Asian Market Wrap-Up
Intrepid traveler Andrew Overbeck summarizes the Asian golf market's most tumultuous year

Golf's High-Profile Investors
Trump, Huizenga and Fireman ready to sink big bucks into golf development

The First Tee takes a giant step forward
By Michael Levans
ST. AUGUSTINE, Fla. — The First Tee, launched in November in a national publicity wave headlined by George Bush and Earl Woods, has managed to pull together the golf industry's heaviest hitters in what is being called the most significant concerted initiative to create accessible golf facilities for minority and junior golfers.

April: California golf courses take a huge hit
By David Wilber
The winter's intense El Niño-driven storms have hammered California golf courses, highlighted in early February when a series of weather-related records were broken. Several areas of the state recorded the lowest barometric pressures ever.
Penn A-4 creeping bentgrass succeeds at Cypress Lakes

“We just couldn't keep grass on this green before. I'd worry about keeping the players happy, but now I sleep better at night with Penn A-4 bentgrass.”

“We planted Penn A-4 in the fall of 1994, '95 and '96. We faced very poor grow-in conditions, including two hurricanes, and were still able to open for play eight weeks after seeding all three years. Willie and I have a very limited budget to work with, and have heard the hype about increased expense and labor involved with managing newer bent varieties. With Penn A-4, we've found this simply isn't true. The exceptional putting surface we have obtained here at Cypress Lakes more than outweighs any additional effort on our part. It's a relief to know we have superior heat tolerance working for us in the south, and on this green in particular where nothing seemed to grow next to our namesake cypress lake. We maintain a 0.125" cut throughout the summer, which makes for a truly consistent year-round putting surface with no adverse affect on plant health. We believe that Penn A-4 will continue to perform for our 18 greens here at Cypress Lakes, and we thank the team at Tee-2-Green for introducing it to us.”

Willie McGeachy, Superintendent
Tom Prewitt, Co-owner

Number 4 green, Cypress Lakes Golf Course, Hope Mills, North Carolina
New group fights for the right to walk

WASHINGTON, D.C. — It's a classic golf story for these times. A story with legs.

Graham Whatley, a former Clinton administration appointee now working as a consultant, has launched the Walking Golfer’s Association to promote and advocate the rights of golfers who prefer to walk while they play. The non-profit association will fight to keep walking an essential part of the game of golf.

"This is political movement in the golf world," said Whatley, a 39-year-old attorney who plays to a 12 handicap — while walking — at his local course, the Redgate Municipal Golf Course in Rockville, Md. "We’re quite serious about this."

The idea of a walking golfer's association would have seemed ridiculous 30 or 40 years ago — and might still seem so in most parts of the world where walking golfers dominate. But golf in the United States in the late 1990s is another matter. The industry’s heavy reliance of golf cart rentals to increase golf course revenues and the growing number of golf courses in the United States that force golfers to rent and ride carts has led to a grass-roots resentment among those who prefer to walk when they play golf.

"There's nothing worse than being forced to take a cart," Whatley said. Whatley and his partner in the venture, Keith Pickford, are currently working to enlist people from different areas of the game to serve on the WGA’s Board of Directors. One of the first to sign on is golf course architect Dr. Michael Hurdzan.

"I really think walking a golf course is an essential part of golf," said Hurdzan, who grew up caddying, then later became superintendent at a public course in Columbus, Ohio, where walking was a natural part of the game.

"The main target of the association will be the growing number of high-end daily-fee courses that require golfers to take carts at all times or during peak hours. Whatley said a first positive step would be for these courses to allow golfers who prefer to walk the option of walking but paying for the cart fee.

Golf is the choice of chief financial officers

MENLO PARK, Calif. — When they’re not in the office planning financial strategy, the nation’s financial executives prefer to spend their time on the fairways, according to results from a nationwide survey.

Twenty-one percent of the chief financial officers (CFOs) polled said their favorite leisure activity is golf.

The game is even more popular with CFOs of large corporations (500+ employees), where 40 percent cited it as their favorite pastime.

The survey was developed by Accountemps, a major temporary staffing service for accounting, finance and bookkeeping professionals. It was conducted by an independent research firm and includes responses from 1,400 CFOs from a stratified random sample of companies with more than 20 employees.

Respondents were asked: “Which one of the following best describes your favorite leisure time activity, other than being with friends or family?”

Their responses were: golf (21 percent); reading (14); team sports (10) working out (9); movies or theater (9); adventure sports (9); music (5); surfing the Internet (4); tennis (3); fishing/hunting (2); other (12); don't know/no answer (20).

Enhancing Waterways...

Otterbine Barebo offers a complete line of custom water features; including ornamental 1/2 HP Instant Fountains and High Volume units that dramatically increase the flow of oxygen throughout your body of water. From golf courses to residential housing, we can meet all your water quality management needs. Each Otterbine aerator is made to the exacting standards that have given Otterbine products their reputation for high quality, longevity, safety and ease of installation.

Inquire today and let an Otterbine representative show you how!

Otterbine®/ Barebo, Inc.
3840 Main Road East
Emmaus, PA 18049
1-800 AER8TER
Garl named head of Fla. Golf Alliance
New association should be major lobbying force

LAKELAND, Fla. — Course architect Ron Garl has been named president of the newly formed Florida Golf Alliance. "Florida's Golf Industry has been splintered far too long," said Garl. "With all of the newly formed Florida Golf Alliance, we will become a healthy resource that the industry can draw upon and a strong influence to be contended with in Tallahassee."

The Florida Golf Alliance was formed after several formal meetings held over the last 14 months from September 1996 through last December, with most of the core Florida golf associations/organizations invited or in attendance. The mission statement for the incorporated FGA reads: "The Florida Golf Alliance's mission is to unify Florida's golf industry into an effective alliance in order to promote and to protect the industry as a major contributor to the state's economy, environment, and quality of life."

"It just makes sense," said Roy Bates, immediate past president of the Florida Turfgrass Association and vice president of the FGA. "We're all conducting research and providing grants for special projects to benefit our respective association goals. But few of us are sharing the knowledge, or even know how to ask that might have information to help a particular cause."

"The FGA is a means for the industry to unite and start to become aligned for a targeted productive future," Bates added.

The founding FGA members and board of directors are PGA Tour representative Richard Bowers, LPGA Tour representative Terri McCracken, Tommy Armour Golf Tour representative Terry Fine, Florida Turfgrass Association representative Roy Bates, Florida Chapter Golf Course Managers Association representative Mike Fiddelke, Florida Golf Course Superintendents Association representatives Joe Ondo and Joel Jackson, and Mercury Titleholders Championship representative Ann Palmer.

Garl was voted the association's first president because of "his dedication to the sport and obvious dedication to serve Florida's golf industry through his many and varied affiliations with Florida's golf associations."

Garl has served on numerous boards and committees over the past 28 years. "Although each affiliation is treasured by me for different reasons, my service to the Florida Turfgrass Association on the IFAS advisory board for the University of Florida comes closest to what I envision for the Florida Golf Alliance," said Garl. "Our goals were consistently focused on the industry as a whole — not various special projects."

"That's what the FGA will be about — all industry representatives uniting and making decisions as an alliance regarding priorities to benefit Florida's golf industry."

"Given the distinction of the founding groups that have banded together to fund the start-up of this alliance I am confident that this unification will succeed," Garl said.

At the next meeting a special invitation will be reviewed for mailing, along with the 1998 FGA business plan for inclusion, in order to invite all identifiable Florida golf associations and organizations to become FGA members and share a seat on the board of directors.

Textron Financial passes $700 million funding milestone

ALPHARETTA, Ga. — Textron Financial Corp.'s (TFC) Golf Course Finance Division, which is entering its 10th year in the golf course financing business, recently closed deals that raise its total loan commitments to more than $700 million.

According to TFC, the company has now financed 117 golf course projects. "We're delighted that our versatility has enabled us to get to this level, and to have the momentum to keep on rising," said Ray Munoz, vice president and division manager.

TFC estimates that of the 16,000 golf facilities in the United States, about 9,000 are candidates for financing for expansion and other improvements.
Fireman purchases Mass. developer/broker

NORWELL, Mass. — Willowbend Development Corp. (WDC) of Mashpee, Mass., has purchased Golf Realty Advisors, Inc. (GRA) of Norwell, Mass. GRA is a privately held firm, specializing in the development, management and brokerage of golf courses. Since its establishment in 1992, GRA has been involved in more than 100 course consulting and development projects. Recent GRA projects include: Olde Scotland Links, in Bridgewater; Acushnet River Valley in Acushnet; Widows Walk Golf Course in Scituate; The Captains Golf Course expansion in Brewster; and upcoming 18-hole courses in South Hadley and Southwick.

In the past three years, GRA has exclusively brokered the sale of seven courses representing more than $26.8 million in total production. Most recently GRA represented the sellers of Steel Canyon Golf & Country Club, a 150-room spa-hotel located adjacent to the Westin Rio Mar Beach Resort, in Dorado, Puerto Rico; and La Posada, a 150-room spa-hotel located adjacent to the Westin Rio Mar Beach Resort, in Rio Grande, Puerto Rico.

Said Willowbend Chief Executive Officer David Southworth, “Our goal for GRA is to continue to grow their brokerage services nationally, and to utilize their development skills to strategically expand our golf and resort portfolio.”

Trump track to feature waterfalls, cliffs

WEST PALM BEACH, Fla. — Donald Trump says he wanted to build a great course next to Palm Beach, so he worked a deal with the county to lease the land as part of an agreement to drop his lawsuit over airplane noise at his Mar-a-Lago mansion, an historic 17-acre estate owned by Post cereal heiress and General Food Corp. founder Marjorie Merriweather Post.

Architect Jim Fazio has teamed with Jack Nicklaus’ Paragon Construction Inc. on the course, which is slated to open November 1999.

Huijenga gives Caddyshack course dramatic facelift


“Was approached by several firms for potential merger,” said Rowland Bates, president of GRA. “Willowbend offered us the best opportunity to expand further into high-profile golf development, brokerage and management assignments throughout the world.”

Willowbend is a privately held company organized in 1991 by Paul and Phyllis Fireman. Willowbend specializes as owner, developer and operator of golf and hospitality-related resort facilities. Current developments include: Willowbend, an 18-hole private residential golf community, on Cape Cod; The Westin Rio Mar Beach Resort and Casino, a 600-room, four-star hotel with casino, two 18-hole championship courses, and country club located in Rio Grande, Puerto Rico; Dorado Del Mar, an 18-hole championship golf resort in Dorado, Puerto Rico; and La Posada, a 150-room spa-hotel located adjacent to the Westin Rio Mar Beach Resort, in Rio Grande, Puerto Rico.

Said Willowbend Chief Executive Officer David Southworth, “Our goal for GRA is to continue to grow their brokerage services nationally, and to utilize their development skills to strategically expand our golf and resort portfolio.”

Trump International Golf Club will feature 35-foot-tall rock formations, waterfalls and a clubhouse 45 feet above sea level — the equivalent of a four-story building.

The artificial rocks are “geologically” correct cast from real California rocks and made from a mixture of concrete, plaster and fiberglass.

Huizenga gives Caddyshack course dramatic facelift


“Was approached by several firms for potential merger,” said Rowland Bates, president of GRA. “Willowbend offered us the best opportunity to expand further into high-profile golf development, brokerage and management assignments throughout the world.”

Willowbend is a privately held company organized in 1991 by Paul and Phyllis Fireman. Willowbend specializes as owner, developer and operator of golf and hospitality-related resort facilities. Current developments include: Willowbend, an 18-hole private residential golf community, on Cape Cod; The Westin Rio Mar Beach Resort and Casino, a 600-room, four-star hotel with casino, two 18-hole championship courses, and country club located in Rio Grande, Puerto Rico; Dorado Del Mar, an 18-hole championship golf resort in Dorado, Puerto Rico; and La Posada, a 150-room spa-hotel located adjacent to the Westin Rio Mar Beach Resort, in Rio Grande, Puerto Rico.

Said Willowbend Chief Executive Officer David Southworth, “Our goal for GRA is to continue to grow their brokerage services nationally, and to utilize their development skills to strategically expand our golf and resort portfolio.”

Trump says he wanted to build a great course next to Palm Beach, so he worked a deal with the county to lease the land as part of an agreement to drop his lawsuit over airplane noise at his Mar-a-Lago mansion, an historic 17-acre estate owned by Post cereal heiress and General Food Corp. founder Marjorie Merriweather Post.

Architect Jim Fazio has teamed with Jack Nicklaus’ Paragon Construction Inc. on the course, which is slated to open November 1999.

Huijenga gives Caddyshack course dramatic facelift


“Was approached by several firms for potential merger,” said Rowland Bates, president of GRA. “Willowbend offered us the best opportunity to expand further into high-profile golf development, brokerage and management assignments throughout the world.”

Willowbend is a privately held company organized in 1991 by Paul and Phyllis Fireman. Willowbend specializes as owner, developer and operator of golf and hospitality-related resort facilities. Current developments include: Willowbend, an 18-hole private residential golf community, on Cape Cod; The Westin Rio Mar Beach Resort and Casino, a 600-room, four-star hotel with casino, two 18-hole championship courses, and country club located in Rio Grande, Puerto Rico; Dorado Del Mar, an 18-hole championship golf resort in Dorado, Puerto Rico; and La Posada, a 150-room spa-hotel located adjacent to the Westin Rio Mar Beach Resort, in Rio Grande, Puerto Rico.

Said Willowbend Chief Executive Officer David Southworth, “Our goal for GRA is to continue to grow their brokerage services nationally, and to utilize their development skills to strategically expand our golf and resort portfolio.”

Trump says he wanted to build a great course next to Palm Beach, so he worked a deal with the county to lease the land as part of an agreement to drop his lawsuit over airplane noise at his Mar-a-Lago mansion, an historic 17-acre estate owned by Post cereal heiress and General Food Corp. founder Marjorie Merriweather Post.

Architect Jim Fazio has teamed with Jack Nicklaus’ Paragon Construction Inc. on the course, which is slated to open November 1999.
1998: A tough nut to crack

I t's all well and good to say "If you can't stand the heat get out of the kitchen," but how do you advise people who don't know what fire can be until they face it? That is what happened when 1998 came to town, like a sling-shooting cowboy looking for trouble.

The "heat in the kitchen" was a war zone of ice in the Northeast, a flood zone in the Midwest and West, a fire zone in the Southeast. It was a series of calamities coast to coast, of challenges that tested golf course superintendents and operators to the max in many places.

When Ted Horton and friends at Pebble Beach Golf Links planned a new 5th hole, little did they know that El Nino would, in fact, cause some $4 million in repair bills elsewhere on the course. When golf course personnel in Florida laid contingency plans for the wildfires that swept through the region, little did they know that as Michael Fabrizio of Matanzas and Palm Coast Resort in Daytona Beach said, "You could not outrun [the fire]."

And how ready to the utmost for the "heat in the kitchen" that may await us? An old German saying, "God gives the nuts but He does not crack them." The heat of 1998 brought challenges that were, in fact, a proving ground of sorts. People who had done whatever tools they could lay their hands on (the nuts from the German proverb) to apply to the problems they faced.

"In a perverse sort of way, it [El Nino's storms] is exciting because it is a challenge in lots of problem-solving and I think that is what draws many of us to this business," said Bruce Berger, superintendent at Highland Golf Club in Florida. The GCN managing editor, Mark Leslie, managing editor.

208-846-0657; Fax: 207-846-0657
mlewis@golfcoursenews.com

The heat of 1998 was a damn good year for golf and GCN. This year we saw the addition of our Trevor Ledger, GCN's international bureau chief. Trevor has been keeping his eyes on the international market full-time for Golf Course News International, GCN's sister publication, since March.

We also managed to lasso the services of Andrew Overbeck, the ex-Waunton Fellow who had the unique opportunity to travel Asia for 14 weeks visiting new golf course developments. Andrew's e-mail will be buzzing as he keeps us informed of conditions in Asia.
Asia 1998: A golf industry learns about itself

BY ANDREW OVERBECK

Seven countries, hundreds of interviews and 1,350+ golf holes later, my Southeast Asian golf tour has come to a close. I had a chance to study in detail the golf markets in Thailand, Vietnam, China, and the Philippines with some side trips to Malaysia, Singapore, and Hong Kong.

Without a doubt, there was no better time to explore and research the golf markets in these Asian countries. In the face of economic turmoil, the golf industry was learning quite a lot about itself. In the transition between boom and bust many things have been lost, but much more has been gained.

Pragmatism for a start.

Gone are the heady days of unplanned and impractical developments. The “if you build it they will come” mentality has thankfully left the building. In the process, many golf course developers have had to scale back plans, cut costs, or get out of the business altogether. The collective currency devaluation has had a devastating effect. Importing supplies, equipment, and even foreign management has become too expensive.

There has been a fundamental shift in the way business is being done. Owners must now look inward to make ends meet, which means establishing local supply lines and developing and fostering the education of local management and maintenance staff.

Moving forward, the industry is finally realizing the need for more public golf courses. During the mad profit rush of the early ‘90’s, developers got so caught up building prestige projects that they neglected to take into account the size of their intended market. Where are the next generation of golfers going to come from? How will they learn the game? Where will they be able to play? These are the questions that are being asked now.

From driving ranges and practice facilities in Vietnam, to the new public track in Kuala Lumpur, to strategy sessions at Golf Asia ’98, the answers to these questions are being exhibited and discussed. It has become painfully clear that golf developers can no longer count on the hordes of Japanese tourists, or the throngs of Hong Kong golf nuts, or the occasional European or Western businessman. The focus is turning towards the local market and to the new class of golfers who must now pick up the slack of over-development.

Things to watch for now are this: will private courses revert to pay for play and shed exclusivity to get golfers on their courses?

Several courses in Thailand have for years, and some in China are doing so as well. Further, how many courses will be snapped up by foreign investors? There is no doubt that there has never been a better time to purchase golf real estate in Asia and from reports I’ve received, several large American and European firms are already on the prowl.

Lastly, how will new development proceed in this new business environment?

This is not to say that the golf industry has ground to a halt in Asia. Throughout the year I visited dozens of construction projects, attended a couple grand openings, and spoke to many more developers about ongoing plans. China is still going strong, and the potential market is large as long as finance ministers can restructure the economy without having to devalue the renminbi.

The Philippine golf market is also going forward, with a couple of projects nearing completion and many more soon to break ground. Although the middle class there has taken a hit, it remains clear that many still have disposable income. Vietnam was never really a powerhouse, but the country currently has five projects pending and under planning. And even in the land of the battered, the Thai golf market has had some new courses break ground and a couple of courses have opened in the past year. It is quite clear that this market will continue to perform and that the size of the market will continue to grow.

There is still a lot of work to do and to be done. The lessons learned in the past year and a half have been painful, but they will ultimately lead to a stronger, more balanced market. And quite frankly, I’m looking forward to following the industry changes that will lead up to the inevitable upswing in the Asian golf market.

Andrew Overbeck

Andrew Overbeck has recently returned from a Watson Fellowship studying golf course development in Asia. His visits included existing golf courses and those under construction in Thailand, China and Vietnam. He contributed to GCN and Golf Course News International editorial team.

Sweaty palms?

Furrowed brow?

Bloodshot eyes?

Don’t let gremlins in your pump station keep you up at night.

Call FLOWTRONEX PSI.

No one has created more industry innovations. No one gives you better, more advanced service capabilities. No one maintains over $2 million in parts inventory to ensure fast and accurate delivery. And no one engineers a better pump station to fit your unique needs.

It all adds up to the best engineered, most worry-free pump station in the world. One that gives you superior strength. Superior performance. And a superior night’s sleep.

So before you make any decisions, talk to the people at FLOWTRONEX PSI.

Yes, we may cost a little more than the other guys. But, rest assured, you’ll never suffer through one of their pump station nightmares.

FLOWTRONEX PSI
Pumping Systems
(800)786-7480 (214)357-1320
E-mail: ftxpsi@flowtronex.com
Think Of It As The Swiss Army Knife Of Utility Vehicles.

The new E-Z-GO Workhorse does it all. Hauls plants and fertilizer. Carries sand, gravel, bales of straw, building materials. And all your tools from shovels and hoes to mowers and blowers. It comes with lots of standard features like an 11h.p. 350cc engine, a 1200lb. payload capacity and an exclusive heavy duty bed liner. With options like a larger cargo bed and power dump, you can get an E-Z-GO utility vehicle that comes with just about anything — except a cork screw. Looks sharp, too.

THE FINEST UTILITY VEHICLES IN THE WORLD.
THE WORLD OF MAINTENANCE IN '98

The agony and the ecstasy. Misery and joy. Superintendents got the complete package in 1998. There were the horrors, the struggles and the challenges that accompanied drought and then flood in the South Central states, the fire and then hurricanes in the Southeast, the torrential downpours from El Niño in the West, and the Ice Storm of the Century in the Northeast. Fairways and roads were washed away, clubhouses burned down, disasters of historic proportions.

Then, there were the thrills of discovering a control for poa annua and moss, and of building golf courses to serve as laboratories to study the effects of maintenance on the environment.

Golf course maintenance is a dynamic field, demanding that superintendents read up and pay attention to the many scientific advances. The next few pages share a glimpse of the top GCN stories from the year.

Notable Quotables

- "I'd like to get my hands on a 200-acre farm and see what kind of a golf course I could build. Something tells me it would be a little unorthodox.'"
  — Ed Michaud, superintendent at Sugarloaf Golf Club in Maine, who in 1998 had the No. 1 snowboarding resort park in North America, filled with "pipes," "table tops" and "pyramids."

- "I would parallel it [control for poa annua] with new drugs for "naturalities." But they will be playing increasingly important roles in golf course maintenance, according to Dr. Parwinder Grewal, an assistant professor of turfgrass entomology for the Ohio State University (OSU) Extension Service.

- "It sounds odd, but we would love a hurricane or tropical storm right now.'"
  — Bruce Berger, superintendent at Quarry Golf Club in San Antonio, Texas, not long before Texas was hit by Hurricane Gilbert.

- "Our single biggest spring-priming problem is keeping the golfers off the course until the frost thaws out.'"
  — Jerry Faubel, super at Saginaw (Mich.) CC

MAINTENANCE IN REVIEW

Tools of the Trade

Biorationals: A tide of the future in turfgrass care

By MARK LESLIE

COLUMBUS, Ohio — You may not find the "neem tree" in your dictionary. Nor the words "biorationals" and "naturalities." But they will be playing increasingly important roles in golf course maintenance, according to Dr. Parwinder Grewal, an assistant professor of turfgrass entomology for the Ohio State University (OSU) Extension Service.

Speaking at the Ohio Turfgrass Foundation Conference here, Grewal said some biological controls have succeeded and some have not, but their use has increased tremendously in the last decade — a harbinger of the future.

Piecing together research from OSU, Cornell University and other colleges, Grewal updated the audience on research done on biologicals and biorationals. He defined biological control as the use of a living organism — such as earthworms — to control pests. It can produce a major five-year study on the effects of golf maintenance on ground and water infiltration. Earthworms enrich the soil with their fecal "casts." Good or bad, no one can argue the scientific advances. The next few pages...

Continued on page 14

New biologicals...

By MARK LESLIE

COLUMBUS, Ohio — Questions abound in the arena of turfgrass soil ecology and biology, but Dr. Michael Boehm pointed to a future where biological care plays an equal role in maintenance with chemical and cultural care and the turfgrass' genetic resistance.

The Ohio State University (OSU) assistant professor of plant pathology painted a picture in which current maintenance practices are dominated by chemicals, and where cultural practices are being replaced by biologicals. The next few pages...

Continued on page 13

...Sunlight assessment

By MARK LESLIE

PROVIDENCE, R.I. — Sunlight assessment and digital imaging — two new technologies that are pulling golf superintendents into the computer age — will also help them deal with the difficult task of course renovations, according to a spokesman for the U.S. Golf Association Green Section.

"Frankly, most of the people here have the equipment and capabilities to operate this technology," Dave Oatis, director of the Northeast Region, told the New England Superintendents Association, "but the technology is very complex and demanding a whole new set of..."

Continued on page 17
Biorationals
Continued from page 9
insect-pathogenic nematodes, bacteria or fungi — to control a pest insect.

Biorationals — a new word in golf course lexicon — are products of natural origin that are safe to non-target organisms.

The Environmental Protection Agency calls them pesticides with different modes of action than conventional pesticides, with higher selectivity and lower risks to humans and wildlife.

Researchers are delving into these fields in response to concerns about human health and safety, environmental and ground-water contamination, and the impact of chemicals on wildlife, fish and beneficial organisms.

Biorationals include botanicals, microbial elements and synthetic chemicals with alternative modes of action.

Grewal spelled out various findings of research into biologicals, including:

- Nematodes of the genera steinernema and heterorhabditis fight armyworms, webworms, black cutworms and white grubs that feed near the surface. They can become part of the environment if not exposed to toxins.
- The fungi beauseria bassiana infects chinch bugs under hot, humid weather. The product, named Naturalis-T, had limited success in 1997 trials.
- The bacteria bacillus popillae (the milky disease) is a natural pathogen of white grubs. It is highly specific and different strains infect different grub species. Infected grubs die in a month. The products are Doom, Japidemic and Milky Spore. Grewal said the quality of current products is questionable.

Among biorationals, Grewal said:

- Of the microbial derivatives, cacillus thuringiensis delu endotoxin is the most widely used microbial insecticide on the urban landscape. New products with encapsulated toxins have become available, Grewal said, and research is continuing to incorporate delta endotoxin genes.
- The buibui strain of bacillus theringiensis variety japonensis provides excellent control of the Japanese beetle and white grubs.
- Naturalites — a new class of insecticides — are active on lepidoptera, diptera, hymenoptera, siphonoptera and thysanoptera.
Moss conquered
Continued from page 13

Kill and safety to _poa annua_ and bentgrass was Dawn dish-washing detergent," said Dobie. Four ounces of Ultra Dawn were mixed in 1 gallon of water. The solution was spot-sprayed with a backpack or hand sprayer, thoroughly soaking each spot of moss. The best results were achieved when air temperatures were between 55 and 80 degrees on days with full sunlight.

The moss turned an orange-brown within 24 hours, with no injury to the surrounding turf, Dobie reported.

"We know that moss starts from spores. So, it is important to attack the moss plant before the moss flowers in order to interrupt this part of the life cycle," Dobie said. "We believe the Dawn dehydrates the moss plant, resulting in its death."

"We do not know how long the spores will continue to germinate, so clean-up treatments may be necessary for several years," he added. "We also do not know what conditions, cultural practices and discontinued pesticides may have allowed moss to become a problem in recent years. These are questions that could be answered by university testing."

The moss turned an orange-brown within 24 hours, with no injury to the surrounding turf, Dobie reported.

"We know that moss starts from spores. So, it is important to attack the moss plant before the moss flowers in order to interrupt this part of the life cycle," Dobie said. "We believe the Dawn dehydrates the moss plant, resulting in its death."

"We do not know how long the spores will continue to germinate, so clean-up treatments may be necessary for several years," he added. "We also do not know what conditions, cultural practices and discontinued pesticides may have allowed moss to become a problem in recent years. These are questions that could be answered by university testing."

Michael Hambach, superintendent at Stoneleigh Golf & Country Club in Winchester, Va., suggested using Dawn to Stanley Zontek, director of the USGA Green Section's Mid-Atlantic Region. Keith Happ, USGA agronomist who shares an office with Zontek, further researched the chemistry of Dawn and found that it contains cryptocide, which controls spores. That is most likely the reason the formula succeeds. Cryptocide desiccates and also kills the spores, which keeps the moss from recurring, Dobie said.

"Eighteen superintendents from eight states participated, and we discovered many interesting things," he said. "Moss occurred under a wide variety of conditions. It did not matter if the greens were USGA-spec or soil greens. The grass types varied from _poa annua_ to bermudagrass, Pennlinks, South German, Washington, A4 and G2. The very dense turf of the G2 was not a deterrent. Heights of cut were from 1/8 to 5/32 inch. Thatch thicknesses were from 1/16 to 1 inch, pH's ranged from 6.0 to 8.0. Most greens had good drainage. But if the thatch was kept moist, moss seemed to be more prevalent. All had moss in full sun."

He added that annual nitrogen feedings ranged from 2 pounds to 7 pounds per 1000 square feet. Years that moss was first seen were from 1965 to 1996. Years that greens were constructed ranged from 1939 to 1993. Sources of top dressing were from eight suppliers. Some top dressing had peat and some was straight sand, he said.

Several superintendents reported that mercury-based fungicides had no effect on the moss or the spores. Most consider treatments with iron sulfate and/or ammonium sulfate to be ineffective. DeMoss killed moss but was too damaging to the surrounding turf, Dobie said. If only one green had moss, it was spread to other turf, Dobie said. If only one green had moss, it was spread to other greens within a few years, probably by mowing equipment.

All superintendents considered moss a serious problem. All who used the Dawn treatment in 1997 considered it the best method of control.

"We will continue to correspond with the 'Moss Men' in search of some more answers," Dobie said.


Also, Greg Johnson of Eagle Brook CC in Illinois; Bill Keaton of Castle & Cooke CC in Arizona; Leo Plechette of Polo Fields CC in Kentucky; Scott Schukraft of Huntsville Golf Course in Pennsylvania; John Slade of Laurel Creek CC and John Wantz of Due Process Stable Club in New Jersey; and Scott Wilke of Firethorn Golf Course in Nebraska.
The state-of-the-art wash rack at The TPC at the Canyons.

TPC Network's clean machines

BY TERRY BUCHEN

LAS VEGAS — Keeping maintenance equipment clean is a top priority with superintendents and their staffs, and some high-tech equipment can help.

At The TPC at The Canyons here, superintendent Kim Byron Wood has the latest state-of-the-art cleaning equipment, now used extensively in the TPC Network. “Cleaning and waxing our equipment is a top priority, so our equipment will last much longer, will be much easier for our technicians to service and will look new all the time,” said Wood.

A pressure washer with a natural-gas-fired burner/heater is used by the equipment technicians, who wax each piece of equipment after washing it and before servicing it. Next to the pressure washer, looking left to right, is a red-colored hose reel with a 1-inch-diameter, high-pressure water hose connected to the irrigation system. Two green-colored signs warn employees not to drink the irrigation water.

A smaller, gray-colored hose reel, and hand trigger-operated wand, are for the pressure washer. Next is another red-colored hose reel that has a high-pressure air hose, with a larger yellow-colored safety sign warning employees to use eye protection.

On the far right side is another red-colored larger hose reel with a 1-inch-diameter, high-pressure hose originating from the irrigation system.

“Our drainage grate has a small screen material over it so grass clippings and other smaller debris does not go into our oil and grease separator vault,” Wood said.

Sun assessment

Continued from page 13

Gland Regional Turfgrass Conference here. Oatis hailed the sunlight-assessment technology developed by Arbor Com Inc. of Toronto. “It is mind-boggling what they can do with it,” Oatis said.

“On difficult sites with difficult memberships, and for particularly important trees, you can use sunlight assessment to document and quantify how many and which trees need to be removed” to save shaded turfgrass, Oatis said.

The position of the sun as it rises differs by approximately 22 degrees, depending on location, from the longest day to the shortest. And its angles change over the course of a day and the year.

“So, when we ask which trees should be removed, the answer is different for different times of the year,” he said. “If you do a sunlight assessment on just one day of the year, you will make a serious mistake, cutting the wrong trees entirely, or not cutting enough trees.”

Using Arbor Com’s technology solves the quandary, Oatis said. Setting up a sunlight location device on the green and connecting it to a laptop computer, Arbor Com can provide the exact location of the sun at any hour on any day of the year.

“You map the green and trees and run a shade-assessment program which shows how much light different areas of the green get,” he said. “It can rate which individual trees have the biggest impact on shade. The program also calculates the amount of light you will gain after doing the tree work. It identifies trees, or even branches which are causing problems and quantifies how much you’ll gain by doing the work.”

For many years now, RegalStar® has been recognized as the best and most effective pre-emerge herbicide available for professional turf managers. But now, it’s even better than before.

1 We’ve improved the formulation to increase the synergistic action, making it even more effective. Patents are pending for synergistic activity.

2 RegalStar® II will deliver superior results at lower rates compared to earlier formulations.

3 Additional label uses: home lawns, ornamental beds and nurseries.

4 Research proven: Excellent results on cool and warm-season turf; even on newly sprigged bermudagrass.

RegalStar® II

“SUPERIOR WEED CONTROL - THE BEST TURF QUALITY.”
Earthworm fix
Continued from page 9
matter, called castings. Their feeding breaks down thatch while mixing topsoil into the thatch layer, enhancing its suitability for turfgrass growth. Thus, earthworms perform a function much like mechanical topdressing. Their activity encourages microbes that further decompose thatch and enhance soil fertility.

Biologicals
Continued from page 9
and genetic resistance dwarf biological controls.

"We want to get all spheres relatively the same size to give turfgrass managers the ultimate and largest arsenal to combat turfgrass diseases," Boehm told an audience at the Ohio Turfgrass Foundation Show and Conference here.

"Our goal," he said, "is the integrated management of diseases — to push the responsible use of biorational, environmentally friendly and environmentally sound chemistry — whether it's synthetic or from a natural origin — and to better understand and increase the use of biologicals."

Composts add nutrients and micro-organisms to soil that have been shown to control or counter pathogens, he said. The focus of research at OSU and other universities is understanding how and why diseases are suppressed.

"We know that if you increase the nitrogen level on turf you can suppress dollar spot nearly 60 percent," Boehm said. "But there are still lots of issues. Is the nitrogen in the form we are applying it directly toxic to the pathogen? Or is the nitrogen giving the plant the ability to outgrow the pathogen? Or is the nitrogen somehow changing the physiology of the host, thereby making it less susceptible?"

"Those are all very valid questions that we'd like to address."

From a plant pathologist's perspective, he said, mechanisms of biocontrol are:

• competition between the biological control agent, or the organism that is suppressing the pathogen for space or nutrients;
• antibiotic production, since the biological control agent produces antibiotics that are toxic to the pathogen;
• hyperparasitism, wherein the biocontrol agent uses the pathogen as a food base or energy source; and
• induced resistance — "an area," Boehm said, "we don't understand very well, but the presence of these beneficial organisms brings about a physiological, or biochemical change in the plant that renders the plant resistant."

Conservation of earthworms is important in lawns and other turf sites where thatch is a concern. However, on golf courses, mud mounds abound where earthworms have pushed up castings through close-mowed grass. Golf carts and mower tires compact these mounds, smothering patches of grass. Golfers' drives may stop short on worm-softened fairways, and golf balls may be muddied where they land.

Mower blades are dulled, and mowers return to the maintenance complex caked with mud. Strictly speaking, U.S. turf managers cannot apply pesticides for earthworm control because no chemicals are labeled for such use. However, several products will kill a portion of the earthworms as a non-target effect when they are applied for control of insects or diseases listed on their labels. According to our research, the insecticides bendiocarb (Turcam), carbaryl (Sevin), ethoprop (Mocap), or fonofos (Crusade) are toxic to earthworms. Any of these products, applied at rates labeled for grub control and watered in (1/2 to 1 inch of irrigation), generally will give an 85- to 95-percent reduction of earthworms.

The fungicide thiophanate-methyl (Cleary's 3336) provided similar suppression. The impact is greatest if the application occurs when the soil is moist and the earthworms are active near the surface. One application often will reduce casting activity for 2 months or longer, not from residual toxicity, but because the earthworms are slow to reproduce or recolonize treated areas.

Most earthworm species are intolerant of acidic soils. Application of aluminum sulfate or sulfur to lower the soil pH to 5.8 or less may reduce their population.

"I demand excellence in everything I do. That is why I chose Club Car."
Purdue

Continued from page 9

were we going to clean it up?

"Plus, a lot of the money for the monitoring [at Kiawah] came from the USGA, PGA, PGA Tour and chemical companies. That was a mistake."

Also, Purdue's study will be three years longer than Clemson's. And Dye feels it may extend beyond that since "all the heads of the different university schools are starting to get enthusiastic."

Another major advantage the Purdue study will have over Kiawah, Dye said, is that it is cleaning up water pouring onto the course from "all over Hell's half acre" — a four-lane highway, parking lots, housing, filling stations, etc. Piping was installed to catch the water and move it into three sets of wetlands to be filtered. From there, the water goes into a retaining pond which, when filled, empties into an irrigation pond.

"We created 30 acres of marsh," Dye said. "We are improving the water that comes from the streets."

The Heritage Group of Indianapolis, a toxic-waste cleanup company, is donating its services and Purdue students and faculty are performing the water monitoring. Dr. Zac Reicher, who is overseeing the monitoring, said this and two tests could have major implications for future construction around the country.

Noting similar studies set up to measure runoff from a nearby WalMart parking lot and at a dairy farm, he said, "We think we will be able to use golf courses and created wetlands to handle runoff from subdivisions, commercial sites and agriculture."

Already, people are involved from Purdue's entomology, botany, plant pathology, forestry, turfgrass, agronomy and building construction departments.

K-State

Continued from page 9

State researchers and students," said Bob Krause, K-State's vice president for institutional advancement.

"We have the opportunity to make something very special happen — something that will have a lasting impact on the world of golf and enhance the golf program at the university where I began my career," said Colbert, who donated $500,000 and raised millions from friends toward the $10 million facility.

"The university will use the course to train turf students how to manage, so that they can aspire upwards if they want," said Jeff Brauer of GolfScapes in Arlington, Texas, who is designing the 18-hole championship course, nine-hole teaching layout and driving range.

While faculty, Audubon International and others draft environmental study proposals, it is the education element that particularly sets Colbert Hills apart.

Krause was not only interested in a new golf course but in K-State being state-of-the-art in turfgrass and environmental research and extending golf into the Outward Bound program the school conducts for minorities in the summers.

"The opportunity sounds way too good to be true," said O'Brien, "because it ties together three of our objectives (the golf course management program, a chance to reach minorities and research) all in one wrapping with an affiliation with the PGA Tour and an outstanding university."

K-State's new major focuses on all aspects of running a golf course. Curriculum includes courses in turfgrass management, business management, hospitality and food-service operations.

UCal Poly

Continued from page 9

At some point, landfills reach capacity and the next question is how to best close them down. Strict EPA guidelines specify the closure procedures for landfills. The university has decided that, in conjunction with closure and monitoring regulations, creating a course can provide economic and educational benefits into the future.

"Our desire," Barnes said, "is to build an 18-hole course that will generate income through greens fees, provide a recreational outlet for students, be of value to our athletic program, and give more opportunities for internships for our colleges of hotel and restaurant management, turfgrass management, landscape architecture, and biosciences."*

The facility will encompass a 340-acre parcel that sits on a hill offering views of the valley and surrounding mountains. Two hundred acres are impacted by the landfill and the remaining acreage was severely affected by grazing and agricultural use. The original concept was to build a nine-hole course over the closed landfill. New plans are to blend 18 holes through the entire site, offering the opportunity to revegetate the property with natural plant materials and encourage the return of wildlife to the area. The landfill itself is due to close in July.

"The operation of a self-sustaining site such as this is a very positive approach to dealing with waste," Barnes said. "The methane that will be generated by the landfill, even after closure, will be collected and used in an even more efficient manner for the operation of the golf course and its facilities."

Students from the various schools at the university will be directly involved in construction, revegetation and operation of the course.

THE KING AND HIS COURT

Services to fit your needs from the company providing quality and value in golf course architecture for over 25 years.

1-800-523-3757

Arnold Palmer Signature Course & Palmer Course Design Co. are Trademarks
THE WORLD OF DEVELOPMENT IN '98

Much of the world has always revolved around children. Now the golf course industry has joined the rest of society — full-bore and with dedication. The overriding story of development in the past 12 months has been the full-throttle dive into building "beginners' courses" to reach inner-city youths and others who have not had the opportunity to play the game. The new thrust is exemplified by The First Tee program, an effort spearheaded by literally the entire hierarchy of golf, from the PGA Tour and World Golf Village to the U.S. Golf Association, PGA of America and even Augusta National. In the meantime, course construction in general continues at a 400-course-per-year pace. According to Judy Thompson at the National Golf Foundation, 396 courses had opened this year as of Nov. 4. This will be the fourth consecutive year that figure has topped 400. In October alone, construction began on 57 new courses and plans were announced for 48 others. The boom continues all around.

Notable Quotables

How much credit should land or design get in the top five courses in the world?

"Very little is the design. Pebble Beach? Very little of the design. Pine Valley? Cypress Point? I have said a thousand times, Cypress is the best piece of ground I've ever seen for a golf course. Take Cypress Point off that property and put it somewhere else, it's just another golf course."

— Nicklaus, golf course designer and president of the golf-product company, Club Pro

"The bottom line is, this technology saves money, virtually eliminating change orders in renovations of existing courses."

— Larry Rodgers of Larry Rodgers Design in Lakewood, Colo., concerning Global Positioning Satellites.

"Donald Ross was no fool. He used all the good land back in 1917."

— Brian Silva, golf course architect

"I honestly don't think anything unique has happened in course design in the last 20 years."

— Michael Poellot, golf course architect

Audubon cracks down on broken promises

By MARK LESLIE

SELKIRK, N.Y. — Probation, Excommunication. These terms that embody emnity are now part of the lexicon at Audubon International (AI), long a bastion of team-work and cooperation. While the majority of the 66 golf courses in the 4-year-old Audubon Signature Program are committed to it and swear by its effectiveness, others have fallen off the bandwagon, or perhaps were never aboard, according to AI President Ron Dodson. Lamenting the fact that he had to, first, "place on probation," then "ex-communicate" one of the eight fully certified Audubon Signature facilities, Dodson said: "Our strongest program is only as strong as our weakest one, and we can't allow people to make our name look weak. We already are being accused by other environmental groups of kow-towing to the golf course industry and giving away the Audubon name. But we don't. People work for it and are proud of it."

However, when The Champions Club at Summerfield in Stuart, Fla., did not correct some problems targeted in AI's biannual audit, the club and the organization parted ways. "We wrote and told them there is no longer to use Audubon International's name or logo," Dodson said. "They are to take their signs down and the Audubon print off the wall, and take all references to the Signature Program and Audubon International off their advertising materials and so on. More than that, we can not do."

Child's Play in Kentucky

By MARK LESLIE

LAWRENCEBURG, Ky. — A "kid's course" built within the existing layout may prove a key option for golf facilities around the country, now that Bob-O-Link Golf Course has made the concept a reality.

On Father's Day, Bob-O-Link opened its Kids Course within the 22-year-old track, thanks to owner Jack Ridge, who is also a golf course architect and president of a children's golf-product company, Club Pro Products in Louisville.

"Golf has missed the boat," Ridge declared. "Everybody's mindset has been junior golf — teenagers—but no one has thought of kids up to 10 years old. That's what separates this course."

The idea for the Kids Course, he said, stemmed from parents who bought Club Pro clubs and bags, then asked how little of the design. Cypress Point? I have said a thousand times, Cypress is the best piece of ground I've ever seen for a golf course. Take Cypress Point off that property and put it somewhere else, it's just another golf course."

— Jack Nicklaus, golf course designer and owner pro

"The bottom line is, this technology saves money, virtually eliminating change orders in renovations of existing courses."

— Larry Rodgers of Larry Rodgers Design in Lakewood, Colo., concerning Global Positioning Satellites.

"Donald Ross was no fool. He used all the good land back in 1917."

— Brian Silva, golf course architect

"I honestly don't think anything unique has happened in course design in the last 20 years."

— Michael Poellot, golf course architect

Estate courses on the rebound

By MARK LESLIE

SUGAR GROVE, Ill. — Disappointed in Augusta National's famous par-3 12th hole at Amen Corner, Jerry Rich came home to his 2,000-acre estate and built what he calls a better one. Disappointed in Augusta's 200-yard-long Magnolia Lane, he built a Magnolia Lane of his own. It meanders across two miles. This is Rich Harvest Links. This is Jerry Rich's dream — a dream that grew from the idea of a modest couple of practice holes to a stunning facility that will open 18 championship-length holes this summer. Eighteen holes kept in tournament condition by a professional staff. Eighteen holes that, because of the position of multiple tees, can be played as five different nine-hole rotations. Eighteen holes that this 4-handicap golfer designed to display what he calls "purposefully eclectic to show the Scottish, Pine Valley and Traditional looks."

The back 40: Not your typical backyard

By MARK LESLIE

SUGAR GROVE, Ill. — Disappointed in Augusta National's famous par-3 12th hole at Amen Corner, Jerry Rich came home to his 2,000-acre estate and built what he calls a better one. Disappointed in Augusta's 200-yard-long Magnolia Lane, he built a Magnolia Lane of his own. It meanders across two miles. This is Rich Harvest Links. This is Jerry Rich's dream — a dream that grew from the idea of a modest couple of practice holes to a stunning facility that will open 18 championship-length holes this summer. Eighteen holes kept in tournament condition by a professional staff. Eighteen holes that, because of the position of multiple tees, can be played as five different nine-hole rotations. Eighteen holes that this 4-handicap golfer designed to display what he calls "purposefully eclectic to show the Scottish, Pine Valley and Traditional looks."

Continued on page 16
"We're not police," says AI

Continued from page 13

"Cannot do" because the Signature Program is voluntary, and AI is an environmental organization, not a regulatory agency.

"We're not the South Carolina Fish and Game. We're not the local planning board. We're not giving or denying permits," Dodson said.

The Signature Program grew out of the 9-year-old Audubon Cooperative Sanctuary Program for Golf Courses, which now boasts around 2,500 member courses, some in the far reaches of the world. While the Sanctuary System is for existing courses, the Signature Program was established "to provide a comprehensive, integrated approach to environmental planning" for developments still in the planning stages, so they could be built with Audubon's Principles for Sustainable Resource Management.

The Champions Club at Summerfield General Manager Jim Poole explained its withdrawal from the program simply: "We did not see the cost benefit of membership. We never had anybody say they played our golf course just because we were Audubon Signature status. We were Best New Golf Course in Golf Digest when we opened. We thought those particular accolades were strong enough to give us credibility."

Asked if the club had entered the Signature Program in 1994 because of a commitment to the environment, Poole, who came aboard last December, said: "We joined it more for marketing purposes, I guess."

He said the club, now fully owned by Fairway Properties of Cleveland, which bought it from ex-partner Riverside Golf a year ago, has not changed its maintenance regimen.

But Riverside Golf President Steve Melnyk said the split with Fairway came from "a clash of opinion about how these things should be run."

"We joined the Audubon program initially because we had an obligation and responsibility to be good stewards of the environment and this was a way for us to further that cause to a much higher level," Melnyk said. "As long as we were involved, we adhered to the somewhat fluid principles of the program."

Meanwhile, Dodson and Signature Program Director Nancy Richardson, who works from Henderson, Ky., are concerned about a case in which a golf course project joined the Signature Program, used its materials as support during the permitting process, then, after gaining approvals, pulled out of the program.

"Look at this video, what Collier's Reserve did. We'll do this, too. I'm not saying they are not going to do a nice job on their golf course. But when somebody doesn't have any influence on the decision to permit them, I don't know. But as soon as they got through the process they decided they couldn't meet our guidelines and are now out of the program."

"I want to brag on people who really do things," said Dodson. "But when somebody doesn't follow through on their commitment, or they let it go, should we just walk away? I'm the guy who keeps getting shot at by the Sierra Club. In the last couple of months there have been a half dozen facilities that we have removed from the Signature Program. We are taking their last $100 and applying it toward a year's membership in the Cooperative Sanctuary System when they open."

Officials at fully certified facilities say the program is well worth their efforts.

"Good environmental sense makes good economic sense," said Robert Swift, general manager of Indian River Club in Vero Beach, Fla., which in November
Flat drainage pipe takes hold

COLUMBUS, Ohio — Operating on the philosophy that it is more profitable to reduce expenses through innovation than by cheapening the product, a growing number of golf course projects are installing or remodeling putting greens with a new drainage technique.

The key ingredient is a flat, perforated corrugated plastic pipe called AdvanEDGE, made by Advanced Drainage Systems, Inc. (ADS) here. Developed in 1988 as an edge drain to be installed vertically alongside highways, AdvanEDGE reportedly has about twice the soil contact area of 4-inch round pipe, and will collect and drain water almost twice as quickly.

In the early 1990s, football stadiums began laying the pipe horizontally under the playing turf and found that this accelerated water collection from heavy rainfalls. The concept has since spread to other recreational areas, and now golf courses.

Dr. Michael Hurdzan of Hurdzan-Fry Design here first adapted this product to the unique requirements of putting greens. David Whelchel, a project manager with Hurdzan-Fry, said anything that will make greens better and less costly to build will have bottom-line benefits to course managers.

The flat-pipe idea just made a lot of sense.

Continued on page 20

Audubon

Continued from previous page

1995 became the third course to earn Audubon Signature status. "Just about everything we've done as a participant in the Signature Program has or will have a positive economic benefit at some point as a payback. "Everything we look at — every project, every capital expenditure, every operational decision — we have to consider on the basis of the payback. Does it enhance the value of the club, the value that our members perceive? Does it make for a better round of golf, pay for itself and bring money back to us? .. The programs we've undertaken have, by and large, demonstrated positive payback — some long-term, some short-term."

"At the end of the day, if you look long-term, I venture to say we're probably saving $20,000 a year on water, energy, etc.," said George Kelley, co-owner of Stevinson (Calif.) Ranch Golf Club, which gained Signature status in September 1996. "I'm very surprised more developers have not joined the program. I believe they think it's like getting in bed with the big bad wolf."

"It's ironic that a golf course will irrigate 125 acres of turf, which costs a lot of money to build and maintain, and then say they don't have the money to be in the Signature Program," said Tim Hiers, superintendent at Collier's Reserve in Naples, Fla., the first facility in the country to become fully certified. "People will spend extravagant amounts of money in areas that many times will not have any benefit from Day One or forever. Or, some people will hide behind the statement: 'We don't have an unlimited budget.'"

"But, if you're a public golf course and think you can't afford to join, think about it. The intent is to use less water, pesticides, fuel, electricity, resources; to me that means spending less money. So how do you argue the program? It's because you don't really understand it."

The option of force is out. Facilities that join Audubon's programs sign no contract. "If the program were ever required, it wouldn't work because the spirit would be gone," Hiers said. "It's a cooperative program. They want to attract people who already desire to do what Audubon wants them to do. If you heart's right and your intentions are right, you don't need a contract."

Discovering the heart of potential members perhaps is the best way to determine their membership. "There has to be some way to strengthen the commitment, but I think Audubon will have to do that in the early screening process," Hiers said. And, indeed, Dodson said: "I'm increasingly turning down people who want to join."
Estate courses
Continued from page 15
And it's 18 holes that will not only be open to Rich and his guests, but to youths involved in the local Hook a Kid on Golf program.

"It's more than I ever expected," said Rich, 59, a physicist and mathematician who made a fortune by developing the first integrated terminal for Wall Street in the mid-1970s. "I originally thought it would be just a couple of holes where I could go out and enjoy myself. And we have created a real championship course here. It's one of the most exciting things I've ever done. I tackled it the same way I did my business."

"You feel like you're in Neverneverland," said golf course architect Greg Martin of Martin Design Partnership in St. Charles, whom Rich hired to help with the intricacies of the design-and-construction process. "It's a wonderful sense of place. Deer prance across the fairways, etc.

"He [Rich] knows quality and wants it to be the Augusta National of the North. I don't think, at this point, that he has compromised that position at all."

Indeed, Rich decided to build some practice holes after a visit to Augusta National 11 years ago. Since then he has returned to that famous Georgian property eight or nine times.

"Everyone talks about their [Augusta's] 12th being such a famous par-3," he said. "I thought I could do better than that. So I built my 12th hole, which I think turned out better than theirs."

Rich's hole, the 4th on the white course, ranges from 166 to 185 yards. Its very small, narrow green is fronted by a lake and an 8-foot wall made from "holy boulders," huge slabs of limestone transported from Wisconsin Dells.

Saying his one disappointment at Augusta National was the shortness of Magnolia Lane, Rich said he could go out and enjoy himself. "It's a wonderful sense of place. You feel like you're in Neverneverland."

"I said to the last architect I interviewed, 'Why pay you a high fee and watch you have all the fun?' " Rich recalled.

Rich did "a nice job integrating it all," Martin said. "And it's one of the best-kept courses in the Chicago area."

Its three styles run against its origins, the Scottish atmosphere, the Pine Valley look, and the old traditional look.

"Does Rich Harvest Links give Augusta a good run?"

"Yes," Rich responded. "They have a different situation. Their history is magnificent and they have kept it going. I think I have taken the next step, created the same feeling, yet incorporated all the greatness that golf is all about: its origins, the Scottish atmosphere, the Pine Valley look, and the old traditional look."
No normal backyard

Continued from page 15

Course on the Rockefeller estate at Pinhurst, N.C. But in the ensuing 70 years not much was heard of personal practice greens — until now.

Today's second coming of "estate golf courses" is one of often more modest courses" is one of often more modest
predecessors. While the very wealthy have enough property and money to do this... People landscape their yards and build patios or gardens. This is just another form of landscaping, but it's usable.

Others who have designed greens and short "backyard courses" agree.

"I think these are people working on their game, to develop their skills," said architect Ron Kirby who, when he worked with Denis Griffiths, enjoyed a 1,000-square-foot green and a handful of tees 30 yards away outside their office. "We had a tournament, The Greater Norcross Open, on it every year. But the club's Tour players, owners and builders. Gary Player loved it. 'We'd drive with a plastic ball and putt with a golf ball.'

Having designed three courses on estates along the Niagara escarpment in Quebec as "backyard improvements," David Moote said one of his clients was an elderly, non-golfing lady who simply wanted to look at a course in her back yard just to look at its lines and aesthetics.

"This is not a prestige thing," Moote said. "The people I work for don't want the word to get out."

Estate courses run the gamut from opulent to frugal.

In recent years Mark McCumber's and Steve Melnyk's design companies helped build nine holes on Gilman Paper Co. owner Howard Gilman's northern Florida property, surrounded by endangered animals, equestrian trails and fishing.

Kirby designed a "spectacular" five-green, 13-tee course for Gulfstream jets owner Howard Paulson on seven acres in Savannah, built by Wadsworth Golf Construction Co.

Brian Silva designed a par-3 hole with a 5,000-square-foot green that can be played from 130 to 190 yards of multiple tees on the property of a Winged Foot member.

But Jim Osborn, whose Estate Golf in Georgia, S.C., installs putting surfaces with artificial grass, said his greens cost between $22 and $25 per square foot to install. And he expects his demand this year to double over 1997, citing developers who have "unbelievable landscaping" on a property upon the cliffs above Malibu to which he added four par-3 golf holes for highly ranked amateur Bill O'Connor. The three greens were designed to be played from both directions and the holes were from 50 to 100 yards long. The design featured rock formations, several sand bunkers and a pond that fronted one green and pooled off into a creek.

"I would kill for what he has in his back-
Flat pipe
Continued from page 17
sense to us," he said. "With its bigger
surface area, it does a better job of taking
water out of the bottom of the all-sand
California green profile than conventional
round pipe and gravel."
But the main reason flat-pipe technique
is attracting attention, according to
Whelchel, is that "it saves a lot in construc-
tion costs. Although the material cost of
AdvanEDGE is higher than round pipe, no
trenches need to be dug, no gravel backfill
to buy, and no trench spoils to dispose of.

Our experience," he said, "shows that
the installed cost of flat pipe is about half
the cost of traditional drain pipe, maybe
even less. This can add up to $30,000 to
$40,000 in savings for 18 holes."
AdvanEDGE pipe is normally sold with a
geotextile fabric wrap to filter out soil fines.
If the greens mixture and surrounding soils
are relatively free from migratory fines,
Hurdman-Fry permits the pipe to be installed
without the filter wrap. ADS can produce
the pipe with narrower "sand slot" perfora-
tions. ADS also offers a standard line of
couplings and tees designed specifically
for horizontal installation.

Kids course
Continued from page 15
where they could take their children to
play the game.
"I always suggested a par-3 course or
driving range," Ridge said. "Where else
was there?"
"We're very excited because this will
be testing the waters [for similar,
future projects]," said Mike Ridge, his
cousin Jack's vice president in Ridge
Golf Design and assistant to the
president of Club Pro. "The whole idea
behind this is to let kids experience the

game and fall in love with it by actually
playing it. It gives them goals, thrills,
the challenge, a perception of the
game. They're not taking a dozen shots
to the green with daddy. They want a
chance to make a par or birdie. That's
what will keep them coming back."
Although they fought horrible weather,
the Ridges said a layout like the Kids
Course at Bob-O-Link could be built in a
span of two weeks in perfect weather. At
Bob-O-Link they simply added far-far-
forward tees on 13 holes and used five
ladies' tees that are in strategic places,
then built bunkers situated for children's
play. Kid-sized benches and ball-washers
at the tees, and 5-foot-high flag sticks for
a second set of kids' holes on the greens
add to the built-for-children feeling, as do
the kids' scorecards.

The opening on Father's Day was
special, Mike Ridge said, because "we
wanted the kids to feel it is their course
in a sense that Dad is their guest."

Jack Ridge explained: "By installing
new sets of tees and the strategic
location of new bunkers, hazards and
mounding, a routing was being created
which, in essence, resulted in a course
within a course, with its own distinct
color that does not compromise the
character that does not compromise the
integrity of the existing full-sized layout."

A PGA professional who has given
hundreds of lessons to children, Jack
Ridge designed the Kids Course with a
good feel for how far they hit the ball.
He and Mike figured 85 yards on a
drive. Therefore, a hole from 85 to 160
yards long is a par-4. Longer than 160
yards is a par-5. An adults' straight-
away par-4 of 385 yards can also be a
double-dogleg 275-yard par-5 for kids.
Bob-O-Link's Kids Course is a par-74
layout measuring 3,100 yards. Looking
forward to other kids' courses, Mike
Ridge said more than one set of
children's tees can be built per hole —
perhaps having one for 5- to 6-year-old
and one for 7- to 10-year-olds.

MISSION ACCOMPLISHED

We live for our golf course customers to get
these kinds of letters. We know that what
you do throughout the year often goes
unrecognized or unappreciated.

So when you get the praise you
dererve, we consider our
mission accomplished.

For over 30 years,
The Andersons has been
providing professional golf
course superintendents with the
dependable products and
knowledgeable technical support
that gets them the results they need to
satisfy the most demanding golfers.

TO: Robert Sackman, GCS
FROM: The Greens Committee, Tall Oaks Country Club
RE: CONGRATULATIONS!

Dear Bob,
We want to thank you for the exceptional job you and your staff
did with the course this past year. Despite some rather harsh
weather conditions, you were able to keep play at its all time best.
In fact, guests from surrounding clubs frequently commented on what
great shape our course was in and wondered what your secret is.
We know it's a lot more than magic, but whatever you do — aside
from your hard work — it has made the membership very proud.
We look forward to another season with you at the helm!
Intrawest acquires Fla.'s Sandestin
Vancouver-based ski resort operator continues Southern push

By PETER BLAIS

VANCOUVER, B.C., Canada — Vancouver-based Intrawest, one of the largest ski resort owners in North America, has moved further into the warm-weather resort market with its recent purchase agreement to buy Florida's Sandestin Resorts for $130 million. Sandestin is a 2,400-acre golf course resort with 63 holes of golf and a residential community located between Pensacola and Panama City.

Sandestin Resorts, Inc. is a wholly owned subsidiary of Sime Darby Berhad, one of Southeast Asia's largest multinational conglomerates headquartered in Kuala Lumpur, Malaysia. The transaction is expected to close in July.

Said Joe Houssian, president and chief executive officer of Intrawest. "We believe this is a venue in which we can apply our formula for developing resorts. It is an opportunity to expand our non-winter revenue, it includes a golf opportunity in line with our decision to expand our position in the golf industry, it includes real estate potential which plays to an Intrawest strength, and it potentially provides another warm-weather alternative for our high-end points-based vacation club, Club Intrawest."

Intrawest owns ski resorts throughout North America, many of which have golf courses. The company also operates several stand-alone golf facilities. Intrawest’s golf properties include Panorama GC, Invermere, British Columbia; Mont. St. Marie, Ottawa, Ontario; Mt. Tremblant, Quebec; Stratton Mountain, Vt., Snowshoe, W. Va.; Eagles Nest GC, Silverthorn, Colo.; Copper Mountain, Colo.; Mammoth Mountain, Calif.; Raven at South Mountain, Phoenix; Raven at Sabino Springs, Tucson, Ariz.

The latest move follows Intrawest’s April acquisition of Raven Golf Group, which owned the two Arizona courses in California and is developing a third for the city of Carlsbad, Calif.

Intrawest strength, and it potentially provides another warm-weather alternative for our high-end points-based vacation club, Club Intrawest."

ClubLink expands public golf presence

KING CITY, Ontario, Canada — ClubLink Corporation has acquired 10 public courses and 450 neighboring acres of developable land in the Greater Toronto Area. The new facilities nearly double ClubLink's holdings to 22 courses and substantially increase the course operator's presence in Canada's daily-fee market.

The acquisitions totaled $43 million, which will be paid from existing cash, debt and $3.5 million in ClubLink shares, noted President Bruce Simmonds.

The new ClubLink properties include:

• Blue Springs Golf Club (27 holes) located near ClubLink’s existing Greystone Golf Club and Rattlesnake Point Golf Club on Toronto’s west side. "Strategically it is important to us because the west end is an explosive growth area," Simmonds said. "Presently that market is underserved by high-end, daily-fee courses. ClubLink is also building an upscale, 45-hole facility in nearby Oakville called Rattlesnake Point that will open in early 1999. We’re now far and away the dominant player in western Toronto with 120 holes once Rattlesnake opens."

• Georgetown Golf Club (18 holes) and Bolton Golf Club (27 holes) are also near Greystone and Rattlesnake Point. The same family owned the two courses for the past 25 years. Georgetown has an additional 125 acres that could be developed into housing, more golf holes or both.

• Gormley Green Golf Club (36 holes) and Rolling Hills Golf Club (54 holes) are located near ClubLink’s Emerald Hills Golf Club and DiamondBack Golf Club. Situated on 650 acres, Simmonds said the combined Gormley Green and Rolling Hills facilities represent the largest golf operation one piece of land in Canada. ClubLink plans upgrades to at least two of the courses within the next 10 years.

Golf Course Builders

"Doing One Thing Well"

Golf Course Builders

MANAGEMENT IN REVIEW

December 1998 21
Medallist Troon launches Australasian operations

By PETER BLAIS

SYDNEY, Australia — An Australian development company has joined forces with an American-based management firm to form an international course development and management company that will also call on the expertise of famed professional golfer Greg Norman.

Medallist Golf Developments, a golf course and residential development company with offices in Australia and the United States, and Troon Golf, a high-end management/development firm based in Scottsdale, Ariz., have formed an international joint venture — Medallist Troon Golf Management. Medallist Troon will operate in Asia, Australia and the Middle East.

“There are some deals in the works that should be signed shortly in Australia, which is really where this whole thing started,” said Timothy Greenwell, Troon Golf’s vice president of sales and marketing.

Medallist Golf Development is an international joint venture between Macquarie Bank Limited and Great White Shark Enterprises. With offices in Sydney, Brisbane and Melbourne in Australia and Florida and New York in the United States, Medallist is structured to develop, own and operate real estate-driven golf and residential developments throughout the world.

Great White Shark Enterprises, the business arm of Greg Norman, has six operating divisions: golf course design and construction, turf merchandising, events ownership and management, licensing and Medallist Golf Developments. Norman has designed courses in eight Asia/Pacific countries.

Macquarie is a leading Australian investment bank.

Palmer readies for growth with $100m loan

SAN FRANCISCO, Calif. — Arnold Palmer Golf Management LLC has closed on a $100 million acquisition loan facility with Credit Lyonnais-New York Branch, as agent and arranger, and jointly underwritten with Wells Fargo Bank, NA.

This new acquisition line allows the company to add additional courses to its expanding portfolio and continue its growth.

Last October, Palmer Golf acquired eight courses around the United States and plans to add another 20 to 30 in 1998. Palmer Golf operates about 30 courses in the United States and Europe.

Pascal Poupelle, executive vice president and head of U.S. investment banking for Credit Lyonnais, said, “In addition to the company’s strong management team, we believe Arnold Palmer Golf Management’s prospects are further enhanced by their affiliation with Olympus Real Estate Corporation, the real estate investment affiliate of Hicks Must Tate & Furst, whose industry expertise in consolidating industries is world-reknowned.”

According to George Haworth, chief financial officer of Palmer Golf, “We immediately financed six courses through the credit facility and in the future, expect this credit line to support other ventures sponsored by Palmer Golf and other top golf operators.”

In other Palmer news, the firm appointed David Baker Midwest regional director of business development. Baker, who will also handle the north central United States, comes to Palmer Golf from Keller-Williams, a real estate firm where he served as director of franchise sales and development. Prior to that, Baker was vice president of a 15-state region at Century 21 Real Estate Corp.

Palmer has also added its second franchisee, White Hawk Country Club scheduled to open in late June in Crown Point, Ind.

We’d like to show you the weeds PENDULUM® controls. But they never showed up.

The reason they never showed up? Because PENDULUM® herbicide is a highly effective preemergent turf herbicide. Compared to the competition, PENDULUM demonstrates a higher level of control across a broader spectrum of weed species. With PENDULUM, weeds won’t ever see the light of day.

For the PENDULUM herbicide distributor nearest you, call: 1-800-545-9525, Ext. 1676.
Golden Bear, ESI join forces

NORTH PALM BEACH, Fla. — Golden Bear Club Services, a full-service manager of private, semi-private and daily-fee public golf courses and clubs, has entered into a golf and club management licensing agreement with Executive Sports International (ESI), granting ESI the right to conduct business under the Golden Bear brand name. The change is effective immediately.

ESI assumes responsibility for managing existing Golden Bear Club Services facilities and procuring new business. Golden Bear Club Services has nine facilities under management — Muirfield Village Golf Club in Dublin, Ohio; Country Club at Muirfield Village in Dublin; Golf Club of Purchase in Purchase, N.Y.; Laurel Springs Golf Club in Atlanta; Golden Bear Golf Club at Hammock Creek in Palm City, Fla.; Old Works Golf Course in Anaconda, Mont.; Classic Golf Resort in New Delhi, India; and two Florida properties under construction — Twin Eagles Golf & Country Club in Naples and the Golden Bear Club at Keene’s Pointe in Orlando.

Under ESI, Golden Bear Club Services will expand its portfolio to include other high-profile courses and clubs worldwide.

The Original Wood-Siatted DIVOT SEED & SOIL TEE BUCKET in REAL redwood or REAL cedar.

CIRCLE ‘ROUND THE POLE and CIRCLE MAKER — keep on your foot while marking circles on the green.

THE BULLET line cleaning nozzle and NEW ADAPTOR.

PHC™ BioPak™: Dry, water soluble biofertilizer/bio-stimulant with multiple strains of growth-promoting, Nitrogen fixing, Phosphorus solubilizing bacteria, promotes fast feeder root development, stimulates plant growth and improves nutrient availability and uptake.

Flax™ Turf Premix: Dry water-soluble biofertilizer with fully chelated micronutrients; growth-promoting, Nitrogen fixing and Phosphorus solubilizing bacteria; and the wetting agent yucca extract. Promotes greener, denser, more consistent-play sports turf that stands up to heavy traffic by stimulating root growth and improving stress and disease resistance.

Rhizobacteria

Soil bacteria decompose organic matter, including cellulose and lignin in wood, a process essential to all life on Earth. Primarily they are found in the upper 12 inches of soil where their carbon food source is most prevalent and where aeration, mineral elements, pH and temperature are more ideal. A half-thimble of productive soil may contain up to 3 billion bacteria from thousands of species that carry out different activities in soils.

Beneficial rhizobacteria, are found in the root zone of all plants (and turfgrasses). Rhizobacteria have adapted themselves to plant’s absorbing roots where they get nutrients from sloughed root cells, exudates and organic matter. In return, they provide plants with specific benefits and are largely responsible for soil health.

For its products, PHC, Inc. selects soil bacteria and rhizobacteria that produce specific responses: • Plant-Growth Promoting Rhizobacteria — produce a variety of chemicals and natural hormones that stimulate plant growth under stress. • Free-Living or Non-Symbiotic Nitrogen-Fixing Bacteria — increase plant growth by fixing atmospheric nitrogen for plant use.

PHC™ Compete™: Dry, dispersable rhizosphere inoculant that contains 20 strains of microencapsulated bacteria antagonistic to root pathogens. Formulated with dry soluble yucca extract and organic biocatalysts to ensure rapid colonization of the plants’ rhizosphere to minimize turf diseases and improve nutrient availability.

Insect-Toxic Bacteria

Some beneficial bacteria contain toxins that are fatal to insects but harmless to plants, animals and humans. The best known, Bacillus thuringiensis (Bt), have produced some of our most reliable and potent biological control measures. It is a common soil bacteria that produces crystal proteins and spores with insecticidal properties. Formulated into Bt bioinsecticides and then foliar-applied, these proteins/spores control a broad spectrum of caterpillar pests. The targeted pest consumes the proteins/spores, becomes sick and unable to eat, and soon dies.

Crymax™ WDG bioinsecticide: The only biological control product registered for control of Fall Armyworm on turf. Formulated in a dispersible granule, Crymax™ contains multiple insecticidal proteins to control Lepidoptera worm pests that damage turf grasses including Armyworms and Sod Webworms.

Lepinox™ WDG bioinsecticide: The only biological control product registered for control of Fall Armyworm on turf. Formulated in a dispersible granule, Lepinox™ contains multiple insecticidal proteins to control Lepidoptera worm pests that damage turf grasses including Armyworms and Sod Webworms.

Water-Cleansing Bacteria

Cloudy water, pond odor, scum and algae blooms — the most common pond maintenance complaints — are caused by excessive levels of nutrients and from the leaching and inflow of fertilizers and buildup of organic matter. These elements are food nutrients that promote the growth of algae and anaerobic bacteria. Water-cleansing bacteria, contained in high concentrations in PHC, Inc. products, biologically clean, clarify and desodorize fresh water. These special bacteria digest ammonia, nitrates and phosphorus and degrade hydrocarbons and organic matter. Without food, algae and anaerobic bacteria are kept in check and water quality improves.

PondSaver™: Contains more than 5 billion colony-forming units of 17 different proprietary strains of dry, live bacteria per gram. Reduces cloudy, sludge and unsupasant pond and lake odors.

PUB SHEDS: Contains more than 5 billion colony-forming units of 17 different proprietary strains of dry, live bacteria per gram. Reduces cloudy, sludge and unsupasant pond and lake odors.

PLANT HEALTH CARE, INC.
Plant Health Care, Inc. (PHC, Inc.) is a microbial biotechnology company specializing in the development of “plant health care” products and natural systems solutions for the commercial tree care, agriculture, turfgrass, forestry and land reclamation industries.

Green for Life®

For more information about beneficial bacteria and turf health, call 1-800-421-9551 to order a Green for Life guidebook and catalogue of PHC, Inc. biological products.
Environmental Golf dives into course ownership

By PETER BLAIS
GOLETA, Calif. — Last winter's opening of Glen Annie Golf Club here marks a new direction for Environmental Golf: course ownership.

The Calabassas, Calif.-based firm is a subsidiary of 4,000-employee Environmental Industries Inc., a leading national landscape, nursery, maintenance and site-development contractor. Environmental Industries has built more than 400 courses since 1954. Today, Environmental Golf is building or remolding 15 to 20 courses annually. It also has maintenance-only contracts at another 30-plus courses nationwide.

But it was just last year that Environmental Golf entered course ownership. In May 1997, the company assumed part ownership of Arnold Palmer-designed Cherokee Run, which Environmental Golf built for the city of Conyers, Ga., and opened in October 1995.

The first planned build/own course is Damian Pascuzzo- and Robert Muir Graves-designed Glen Annie, Pascuzzo and Graves are also the architects at Westridge Golf Course (opening September 1998) in LaHabra while Ronald Fream designed The Links at RiverLakes Ranch (opening November 1998) in Bakersfield, a pair of California courses the company will also build and own.

"We've been building courses for 40-plus years for other owners and maintaining them for more than 20," explained Director of Golf Mike Dingman of his firm's recent move into ownership. "We just made the decision that it was an industry we were familiar with as far as construction and maintenance and thought it would be a natural progression to get into [overall] management and ownership.

"Our goal is to do two to three [build and own] situations a year."

KollStar

Continued from page 1

Building a semiprivate club. KollStar also manages MetroWest GC in Orlando, giving the company eight facilities in the Florida market.

According to KollStar Chief Executive Officer Joe Woodard, the company plans to be operating 20 courses by year's end. Despite making its first acquisition just seven months ago, KollStar's goal is to reach 40 by the end of 1999.

KollStar has made improvements at all its properties, Woodard explained, including Houston Oaks (formerly Tinwood) in Houston, KollStar rerouted the 36-hole layout with two separate clubhouses so that it could be served from a single clubhouse, established teaching and corporate outing facilities, undertook cart path and irrigation work and repositioned the complex from a private to a daily-fee facility.

Multi-course purchases, like the recent Florida acquisitions, while attractive, will likely be "pretty rare because the golf course business is so fragmented," Woodard said "We are looking at several purchases now that would involve two or three courses."

Because of the proliferation of management companies, good management deals are becoming harder to find and the market more competitive for those courses that do come available, Woodard said. "Money has become tighter for the past couple months, which makes it easier for those of us who have capital, though," he added.

Formed in February 1998, KollStar is a joint venture between Koll Resorts International, member of the Koll family of real-estate companies that specializes in golf resorts, and NorthStar Capital Investment Corp.

KollStar recently formed an alliance with The Stonebridge Group — a real-estate company specializing in golf course development and construction — to jointly build and acquire high-end, daily-fee courses. Stonebridge is based in Salt Lake City.

KollStar specializes in golf course development and construction — to jointly build and acquire high-end, daily-fee courses. Stonebridge is based in Salt Lake City.
Single-rider market heats up

April: Ortho-Kinetics jumps in with Fairway 8000

By JOHN PARRELL
WAUKESHA, Wis. — Fairway Golf Cars, a division of Ortho-Kinetics, Inc., is introducing the Fairway 8000 Single-Rider. In development for four years, the Single-Rider features a dual motor drive, a 48-volt power system with transaxle, maintenance-free AGM batteries, and a dynamic braking system which offers smooth deceleration as well as continuous recharging during braking action.

"Twenty years ago, getting on and off a course in four hours was a bad day," said John Perez, director of sales and marketing for Fairway, "now it's a miracle."

Ortho-Kinetics new Fairway single-rider.

June: Pride enters market in a big way

By MICHAEL LEVANS
EXETER, Pa. — Pride Golf, a new division of scooter and liftchair manufacturer Pride Healthcare, has entered the single-rider golf-car market with quite a bang.

It was recently announced that Pride Golf's car, the second single-rider to enter the golf market from the home medical equipment industry, will be the vehicle of choice for disabled golfer Casey Martin, should he earn a berth for a cart for Casey and if your's met

Golf Course News

Crisis in Canada puts clamps on course spending

By PETER BLAIS
TORONTO — The cry of the Loony — as Canadians call their one-dollar, bird-imprinted coin — has been a mournful sound as it has been a muffled sound for superintendents and suppliers of U.S.-manufactured course equipment as the plummeting Canadian dollar has made those items increasingly expensive for Canadian course managers.

By early August, the Canadian dollar had fallen to a record low, an equivalent of approximately 65 cents in U.S. currency. That represented a 15 percent decline from a year earlier and was forcing some superintendents to consider cutting back, or at the very least delaying purchases of U.S. and other foreign-made supplies.

It's no wonder that people who make large purchases in the U.S. would be backing off or reducing them this year," said Vince Gillis, executive director of the Canadian Golf Superintendents Association (CGSA).

Added CGSA President Doug Meyer of Cedarbrook Golf & Country Club in St. Sophie, Quebec: "This will definitely affect our capital budgets when we are buying new equipment, as well as other course supplies such as chemicals, fertilizers, seed, parts and course supplies. The only products that will not be affected are those produced in Canada."

Continued on page 26

Continued on page 26

Continued on page 26

Continued on page 26

Continued on page 26
we really can't get our arms to all the possible applications, plan because it's getting bigger and bigger," said Phillips. "Due to all the possible applications, we really can't get our arms around it."

At the heart of the Player Systems deal are two components: Precision Turf Care and Sky Links. Precision Turf Care controls the precise spraying of water, fertilizer and pesticides and is being marketed as a tool for general turf care management.

SkyLinks is mounted on golf cars and acts as an electronic caddie, giving the player distance measurements, tips and graphical representations of greens and fairways. It can also be used to send messages from clubhouse to cart and vice versa while allowing the course operator the chance to monitor speed of play.

"The founders of the company realized that the potential of GPS within golf is much more than yardage," said Richard Beckmann, director of sales and marketing for Player Systems. "It's truly information technology."

"Where will this all lead? "Anything is possible," said Beckmann. "You're going to see this technology on every course in some shape or form very soon."

"The game plan is to have a robot dog house — the LawnNibbler would go to the dog house and recharge itself whenever it needed to," explains Doty.

The prototype has been tested in conditions ideal for golf course care — wet grass up to six inches high, on a 12-degree slope, even over tree roots. No problems. The LawnNibbler uses a weed trimmer-like nylon cord to cut a six-inch swath with, not a blade.

Doty projects that the initial cost of producing working models of LawnNibbler would place the price at about $2,000 per unit.

The market originally conceived for the LawnNibbler was as a machine to prune the grass around Florida's orange groves.

---

**LawnNibbler**

Continued from page 25

estimates the LawnNibbler can run several hours before needing a recharge.

A graduate student, Kevin Hakala, added sensors and a guidance system last year.

The buried wire acts as an obstacle that the LawnNibbler cannot cross. Just 24 inches high, the LawnNibbler is just under 24 inches long and just over 12 inches wide. It weighs 55 pounds.

The microprocessor control allows it to spin on itself, left, right, back, forward," Doty said. The navigation system uses a trilateration process, like a Global Positioning System (GPS) using a satellite, from three poles placed to define the LawnNibbler's territory.

"The prototype has been tested in conditions ideal for golf course care — wet grass up to six inches high, on a 12-degree slope, even over tree roots. No problems. The LawnNibbler uses a weed trimmer-like nylon cord to cut a six-inch swath with, not a blade.

Doty projects that the initial cost of producing working models of LawnNibbler would place the price at about $2,000 per unit.

The market originally conceived for the LawnNibbler was as a machine to prune the grass around Florida's orange groves.

---

**Texton**

Continued from page 1

American arm of Texton Turf Care and Specialty Products is based in Racine, Wisconsin, with Jacobsen's Phil Tralies as president. Tralies will report to Wilson.

Peter Wilson is naturally excited with the developments at what is now a very well placed market competitor.

"It creates a very strong company from both a financial and technical viewpoint," said Wilson. "It gives us a wonderful range of products and we obviously have a leading range of brands."

---

**Crisis in Canada**

Continued from page 25

"At this time it appears that U.S. products will increase in cost more than those from Europe. As a result, many golf clubs may choose to lease equipment manufactured in the U.S. rather than buy new equipment outright. As for the rest of the products, we will have to budget at an extra 15 percent for our next budgetary year. Some courses will delay purchases until the spring in the hope that the Canadian dollar rebounds. However they choose to deal with the situation, the low dollar is sure to negatively impact profits in the coming year."

The effects of Canada's struggling dollar may be somewhat offset by this year's increased play at Canadian courses, according to Nolan Duke of G.C. Duke Equipment Ltd. of Burlington, Ont. 'The exchange rate," Duke said, "has caused our prices to go up 7 to 8 percent, which really would have screwed up budgets."
Archway Steel Buildings: 1-800-2724. Factory direct. Save money on buildings in stock. 20 x 30; 25 x 40; 30 x 55; 45 x 75; 51 x 150. Easy to erect. Archway Steel Buildings: 1-800-344-2724.

PERSONALIZED GOLF FLAGS by DuPont Solar Max Nylon BRITISH POLES Buy Direct and Save 1-800-476-7005

NORTHSTAR I AUTOMATIC TEE-UP 10 station Northstar I Automatic Tee-up system. Including 2 dual stations (left/right stations). New equipment. Never installed. Includes Automated ball washing/drying system with pre-soak tank and automatic feed to washer. Includes all materials for complete installation. Full price $74,225, asking $40,000. For more information call 612/449-7004 Stephanie Jacobsen. VanDamme Golf Design & Construction 291 Hwy, Ste. 104, Lees Summit, MO 64063 or Fax to: (816) 524-0150.

Looking for experienced personnel for the golf course development manager for the golf course superintendent, shapers, finishers, and irrigation personnel. Qualified individuals send resume to: Rick Boylan c/o Mid-America Golf & Landscape Inc., 620 SE 291 Hwy, Ste. 104, Lees Summit, MO 64063 or Fax to: (816) 524-0150.

ARCH STYLE STEEL BUILDINGS

WHEN YOU NEED EXACTLY THE RIGHT SUPERINTENDENT

JOHN SIBBALD ASSOCIATES

"America’s leading executive search firm for the golf and Resort industry."

Executive Recruiter News

Since 1975, guiding over 400 hospitality clients nationwide in their selection of superior managers and executives.

Placements guaranteed for two years.

ASK FOR RANDY MARTIN 1-800-896-1395

John Sibbald Associates, Inc.

7733 Forsyth Boulevard

St. Louis, MO 63105

Golf Course Classifieds

To reserve space in this section, call Jean Andrews 207-925-1099.

FOR SALE

HELP WANTED

ARCH STYLE STEEL BUILDINGS
Build it yourself and save money! For cart and equipment storage. Factory direct. Save money on buildings in stock. 20 x 30; 25 x 40; 30 x 55; 45 x 75; 51 x 150. Easy to erect. Archway Steel Buildings: 1-800-344-2724.

PERSONALIZED GOLF FLAGS by DuPont Solar Max Nylon BRITISH POLES Buy Direct and Save 1-800-476-7005

NORTHSTAR I AUTOMATIC TEE-UP 10 station Northstar I Automatic Tee-up system. Including 2 dual stations (left/right stations). New equipment. Never installed. Includes Automated ball washing/drying system with pre-soak tank and automatic feed to washer. Includes all materials for complete installation. Full price $74,225, asking $40,000. For more information call 612/449-7004 Stephanie Jacobsen. VanDamme Golf Design & Construction 291 Hwy, Ste. 104, Lees Summit, MO 64063 or Fax to: (816) 524-0150.

Looking for experienced personnel for the golf course development manager for the golf course superintendent, shapers, finishers, and irrigation personnel. Qualified individuals send resume to: Rick Boylan c/o Mid-America Golf & Landscape Inc., 620 SE 291 Hwy, Ste. 104, Lees Summit, MO 64063 or Fax to: (816) 524-0150.

ARCH STYLE STEEL BUILDINGS

WHEN YOU NEED EXACTLY THE RIGHT SUPERINTENDENT

JOHN SIBBALD ASSOCIATES

"America’s leading executive search firm for the golf and Resort industry."

Executive Recruiter News

Since 1975, guiding over 400 hospitality clients nationwide in their selection of superior managers and executives.

Placements guaranteed for two years.

ASK FOR RANDY MARTIN 1-800-896-1395

John Sibbald Associates, Inc.

7733 Forsyth Boulevard

St. Louis, MO 63105

Golf Course Classifieds

To reserve space in this section, call Jean Andrews 207-925-1099.
December
4 — GCSAA seminar on The Superintendent as Grow-In Manager in Ames, Iowa.*
7 — GCSAA seminar on Strategies for Managing the Turfgrass System in Hammond, La.*
7 — GCSAA seminar on Problems and Solutions: Using Annuals and Perennials in the Golfcourse in Atlantic City, N.J.*
10 — Ohio Turfgrass Conference in Columbus. Contact 614-760-5442.
8 — GCSAA seminar on Employee Safety Training in Ellicott City, Md.*
8 — GCSAA seminar on Managing People for Peak Performance and Job Satisfaction in Salt Lake City, Utah.*
10 — Georgia Turfgrass Show in Atlanta. Contact 770-975-4123.
9 — GCSAA seminar on Strategies for Managing the Turfgrass System in Oklahoma City.*
9 — GCSAA seminar on Maximizing Job Satisfaction in Ellicott City, Md.*
9-11 — Rocky Mountain Regional Turfgrass Association Conference in Denver. Contact 303-770-2220.
10 — GCSAA seminar on Golf Course Construction Management and Grow-In.*

1999
January
4-8 — Cornell University Golf Short Course in Ithaca, N.Y. Contact 607-255-1792.
4 — Feb. 19 — University of Massachusetts Winter School for Turf Managers in Amherst, Mass. Contact Trudie Goodchild at 413-545-2484.
5-7 — Ontario Turfgrass Symposium in Toronto. Contact Peggy Nagle at 519-824-4120, Ext. 3614.
5-7 — Eastern Pennsylvania Turf Conference & Trade Show in King of Prussia. Contact 814-863-3475.
6 — GCSAA seminar on Golf Greens: History, Theory, Construction and Maintenance in Pleasanton, Calif.*
7 — GCSAA seminar on Preventative Maintenance of Turf Equipment in White Haven, Pa.*
7 — GCSAA seminar on Disease Identification and Control in Columbus, Ohio.*
7 — Northeast Turf and Grounds Exhibition in Albany, N.Y. Contact NYSTA at 800-873-8873.
8 — GCSAA seminar on Maximizing Teamwork in White Haven, Pa.*
11 — GCSAA seminar on Enhancing Your Value as a Professional Golf Course Superintendent in Manchester, N.H.*
11 — GCSAA seminar on Strategies for Managing the Turfgrass System in Portland, Ore.*
11 — GCSAA seminar on Managing People for Peak Performance and Job Satisfaction in Atlanta.*

* For more information contact the GCSAA Education Office at 800-472-7878.
Do you wish to receive/continue to receive Golf Course News FREE?  □ Yes  □ No

Signature: _______________________________ Date: __________

1 My primary title is: (check one only)
□ A. Golf Course Superintendent
□ B. Course Owner/CEO
□ C. Green Chairman/Dir. Grounds
□ D. Club President
□ E. General Manager
□ F. Assistant Superintendent
□ G. Builder/Developer
□ H. Architect/Engineer
□ I. Research Professional
□ J. Others allied to field (please specify)

2 My primary business is: (check one only)
□ A. Public Golf Course
□ B. Private Golf Course
□ C. Semi-Private Golf Course
□ D. Municipal/County/State/Military Golf Course
□ E. Hotel/Resort Course
□ F. Other Golf Course: (please specify)

3 Number of holes:

□ A. 9 holes  □ D. 36 holes
□ B. 18 holes  □ E. Other (please specify)
□ C. 27 holes

4 Total annual maintenance budget:

□ 1. Under $50,000
□ 2. $50,000-99,999
□ 3. $100,000-249,999
□ 4. $250,000-499,999
□ 5. $500,000-749,999
□ 6. $750,000-1,000,000
□ 7. Over $1,000,000

5 Annual capital expenditure:

□ A. Under $100,000
□ B. $100,000 - 249,999
□ C. $250,000 - 500,000
□ D. Over $500,000

6 Purchasing involvement:

□ 1. Recommend equip. for purchase
□ 2. Specify equipment for purchase
□ 3. Approve equipment for purchase

FOR FASTER SERVICE
FAX TO 207-846-8576
AD INDEX

Golf Course Marketplace
To reserve space in this section, call Jean Andrews, 207-925-1099

HARCO DUCTILE IRON FITTINGS FOR GOLF COURSE IRRIGATION SYSTEMS
Sizes 2" through 12", all configurations including "knock-on" repair couplings. High Strength, high corrosion resistance.
The Harrington Corporation
P.O. Box 10335
Lynchburg, Va 24506
804-845-7094 Fax 845-8562

A Visible Marking System
You Can Mow Right Over
- Speeds up play - Reduces playing time up to 30 minutes per round
- Cost-effective - Pays for itself in months - Lasts for years
- More enjoyment - No pacing and hunting for sprinkler heads
- Available in all colors
- Proven at thousands of courses around the world

Great Lakes Containment, Inc.
(616) 258-8800 / (800) 455-7800
731 South Cedar Street, P.O. Box 51, Kalkaska, MI 49646
www.glcpc.com
SPECIALIZING IN PVC LINERS

MAXON SP100
4 CHANNELS, PL, SCAN
$199.75 VHF $209.75 UHF

Call Nationwide Toll-Free
1-800-527-1670

EAGLE GOLF & LANDSCAPE PRODUCTS
1-800-21-EAGLE
Eagle Interface for Greens Construction

PEDESTRIAN & VEHICULAR
Order Direct From The Leading Manufacturer in U.S.
- Complete Prefabricated Packages - Ready for Fast Erection
- Direct Distribution Throughoout the U.S. - Custom Design & Engineering
CALL 800-777-8648
P.O. Box 4 Morrisville, NC 27560
Tel. 919/467-6155 • FAX 919/469-2536

September 1998
29

*Appears in regional editions.
The First Tee
Continued from page 1
these acquisitions. The First Tee plans to provide, through the help of participating organizations and individuals, expertise and consulting advice, land-planning services, course design and other assistance that will help reduce the cost of the project.
Fifteen developments have been identified as meeting The First Tee criteria thus far, including renovation of Detroit's Belle Isle course made possible by a $2 million donation by Ford Motor Co. The First Tee plans to have 100 courses in the program in the next two years.
Service and expertise commitments have been made by the Golf Course Superintendents Association of America (GCSAA), American Society of Golf Course Architects (ASGCA), National Golf Foundation, American Junior Golf Association, Tiger Woods Foundation and National Minority Golf Foundation.

El Niño: California
Continued from page 1
barometer readings ever in February.
California courses found that no amount of installed drainage could handle the rains since they began on already wet ground. El Niño was not choosy about the golf courses it attacked as rivers, streams, drainage and retaining walls statewide reached their limits.
The Monterey Peninsula received no mercy. "We had the highest tide and the biggest swell ever recorded in Stillwater Cove," said Mark Michaud, superintendent at Pebble Beach Golf Links. "If we hadn't put in the new seawall on the 18th hole, I'm sure we would have had some major damage.
"I cannot imagine how bad it would have been. Some comments during the TV coverage of the AT&T said the wall was making the waves break more violently. But the reality was that the old seawall might have been gone."

El Niño: Florida
Continued from page 1
that touched down in Kissimmee, Winter Garden and Sanford near the middle of the state and in Ormond Beach on the East Coast. Forty people were killed and hundreds of families left homeless as the twisters targeted several residential areas.
"We were very lucky," said Kissimmee Bay Country Club Superintendent Jim Moulton. "The tornado that did all that damage to the Ponderosa Park mobile homes touched down only three-tenths of a mile from here.
The irony is that we were going to be sweeping and vacuuming the course for all the fallen oak leaves, and the next day after the tornado, they were gone - sucked up by the tornado."
Kissimmee Bay was without power for six days and managed to stay open by renting eight portable generators to operate the clubhouse facilities and charge the carts. As a result, the club will be installing a large emergency generator for future back-up.
Duane Petersen at nearby Meadow Woods Golf Course also dodged the bullet on that fateful morning. "We were in the path, but it skipped over us," he said. "Our problem has been like everyone else's in the state: lousy growing conditions."

The irony is that we were going to be sweeping and vacuuming the course for all the fallen oak leaves, and the next day after the tornado, they were gone - sucked up by the tornado."

Kissimmee Bay was without power for six days and managed to stay open by renting eight portable generators to operate the clubhouse facilities and charge the carts. As a result, the club will be installing a large emergency generator for future back-up.
Duane Petersen at nearby Meadow Woods Golf Course also dodged the bullet on that fateful morning. "We were in the path, but it skipped over us," he said. "Our problem has been like everyone else's in the state: lousy growing conditions."

The Monterey Peninsula received no mercy. "We had the highest tide and the biggest swell ever recorded in Stillwater Cove," said Mark Michaud, superintendent at Pebble Beach Golf Links. "If we hadn't put in the new seawall on the 18th hole, I'm sure we would have had some major damage.
"I cannot imagine how bad it would have been. Some comments during the TV coverage of the AT&T said the wall was making the waves break more violently. But the reality was that the old seawall might have been gone."

Kissimmee Bay was without power for six days and managed to stay open by renting eight portable generators to operate the clubhouse facilities and charge the carts. As a result, the club will be installing a large emergency generator for future back-up.
Duane Petersen at nearby Meadow Woods Golf Course also dodged the bullet on that fateful morning. "We were in the path, but it skipped over us," he said. "Our problem has been like everyone else's in the state: lousy growing conditions."
Bringing people together...

"PGA CareerLinks gives you national exposure to interview as many PGA Professionals as you like. You have a solid understanding of the PGA Professionals and what qualifications they bring."

- Janet Phillips
Owner

"I would have never found the teaching position here at Windy Hill if it were not for PGA CareerLinks. It is an asset for every employer and PGA Professional out there."

- David Hobin
PGA Teaching Professional

"PGA CareerLinks is the most effective way to reach the maximum number of PGA Professionals. PGA CareerLinks was an extremely valuable asset in helping us find and hire David."

- Hilton Phillips
Owner

Call PGA CareerLinks today at
1-800-314-2713

PGA CareerLinks.
Golf’s Best Jobs.
Golf’s Best People.
Ever notice how more fans always follow one foursome?

Some pairings just naturally draw more attention than others. Maybe that’s why the buzz around the world is about the new Textron Turf Care And Specialty Products team. Cushman, Jacobsen, Ransomes and Ryan—four great names, each built upon legendary performance, together as one foursome. The unbeatable team.

Easy to do business with. First in innovation. Dependable quality. And, the experience and know-how to get the job done. It’s good for the industry. It’s good for the game. It’s even better for you.

To make the most of your turf maintenance investment, follow the leader. Call 1-888-922-TURF. It’s where the action is.