THE NEWSPAPER FOR THE GOLF COURSE INDUSTRY

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EPA-friendly

Feds seek green industry cooperation with new pesticide stewardship venture15

Geese, Algae, etc.
Having problems keeping your ponds & lakes free of these and other intruders? See special report 40

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DR. DUICH EARNS ROSSI AWARD

Builders association President Jim Kirchdorfer (left) presents Dr. Joe Duich the Don Rossi Award during the builders' banquet in San Francisco. For story on Duich and a complete GCSAA Show Wrap-up, see pages 33-39.

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Truce!

Soil labs & USGA settle differences

By MARK LESLIE

FAR HILLS, N.J. Comforted and hopeful after meeting with representatives of eight soil-testing laboratories, U.S. Golf Association (USGA) Green Section officials believe the clock is ticking toward a future where accreditation for labs is the norm.

"I'm very relieved," said Green Section National Director Jim Snow, who entered the February meeting expecting an angry mob of lab technicians.

Saying a committee of lab officials "will hold discussions among themselves and tell the USGA what needs to be done," he said: "It will take awhile

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Owners buy into group purchasing

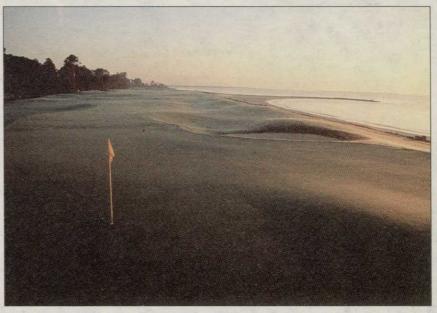
By PETER BLAIS

CHARLESTON, S.C. -Insurance, electric bunker rakes and used turf equipment are the latest products to find their way onto the ever-growing list of discounted service and merchandise available through the National Golf Course Owners Association Smart Buy Program.

The NGCOA group purchasing program provides the association's members with price breaks from preferred suppliers ranging from shirt makers to credit-card processors.

CNA Insurance Compa-

Continued on page 58



BACK TO THE LINKS

A lonely pin stands starkly on the 18th green, as the sun sets on Ocean Forest Golf Club, a throwback, links-style design from Rees Jones. The 380-acre property sits on the tip of Sea Island, Ga., just where the Hampton River meets the Atlantic Ocean. For details on Jones' successful collaboration with nature and the Cloisters Hotel, see page 47.

EPA puts product approval on fast track?

By MARK LESLIE

WASHINGTON, D.C. - The Environmental Protection Agency's (EPA) new Biopesticides and Pollution Prevention Division, created in November to speed up registration of biological pesticides, is accomplishing the task, according to spokesman Anne Leslie.

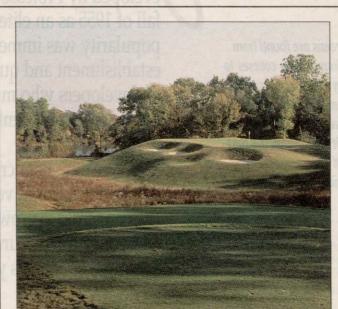
A chemist and turf industry liaison with the EPA, Leslie said that in the division's first three months, three new active ingredients were registered and registration actions had been completed on three others. Historically, it has taken three to

five years to approve an active ingredient for use, she said.

"The EPA is committed to expediting registration of safer pesticide products,' Leslie told an audience at the International Golf Course Conference and Show in San Francisco. She explained that for chemical pesticides, the EPA has initiated a priority set of procedures to hasten approval, while the new division was created to deal with biological pesticides.

In the case of chemical pesticides, "registrants can make an argument as to why

Continued on page 63





Opryland Springhouse Golf Club in Nashville, Tenn. is among those courses designed by incoming ASGCA president Jeff Brauer.



Brauer to assume ASGCA presidency

By MARK LESLIE

SCOTLAND — When the American Society of Golf Course Architects (ASGCA) meets here in April on the nificant today, with the environment eve of its 50th anniversary, a week of and the financing, I think the chaltravel and meetings will be climaxed with the passing of the gavel to a new president - Jeffrey Brauer.

Already, Brauer's sights are set on April 1996 when the society holds its golden anniversary at the hallowed greens and fairways of Pinehurst, N.C.

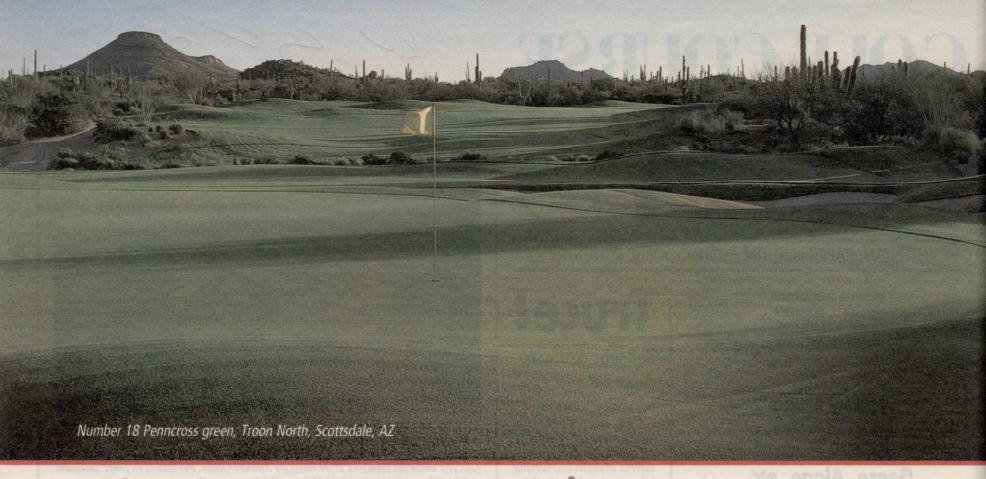
Questioned about his objectives, the president of GolfScapes in Arlington, Texas, answered: "I will begin to play

on the 50th anniversary theme. In my view, while the challenges of golf course architecture are certainly siglenges have always been there throughout the 50 years of the society. I think the top architects have met those challenges in the past and I'm certain will meet them in the future.'

Golf Course News: What have those challenges been?

Jeffrey Brauer: Historically, if you look at the '40s, there wasn't any qual-

Continued on page 48



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NEWS IN BRIEF

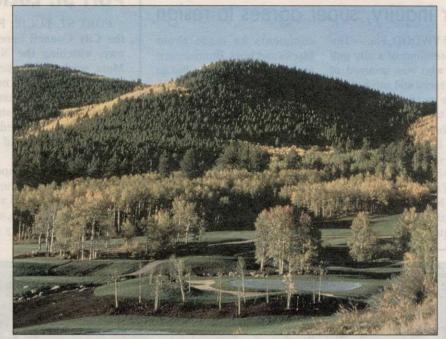
MONTGOMERY, Ala. - A multimillion dollar expansion is underway at Still Waters Resort and Conference Center on Lake Martin, which includes 32 new golf villas, another 18-hole golf course, clubhouse and hotel. The cost of the first phase of construction is estimated between \$7 and \$8 million, according to Bill Hite, general manager of the resort. Defender Resort Development of Myrtle Beach, S.C., is managing the expansion. The 2,200-acre Still Waters Resort opened in the late 1970s.

BRIGHTON TOWNSHIP, Ohio

- First it was road embankments. Next up, Echo Valley Golf Course? Yes. After watching the Black River gradually gobble up most of a 30-foot road embankment in this northern Ohio town, Lorain County engineers will reroute part of the river 1,000 feet away from the road - and right next to the fairway on Echo Valley's par-4, 8th hole.

RICHMOND, Va. - Local golf architect Lester George has signed on with Boonsboro Country Club in Lynchburg to help the club in its longrange master plan to renovate and restore the courseoriginally designed by Fred Findlay in 1927. George has also done renovations at Birkdale, Kiln Creek in Newport News, Fort Lee and Hanover.

BETHEL, Conn. - The Parks and Recreation Commission here is taking a step toward the creation of Bethel's first public golf course. The commission recently earmarked \$7,000 in its 1995-96 budget for a feasibility study of converting part of a town-owned parcel near the Francis J. Clarke Industrial park on Route 53. The idea of a municipal course in Bethel has been floating around for years. The commission does not have a cost estimate for building the golf course. But Timothy Burke, director of the Parks and Rec, said taxpayers won't bear the financial burden of any such project.



AND FAZIO MAKES TWO...

The new, Hale Irwin-designed golf course at Cordillera (above) — the 3,100-acre mountain-top community overlooking Vail Valley, Colo - will soon have a sister course. Slated to begin construction this spring, the new course will be designed by Tom Fazio. Situated at a 6,500-foot elevation, it will be called the Valley Course, in contrast to Cordillera's 8,250-foot-elevation Mountain Course (see above), designed by Irwin and opened in 1994. An additional short course is slated to begin construction in 1996.

Conference focuses on Asian management

By HAL PHILLIPS

KUALA LUMPUR, Malaysia - The supply of club managers in Asia-Pacific has never met demand and, as golf course development continues to boom in the region, the need for experienced club managers becomes more and more critical.

With this in mind, the International Association of Golf Course Managers (IAGCM) will stage the first certificate course in "Club Operations and Golf & Country Club Management," beginning Oct. 1 here at the Pan Pacific Glenmarie

This program is being held first in the Asia-Pacific region, as there is an acute shortage of qualified golf & country club managers in the region, especially Malaysia," said Jiun Siew, IAGCM secretary.

"Many in the club management profession have risen through the ranks. Very few have achieved degrees in the hospitality field. The ever-changing climate of golf & country club management demands a highly qualified, highly trained professional who can manage the changes occurring daily."

The IAGCM is a non-profit body formed in 1899 to provide for and enhance the international professionalism of the golf club manager. The association is the only one of its kind to represent managers on an international scale, according to C.K. Leong, attorney for IAGCM.

The intensive six-week course will begin Oct. 1 and conclude in mid-November. According to Leong, the program is

Continued on page 5

Former ranch may serve as backdrop for eco-showdown

By J. BARRY MOTHES

KNIGHTS FERRY, Calif. - A historic Stanislaus County cattle ranch has become the scene of what could be a landmark legal shootout over development of golf courses on farmland.

Plans to build a 600-acre golf resort on the hilly, dry terrain of Willms Ranch near Knights Ferry have put state farmers, environmentalists and the attorney general's deputies on the same team in a fight against developers and county supervisors.

Who wins may determine what can go on state-protected farmland in the future. The legal battle also may decide whether landowners will get tax breaks for putting recreation developments, such as golf courses, on agricultural land.

The National Audubon Society filed a lawsuit to stop the Willms Ranch project but received an adverse ruling from a Stanislaus County Superior Court judge. From there, the environmental group appealed its case to the 5th District Court of Appeals in Fresno. The California Farm Bureau and the state have joined in support of the Audubon appeal.

Meanwhile, back at the ranch, the Willms family wants to build a worldclass golf course and resort called Wildcat Creek Resort on the 2,500-acre ranch it has owned since the mid-1800s. The plans include a public 18-hole golf course, driving range, restaurant, bar, meeting room, tennis courts and swimming pool.

State officials said the project is symbolic of the disintegration of the Williamson Act, a 1965 state law that gives a tax break to farmers who promise to keep their land in agricultural production for 10 years.

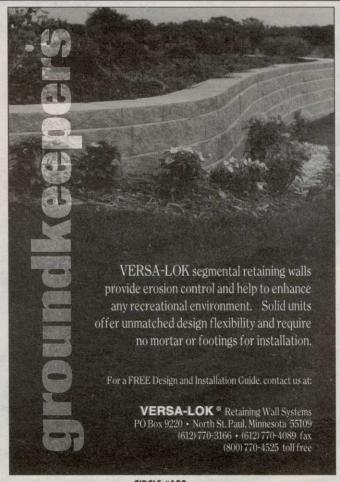
The project was approved by the county Planning Commission and

Continued on page 6

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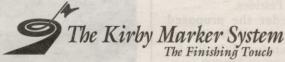
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Florida's World **Golf Village** expands, again

ST. AUGUSTINE, Fla. - Despite indictments and charges of conflicts of interest against some commissioners, the St. Johns County commissioners have voted to sell \$11 million in revenue bonds to build a convention center at the planned mammoth World Golf Village golf resort and residential development that will include a Golf Hall of Fame.

One commissioner, Moses Floyd, has been suspended after a grand jury investigation of the commissioners' relationships to the project led to charges against Floyd of seeking illegal gain and two counts of perjury. Two other commissioners who own land near the development were accused of conflicts of interest but were eventually cleared. A subsequent ethics complaint has been filed against one of two.

The project, known as the St. Johns Development, is predicted to draw up to a million tourists a year to the Golf Hall of Fame, a championship golf course and resort. In all, St. Johns will include 7,200 homes and about 6.4 million square feet of commercial, industrial and office space. Construction is expected to start this year.

PGA Tours and John Q. Hammons Hotels - the developer and one of the builders in the project — brought out former major league baseball commissioner Bowie Kuhn, who lives in St. Johns County, and PGA Tour Commissioner Tim Finchem to speak in support of the project before the commissioners approved the bonds sale.

Palmer to design municipal facility in Palm Bay, Fla.

PALM BAY, Fla. - The city picked a Riviera Beach developer to build a \$5.1 million, 18-hole municipal golf course designed by Arnold Palmer.

The developer, JTH Development Corp., has agreed to cover all costs to build the course on a 248acre, city-owned site in the southwest area of the city.

The project also includes a golf school, miniature golf course and passive recreation area, according to JTH Development Corp. representative Milt Petrides.

Under the proposed agreement, JTH will lease the site from Palm Bay for 30 years at \$80,000 annually. After 30 years, the city would own the course.

After inquiry, super agrees to resign

HOLLYWOOD, Fla. - The superintendent of a city golf course who was accused of making racist and anti-Semitic remarks reached a deal with the city to allow him to resign rather than be fired.

Alan Bunn, who had run the city-owned Orangebrook Golf Course since 1988 and oversaw a 38-person staff, was fired in November 1994 from his \$43,035-a-year job after a city inquiry into derogatory

comments he made about blacks and Jews. Bunn denied making the comments, but an investigation by the city's Office of Equal Opportunity and Affirmative Action found a "hostile environment" at the golf course.

Bunn was planning to appeal his firing but a deal was worked out between lawyers that reinstated Bunn to his job temporarily with the understanding he would resign.

Port St. Lucie mulls course plans

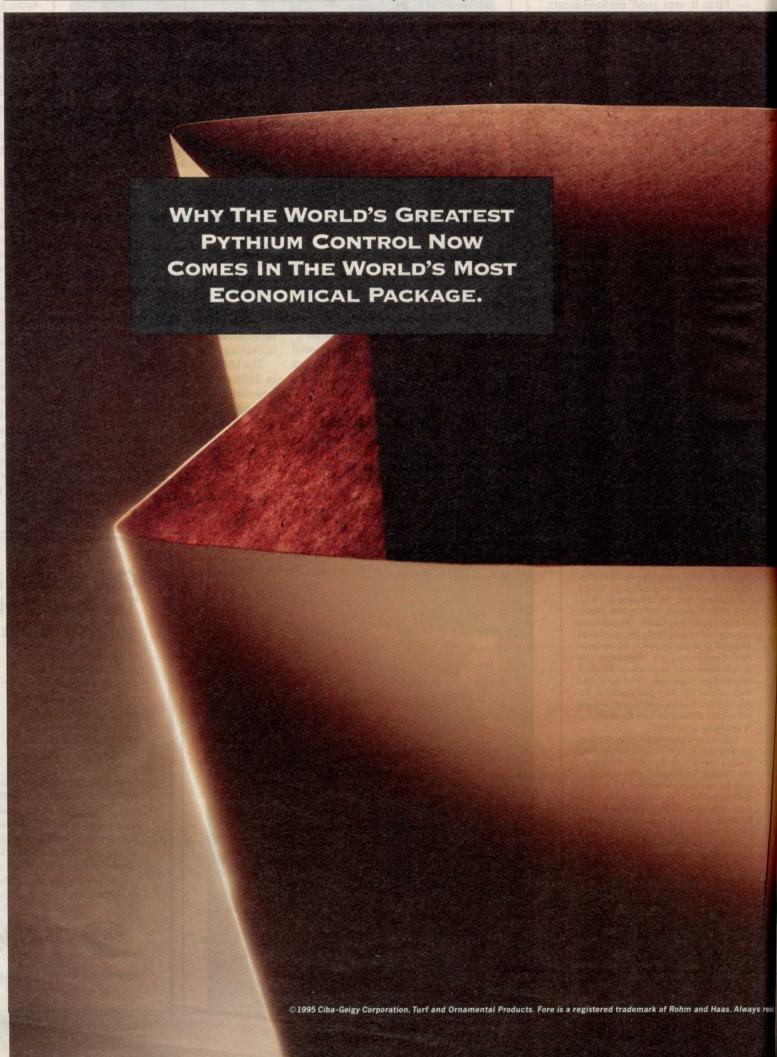
PORT ST. LUCIE, Fla. - If the City Council here gets its way, watching the New York Mets work out in pre-season spring training may not be the only draw in this Treasure Coast city. Indeed, if the strike isn't settled soon, the need for golfing diversions would be even more pressing.

The council has proposed buying 290 acres in the heart of the city in order to build an 18-hole municipal golf course, a park and possibly a community center or aquatics facility.

Port St. Lucie officials said the deal could be financed entirely with proceeds from the course.

City Council members now want to find out whether local residents want a public golf course and, in particular, a golf course on the particular piece of land in question.

City Manager Don Cooper said the city could pay between \$4 and \$5 million for the 290 acres off Westmoreland Boulevard, land that currently includes the nine-hole Wilderness Shores Golf Course.



Tatum, JMP plan private walking course in Monterey

MONTEREY, Calif. — Imagine, a golf course where all except those with physical disabilities would be required to walk ... with caddies.

That's the plan at an exclusive golf course proposed by developers of Rancho San Carlos on the scenic south ridge of Carmel Valley. An 18-hole golf course and 15,000-square-foot clubhouse are part of a use-permit application submitted to the county by the Rancho San Carlos limited partnership composed of the Pacific Union Co. of San Francisco and Daishinpan Ltd. Inc., a financial firm based in Osaka, Japan.

Sandy Tatum, former president of the U.S. Golf Association, is working with the J. Michael

low label directions

Poellot Golf Design on the project. Tatum envisions the club as a private, proprietary club with about 250 members from around the world.

Several landowners near the proposed golf course site have said they oppose the proposal because of concerns that runoff of pesticides, fertilizer and irrigation water (some of it treated sewage) could contaminate nearby watersheds that provide water to the peninsula. There have also been concerns raised about the effect on the wildlife habitat, including eagles. A draft environmental report by Jones and Stokes of Sacramento is expected later this month, with hearings on the development as early as July.

Calif. county to bolster public golf portfolio with five courses

With as many as five public S.C. A 1992 study released by the golf courses proposed for development and others possibly on the horizon, golf is becoming the new growth industry in Ventura County.

Golf courses are being proposed by the county, some cities and private developers. Each says the demand is high, and some even say there is potential for Ventura County to become a golf destination, though not on the scale of Palm Springs or Myrtle Beach, county said at least seven courses are needed to ease overcrowding on county courses. Golfers play 1.2 million rounds annually on Ventura County's 13 public courses. By comparison, the Coachella Valley has more than 80 public golf courses.

Some of the courses being proposed or built are:

- · Camarillo Regional Golf Course. The county will offer the developer a ground lease and get a split of the revenue.
- · A proposed 18-hole course on 151 acres in Thousand Oaks would be a joint project between the city and county.
- · Moorpark. Two courses proposed here will be privately owned public layouts.

Asian conference

Continued from page 3

designed for fresh university graduates interested in a management career, experienced managers looking to enhance their skills, and club owners interested in further their knowledge of club operations.

Attendees will receive valuable instruction from industry experts in the areas of club operations, food & beverage, agronomy and accounting. Amongst the panel of experts leading instruction will be two well known members of the U.S. golfindustry: Larry Gerstner, coauthor of "Club Operations and Management;" and Mike Peterson, assistant director at the PGA National Academy of Golf and former director of Junior Golf for the PGA of America.

Conferees will also have the opportunity to network with managers who run some of the top clubs in Asia-Pacific and tour existing operations in the region. The hospitality portion of the course will be administered by the International Institute of Golf Course, Hotel & Resort Management.

The program will be officiated by Dato' Dr. Affifuddin bin Hj. Omar, parliamentary secretary to the Malaysian Ministry of Finance, who holds his doctorate degree from Cornell University. Graduation certificates will be presented by Malaysia's Deputy Minister of Human Resources, Dato' M. Mahalingham.

Lloyd Daser, general manager of the Pan Pacific Glenmarie Resort, is providing attendees a special rate of US\$22.50 per night with breakfast on a triple sharing basis. In addition, the IAGCM has secured special arrangements plane fares through Malaysia Airlines System. Registration is encouraged before the May 28 deadline.

For more information, contact Simon Hanley at IAGCM administrative center here in Kuala Lumpur by calling 603-443-7000, or faxing 603-443-7001.

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Texas state park project moves forward despite opposition

HOUSTON, Texas - State parks officials will proceed with the \$1 million expansion of Bastrop State Park Golf Course despite a decision by the National Parks Service not to help fund the project.

The Texas Parks and Wildlife Department had applied for a \$500,000 matching federal grant to expand the nine-hole golf course at Bastrop State Park, about 30 miles east of Aus-

The project garnered little notice until environmentalists rented a billboard to warn residents that \$1 million in tax dollars would be used to expand a golf course.

The Park Service turned down the grant request to the surprise of Texas Park and Wildlife officials, who made it clear the state agency had never indicated any problem with the re-

State Parks Director Ron Holliday said the state still plans to expand the golf course. Officials have pledged the 34-acre expansion at the state park would not affect at least 4,000 acres of the Lost Pines ecosystem and the Houston toad habitat.

The National Park Service however received about 100 petitions with about 2,000 signatures opposing the project.

Shiloh Falls gets OK on 18th hole

WEST SHILOH, Tenn. - All last summer the Marriott's Golf Club at Shiloh Falls near the Shiloh National Military Park had the unusual distinction of being a 17-hole golf course.

The course was missing its signature 15th hole — a dramatic par-3 with a 95-foot drop off from the tee to a green surrounded by water - because of construction delays over environmental violations and concerns over erosion into Pickwick Lake.

Course owners have since paid about \$85,000 in various fines for failing to obtain proper permits, environmental damage and illegally cutting timber.

However, they were recently given the green light to finish the course and construction is underway, according to David Clark, the course's director of

Clark said the 15th hole will be playable by late May or early June. The course's most striking hole, with a waterfall backdrop, has a 95-foot drop and will play from a maximum length of 180 yards.

Calif. shootout?

Continued from page 3

Board of Supervisors, who argued the proposed resort would be a good use of less productive farmland in an area that's trying to pump up its tourist economy.

Willms Ranch, however, is under the Williamson Act contract, which means the owners have agreed to keep the land in agricultural production in exchange for tax breaks. The 10-year contract reduces tax bills by an average of 40 percent. The law was designed to continue taxing farms as farms instead of as potential subdivision land. It aims to keep farmers from succumbing to development pressures in order to meet high tax bills. The contracts essentially allow property to be assessed at current income level. The state then reimburses counties for part of the lost property taxes. The state paid out \$35 million last year to make up for Williamson Act enrollments.

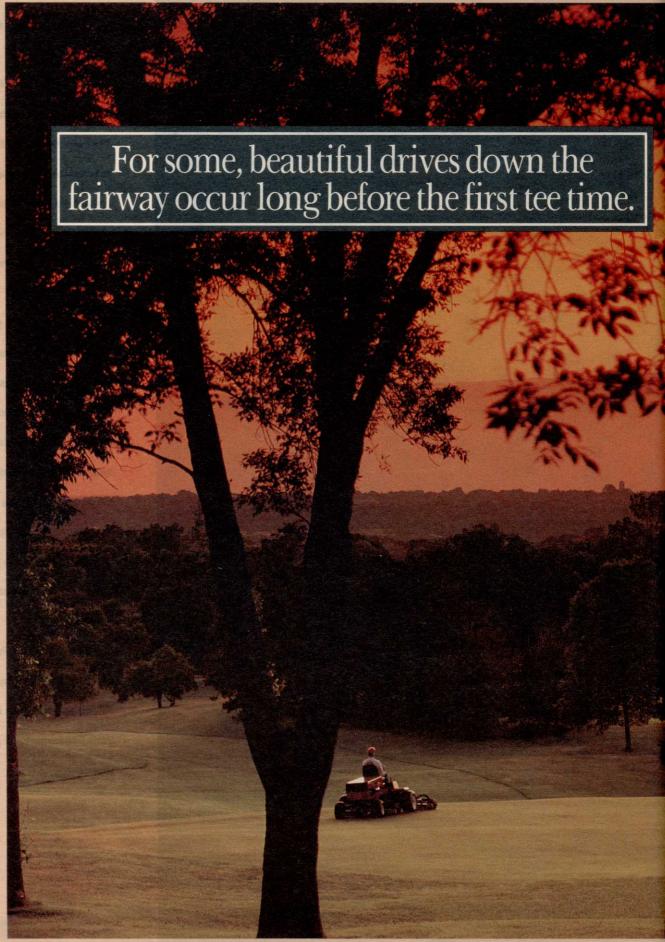
In the past, landowners with Williamson Act contracts who wanted to develop golf courses tried to cancel their contracts, paying hefty fees. Now more and more landowners are trying to argue that golf courses are allowed as a recreational use under the Williamson Act, letting them get other tax breaks and still develop the land.

The lawsuit's petitioners argue that recreational uses on state-protected farmland shouldn't displace agricultural production.

The Willms Ranch case is expected to set precedents for future development proposals on Willimason Act farmland. The case also will shed light on a new law that went into effect Jan. 1 tightening up the definition of what recreational uses are allowed on Williamson Act farmland.

The law doesn't specifically target golf courses, but it bars recr ational uses on Williamson Act land that would hamper a farm's long-term productivity or displace the agricultural use of the land. The new legislation was aimed at stopping some of the more adventurous proposals for Williamson Act land, including gravel pits and horse-racing tracks.

The bulk of the Willms property would remain a cattle ranch.



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N.C. plan needs builder, operator

KINSTON, N.C. — This small city about 50 miles inland from the North Carolina coastwill soon be getting its first 18-hole golf course. But not everyone agrees on who should build and run it.

The city of 26,000 has been studying the need for a public course for the past year and looked as if it were headed for a municipal course until a local resident, Judge Rodney Goodman, announced he was interested in building a privately-financed public course. The mayor and City Council said the

KINSTON, N.C. — This small private sector initiative was a good idea, though some fear it to North Carolina coast will soon could become a private layout.

Doug Spear, the consultant working for Goodman, said the proposed course, Timberlake, would open as a daily-fee operation and likely remain so.

Construction on a city-owned or privately built course is scheduled to start in late summer. Spear said if the city decides to go ahead with building and running its own golf course, Goodman's Timberlake proposal would probably be delayed.

Raddison comes to La.-Texas border

TOLEDO BEND, La. — The Toledo Bend Reservoir area that divides Louisiana and Texas south of Shreveport has long been called "the sleeping giant." But that name won't fit much longer.

An 18-hole golf course, a 100-room Radisson Hotel and condominiums are currently under development. The project also includes plans for a marina, conference center and large fishing pavilion.

Over the next five years there are also plans for 200 miles of walking, biking and horseback trails.

The massive Toledo Bend Reservoir was created 25 years ago by damming up the Sabine River which forms the boundary between Texas and Louisiana. There are already more than 60 campgrounds, RV parks and marinas and 333 housing developments scattered along the shoreline.

Suit can't stop Mississippi state park project

McCOMB, Miss. — The state is moving ahead with construction of a golf course at Percy Quin State Park in southern Mississippi despite a lawsuit aimed at halting the work.

Bob Tyler, director of parks for the state Department of Wildlife, Fisheries and Parks, said work on an 18-hole golf course and smaller par-3 layout is on track, including the cutting of timber. The park is about 60 miles south of Jackson near the Mississippi-Louisiana border.

Meanwhile, a group of citizens and park users has asked the Pike County Chancery Court to prohibit the clearing of forest on 320 acres of park property. Malcolm Allen, a Pike County businessman and a leader of the opposition to the project, said the group is trying to stop the cutting. Allen said there has been no environmental study.

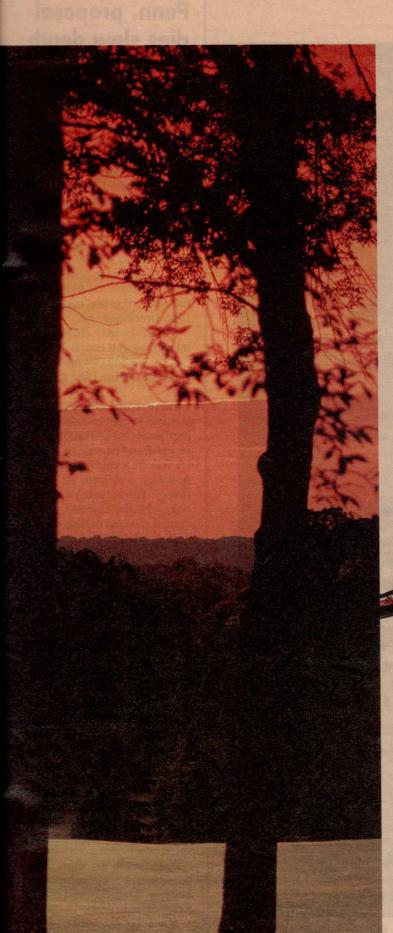
The opposition has also had its share of intrigue. Pike County Circuit Judge Keith Starrett initially signed a letter with Allen's group in late February asking the state wildlife agency not to cut any timber and to hold a public hearing. Since then, Starrett said he signed the letter by mistake. He said he opposes wholesale clear-cutting but wouldn't be opposed to minimal cutting for fairways.

Gregg's Landing receives okay

VERNON HILLS, Ill. — With a name good enough for a network cult series, a luxury golf course and residential development to be known as Gregg's Landing will be built on one of the last remaining large tracts of open space in central Lake County north of Chicago.

The Vernon Hills Village Board recently gave unanimous approval to a plan by Zale Cos. of Buffalo Grove for a maximum of 2,130 homes and townhomes on 1,110 acres of former Cuneo Farm land. Expected to attract about 4,200 residents, the development would increase the population of Vernon Hills by about one-third. An 18-hole public-access golf course designed by Dick Nugent and Associates will be located within the development. The course will be run by the village.

As part of an agreement with the village, the Zale group has promised to donate \$1 million each year for two years to a local school district. It will also pay for widening streets and improved traffic signals. It is also supposed to donate roughly 300 acres of open space to the village including land for parks, two lakes and the golf course.



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CIRCLE #105

Stray golf balls the subject of lawsuit

LEXINGTON, Ky. — The folks at Bailey's Mobile Home Park in Nicholasville have flat out had it with stray golf balls from the next-door Plantation Links Golf Center.

And they're going to court for relief.

Five residents have filed a lawsuit in Jessamine Circuit Court to force the driving range-centered golf facility to keep golf balls off their property and to recover more than \$7,500 in property damages ranging from dents in cars to broken windows and punctured siding. Residents say the incoming golf balls have ruined their quality of life and pose a constant hazard.

The golf center operator, Tee Time Development, said it has tried to work with the property owners to minimize the potential for problems, including closing one set of tees.

Three courses slated for St. Louis' Metro East sector

EAST ST. LOUIS, Ill. — Three new golf course developments are planned for an area known as Metro East within 15 minutes of the famous Arch in downtown St. Louis just across the Mississippi River.

The biggest of the three projects is planned for the East St. Louis riverfront: a state-of-the-art golf complex with an 18-hole course and a 40,000 square-foot conference and banquet center. It will be developed by the Koman Group, which owns the Casino Queen and will be managed by Hale Irwin Golf Services. City officials hope the golf course will drive development of condominiums, apartments, hotels and other attractions.

In Centreville, extensive renovations are

underway at the Grand Marais Golf Course. In recent years, the course has suffered from soggy greens and flooded fairways. But a new management team has pumped in millions of dollars to make improvements. Through substantial renovations, the course now has rolling hills, smooth greens and 11 new lakes. In November, developers also opened a new 9,600 square-foot clubhouse.

Lastly, Cahokia city officials are working out financing for a new \$5 million, 18-hole municipal golf course. Construction is scheduled to begin this spring. The course, to be located next to Cahokia Park, is being developed by Fairway Golf Development Inc. and built by Svendsen Builders Inc.



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CIRCLE #106

Penn. proposal dies slow death

READING, Pa. — A golf course proposal that the Reading Water Authority has been puttering with for the last three months has been taken off the agenda indefinitely.

The authority first showed interest in building a golf course at a site at Lake Ontelaunee last November. It then changed the proposal to a site at Lake Antietam after deciding opposition from environmentalists would be too strong. There has been as much opposition to the Lake Antietam site from the initial core group that opposed the Lake Ontelaunee site.

So far, the only official action taken on a golf course proposal has been a \$12,000 topographical survey of the Lake Antietam site.

For now, the authority has said it wants to concentrate on solving a projected \$860,000 revenue shortfall and pursuing a city water system, according to Michael A. Setley, a solicitor for the authority. The authority's negotiations with the city over a water system and land holdings are expected to determine how quickly, if ever, the idea of building a golf course will resurface, and who would have the ultimate authority to approve such a proposal.

Conn. voters nix Timberland site

GUILFORD, Conn. — Voters in this small town on the Connecticut shoreline just east of New Haven have overwhelmingly rejected a plan to build an 18-hole golf course inside a 590-acre town forest called the Timberlands.

According to the town clerk's office, nearly 3,800 residents voted by a 3-1 margin in a special referendum to not allow a proposed 290-acre golf course to be built in forest in the Guilford Lakes area.

The vote, however, referred specifically to siting the course in the Timberlands. The town's Golf Course Committee may now look for another location.

Professional Products Team

Daily-fees still absent from Las Vegas boom

LAS VEGAS, Nev. — Southern Nevada already has carved a niche for itself on the national golf scene with 30 public and private golf courses and a number of big-money professional tour events.

But the consensus among golfers, various city officials and developers is that there is still a desperate need for more courses, particularly daily-fee facilities.

How desperate? One feasibility study has shown that at its current rate of growth, Southern Nevada could handle 15 new courses right now and 27 by 1998.

Relief is on the way. Within the next three years, 15 new public-access courses will either open or begin construction. Several private courses are also planned.

The first wave of new courses includes the Arnold Palmer-designed Oasis Golf Club in Mesquite, which opened in mid-February, and the Pete Dye-designed Nu-Waiv Kaiv course which opened in early March on the Las Vegas Paiute Resort.

By fall, the Johnny Miller-designed course at Peccole Ranch will open as will an 18-hole executive layout in Sun City by the team of Billy Casper and Greg Nash.

Stop-gap range for Baltimore?

BALTIMORE, Md.—It might only be temporary, but two developers here want to build a golf training center on a 27-acre peninsula until the market is ready for major development.

Richard Rymland and Robert Latshaw want Allied Signal Inc. to let them build the center on oncecontaminated land that the company spent millions to clean up.

Allied plans to build a \$200 million residential, office and retail complex on the site of a former chrome plant but that idea is on hold until the real estate market improves.

Rymland and Latshaw have proposed a \$2.5 million golf center — not large enough for a full nine-hole executive course — that would include several par-3 holes, a practice area with sand traps and a driving range. The developers are reportedly interested in leasing the land from Allied for seven to 10 years.

If the two sides agree on the project, the golf center would be modeled after a Chicago golf center opened last July. That development, a par-3 golf course called the Illinois Golf Center, is within walking distance of the business district and has been a haven for downtown business types since it opened.

So far, representatives of various waterfront and harbor groups — including the Baltimore Harbor Endowment — have said they favor the idea.

Meanwhile, Primadonna Resorts has commissioned Tom Fazio, who worked with Mirage Hotel owner Steve Wynn on Shadow Creek in as Vegas, to create a new course later this year on 450 acres in California near Stateline. A second course is also included in the master plan.

Bobby Weed, who designed the Tournament Players Club in Summerlin, will join Raymond Floyd for a TPC resort course that will be open for public play.

By year's end, the Mountain Spa development, located south of Floyd Lamb State Park in northwest Las Vegas, will begin work on a 27-hole, Bob Cuppdesigned complex.

Jack Nickalus' first local course, SouthShore, will debut later this year at the private Lake Las Vegas.

Also on the drawing boards is a proposed Mount Charleston resort course and four new Henderson golf communities — the Sun City-MacDonald Ranch project, Palm City, Seven Hills and Foothills at MacDonald Ranch.

Blackwolf, Lawsonia have company

FOND DU LAC, Wis. — East Central Wisconsin may not yet be mentioned in the same breath as Myrtle Beach, but construction of the \$3 million, 18-hole Whispering Springs Golf Club here is the latest step in the region's growth as a golf destination.

Whispering Springs will be located between Lawsonia Links in Green Lake and Blackwolf Run in Kohler — both strong golf destinations in the region.

Whispering Springs, designed by Bob Lohmann, will feature a state-of-the-art practice facility: a 350-yard driving range, island green, a pair of target greens and two greens adjacent to sand bunkers.

The first nine holes are scheduled to open in July 1996 with the second nine set for a month later.

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CIRCLE #107

OSU eyes NCAA tourney, after Cupp renovation

NORMAN, Okla. — A \$4.1 million renovation of the University of Oklahoma Golf Course by Atlanta architect Bob Cupp is expected to transform the course into a worthy site for an NCAA Championship.

The biggest and most important improvement will be a wall-to-wall irrigation system. The course, originally designed by legendary architect Perry Maxwell, has suffered in Oklahoma's hot summers without such a system.

The renovation has been delayed and argued over for years, but the renovated layout is expected to open in April 1996.

Part of the problem surrounding the renovation has been the concern over maintaining the Maxwell design.

Although the routing will change dramatically, the course will keep the Maxwell look with little dirt movement and flashed-up bunkers. The greens will be enlarged to meet United States Golf Association recommended standards but will continue to have the subtle Maxwell contours.

There will also be a new 11,000-square-foot practice facility with a chipping green and two putting greens.

Plans for Wash. state's first 36 on the table

SEATTLE, Wash. — A proposed golf complex in the suburb of Marysville that could become the state's first 36-hole facility is under review by the Snohomish County Planning Department.

Evergreen Golf Design Inc. hopes to build the project on a wooded 295-acre site just north of Lake Stevens and east of Marysville in an area of horse pastures and homes. Evergreen built the 27-hole Battle Creek Golf Course five years ago on the Tulalip Reservation near Marysville.

Evergreen hopes to begin construction this fall and open Lake Cassidy Golf Course in June 1996 with an 18-hole golf course and driving range.

A Lake Cassidy Citizens Coalition has formed to fight the proposal. The coalition is concerned with runoff from the proposed golf course and a possible depletion of groundwater. Part of the course would also lie near a Centennial Trail and there are nearly eight acres of wetlands on the property.

Planners are scheduled to decide by April 13 whether Evergreen must do a full environmental-impact study.

Co-operators to create rival facility?

MIDDLEBURY, Ind. — The co-operator of the Cedar Lake Golf Course here in LaGrange County plans to build a new 18-hole public golf course just outside town that could be in operation by June 1996.

Al Franko said the proposed 185-acre development will include a pro shop, snack area and driving range. Franko will develop the golf course, which will be named

Spring Meadow GC.

Franko's partners are Tom Mortola and Gary Zimmerman, who are also involved in Cedar Lake. Franko, Mortola and Zimmerman have run the Cedar Lake facility for more than three years.

Franko said Spring Meadow — which is awaiting financing approval — will be a medium to high-end public access course.

Arizona course remains on block

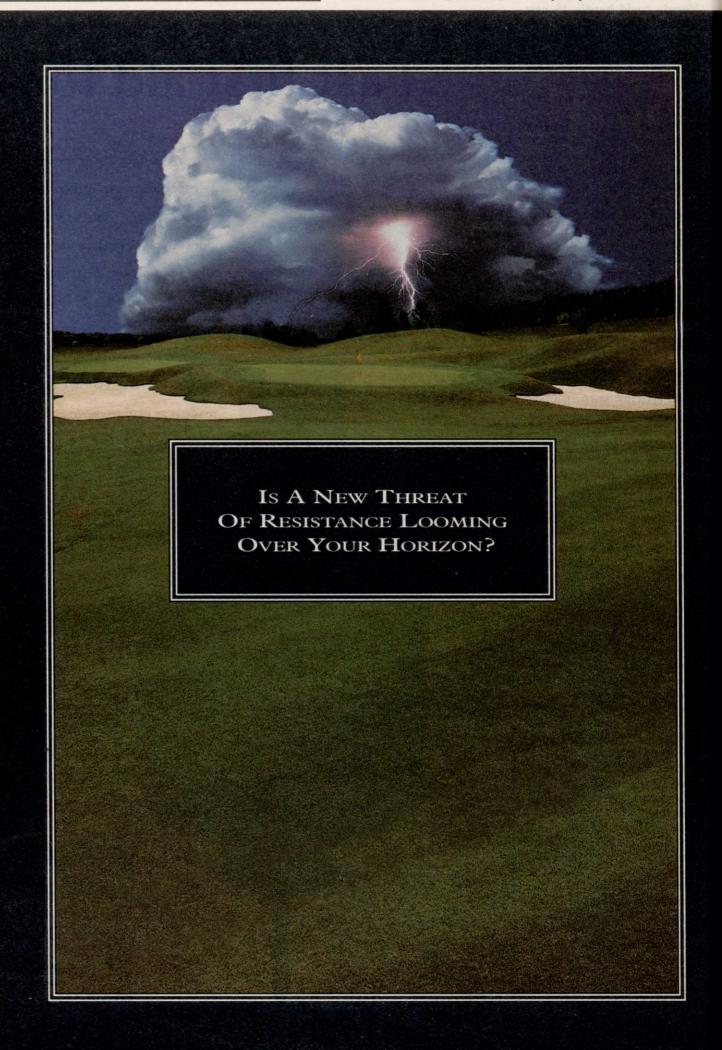
ELOY, Ariz. — The 18-hole Eloy/Tohono Golf Course is still up for sale with eased bidding rules. The changes in bid rules include no minimum bid requirement, an open listing for real estate brokers who would get a 4 percent commission to be paid equally by the seller and buyer, the inclusion of course equipment, and an itemized breakdown of the golf course budget.

Eloy City Manager Chris Zapata said the city currently provides about \$300,000 per year to subsidize the course. After

expenses for maintenance and operation, there is a yearly \$137,436 payment due.

The size of payment goes up to \$274,872 for 1996 and 1997 and rises to \$439,872 in 1998, the amount the city would pay through 2011. The total payoff left on the course is approximately \$2.4 million.

Eloy voters approved the sale of the course last September. Part of the sale package is providing 500 acre feet of effluent or Central Arizona Project water for a 20-year period.



President Murphy, 10 committee members re-elected at USGA

BEVERLY HILLS, Calif.

— Reg Murphy, who joined the Executive Committee of the U.S. Golf Association in 1988, has been re-elected to serve a second one-year term as president of organization.

The election of officers and the full 16-member Executive Committee also took place here at the organization's annual meeting.

Murphy, 60, of Baltimore, Md., is executive vice president of the National Geographic Society. He has spent his career in the publishing business, retiring as president and publisher of The Baltimore Sun in 1992. He is a member of Caves Valley Golf Club, in Owings Mills, Md., where he carries an 11.5 USGA Handicap Index.

For the USGA, Murphy will continue leadership of a 16-member volunteer Executive Committee. Other officers elected for one-year terms are vice presidents Judy Bell, of Colorado Springs, and F.

Morgan Taylor, of Hobe Sound, Fla.; Gerald A. Stahl, of Rochester, N.Y., as secretary; and Trey Holland, of Zionsville, Ind., as treasurer.

In addition, 10 others were re-elected to the Executive Committee and one person was elected for a first term. Those re-elected include Richard Bennett, of Anoka, Minn.; David Boyd, of Atlanta, Ga,; Thomas Chisholm, of Southfield, Mich.; James Curtis, of Seattle, Wash.; Peter James, of Pacific Palisades,

Calif.; Reed Mackenzie, of Minneapolis, Minn.; John Merchant, of Fairfield, Conn.; Fred Ridley, of Tampa, Fla.; Richard Stroud, of Santa Clara, Calif.; and Carol Semple Thompson, of Sewickley, Pa.

S. Timothy Kilty, of Bay Village, Ohio, a member of the USGA Sectional Affairs Committee, is a new committee member. D. Ronald Daniel, of New York, N.Y., who served as vice president in 1994, is retiring from the Executive Committee.

Ike Grainger awards go to 64 honorees

FAR HILLS, N.J. — The United States Golf Association has established the Ike Grainger Award in recognition of its former president and will honor the first 64 recipients throughout the year.

Grainger, who turned 100 on Jan. 15, was the USGA president in 1954-55 and celebrated 50 years of service to the organization in January.

The award in his honor will recognize people who have volunteered their time and talents to the game for 25 years.

Honorees include several people from the turfgrass field including Dr. Glenn W. Burton of the University of Georgia in Tifton; Dr. Joseph M. Duich, professor emeritus of Penn State University; Dr. Roy Goss of Naalehu, Hawaii, professor emeritus of Washington State University; David O. Miller, former superintendent and current general manager at Saucon Valley Country Club Bethlehem, Pa.; superintendent Sherwood Moore of Brewster, Mass., former president of the Golf Course Superintendent Association of America; and Dr. Joseph Troll, professor emeritus at the University of Massachusetts.

Among the other awardwinners are course architect Alice Dye; Hord Hardin of St. Louis and Naples, Fla., past chairman of the Masters; and USGA Past Presidents William C. Campbell of Huntington, W.Va., Elbert S., Jemison Jr. of Birmingham, Ala., and Harry W. Easterly Jr., who also served as executive director; and Pine Valley Country Club President Ernest L. Ransome III.

The threat of resistance is very real.

Reports are coming in that repeated applications of the same family of fungicides

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Spot and Leaf Spot are
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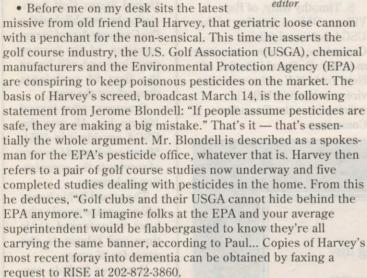
CIRCLE #108

Correction

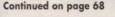
Due to a reporting error in the February issue, there was a mistake in the story concerning Lee Trevino and Eighteen Construction of Jackson-ville. Trevino has no ownership interest in the construction company but is the architect for a proposed 27-hole project in St. Petersburg, Fla., involving Eighteen Construction.

Our pal Paul, direct advice & the old Mark

ust a few things to jot down before they slip into the great abyss of memory's darker recesses, never to be found:



· A quick note to all you distributors out there who read our story on page 1 in February's edition ("As distribution shrinks, firms go factory direct"): By acknowledging that many smaller firms are employing direct-marketing techniques, the reporter (in this case, me) was not urging people to go factory-direct. I was simply reporting on a phenomenon that no one disputes. If I was to give advice on the subject - something I wouldn't dream of doing, considering my scandalous lack of experience in the distribution biz - I would urge folks to read this month's letter from Bill Liles (see below). If the consumer perceives there to be





Media and environmentalists take shots from colleagues

h, the Golf Course Show. A time of education. A time to renew friendships. A time to entertain. And, this year, time for longtime enemies of the golf industry to point accusing fingers at their colleagues:

· Case-in-Point One: ABC-TV consumer reporter John Stossel, admitting that "in many ways I've been part of the problem," added: "Here is where we in the press have done such a bad job... We practically run from scare to scare. We say this kills people, that kills people. We have focused on the dramatic in an interesting way - economics. It sells newspapers. It gets more people to watch our programming...'

Stossel put pesticide risks into a context you rarely see mainstream reporters do, saying: "Do we ever put it in perspective and rank the risks? No. Buckets kill 50 people a year. Garage doors kill six. It's a big country..."

While flying takes one day off the average life and fires (killing 4,500 people a year) 18 days, Stossel said pesticides take 27 days off ("Many scientists we talk to said there is no evidence pesticide

residues kill anybody," Stossel noted, "but the worst study we could find predicted 6,000 cancer cases. Let's say that is true and they all die and another 10,000 people die."). Murder (47,000 annual deaths) accounts for 113 days; smoking 5.5 years.

"Compare this to driving. Pesticide use is hardly a risk. Compare it to smoking: Five and a half years. It points out the absurdity of the smoker worrying about his cellular phone giving him brain cancer," he said.

· Case-in-Point Two: Audubon Society of New York President Ron Dodson, speaking on environmental groups: "Many have become top-heavy, bureaucratic, increasingly

Continued on page 50

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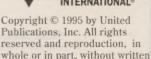
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Letters

CHEMICALS ARE NOT A COMMODITY

To the editor:

Your article on distribution (Feb. '95, page 1) was very appropriate at this point in time for the industry. Everyone is facing increasing marketing cost, regulations, registration and competition. In face of these rising costs, manufacturers, suppliers and distributors must develop long-range plans and strategies to be successful. Those that do will survive, and those that don't will disappear.

The comments regarding fertilizers and chemicals as commodities is correct to a point. And that point is, in our particular industry - developing and marketing turf protection products - we must continue to upgrade and improve our people, products and services to avoid becoming commodities. I, therefore, would take exception with the conclusion in the article that specialty chemicals are currently a commodity.

Turf and ornamental marketing requires specialized products, formulations, packaging, technical information and distribution. This is unique to our market and differentiates us from row crop agriculture. We have a distributor to end-user distribution system (unlike agriculture which is distributor/ dealer/end-user distribution process) and if this system can continue to successfully meet the manufacturer and customer needs, direct marketing by manufacturer will not happen.

So, how will those distributors now servicing this industry continue to be successful? By adding value to their services to customers. No big secret, but something few distributors put forth effort to do. If current distribution system doesn't make this change, they will lose to the low-price marketer that is larger and more efficient.

I'm sure you will receive several letters from the distribution trade, some of them our distributors. Our message will remain the same: Have a sound plan, quality people and sell the value of your people, products and services!

B. R. Liles, director Ciba Turf & Ornamental Greensboro, N.C.

USE THE MEDIA FOR YOUR PURPOSES

To the editor:

Golf course managers who recognize the power of the press can attribute a great impact on their businesses. The dissemination of positive information about a course and its services is cost-effective, and is read as accurate and objective. It reaches the masses while not perceived as a paid advertisement. Make certain, however, your club is very well prepared to handle the business fostered by writers, reporters and editors.

The advice here is to approach communication via editorial as "the last free enterprise in America." This is precisely why

concerted efforts should be made to enhance positive working relations with the print and electronic media.

Billy Casper Golf Management, Inc., for one, prides itself in an open door policy with the media: event invitations, mediaonly tournaments, frequent player cards and flexibility with tee times often extended to the media. In some cases, we actually formalize a small media entertainment budget.

Reciprocal efforts come through "golf tips" columns authored by PGA professionals, as well as appearances on radio and local TV sports shows to speak about area golf, improving listener/viewer golf skills, and (to a supplemental albeit camouflaged degree) the benefits of your own course. You cooperate with the media, and press releases about tournaments, activities, special offers, and capital improvements at the course are "picked up." Furthermore, editorial placements can even be in lieu of budgeted advertising expenditures.

Take note, managers: Get to know and support local editors and producers. Media relations, community relations, word of mouth, frequency of name reinforcement, and golfer interest in your course are closely correlated. The payoffs are increased traffic flow and a healthier bottom line.

> Rich Katz, director Billy Casper Golf Management, Inc. Vienna, Va.

AND FOR OUR NEXT TRICK... VIEWER MAIL

Barbara B. Beall, who is married to Glens Falls (N.Y.) Country Club superintendent Chris Frielinghaus, submitted the following Top 10 list, in the spirit of David Letterman, Behold! The top 10 things she has observed being married to a superintendent:

10) He is the only person in the family who gets undressed outside the house at the end of his work day.

9) "My husband has really strange tan lines."

8) "He never listens to what I have to say when he gets home, but listens to every word that Jenneta Jones says on The Weather Channel."

7) All his co-workers look

like the cast from Caddy Shack. 6) When he wakes up at 3

a.m., it's not to go and see his girlfriend, but to make sure the irrigation system turned

5) "All the post-it notepads in our house say 'Pro Lawn'

4) "My husband has a spot of black grease on every piece of clothing he owns."

3) "We have the ugliest lawn in the neighborhood."

2) When he talks in his sleep, or, for that matter, when he is awake, he states, 'Ah, the smell of Dursban.'

1) "When he helps me vacuum, he always stripes our carpet in a checkerboard pattern."

CHARTER



Peter Blais,

Growth in the face-lift market hardly cosmetic

person ages and the face sags. Same thing with a golf course. Over time, irrigation systems decline, bunkers fill in, greens fail, noxious grasses invade, trees encroach on fairways. Eventually, a facelift is needed if the course is to

continue attracting golfers. "A lot of courses built between 1920 and 1950 are just worn out," said Tim Liddy, an Indiana architect and Pete Dye apprentice diligently trying to build his own practice. "They've paid their way and now things need updating, especially if they are going to keep pace with the newer courses being built down the street."

Age takes its toll on the best of courses. Wailea in Hawaii, Riviera Country Club in Los Angeles, Broadmoor in Colorado Springs, Grand Cypress in Orlando, Medinah Country Club near Chicago are a few of the classic layouts spruced up over the past two years.

The Golf Course News Development Letter, a paidsubscription publication tracking golf projects throughout the country, has reported on 1,422 golf projects during the past 26 months. Of those, 143 have been renovations. That's better than 10 percent. Nothing to sneeze at.

The cost of a renovation project varies greatly. A sampling of renovations underway or planned from the past few issues included:

· \$5 million for a new irrigation system and realignment of nine holes at the University of Oklahoma Golf Course in Norman.

• \$2.6 million for an ongoing remodel that closed Coffin Golf Course in Indianapolis for two years.

• \$1.5 million for course and building upgrades at Buffalo Hill Municipal Golf Course in Kalispell, Mont.

• \$1.2 million for an irrigation overhaul at GolfCorpoperated Diamond Bar (Calif.) Golf Club.

• \$1.2 million for improvements to New Reid and Snyder Park municipal courses in Springfield, Ohio.

• \$1 million to spruce up Oak Tree Golf Club in Edmond, Okla.

• \$600,000 for irrigation Continued on page 56

USGA's Pace system can help your course cope with slow play

By DEAN KNUTH

Just about the time course management and golf committees had despaired of overcoming the slow play obstacle to running an efficient golf course, the U.S. Golf Association's (USGA)

Dean Knuth is senior director of handicapping, GHIN and Green Section Administration of the U.S. Golf Association. He developed the USGA Pace Rating system, as well as the USGA Course Rating and Slope Rating System.

Pace Rating System Manual has come along with a bookful of remedies. And they work.

For 10 real-life examples, consider the manual's case studies of courses which have speeded up play dra-

matically through a combination of course management and education. The courses, which include membership and daily-fee facilities, are successfully replac-



ing five hour rounds with rounds of 4-1/2 hours or less.

Obtain Your **USGA** Pace Rating and Time Pars

To a course, they began by determining an appropriate pace of play for a round. The

USGA's contribution in this area is a custom measure called "time par," the number of minutes it should take to play a given hole. Each time par on a course is

unique to the hole. It is calculated according to a formula, developed by the USGA, that takes into account the length and difficulty of the hole, and related factors, such as whether players normally walk or ride. The sum of 18 time pars equals the "pace rating," of the course, or the hours and minutes it should take to finish a round.

An advantage of the USGA formula is that it assumes play under "impeded" conditions, mean-

Continued on page 65

KUBOTA RUNS GIRGLES AROUND THE COMPETITION



Kubota's FZ2100 and FZ2400 with Zero Diameter Turn (ZDT) run circles around the competition.

The power in the innovative FZ front mowers starts with 20 or 24 horsepower, Kubota liquid-cooled diesel engines and continues with the Auto Assist Differential (AAD) drive system that automatically switches between 2WD and 4WD to match operating conditions. With AAD, you get extra power to maneuver easily in wet grass and muddy conditions with the front wheels rotating freely through the tightest turns. The FZ can turn completely around in one spot without damage to the turf, cutting way down the time spent on labor-intensive hand trimming jobs.

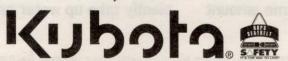
For productivity and versatility, Kubota's



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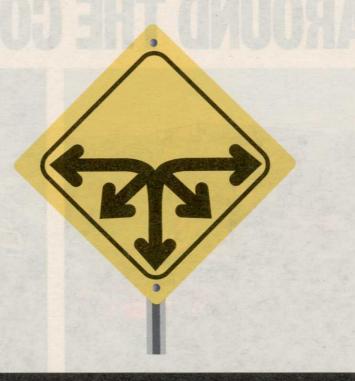


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manage, best-looking turf you can imagine.

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BRIEFS



CADIZ HONORED IN PA.

KING OF PRUSSIA, Pa. — Charles Hugar Cadiz has received the Pennsylvania Turfgrass Council's Distinguished Service Award. Cadiz retired May 27, 1994, after serving at Eagle Lodge Country Club in Lafayette Hill for 14 years. He also worked at Manada Golf Course in Grantville, Valley Green Golf Course in Edders and Kimberton Golf Club in Kimberton. Cadiz served as a director and president of the Central Penn Golf Course Superintendents Association, and as a board member of the Philadelphia Association of Golf Course Superintendents.

MICH. FOUNDATION GIVES \$140,000

LANSING, Mich. — Checks totaling \$140,000 in support of turfgrass research at Michigan State were presented at the annual awards luncheon at the 65th Annual Michigan Turfgrass Foundation Conference here in January. The MTF donated the research money as well as scholarships to a number of students.

ENVIROTRON TO BENEFIT

HOMOSASSA SPRINGS, Fla.—The third annual Envirotron Golf Classic on April 24 at World Woods Golf Resorthere will raise funds for the Florida Turfgrass Association's research facility — the Envirotron. Hosted by Seven Rivers Chapter of the Florida Golf Course Superintendents Association, the tournament will benefit the 3,100-square-foot, state-of-the-art research field laboratory opened in 1993. It was designed to study and develop new technology on the relationship of turfgrass with biological, environmental and cultural factors.

INTERNATIONAL RESEARCH PUBLISHED

Presentations from seven International Turfgrass Society Research Con-



ferences have been published in conference proceedings and a journal. These are worthwhile books that present research data from around the world.

More information is available from Dr. R.E. Schmidt, ITS Virginia Tech., Dept. of CSES, Blacksburg, Va. 24061.

FINLEN, VANDERPOOL HONORED

Heart of America Golf GCSA presented Immediate Past President Pat Finlen of Quivira Lake CC in Lenexa, Kan., its 1994 Superintendent of the Year award. The Mendenhall Award, given for going beyond the call of duty, was presented to Meril D. Vanderpool of Village Greens Golf Course in Ozawkie, Kan.



Superintendent Collier Miller, right, accepts the Maintenance Operation of the Year Award from TPC Director of Golf Course Maintenance Operations Cal Roth on behalf of TPC at Summerlin.

PGA Tour honors top TPC operations of '94

By MARK LESLIE

SAN FRANCISCO — The PGA Tour's annual Golf Course Maintenance Operation of the Year Award was won by a concerted effort by the entire staff, according to Collier Miller, superintendent at the winning Tournament Players Club (TPC) at Summerlin in Las Vegas.

"The award is not just for the superintendent, but the entire operation. It takes everybody — the administrative assistant, the staff, everybody," said Miller, whose course also won the award last year under then-superintendent Gary Myers, now at TPC of Scottsdale. Summerlin's staff fluctuates from 23 to 30, he said.

TPC Director of Golf Course Maintenance Operations Cal Roth, who oversees the 14 TPC courses, presented the Operation of the Year Award and others at a banquet here during the International Golf Course Conference

Continued on page 32

Green industry eyes EPA stewards program

By MARK LESLIE

ASHINGTON, D.C. — The federal Environmental Protection Agency (EPA), U.S. Department of Agriculture (USDA) and U.S. Food and Drug Administration (FDA) are urging major organizations in the golf industry to join a new program to promote environmental stewardship in pesticide use.

Having already signed agreements with a score of "chartered partners" from the National Potato Council and American Corn Growers Association to 16 utility companies, government officials have set their sights on the green industry. The Professional Lawn Care Association of America (PLCAA) has agreed to sign on, and the EPA's Anne Leslie said the agency has approached the Golf Course Superintendents Association of America (GCSAA), U.S. Golf Association (USGA), American Society of Golf Course Architects, National Golf Foundation and National Golf Course Owners Association.

"Exciting things are happening," said Leslie, chemist and golf liaison in the new Biopesticides and Pollution Prevention Division. Among them a planned EPA reorganization, faster registration of biological pesticides (see story on page 1), and

Continued on page 21

USGA Nature Links targets environmental group support

By PETER BLAIS

FAR HILLS, N.J. — The United States Golf Association Green Section has created a new program designed to promote golf courses as a friendly home for wildlife and attract support for golf from the environmental community.

The Nature Links program is an outgrowth of Clemson University's wildlife research on the Ocean Course at Kiawah Island, S.C., which was funded with 1991-93 USGA turfgrass research money, according to Green Section National Director Jim Snow.

Completed roughly a year ago, the USGA-funded project at Kiawah showed golf courses could enhance wildlife. It also pointed out the need for someone other than USGA agronomists to make decisions regarding who will receive the \$100,000 in annual wildlife research grants the

Continued on page 20

Golf's traditions crossed The Pond to America

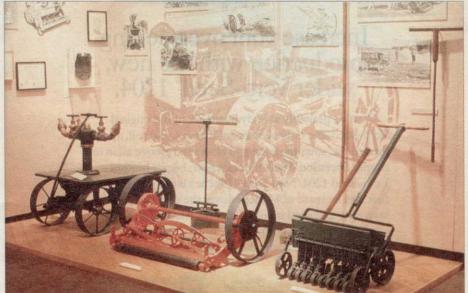
The period 1900-74 presents challenges, brings innovation

By JIM CONNOLLY

any of the traditions of golf and golf course design were brought to the United States from England and Scotland at the turn of the century. Early Americans were familiar with golf but did not adopt it as a priority recreation. There are brief accounts of "attempted" golf in the early 1800s, but the first real golf course was not built until the 1890s.

PART 3 OF A SERIES

Charles Blair MacDonald, the son of a Scottish father and Canadian mother, designed the famous National Golf Links of America in 1911. Although he grew up in Chicago, he eventually returned to the University of St. Andrews in Scotland, where he learned the game of golf and golf design. He brought this talent to the United States and put it to work designing golf courses. He believed a first-class golf course should be constructed from good material, preferably a sandy loam



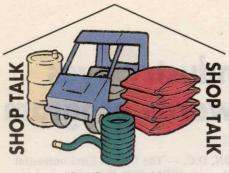
The U.S. Golf Association museum in Far Hills, N.J., displays maintenance equipment of old.

that drained well. He believed in somewhat large, undulating putting greens with "fine" turfgrass so the ball would run perfectly true. MacDonald coined the title Golf Architect and is considered by many to the "father of American golf course architecture." Some said he had an ego

the size of Lake Michigan; and a slice that would traverse three counties! Many say he is the mold for today's golf architect.

There were other architects who brought a design flavor from overseas,

Continued on page 26



SHOP TALK

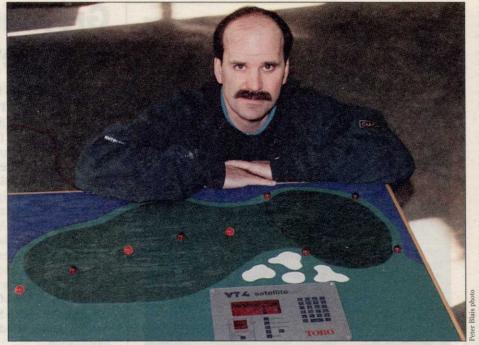
Irrigation test table saves time, money

By KEVIN ROSS

FALMOUTH, Maine - Many individuals have commented on various ideas in our golf course management facility, but one stands out the most: our irrigation test/training table.

Why make an irrigation test/training table? Each fall, when the golf course closes, we bring our Toro VT4 timing mechanisms indoors. During the winter, we need to test these for proper functioning. So, using a spare satellite (left from when we built the course), we removed the internal components, built a table, and installed that assembly.

We purchased some small 24V light fixtures at an auto supply store, and small red transparent covers from a hobby shop. The fixture is similar to a car brake light, but much smaller. We then cut a piece of plywood and hinged it to the table. On the



Kevin Ross with his homemade Test Table Golf Course hole.

surface of the table, we played golf course architect and designed our Test Table Golf Course hole. Our VT4 control system has 12 stations (zones) per timing mechanism. To match the stations, we drilled 12 holes into the plywood and positioned the holes as sprinkler heads.

Then, light fixtures were attached into these holes on the bottom of the plywood, and red transparent covers were placed over the bulbs on the top of the table. The light fixtures were wired directly to the

clock and stations that went from tee to green. Finally, a hole was cut in the table top for a spot to drop in the VT4 timing mechanism.

We also installed was a common 110V power switch, so the power could easily be turned on or off to change timing mechanisms. When completely assembled, we plugged in the first VT4 timing mechanism and the red lights worked in sync with whatever station(s) were programmed.

This table gives us the ability to test all

SHARE THE INGENIOUS

There is no doubt golf course superintendents and their staffs are some of the most creative individuals around.

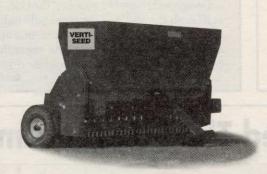
How many times have you visited a fellow superin-tendent's course and come away with three or four ideas you thought were really creative?

Many ideas can be found on the course, but the real gold mine at a lot of operations is the maintenance facility. So many great ideas can be found there that I like to visit those facilities as much as I like to see the courses.

I'm sure many superintendents have their Einsteins to talk about. Let's use this new, informative column to discuss

Just write or call: Shop Talk editor, Golf Course News, P.O. Box 997, Yarmouth, Maine 04096; 207-846-0600; or fax 207-846-0657

timing mechanisms and repair them, if needed, in-house. We also found that the table had another big benefit for us: training new employees to program the irrigation system. A new employee is now able to learn and practice how to program the clocks without stepping a foot out the door. This past year, my new assistant took the table for a couple of weeks and learned the programming in the comfort of his own home. We have found this table to be of great benefit to our operation.



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A Badlands Connection: Stan Weeks meets Red Mike in N.D.

ILLISTON, N.D. — Red Mike Hill has long been famous for the horse thief who was hung there in the late 1800s. However, it is about to become even more famous thanks to the unique, links-style golf course to open here in this remote corner of northwestern North Dakota.

Some background: Back in 1990, Stan Weeks was superintendent at Williston Country Club. He was sitting around the clubhouse with some member friends when a brilliant idea popped into his head: "You know something," he wondered, "we do not have an 18hole golf course within a 120-mile radius of Williston and we have to do something about it. We have the highest per capital golf participation of any state in the country and I think we could support a new 18-hole course."

After further talk with other golfing friends in the area, Weeks hooked up with Mike Ames, a successful irrigation agricultural engineer from Williston. Weeks convinced the non-golfing Ames and few other locals that they could support and build an 18-hole course. They looked at three potential sites before settling on Red Mike Hill.

In the meantime, Weeks felt he needed a formal education, so he began attending the two-year professional turfgrass management program at Rutgers University in New Brunswick, N.J., in 1991. At the end of his first year at Rutgers, Weeks scheduled a meeting with golf course architect Stephen Kay, who had befriended him.

"I told Stephen about my idea for a new 18-hole, links-style golf course and told him about the land we had put an option on at Red Mike Hill," Weeks recalled. "He got real excited. We talked for a quite a long time.

"Stephen came out and looked at our property - which was a natural for a



The 2nd hole at The Links at North Dakota, with Lake Sakakawea, formed by the Missouri River, in the background.

links-style course - and loved every square inch of it. He was so excited I knew that, if we could pull it off financially, we would have something really special. We bought 270 acres of the property, with an option for 240 more acres, in the fall of 1992. Then we convinced the county to give us a fiveyear property-tax exemption, which was a big help and the best we could do locally.'

Weeks graduated in 1993 from Rutgers and pursued his dream of founding his own course. Groundbreaking finally took place on May 1, 1994.

'Most people in the area feel we have big corporate money behind our project, which is not the case at all," he said. "Me and Mike Ames, Stephen Kay and Marvin Schlauch, (a north Dakota

native) the contractor, are the principal owners of the course. We then sold stock to farmers and ranchers and we have a privately held company with no debt!"

"We built the entire course for \$1.5 million. We need 12,000 rounds annually to break even and we are going to do it. The property looks like it was in the middle of Scotland and we have 120 feet of eleva-

tion change, plenty of 'buck brush' and also an abundance of native grasses.'

The property lies next to Lake Sakakawea, formed by water flowing from the Missouri River. Since Ames is in the irrigation business, the system was designed in-house, saving a lot of money. The team also used a unique design. The main line is 15 inches in diameter going a half-mile uphill from the lake. Then an 8-inch main line

"loop" goes 2.5 miles fully around the golf course proper. A total of 750 Toro 670 heads on 80-foot triangular spacing were installed with Osmac controllers.

The bunker sand, from a gravel pit about 10 miles from the course, passed U.S. Golf Association specifications and now fills the course's 85 bunkers. Grass selection includes South Shore and Putter on the greens; Cobra, Jamestown II chewings fescue on tees; Jamestown II and Seaside creeping bentgrass on fairways; and Reliant hard fescue, Jamestown II and Cindy creeping red fescue in irrigated roughs. The native, undisturbed grasses include western wheatgrass, bluegramma, crested wheatgrass and timothy. The driving range has five tiers of teeing ground, with 30,000 square feet of space; two putting greens; two chipping bunkers; four target greens and one practice green.

"We named the course The Links of North Dakota at Red Mike Golf Resort and we opened nine holes for play last fall, for about three weeks, to rave reviews," Weeks said. "Area people are totally convinced that we were onto something. I can't wait until we have all 18 holes open by July. Founding this golf course is the proudest thing that I have done in my entire life."

Added Ames: "We always believed in Stan's idea and enthusiasm to conceive our new golf links. After we found the Red Mike Hill property and showed the 91-year-old owner our golf course blueprints, he got real excited and decided to sell us his land. We had him hit the first ball last fall. We were very fortunate that the land owner was and

"Without Stan Weeks' drive, determination, enthusiasm, technical ability, common sense, business savvy and being a nice guy, this project would never have started.'



Stan Weeks

Penn State releases **Agronomy Guide**

UNIVERSITY PARK, Pa. - The 1994-95 Penn State Agronomy Guide is available and has new information on weed management and control, as well as keys for identifying common grassy and broad-leaved weed seedlings in Pennsylvania.

The 214-page publication contains detailed information on corn, grain sorghum, soybeans for grain, small grains and forage crops. Included are sections on pest management, soil fertility management, crop storage and erosion con-

Contributors to the guide include faculty and extension staff in Penn State's departments of agronomy, entomology, plant pathology and agricultural economics and rural sociology. Government agencies and businesses also contributed information.

The guide is available for \$7 from Penn State Cooperative Extension county offices, or from the Publication Distribution Center, 112 Agricultural Administration Building, University Park, Pa. 16802; 814-865-6713.



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NORTH OF THE BORDER

Royal Canadian Golf Association, N.Y. Audubon create program

OAKVILLE, Canada - The Audubon Society of New York State and Royal Canadian Golf Association (RCGA) have teamed to create the Audubon Cooperative Sanctuary System of Canada, Inc.

The system will encompass golf facilities, corporate business complexes, schools, farms and backyards, according to New York Audubon President Ron Dodson. It will draw on the expertise and financial support of the RCGA Green Section and the experience of the Audubon,

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which has pioneered wildlife and ecological preservation efforts at golf course facilities in the United States and abroad.

"People are more comfortable working with a national group of their own country," said RCGA Green Section National Director Teri Yamada, who is also national coordinator of the new system. "We have 88 Canadian golf courses cooperating with the New York Audubon Cooperative Sanctuary Program. They will automatically switch to our system. It will be very parallel to the New York program but operate separately.'

Incorporating as an official, not-for- schools..." profit organization, the ACSSC will be based in RCGA's offices in this Toronto

"It will be up and running in May, and we will hire a biologist in May or June," said Yamada, who added the initial contract with the biologist will run for eight

"We want to operate at arm's-length," she said. "Ultimately, we hope to set up the system to do its own fundraising, and to look for other contacts outside golf such as industrial-commercial properties,

RCGA has given \$15,000 in seed money to the Sanctuary System - much as the United States Golf Association Green Section did for the popular Audubon Cooperative Sanctuary Program.

While the Canadian system will be a subsidiary of the Audubon Society of New York State, "the key is that it is a Canadian company and will have a Canadian board of directors," Yamada said.

Further information is available from Yamada at the RCGA, 1333 Dorval Dr., Oakville, Ontario, Canada L6J 4Z3.

Nature Links seeks National Fish & Wildlife Foundation input

Continued from page 15

USGA will dispense between 1995-97 as part of the Nature Links program, Snow added.

"Wildlife research isn't the same as putting out turf test plots and measuring the results," the Green Section executive said. "It's more complicated than that.

"As we came around for this second round of research funding, we realized agronomists are not in the best position to determine what should be done in terms of wildlife research."

Green Section staff met with environmental and wildlife groups last November in Washington. The issue of how to allocate wildlife research funds came up near the end of the meeting. Snow said one of the major contributors to the discussion was Peter Stangel, director of the National Fish and Wildlife Foundation.

Congress established Stangel's group in 1984. The foundation receives federal money that can be used as matching grants to fund conservation programs and research to enhance wildlife habitat. The foundation has excellent contacts within the environmental community and is wellrespected by those groups, Snow said.

"National Fish and Wildlife doesn't have



'People support what they help create. That's why we're trying to broaden our range and invite in other environmental groups.'

> - Jim Snow, national director **USGA Green Section**

an agenda. It isn't out to prevent development, for instance. Its goal is to promote wildlife, period," Snow said.

Snow sent Stangel a final draft of a proposed agreement with the foundation in early March. If all goes as planned, the foundation will first help the Green Section develop a panel of wildlife experts who can determine areas needing research and set priorities.

Ron Dodson, national director of the Audubon Society of New York and developer of the Audubon Cooperative Sanctuary Program, will be on the panel, Snow said. So, too, will Snow or USGA Director of Research Mike Kenna. Joining them, Snow predicted, will likely be representatives from such traditional golf industry antagonists as the U.S. Environmental Protection Agency and various environmental groups.

"People support what they help create," Snow said. "That's why we're trying to broaden our range and invite in other environmental groups. The New York Audubon Society has done a tremendous job. Here's an opportunity for us to work with some other groups. Every public relations firm we've talked to said the thing we need to do is reach out and involve more environmental groups if we want to gain their support."

Once the panel is established and priorities set, Requests for Proposals will be sent out to researchers capable of doing the work. Snow hopes the panel will meet and begin evaluating those proposals during the USGA Turfgrass and Environmental Research Committee's annual meeting scheduled for May 8 in Oklahoma City.

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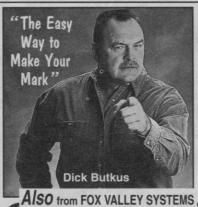
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EPA, green industry consider partnership

Continued from page 15

this new program, which "seeks to reduce the risks of pesticides in agriculture and turf settings," she said.

"Environmental stewardship is integral to pesticide management practices," Leslie said, adding that partners are users who commit to responsible use while the government will foster and fund practices to reduce risk and use.

The GCSAA board of directors is expected to discuss joining PESP at its May meeting.

"We are going to take a serious, hard look at it. We'll work with EPA, people already with the program, figure out if it makes sense for the GCSAA, and go from there," said GCSAA Chief Operating Officer Joseph O'Brien. "It depends on how complicated it is and what the commitments are. Then, if it's a reasonably simplified commitment say, part of it is organization and stating that you commit to do this, that and the other - and if it fits with superintendents, then we'll do it.

"On the surface it's curious enough — a regulatory-agency approach to working with an industry — to look at. The whole issue is, what does it mean? If you're in it, then what? Do you do things? Are there milestones to reach? Have you made a commitment and are you going to be judged on that?'

O'Brien, who serves as chairman of the Allied Association's Environmental Committee, said each group with the Allied Association would have to address the question of joining PESP on its own. "The 'allieds' would not do it under an allied banner," he said.

The USGA will participate in the program, said Jim Snow, national director of the USGA Green Section. "The belief is growing that golf courses can be managed properly with a minimal impact on the environment," Snow said. "But the question is, can we



We are going to take a serious, hard look at it. We'll work with EPA, people already with the program, figure out if it makes sense for the GCSAA, and go from there.'

Joe O'Brien, GCSAA chief operating officer

educate everyone in the industry so they actually follow through with the things they ought to be doing? This is a program to encourage people to participate, to learn, to educate others... EPA is trying to reduce pesticide use in every industry and an educational program is how you do that."

Terming membership "a show of support for the concept of reducing pesticide use," Snow said, "Just by making that statement... things are going to happen over time."

"We think it [joining] is a positive move," said PLCAA Director of Government Affairs Tom Delaney. "But it's a two-way street. We want to sit down with the EPA folks and get them to do things, too, like watch what they're saying about us, since we are both supposedly partners in this."

The partnership is the first under the commitment made by the three agencies before the U.S. House of Representatives in 1993 to work jointly with pesticide user groups to develop commodity-specific initiatives toward achieving the Clinton Administration's goal of reducing the use and risks of pesticides.

"Voluntary pollution prevention has been a cornerstone of our efforts to protect human health and the environment, and this ... is an important step toward that goal," said EPA Administrator Carol M. Browner in a statement.

The partnership has agreed to commit to guiding principles that will shape pest management practices:

 Pesticide users will continue to develop and implement pest management practices that reduce risk to humans and the environment and will continue to work to minimize the use of pesticides where desirable and practical.

· Recognizing the need to maintain cost-effective pest control in the marketplace, the federal government will seek to foster, fund and promote through education, research and other means — the adoption of alternative pest management technologies and practices that enhance pest management and reduce pesticide use and risk.

• The federal government shall integrate the environmental stewardship plans developed by PESP members into its agricultural and environmental policies and programs.

PESP partners, Leslie said, "are to come up with a strategy to show how they will reduce the risk of pesticides in their industry. The strategy could be educational efforts, looking at statistics

USGA, labs work toward accreditation

Continued from page 1

for the committee to decide what it's comfortable with and then implement it. Some will be accredited before then, but I doubt we will have a list before the end of the year.'

A less optimistic Steve McWilliams, president and CEO of Turf Diagnostics and Design in Olathe, Kan., said it could take five years before an accreditation program is in place.

The Green Section "will make any changes needed," Snow said. "Once they agree, the standards will be sent to the accreditation agency.'

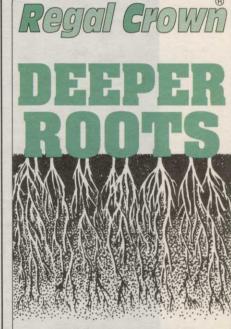
The USGA is working with the American Association for Laboratory Accreditation of Washington, D.C., which has accredited more than 800 labs of various types.

on usage and seeing where reductions could be made, etc.

The only thing we require is a strategy statement within six months and a report at the end of the year perhaps a uniform date for everybody."

The EPA will not use PESP to regulate, Leslie said, "but we may be able to help them [partners] wade through the regulatory process. Say they bring us information about getting a pesticide to control a certain pest and it is in the queue to be registered. We can move it along."

There is no cost to join PESP. The EPA has allocated funds to support demonstration projects proposed by members, she said.



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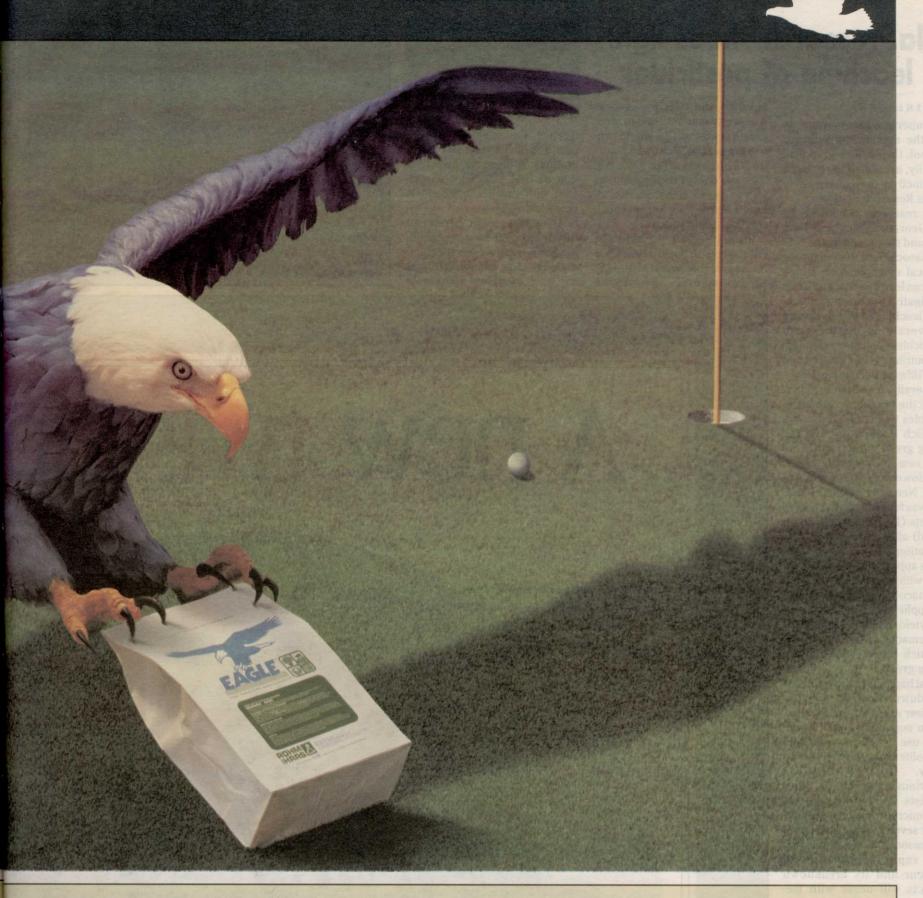
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UFla. research sheds light on leaching of pesticides

old days, the selection process

was pretty much limited to iden-

tifying a product that would con-

trol the pest. With a wider selec-

tion of products in the 1960s and

'70s, the cost of the product, as

well as its efficacy, were consid-

ered when developing pest man-

enactment of the Clean Water

Act and establishment of the U.S.

Environmental Protection

In the 1980s, 10 years after the

agement programs.

By MIKE KENNA

If superintendents want to keep the nematicide Nemacur as a tool, they will need to plan carefully, according to research performed at the University of Florida Research Station.

The research, conducted by Drs. George Snyder and John Cisar and sponsored by the U.S. Golf Association, demonstrates a critical example from which we all can learn. Snyder and Cisar investigated the downward mobility (leaching) and persistence of several insecticides and nematicides applied to amended-sand putting greens established with Tifdwarf Bermudagrass.

Generally, less than 0.15 percent of the organophosphate insecticides was recovered in water which leached through the putting green plots. That is the good news. Unfortunately, a breakdown product, or metabolite of Nemacur (sulfoxide-sulfone) was found in relatively high amounts (17 percent of the total applied) after a November 1991 application.

This application was on a new green which had never received a Nemacur application. A second application, made January 1992, yielded only 1.1 percent of the Nemacur metabolite in water which leached through the putting green.

What happens to the Nemacur breakdown products? Snyder and Cisar suggest that microorganism populations shift or adjust to use the Nemacur and its metabolites as a source of food energy.

Previous research by other scientists in Florida suggests these microorganisms will persist for several years. Therefore, it is reasonable to assume that more rapid degradation of Nemacur and its breakdown products will occur with frequent, repeat applications.

Superintendents should plan carefully before applying Nemacur. Applications to putting greens should be given priority over tees and fairways. The sandy soil of many golf courses are an ideal habitat for many nematodes and we know this pest will not just go away. We need to provide a good agronomic environment for the turf, develop Integrated Pest Management (IPM) programs, scout the course for nematode "hot spots," and then, and only then, apply the product with several days of clear sunny weather ahead.

This research emphasizes the point that never before has the golf course superintendent's selection and application of pesticides been so important. In the

Dr. Michael Kenna is director of Green Section research for the United States Golf Association. He works out of Stillwater, Okla.



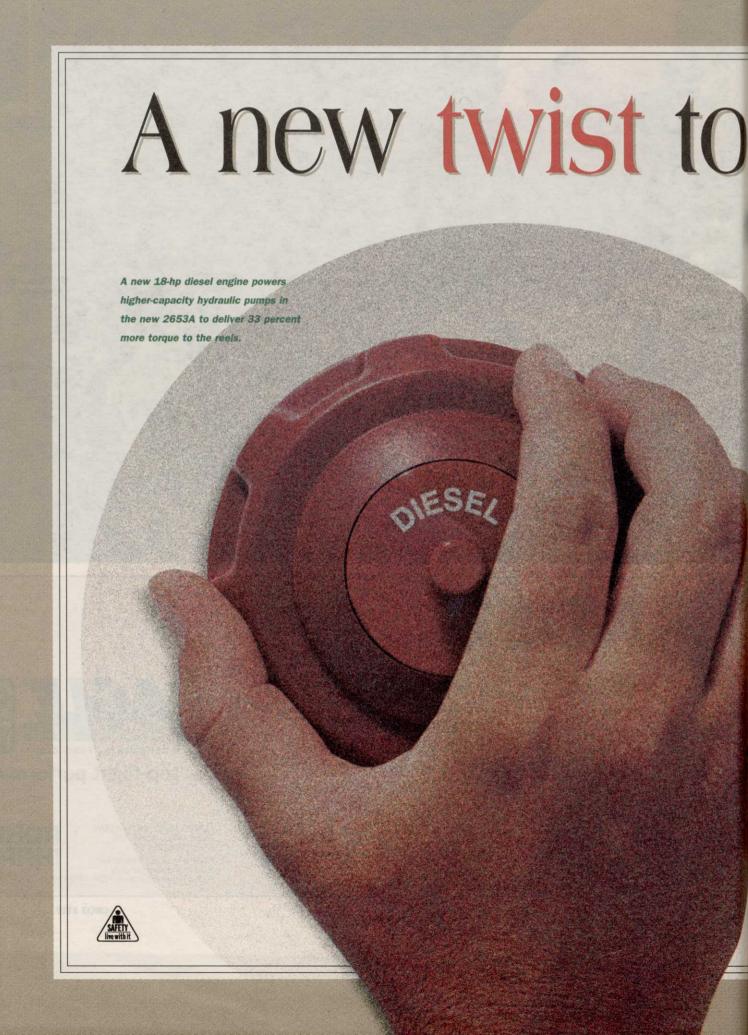
Agency, the selection process required environmental considerations. A thorough investigation of IPM principles associated with the pest problem is now needed.

A healthy plant produced through proper mowing, fertilization, irrigation, aerification, drainage, and enough sunlight

Continued on next page

ORGANOPHOSPHATE INSECTICIDE RECOVERED IN PERCOLATE WATER, EXPRESSED AS A PERCENT OF AMOUNT APPLIED Table Common Dates Total Recovery (%

| Table | Common | Dates | Total Recovery (% |
|---------------|---------------------|-----------------|----------------------|
| Name | Name | Applied | of that applied |
| | | | in Percolate |
| Nemacur | Fenamiphos | 11/13/91 | 0.06 |
| | | 1/27/92 | 0.04 |
| | Metabolites | 11/13/91 | 17.69 |
| | of fenamiphos | 1/27/92 | 1.10 |
| Dyfonate | Fonofos | 11/13/91 | < 0.01 |
| | | | 0.02 |
| Dursban | Chlorpyrifos | 1/27/92 | 0.15 |
| | | 4/21/92 | 0.08 |
| Triumph | Isazofos | 4/21/92 | 0.09 |
| | | 9/15/92 | 0.02 |
| Oftanol | Isofenfos | 4/21/92 | 0.02 |
| | | 9/15/92 | 0.01 |
| Mocap | Ethoprop | 9/15/92 | 0.05 |
| 1 Metabolites | expressed as a perc | ent of the pare | ent compound applied |



WHERE THEY'RE GOING

GCSAA President Grigg leaves Naples National for Royal Poinciana

NAPLES, Fla. — Gary Grigg, newly elected president of the



Golf Course Superintendents Association of America, has left Naples National Golf Club to take the head su-

perintendents position at nearby Royal Poinciana Golf Club here.

VAIL, Colo. - Kevin Ross, a member of the Golf Course News Editorial Advisory Board, has left Falmouth (Maine) Country Club to accept the head superintendent's position at the Nicklaus-designed Country Club of the Rockies here. Ross will be replaced by his longtime assistant at Falmouth, Scott Cybulski.

ORONO, Maine - Blayr

Crowley is the new head superintendent at Penobscot Valley Country Club here. A 1994 graduate of the Turfgrass Management program at the University of Massachusetts, Crowley cut his teeth as an assistant to Pat Lewis at Portland (Me.) Country Club.

VIRGINIA BEACH, Va. -Thom Charters has left Weston Golf & Country club to accept the head superintendent's job at Bayview Country Club here. "I'm as Kyle Evans' assistant since looking forward to it," said Charters. "A new irrigation system is to be installed and we'll be building a new maintenance facility."

BAR HARBOR, Maine - Luke Gagne is the new superintendent at the historic Kebo Valley Club, replacing 19-year veteran Fred McPheeters. Gagne comes to Kebo from Waterville (Me.) Country Club, where he served

1989.

LIMESTONE, Maine -Craig Phair is the new superintendent at Inland Winds Golf Course, the track recently privatized here following the shutdown of Loring Air Force Base. Phair and pro Peter Weatherhead, both Limestone natives, are also managing the course after leasing it from the U.S. government.

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USGA publishes research findings for the industry

Two publications that summarize turfgrass benefits are now available from the United States Golf Association. These publications summarize information published by Drs. James B. Beard an R.L. Green in the Journal of Environmental Quality 23:452-460 (1994).

A 20-page technical summary titled "Golf and The Environment" is aimed at an audience with some technical background, including architects, superintendents, environmental engineers and consultants, and regulatory agency scientists. It contains a list of references related to benefits of turfgrass. Cost is \$2.

A four-page topical summary provides a non-technical overview, and will be useful in responding to inquiries from golfers, golf associations, allied associations, and media reporters. Cost is \$1.

To order these summaries, contact:

Dr. Kimberly Erusha, U.S. Golf Association, Golf House, P.O. Box 708, Far Hills, N.J. 07931-0708; or call 908-234-2300, ext. 5498.

Take note of pesticide tests

Continued from previous page

will go a long way to reduce pest problems. However, golf courses are under a great deal of stress from low mowing, heavy play, poor light and poor water qual-

We need pesticides to help produce quality playing surfaces. But they are a tool among many in our agronomic tool box. Pesticides should not be a crutch supporting poor agronomic conditions which will never produce healthy turf.

Superintendents need to continue to educate golfers on sound agronomic principles, and golfers need to listen and make longterm plans to improve the health of their courses.

History of the green - Part III

Continued from page 15 including Dr. Alister Makenzie, Donald Ross, Willie Park Jr., Herbert Strong and Australian Walter Travis to name a few.

Some key developments in history had an obvious impact on the way golf courses were maintained.

- 1902 the invention of gasoline-powered lawn mowers.
- 1916-architect Donald Ross

Jim Connolly is senior technical agronomist for JacklinGolf in Post Falls, Idaho. He is available to speak on the history of the golf green. builds modified-soil greens.

- 1918 use of heavy equipment, such as bulldozers and steam shovels is introduced.
- 1920 production of putting green mowers that could be accurately adjusted to one-eighth of an inch cutting height.
- Circa 1920 the development of underground irrigation systems.
- 1921 formation of the United States Golf Association Green Section. The Green Section was solely dedicated to turf research and methods of devel-

oping healthy turf and good playing conditions.

- 1926 formation of the Golf Course Superintendents Association of America.
- 1945 the end of World War II and the benefit new pesticides and chemicals developed during the war years. 2, 4–D, mercury, cadmium, and chloropicrin (tear gas) were all available to control turfgrass disease and insects.
- 1960 wide popularity of riding triplex greens mowers that allowed "poor" golf courses to mow greens on a regular basis. USGA-sponsored research

leading to exact specifications for putting green construction.

Not all of America's golf courses benefited equally during this period of advanced technology and information. Courses still varied tremendously, depending upon budget, construction technique, location, etc. For example: In 1898, the Montreal Golf Club had "fine and closely cut putting greens." The same description is given of the Quebec Golf Club. The local golf professional was given credit for his maintenance skills. However, other courses didn't have grass on the greens! Pinehurst No. 2 had sand greens until the 1920s.

It is interesting to note that while players of today extol the virtues of ultra-fast putting greens, putting greens of the past could also be mowed low to achieve similar speeds. A newspaper clipping from the 1935 U.S. Open at Oakmont said:

"Putting the greens at Oakmont is like putting down a flight of stairs and trying to stop the ball on the third step down."

Mowers of that day could be adjusted to 1/8 of an inch and the greens "shaved" down to the dirt. A variety of turfgrass rollers was also available, ranging from weights of several tons to 3 pound wooden rollers. The maintenance instructions of the day cautioned against extended use of rollers because they pressed and compacted the soil and limited turfgrass growth. Cutting heights below 5/16 inch were also frowned upon because the turf suffered from a myriad of diseases and stress-related problems. With the help of pesticides, irrigation and special maintenance practices, greens were mowed at lower heights. Today, championship putting greens are mowed at 7/64 inch. The health of the grass is maintained at great expense.

Techniques for good turfgrass management were largely left up to experimenting individuals and architects. C.B. MacDonald, Donald Ross, Walter Travis and others wrote about methods of greenkeeping. Some had good ideas while others were highly suspect.

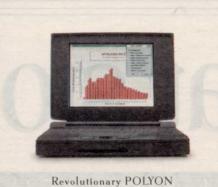
"Do not put fertilizers of any kind on a green except, perhaps, some bone dust, and then only once every three or four years," said Walter Travis in 1906.

Famous individuals associated with the game of golf fill the historical accounts. Their personalities and comments reflect the quintessence of the game at that time. The players of the first era viewed the sport as exercise and exhilaration. It was strictly personal satisfaction and a form of recreation at a time when most of the peoples' attention was on survival. It was a welcome pastime, although viewed by many as frivolous. It was known as the game of kings and queens and seemed to offer leisure to those who could afford the time.

During the second era, golf became a more organized sport, giving a chance for friendly competition and camaraderie. In these first two eras, little attention was given toward the condition of the turf. The players fully realized they must adapt to the weather conditions and be satisfied with whatever their fate. Thus the axiom, "Play the ball where it lies." During the years of Old Tom Morris, there was a beginning of small expectations in regard to the condition of the turf. After all, mowers, top dressing sand, and labor were all avail-

Continued on next page

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Nae gaulf on Sundae

Continued from previous page

able for conditioning of the links. Golfers placed their demands upon Old Tom, but he maintained his commanding position by proclaiming "nae gaulf on Sundae!"

This was perhaps the first and last time a greenkeeper had such power.

The idea of accepting conditions dealt by fate was as much part of the game as the golf ball and golf club.

Putters were manufactured with varying degrees of loft for putting on greens of multiformity.

Golfers were noted for their ability to overcome such conditions. Walter Travis was able to "putt a ball in from 40 feet over peanut brittle." In 1900, James Braid wrote, "Good putting can be learned from hard toil."

The major philosophies of this period were summed up in two quotes from two great golfers.

"You must adjust to the conditions."-Walter Hagen, 1930

"Golf is a religion and it exposes in a man things which ordinarily he is at considerable pains to conceal," said W.J. Travis, circa 1910.

Many golfers had a great insight about changes over the years and knew precisely where to give credit. In 1930, Horton Smith said: "Of course, putting is much better than it used to be. Greens are much truer than they used to be. Golfers can thank greenkeepers for that part of the improvement."

It is certain there was some grumbling about turfgrass condition, and golfers, both amateur and professional, were no doubt disgruntled about playing on crudely or ill-maintained golf courses. During the 1950s and 60s, golf was played by every class of American.

The golfing boom continued on the heels of Arnold Palmer, Jack Nicklaus and the miracle of televised golf. Thousands of people who had never played golf-and probably never would have-watched television and became enamored and eventually attempted the sport. An entire generation of golfers flooded the courses with little knowledge or awareness of golf's great past.

Looking back at the changes that occurred from 1900 to 1974, we can see changes influenced by developments in technology and the growing numbers of people playing golf. The growth supplied more money for development, research, and better golf course construction technique. Better grasses and methods of construction led to a dramatic increase in turfgrass uniformity and playability.

The definition of a "good" putting surface would be one that was maintained at approximately

GOLF COURSE NEWS

3/16 to 1/4 inch, mowed on a regular basis, and was firm, but not too hard.

A note on grain, since it seems to be so misunderstood today. Grain in a putting green is a result of two things: The natural tendency of some grasses is to grow in a prostrate pattern, and the height at which the grass is mowed.

Higher cut bentgrass greens will have a tendency to "lay over," forming a grain that affects the role of the golf ball. Bermudagrass grows aggressively in a lateral habit. Left alone, Bermudagrass can

achieve a high degree of graininess.

Bermudagrass runners must be regularly vertically cut to keep grain to a minimum. Putting greens of this era were naturally grainy and golfers had to adapt to this condition. In 1941, Patty Berg said, "You must make allowances for grain."

Byron Nelson walked all of the greens before a major tournament so he could evaluate the direction of the grain. He would then attempt to hit his shots to that side of the hole which would give him the "with-the-grain" advantage.

It was much easier to putt a golf ball with the grain than against it. Great putters of the day were characterized by their ability to read greens.

Bobby Locke, the great South African golfer, had a superior ability to read the grain in putting greens.

Golfers of this era were ready to accept any playing condition and, in fact, regarded this as an innate part of the game.

> Next month: 1974-present

PHILLY SUPERS CITE HARPER

The Philadelphia Association of Golf Course Superintendents has presented the prestigious Eberhard Steiniger Award to Dr. Jack Harper III, a professor of agronomy and extension turfgrass specialist at Penn State University before his retirement in 1988. An expert in a broad spectrum of turf disciplines, he received the Distinguished Service Award from the Golf Course Superintendents Association of America in 1978.

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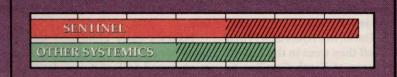
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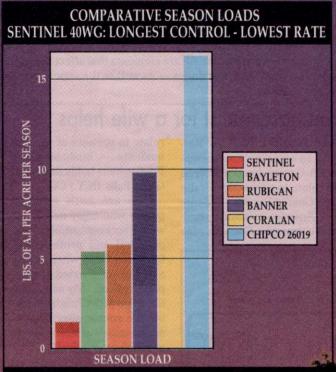
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Superintendents' spousal support: The male and female of it

The Savvy Superintendent

Early mornings, early evenings and weekends lost to work. Mental and physical stress, especially during the golf season. The pressures of keeping club members happy and crew members productive. All are elements that affect the spouses of superintendents — and their marriages — as well as the supers person-

Having an agronomist for a wife helps

SARATOGA SPRINGS, N.Y. - Barbara B. Beall is an environmental scientist with The LA Group, headquartered here. She can relate to agronomy — she co-teaches Golf Course Superintendents Associatoon of America wetlands seminars all over the country. She can also relate to spouses of superintendents - husband Chris Frielinghaus holds that job at Glens Falls (N.Y.) CC.

"We are both outdoor people who enjoy nature, so we are very compatible in our personal and professional life," said Beall when asked about being married to a superintendent. "My son and I like to go with Chris to check out the course after dinner, and he makes us feel involved as much as practical.'

Winters and weekends are spent making up for the time lost during the long summer months, she said.

"A few disadvantages include that when he comes home, he is still mentally at the golf course - because he never really comes home. I would like him to be both physically and mentally home after work, but it is tough during the summer. We also do not get things done around the house like they should be done because of his busy schedule, which brings on more stress at home after hours. Chris usually loses 10 to 20 pounds during the season."

This summer they intend to take one week off in August. Chris has "a really good assistant," Barbara said.

Barbara said she likes to show support for her husband, adding she sometimes takes pizza and sodas for the staff when it is working late and then tops it off with some homemade brownies.

"Chris is getting a home computer, so he can adjust the watering cycles from home," she said. "This will help him get better organized, so we can talk and be together without competition from the course that seems, at times, to be his first love."

Taking a look at what "the other half" thinks, we spoke to two opposite halves:

· Barbara B. Beall, who is married to Glens Falls (N.Y.) Country Club superintendent Chris Frielinghaus, to get the female point of view; and

> · David Vista, whose wife, Nancy Harris Vista, is superintendent at the Old Tabby Links at Spring Island in Ridgeland, S.C., to get the male point

Husband eyes weekends for time together

RIDGELAND, S.C. - You might say May 1, 1992, was a full day for Nancy Harris Vista. She graduated from Lake City Community College at 11 a.m., switched from graduation gown to her wedding gown and was married to her best friend, David, two hours later. Then off they went to the Buford area of South Carolina to Nancy's new job as assistant at Old Tabby Links.

Proving her zest for her job, seven months later she had earned the head superintendent position.

Her husband, a contractor specializing in custom carpentry and who is finishing a pavilion near Old Tabby, said: "We both get up at the same time each morning, about 4:30. We both put in long hours in our jobs. And we both are fortunate in that we both love our jobs and can 'see' what we have accomplished at any given moment.

"Nancy has to really love her job, to be a golf course superintendent, as she has a lot of responsibility and is really dedicated to it.'

Unlike Barbara Beall's husband Chris, Nancy has "a great ability to leave her work at work most of the time," David said, "and that really helps in our relationship. Since we both work long hours, there are times that I will still be working when she is finished for the

The only time David sees Nancy overly concerned about her job, he said, is "when some of the staff calls in sick, as she really has a great crew, they do one heck of a job and they have the highest respect for

Nancy and what she is accomplishig in great playing conditions for the members and their guests."

David and Nancy enjoy going to the golf course together, when no golfers are around, to enjoy the course and its nature preserves and good fishing lakes. "It is very tranquil and peaceful," David

"Nancy's early childhood said a lot about her character and her future career as she used to love to go down to the garden store with her parents and run her hands through the bins full of grass seed. Her brothers are also in the golf business, making it a true family affair," David said. "My only real complaint is that we cannot spend quality time together every weekend. She and her assistant alternate weekends, so we try and get away biweekly. When it is her turn to work weekends, I work on my projects as

"We have taken one week of vacation since we got married and moved to Buford... But we hope to be able to take a little more time off when it is appropriate."

Saying he is proud of Nancy being successful as a woman superintendent, and also for being at the top of her college class, David added: "She has progressed leaps and bounds at Old Tabby

Nancy is orginally from the Orange Park area of Jacksonville, Fla., and David was born in Cleveland and grew up in Medina, Ohio. They met in Boulder, Colo., and moved to Lake City, Fla., to pursue Nancy's agronomy schooling.

A testament to Nancy's abilities? Old Tabby Links came in 5th in Golf Digest's Best New Private Courses survey in Janu-



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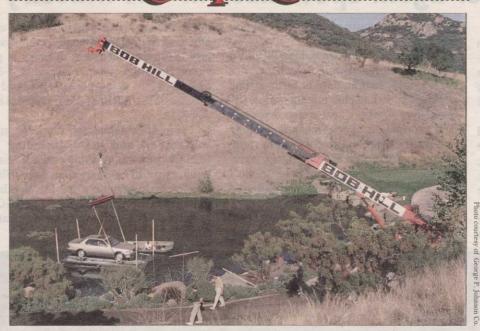
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Walking on water, golf-style — the mystery unveiled

PALM DESERT, Calif. - Armchair golfers are perplexed at how superintendents get cars to float on lake surfaces during nationally televised golf tournaments. What is their secret and how do they defy gravity? And how do superintendents get the autos out on the course without doing any turf damage?

At the recently completed Bob Hope Chrysler Classic held here at Bermuda Dunes Country Club, superintendent Carl R. King had the answers.

"The local Chrysler distributor in Indio brings out the cars," King explained. "They have a rectangular float-type raft with pontoons that are literally filled with air from a portable, gasoline-powered air compressor. We bring the raft to the edge of the lake, put out same ramps, drive the car out onto the pontoon raft, and float it out into position. We then release the air so the autos tires are lowered two to three inches into the water to make them look like they're floating on the water. The raft is tied down with wires and boat anchors so it will stay in position during almost any type of weather."



A crane, with a sling attached, lowers the floating raft and car all at once into the water

The raft is an off-white color to blend in with the surrounding lake bottom, said King adding, "It's a riot to watch those Chrysler guys put the cars out on our lakes!"

In the Los Angeles area, they have a slightly harder time of floating Lexus automobiles on the lakes at Sherwood Country Club in suburban Thousand Oaks during the Franklin Funds Shark Shootout tournament.

"Our lakes have many large boulders in

and around the edges, so we cannot drive the cars onto the floating rafts," said William F. Hamilton, director of golf & grounds maintenance at Sherwood Country Club.

"We bring in a rubber-tired crane, equipped with a sling, and literally lift the Lexus onto the floating pontoon raft that is plum full of air. We have a service road adjacent to our cart path near the lake on hole number 15, a beautiful 175-yard par-3, and we drive the crane very carefully onto our concrete cart paths over near the lake's edge.

"Once the car is on the raft, the fellows from Lexus - in their outboard motorpowered row boat - guide the raft into position and then let the air out until the tires and raft are at least two to four inches below the water surface."

Once in position, the raft is similarly held in place with wire and boat anchors that are almost invisible to the naked eye, especially the television eye.

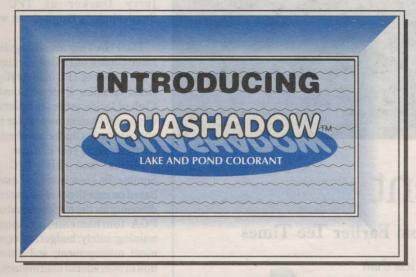
"During the pro-am tournament, we float the Lexus way to the left, away from the line of flight from the amateur contestants because of their sometimes-errant golf shots," Hamilton said with a laugh. We do not want any golf ball damage to the car, so we take this added precaution and then move the car back toward the fairway just prior to when the pros-only play their appointed rounds.'

The Lexus and raft are put out the week before the tournament, during a less busy time for the maintenance staff.

"The people from Lexus take out their engine-powered row boat and wash the car each and every morning, especially after the many heavy dews and frosts that we have experienced each November," added Bob Marshall, assistant superintendent. "The car has enough wax on it to keep any auto parts store business man-

The George P. Johnson Co. does an excellent job of providing and installing the floating raft and coordinating the rest of the installation as well."

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All aboard! Travel agent specializes in turf industry

BY TERRY BUCHEN

THOUSAND OAKS, Calif. - Robin Hamilton, owner of Turf Travel, specializing in service to the turfgrass industry, is the wife of William F. Hamilton, director of golf and grounds maintenance at Sherwood Country Club here.

"Being a professional travel agent, I started booking travel needs for golf course superintendent friends of my husbands, and, the rest is history," Robin explained. "I have superintendent clients all over the country and I specialize in bookings for turf conferences, GCSAA (Golf Course Superintendents Association of America) seminars, university conferences and personal travel needs as well.

"I have each superintendent fill out a personal preference profile which includes their height, weight, date of birth, airline preference, airline club memberships, frequent flyer numbers, seat preference, passport information, special meals, smoking/ non-smoking preference, car-rental preference, hotel preference, hotel club memberships, credit card numbers, etc. So I can customize each superintendent's

Each superintendent will have access to a 24-hour, toll-free telephone number and

international desk if problems occur after business hours. Additionally, complimentary overnight document delivery is provided. Hamilton can be reached at: 1-800-877-1943 or 805-496-7174; faxed at 805-374-9519 FAX; or digitally paged at 805-

"I also offer negotiated rates for many conventions and tours, including the GCSAA International Conference & Show," Robin said. "In my spare time, I contribute articles for newsletters for the Southern California GCSA and the San Diego GCSA because I love working with superinten-

Chester Valley GC Pa.'s 1st certified Audubon facility

MALVERN, Pa. - Chester Valley Golf Club is the first golf course in Pennsylvania to achieve designation as a "Certified Audubon Cooperative Sanctuary" by the Audubon Cooperative Sanctuary System.

The club's efforts to enhance wildlife habitat have been rewarded, as wildlife of all kinds have returned to the course - some to visit, some to stay. Golfers frequently see bluebirds and tree swallows that nest in the nesting boxes the club has provided, and red tailed hawks and kestrels hunt in the naturalized areas interspersed throughout the course.

"We feel that nature on our golf course, as well as all open space, must be respected. Our goal is for Chester Valley to be as highly regarded by wildlife as it is by golfers," said Victoria Laubach, horticulturist at the club.

TPC honors bestowed

Continued from page 15

and Show. The runner-up award for best maintenance operation was presented to Richard Green of TPC at Eagle Trace; the Landscape Operations Award to TPC at Sawgrass superintendent Fred Klauk and Lee Rowe, his assistant in charge of landscaping; and the Most Improved Operation of the Year Award to Jerry Ducker at TPC at Southwind, "a hands-down winner," Roth said.

The PGA Tour also recognized Mike Giuffre of TPC of Michigan, Ted Hunker of TPC of River Highlands and Jim Dyer of Country Club of Jacksonville for maintaining perfect safety records for the entire year — Giuffre and Hunker for the second year in a row.

Miller and his TPC Summerlin crew won their award based on excellence in course conditioning for the members and two PGA tournaments; personnel training; safety; budget and equipment management; and innovation in operational improvements. A new criteria — environmental effort - was added this year, and Summerlin gained certification in January as a member of the Cooperative Sanctuary Program of the Audubon Society of New York.

Miller called his Pennlinks bentgrass greens "the best in the Vegas area and one of the best for Tour events."

A former Cal Poly-San Luis Obispo student in ornamental horticulture who worked for 10 years for Sunrise Co. golf courses before joining Summerlin, Miller cited the TPC network as making his job easier. "It allows us a lot of input and advice from the Tour -Cal Roth and fellow superintendents," he said. "From that aspect it's good because it brings more of a team approach to the management of a course rather than just one individual."



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Paul Clute, left, accepts the Builder of the Year Award from Golf Course News publisher Charles von Brecht.

Clute 'helping part of the game'

SAN FRANCISCO — Accepting the Golf Course Builder of the Year Award here, Paul Clute spoke of "the opportunity each one of us has to help some portion of the game," and thanked material suppliers, subcontractors and course architects

Presented the Golf Course News award during the Golf Course Builders Association of America's annual banquet, Clute said his staff was utmost in the success of his firm, Paul Clute & Associates, Inc. in Hartland, Mich. "I think it is second to none," he said.

Continued on page 37

McGinnis elected secretary-treasurer, joining President Grigg, VP Williams

By PETER BLAIS

SAN FRANCISCO - Paul McGinnis was elected secretary/treasurer and Michael Wallace and Tommy Witt won seats on the board of directors in the contested races decided during the Golf Course Superintendents Association of America annual meeting held here in late February.

In the two uncontested elections, Gary Grigg of Royal Poinciana Golf Club in Naples, Fla., was chosen president and Bruce Williams of Bob O'Link Golf Club vice president.

McGinnis is head superintendent at Union Hills Country Club (CC) in Sun City, Ariz. Under the reorganized format,

he should run uncontested for the GCSAA vice presidency in 1996 and presidency in 1997. The 43-year-old Arizona State University gradu-

ate bested George Renault of Burning Tree Club in Bethesda, Md., and David Fearis of Blue Hills Country Club in Kansas City, Mo., for secretary/treasurer. Renault and Fearis will return to the board of

directors, where they will be joined by Wallace, Witt, R. Scott Woodhead and Immediate Past President Joe Baidy.

Wallace, 44, is head superintendent at Hop Meadow CC in Simsbury, Conn., and was elected

Witt, 41, head man at Wynstone Golf Club in North Barrington, Ill., was re-elected to the board.

Woodhead, of Valley View Golf Course in Belgrade, Mont., has another year to run on his board position and Baidy of Acacia Country Club in Lyndhurst, Ohio, remains on the board for one more year as immediate past president.

Wallace and Witt edged Canadians Paul Dermott of Oakdale Golf & CC in Downsview, Ontario, and David Gourlay of Club Summerlea Inc. in Dorion, Quebec, for the two available director positions.

"It's quite an honor, but very humbling to go to that first board meeting and realize the scope of what's going on in our profession," said Wallace, who attended his first meeting the day after the election.

Wallace has been named chairman of the Conference and Show Committee as well as the Membership Committee. He plans to attend an orientation

meeting at GCSAA headquarters in Lawrence, Kan., on April 10.

"Our focus will be on the superintendent's professional image, the environment and membership services in the coming year," he predicted.





Stossel: Gov't should do less policing, more educating public

SAN FRANCISCO - Putting the blame squarely on government regulations and a willing accomplice, the media, John Stossel told an International Golf Course Conference and Show audience that the marketplace ought to be allowed to do the regulating in this country.

The ABC-TV consumer reporter joined panelists Dr. Kimberly Erusha of the U.S. Golf Association (USGA), who called on golf course superintendents to get people in their community directly involved with golf course environmental efforts; Ron Dodson of the Audubon Society of New York State, who urged superintendents to "reach out positively and not negatively" to the environmental community; Paulette Pyle of Oregonians for Food and Shelter, who recommended being present in the halls of state capitols "when legislation is introduced," not afterward; and Anne Leslie of the federal Environmental Protection Agency, who said "exciting" strides are being made to speed up bu-

Stossel declared the market operates in mysterious and surprising ways, and all concerned should step back and let it

For instance, Stossel said, "The FDA doesn't have to be a police agency that just says, 'Yes, you may,' or 'No, you may not'; but rather an information agency. Those companies that want to submit their drugs for approval could get the FDA yellow label. And those of us who are nervous could only take those drugs with the yellow label."

"The market," he said, "polices itself. Information gets out and information solves problems. Better Business Bureaus get involved. We saw [in cases of

freedom from regulation] that often the market was almost magical in solving problems.'

The antithesis, he said, is that "by messing with the market, you create nasty side effects."

People die from obesity while the FDA drags out approval of a drug that could help them, he said. Huge amounts of time and money are spent researching and regulating things that have minimal effect on the general public.

Stossel pointed the finger at his fellow consumer reporters who, he said, work on the belief that "consumers are basically victims played upon by businesses [and that] we need government agencies, lawyers, an elite of intellectual people watching over us."

He said he agreed until he saw "what was really going on," and added, they consume vast amounts of money, cost businesses to comply and absorb a lot of

"Businesses, instead of inventing better golf clubs, better products and ways to clean the environment, are spending money going to Washington, forming associations, and lobbying to manipulate the leviathan that Washington has become. All this red tape suffocates the economy and kills freedoms." Stossel said

Meanwhile, the regulators have little effect on "the obvious crooks, the true sleezoids, the people selling the breast enlargers, or the lose-fat-while-you-sleep diet pills," he said. "They [crooks] kept getting away with it, just hiring lawyers to help them get around the rules, change the name of the company or move to another state. The regulations didn't hurt them, but it hurt people ... who were

Continued on page 34

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Rossi-winner Duich spreads out admiration to others in golf

By MARK LESLIE

SAN FRANCISCO - Dr. Joseph Duich was the man of the evening at the Golf Course Builders Association of America's (GCBAA) annual banquet, but he turned the table on his hosts, citing their work in golf.

Receiving the Don A. Rossi Humanitarian Award from the GCBAA, Duich said: "We know who gets all the press about golf courses. One day on TV, they ... will mention who actually built some of these magnificent golf courses."

Saying he admires the "shapers" who operate bulldozers and fine-tune architects' designs, he added that "99.999 percent of the population would devastate a landscape." And he pointed to the rigors of golf course construction, including its hard, dirty labor and time spent away from family.

Duich quoted his Penn State University department head, the late Dr. Howard Sprague, as saying that one should only be judged by those who've known him. "I have been in this industry long enough to know I can truly judge the value and contributions of golf course builders. And I salute you and thank you very, very sincerely for this award," he said. "It is very gratifying."

Tribute was paid to Duich by two former students — Golf Course Superintendents Association of America President Joseph Baidy and U.S. Golf Association Green Section regional director Stanley Zontek.

"I knew Don Rossi. He was a great man, a friend to us all, and quite literally a friend to the game of golf," Zontek said. "I know Joe Duich. He, too, is a great man, a major contributor to the turfgrass on which the game is played, and perhaps most importantly of all, a teacher and a friend."

Referring to the many dominant turfgrasses developed under Duich during his years guiding the Golf Turf Management program at Penn State, Zontek said: "But the grasses are not what Dr. Duich is most proud of. It's the people the students...

"The sun doesn't set on courses containing Penn State grass, nor, do I sus-

pect, does it set on graduates of the Penn State program."

Speaking of Duich's personal side, Baidy said: "He was concerned about our [superintendents'] depression and stress. He was concerned about the divorce rate among the students. And he shared that with us.

"He followed our careers and still follows them. His students are one of his greatest concerns."

Duich taught more than 5,700 students in more than 36 years before retiring in

The humanitarian award is given in memory of the late Mr. Rossi, former executive director of the National Golf Foundation and GCBAA.

Bioremediation technologies invented to solve UST leakage problems

By MARK LESLIE

age tank (UST) leaks, a frightening thought ing material goes to the bottom of the not very long ago, are being neutralized by aquifer and forms tar balls, or, in the case new but simple technologies, according to of gasoline, floats on top of the aquifer and Dr. Ronald F. Turco of Purdue University.

Speaking on bioremediation at the International Golf Course Conference and Show, tremely high levels, Turco said, and "the Turco said an estimated 25 to 50 percent of subsurface ecosystem has very poor degall USTs are leaking and most USTs leak radation powers." The solution is to crewithin 15 years of installation.

"The real problem occurs when there is SAN FRANCISCO — Underground stor- an aquifer," he said, adding that the leakmoves out of it along the gradient.

Leakage introduces chemicals at exate degradation in that subsurface.

"Smaller-scale bioremediation is usually relating to gasoline, and gas is very degradable by bacteria under the right conditions," Turco said. "You must make bacteria in the subsurface do the job. The alternative is to dig it out. And that means huge

"The challenge is to get the contaminant out of the subsurface and do it in such a way as to minimize more damage and maximize microbial activity.'

Bioventing, air sparging and soil vacuum extraction are the 1990s' techniques overcoming the challenges. Turco explained:

 Bioventing is pumping air into the well. This forces the contaminated area to generate a microbially favorable environment to allow degradation.

The advantage of bioventing, he said, is that "it employs a cheap source of air, treats volatile and non-volatile contamination fairly well, and is low-cost and generally consis-

"The trick is to avoid pumping too much air onto the zone."

- · Air sparging is identical except the forced air is moved through a contaminated saturated zone.
- Soil vacuum extraction (SVE) "a very recent practice" — is coming on line. A huge vacuum pump pulls air out of the ground. By sucking air out of the soil, other, fresh air is drawn into that zone, keeping air circulation moving.

Stossel, Baidy, et al on environment

Continued from page 33

going to be around for 20 years."

When the country spends "a ton of money trying to squeeze the last pesticide off a golf course, or the last amount of formaldehyde out of the manufacturing process, we are making America a little poorer," Stossel said. "The factory doesn't open. The fruit costs more. Fruits are supposed to make you live longer, so if you make more pesticides more expensive that kills them by denying them fruits and vegetables... Wealthier is healthier.

"We do not, in the press, ever put these things in perspective. We are excessive about the trivial stuff, and we may be killing people by making the bottom line worse. Maybe the new headline should be: 'New EPA rule saves six, kills 60.' "

"The superintendent is a very important starting point to the educational process," said Erusha, director of education for the USGA Green Section. "The owner, builder and architect must be involved as well. We have a technical language all our own. We must use a language people can relate to. Assess their perspective and interest and formulate your answer accordingly.

"We know if fertilizers and insects are properly chosen and applied, they don't harm the environment," she added.

...

"Golf is an easy target" for environmental activists wanting publicity, said Dodson, president of the New York Audubon. "The public perception is that 'golf is an elitist sport that is unconnected to the vast majority of the American public. Golf managers have an almost uncontrollable urge to manage every square inch of earth under the golf course with wall-to-wall, closely cut turfgrass which uses huge quantities of water and chemicals, making an elite, attractive chemical waste site.'

"Most golf courses embrace the idea of environmental sustainability," and on that concept all environmental groups agree, he said. He urged superintendents to "document - with hard numbers and scientific evidence - the value well-sited, designed and managed golf courses can have on the environment.

"Look for every opportunity to speak with and befriend members of your course, organizations, schools, etc. and encourage them to follow your examples of environmental stewardship."

"The folks on the front line, discussing [matters] with environmentalists, make the difference," said Pyle, whose 15-yearold organization boasts 30,000 members across the spectrum of people who deal with chemicals.

Since its origins, when it successfully defeated an attempt to outlaw phenoxy herbicides, the Oregon group "kicked into an offensive mode," she said, to actively bring "a bigger comfort level to the public ...

"The we moved to the legislative arena. If it's not law, it's not the case. We ensured we were at the table when legislation is introduced. We said to environmentalists: 'We agree. But let's have legislation based on fact."

Every state, Pyle said, "can have the success Oregon has had."



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A loud response to Silent Spring

By MARK LESLIE

SAN FRANCISCO - Thirty years after the "wakeup call" Rachel Carson's book gave the nation, the legacy of Silent Spring has been environmental sensitivity, scrutiny, accountability, diligence and paperwork, according to Dr. Frank Rossi.

While not endorsing scientific claims Carson made in her milestone manifest, Rossi said it stirred robust debate that has matured into major scientific advances in the chemical and agricultural industries.

The publishing of Silent Spring, according to the assistant professor at the University of Wisconsin, marked "the birth of the modern environmental movement. There were some major, major shakeups in the USDA [U.S. Department of Agriculture] after this book. It was loaded with pot shots at the chemical and agricultural industries. They were easy targets. There were a lot of things going on not based on good sound science."

The fundamental principle of Carson's book - that the obligation to endure gives the public the right to know - "rides through the environmental discussion that we are having today," Rossi said. "People have a right to know what impacts their environment, and we have an obligation to tell them. I think we can continue to say we impact the environment in a beneficial way much more than in a negative way. And that's the message that's starting to get out."

While in the past the turfgrass industry had "no impact on environmental regulations, that is less true today," he said. This is due in part because of the vast range of environmental research in the turf industry and at universities, "some fine leaders are emerging to tell our side of the story," and "we have grown, changed, become more aware - and people are more aware of us."

The debate, Rossi said, used to be very one-sided. "We were getting bashed over the head. And we were trying to figure out how to get out from underneath the bashing," he said. "I think we have come out from underneath [it] and this industry is starting to posture itself as ... a group of environmentalists in its own right."

The challenge the golf industry faces, he said, is to get primary information in citizens' hands, divulging results of the environmental research through pamphlets and other media.

Citing surveys that show most of the public have no firm belief one way or the other whether golf courses harm the environment, Rossi said, "Our job as professionals and as educators is to take the complex and make it so people can understand." Superintendents, he said, should shoulder some of the burden in educating club members and their communities about the ef-GOLF COURSE NEWS

fects of their courses.

On the horizon, "we will continue to see the service industry grow, more trained personnel on your staffs, because you're going to have a lot more to do as golf course superintendents," Rossi said. "You're going to spend as much of your time doing public relations and information dissemination and education as you are growing grass. You will have a competent individual to delegate [maintenance responsibili-

Wise-use organizations like RISE (Responsible Industry for a Sound Environment) and the American Council on Science and Health will help proactively. The industry should expect to "change our behavior or wait until we're regulated into it," Rossi said. "That's the legacy of Silent Spring.'

Otherwise, he warned, environmental activists could push the government into "reverting back to things that are not always rational or logical."

"Yet the question still remains: Do we really know everything there is to know about what we

use - nutrient-wise, pesticidewise, energy-wise?" Rossi asked, calling for continued research into the unknowns and adding, "We can't protect processes we don't understand."

Silent Spring's legacy, then, he told superintendents "means people are more sensitized. If they are more sensitized that means you will be under more scrutiny. If you're under more scrutiny that means you are going to be more accountable. If you are more accountable that means you are going to have to be more diligent in what you do... If you are more diligent, that

means more paperwork... More paperwork means it takes more time. And you will have less time to do what you're doing now."

Saying the earth has limited resources and they need to be shared by all life, Rossi added: "Humans are part of nature and are subject to its laws. We need to cooperate and not dominate. That's very important. We live in an ecosystem that is essential for all life. That's a very lofty goal to have that kind of an ethic. But I think it's a kind of ethic that should be attainable for this industry."

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Researchers advancing in discovering biologicals for turf care

By MARK LESLIE

SAN FRANCISCO — Researchers are continuing to discover and verify bacteria and endophytes that effectively control turfgrass pests, according to Dr. Patricia Vittum of the University of Massachusetts at Amherst.

Speaking at the International Golf Course Conference and Show , Vittum said: "Living organisms are available to control some pests. But we need to look at ways to reduce pesticide loads and use biologicals when available."

Among the findings and recommendations she related are:

• For Japanese beetles, Bacillus popilliae works "but controversies surround it. Doom, Japidemic and Grub Attack are very slow-acting and don't remain established long in some areas."

• To find out when moths are laying their eggs, put up a black light trap. When the number of captured moths increases, that is a signal they are out flying. They reproduce two to three weeks later — 10 to 14 days in warmer regions — and that is when to apply the control material

• Bacillus Thuragiensis (BT) variety Israeliensus is effective against mosquito larvae and has no effect on others in that aquatic setting.

• Another BT variation, not yet named, is exciting because it has good activity against white grubs. It is in the hands of university researchers for field testing. "I predict it will be commer-

cially available within two or three years," she said.

• More and more information is available about nematodes — microscopic, worm-like creatures that carry bacteria that they release while moving about inside insects.

Among nematodes, S. carpocapsae is effective against caterpillars, while s. nobravis, s. riobravis and s. scapterisci have yielded good results against mole crickets.

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the market. It kills white grubs.

• Steinernema Carpocapsae (Exhibit, Vector and Biosafe) show good results in caterpillar control. Also displaying some bill bug control and possibly annual bluegrass weevils, they work quickly — in several days.

• Nematodes are formulated in various ways — from packets of jell to newer, pelletized packaging. The pelletized type is "much easier to handle, but perhaps the nematodes are not as lively," Dr. Vittum said.

Reducing solid waste stream made easier

By MARK LESLIE

SAN FRANCISCO — "A waste is a terrible thing to mind," said Dr. Roch Gaussion of the University of Nebraska. And with that, the professor informed superintendents at the International Golf Course Conference and Show that technology now exists "to ameliorate a lot of the problems" once affiliated with compost generation.

"The EPA feels the number one way to reduce the organic waste stream is to reduce the amount that is produced. Second is recycling," he said. Along those lines, he pointed to a number of cultural, chemical and design practices that can strongly influence solid waste management. Among them:

- Mowing. Raising the height of cut can reduce clipping production 10 to 15 percent. Twenty percent of the time, let the clippings fall. "This does not influence the thatch level; that is a misnomer that has been around for years," he said.
- Fertilization. Reducing fertility input within the range that is recommended can reduce the clipping production 10 to 20 percent.
- Grasses. When lower, more prostrate-growing ryegrasses are used, as much as 40 percent less organic production can be realized.
- Ornamentals. Select species with quickly decomposing leaves, minimal pruning requirements, relatively low fruit drop and size. Ornamentals are being bred to grow shorter.
- Plant Growth Regulators (PGRs). Estimates suggest they can reduce clipping production 10 to 50 percent.

"New technology is out, but be very careful," Gaussion said. "They are very rate-sensitive and can cause negative agronomic problems — much like any pesticide — if not used properly."

PGRs can also be effective on trees.



By PETER BLAIS

AN FRANCISCO — "You couldn't have made a bet ter selection," Toro Chief Executive Officer Ken Melrose said of Dr. James Watson, who received the Old Tom Morris Award during the Golf Course Superintendents Association of America annual banquet held here in late February.

During his 40 years at The Toro Co., Watson served as director of agronomy, company agronomist and vice president of customer relations. Semi-retired and living in Colorado, Watson still serves on the plan-

Watson perfect choice for Old Tom Award

ning council for the Irrigation Association and was agronomic coordinator for the seven 1994 World Cup soccer sites.

"Jim has received many awards," said Melrose in reference to, among others, last year's Donald Ross Award from the American Society of Golf Course Architects. "But I think this is the most appropriate."

Outgoing GCSAA President Joe Baidy called Watson "a giant in the turfgrass industry. You can see his influence everywhere."

In thanking the association for its highest award, Watson hailed the superintendent as the "driving force in the partnership being forged between the GCSAA and allied associations."

Also honored during the banquet were Baidy, Immediate Past President Randy Nichols and David Stone, superintendent at The Honors Course in Chattanooga, Tenn.

Baidy received a watercolor of the 2nd hole at his home course, Acacia Country Club in Lyndhurst, Ohio.

"I want to thank you," Baidy told the crowd. "The GCSAA launched my career when it awarded me a scholarship back in 1964."

Baidy applauded Nichols for leading GCSAA through a "challenging" 1993 that saw the association replace its upper management staff with the new Steve Mona-led regime and refocus its efforts on the local chapters.

"I received a lot of the credit

for the positive changes that have taken place," said Nichols, head superintendent at Cherokee Town & Country Club in Dunwoody, Ga. "But we couldn't have done it without the efforts of the entire board and the superintendents across the country."

Thomas Chisholm, chairman of the United States Golf Association Green Section, presented the Green Section Award to Stone.

"The playing conditions at David's course have exceeded everyone's expectations," Chisholm said. "His experiments with zoysia and bentgrass have become legendary across the South."

Clute: When the glitz gets brighter, bunkers get deeper

Continued from page 33

While remarking on the growth and increased popularity of golf and the "good reason to believe the game will continue to grow," Clute added that those in the industry should not lose sight of the golfing public on whom that growth hinges.

"It seems the glitz and glitter involved in the game gets a little brighter. It seems bunkers get deeper and waterfalls get taller. Greens get faster, the ball flies straighter and the grass gets greener. All those things I have found exciting, stimulating and good for the game of golf," he said.

"But there's another big section of the industry and the game that is far more modest than that. That's where the lion's share of the players participate, and that is really the backbone of our industry and of the game."

Many composting methods emerging

Continued from previous page

 Mulching and composting woody plant debris has good potential. Run the debris through a chipper.

While the concern has been that the chips are not uniformly colored, a product called Mulch Magic is sold in three colors to produce uniformity.

• Research information will be available soon on using composted material as a topdressing amendment.

 A consortium of golf courses may consider buying a \$160,000 machine that physically mixes compost in a windrow.

• The in-vessel compost technology has the most potential for most golf courses with limited land available. An example is a 250-gallon container with a motor that turns it.

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the first and only golf car
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Royal & Ancient Golf Club
of Saint Andrews,
we humbly express
these sentiments to our most
valiant competitors:

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Nothing compares."

Hiers urges architects: Pay attention to maintenance complex

By MARK LESLIE

SAN FRANCISCO — Saying the maintenance complex is the most crucial element in a golf community and that it has been overlooked for decades, Tim Hiers called on golf course architects to "pay attention to that."

"Some architects have taken the lead in explaining to owners the importance of the maintenance complex. But there still are not enough who do," the superintendent at Collier's Reserve in Naples, Fla., told an audience at the International Golf Course Conference and Show here. "Architects, if you have a better maintenance complex and you come back in five years, you will see a better maintained golf course."

As an engine is to a car, so is the maintenance complex to a golf course, Hiers said and then proceeded to pound home hints on improving equipment care, personnel management and environmental awareness.

Key to the entire operation, he said, is a clean, well-kept complex — not only for its effect on the crew but club members as well.

"If the shop is immaculate and good-looking you will see a direct relationship to the golf course maintenance, Hiers said. "Our [club] members even bring friends over to see our maintenance complex. Their pride carries over to us. It can change the patterns of ways employees work on the course.

"You'll find that members will take the time to understand the maintenance operations. If they do, you get a better ear, a better chance of more funding."

Asking how the shop helps course maintenance, Hiers said, "You do less work on the shop and more on the course."

Collier's Reserve spent \$600,000 on its 10,000-square-foot maintenance complex, and 12,000 square feet would have been perfect, he said.

Hiers urged his colleagues to "engineer out potential problems" when possible. "Don't treat symptoms, address problems. A problem can go away. But if you have a symptom you are going to address it forever," he said.

Among his comments:

- Fuel pad. Water recycling system. Water bills from \$800 a month to \$175. The system will pay for itself in three years. The system extracts any impurities in this water: sludge, benzine, you name it with the exception of pesticides because we don't clean our pesticides off in this fuel op but elsewhere.
- Eastern bluebird box made of 100 percent post-consumer recycled plastic, as opposed to post-industrial recycled plastic. Benches and bird feeders made of this as well. Guaranteed for 50 years and just a little bit more than a conventional bench.
 - Recycle pesticide contain-

ers. Company comes on site and runs it through a chipper and make plastic pallets.

Pesticide recycling center drawn up by Oklahoma State. Floor recessed toward the sump. A special paint on the floor does not allow any chemical to infiltrate it. The only wood in the structure has that paint on it.

• When trees die, we usually snag them, we don't cut them down. But if we do cut them down, we then chop the wood up, carry it to a wooded area and

create a pile for animals like quail.

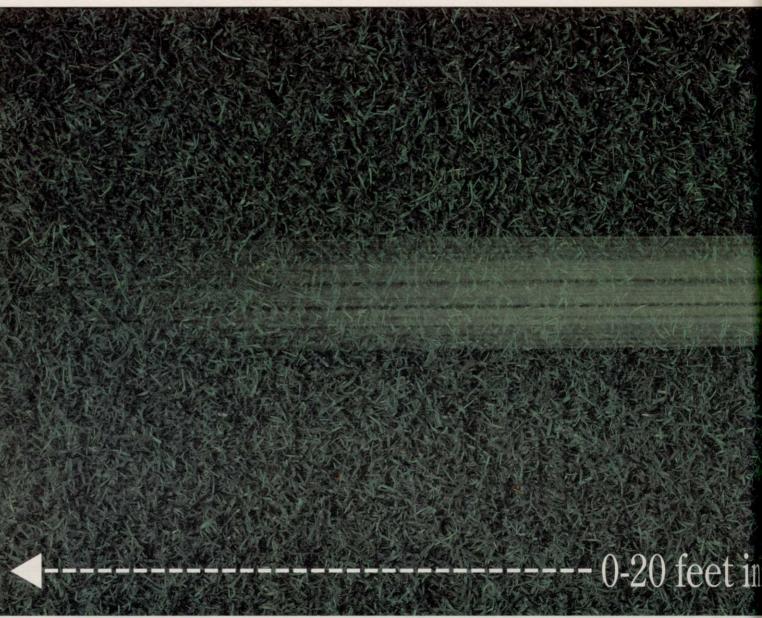
For every tree that dies, we plant three of the same type and of different sizes. You don't want to plant trees of the same size.

- Storm shelter is also made of recycled material. Put light-ning protection on that shelter. You won't have a case in the courtroom unless you do because you've created attractive nuisance: telling people you have a shelter but you don't have protection on it.
- Building and concrete are white. Concrete costs 20 percent more than asphalt, but it will pay for itself in five years. Petroleum and fertilizer spills ruin asphalt.
- PA Electronic Ballast Lights—the most efficient in the world. Electrical savings based on five 10-hour days and two five-hour days is 1.8 years.
- Overhead fans in the building can raise the thermostat about 3 degrees. Microwave ovens are about 70 percent more efficient than a regular convec-

tion oven. Plus we put two in, so employees don't have to wait.

- Overhead fans in building housing equipment. Every time equipment is used, it is washed, waxed and hand-dried. You can't get into the seams to dry them, so at night the fans are turned on to take away excessive moisture.
- The mechanic's shop has floor painted grey where people are allowed to walk.
- Anything that could leak on the property has a container.
- The mechanic shop is designed with lifts so he does not have to lift anything, reducing

Continued on next page



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To improve the quality and playability of fine turf, you can't beat the performance of two new Scotts® growth regulators: High K Fertilizer Plus Turf Enhancer and Turf Enhancer 2 SC.

These new Scotts products utilize Scotts exclusive growth regulator technology to improve turf quality, color, consistency and playability. And because they reduce turf growth (as well as clippings and water use), you get faster greens without having to sacrifice height and root density.

High K Fertilizer Plus Turf Enhancer supplies

high-potassium feeding with controlled-release nitrogen utilizing Scotts exclusive Triaform_{TM} Technology. The combination of fertilizer and turf enhancer produces a tightly knit, dense stand with extended greening for up to 10 weeks.

Turf Enhancer 2 SC comes in a liquid concentrate whose active ingredient (paclobutrazol) readily disperses in water for better, more consistent coverage. It is also more convenient to apply and gives you greater rate flexibility than a granular formulation.

Barker repeats Dad's feat: wins GCSAA championship

By PETER BLAIS

MONTEREY, Calif. - "Just play good," was the advice Vaughn Barker offered his son, Todd, prior to the 1995 Golf Course Superintendents Association of America Golf Championship held recently here.

The younger Barker had reason to listen to his father, who won the annual event when it was played here in 1977. And he listened well.

The head superintendent at Fore Lakes Golf Course (GC) in Taylorsville, Utah, Todd put together a two-day total of 144 over the Bayonet and Poppy Hills golf courses to win the overall championship by a resounding seven strokes over his nearest competitor, Paul Jett of Duke University Golf Course in Durham,

"I was only two shots ahead after the first day," recalled Barker, who used his 3-wood off the tee over the tight Bayonet course to fashion a two-under 70 on the opening day. "Paul shot a 72, but had some problems the second day on the first few holes at Poppy Hills. I just played very steady after that and ended up with a 74 at Poppy Hills.'

Barker, a top amateur in Utah, was one of 400 members and affiliates in 11 flights competing in the warm-up event to the annual International Golf Course Conference and Show held two hours north in San Francisco. The Golf Club at Quail Lodge, Old Del Monte Forest GC and Rancho Canada GC's West Course were the other tourney locales.

Barker was also part of a Utah team that captured third place in the Chapter Team Gross competition behind Jett's Carolinas A team. Joining Jett on the winning team were Andy Campbell of Brook Valley Country Club (CC) in Greenville, N.C.; Chuck Green of Florence (S.C.) CC; and Chandler Masters of Talamore at Pinehurst in Southern Pines.

Winning the Lamphier Trophy as net team champion was Midwest AGCS No. 4 which included four Illinois superintendents -Alan Fierst of Oak Park CC in Elmwood Park; Robert Maibusch of Hinsdale Golf Course (GC); John Stephenson of Potawotomi GC in St. Charles; and Roger Stewart Jr. of Stonebridge CC in Napierville.

The winners in the other divisions, gross listed first and net second, were:

• Division B (3.0-5.7 handicap)— Greg Hall, Renton Washington,

Greg Hall, Renton Washington, Fairwood G&CC; Dennis Vogt, Cherry Hills, Colo., Glenmoor CC.

1st Flight (5.8-7.8) — Scott Wagner, Silver Springs, Md., Leisure World; Fritz McMullen West Bloomfield, Mich., Forest Lake CC.

2nd Flight (7.9-10) — Sean Remington, Chevy Chase, Md.

Remington, Chevy Chase, Md., Chevy Chase Club; Ed Cimoch Jr., Mount Cobb, Pa., Scranton Munici-

 3rd Flight (10.1-12.7) — Paul Jamrog, Belchertown, Mass., The Orchards (CV)

Orchards (CV)

Orchards (CV) Eldorado CĆ.
• 4th Flight (12.8-16.5) — Den-

nis Flynn, Katonah, N.Y., Brae Burn CC; Tim Powers, Pound Ridge, N.Y., Pound Ridge CC.
• 5th Flight (16.6-22) — Ron

Garrison, Center Valley, Pa., The Center Valley Club; R. Scott Woodhead, Belgrade, Mont., Valley View GC.
• 6th Flight (22.1-29.8) — Roger

Stewart Jr.; Trevor Oxtoby, Vienna, Austria, Colony Club.

• Senior I (age 50-56) — Alan Andreasan, Mission Viejo, Calif., El Niguel CC; Mike Bavier, Palatine, Inverness GC

• Senior II (age 57-64) — William Johnson, Plymouth, Minn., Edina CC; Ken Goodman, Wheeling III., Bull Valley GC.

• Super Senior (age 65+) — Clete Idoux, Granite City, III., retired; John Grant, San Rafael, Calif., San Mateo

• Affiliates — Dave Bingham, Fresno, Calif., B&B Associates; Jim Davis, San Diego, EcoSoil.

Maintenance complex

Continued from previous page chances of injury.

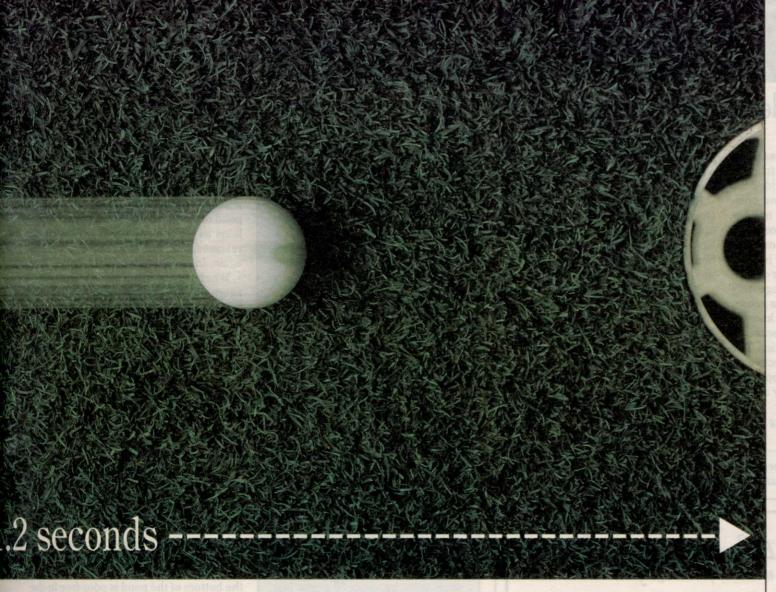
· Little dirt comes into the maintenance buildings because native vegetation is planted around the complex. This cost a little more up front, but no resources are used to maintain it - no water, no electricity, no fertilizer, pesticides, labor or fuel.

 People say native plantings don't work. The reason they believe this is that they haven't done the right thing. You have to pick the right plant at the right location, at the right time of year, at the right planting density, at the size, and then maintain it until it's established.

· Likewise, wildflowers do work. But you have to pick your spots, till the bed properly, pick the right flower and stay on top of them. They make a great habitat and save a lot of money in maintenance.

· A five-foot barrier of native plants encircles the entire maintenance building. Instead of ironconcrete posts stationed to protect plantings and buildings, use PVC, so the vehicle is not dam-

· Birdhouses made out of discarded PVC pipe.



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nology, and no other regulator products can match its record of proven performance and turf safety, or match the breadth of Scotts product line. And only Scott can offer you the expertise of an agronomically trained Tech Rep who is ready to help you in developing a growth regulator program that addresses all your needs (including Poa annua control).

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Growth Regulator Technology ... The Scotts Difference

A shimmering, goose-free hazard guards the 17th green on the Edinburgh Course, a new addition to the Wentworth Club in Virginia Water, England. The Edinburgh is a John Jacobs Golf Associates design.



Two superintendents sound off on goose tactics tried & untrue

By TONY RZADZKI

live and work possibly thousands of miles away from all of you fellow superintendents. But I decided it's time to relate my experiences and opinions about goose control. This has become a universal problem that you and I deal with daily and, as yet, no one has come up with a solution. To be honest, neither have I, but I am constantly experimenting with methods to manage this problem with the resident Canada goose.

Following are all the methods I know of that have been used to chase, scare or eliminate geese from our properties. The list reads in order of least effective to most effective. These are my opinions and I am sure it may cause a stir among us. But here goes:

1. Yelling, waving and flailing arms, throwing rocks.

Tony Rzadzki, CGCS, is the superintendent at Cantigny Golf Club in Wheaton, Ill.

Result: You look like a maniac.

2. Swinging golf clubs or chasing geese with your golf cart and swinging a club at

Result: A nesting goose might bite you. Once again, you're perceived as a maniac, and the geese get used to your behavior and crap even harder before they honk (laugh) and scoot 5 feet out of the way, only to dump again on another spot.

3. Installing plastic alligators or swans. Result: The perception is lost - you are a maniac who definitely needs help. Plastic or foam animals placed in ponds doesn't last long. The geese quickly destroy them while playing their version of Johnnie cross-tackle with them. If you ever get on I-88 eastbound off the Route 59 ramp, you will see a deflated alligator in the corner of the pond. The geese now use him as a diving platform.

Live swans, from personal experience, do nothing to frighten or chase geese off

Continued on page 59

By WILLIAM YANAKAKIS

anadian geese are back! These words may produce cold chills down the spines of most golf course superintendents in the Northeast. The once temporary visitors and constant nuisances are becoming permanent residents on our ponds and fairways. They fatten up on our lush turf and leave in their wake enough excrement to increase your height by two full

Over the past six years I have tried just about everything to alleviate this problem, from dogs chasing them, pyrotechnics hurled at them, to yet another futile attempt using artificial swans (a natural predator).

A new technique occurred to me while Christmas shopping in early October. I was walking through Toys R Us and passed by some remote control vehicles. A 2-foot boat was on display. After getting some information on price, range and operation I decided to give it a try.

Back at the course I was greeted once again by about 60 geese just sitting down to dinner. My dog, happily in pursuit, chased them into the pond. I started charging the nickel cadmium battery of my new toy.

Four hours later I hesitantly placed the boat into the pond. As it moved toward the flock, 60 long black necks turned as if in disbelief. I split the flock with my toy boat, then circled the pond. The geese couldn't leave the little pond fast enough. Amidst much honking and flapping of wings they took flight. My flock was gone.

Since then, smaller flocks have landed, but my grounds crew keeps watch and launches our boat at the first sign of uninvited guests.

It has been music to my ears this fall when the golfers ask, "What happened to the geese?"

William Yanakakis is Superintendent at New Meadows Golf Club, Topsfield, Mass.

Bioremediation, combined with aeration, gains practical acclaim

By DAVID M. ROSE

Ponds and lakes can be important assets for course managers, but they quickly become liabilities when problems like excessive algae growth and stagnation hold sway. Maintaining a healthy water hazard can be difficult and expensive, and chemical quick fixes can sometimes make matters worse in the long run.

Now a number of companies are taking a more natural approach to pond maintenance, enlisting the aid of beneficial microbes to clean up everything from heavy metals to duck droppings in a process known as bioremediation.

Perhaps the most common problem in pond management is eutrophication, a condition characterized by low oxygen levels and excessive algae growth. Eutrophication is caused when excessive nutrients are introduced into the water in the form of manure, grass clippings, or fertilizer runoff. This influx of nutrients results in an algae bloom, which robs the pond of oxygen and can cause odor problems as dead algae decays. This decay releases more nutrients and algae bloom again, in a recurring cycle.

When faced with an algae bloom, managers may be tempted to apply chemicals like copper sulfate. But while these agents will kill the algae, they can't break the cycle of eutrophication, according to Tom Lubin, an independent lake management consultant based in Cypress, Calif.

"A lake is a living system," said Lubin, "and you can't put enough chemicals in to kill everything and expect that it's going to smell good after six months, because it's still going to have this dead material on the bottom."

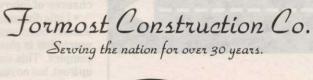
One solution to this problem is to encourage the growth of beneficial microbes by using aeration equipment. By increasing the pond's oxygen content, the growth of beneficial aerobic micro-organisms is encouraged. This growth consumes nutrients, inhibiting algae blooms. Moreover, the breakdown of dead material at the bottom of the pond is odor-free in the presence of sufficient oxygen.

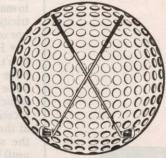
While aeration alone is often effective, the process can be slow. To give the cleanup process a boost, Enviro-Reps International of Camarillo, Calif., manufactures Super-Bugs, a mix of 11 different bacteria and seven enzymes. Available in dry or liquid form, application of Super-Bugs combats algae growth by consuming nutrients and out-competing algae.

"The enzymes break down the larger waste products, making it easier for the bacteria to further process things," said Bob Friedman, co-owner of Enviro-Reps. "Because Super-Bugs contains billions of bacteria per gram, they very readily digest the nutrients. When used in conjunction with aeration, they are even more effective."

Continued on page 42

Dr. David M. Rose, who earned his PhD in cellular developmental biology, is a research fellow in the Department of Genetics at Harvard Medical School. He can be reached via e-mail at drose@fas. harvard.edu





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CIRCLE #303

New patterns from Aquamaster

New for 1995, Aquamaster offers three new patterns: the High Flow/Low Height, Wide Geyser and Crystal Geyser. This trio now makes a total of 10 interchangeable spray patterns available on Aquamaster's floating fountain aerator series. With the High Flow/Low Height patter, the water droplet size pumped is increased, as is GPM. With the Wide Geyser pattern, a modification of Aquamaster's Geyser pattern, produces a less dense, more decorative version. The Crystal Geyser is a more narrow version of Aquamaster's Crown & Geyser. For more info on Aquamaster, write the firm at 16024 CTH X, Kiel, Wis. 53042; or call 414-693-3121.

CIRCLE #304

Floating fountains from Desert Rain

The new Desert Rain floating fountains from Aquatic Dynamics feature reliable and efficient submersible well pumps and motors; assemby with a range of horsepower ratings and flow rates; pumps and motors mounted in induction tubes to create a cooling water flow over motor; highgrade stainless steel frame and hardware components; adjustable stable polyethylene float assembly; floats will not wobble or water log; 50 feet of 1/4-inch braided nylon anchor line; stainless steel intake screens to protect pumps and prevent nozzle clogging. For more info, write Aquatic Dynamics, Inc., 411 W. Orion Street, Tempe, Ariz. 85283; or call 602-820-5900.

CIRCLE #305

No surface spray with Sub-Triton,

The new Sub-Triton₂ from Otterbine Barebo is a horizontal aspirator or circulator (optional) which sits on the pond bottom. It's a jet pump which uses the venturi principle to draw oxygen down a snorkel or venturi.

The Sub-Triton₂ is designed to be an effective horizontal mixer. It's especially appropriate for customers with water 2- to 15-feet deep who desire no surface spray

and do not want to see components of the aeration system.

The Sub-Triton2 is designed to be the perfect alternative for canals or long narrow bodies of water, as it has a uni-directional flow/circulation pattern.

For more information, contact Otterbine Barebo, Inc. at 3840 Main Road East, Emmaus, Pa. 18049; or call 1-800-AER8TER.

CIRCLE #301

Air-O-Later improves Font n'-Aire

Air-O-Lator Corp. has announced several improvements to its Font n'-Aire line of fountain products.

The Carnival fountain now features a one-piece nozzle with a heat-applied nylon coating that provides the same performance at a lighter weight. The centrifugal pump fountains, now manufactured by G.E. Norelle, are injection molded, thus allowing even lighter weight designs.

While lighting systems for the Font 'n-Aire have always been 12-volt low voltage, an extra wire

has always been necessary to control the lighting system due to a shore-mounted transformer.

However, Air-O-Later has developed a water-tight UL listed pool and spa transformer located on the flotation device, thus eliminating the need for this extra wire.

For more information on the Font n'-Aire line and other Ai-O-Later products, contact Air-O-Later Corp. at 8100 Paseo, Kansas City, Mo. 64131; or call 1-800-821-3177.

CIRCLE #302

Troubled Waters?

Before water can enhance a landscape, it has to be healthy. The results of poor water management can be unsightly, smelly and costly.

Otterbine quality water management keeps ponds and lakes sparkling,

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Naturally, efficiently, and
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Otterbine CONCEPT₂
surface aerators give
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The spectacular SUNBURST₂ from Otterbine's versatile CONCEPT₂ line; and the subsurface aerators TRITON and AIR FLO.

And our TRITON and AIR FLO subsurface aerators are virtually undetectable as they create strong currents to produce oxygen that cleans and purifies.

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CIRCLE #137

Computer enhanced photo showing "Matrix Flow" (uniform downward and lateral flow) water

movement through a USGA sand green profile

treated with Primer 604.

Bioremediation

Continued from page 40

Lambda Systems of Columbus, Ohio, also uses bioremediation to clean up polluted waters. In contrast to the "off-the-shelf" methodology employed by Enviro-Reps, however, the Lambda Systems approach is carefully tailored to each individual site, using only micro-organisms indigenous to the area being treated.

Lambda has successfully treated both eutrophication and a laundry list of more dangerous pollutants including heavy metals, hydrocarbons, pesticides, herbicides, and, as Lambda's Jo Davison put it, "Just about anything but snake venom."

A case in point is the Portland (Maine) Country Club. In 1989, when Lambda was called in, Portland's ponds were heavily contaminated with toxic levels of heavy metals and other pollutants. "We had three barren ponds," said Davison. "The microecological population was practically gone, and the only thing that would grow was cattails."

Micro-organisms native to the site had the inherent capacity to clean up these toxins, according

to Davison. But the rapid accumulation of high levels of pollutants had killed off these microbes before they could do their work. Lambda's approach to this problem was to restore the compromised ecosystem by improving existing microbes.

"You've got to bring the bugs up to a higher level of competence where they can degrade these things," Davison said. Treatment of the Portland site began with a rigorous, sevenmonth evaluation period. Lambda took numerous soil and water samples, and painstakingly identified the micro-organisms which make up the area's microecology. Once identified, these micro-organisms (300-400 in all) were grown in the presence of gradually increasing levels of contaminants. As a result, the microbes became acclimated, increasing their natural capacity to resist and degrade pollutants.

"This is a natural process that would happen anyway on its own," stressed Davison. "But we work with the natural ecosystem to speed its evolution up by about 75 to 100 years. The bugs are harmless when we get them, and they're harmless when we put them back. They're just more efficient."

Once the microbes have been acclimated, they are reintroduced to the site. At Portland, burlap sacks of activated charcoal loaded with micro-organisms were applied at a cost of \$35,000. These "bioreactors" sat quietly at the pond's bottom while the microbes did their work.

"There was a tournament going on at the time," said Davison, "and they didn't even know what we were doing."

The results at Portland speak for themselves. After a month, levels of lead, mercury, and other toxins were reduced to drinking-water standards. "The bugs have repopulated the ponds, and they can continually clean up pollutants that wash in," said Davison.

"We're very happy," said Portland superintendent Pat Lewis.
"The water quality is excellent, and fish and birds have returned."

In 1994, four years after the original application and with no further intervention, the ponds were certified as an Audubon wildlife site.

Despite such success stories, Lubin warned that superintendents should not regard bioremediation as a cure-all or quick fix. "Too often, people are looking for a magic bullet, and it just doesn't exist," he said.

Like any other approach, bioremediation will only be effective if the individual characteristics of the site (including such things as oxygen content, pH, and nutrient composition) are taken into account. Results in places like Portland, however, demonstrate that with careful application bioremediation can turn a problem pond into a sustainable, balanced system that works.

GOLF COURSE NEWS



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Making Water Work Efficiently

5 North Olney Avenue

Super: Pooch still your best bet when fighting geese

By TONY RZADZKI

Nothing works better than a welltrained dog in chasing geese off a golf course. Nothing!

Make sure you read the key words in that past sentence "well-trained." You need a dog that will: a) ride on a golf cart, b) sit still when approaching golfers, c) not bark around golfers, d) sit quietly on a cart or leash if you need to talk to someone, check a green, or go in the clubhouse for a cup of coffee. You need a dog that will mind your commands when she is working (chasing geese) and a dog that is determined to get the job done.

In my mind, there is no dog better suited for this type of work than a Labrador retriever. I've read about the border collie and I also believe that a Chihuahua could spook geese as well as a Great Dane. But a water dog, bred for swimming, will go out on that lake and chase a goose off its greatest sense of security-the water. To me this is essential in controlling geese.

The best method I have found when chasing geese out of a lake, especially a larger lake, is to use two dogs. One will spook the geese to the far side of the lake. They usually swim there. If she is by herself, oftentimes it is difficult to flush them out and this takes a lot of time. If you can start one dog at the near side of the lake where the geese are located, then drop the other one in at the far side of the lake where the geese are heading. Duck your head or make sure you have a rainsuit on, because they'll soon be bombing you as they take off.

Not to worry about a dog "catching" a goose. It is almost impossible. I've seen geese intentionally swim slowly in circles just six feet or less in front of my dog for a half an hour at a time. Jeez, I thought my dog would die of exhaustion. But she wouldn't quit until I was hoarse from screaming at her and she finally scrambled up the bank. That gander swam away waddling its tail, taking a dump, and rejoining his new family of goslings and mother.

The dogs can't catch them on land either. A goose's eyesight is very keen. They see you at 200 yards, and a guardian goose is always watching. They fly well before you can get near enough to them to get caught. Another phenomenon I have discovered is that sometimes, when I don't have my dogs, the geese recognize me on my cart, especially the resident geese. Many times they flee when I don't have the dogs tagging along.

Chalk one up for our side!

A goose, aside from its nasty characteristics, is a marvelous animal. I am continually amazed at its tenacity, beauty in flight, wariness of predators, and survival instincts.

Another thing I have discovered is hat dogs are a great public-relation tool. People love dogs and to see them perform. Nothing beats watching a dog in full stride dive into a lake. A great Labrador doesn't look beautiful until her chest is heaving, pink tongue lolling out, eyes alert for action, and her coat soaking wet from working the water. God, I love that. These past two summers I had the opportunity to train two chocolate lab puppies. Talk about a PR tool! Golfers flock around your cart

and conversations are immediate.

One other thing that a dog can do for you, once it is trained, is reduce stress. Early in the morning, making the rounds, breathing in the fresh air, and watching the dog work... some days it makes me feel that everything is right with the world and the responsibilities that I am charged with.

Some days - we all experience them things just don't go well. Everyone has bad days. Then that goofy dog might just chase away an aerosol salesman. Maybe she might just sit with her head on your lap, golden eyes sheepishly looking at you and saying "I'm your friend, your best companion.

Everything will be all right soon."

You scratch her on her head and smile to yourself: "Yeah, everything will

From this bounty of knowledge, what have we learned? For now, the goose is here to stay. Our best solution at this time, I believe, is to use a combination of the better tactics that I described above. One thing is for sure: Whatever methods that you should decide to use, be persistent, as persistent as that gander was with my dog. These geese are now living in what they may consider their heaven, and they won't give up paradise any easier than we would. Good luck!

In each issue Golf Course News we present a product feature: A group of sto-ries that focuses on a specific maintenance issue. This month it's "Pond & Lake Management". In May, it's "New Chemistry".

If you turn to page 41, you'll see a new addition to our regular product feature: The Product Forum. Basically, it's a new product page devoted entirely to the subject of our product feature. It will run every month from now on

I invite all golf course industry firms to mail or fax us new product stories that correspond with each month's product feature. The fax is 207-846-0657.

A complete list and schedule of the 1995 product features - our Editorial Calendar — are included in the Golf Course News Media Kit. For information on how to obtain a media kit, contact Charles von Brecht or Diana Costello-Lee at 207-846-0600.

- Hal Phillips





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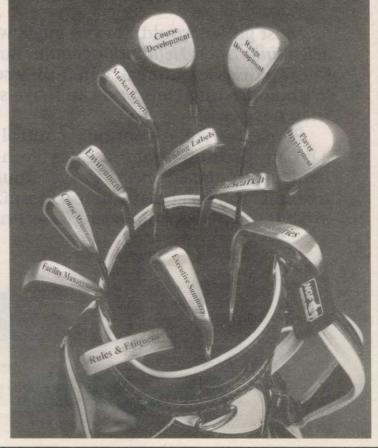
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BRIEFS



NORMAN OPENS U.S. DESIGN OFFICE

TEQUESTA, Fla. - After designing 17 golf courses around the world, Greg Norman Golf Design of Sydney, Australia, has opened an office here.



Greg Norman

Norman said it made sense geographically to locate in Florida, following the recent success of The Medalist Golf Club in nearby Hobe Sound and other ventures in

Georgia and Puerto Rico. The office is located at 218 South U.S. Highway One, Suite 301, Tequesta, Fla. 33469; 407-743-8818.

...... KITE/CUPP SELECTED IN AUSTIN

AUSTIN, Texas — Glenfield Development, Inc. and Kite/Cupp Design plan to build a member-owned luxury golf club here. Devoted exclusively to golf, Glenfield Golf Club will feature a links-style 18-hole course and only 275 memberships. The club will be located along Onion Creek, southeast of the new Austin/Bergstrom International Airport. Ground breaking ceremonies are scheduled for this summer. Robert Cupp will design the course in association with 1992 U.S. Open Champion Tom Kite.

..... TURNBERRY REDO COMPLETE

AVENTURA, Fla. — The greens are rebuilt to U.S.Golf Association specifications, the tees are leveled, and the bunkers are newly sculpted, completing Turnberry Isle Resort & Clu's \$1 million renovation to the 18-hole North Course. An entirely new drainage system was installed, new layers of gravel, sand, and topsoil were added, and each green was replanted Bermudagrass.

WILSON A VP AT LANDSCAPES

LINCOLN, Neb. - Landscapes Unlimited, Inc. has promoted Roy Wilson to vice president. Wilson heads up the company's Irrigation Division. In ad-



Roy Wilson

dition to managing 10 irrigation installation crews, he is also responsible for irrigation estimates, bidding and as-builts. Wilson joined Landscapes in 1977

and has served the company as an irrigation installation superintendent and project manager.

Clark AFB course resurrection renders insights

By MARK LESLIE

IMOSA, The Philippines — Resurrected from the (literal) ash pile, the former 18-hole Clark Air Force Base golf course has been transformed into a 27-hole private resort club, with memberships, that is expected to open in October.

Called Mimosa Resort, the project is one of several built on property that served as Clark AFB until Mount Pinatubo erupted in October 1991, dumping about three feet of ashes on it and devastating the course. When the Americans left the base, the Philippine government took over and auctioned off portions to private developers. The government expects to open a major

airport here in 1998.

Robin Nelson of golf course designers Nelson, Wright, Haworth said 18 holes - a mammoth facelift of the old course - will open in October along with a brand-new nine holes.

While it covered the property with ash, the Pinatubo eruption left the huge mimosa trees lining a number of fairways, and Nelson, Wright, Haworth used them in their new design, rerouting the fairways so none of trees were lost. Builders also added six lakes encompassing seven acres, all of which come into play.

The developer, Mondragon International Philippines Inc. — headed by Tony Gonzalez, the country's former

director of tourism and ex-chairman of Philippine Airlines - plans to construct a lodge for the project.

One blessing of the Pinatubo ordeal, Nelson said, was that "we were able to study the effect of ash on the turfgrass. We found that in small quantities it's an excellent top dressing material."

The Mimosa Resort course was built with a future volcanic eruption in mind. It is fitted with massive hoses able to wash ash off the fairways, and with several vacuum-like devices able to sweep ash off the greens.

Meanwhile, Nelson, Wright, Haworth has designed another 27-hole course in San Pablo City 90 miles south of

Continued on page 46

Palmer singles out restorations

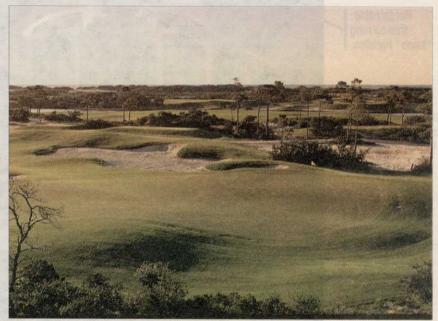
PONTE VEDRA BEACH, Fla. - Pointing to a greater need for architectural and construction assistance in restoration and remodeling as older classic courses compete with new ones, Palmer Course Design Co. has announced a renewed commitment to classic course restoration.

Wes Moon and Joe T. Veal will concentrate on this market by offering totally hands-on construction supervision and feature shaping.

Moon has returned to the United States after an extended stay in the Philippines. He was instrumental in the feature shaping of The Legacy Course at The Orchard Golf and Country Club in Dasmarinas, Cavite, Philippines. The Legacy Course was recently selected to host the Johnnie Walker Classic, one of the premier golf events in the Asian/Pacific region. Prior to joining the staff of Palmer Course Design Co., Moon spent many years shaping Palmer courses.

For two years prior to joining Palmer Course Design Co., Veal was construc-

Continued on page 49



THE PATE PLEDGE

Jerry Pate Golf, directed by the golfing great, promises top-notch golf at its new design, Kiva Dunes, which sits between the Gulf of Mexico and Bon Secur Bay in Fort Morgan, Ala. Expected to open in April, Kiva Dunes is a semi-private, 18-hole track that stretches from 4,994 to 7,092 yards. Owners Larry Drummond and Jim Edgemond of D&E Investments are planning single-family housing on the site, including some beachfront lots on the Gulf of

Dye receiving Ross Award

ST. ANDREWS, Scotland -Pete Dye, who developed a new style of golf course architecture during the past 25 years, has been chosen by the American Society of Golf Course Architects (ASGCA) to receive its 1995 Donald Ross

Dye is the third ASGCA member to receive the award. In 1976 Robert Trent Jones was honored with the initial Ross Award, which is presented annually to an individual who has made contributions to the field of golf course architecture. Geoffrey Cornish, who like Jones and Dye served as president of the society, was honored in 1982.

The Ross Award will be presented to Dye at a banquet here on Tuesday, April 25, at the Russacks Hotel during the ASGCA's annual



Pete Dye

meeting in Scotland.

"It is fitting that we honor Pete Dye in Scotland," noted ASGCA President Don Knott, "since he has long admired Donald Ross and has formulated much of his design philosophy and design characteristics from the great links courses of Scotland. Pete Dye, through his designs, has reintroduced the American golfer to the 'real' game of golf."

In order to thwart today's pros, who get longer distance each year from high-tech golf clubs and balls, Dye creates hazards on his courses that require constant thinking and precise shotmaking. Dye and

Continued on page 46

Free-standing ranges up 236

MIDLOTHIAN, Va. -The number of free-standing golf ranges (those not associated with a golf course) in the United States has grown by 236 facilities, according to preliminary results from Forecast Golf

The total number of freestanding golf ranges in the United States as of Dec. 31. was 2,184. This represents a 12.1 percent increase over the 1993 numbers of 1,948 facilities. The industry statistics re present Forecast's preliminary results from its year-end research and analysis. Final results are expected this month.

According to James E. Turner, vice president of Forecast Golf, "Based on the number of inquiries we receive from new golf range developers, we expect the development of new ranges

to continue. Therefore, the number of golf ranges will continue to increase, but not at the double-digit growth rates we have seen over the past few years. This indicates

Continued on page 47

Service joins buyers, sellers

MIDLOTHIAN, Va. - Forecast Golf Group has initiated a new service, called the Range Exchange, for the golf range industry. The Range Exchange brings together buyers and sellers of golf ranges, striving to reduce the time involved in purchasing and/or selling a golf range.

According to Jim Murphy, president of Continued on page 47

Nelson Wright Haworth busy on several fronts

Continued from page 45

Manila.

Villa Escudero, owned by the Escudero family which operates a major coconut plantation and small resort there, expect to build a sort of botanical museum on the 330-acre site.

Though the property is basically flat, it contains "lots of color in the landscape," Nelson said. He added that he will create some interesting effects with the area's "very wet environment."

Speaking of golf course construction in the Asia-Pacific region, Nelson said: "There was this big flash-boom about four years ago. I predicted it would slow down and then we'd have steady growth. That's what is happening: slow, steady growth."

Nelson predicted the growth will expand into India as well. "One-tenth of the Indian population is in the middle class. That's 100 million people. What a potential to increase the golf in-

dustry," he said.

Meanwhile, Nelson, Wright, Haworth are busy on a number of projects in Malaysia, China, Korea and Australia.

In Malaysia, Kuala Lumpur Golf and Country Club has opened its 36 holes, Tiara Melaka has opened the first nine of its 27-track, and drawings are being done for a new project outside Kuala Lumpur.

Developed by Maddusalat Sdn. Bhd of Malaysia the new project will be "a very high-end, private club," Nelson said.

Called Bukit Cahaya Country Club Resort, it will feature an 18-hole course along with a housing project. Its "exciting site," including big streams that meander through the property, gives project architect Neil Haworth lot of interesting topography.

Nelson, Wright, Haworth is also designing Shan Shui Golf and Country Club in Tawau, Sabah, East Malaysia. Drawings are underway on the resort facility's 18-hole course.

In Australia, Nelson, Wright, Haworth will begin construction this year on just the third golf course built in the Sydney area in the last 30 years. Enhancing the existing Scottish associations with Campbelltown, Nelson will fashion a links course for the Australian-owned, Australian-built Macquarie Links International.

The facility, owned by Monarch Investments Group of Companies, will offer corporate membership as well as public daily-fee access.

...

Nelson, Wright, Haworth are also remodeling the private 18hole Sung Nam course in Seoul, Korea, and opening three facilities in China this year.

In China, the 27-hole Shenszhen Xili Golf Course is ready for play and its clubhouse will open in April, Nelson said.

Qindao — a private course built by a consortium between the local government and a private Singaporean company should open the first 18 holes of its 36-hole facility late in the year.

Golf Design and Management, a division of the Singaporean firm Orwell Investments expects to open an 18-hole private facility at mid-year, Nelson said.

Saying that Chinese companies are "in the learning process" of building golf courses, "They are learning very quickly. The companies we're working with are all expert developers and expert in international relations. With all these new projects, all the technology and equipment [knowledge] is coming with [construction]."

Pete Dye named Donald Ross Award winner

Continued from page 45

his wife, Alice, also have been at the forefront of designing multiple tees so that all levels of player, especially women, can enjoy their "target golf" layouts.

Among Dye's world-famous courses are: Crooked Stick Golf Club, Carmel, Ind.; Harbour Town, Hilton Head, S.C.; Casa de Campo, La Romana, Dominican Republic; PC Stadium Course, Ponte Vedra, Fla.; The Ocean Course, Kiawah, S.C.; The Honors Golf Club, Chattanooga, Tenn.; Brickyard Crossing, Indianapolis, Ind.; Old Marsh, North Palm Beach, Fla.; PGA West, La Quinta, Calif.; Oak Tree, Edmond, Okla.; Blackwolf Run, Kohler, Wis.; and Peter Dye Club, Clarksburg, W. Va.

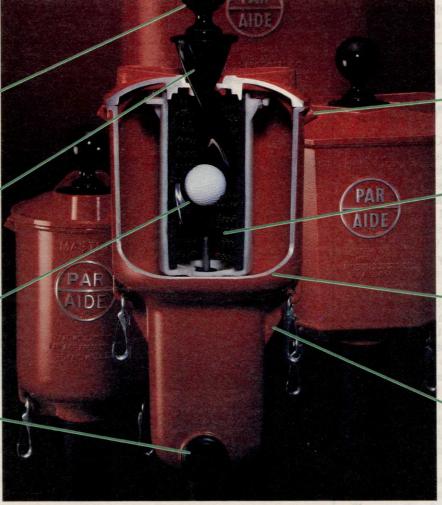
Dye became a member of the ASGCA in 1967 and has been active through the years, serving as an officer from 1985 to 1990. His new book, "Bury Me in a Pot Bunker," tells how he and Alice designed his more famous courses, as well as providing interesting anecdotes about some of the great golfers he has played with over the years.

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Range growth expected to slow

Continued from page 45

that more markets are achieving a balance of supply and demand. With some markets becoming saturated with golf ranges, it is becoming ever more critical for the developer to perform the proper market research. This research will indicate whether the market can support a new facility.'

Buyers, meet sellers

......

Continued from page 45

Forecast Golf.

For buyers, Forecast can identify ranges for sale in any geographic area in the United States. For sellers, Forecast can identify potential golf range purchasers in the immediate market area, or any region of the country. Forecast will qualify interested buyers through a screening process. This service will save the golf range owner from having to deal with unqualified buyers. Forecast can also act on behalf of the range seller, allowing the owner to maintain confidentiality. For more information, contact Forecast at 804-379-5760.

Joneses — Rees and Bill — unveil links layout on the Atlantic Ocean

SEA ISLAND, Ga. — The Jones Connection has proven a fortuitous one here. Enter the principals: Cloister Hotel president and owner Bill Jones III and golf course architect Rees Jones. Witness the results: Ocean Forest Golf Club - a linksstyle track reminiscent of the first courses in Scotland and possessing their elements.

"I think it's going to be regarded as one of the great golf courses in the world some day," Rees Jones said. "Mainly because it's on the type of land the game evolved from. It has all the elements: the ocean, the river, dunes, saltwater marsh and, on top of that, some magnificent stands of hardwoods and pine trees.

"It will intrigue people because every hole will be different even though it's on a piece of ground that doesn't change dramatically in elevation."

The Joneses, who had collaborated on a renovation of nine holes at the Plantation course at Sea Island, expected a winner - for golf, the environment and financially. The 300 club memberships were all sold before the March 30 opening, and Bill Jones III plans to build 180 townhouses.

The 380-acre property sits on the tip of the small island where the Hampton River meets the Atlantic Ocean — a parcel "that the Joneses wanted to preserve," said

Rees. And preserve, they did. Working with the Army Corps of Engineers, Rees routed the layout to fit and not ruin the environment. "We used all the natural elements to the utmost," he said. "In the old days, they used sites to their optimum, because they could not move dirt. When you get a site like this, you have to use what you have. We left every dune in place, like they would have done in the past."

Rees likened the course to Cypress Point, taking the golfer through various terrain and finishing on the ocean. It starts in the woods, comes out to the river on the 5th hole, goes back through dunes, then back by the salt water marsh on 10, then to the river on 12 and 13, back to marsh, and across a beautiful expanse of saltwater marsh at 16. The 17th hole is back to the ocean and the 18th is spectacular, right on the beach.

Its hallmark, Rees said, is its "links-style design with a lot of open entrances. When wind is blowing you can hit the ramps and run the ball on. If the wind isn't blowing, you can fly it in. It will play differently every day, depending on how dry and windy the course is. It has a lot of ramps, especially on longer holes, and on the shorter ones, the greens are better protected."

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Pro, builder open 'one-stop' firm

ST. CLOUD, Fla. - Golf course builder Reed Berlinsky and PGA pro Barney Neal have pooled their talents in a partnership here to provide golf course investors with one-stop shopping for building, consulting and managing golf driving ranges and learning centers.

The partnership forms a division of Reed H. Berlinsky, Inc., the course builder primarily in the Southeast, which brings more than two decades of experience to the venture. It was established in response to a growing number of investors seeking to properly position their product while avoiding costly mistakes. Neal and Berlinsky are prepared to provide assistance on initial planning, permitting, design, construction, public relations, and management.

Neal was head pro at Cedarbrook Country Club in Philadelphia for more than a dozen years. Berlinsky, Inc. has in-house capabilities of clearing, earthwork, rough and finish shaping, irrigation systems, drainage, cart paths, and green construction.





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Q&A: Brauer keys on ASGCA's 50th

Continued from page 1

ity turf development. As we moved into the '50s there were the challenges of incorporating golf into real-estate. In the '60s and early '70s we were in an era of declining budgets and emphasis on maintenance; and those challenges were met. We moved into a golden era in the '80s where the challenge I think was to spend as much money as you possibly could. Our challenges that I see right now is, relatively speaking, we are in an era of declining budgets. You see the

effects on design in terms of 'minimalism.' Certainly the environmental challenges are strong and probably getting stronger every day. Other things are the usage of land, the overall regulatory constraints, water usage and some of the other technology that will work in partnership with superintendents and the USGA to keep the game going.

GCN: What technologies do you mean?

JB: Drought-tolerant plants, designing golf courses with less acreage of turf, and at the same

time accommodating the everlengthening tee shot.

GCN: What are your expectations traveling with the ASGCA to Scotland at the end of April?

JB: The most exciting thing for me is that John Colligan and Eric Nelson on my staff have achieved associate membership in ASGCA and will be going. I've shown them in pictures these great concepts, but I'd like them to see it first-hand. If you look at the design of golf courses after the architects took our first trip to Scotland in '80 there was a significant impact on design. You could see it on almost

everybody's work. It changed. The variety changed. The trend toward faster courses came out.

GCN: Has that effect faded?

JB: If you analyze it, it kept up.

But so many people were doing it that it melded toward the

middle. We all came back really talking about the origins of golf, about how different it was.

What are the plans for the

ASGCA's 50th?

JB: Plans are still developing.
We want to return to Pinehurst, if nothing else to recreate the first photo [of members] out on the veranda. The last time we

Pinehurst courses, but not Mid Pines or Southern Pines, which are pretty much untouched [Donald] Ross courses. We will try to play those untouched Ross courses this time.

GCN: Turning attention to course construction, what's your take on expenditures today? Is more money spent?

JB: No. There are two primary reasons why the cost of building a golf curse is still rising. First, environmental mitigation costs are rising at an alarming rate. It is not uncommon for over five miles of silt fence to be required in the construction of a new golf course. I understand from Bill Kubly that the Caves Valley Course in Maryland required nearly \$1 million of environmental protection, most of it in the form of erosion control. Less than ten years ago, I built some fairly nice golf courses for just over \$1 million.

The clients desire more sophistication, despite the pressure to offset other rising costs. Irrigation systems run by computer, lightning protection (due to lawsuits), and wall to wall irrigation even in the most benign climates, have made irrigation a more significant cost component of the golf course. Some changes are also reflective of environmental demands. For example, at Giants Ridge we were required to avoid use of low pressure heads, which were thought by the environmentalists to be more likely to wash pesticides off leaf blades. As it happens, the lower pressure heads tend to be the lower cost heads.

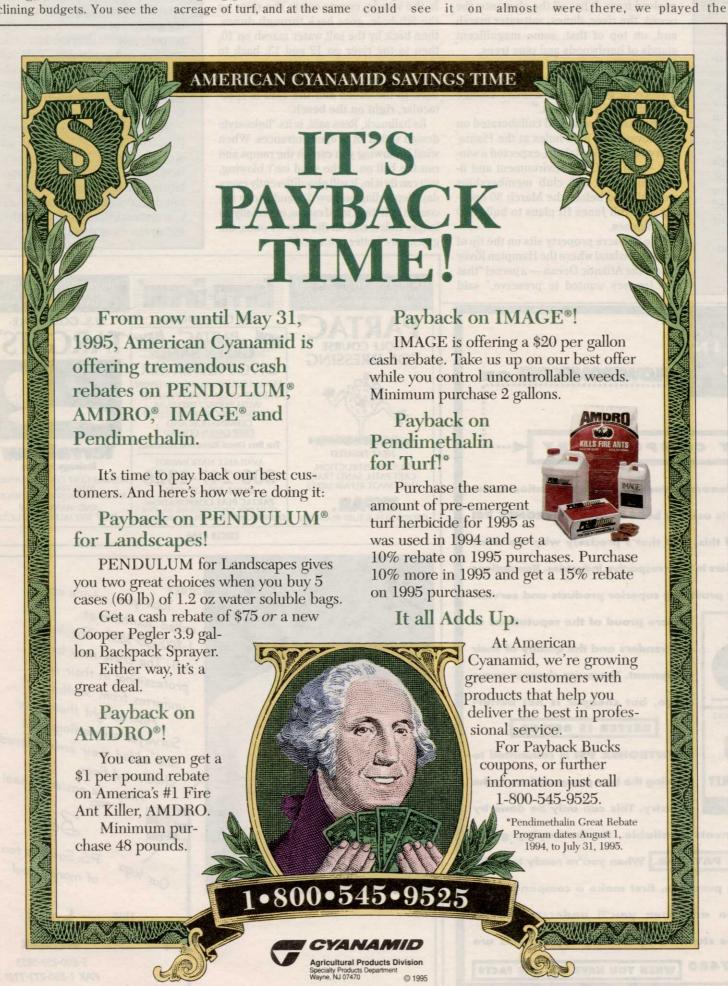
Environmentalists and superintendents alike want more precise control of the irrigation system. The design response for this is closer spacing of heads and more flexible control, both of which drive up cost. In addition, it is now common for dual heads to be placed on the perimeter of the greens. One head will be used to spray on the green (in the south, Bentgrass, which has varying precipitation needs than the surrounding Bermudagrass) and a second to spray the banks. In some cases, more part circles are required due to the use of effluent water, or the desire to protect certain native areas from a change in environmental habitat.

Lastly, as of late 1994, the financing crunch seems to have eased somewhat for golf courses. While this is good news in general, the golf course supply and construction industry, which has held back price increases over the last several years due to economic conditions, has seized the opportunity to raise prices. For example, the price of most plastic pipe materials has risen four times this year alone.

GCN: Minimalism. Has it, or has it not returned to golf course

JB: Minimalism has returned to a degree, but not as much as several magazine articles will have you believe, and not necessarily for the reasons they would have you believe. While it is true that course design critics probably do influence the thinking of most architects, it is also true that speed of construction, envi-

Continued on next page



Q&A with Brauer

Continued from previous page

ronmental concerns and the ever present desire for a "new look" among better architects are the primary causes of the new wave design. I sense that everyone's designs are beginning to look alike, with excessive mounding and we are all realizing once again that the best way to create a unique golf course is to utilize the natural features on the site to create a unique "sense of place." This is the first lesson any aspiring landscape architect learns in Landscape Design 101.

Minimalism has been an important feature in my work, primarily as an assistance in cost control. On a good site, nothing drives up the cost of golf course construction faster than stripping topsoil, shaping the fairway to create manmade rolls and knobs, and re-top soiling that fairway. Of course, erosion-control measures must be implemented for all areas graded. Typically, the cost of such fairway shaping can run between \$2,000 and \$4,000 per acre, resulting in a total increase in golf course construction costs of \$200,000 to \$400,000. On rolling site, I have never believed that it is worth the money to grade in the fairway unless a change of grade will create vision to the target areas, level the fairway to provide a fair stance or lie, or to create drainage that would not otherwise exist where the site is so flat.

Only the most egotistical designer would think that he could better create naturalistic rolls than what was provided by nature itself. In fact, most designers tend to have a limited pallet of ideas in creating fairway rolls as compared to the infinite variety of nature. Thus, we often see golf courses in which extraordinary amounts of money have been spent for grading, but the effect is more repetitious than if no changes were made to the landscape at all.

Beyond these changes, I do not expect golf course design to return to copies of early American design. No designer, whether golf course architect, building architect, or civil engineer, has ever been successful by copying styles of the past and ignoring the current needs of his/her client. Golf courses must now be designed as business entities and design elements such as bigger greens and tees to distribute foot traffic, better drainage to allow quicker return to the golf course after a rain, not to mention the new design challenges of incorporating environmental sensitivity and wheelchair accessibility according to ADA regulation, plus a myriad of other new regulations in requirement must have precedence in design over mimicking a particular historical style.

The great designers of the past were following the same rule I've outlined. They were satisfying the needs of their clients, utilizing existing construction technology, and responding to the economic realities of the day as they knew them. Since these have changed dramatically over time, we should not expect that the final result of today's designers would resemble the final results of de-GOLF COURSE NEWS

signers from yesteryear any more than they actually do.

I will admit that there is a certain sadness to this. As much as I admire the beautiful contour edges of an Alister Mackenzie bunker, and try to emulate them, I find that modern practicalities of machine maintenance, as well as our experience in those steep slopes causing maintenance problems each time it rains, that my version of these bunkers are flatter, larger and placed just a bit farther from the green. While I have heard golf course design critics lament the fact that many modern bunkers appear to be

cookie-cut, these are the practical reasons that force them into these shapes. It takes genuine creativity to vary the size, contour, shape and character of bunkers to provide a unique experience on each hole.

When designing a new course, I always bear in mind that great natural site does give me the opportunity to practice minimalist architecture, natural elements in place of man-made elements to create a pleasant golf experience. I am also well aware that the great variety of work being done by many architects derive their inspiration from early American designs and who embrace minimalism, create the variety in the world of golf that we all desire. I fully expect that eventually our recent courses will be collectively viewed as those of a particular design era and will be judged as such, much as our older courses are now judged through our perspective today. In all probability, the best examples of that design will survive as classics. Other lesser examples will be modified to satisfy then current business conditions and then to rid the golf course of design elements which prove to be impractical or unpopu-

Palmer Design eyes renovations

Continued from page 45

tion manager for McCurrach Golf. He has over the last several months helped train fellow staff members fine-tune their skills on the AutoCadd computer system.

Their first project will begin this spring at Palmer's Bay Hill Club in Orlando. With Palmer directing the design, Moon and Veal will completely renovate the Charger

"The specs called for tee to green bentgrass. I compared and saw how much better Southshore was. Now in less than a year, these greens are the best in the area."

> Bob DiPalma, Superintendent Minisceongo Golf Club Pomona, New York

inisceongo Golf Club, the dream of developer Eric Bergstol, is tucked into the scenic hills of

Owner/developer, Eric Bergstol imagined a unique golf course when he purchased the land for Minisceongo Golf Club.

Rockland County, New York. Roy Case, as architect, began carving into the heavily-wooded, challenging landscape in March 1993 with Bob DiPalma already on board as superintendent.

The specs called for bentgrass tee to green - with bluegrass banks

and fescue roughs. With so many new bentgrasses on the market competing with the oldtime favorites,

Bob DiPalma thought it wise to visit some test plots.

"I saw the darker color and upright growth of Southshore compared to some of the others. That did it! We placed the order...enough Southshore for every tee, fairway and green.



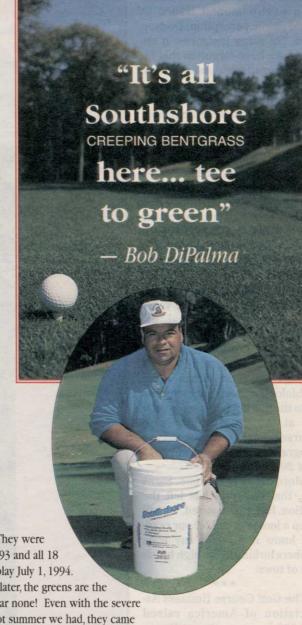
at Minisceongo Golf Club are seeded with Reliant Hard Fescue natural beauty

"Look at these greens! They were seeded in September 1993 and all 18 holes were opened for play July 1, 1994. Now, less than one year later, the greens are the best in the entire area, bar none! Even with the severe winter and extremely hot summer we had, they came

through beautifully. No disease problems and we used very little chemical. We're already seeing 12" roots on most of these greens.

"The tees and fairways are coming in nicely despite some washout problems. By next season this entire course is going to be top-notch. Eric is so pleased with what Southshore has done here, he's already considering it for his next project,"

- Bob DiPalma.



This double green at Minisceongo Golf Club serves the sixth and fifteenth boles Photos were taken less than one year after seeding



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Leslie comment

Continued from page 12

focused on negative agendas, and seem to oppose anything that anyone proposed at any location.

"We have seen a solemn attempt to convince the public that the environmental issues we face today are so complex and convoluted, the only meaningful contributions that individuals can make to environmental improvements is in the form of checks...

'We also see increasing evidence of a negative focus on environmental issues that may not be significant environmental problems at all - just in an attempt to raise money.'

These groups have dehumanized environmental issues to mold public perception, Dodson said. "In many instances, it appears we have forgotten that industry, small businesses, and the golf course business are made up of people," he said, "people who may have families, housing, property, jobs and perspectives that are different than our own but nevertheless, people who are caring, concerned and dedicated human beings.'

The media and environmental groups are easy targets for the golfindustry, just as golf has been an easy target for them. In this age of enlightenment, we should all look inward for flaws. Some in the golf industry have, indeed, been doing that for some years now. The results are real, demonstrable and calculable. Simply look at the findings of the USGA-funded research (see story on page 24), at the vast increase in biological pesticides coming onto the market (see story on page 1), at the great numbers of courses joining Audubon-type programs (see stories on pages 15 and 20).

More needs to be done. Signs are, that the train has left the station. But, rest assured, we will keep a look-out and let our readers know if we spot any train robbers lurking in the high brush out of town.

The Golf Course Builders Association of America raised \$68,000 in an auction at its annual banquet, and will donate \$12,000 of the proceeds to GCSAA's environmental research. The biggest ante? A seven-foot-tall statue of a Scottish golfer, which went for \$20,000 to Tom Tonto of Tonto Construction.

Dr. Michael Hurdzan, on receiving the Distinguished Service Award: "If the value or worth of any award is in proportion of the value of the person giving it, this is the highest award I've ever gotten. The GCSAA and GCSAA members have earned the respect and admiration of the entire golf industry — for your technical knowledge, your dedication to service, and your professional conduct on a day-to-day basis under public scrutiny."

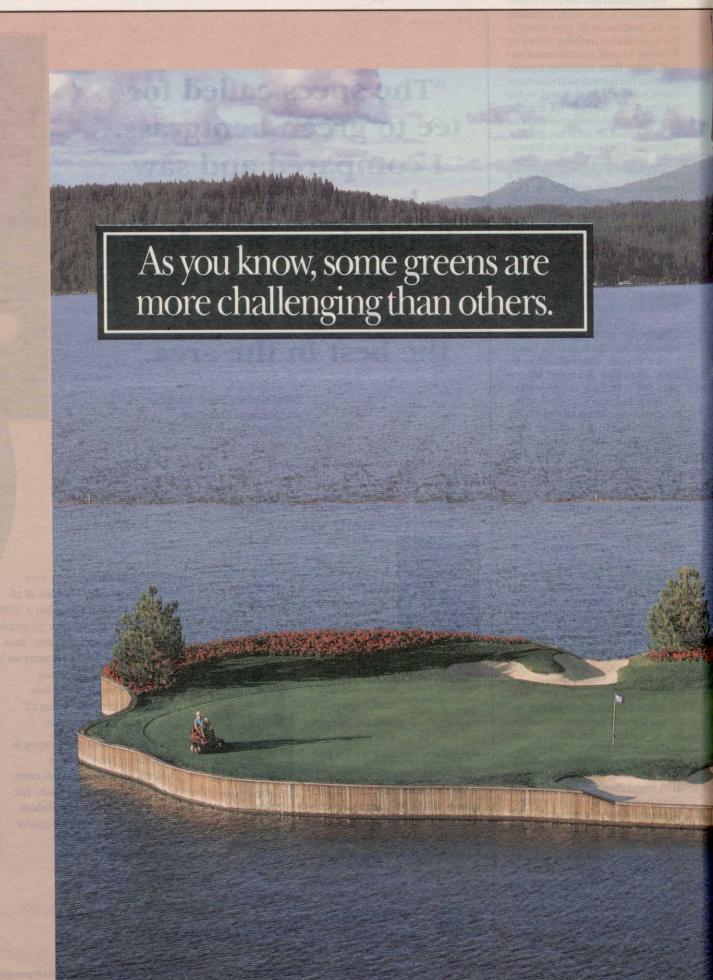
Here's a novel idea, both to generate traffic for the company and money for research: SubAir, Inc. promised to donate \$2 to USGA Green Section turf research for every signature gathered on its Wall of Fame at its booth at the GCSAA trade show.

We have a new title for head golf course superintendents, offered up by superintendent Kevin Ross (CGCS) of Country Club of the Rockies: chief executive agronomist (CEA). It might become a national movement, but it might be hindered by the possible abundance of acronyms following the super's name on his or her business card. An example: Chris Happenstance, CGCS, MG, CEA, PhD.

GCSAA Director R. Scott Woodhead of Valley View Golf Club in Bozeman, Mont., speaking in Maine on the many challenges facing superintendents, said the very first greenkeeper, Old Tom Morris, didn't have many resources to work with. He added: "If the EPA [Environmental Protection Agency] has its way, we won't have many resources to work with, either. We have approximately one-tenth of the chemicals available to us today that we had 10 or 15 years ago. That's not all bad because a lot of chemicals applied back then should not be applied today. But more chemicals are being taken off the market than are being brought onto the market - which will make it that much tougher for us to maintain the strict standards that are placed on us by members."

One blessing of The Phillipines' Mt. Pinatubo ordeal, course architect Robin Nelson said, was that "we were able to study the effect of ash on the turfgrass. We found that in small quantities it's an excellent top dressing material - but you wouldn't recommend it in 3-foot layers."

Champions The Summerfield is "different from the kinds of projects for which [Tom] Fazio is most noted, because there are not that many lower-budget projects that get press," said Fazio lead architect Jan Beljan. "It doesn't matter if it's a house, office building, golf course, airplane, or car. Who writes about Yugos?"



Brit speakers to spice Americans' plate

Well-known British turf experts and a panel of British golf architects will be featured speakers at the annual meeting of the American Society of Golf Course Architects, April 22-29, in Scotland.

R.J. Price, author and lecturer, will discuss "The Landscapes of Scotland's Golf Courses" and James Kidd, director of turfgrass management at Gleneagles, will review the famed course's "Integrated Ecological Management Plan" at Turnberry Hotel on April 22.

The British Institute of Golf Course Architects will meet with ASGCA counterparts at the Russacks Hotel in St. Andrews April 26. President Joan Dudok van Heel, Chairman Cameron Sinclair, and Vice Chairman Martin Hawtree will lead the British delegation, which also will include two committee chairmen, Simon Gidman and Howard Swan.

ASGCA President Don Knott expects a record turnout for this Scottish meeting. "We first visited Scotland in 1980 as a group, and it turned out to be a critical point in the society's development," he said. "The visits to golf's historic courses had such an impact on our membership that we voted to have a meeting in the UK every fine years, and since have benefited greatly from trips to Ireland and England.'

Hills design makes 54 at Bonita Bay

BONITA BAY, Fla. - With the opening of Bay Island, its third championship golf course, Bonita Bay offers 54 holes of golf.

Designed by Arthur Hills, Bay Island opened in early November. It joins The Marsh and Creekside, Bonita Bay's other courses which also boast Hills' signature. In the Bonita Bay tradition, all three courses enhance the existing features of the land and preserve the natural beauty of the property bordered by Spring Creek, Estero Bay and the Imperial River. A wetlands slough frames many of the holes and several on the new Bay Island course play along Estero Bay.

Construction actually netted two new courses for Bonita Bay Club. "We split The Marsh, our original signature course, and combined nine of its holes with nine new holes to form Bay Island," explained Ed Rodgers, vice president of club operations for Bonita Bay Properties, Inc.

"We built nine new holes for The Marsh and brought all greens up to United States Golf Association specifications."

14th green, The Coeur d'Alene Resort Golf Course, Coeur d'Alene, Idaho

For more details, contact your Toro Distributor. 1-800-803-8676, ext. 152

CIRCLE #146

Upscale or die

Continued from page 70

upscaling a necessary and desirable goal for many operators.

"Golfers expect a lot more on a public-access course than they did 10 to 15 years ago," said Roberts. "They want to come out and experience more of a country club atmosphere.'

Beryl Artz, executive vice-president of Golf Corp., which operates 36 daily-fee public access courses in six states and more than 100 private courses, said Golf Corp. is looking into upscaling an older municipal course that is a unique example of golf course design. In this instance, history and aesthetics are inspiring the upgrade.

"It's in the preliminary stages but we're definitely looking at it," said Artz. "One of the questions is, can we take it to the next level? We think we can."

Upscaling is not an automatic success story. The key, say those with experience, is knowing the demand and needs of the market, and where to target the money. The most common mistakes are misunderstanding what golfers will see as an increased value for their dollar, and spending too much on improvements without having the golfers to pay the subsequently higher green fees.

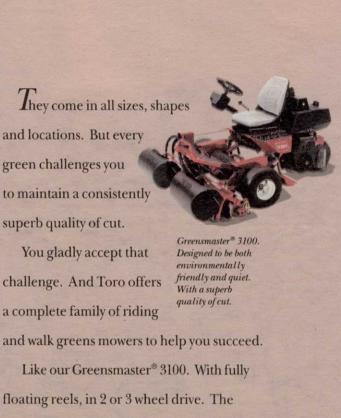
'You do the work first, then, when the golfers are happy with it, you increase the rates," said Roberts of American Golf. "If the work is good, people will still see it as a value.

Like Hirsh, Roberts sees course conditioning—and especially turf quality - as the number-one foundation for any upscaling.

You must have a consistent, quality playing surface: greens, fairways, tees, rough, bunkers,' said Roberts.

Roberts estimated that American Golf has done about 12 upscaling projects in the past four to five years. He said the cost has ranged from \$250,000 to more than \$1 million.

"It's very, very costly to maintain a course and there aren't a lot of entities that have money available to make substantial upgrades," he said. "Most of the time there's barely enough money to keep it from deteriorating. But once it starts to slip it can get away from you and the golfers realize it, they'll go somewhere else."



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THE GOOD STUFF

BRIEFS



LOWE PURCHASES DENVER TRACK

DENVER — Lowe Enterprises has acquired the former Scanticon Denver Executive Conference Center Hotel & Resort on behalf of a pension fund client. The property has been renamed the Inverness Hotel and Golf Club and will be managed by Lowe's hospitality management subsidiary, Destination Hotels & Resorts. The property includes an 18-hole course that serves as the annual site of the Colorado Open.

CONTINENTAL MAKES MIDWEST PUSH

MINNEAPOLIS—Continental Golf Corp. has acquired The Edgewater Golf Club in Albert Lea, Minn. Conti-



David Mooty

nental will rename the course The Albert Lea Golf Club and begin renovations to the layout and clubhouse. This is Continental's third acquisition since its founding

in 1991. Plans are to focus future purchases and management contracts in the upper Midwest, according to company President David Mooty.

BRENT NAMED CORDILLERA EXEC

VAIL VALLEY, Colo. — Cordillera recently named William Carey Brent Jr. vice president of golf operations and club membership for the private, 3,100-acre mountain-top community overlooking the Vail Valley. His duties include managing the new country club and Hale Irwin-designed course. Brent previously worked at Pinehurst in North Carolina and Innisbrook Resort and Golf Club in Tarpon Springs, Fla.

CGG TO MANAGE OUTER BANKS LAYOUT

RALEIGH, N.C. — Carolinas Golf Group will oversee construction and future operations of a new course at The Currituck Club, a resort community being developed on the Outer Banks in Corolla, N.C. CGG will operate the Rees Jones-designed course under a long-term lease with developer Kitty Hawk Land Co. Construction has begun and the course will be ready for play by July 1996.

GOODRICH JOINS CASPER

VIENNA, Va. — Billy Casper Golf Management has named Joseph Goodrich vice president of golf operations. Goodrich most recently was director of golf at Casper-managed Goose Creek Golf Club in Leesburg, Va. He will oversee daily, on-site activities at all BCGM operations.

National Golf looks outside AGC family for course manager

SANTA MONICA, Calif. — National Golf Properties has contracted with Cobblestone Golf Group of San Diego to manage NGP's newly acquired Carmel Mountain Ranch Country Club, making this the first course acquired by the real estate investment trust not to be operated by American Golf Corp.

The founders of AGC established the National Golf Properties REIT.

NGP acquired Carmel Mountain from Cobblestone for \$7.4 million. Cobblestone, which operates five other courses in San Diego, will continue to manage Carmel Mountain under a long-term, triple-net lease with NGP.

"We are very excited to introduce Cobblestone Golf Group as our second golf course operator," said NGP President Richard Price. "Cobblestone is an experienced high-quality golf course operator that is capable of achieving significant revenue growth at Carmel Mountain Ranch. We look forward to expanding our relationship with Cobblestone."



Alaqua Country Club near Orlando is the most recent addition to the Signature portfolio

Signature seeks troubled properties

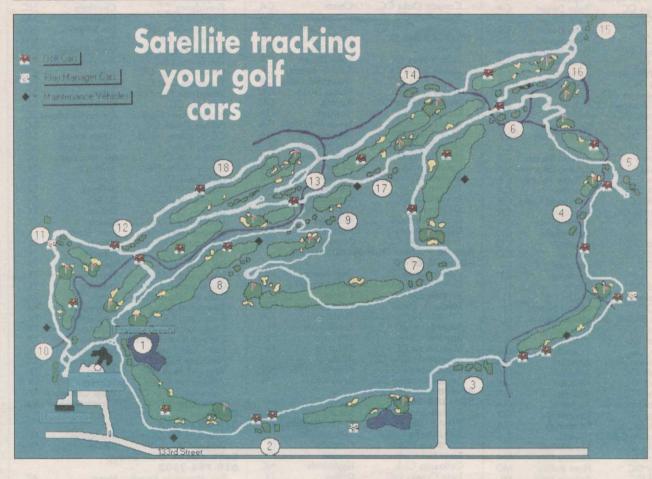
By PETER BLAIS

ORLANDO, Fla. — Acquiring and turning around distressed, high-profile golf communities has been the hallmark of Signature Golf Properties.

The management firm owns Oak Tree Country Club in Edmond, Okla.; Starr Pass Golf Club in Tucson, Ariz.; and Harbor Hills Country Club in Orlando, site of Signature's corporate office. The company purchased Pete Dyedesigned Oak Tree from the Resolution Trust Corp., which inherited the 36-hole layout from the former Landmark Land Co. Signature acquired Harbor Hills from the U.S. Justice Department and Starr Pass from a bank's "troubled loan" portfolio.

"We're continuing to look for quality residential and golf acquisitions

Continued on page 57



A new satellite-based tracking system allows golf course managers to continually monitor the locations of all course vehicles.

By PETER BLAIS

LATHE, Kansas — Golf course marshals everywhere, welcome to the 21st century

A satellite-based tracking system will soon be available that allows marshals to monitor every golf car in a course's fleet for speed of play and unwanted entries into restricted areas.

The manufacturers of Sky Marshall believe this new management tool will allow a course to dramatically increase revenue by speeding up play so that one or two additional foursomes can be accommodated daily.

"If you can add two groups per day, the potential is there to generate more than

\$200,000 in additional revenue yearly at most upscale courses," said Director of Software Engineering Mark Tarantino.

The new system will make it possible to track consistent golf car offenders while rewarding golfers who obey course rules and time limits, a marketing feature that should help attract additional golfers.

Sky Marshall could also drastically reduce operating costs by allowing course managers to keep golf cars away from greens or wet ground and to track each piece of maintenance equipment on the course.

The system has been tested on two courses in nearby Overland Park, Deer Creek Country Club and Overland Park Municipal, according to Tarantino. It was also on display at February's International Golf Course Conference and Show and could be commercially available later this year.

"In our initial on-site installations, courses have experienced faster play and gained additional rounds, even on the busiest days," according to literature from CompuSpeak Laboratories Inc., the Olathe-based manufacturer of Sky Marshall.

Sky Marshall provides a topographically accurate computer-screen view of the entire golf course. With the assistance of the Global Positioning System

Continued on page 57

operations in the United States **Management com**

| American Golf Corp. | | |
|---|-----------------------------|----------|
| 310-315-4200 Desert Lakes GC | Bullhead City | AZ |
| Tatum Ranch GC | Cave Creek | AZ |
| El Dorado Lakes GC | Gilbert | AZ |
| Arrowhead CC Glen Lakes GC | Glendale Glendale | AZ AZ |
| Legend at Arrowhead | Glendale | AZ |
| London Bridge GC | Lake Havasu Mesa | AZ AZ |
| Superstition Springs El Caro GC | Phoenix | AZ |
| Villa de Paz GC | Phoenix | AZ |
| Ancala CC Continental GC | Scottsdale Scottsdale | AZ |
| Aptos Seascape GC | Aptos | CA |
| Arcadia GC | Arcadia | CA |
| Heather Ridge CC Tilden Park GC | Aurora Berkeley | CA |
| Chula Vista GC | Bonita | CA |
| Camarillo Springs GC | Camarillo Chico | CA |
| Canyon Oaks CC Riverside GC | Coyote | CA |
| Desert Dunes GC | Desert Ht Spgs | CA |
| Rancho San Diego Escondido CC | El Cajon Escondido | CA |
| Baker Memorial GC | Fountain Valley | CA |
| Fullerton GC | Fullerton | CA |
| Scholl Canyon GC Knollwood GC | Glendale Granada Hills | CA CA |
| Meadowlark GC | Huntington Bch | CA |
| Indian Wells Resort | Indian Wells | CA |
| Rancho San Joaquin La Mirada GC | Irvine La Mirada | CA |
| Lakewood CC | Lakewood | CA |
| Micke Grove GL El Dorado Park Muni | Lodi Long Beach | CA |
| Heartwell GC | Long Beach | CA |
| Recreation Park GC | Long Beach | CA |
| Skylinks Muni GC Chester Washington | Los Angeles | CA |
| . Mountaingate CC | Los Angeles | CA |
| Westchester GC | Los Angeles | CA |
| Summitpointe GC Casta Del Sol GC | Milpitas Mission Vejo | CA |
| Morro Bay GC | Morro Bay | CA |
| National City GC BlackLake Golf Resort | National City Nipomo | CA |
| Indian Ridge CC | Palm Desert | CA |
| Monterey ČC | Palm Desert | CA |
| Palm Valley CC Mesquite CC | Palm Desert Palm Springs | CA |
| Palm Springs CC | Palm Springs | CA |
| Brookside GC | Pasadena | CA |
| Mountain Meadows Los Verdes GC | Pomona Rancho Palos | CA |
| Franklin Canyon GC | Rodeo GC | CA |
| Mountain Shadows GC | | CA |
| Mission Trails GC Tecolote Canyon GC | San Diego San Diego | CA |
| Santa Clara G&T | Santa Clara | CA |
| Skippack GC Lomas Santa Fe CC | Skippack Solano Beach | CA |
| Lomas Santa Fe Exec. | Solano Beach | CA |
| Lake Tahoe GC | S. Lake Tahoe | CA |
| ThornCreek GC Sunset Hills CC | Thornton Thousand Oaks | CA |
| Vista Valencia GC | Valencia | CA |
| Yorba Linda GC | Yorba Linda Broomfield | CA |
| Eagle GC Applewood GC | Golden | CO |
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| Goodwin GC Keney GC | Hartford Hartford | CT |
| Arrowhead GC | Davie | FL |
| Kendale Lakes G&CC | Miami | FL |
| Bayshore GC Normandy Shores GC | Miami Beach Miami Beach | FL FL |
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| Chandler Park GC | Detroit | MI |
| Palmer Park GC Rouge Park GC | Detroit Detroit | MI |
| Rackham GC | Huntington Wd | |
| The Links at Northfork | Ramsey | MN |
| Fowler's Mill GC Columbia CC | Chesterfield Columbia | MO |
| Royal Meadows GC | Kansas City | MO |
| Forest Park GC | St. Louis | MO |
| St. Peters GC Carolina Shores GC | St. Peters Calabash | MO |
| Revolution Park GC | Charlote | NC |
| Charles T. Myers GC | Charlotte | NC |
| Renaissance Park GC Reynolds Park GC | Charlotte Winston-Salem | NC NC |
| Skyline Woods CC | Elkhorn | NE |
| Brigantine Golf Links | Brigantine Willinghore | N |
| Rancocas GC Tanoan CC | Willingboro Albuquerque | NM |
| Las Vegas Hilton CC | Las Vegas | NV |
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| Clearview Park GC | Bayside Queen | |
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| American Golf Corp. (Pelham/Split Rock GC | | NY |
| Van Cortlandt GC | Bronx | NY |
| Dyker Beach GC Hiland Park GC | Brooklyn Queensbury | NY |
| South Shore GC La Tourette Park GC | State Island Staten Island | NY |
| Silver Lake GC | Staten Island | NY |
| Royal Oak CC Oakhurst CC | Grove City | OH |
| Brandywine CC Collins Park GC | Maumee Toledo | OH |
| Detwiler GC Ottawa Park GC | Toledo Toledo | OH |
| Hickory Heights GC | Bridgeville | PA |
| Hershey CC Hershey CC South | Hershey Hershey | PA PA |
| Hershey Hotel GC Spring Creek GC | Hershey Hershey | PA PA |
| Shipvard Golf Resort | Hilton Head | SC |
| Port Royal Golf Resort River Oaks Plantation | Hilton Head Myrtle Beach | SC SC |
| Maxwell Muni GC Bryan Muni GC | Abilene Bryan | TX TX |
| Riverchase GC | Coppell | TX |
| Z Boaz GC Riverside GC | Ft. Worth Grand Prairie | TX TX |
| Bear Creek World Houston GC | Houston Houston | TX TX |
| Lake Houston GC | Huffman | TX |
| Walden on Lake Hstn Twin Wells GC | Humble Irving | TX TX |
| Sugar Ridge GC Mesquite Muni GC | Lawrenceburg Mesquite | TX TX |
| Southwyck GC | Pearland | TX |
| Pecan Valley GC Sugar Creek CC | San Antonio Sugarland | TX TX |
| Cottonwood Creek GC Ocean View Muni GC | | TX VA |
| Reston GC | Reston | VA |
| Lake Wilderness GC Capitol City GC | Maple Valley Olympia | WA |
| Bear Creek CC American Golf Country | Woodinville | WA |
| 310-315-4200 | Mee | 47 |
| Arrowhead CC Ancala Country Club | Glendale Scottsdale | AZ AZ |
| Canyon Oaks CC Escondido CC | Chico Escondido | CA |
| Mountain Gate CC | Los Angeles | CA |
| Indian Ridge CC Montere CC | Palm Desert Palm Desert | CA |
| Palm Valley CC Lomas Santa Fe CC | Palm Desert Solano Beach | CA |
| Sunset Hills CC | Thousand Oaks | CA |
| Yorba Linda CC Heather Ridge CC | Yorba Linda Aurora | CA |
| Brookstone CC Hidden Hills CC | Acworth Stone Mountain | GA GA |
| Bear Creek CC | Woodinville | GA |
| Mission Hills CC Hunt Valley GC | Northbrook Hunt Valley | MD |
| Columbia CC Skyline Woods CC | Columbia Elkhorn | MO |
| Tanoan CC | Albuquerque | NM |
| Royal Oak CC Oakhurst CC | Cincinnati Grove City | OH |
| Brandywine CC CC of Hershey | Maumee Hershey | OH PA |
| Sugar Creek CC | Sugarland | TX |
| Arnold Palmer Golf A 407-876-6700 | | |
| Cotton Creek GC Dakota Dunes CC | Gulf Shores Gulf Shores | AL |
| Victoria GC | Carson Palm Springs | CA |
| Tahquitz Creek Whittier Narrows GC | Palm Springs Rosemead | CA |
| Silverthorn CC Bay Hill Club | Brooksville Orlando | FL FL |
| MetroWest CC | Orlando Alton | FL |
| Spencer T. Olin GC Minisceongo GC | Pomona | NY |
| Eagles Landing GC Arvida Company | Sevierville | TN |
| 305-384-8000 Broken Sound | Boca Raton | FL |
| Westin Hills CC | Ft. Lauderdale | FL |
| Jacksonville G&CC CC at Heathrow | Jacksonville Orlando | FL |
| River Hill Club Cullasaja Club | Tampa Highlands | FL NC |
| Twin Creeks GC | Dallas | TX |
| 703-761-1444 | | |
| St. Lucie West CC Illinois Center Golf | Port St. Lucie Chicago | FL |
| Holly Hills CC | Frederick | MD |
| WestWinds CC Swan Point Y&CC | Frederick Issue | MD |
| Cranbury GC Loch Ledge GC | Cranbury Westchester Cty | NY |
| Indian Echo CC | Port Allegany | PA |
| Goose Creek GC | Centreville Leesburg | VA VA |
| Ivy Hill GC Kiln Creek G&CC | Lynchburg Newport News | VA VA |
| Stoneleigh G&CC | Round Hill | VA |
| Bridgeport CC BriLyn Inc. | Bridgeport | WV |
| 513-821-1990 Shaker Run GC | Lebanon | ОН |
| Blackhawk GC Carolinas Golf Group | Pflugerville | TX |
| 919-571-8091 | | 1000 |
| Lochmere GC | Cary | NC |

| operano | ns in | III |
|--|--------------------------------|----------|
| Carolinas Golf Group | (cont.) | |
| The Neuse GC Currituck GC | Clayton Corrolla | NC NC |
| Devil's Ridge GC Nags Head GL | Holly Springs Outer Banks | NC NC |
| Oak Valley GC | Winston-Salem | NC |
| Club Consultants Inc. 210-828-8100 | | |
| Tapatio Springs The Quarry | Boerne San Antonio | TX |
| Club Resorts** 214-243-6191 | | |
| Ocean Reef Club | Key Largo | FL |
| Shanty Creek Fairwoods-on-Seven | Bellaire Pinehurst | MI |
| Pinehurst Quail Hollow Resort | Pinehurst Concord | NC |
| Shangri-La Resort | Grand Lake | OK |
| Barton Creek The Homestead | Austin Hot Springs | TX VA |
| ClubCorp 214-243-6191 | | |
| Crow Canyon CC Braemar CC | Danville Los Angeles | CA |
| Porter Valley CC | Los Angeles Northridge | CA |
| Desert Falls CC Indian Wells CC | Palm Springs Palm Springs | CA |
| Mission Hills CC Stoneridge CC | Rancho Mirage San Diego | CA |
| Spring Valley Lake CC | Victorville | CA |
| Shadowridge CC Fox Acres CC | Vista Red Feather Lks | CA |
| Tower Ridge CC Errol CC | Simsbury Apopka | CT FL |
| Countryside CC | Clearwater | FL |
| Ornage Park CC Inverrary CC | Jacksonville Lauderhill | FL FL |
| Eagle Creek CC Monarch CC | Naples Palm City | FL FL |
| Tampa Palms G&CC | Tampa | FL |
| La Cita CC Northwood CC | Titusville Atlanta | FL |
| River North CC Willowbend CC | Macon Wichita | GA KS |
| Southern Trace CC | Shreveport | LA |
| Ipswich CC Brighton | Oak Pointe CC | MA |
| Providence CC Pinewild CC | Charlotte Pinehurst | NC |
| Canyon Gate CC | Las Vegas | NV |
| Silver Lake CC Beckett Ridge CC | Stow West Cheser | OH |
| The Greens CC Indian Springs CC | The Greens CC Tulsa | OK OK |
| Treesdale G&CC | Pittsburgh | PA |
| Woodside Plantation Raintree CC | Aiken Charlotte | SC SC |
| Bloody Point Club Pebble Creek CC | Daufuskie Island Greenville | SC SC |
| CC of Hilton Head | Hilton Head | SC SC |
| Indigo Run Snee Farm CC | Mt. Pleasant | SC |
| Shady Valley GC Lost Creek CC | Arlington Austin | TX |
| Westwood CC Brookhaven CC | Bellaire Dallas | TX TX |
| Canyon Creek CC | Dallas | TX |
| Hackberry Creek CC Walnut Creek CC | Dallas Fort Worth | TX TX |
| April Sound CC Atascocita CC | Houston Houston | TX TX |
| Bay Oaks CC | Houston | TX |
| Hearthstone CC Quail Valley CC | Houston Houston | TX TX |
| Club at Falcon Point Deerwood GC | Katy Kingwood | TX TX |
| Kingwood CC | Kingwood | TX |
| Club at Mssn Dorado | Mission Odessa | TX TX |
| Fair Oaks Ranch Northern Hills CC | San Antonio San Antonio | TX TX |
| Willow Creek GC Wildflower G&CC | Spring Temple | TX TX |
| Columbia Lakes CC | West Columbia | TX |
| Greenbrier CC ClubServ | Chesapeake | VA |
| 214-392-7378 Rosedale G&CC | Bradenton | FL |
| Venice G&CC Cobblestone Golf Gro | Venice | FL |
| 619-794-2602 | | 4.7 |
| Red Mountain Ranch Ahwatukee Lakes | Mesa Phoenix | AZ |
| The Foothills GC Olympic Resort | Phoenix Carlsbad | AZ CA |
| Vineyard at Escondido | 4 1 | CA |
| El Camino CC Whispering Palms CC | Rancho Santa F | eCA |
| Balboa Park GC Carmel Mtn Ranch | San Diego San Diego | CA |
| Saticoy Regional GC Woodcrest CC | Ventura Grand Prairie | CA |
| Stonebridge CC | McKinney | TX |
| The Ranch CC Pecan Grove Plant. | McKinney Richmond | TX TX |
| Club at Trophy Club Colorado Golf Mana | Trophy Club | TX |
| 303-468-0681 | n out same to a | 00 |
| Eagles Nest GC Continental Golf Cor | Silverthorne • | СО |
| 612-929-3255 Continental GC | Coral Springs | FL |
| The Albert Lea GC Pine Meadows | Albert Lea Brainerd | MN |
| ment grow stranger | of Stadt & led | 0-2/00 |

| United 3 | rares | |
|---|-------------------------------|----------|
| el Webb Corp. | | |
| 02-808-8185 Sun City Arizona | Phoenix | AZ |
| Sun City West Arizona | Phoenix | AZ |
| Sun City West Arizona Sun City Tucson Sun City Palm Springs | Palm Springs | AZ |
| Sun City Roseville | Roseville Las Vegas | CA |
| Sun City Las Vegas Sun City Hilton Head | Hillton Head | SC |
| Sun City Georgetown | Georgetown Resorts | TX |
| 03-799-3830 | | C A |
| Shadow Mtn Resort Inverness Hotel & GC | Palm Desert Englewood | CA |
| DRM Hawaii Sunriver Resort | Wailea, Maui Sunriver | HIOR |
| Wild Dunes | Isle of Palms | SC |
| uke Management Se 02-762-5620 | | |
| Santa Rita CC ranklin Golf Propert | Tucson | AZ |
| 05-429-0006 | and a supplier of | 20 |
| Deer Creek GC Carolina Club | Deerfield Beach Margate | FL FL |
| olf Communities US | | 757 |
| 07-245-7557 Cutter Sound | Marin Counnty | FL |
| Montverde CC Pleasant Hills GC | Orlando Mt. Pleasant | |
| Pinehurst National | Pinehurst | MI |
| Pinehurst National GC olf Enterprises Inc. | Pinehurst | NC |
| 14-247-1199 | Sensor Sensor | |
| North Hills CC Canoa Hills GC | Sherwod Green Valley | AR AZ |
| Williams GC | Mesa | AZ |
| Jess Ranch GC Mission Hills Resort | Apple Valley Rancho Mirage | CA |
| Paradise Knolls GC Shandin Hills GC | Riverside Sa Bernadino | CA |
| San Dimas Canyon | San Dimas | CA |
| Simi Hills GC Tustin Ranch GC | Simi Valley Tustin | CA |
| Pinery CC | Parker | CO |
| Summerfield Crossing Killearn CC | Riverview Tallahassee | FL |
| Crescent Oaks G&CC | Tarpon Springs | FL |
| Plantation CC Highlands GC | Boise Hutchinson | ID KS |
| Tallgrass CC Briarwood GC | Wichita Baton Rouge | KS LA |
| Bayou Berriere GC | Belle Chase | LA |
| Stonebridge CC Crystal Lakes GC | Gretna Lakeville | LA |
| Pawtuckett GC | Charlotte | NC |
| Desert Rose GC Las Vegas GC | Las Vegas Las Vegas | NV |
| Emerald River GC | Laughlin | NV |
| Bent Tree GC The Trails | Sunbury Norman | OK |
| Meadowbrook CC Shenandoah CC | Tulsa Baton Rouge | OK PA |
| Links O'Tyron | Campobello | SC |
| Stono Ferry Forrest Crossing GC | Hollywood Franklin | SC |
| Diamond Oaks CC | Fort Worth | TX |
| Woodhaven CC Oakride CC | Fort Worth Garland | TX |
| Great Southwest GC Eldorado | Grand Prairie McKinney | TX TX |
| olf Resources Inc. | mekiney . | 1.7 |
| 14-831-9200 Crestwick GC | Bloomington | IL |
| Bailey Golf Ranch Folf Services Group | Owasso | OK |
| 13-955-6263 | colding the Vai | |
| Castle Oaks GC Rio Colorado GC | lone Bay City | CA |
| Waterwood Nat'l CC | Huntsville | TX |
| Texas Nat'l CC | Willis | TX |
| 14-888-7766 Bellflower | Bellflower | CA |
| Diamond Bar | Diamond Bar | CA |
| Eagle Crest Eureka | Eureka | CA |
| Paradise Valley | Fairfield | CA |
| Rancho Solano Airways | Fairtield Fresno | CA |
| Golden Era | Gilman Ht Spgs | CA |
| Tayman Park Harding Park | Healdsburg San Francisco | CA |
| Lincoln Park Upland Hills | San Francisco Upland | CA |
| Porky Oliver | Wilmington | DE |
| Clearwater Queens Harbour | Clearwater Jacksonville | FL FL |
| Silver Springs | Ocala | FL |
| Sabal Trace Cooks Creek | North Port Ashville | OH |
| Middletown Cobbs Creek | Longhorne Philadelphia | PA PA |
| FDR | Philadelphia | PA |
| John F. Byrne Juniata | Philadelphia Philadelphia | PA PA |
| U.S. Sports | Philadelphia | PA |
| Walnut Lane Three Ridges | Philadelphia Knoxville | PA |
| Oakmont | Corinth Corpus Christi | TX |
| Padre Isles CC Scotty's Golf Park | Dallas | TX |
| Plantation Fossil Creek | Frisco Ft. Worth | TX TX |
| Clear Creek | Houston | TX |
| C | ontinued on next | page |

U.S. management companies' portfolios

| U.S. mana | gemen | it c |
|---|---------------------------------|--------------|
| Continued from previous page | Hollow many | |
| GolfCorp Clear Lake | Houston | TX |
| Kingwood Cove Forest Creek | Kingwood Round Rock | TX |
| Golfmark Corp. 214-424-4546 | | |
| Sepulveda GC | Los Angeles | CA |
| Lost Creek GC Elm Grove GC | Ft. Worth Lubbock | TX |
| Los Rios CC Ridgeview GC | Plano Plano | TX |
| International Golf Group 203-259-7272 | | |
| Wampanoag GC Zephyr Springs GC | Hartford Tampa | CT FL |
| Southerness GC | Atlanta | GA |
| Persimmon Ridge GC International Golf Manag | Louisville ement Inc. | KY |
| 216-522-1200 The Hideaway GC | Ft. Myers | FL |
| SunAir CC Admiral Lehigh Resort | Haines City Lehigh Acres | FL FL |
| Palatka GC Palm Aire Resort Spa | Palatka Pompano Beach | FL FL |
| Jemsek Golf 312-242-1717 | 10001 | 701 |
| Glenwoodie GC | Glenwood | IL |
| Cog Hill CC Pine Meadow GC | Lemont Mundelin | IL IL |
| St. Andrews CC Kemper Sports Managem | W. Chicago | IL |
| 708-291-9666 Chicago Pk District | Chicago | IL |
| Kemper Lakes GC | Long Grove | IL IL |
| Royal Melbourne GC Vernon Hills GC | Vernon Hills | IL |
| Holly Hills CC Village Club of Sands Point | ljamsville Sands Point | MD |
| Mound GC PipeStone GC | Miamisburg Miamisburg | OH |
| Carolina Springs Golf & CC Crowfield Golf & CC | | SC SC |
| Patriot Points CC | Mt. Pleasant | SC SC |
| PineForest CC GC of West Virginia | Sumerville Waverly | WV |
| KSL 619-564-1088 | atil ai | |
| LaQuinta Resort & Club PGA West | Palm Springs Palm Springs | CA |
| Doral Resort & Spa KSL Fairways**** | Miami | FL |
| 703-330-5300 Indigo Lakes GC | Daytona Beach | FL |
| Tiger Point Golf & CC | Gulf Breeze | FL |
| Scenic Hills CC Walden Lake Golf & CC | Pensacola Plant City | FL FL |
| Shalimar Pointe Golf & CC Pebble Creek | Shalimar Tampa | FL |
| Welington CC Patuxent Greens CC | Wellington Laurel | FL |
| Marlborough CC Northgreen CC | Upper Marlboro Rocky Mount | MD |
| Monroe Valley GC Birkdale Golf & CC | Jonestown | PA VA |
| Montclair CC | Chesterfield Dumfries | VA |
| Kiln Creek Golf & CC Prince William GC | Newport News Nokesvile | VA VA |
| Countryside GC Broad Bay CC | Roanoke Virginia Beach | VA VA |
| Landmark Golf Co. 619-776-6688 | | |
| Palm Springs Classic Las Vegas Paiute Resort | Palm Springs Las Vegas | CA |
| Trapper's Turn GC | Wisconsin Dells | WI |
| TinksCorp 708-441-1010 | C If CI | |
| Glenlakes GC Mountain Ranch GC | Gulf Shores Little Rock | AL AR |
| Eastwood GC Lakeside GC | Orlando Atlanta | FL |
| Tamarack GC Rockwood GC | Chicago Kansas City | IL |
| Mississippi Nat'l GC | Biloxi Jackson | MS MS |
| Rickenbacker GC | Columbus | ОН |
| Stonehenge GC Temple Hills CC | Knoxville Nashville | TN |
| The Crossings The Crossings GC | Glen Allen Richmond | VA VA |
| Marriott Golf 407-850-0077 | | |
| Grand Hotel Camelback Inn | Mobile Scottsdale | AL AZ |
| Mountain Shadows | Scottsdale | AZ |
| Desert Springs | Napa Palm Desert | CA |
| Rancho Las Palmas Marco Island Resort & GC | Rancho Mirage Marco Island | CA FL |
| Orlando World Center Bay Point | Orlando Panama City Bed | FL ach FL |
| Sawgrass Lincolnshire Resort | Ponte Vedra Bea Lincolnshire | |
| Griffin Gate | Lexington | KY |
| Seaview Resort | Lake of the Ozar Absecon | NJ |
| Wind Watch Toftrees | Long Island State College | NY PA |
| Shiloh Falls Fossil Creek | Pickwick Dam Fort Worth | TN |
| Marshall's Golf Course N 713-579-1725 | | |
| Canyon Lake CC Kingwood Place GC | Canyon Lake Kingwood | TX TX |
| Kingwood Flace OC | ing mood | 1/ |

| TE JUL II (IOURIT 198) | The Education of the Color | |
|---|--|----------|
| Martty Golf Managemen 334-928-7820 | look at all way | |
| Pine Tree CC | Birmingham | AL |
| Azalea Springs GC Woodmont CC | Covington Franklin | GA TN |
| Saddle Creek GC | Lewisburg | TN |
| National Fairways Inc. 203-861-0080 | | |
| D. Fairchild Wheeler | Bridgeport | CT |
| Hidden Hills CC | Jacksonville | FL |
| Hibiscus GC Oak Bridge at Sawgrass | Naples Ponte Vedra | FL FL |
| Port Charlotte GC | Port Charlotte | FL |
| Rolling Green GC Sarasota GC | Sarasota Sarasota | FL FL |
| Sunrise GC | Sarasota | FL |
| Tides CC | Seminole | FL |
| The Hudson Nat'l GC Minesceongo GC | Croton-on-Hudson Pomona | NY |
| Lindhbrook GC | Hopkinton | RI |
| Boulder Hills GC National Golf & Tennis II | Richmond | RI |
| 310-217-1717 | | |
| Zaca Creek GC | Bullton | CA |
| Marshall Canyon CC New England Golf Corp. | La Verne | CA |
| 617-326-5717 | | |
| Pequot GC Pinecrest GC | Stonington Holliston | CT |
| Lost Brook GC | Norwood | MA |
| Nitto America Co. Ltd. | | |
| 310-477-5111 Calabasas G&CC | Calabasas Park | CA |
| El Rancho Verde CC | Rialto | CA |
| Soboba Springs CC Peacock Gap G&CC | San Jacinto San Rafael | CA |
| Mikaha Valley CC | Walanae | CA |
| Silversword GC | Maui | HI |
| Paloma Golf Group 714-858-2888 | | |
| Fox Valley CC | Lancaster | NY |
| Tan Tara CC Resort Management of A | N. Tonawanda | NY |
| 602-953-6553 | illerica | |
| Stone Creek GC | Paradise Valley | AZ |
| ASU Karsten GC University Ridge GC | Tempe Madison | AZ WI |
| Riverside Golf Managem | | |
| 904-356-1000 Champions Club | Jacksonville | FL |
| Champions Club | Stuart | FL |
| Champions Club Oak Grove Island GC | Alphareta Brunswick | GA GA |
| Champions Club | Dacula | GA |
| Champions Club | Snellville | GA |
| Signature Golf Internation 904-753-7000 | onai | |
| Starr Pass GC | Tucson | AZ |
| Alaqua CC Harbor Hills CC | Orlando Orlando | FL FL |
| Oak Tree CC | Edmond | OK |
| Southwest Golf 702-736-0065 | | |
| Mesa Del Sol | Yuma | AZ |
| GC of Illinois | Chicago | IL |
| Paradise Hills GC SunCor Development Co. | Albuquerque | NM |
| 602-285-6800 | | |
| Sedona Golf Resort Western Golf Properties | Sedona Inc. | AZ |
| 602-951-4359 | | |
| Verde Valley Ranch | Clarksdale Fountain Hills | AZ AZ |
| Eagle Mountain GC Kierland GC | Phoenix | AZ |
| Desert Mountain | Scottsdale | AZ |
| Bougenvilla GC Oak Creek GC | Del Mar Irvine | CA |
| Lodestar GC | Mammoth Lakes | CA |
| Pelican Hill GC Serrano CC | Newport Coast | CA |
| Woods Valley Ranch | Valley Center | CA |
| Falcon's Fire GC | Kissimmee | FL |
| Indian River CC Harborside Int'l GC | Vero Beach Chicago | FL |
| Las Companas | Santa Fe | NM |
| Lightning W Ranch Wild Wing Plantation | Carson City Myrtle Beach | NV SC |
| Green Bay CC | Green Bay | WI |
| | | |
| * AGC's private club division ** ClubCorp's resort division | A STATE OF THE STA | |
| *** ClubCorp's public golf of | ivision | |
| **** KSL's public golf division | OII | |
| TO PARTIE THE OUTSIDE | | |

We appreciate the assistance of the various management companies listed in providing the above information. We plan to update this chart on a quarterly basis. Please keep us informed of any additional golf courses your company adds in the coming months.

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CIRCLE #148

PALMER ADDS HILBER, PROMOTES JONES, SONNE

ORLANDO, Fla. — Arnold Palmer Golf Management has named Bob Hilber vice president of operations. Hilber joined Palmer from PepsiCo, where he served in senior management capacities in the firm's Taco Bell division for 11 years. Palmer also promoted Daryl Jones to treasurer and moved Blake Sonne to senior vice president of marketing.

Blais comment

Continued from page 13

upgrades at three South Bend, Ind., municipal layouts — Ebel, Studebaker and Erskine golf courses.

- \$400,000 for improvements to Eberhart-Petro Municipal Golf Course in Mishawaka, Ind.
- \$250,000 for irrigation work at American Golf Corporationoperated Goshen Plantation (Ga.) Golf Club.

That's an average renovation price of \$1.52 million, roughly the cost of a brand new, 18-hole "plain vanilla" course, according

to architect Michael Hurdzan. at Sea Pines Ocean Curse in Not exactly chump change. Hilton Head, S.C.; Bill Coore and

The glory in golf course architecture may be in designing a new course. But a great deal of satisfaction, and more than a few dollars, can be earned in course renovation. Just look at the famous architects plying their trade on existing courses—Pete Dye at Woodlands Country Club in Indianapolis; Jack Nicklaus at Castlewoods CC in Branoon, Miss.; Arnold Palmer at Buffalo Hill; Gary Player at Raleigh (N.C.) CC; Robert Trent Jones Jr. at Wailea; Mark McCumber

at Sea Pines Ocean Curse in Hilton Head, S.C.; Bill Coore and Ben Crenshaw at Brook Hollow CC in Dallas; Rees Jones at Duke University GC in Durham, N.C.

Robert Lohmann may be the numerical leader with 20 different renovations in various stages of completion, according to *GCN Development Letter* figures.

"A lot of new clubs have been built here in the Midwest," said Lohmann of Crystal Lake, Ill. "Existing clubs needed to renovate their facilities to keep up. Many park districts have renovated or expanded their courses

NEW JERSEY

because of the increased demand for public golf. And there are many public facilities that have just been beat up over the years. The land is paid for, the owners are pushing through 20,000 rounds per year and figure they can double that by rebuilding a few things."

Other multiple-renovation project designers include Ed Connor (6); Larry Flatt and Robert Cupp (5 apiece); Craig Schreiner and Robert T, Jones Jr. (4 each); Randy Heckenkemper, Clyde Johnston, Charles Ankrom, Dick Nugent and John Harbottle (3 apiece); and Rees Jones (2).

Still, renovations are where "young architects generally get to cut their teeth," as Liddy put it. "The better-known architects want to do new courses."

The problem for a young architect trying to establish himself and not turn away business is being able to say "NO" to an overzealous greens committee member or course owner who fancies himself an architect. The amateur architect can destroy a perfectly good design if given his way.

"The relationship between the greens chairman and architect is the key to any successful renovation," said Barry Palm, president of the Donald Ross Society, which has charged itself with preserving the integrity of the master architect's 600-plus golf course designs.

"The chairman has to be an autocrat. You can't renovate a course by committee. But there has to be a solid reciprocal respect between the greens chairman and architect. Ultimately the greens chairman must trust the judgment of the person he's retained to renovate his course."

Not allowing oneself to be bullied into a bad renovation decision is not only the architect's job but his duty, Liddy said.

"Any architect's goal should be to preserve the intent of the original designer, no matter what the greens committee says," the Dye understudy said. "I've found that an architect is often called in to fix something a board member has done."

Lohmann agreed.

RE

"People are beginning to realize that if they don't get an architect who knows what he is doing, they are going to get a bad project," he said. "An architect needs to be able to say to the doctors, lawyers, business people on a board that what they want to do is wrong. An architect better do what is right for the game or he won't be in the business for long."

As the country's golf course inventory continues to age, the number of renovations will only increase.

"You could probably make a living just removing mature trees that interfere with play," Palm said. "Renovation work is becoming a cottage industry."

KEN THOMPSON

GOOD GRIEF...

STONE HARBOR G.C.

ANOTHER WETTING AGENT!



ALMOST TOOK THE PLUNGE WHEN

WALKED IN THE DOOR"

The golf course is a Muirhead design. Millions of dollars were spent moving sand in flat South Jersey to create a spectacular and challenging golf course (The 17th tee is one of the highest points in Cape May County). Hot, dry, summer conditions on our sand greens, tees & fairways planted to Penn Cross / Penn Links needed a wetting agent for survival... and don't think wetting agents are all the same. We've tried most wetting agents and had our share of disappointments. The greens are about 98% sand and 2% organic matter making them **extremely hydrophobic.** We have used

normal maintenance / aeration procedures over the past 4 years to improve the root zone but in 1991 we started applying Surf-Side at rates sufficient to eliminate watering problems. We start with a shock treatment in May of 12-oz/M on greens and if that isn't sufficient we go to 16 or 24-oz/M. This is applied at 6 gals Surf-Side in 160 gals water and we do water-in at these higher rates. On high sand greens that repel water it's best to spike about an inch before treatment. It increases effectiveness like you wouldn't believe. To maintain collars we use 3-lbs/M of Granular Surf-Side and apply in two passes... syringing is one thing on collars; keeping the grass alive and looking well is another. We drench the grass faces of traps with 1-gal Surf-Side in 100 gals of water as well as localized dry spots on fairways. We apply with a gun, and don't water-in the treatment. We've reduced syringing 30 to 40% and only need 1 to 2 men under the worst of hot, dry, summer conditions. We do find a residual using Surf-Side. After establishing control of our greens with 130-oz/M in 1991 we are now down to 64-oz/M in 1992. It is best to cure your watering problems up front with the Surf-Side and then adjust rates accordingly. We apply 2-gals Surf-Side in 160 gals water to 80,000 sq.ft. with all our contact and systemic sprays. We've had no disease problems in the past two years. The same Surf-Side mix is applied to fairways every 3 weeks at the rate of 3-oz/M. Lastly, we put 10 gals Surf-Side in our 2000 gal FERTIGATION TANK and meter 450 gals of mix into our irrigation line per week. The Surf-Side gives us a quicker response on leaf absorption of nutrients. Surf-Side 37 can bring overall maintenance & watering costs into line... The product pays for itself.

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Signature

Continued from page 53

that offer up-side potential," said company President and Chief Operating Officer Bob Holzman. "RTC and similar-type acquisitions are of greater interest than regular retail sales. The opportunity for preferential financing [available with such sales] is very attractive."

Owning these properties has made Signature sensitive to the hard operating decisions course owners must make, Holzman said. That knowledge has been transferred to the management-only part of the business, which Signature recently established with a management agreement signed in mid-February with Alaqua Country Club in Orlando.

Alaqua's members, which include Bo Jackson and former National Basketball Association player/coach/general manager Matt Goukas, exercised their right of first refusal and purchased the club from developer Westbury Properties in late January. The club features a Gary Player-designed golf course, tennis courts, pool and fitness center. Signature signed a management agreement with the club.

Sky Marshall Continued from page 53

(GPS) — which sailors have used for many years to track their position at sea— plus CompuSpeak's tracking software and remote radio-frequency communication units installed on board course vehicles, Sky Marshall lets the course manager track every golf car, ranger, mower and maintenance vehicle on the course.

On the playing side, a two-way communication system linking the course manager and rangers allows the on-course patrol to address slow-play or restricted-area violations "before they become major problems," Tarantino said.

After each round, golfers can be issued a report card on how well they observed club rules. Golfers who avoid restricted areas and comply with the course's time limits can be rewarded, for instance, with a free bucket of range balls, 10-percent discount on their next round, a free drink in the lounge, or whatever.

Once installed, a companion system is also available for golfers. Sky Caddie, as it is called, electronically pinpoints the precise yardage from the car to the center of the green from anywhere on the course and instantly provides this information to the golfer. It offers not only another marketing tool for the course, but also a way to speed up play.

On the maintenance side, Sky Marshall can reduce operating costs by monitoring the activities of the grounds crew. How?

Continued on page 58

"We're busy setting up the dayto-day operations of the club and beginning a marketing program to double the size of the membership by year's end," Holzman said.

When Signature takes over a property, Holzman said, it focuses on all aspects of club operations — food and beverage service, agronomy, business systems, human resources, marketing, merchandising and membership.

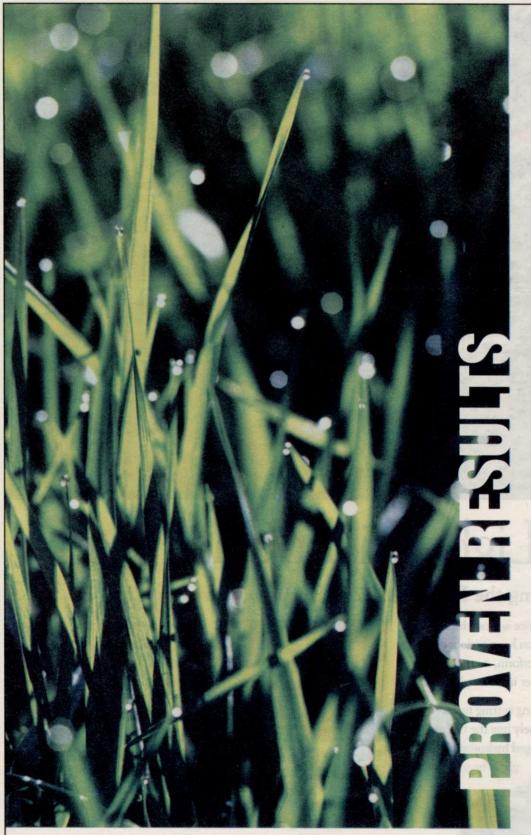
Oak Tree head superintendent Louis Pugh heads up Signature's agronomic team. Other key members of the management staff are Chairman and Chief Executive Officer Peter Ansley, Holzman and Director of Operations Don Vance.

Ansley oversees all on-site operations and management of golf facilities, personnel and membership. He made a name for himself as a successful franchise owner and operator for The Canadian Tire Corp. before entering the golf industry.

Holzman is responsible for day-to-day operations and development of new business. He joined Signature from Arnold Palmer Golf Management, where he served as vice president and chief operating officer for the previous five years. An experienced real estate developer, Holzman has been involved with Highlands Country Club in North Carolina, Pike Creek Country Club in Delaware, The Glade in Rehoboth Beach, Del., Piper's Landing Country Club and Harbor Ridge Yacht and Country Club, both in Stuart, Fla.

Vance oversees club planning and development projects as well as day-to-day club operations. The Missouri State University graduate has 24 years experience in the club hospitality industry, most recently serving as director of management services at Arnold Palmer Golf Management. He was formerly club manager at Alaqua and the Marina Bay Club, director of food and beverage operations for the PGA Tour's Tournament Players Clubs and an executive with the Marriott Corp.

"We have expertise in all areas of club management and knowledgeable people stationed at each of our properties," Holzman said.





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NATURAL ORGANIC

Smart Buy

Continued from page 1

nies, Smithco and Bel-Air Turf Products are the latest exclusive suppliers to join the program.

CNA's new Golf Course Advantage Partnership was developed specifically for public and semiprivate golf course owners. The program covers most special course insurance needs such as golf course property, golf course extension endorsement, liquor, pesticide/herbicide, and directors and officers liabilities. Pollution liability coverage is also available with the transportation of designated pollutants endorsement.

The CNA program recognizes that green fees vary from course to course, although rounds remain fairly consistent. To accommodate this difference, credits will be given to general liability rates as green fees increase per round. Referred to as an equitable rating adjustment, NGCOA identified it as one of the program's greatest benefits.

Golf Course Advantage Partnership participants are part of a pool of other courses. If claims

are minimal, a portion of the premium is returned to participating course owners.

"Historically, CNA has been very aggressive with this sort of association program," said NGCOA Executive Director Mike Hughes. "Some consider its agent network to be the finest in the business. That and their experience in the golf course industry is why we selected them "

Smithco and Bel-Air were readying to come aboard the Smart Buy program as of mid-

Smithco was set to offer NGCOA members a significant discount on its electric bunker rake, one of the most-talked about items on display during the recent Golf Course Superintendents Association of America International Conference and Show, as well as its other turf management hardware (see

Bel-Air of Leeds, Ala., markets remanufactured turf equipment, reconditioned mowers and Cushman turf equipment primarily, according to NGCOA Director of Purchasing Mike Tinkey.

"We've tested their products and found them to be very reliable," Tinkey said. "And they offer an extended warranty."

Other preferred suppliers in the Smart Buy program include:

- NaBanco credit card processors.
- Yamaha Manufacturing golf cars.
- · Ag Resources grass seed.
- AT&T Profit by Association Program - long-distance telephone service.
- Page & Addison P.C. legal services.
- Athlete's Edge privatelabel golf shirts.
- · On In Two Publications scorecards and yardage books.

"An 18-hole club can save the cost of its annual membership [\$325] with a single purchase from just about any of the suppliers," Tinkey said. "Shirts, for instance, are discounted as much as 40 percent. With a minimum order of 150, that's a savings of \$450 to \$800.

"With Yamaha, you negotiate your best deal with the distributor for an Ultima, send the invoice to the NGCOA office and get a \$50 rebate per car. That's \$3,000 to \$4,000 for a 60-80-car fleet. Even with just 10 cars that's

The Smart Buy program is limited to NGCOA members. For more information, contact 803-881-7736.

Satellite tracking

Continued from page 57

Say an unexpected thunderstorm forced a sprayer to race for cover halfway through a fairway application. Once the storm passed, a check of the Sky Marshall screen would allow the sprayer to return to the exact spot where it had left off, rather than relying on the applicator's memory. This would save time and unnecessary re-applications.

Sky Marshall can also generate management reports showing everything from which holes have the slowest play to documentation to satisfy Environmental Protection Agency requirements.

Sky Marshall requires little hardware, specialized computer knowledge or maintenance, Tarantino said. CompuSpeak installs the system, provides training and follow-up support.

The system costs approximately \$150,000 for an 80-car fleet. Tarantino said. Leasing programs are available for \$2 to \$3 per round. Maintenance service is free the first year and approximately \$15,000 annually thereafter.

The cost makes resort and upscale daily-fee courses the most likely customers, Tarantino said. If a year-round course charging \$100 per round adds an average of four rounds daily, that's \$146,000 (365 x \$400), meaning the system basically pays for itself in a single year.



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an unsurpassed cut. Even weight distribution eliminates "bouncing" for a smooth, clean finish. The 23-, 28- or 33-horsepower engine muscles the 250 up inclines or around any

obstacle, but not at the expense of agility. The 250 is extremely quick on its feet.

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Rzadzki airs opinions on Canadian goose control

Continued from page 40

of a pond. Yes, they are beautiful birds and may aesthetically enhance a lake, but they dump as much as a goose, they need extra veterinary care, and they need to be fed — which attracts other wading birds, which attracts more geese.

If I could develop a hybrid gator that could survive our winters and could be trained not to eat junior golfers or small adults, I might be on to something.

4. Flags, tape, and owl balloons.

Result: Too psychedelic.

5. Greens covers.

Results: Finally, something that is very effective in deterring geese on putting surfaces. It's too bad we can't leave them out year round.

But to those who can afford them in the winter time, they work great.

6. Pond aerator (a reminder — shut them off in the winter).

Result: If you have bubble aerators on your course, it's great to keep your stagnant areas moving even in the winter time. But our feathered friends love open water and they will add their own fertilizer down that open hole in the ice.

7. Irrigation control.

Result: Quite effective at scaring geese off of a particular area of your course.

I have yet to be lucky enough to have a sprinkler head pointing directly at a goose when I turn my heads on. I would really like to get lucky and have one sitting on a head when I detonate. Maybe I would literally scare the life out of him and he would die on the spot.

My usual result with irrigation control is that geese take off, circle around and land on the next green just as a player is trying to can a 60-footer.

8. Shellcrackers and rockets. Result: I personally have not used this tactic, but I have talked to others who have. Once you gain permission from your neighbors to use these devices (if you can), I have heard they can be very effective — if you are persistent and use them before play begins

9. Goose grid.

Result: They work. I have personally seen them used to protect various wetland management crops until they are large enough to withstand a feeding frenzy from the honkers. I understand the goose grid is a temporary guard installed for the protection of wetland crops until they mature. But during that time they look quite unpleasant, especially when the water level goes down and the algae hangs off the strings. It takes a silvertongued superintendent to explain the benefits of this ugly situation to his committee - and that it will remain that way for a few years.

10. Vegetative buffer zones around lakes.

Result: According to many wildlife biologists, including those at The Audubon Cooperative Sanctuary System, this is one of the best ways to keep geese on the water and prevent them from walking onto the turf. I have yet to hear of anyone having any positive results from this management practice. If any of you have, please call me.

I believe the theory is great, but to put it into practice is rather difficult on a golf course. Most of our club's committees demand that "clean-cut look" on lake banks. Once again, to convince them this method will work is very difficult, especially when they pose this question, "Can't the geese just fly onto our turf?" Duhhh!

I was able to persuade upper management here not to mow our lake banks this past season. One positive point: It reduces labor costs and time. Next season I hope to extend the buffer zone further up the bank. Then I will be able to see for myself if this management practice really reduces goose fertilization on my fairways, greens and tees.

11. Grape juice/Reject it.

Result: In my opinion, the jury is still out and the scientists, I am sure, are feverishly working to discover if this will work. Millions of dollars are at stake. If it fails I'll just add some ice cubes and have a cold drink.

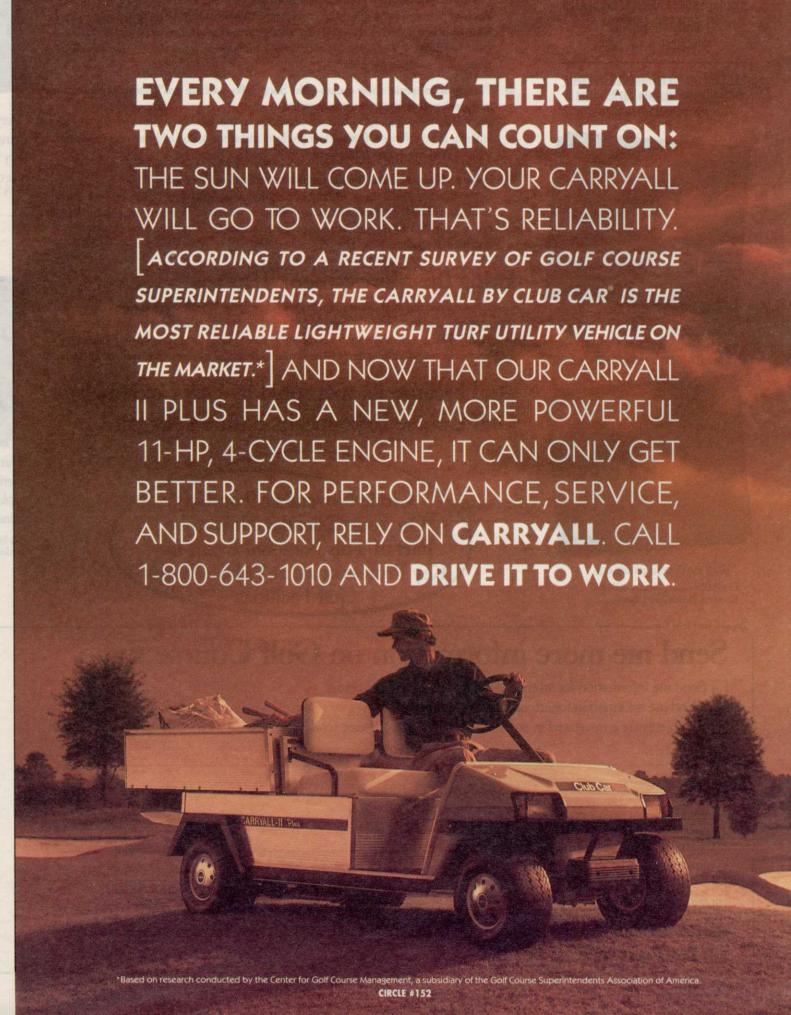
12. Eggs — removal/spraying/shaking.

Result: Removal and/or spraying with some sort of oil-based

product is very effective, but very illegal! \$500 per egg if you're caught molesting a federally protected bird. Egg-shaking is legal but difficult.

13. Remington's cure.

Result: Very effective. A 12-gauge shotgun can solve many problems and create many as well. I don't believe the "nuisance season" for removing geese is available in Illinois at this time. I didn't give it much regard since we did not want to start any problems with our neighbors. I am sure that many of you would share this same concern.



GOLF COURSE EXPO

ORANGE COUNTY CONVENTION CENTER Orlando, Florida November 9-10, 1995

A NATIONAL EXHIBITION AND CONFERENCE FOR OWNERS, Superintendents, Managers, And Developers Of Public-aggess Golf Fagilities



"Great Start"

R.J. Kooyer, President
Bankhead Forest Golf Course, Double Springs, AL



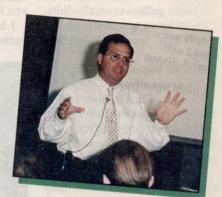
"Well run event as always."
David Claeyssens, Director of Golf
Rockford, Illinois Park District

Golf Course Expo Means Business

The public-access golf industry comes together at Golf Course Expo the only national trade show and conference for superintendents, managers, owners, operators, and developers of public-access facilities daily-fee, semi-private, resort, and municipal courses.

- Save money by pinpointing exhibitors on the trade show floor We're serious about saving your money and time. Investigate vendors who are there for all your needs—equipment, chemicals, seed, builders, accessories, sod, golf cars, consultants, management software, fertilizers, architects, and marketing firms.
- Get up to speed on new products and services Find out "what's new" to give your course the competitive edge. The key to success in the business of golf is staying on top of new trends, partnering with vendors, and finding creative solutions. And Golf Course Expo is a carefully designed event to provide all three—and give you the edge.
- Participate in special show events—like Shop Talks—where you'll learn about products and services that impact your bottom line Shop Talks are vendor-sponsored sessions set up on the show floor. Participating suppliers will zero in on solutions, feature their products and services, and address critical industry trends. And its all part of the show.
- Solve problems by attending the multi-tracked conference program

 In the crowded public-access marketplace, maintaining quality conditions on your course in the face of high traffic, and at a reasonable cost is even more important. Marketing your course takes on added significance. And efficient management—doing more with less—becomes an absolute must. The conference offers easy-to-adopt ideas that really work.



"Very interesting information. Being new in the business, this is very informative and interesting."

Mark Clark, Food and Beverage Manager Sandy Ridge Golf Course, Midland, MI

Bring the Management Team

Golf Course Expo is a must-attend for superintendents, managers, owners, operators, general managers, golf administrators, directors of parks and recreation, builders, architects, and developers. This is a great chance for everyone at your course who makes buying decisions to find key products and services that will help your facility operate more effectively and efficiently.

And because its sponsored by Golf Course News, Golf Course Expo means business for you!

Circle November 9 and 10
On Your Calendar Now to be
Part of This National Event for
Key Professionals at Public-Access
Golf Facilities



"This was a very worth while experience. It's always great to get people together who are in the same business."

Craig Immel, Director of Golf Aberdeen Golf Club , Cleveland, OH

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| Send me information for attending the conference |
| 16 |

My company is interested in purchasing exhibit space, please send me details

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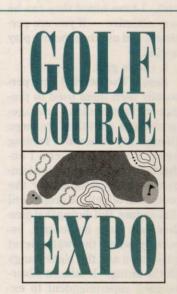
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Return to Golf Course Expo, PO Box 997, 38 Lafayette Street, Yarmouth ME 04096

For faster service fax to 207-846-0657



IRANGE COUNTY CONVENTION CENTER Orlando, Florida November 9–10, 1995



DR. THOMAS JOINS CYANAMID

PRINCETON, N.J. - John H. Thomas, Ph.D., has joined the American Cyanamid Co. as senior product development manager for turf & ornamental products and new ventures. In his new position at Cyanamid's research and development facility here, Thomas will be responsible for technical product management of Cyanamid's turf herbicides: Pendulum herbicide, Image herbicide and Pendimenthalin. Thomas will oversee expansions and the registration of new uses and formulations of these herbicides.

..... **NEW SHIPPING ADDRESS FOR JESCO**

OKLAHOMA CITY, Okla. — Jesco Products, Inc., manufacturer of Pin High reel grinding compound, has changed its shipping address and telephone numbers. Shipments should be sent to Jesco, 304 N. Meriden, Suite 1, Oklahoma City, OK 73107. The new phone number is 405-943-1721, while the new fax is 405-943-0783. The mailing address for Jesco remains unchanged: P.O. Box 57506, Oklahoma City, OK 73157.

RISE MEMBERSHIP SWELLS

WASHINGTON, D.C. — Membership now totals 119 at RISE (Responsible Industry for a Sound Environment), the specialty chemical trade association headquartered here. New members include distributors Benham Chemical, Target Specialty Products, Fisher & Son Co., Nick Knott Turf Supply, and Turf Industries; basic manufacturer Gowan Co.; formulators W.A. Cleary Chemical Corp., Micro Flo Co. and Micro-Gen Equipment Co.; and associates Ceres Communications, NEF Publishing and the Midwest Aquatic Plant Management Society.

...... **RANSOMES PROMOTES SUNAWAY**

IPSWICH, England - Andrew Sunaway has been appointed sales and marketing director for Ransomes, Sims and Jefferies Ltd., parent firm to Ransomes America Corp. His respon-

sibilities encompass the planning, development and coordination of Ransomes' commercial turf sales, marketing and promotional strategies and functions in the UK,

Asia-Pacific and Europe — all areas outside North America. Sunaway was formerly international sales and customer service manager for Ransomes.

Name change at Miles: It's Bayer

KANSAS CITY, Mo. - Its name is changing from Miles Inc. to Bayer Corp., but that's the only tangible change customers should see. Miles formally became Bayer Corp. on April 1.

"Our turf and ornamental customers who use Merit insecticide, Bayleton fungicide, Dylox and Tempo insecticides, Nemacur nematicide and Morestan miticide will still get the same quality products, customer service and added value they've come to expect from Miles," said Allen Haws, director of the Specialty Products Group.

Bayer has always been the parent company of Miles. The firm regained the rights to its name and trademarks in the



United States, Canada and Caribbean after it acquired the North American overthe-counter business of Sterling Winthrop for \$1 billion in September 1994.

Bayer Corp.'s presence in the United States, its biggest single market, dates back to 1865, making Bayer one of the oldest established chemical companies in the country.

While most Americans associate the Bayer name with aspirin, Haws said they will soon learn that Bayer is one of the largest chemical, pharmaceutical and imaging technology companies in the world.



NEW PRODUCT OF THE MONTH

The Sand Star electric bunker rake from Smithco was the talk of San Francisco. In addition to nearly silent operation and no engine emissions, the Sand Star "E" requires no engine fluid . As a special feature, the Sand Star can be equipped with Smithco's exclusive finishing rake featuring blades made of Lexan polycarbonate, weighted to perform identically to traditional blades. The rear-mounted finishing rake is raised and lowered with virtually no sound. For more information on the Sand Star, contact Smithco at 215-688-4009. For more New Products, turn to page 66.

Vicksburg Chemical Co. offers fax-on-demand product information

MEMPHIS - Vicksburg Chemical Co. has announced the availability of fertilizer application information via fax on demand with its new Vicksburg OnLine Services.

Superintendents across the country may access this information by calling 1-800-234-0173.

Fax on demand is the newest fax technology. It is interactive, allowing anyone with a phone and a fax machine to request specific information, and have it delivered to their fay machine in a matter of seconds.

With Vicksburg OnLine, golf course superintendents may access a host of information via a toll-free number, 24 hours a day. Callers simply enter an order number for the requested information, then their fax number.

Information currently available on Vicksburg OnLine fax includes Technical Sheets and Materials Safety Data Sheets for the following: K-Power Greens



Products, K-Power Fairway Products, K Power Custom Blends, K-Power Nursery Products, and K-Power Water Soluble Products.

Also available are: Turf Products Technical Data sheet, Spreader Setting Guide, Professional technical Data sheet, and Polyfeed Application Information

Superintendents may request a full listing of available information and place orders by calling Vicksburg Chemical OnLine at 1-800-234-0173.

Early reviews on marketing pact favorable

By HAL PHILLIPS

RESNO, Calif. — Four months into their strategic marketing alliance, former irrigation competitors Buckner, Inc. and Hunter Industries report scads of satisfaction with their new venture, dubbed Legacy.

"We've got orders pouring in," said Jon Truttman, golf marketing manager for Legacy. "We're shipping product today, as we speak. We feel it's been real successful."

Hunter's Rich Dunn, product manager for golf and large turf rotors, agreed with Truttman.

"It's been a real positive situation for us," Dunn said. "Volumes have increased dramatically. Our order position has never been so good so early in the year."

Before the alliance, Buckner and Hunter — while they come at the irrigation business from different angles - found themselves in the same strategic position: Looking up at Rain Bird and Toro. While each company was understandably proud of their places in their respective niche markets, future growth was limited.

"To be a real effective player in the golf irrigation market, you have to have the whole package - now we do," said Dunn. "It's been long recognized that Hunter has been a leader in gear-driven rotors, all irrigation products considered.

"On the other hand, Buckner has a tremendous history of manufacturing quality, versatile control systems from lower-cost solutions to sophisticated control systems to radio systems.

Continued on page 64

Dataline: Toll free service from Hunter

SAN MARCOS, Calif. - Irrigation professionals who have questions about Hunter products, or technical questions about installing irrigation systems, are now invited to call the new toll free Hunter Dataline: 1-800-733-2823.

Hunter customer service representatives are now available to answer calls Monday through Friday from 7:30 a.m. 5 p.m. (Pacific time).

"This service is designed to assist golf course superintendents. landscape contractors, irrigation specifiers, including landscape architects and public agency personnel," said Joe Silva, Hunter North American sales manager. "Hunter representatives will be available to answer questions about Hunter rotors, sprays, valves and controllers, in addition to general questions about planning and installing residential and commercial irrigation systems," Silva added.

Norman enters the bermudagrass market with GN-1

AVON PARK, Fla. - In an effort to improve playing conditions on warm season grasses, PGA Tour professional Greg Norman has started Greg Norman Turf Company here. This new firm will specialize in growing high quality, specialty grasses.

The first new release will be GN-1 hybrid bermudagrass. Bred, developed and patented in the United States and Australia by Australian turf breeder Hugh Whiting, GN-1 was designed to be deeper green in color, more tolerant to cool temperatures, and more tolerant to parasitic nematodes. GN-1 is also designed to be less prone to thatch.

GN-1 was planted on fairways 17 and 18 at the Medalist Club, a new course in Hobe Sound, Fla., designed by Norman and Pete Dye. The new grass has proven to be a stronger playing surface than the Tifway 419 used on remaining holes, according to Norman Turf spokesman David Barnes.

Greg Norman Turf is managed by Barnes and Jason McCoy. For more information, contact the firm at 4520 East Kinsey Road, Avon Park, Fla. 33825; or call 1-800-871-7570; or fax 813-452-5079.

Jacobsen's fully automated parts warehouse opens for business

CHARLOTTE, N.C. -Jacobsen's new International Parts Center here, a fully automated distribution center, is open for business. The new facility is designed to serve the needs of Jacobsen customers around the world more efficiently.

The 55,000 square foot distribution center stocks more than 20,000 Jacobsen replacement parts. Computer-controlled storage carousels and "operatoraboard" retrieval vehicles produce a dramatic increase in parts distribution productivity.

"With the automated parts storage and retrieval system, the number of parts orders we can select in one day has increased 100 percent," said Steve Barker, Parts Center manager.

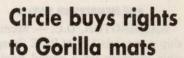
Higher productivity means more parts get to more customers faster.

"Over the past few years, there's been an increase in the number of customers who require overnight or second-day air shipment," said Steve Nelson, Jacobsen's director of parts and distribution. "Customers need equipment operating at peak efficiency, and it's our job to make sure they have the necessary service parts."

All parts are bar coded for a higher level of inventory control

"The bar-code system gives us up-to-the-minute control, and we can review usage trends on a day-to-day basis," Nelson said. "So when the requirements for a certain part suddenly increase, we can react quickly and prevent an out-of-stock situation."

Computers link the International Parts Center to Jacobsen's parts order department in Racine, Wis. Order expediters can track rush orders from order entry through order shipment. Emergency orders received in Charlotte by 2 p.m. are shipped the same day to customers within the United States. Jacobsen ships all other emergency orders within 24 hours.



DALTON, Ga. -Circle Technologies Intl. Inc. has purchased the assets of Ana-Tex of Rome, Inc., the manufacturer of the Gorilla range mat.

Circle Technologies has moved Ana-Tex manufacturing from Rome to an expanded facility in Dalton. A new fabric finishing processing line has been constructed and is applying urethane binders and foam to nylon and polypropylene range mats. This highly automated operation insures a stronger resistance to rips, tears and separations at the mats' impact hole areas.

Initially the two qualities of mat will be offered - the Gorilla with a texturized nylon face and exclusive Uniloc backing system, and the Value mat, featuring a texturized polyproylene face and the Uniloc backing system. The Gorilla mat will carry a 12-month limited warranty.

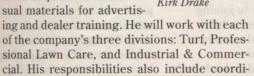
Both mat qualities will be offered in a 5-by 5-foot size in square and octagonal shapes. They will be sold through selected distributors in the U.S. and abroad. Other sizes for smaller stance mats also will be offered.



Drake and Ferguson promoted at Ransomes America

Ransomes America Corporation has announced the appointment of Kirk Drake to the position of marketing coordinator.

In his new position, Drake will assist in the development of print and audiovisual materials for advertis-







Dave Ferguson

In other Ransomes news.

Dave Ferguson has been named training coordinator for Ransomes America Corp.

In his new position, Ferguson will implement dealer sales training programs in North America and work with training person-

ing and dealer training. He will work with each nel in the United Kingdom. Ransomes America Corp. currently holds yearly dealer sales training sessions in Lincoln, Neb.; Johnson Creek, Wis.; and Long Boat Key, Fla.

Ransomes' Florida dealer expands

Golf Ventures, a Lakeland, Florida-based dealer of Ransomes America Corporation's line of turf maintenance equipment, has expanded its sales and service territory in the state. Golf Ventures' new territory will encompass Ft. Myers, Jacksonville, Naples, Orlando, St. Petersburg, Tampa and Tal-

Founded more than eight years ago, Golf Ventures has grown to be one of Florida's leading turf grass equipment and supply dealers. According to Jim

Sartain, chief executive officer of Golf Ventures, the expanded sales territory means that the firm will distribute Ransomes America Corporation's entire line of Cushman, Ransomes and Rvan turf maintenance equipment to nearly 75 percent of the state. Golf Ventures serves approximately 600 golf courses in Florida.

Sartain added that the firm plans to build a new sales and service office in the Jacksonville area to accommodate the increased sales volume.

EPA fast track

their pesticide should be considered safer. If we [EPA scientists] agree, we put the pesticide at the front of the queue," Leslie said. "This year, we probably won't look at anything other than the safer ones."

The pilot biopesticide division "was created particularly to demonstrate how streamlining will work in the government," Leslie said. The fact biopesticides are exempt from a number of regulations speeds up registration naturally. Yet the timing is fortuitous since so many of the new ingredients being tested are biologicals.

"We have seen a big change," Leslie said. "In the last two years about 50 percent [of new registrations] have been biologicals. Before then, maybe two or three of the 30 pesticides registered a vear were biologicals.

According to an EPA report, its Office of Pollution Prevention registered 31 new pesticide active ingredients in 1994, more than half of which are considered "reduced-risk pesticides." Reflecting the recent trend, 15, or nearly half, were biological pesticides, according to the report.

Biologicals include microbial pesticides, which are bacteria, viruses, or other micro-organisms. Biochemical pesticides include pheromones, insect or plant growth regulators and hormones.

Creation of the Biopesticides and Pollution Prevention Division is a major change among several upcoming at the EPA. A comprehensive reorganization plan was expected to be submitted by end of March and to be implemented in 1996, Leslie said.

Meanwhile, the federal EPA hopes to sign formal agreements with their state colleagues similar to the one they signed with the California EPA's Department of Pesticide Regulation "to harmonize federal and state pesticide registration activities."

The agreement will "fasttrack" registration of new biological pesticides. The first fruit of the California pact is registration of the pesticide Bio-Save, marking the first anniversary of the agreement to harmonize federal and state pesticide registration activities.

GOLF COURSE NEWS

We Consider All Of These **Grasses Part Of Our Turf.** It's not surprising Basagran® turf, it can even be used St. Augustinegrass as a directed spray near T/O herbicide considers grass some of your favorite its turf. No other Bermudagrass

Ryegrass

Zoysiagrass

lawns. Centipedegrass Bluegrass, fescue, zoysiagrass, you name it, Basagran T/O can be applied over-the-top to get to the bottom of some of your toughest problems - sedges. And not only is Basagran T/O gentle to use on nearly all

broadleaf herbi-

cide works as

many different

well on so

Unlike other herbicides that just burn yellow nutsedge back above the surface, Basagran T/O travels all the way to the rhizomes and tubers.

established

ornamental varieties. And if that weren't enough, Basagran T/O comes in two convenient package sizes to fit any job pint or 1 gallon jug. Protecting your turf from troublemakers like yellow nutsedge, chickweed or annual sedges has never been easier. Just call 1-800-878-8060.

Simple solutions to complex problems.



Basagran T/O does not control purple nutsedge. Always read and follow label directions. Basagran is a registered trademark of BASF AG. © 1993 BASF Corporation. JJ8931 TO 4 006

CIRCLE #155

Bentgrass

Bahiagrass

Cyanamid offers rebate on Pendulum, Image & Amdro

WAYNE, N.J. - Turf managers and lawn care professionals can earn cash rebates on the purchase of American Cyanamid Co. products this spring under the company's Payback Offer.

Professionals who purchase Pendulum herbicide, Image herbicide or Amdro fire ant bait by May 31, 1995, and postmark a rebate coupon to American Cyanamid by June 15, will receive cash rebates based on the amount purchased. Rebates are also available for Pendimethalin, the pre-emergent turf herbicide. To qualify, Pendimethalin must be purchased from an authorized distributor by July 31, 1995, and rebate coupons must be postmarked by Aug. 15.

Natural Disasters Happen

(and we mean in addition to your score!)

Preserve your Golf Course

of greens and surrounding areas

New Courses

* Accurate square footages

* Standard tee to green

* Ponds, traps, streams

* Sprinkler heads

Laser Measurements

With accurate mapping of topographic features

* As built drawings of tees, fairways & greens

"The Payback Offer is our way of saying 'thank you' to customers who rely on American Cyanamid products to protect turf and make their job easier," says Gary Curl, senior market manager for Professional Turf, Ornamental and Pest Control Products.

The Cyanamid Payback Offer is the only program that pays cash rebates for using American Cyanamid turf and ornamental products. There is no maximum limit on the amount of product that qualifies for a rebate; however, the rebate is available only to professional end-users.

For details on the Cyanamid Payback Offer and rebate coupons, call 1-800-545-9525.

Armbruster named president, Johnsen VP of finance at Finlay

BEAVER DAM, Wis. — Clive Defty, chief executive officer of Finlay Industries, has named Darrell L. Armbruster president of the turf equipment manufacturing firm.

Armbruster was previously the vice president of sales and marketing. Prior to joining Finlay Industries, he held positions at Nicolet Instruments and DuPont. Armbruster holds a bachelor's degree from Chadron (Neb.)

State College and a master's degree from the University of Nebraska.

Finlay Industries, Inc. is the parent company of Dealer Parts Network, Inc. (DPNI) and Support Services International, Inc. (SSII). DPNI purchases services parts from manufacturers and markets them through authorized dealer networks. SSII performs business services including packaging, storage and distribution and assembly programs.

SSII also manufacturers the Power King brand of garden tractor and private label products for companies like Snapper, Simplicity, John Deere, Yazoo and H.C.C.

In other Finlay news, David L. Johnsen has been promoted to vice president of finance. Johnsen received a bachelor's degree in accounting at Western Illinois University in McComb, Ill., and a master's in business administration from Keller Graduate School in Milwaukee. Prior to joining the Finlay Industries team, he was the controller and assistant treasurer at Rexnord and, subsequently, Rexworks in Milwaukee.

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Legacy is Buckner," said Truttman. "That was a decision

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Continued from page 61

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that purpose.

Knuth: Slow play

Continued from page 13

ing the course is full of foursomes so that faster groups cannot play through. Because it is geared to play at capacity, time par serves as a realistic time target any day of the week.

For most courses, the USGA Pace Rating has turned out to be just under four hours. Tougher and longer courses may rate over four hours. Participating regional golf associations are using the USGA Pace Rating software program to calculate time pars for their member clubs. To have your course pace rated, call your regional golf association.

Then Put Them To Work

The successful courses are using time par in several ways:

- As a scheduling guide: Once you know the time par for each hole, you can assign each hole its own starting time. Players will know how long they have to play each hole and what time they're due on the next tee.
- As an enforcement weapon: The USGA has developed a course grid, the USGA Pace Rating Tracking Matrix, which pinpoints where a group should be at any given time during a round. When your ranger is armed with a grid, he or she can quickly identify groups that have fallen behind and help them catch up. The Matrix will be available from your regional golf association later this year.
- · As an analytic tool: Begin recording the time it takes to play each hole. Compare the actual finishing times with time par for the hole. If players are failing to achieve time pars on certain holes, look for:
- · tee time intervals that are too close together. Generally, starting groups less than 10 minutes apart will cause delays, no matter how badly players want to keep to time pars. This is especially true if there is a par-3 among the first five holes. Do all you can to get players off to a fast start by spreading out starting times, and clearing brush and reducing obstacles on the opening holes. Create the expectation of fast play, and players will continue to make time pars. When initial play is slow, the opposite mindset occurs, and the pace of play degenerates throughout the round.
- · cart rules that are slowing play. Restricting carts to cart paths adds 13 percent to time pars. Allow carts on fairways and the pace of play matches that of walking gollers.

By All Means Communicate

Finally, the courses that are winning the battle with slow play are doing a good job of educating their players about:

- Time par and the USGA Pace Rating for the course, and
- · Ways to pick up speed on the tee, fairway, or green. Until players are exposed to fast play GOLF COURSE NEWS

tips through booklets, posters, videos, or other communication materials, they really are not aware of their own slow play habits. The USGA Pace Rating System Manual cites several communication and education resources that are available on the market.

And Manage

Employ management tools that keep players alert to the pace expectations of your course. They may include:

· Course starters, marshals, and rangers. Successful clubs know the costs associated with

these employees are more than offset by added play that ensues when a dent is made in the fivehour round.

Pleasant, courteous on-course staff can be trained to advise players on the course's time standards and help dilatory groups catch up. At some courses, marshals are handing out slow-play tickets and ordering players to skip holes or play from forward tees. Course management is backing them up by withholding morning tee times from slow players or sending them to pace clinics.

If your course is wary of

offending slow players, keep in mind that slow players are ruining the day's play for all the groups stacked up behind them. The clubs studied in the manual report widespread respect for stringent policies.

- · Balance the more punitive measures with a system of rewards. Allow those who keep to the pace to participate in early start times, prize drawings or merchandise discounts.
- · On-course time reminders, such as signs, clocks or in-cart displays. The manual lists a number of vendors of time-management devices, as well as other

consultants on speed of play.

If you've lost patience with the reduced revenue, diminished return business, and blot on your course's reputation that slow play has produced, order a copy of the USGA Pace Rating System Manual and try the suggestions it contains. USGA member clubs were sent the manual in early February. To obtain your own copy, send \$5.00 to USGA Order Department, P.O. Box 708, Far Hills, NJ 07931.

And, let us know of your ideas for speeding up play; we'd like to include your success story in our



Toro introduces retrofit heads

The Irrigation Division of The Toro Co. has introduced the 780 Series conversion assembly. This product is designed to allow users to quickly and easily upgrade existing Toro sprinkler heads to the next generation in large turf sprinkler design.

adjustable part-circle (30 to 330 degrees) and full-circle models, arc adjustment from the top of the sprinkler to simplify installation, higher pop-up to clear tall grasses, color-coded threaded nozzles for ease of identification

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The 780 conversion features entrusted to the players. the course takes a beating. For more information about Designed as a sand 'n seed For more information, conbucket, Divot Mates offer a the 780 Series conversion assemtact Par Aide at 3565 Hoffman bly, call 909/688-9221 or write to variety of other course uses Road East, St. Paul, Minn. The Toro Company, Irrigation as well. Ruggedly constructed 55110. For the Par aide dealer Division, P.O. Box 489, Riverof durable polyethylene, the nearest you, call 612-779-9851. side, Calif. 92502-0489. buckets boast a deep, 4-gal-CIRCLE #307

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Phillips comment

Continued from page 12

no value, they won't pay for it.

· Attention manufacturers: We're determined to do a better job running stories on your new products. To that end, we've dedicated space in each upcoming issue to profile new products associated with our product features. This month's product feature, "Pond & Lake Management," appears on page 40 — the corresponding Product Forum appears on page 41. The Golf Course News Editorial Calendar details which products are featured in which editions. The Editorial Calendar comes as part of our media kit. To make a long story short, if you don't have our editorial calendar, get one by calling Diana Costello-Lee at 207-846-0600, ext. 264.

· Congratulations to the Family Dve on he occasion of Pete Dye's winning the Donald Ross Award, the highest honor bestowed by the American Society of Golf Course Architects (see page 45). I say the "Family" Dye because, as Pete would be quick to tell you, many of his designs should rightly bear the names of multiple family members: Pete/Alice, Perry/Alice, Perry/ Pete, P.B./Pete, Andy/Perry. You get the idea... Further, it's high time Pete Dye was honored by the ASGCA for his interest in

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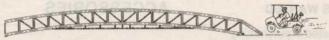
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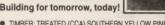
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Phillips comment

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classic design features, not his overblown, near-mythical obsession with the penal and outlandish. As Pete would be quick to tell you, most of his "devilish" features among them his forbidding, wooden bunker faces and closely shaved, steeply pitched aprons - are standard fare on countless Scottish courses. You would think a guy with a new book ("Bury Me in a Pot Bunker," which I read and liked) and an American Express commercial would work a little harder to make these points. But Pete doesn't give a damn, which accounts for a large measure of his charm.

· Truly dedicated readers may have noticed we've gone back to Mark Leslie's old drawing. We had a new one commissioned and published it last month. But no one liked it, least of all Mark. So turn back to page 12 and meet the new Mark,

same as the ol' Mark.

By J. BARRY MOTHES

AMARILLO, Calif. — Less than two years ago, a weekend green fee at the daily-fee Camarillo Springs Golf Course here in southern California was \$40.

Today, the weekend green fee is \$50. The demand for play — up to 40 percent of the calls for weekend tee times are turned down — has shown no signs of slowing down.

How did the golf course operator, in this case American Golf Corp. (AGC), pull this off? Not by building call-ahead snack huts on every hole or opening a disco

Daily-fee challenge: Upgrade or perish

in the clubhouse bar.

"Basically we worked on improving the drainage irrigation and overseeding the fairways to get the best wintertime turf," said Kevin Roberts of AGC. "You can't spend too much money on things besides the golf course, because that's why they come."

The course is also close to completing a network of paved cart paths which should improve the quality of the fairways.

What's taken place at for ways to move their golf Camarillo Springs over the past courses up to the next level:

two years is typical of the trend of "upscaling" or "upgrading" a golf course: Improving the quality of a golf course and thereby moving it into a higher price bracket for green fees and improving its value.

Whether it's major golf course management companies like AGC mid-size operations like LinksCorp, or even small "momand-pop" operations, many owners and operators are looking for ways to move their golf courses up to the next level:

From modest municipal to lowend daily-fee; from low-end dailyfee to high-daily fee, and so on.

Further, buying a golf course, then upscaling it can still be less expensive than building a new course from scratch.

"The key to all of this is knowing where and how much to spend," said Larry Hirsh, a golf course appraising specialist based in Harrisburg, Pa., and past president of the Society of Golf Appraisers. Hirsh, who specializes in appraising and feasi-

bility studies for golf courses, said a thorough market analysis is the place to start.

"You really need to do a market analysis, a cash-flow analysis and a cost-benefit analysis," said Hirsh. "Sometimes these things are a slam dunk. But most of the time you need to get your ducks in a row."

Hirsh recently put together a list of the seven factors he considers most responsible for adding value to a golf course. They are, in order of importance:

1. Course Conditioning — Are players inclined to return because green are in great shape? Are fairways wide enough or too wide? Has the course's appearance been enhanced with mulched beds, ornamental grasses and flowers? Do amenities such as tee signs, ball washers, benches, hole liners, etc. add to the property's overall image?

2. Pace of Play — A brisk pace increases the enjoyment of most players, allows more people to play and improves the course's income-generating potential. Large tees quicken the game, while providing adequate areas for all levels of players. Hazards should not penalize novice and average golfers too severely or constantly create bottlenecks. Rangers and yardage markers also help keep the game moving.

3. Location — Does your golf facility have good visibility from the highway? Use directional signs and a clearly marked entrance to make sure people know where you are and how to get there. If you are making improvements, put up a sign to inform the public.

4. Practice Range — Ranges are relatively low-cost, high-revenue facilities. If your golf property doesn't have one, consider building one with good tee areas, targets and floodlights. Are teaching facilities available?

5. Clubhouse — Don't overdo clubhouse services, especially at public facilities. Hot dogs and beer fit the bill at most daily-fee courses. However, an attractive pro shop, stocked with desirable clothing, club lines and logoed merchandise usually is a good investment.

6. Maintenance — Avoid difficult maintenance areas or outdated methods that add to operating costs. Practices to examine include manual vs. automatic irrigation, hand-mowed vs. triplexed green, rough maintenance and bunker appearance/consistency.

7. Special Events — Depending on your market, hosting tour events, U.S. Golf Association qualifiers and amateur college competitions may have bottomline benefits.

Roberts of AGC, which operates about 200 golf courses, 135 of them municipals, daily fees and resorts, said the increasing sophistication and expectations of the average golfer over the past 10 years have made

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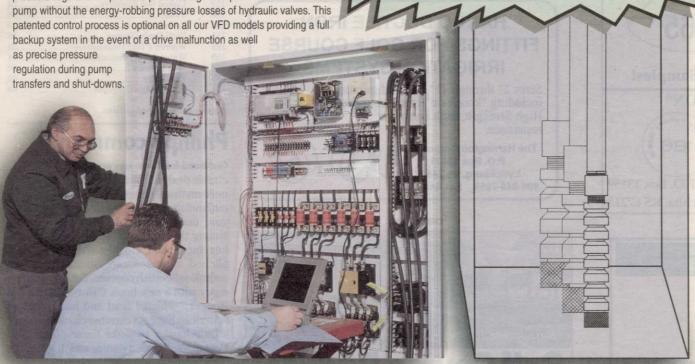
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