found it tough going as a new entry in the North American market. "They decided that in order to be a player in this market they had to go through another company," said Robinson. "SRO offers them a large distributor base, a distinct market presence and in turn, will be easier to move both the existing and the new products that come out of our agreement into the marketplace."

SRO has taken over all of Advanta's varieties and customer base and has hired Advanta salesman Scott Harer to handle Advanta's Royal product line and the new products that emerge from the joint research efforts.
ABT changes
Continued from page 31

team-based management
group of four co-presidents
who share senior responsibili-
ties and consult on strategic
planning and decision mak-
ing.
Budd's task is to make ABT,
which many industry experts
think grew too much too fast,
financially solvent again.
"We are working to create
a profitable and productive
future for our customers and
the company and put the
growth and consolidation
challenges behind us," said
Budd. *

Ind. Seeds
Continued from page 31

bution channels," said John Zajac,
director of Independent Seeds.
"We will fully represent all the
warm-and cool-season turf variet-
ies in one location and through
one sales representative."
By combining these 13 com-
panies, Independent Seeds now
offers a broad line of high-per-
formance turfgrass varieties. "If
you take the companies that used
to exist and replace them with
the Independent Seeds name, we
are very well represented in the
top grouping of many of the cur-
rent turfgrass trials," said Zajac.
The new company will also
benefit from increased market-
ing and ordering efficiencies.
"We have invested in more
sophisticated warehouse track-
ing, which will make it easier to
work with distributors; and we
are working to simplify and trim
donw operations integrating our
Oregon people into one loca-
tion," said Zajac. "As we inte-
grate we will take these new effi-
iciencies and relavest into research and development and
new products."
Improving research and devel-
opment efforts is at the top of
Independent Seeds' list. "We
want to continue to play a leader-
ship role in both warm-and cool
season grasses as far as the end
user is concerned," said Zajac.
"We will concentrate on de-
veloping turfgrasses that look bet-
ter under less maintenance and
environmental inputs and stand
up better to the traffic and
stresses that turf demands."
A larger research program will
allow Independent Seeds to delve
into more diverse projects. "We
will spend more time looking at
the less-important and more-ob-
scure grasses that could be de-
veloped to serve niche markets
that are now not being invested in," said Zajac. *

Dry Sprayer
Continued from page 31

methods."
"It is a huge time, labor and
seed saver," said John Davis,
superintendent at The Ford Plan-
tation in Richmond Hill, Ga. "I
did it for the first time last year
at the Secessions Club (in Beauf-
fort, S.C.)." With other methods,
we would go out and overseed in
four different directions to make
sure that we didn't miss any spots
because the wind was so bad."
The Dry Sprayer also elimi-
nates the need for crews to "beat"the seed into the turf. "We just
mowed right behind it and we
were done," said Davis.
Turf Solutions has built several
Dry Sprayers and uses five of them
in its service fleet, which has 50
accounts throughout Florida,
Georgia and South Carolina.
Thanks to word of mouth, in-
terest in the Dry Sprayer has
extended beyond the Southeast.
"We have gotten calls from
people in California and Ari-
zona," said Wicker.
With demand on the rise,
Wicker expects to ramp up as-
sembly next year with production
slated to be around 40 to 50 units.
The Dry Sprayer retails for be-
tween $15,000 and $18,000.
While Wicker admits that this
new technology could catch the
eye of larger equipment manufac-
turers, he plans to keep it.
"We are not actively seeking
out larger companies with this," said Wicker. "Our name is trade-
marked and we have patents on
the design characteristics.
Our belief is that they'll come to
us." *

LiquiGreen

"What are you using?"

"Can you spare some for a fellow microbe."

APRIL 2002 ISSUE GOLF COURSE NEWS
Golf Course Classifieds

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Golf Course News
ClubCorp gets $300M
Continued from page 1

Smith, ClubCorp’s executive vice president of marketing and communications. “Japan, which is the second-largest golf market outside the United States, is a place where we do not have a presence. We want to position ourselves in terms of Smith, ClubCorp’s executive vice president of marketing and communications. Continued from page 1

We want to position ourselves in terms of Smith, ClubCorp’s executive vice president of marketing and communications. Continued from page 1

market outside the United States, is a good strategic move for us. We felt private equity was a good avenue for us to pursue, it gives us the capital we need to continue our growth. We’ve grown quite aggressively in the past year with the Cobblestone deal, our joint venture with Jack Nicklaus to build 56 courses over the next 10 years.” ClubCorp has roughly 200 golf courses and 234 properties, including country clubs, public-access and semi-private golf facilities, as well as business clubs and athletic clubs. Its resorts include Pinehurst (N.C.) Golf & Country Club; The Homestead in White Sulphur Springs, W. Va.; Barton Creek; Dauphine Island near Hilton Head, S.C.; and Palmilla in Cabo San Lucas, Mexico.

Said Cypress Vice Chairman James Singleton: “The Dedmans have built an extraordinary company which is clearly the market leader in the industry. We are honored to become their financial partner as they implement the next phase of their strategic growth plan.”

The transaction is expected to close in 1999. When it does, ClubCorp will expand its board of directors from four to seven members, with two representatives from Cypress and one additional independent director joining the board.

The Cypress Group manages two private equity funds with more than $3.5 billion in commitments. Cypress invests in privately negotiated transactions, targeting established operating businesses and investing with management to foster continued growth.

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Leiweke leaves
First Tee program
Continued from page 1

is interim executive director and hopes to take over the reins permanently. Having spent the previous 10 years in the consulting and fund-raising business, Stachitis began as a consultant to the First Tee and “became so smitten with it, that I joined it,” he said.

First Tee’s purpose is to create facilities and programs that make golf more affordable and accessible, with a strong emphasis on introducing youths of all races and economic backgrounds to golf. Founded by the World Golf Foundation, its major sponsors are the PGA Tour, U.S. Golf Association, Augusta National Golf Club, PGA of America and Ladies Professional Golf Association.

Earlier this year, in a special report in Golf Course News, Leiweke said the program “continues to make excellent progress toward achieving our initial two-year goal of 100 facilities by end of the year 2000.”

Stachitis reported that the First Tee has 34 projects under contract and another 47 under memorandum of understanding.

“We fully expect to make that 100,” he said. “We anticipate another 30 facilities to open next summer. We’re in 39 states, Montreal and Puerto Rico.”

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Ryegrass lawsuit

Continued from page 1

29 "attempted to induce grower-members to breach their contracts with the PRBA... and contained language intended to intimidate, coerce and threaten grower-members to terminate membership in the PRBA."

The PRBA alleges that these actions led to disparagement of the association's pricing methods, loss of bargaining power, and damaged the PRBA's reputation among seed dealers and potential grower-members.

Prior to the 1999 harvest, the PRBA set a benchmark price of 59 cents per pound for tournament-quality seed and established a minimum guarantee to growers of 51 cents per pound. Turf-Seed and SKO both thought those prices were out of line with the market and issued letters to its growers stating that they were willing to pay 54 cents per pound for tournament-quality seed. Other companies have also refused the 59-cent-per-pound contract price and the market has since dropped, with the price of tournament-quality seed going as low as 50 cents per pound.

The PRBA, whose members farm 80,000 acres, has determined seed prices since 1994, meeting with companies each year to assess current inventory, carry over, the health of the market and projected production.

"There are a lot of variables. This year we dropped the price off a couple of cents a pound because we thought it was justified," said Jim Carnes, executive director of the PRBA. "But these two companies decided that it should be lower."

However, according to Carnes, there is more at stake than just money and market stability. "From the growers' standpoint, there are more things hedging on this," he said. "The legitimacy of bargaining associations is coming under fire."

In response to the alleged improper contact with grower-members, Turf-Seed maintains that it did nothing wrong. "We take the position that we had the right to make such contact because there was no specific dispute in effect between the PRBA and its members which stated that there was a specific price that PRBA members would only grow grass seed at and sell it to Turf-Seed," said Martinis.

The defense outlines the reasons why Turf-Seed rejected the price established by the PRBA for tournament-quality seed. While the company honored the set price of 61 cents per pound in 1998, it did not sign a dealer agreement with the PRBA. Turf-Seed attempted to negotiate with the PRBA's 1999 price of 59 cents per pound but could not reach an agreement. Turf-Seed refused to pay that rate because, according to Turf-Seed's counterclaim, "it would only increase Turf-Seed's inventories and cause Turf-Seed to lose further sales and monies as a result of the inability to meet demand at actual market conditions, together with increased inventory carrying costs."

Turf-Seed's defense and counterclaim will be heard during the same trial, unless the judge rules to segregate the issues.

SRO's reason for not accepting the PRBA's established price is identical, according to company President Mike Robinson. "Our contract does not refer to PRBA pricing," he said. "Our contract says we set the price based on the market and the market was not, and is not, what the PRBA suggested it was. So we didn't accept it. The price is too high."

Robinson also attempted to negotiate with the PRBA, but got nowhere, he said.

We told the PRBA that it was too high and that it had to come down based on the world market and what was available... Supply and demand should drive the marketplace," he said.

Their contention was that the growers needed more money to cover costs of production, but that is irrelevant. We want the growers to do well, but we have to sell this thing into the marketplace worldwide and we have to be competitive."

The PRBA, meanwhile, is remaining adamant.

"At this point I don't feel that it [the lawsuits] has lessened the credibility of the PRBA," said Carnes. "We have a number of major companies that have encouraged the PRBA to see this through. If we prevail in this litigation we intend to seek the interest on the money that wasn't paid."

The litigation is now in the discovery phase, with depositions to follow. Once the SRO case is refilled in federal court, Martinis expects Turf-Seed and SRO to file a motion to consolidate the defenses. The trial is projected to begin in four to eight months.

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