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GOLF COURSE NEWS

PULL-OUT SECTION
Int'l Golf Course Conference and Show
Pages 37-44

THE NEWSPAPER FOR THE GOLF COURSE INDUSTRY

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INSIDE

Mother Nature gets nod

Superintendents giving more importance to biologicals and biostimulants in their turf care 22-23

Reno out of dormancy

Resort course first in 20 years at Nevada's Lake Tahoe area. 32

Handicapped children

Florida man turns retirement time into teaching time with school children 33

Blenders a perfect mix

Course construction companies find perfection a necessity in blending soil mix for greens. 14

USGA awards millions in research project grants

By Peter Blais

Pesticide and nutrient fate along with alternative pest management are the primary focus of the 15 research grants the United States Golf Association has decided to fund as part of its most ambitious research effort ever.

Contracts potentially worth a total of almost \$2.8 million over the next three years will soon be offered to 15 colleges and universities, said USGA Green Section National Director Jim Snow. Some schools are involved in more than one project.

Certain projects, especially those involving pesticide and nutrient fate, will take three years to complete, he added. Some could continue farther into the future. Requests for bid for another \$300,000 in research money dealing with golf

course benefits will be made this winter. The USGA's Environmental Research Committee will select the successful proposals at its March meeting, Snow said. The research committee met in early December. "It
Continued on page 25

Japanese continue investments

By GCN staff

Landmark Land Co.'s anticipated sale of the bulk of its golf and resort assets for approximately \$739 million is just the latest of dozens of

Japanese golf facility acquisitions in the United States that have put that country's financiers at the forefront of U.S. golf ownership. According to Mead Ven-

tures, Inc., of Phoenix, Ariz., which provides information on international business, 120 golf course developments totaling about 160 courses in the United States

were owned wholly or partly by Japanese companies or their U.S. subsidiaries before the Landmark purchase. The Mead total includes
Continued on page 57

GROWTH OF COURSE TYPES IN U.S.

Year	Municipal	Daily Fee	Private
1983	2032	5915	5137
1984	2056	5961	5164
1985	2090	5968	5196
1986	2098	6004	5251
1987	2122	6025	5289
1988	2135	6203	5288
1989	2166	6296	5276

See related page 1 story on municipal courses.
Source: NGF

COURSE MAINTENANCE

UTS rules violators being fined 17
Club Corp. takes no chances 17
Jo-Ann Ward gives course feminine touch 18

COURSE DEVELOPMENT

Pesticides lone hold-up at Sherman Hollow 29
Course listing shows work continuing 30
Supers give Dakota Peat rave reviews 34

COURSE MANAGEMENT

Recession is "beatable" at nation's courses 57
Landmark on verge of joint venture deal 57
Johnson Golf expands role 57

SUPPLIER BUSINESS

Lesco opens distribution center 60
Appointments fill managerial spots 60
VanderHave USA buys Adikes 62



The River Islands Club course, designed by Arthur Hills, plays on both sides of the French Broad River and on two islands in between. It opens for play this spring. For more information on golf course development see pages 29-33.

Communities finding munis money-makers

By Bob Seligman

A growing number of communities are building municipal golf courses to earn money and provide recreation for their residents.

According to Angelo Palermo, vice president of golf course development for the National Golf Foundation, 125 municipal courses were in planning last Dec. 1, as

opposed to 85 at the end of 1989. Seventy-two municipal courses were under construction by Dec. 1, 1990, as opposed to 63 at the end of

1989. Thirty-six new municipal courses had opened in 1990 by last Dec. 1, one more than opened in all of 1989.
Continued on page 45

Beard urges: Speak out on benefits

By Peter Blais

Dr. James Beard exhorted superintendents and others at December's Ohio Turfgrass Conference and Show to speak out on the "unfounded" attacks against the turfgrass industry.

Although turf is beneficial in many ways, it is coming under severe pressure at local, state and national levels by special interest groups ranging from tree and ornamental organizations to water conservation interests to anti-

pollution forces. "Trees, shrubs and turf go together," Beard said. "We've got enough problems from other groups without the tree and shrub people coming out against turf. It
Continued on page 48



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60 of the top 100 golf courses, as defined by Golf Digest, did. Maybe that helped them become 60 of the top 100 golf courses.

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2,4-D studies expected complete by mid-year

Results of two studies on the herbicide 2,4-D should be available by mid-year.

With previous studies unable to establish a connection between 2,4-D and cancer, the Industry Task Force II on 2,4-D Research Data authorized \$460,000 in funding for the new studies by independent researchers.

A recent report by the Harvard School of Public Health said the link between 2,4-D and cancer is "far from established."

It stated that animal research provides little reason to expect 2,4-D causes cancer in people and that studies of people occupationally exposed to the herbicide, while

suggesting a possible link, do not establish a cause-and-effect relationship.

National Cancer Institute studies in Kansas and Nebraska relied solely on the memories of herbicide users or their next of kin to estimate exposures.

The NCI has acknowledged that this calls its findings into question and has asked for further research to establish the validity of its studies.

The Task Force II-supported research, which is being performed at the University of Minnesota and the Canadian Centre for Toxicology, follows recommendations made in the Harvard report.

Dr. Jack Mandel of the University of Minnesota School of Public Health's is exploring how well people can remember exposures to pesticides over an extended period of time.

Dr. Ian Munro, director of the Canadian Centre for Toxicology, will document 2,4-D handling and spraying practices in Kansas, Nebraska and Saskatchewan.

The data will be gathered in five-year increments through use of spray manuals and other records.

Munro will then call together internationally recognized specialists in epidemiology and farm extension work to re-analyze recent

epidemiological studies.

Task Force II is composed of six companies supporting reregistration of 2,4-D.

Industry officials feel part of the controversy surrounding 2,4-D is that it is often "mistakenly" caught up in the discussion over Agent Orange.

2,4-D was one of the constituents of Agent Orange but not the controversial one, which is 2,4,5-T.

Plaintiffs in the Agent Orange case specifically excluded 2,4-D from litigation.

They focused on an impurity known as 2,3,7,8-TCDD (dioxin), which was commonly found at trace levels in 2,4,5-T.

Hawaii asks developer for \$15 million 'impact fee'

The state of Hawaii is seeking \$15 million in "impact" fees from the developer of the luxurious Minami golf course on Windward Oahu, producing a howl of "Foul."

Minami attorney Ivan Lui Kwan said the impact fee assessment "flies in the face of the notion of fair play" because the state is "changing the rules" in mid-stream on the developer.

The Minami project, if completed, is expected to cost more than \$100 million.

Minami Group USA estimates it will take another 14 months to complete the course and massive clubhouse.

The state Board of Land and Natural Resources recently granted Minami its third extension on a construction permit first granted in March 1987.

The developer had until Jan. 11 to work out ways to offset claimed negative effects of the golf course, originally scheduled for completion by June 1989.

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Mass. officials consider ground water regulations

Pesticides could be banned near drinking supplies

By Peter Blais

Proposed ground water regulations in Massachusetts that could greatly affect the use of pesticides on Bay State golf courses have come under fire by the state's turfgrass industry.

The Massachusetts Pesticide Board has discussed banning 21 products from use within a half-mile radius of any drinking water supply. Among them are many used by the green industry, including the fungicide Chlorothalonil; herbicides Alachlor, Bentazon, Metolachlor and Simazine; nematocides Fenamiphos and Terbufos; and insecticides Disulfoton, Lindane and Terbufos.

The regulations are not based on scientific data, argued the Green Industry Council, which includes representatives from many of the state's golf courses. The organization made its feelings known in written comments and during three public hearings last fall.

"Research like the Cape Cod Study (which concluded there was no ground water contamination from golf course pesticides in that area) hasn't even been considered. There is so much research showing the positive effects of golf courses that should be looked at," said Charles Passios, vice president of the Golf Course Superintendents Association of New England and head superintendent at Hyannisport Club.

The Pesticide Board will consider those and other comments when it meets Feb. 6. The board should develop a new set of regulations by this spring, according to Green Industry Council Executive Director Phyllis Gillespie.

"We hope the board recommends the regulations need further study when it meets this winter," she said.

In a position paper responding to proposed regulation 333 CMR 12.00 Protection of Public Drinking Water Supplies, the Green Industry writes: "The proposed regulation goes well beyond the scope of public safety, imposing severe and unfounded limitations on the use of pesticides by the green industry...the Green Industry Council maintains that applications made by professionals in the green industry, both foliar and to turf, pose no significant threat to our drinking water supplies.

"The Green Industry Council strongly urges the Department of Food and Agriculture to identify and regulate specific methods of application, practices and products rather than provide a blanket regulation which seriously impacts our industry and our advances in such areas as Integrated Pest Management."

The lack of scientific data used to develop the proposed regulation is one of the Green Industry Council's

major points of concern. The Council recommends a generic environmental impact report or a ground water monitoring program — considering current methods and rates of application and Massachusetts site conditions — be employed to determine the need and scope of the regulation.

The council is also bothered by the proposed regulations' use of the relatively new National Pesticide/Soils Database and User Decision Support System for Risk Assessment of Ground and Surface

Water Contamination Program to determine leaching potential. "The year-old program is still in the developmental stages, having not yet been field tested or able to effectively incorporate pertinent site variables," the position paper reads.

The regulation allows for a variance where no viable alternative is available. The variance requires extensive paperwork and can take up to 60 days to review. Variances must be renewed annually.

The council believes the 60-day decision period prevents an inte-

grated or best management approach and hinders the monitoring of pest populations, timing of application and rotation of products. The expense of obtaining a variance could far exceed the price of the job, it contends.

And "On golf courses and nurseries, where records demonstrate the need for treatments involving the same material on the same site each season, the annual renewal period is an unwarranted burden," the position paper reads.

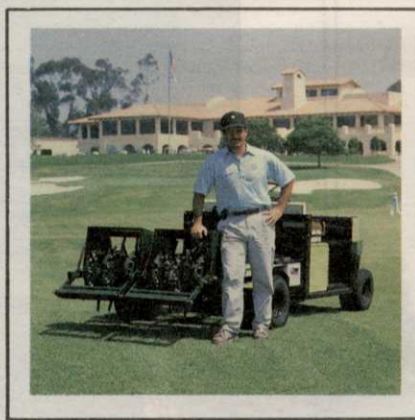
In terms of pesticide alternatives,

the University of Massachusetts Cooperative Extension Service has provided the Department with a list of alternatives for the 21 pesticides. All the alternatives are another pesticide, the council found. And no alternatives were listed for a half-dozen of the would-be-banned products.

"The regulation fails to encourage Integrated Pest Management and, in many cases, puts the applicator and/or the environment at a significant risk by forcing the use of the alternative," the council stated.



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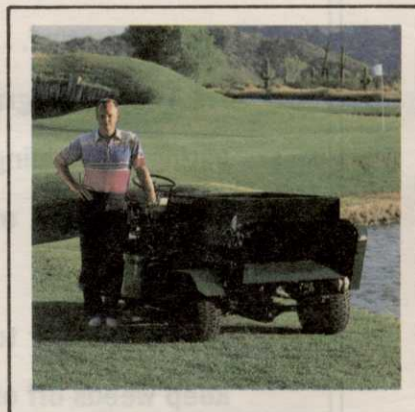
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Florida Golf Council drive reaches halfway point

Seay, Yount, Pate, others in industry add time and expertise to initiate lobbying arm in state

WEST PALM BEACH, Fla. — The fledgling Florida Golf Council, about halfway to its seed money goal of \$25,000, by the end of January had held 15 meetings statewide with organizations involved in Florida's \$5-billion golf industry.

The meetings were a swift follow-up to the council's initial Florida Golf Summit in Orlando.

Meetings centered on issues most critical to the golf industry, and how the council, founded last

October, might be most effective as a viable trade association representing course owners, operators and other golf-oriented organizations.

The council's Nancy Oliver described these sessions as "very productive." Particularly fruitful was a workshop session attended by representatives of each of the association's major golf and related business groups.

They included PGA of America,

North and South Florida sections, PGA Tour, LPGA, Florida Golf Course Superintendents Association, Florida Turfgrass Association, National Golf Foundation, American Society of Golf Course Architects, Florida State Association, and Florida Council of 100.

The broad range of interests was evident in the wide mix of attendees.

Ed Seay of Palmer Golf Course Design presided over the initial

session at Jacksonville. Robert Yount, executive director of the Florida Turfgrass Association, and Tony Austin of Marriott Golf did the honors at Orlando.

Cal Korf, Florida State Golf Association executive director, chaired the meeting at Sarasota, while the law firm of Holland N. Knight hosted the meeting at Tampa, touring pro Jerry Pate the session at Sandestin, and the LPGA's Becky Sauers and Ron Safford, director of

sports development for the state of Florida, the gathering at Killlearn in Tallahassee.

Other meetings were at Miami, Ft. Lauderdale, West Palm Beach, Ft. Myers, Naples, Sebring and Gainesville.

Council memberships now are being offered. People may contact Oliver at Florida Golf Council, 1401 Forum Way, Suite 100, West Palm Beach, Fla. 33401; telephone 407-688-0800.

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RANSOMES

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N. California GA offers \$8M for Mather AFB golf course

SACRAMENTO, Calif. — Soon after the Mather Air Force Base closes in 1993, its 18-hole golf course may double its wing span.

The Northern California Golf Association is offering to spend up to \$8 million to purchase and eventually boost the course to 36 holes.

At the same time, the Sacramento County Department of Parks and Recreation is urging that the Pentagon convey the golf course free of charge to the county as part of a proposed 1,000-acre regional park at Mather.

Hugh A. Evans, retired Sacramento judge and NCGA immediate past president, said, "We can turn Mather into a truly outstanding golf course that the public could play for a reasonable fee."

Evans said his group is prepared to offer the government \$2 million to buy the facility, then immediately spending \$6 million on improvements, including a new clubhouse and the design and construction of an additional 18.

According to the county proposal, an estimated \$1.5 million would have to be spent to upgrade the golf course, with "perhaps a second golf course" built on adjacent undeveloped land.

\$850M resort with two courses OK'd in Florida

The East Central Florida Regional Planning Council has approved an \$850-million resort in Osceola County.

The 708-acre World Golf & Tennis layout just southwest of a main entrance to Walt Disney World would encompass two 18-hole golf courses, a 25-court tennis complex, 475 golf villas, and 325,000 square feet of commercial or retail space located along a 63-acre lake.

Scott Banta, president of Telesis Developments Inc., said World Golf & Tennis is backed by a group of U.S., German and Swiss investors, but declined to identify them.

Construction is scheduled to begin in July.

EPA well water study finds little effect from courses

At least half of the nation's drinking water wells contain detectable amounts of nitrate but few exceed health limits.

That's the conclusion of a five-year national survey of pesticides in drinking water wells by the U.S. Environmental Protection Agency. The survey is said to be the first and perhaps the most extensive monitoring effort ever to evaluate the presence of pesticides, pesticide degradates and nitrate in U.S. drinking water wells.

Only a small percentage of concentrations are higher than EPA's regulatory and health-based limits for drinking water — about 1 percent of community water system (CWS) wells and about 2.4 percent of rural domestic wells.

Survey results indicate that about 52.1 percent of the 94,600 community water system wells in the U.S. contain nitrate, about 10.4 percent contain one or more pesticides, and about 7.1 percent may contain both.

Of the approximately 10.5 mil-

lion rural domestic wells, EPA estimates that about 57 percent contain nitrate, 4.2 percent contain one or more pesticides, and about 3.2 percent contain both.

Only 0.6 percent of approximately 60,900 rural domestic wells contain at least one pesticide over a maximum contaminant level (MCL) or lifetime health advisory level (HAL). None of the detections of pesticides or pesticide degradates for CWS wells were above the MCL/HAL.

The pesticides detected most

frequently were DCPA acid metabolites and atrazine. DCPA acid metabolites are degradates of DCPA, used primarily as a weed killer on lawns, turf and golf courses, and also on a variety of fruits and vegetables.

Concentrations detected usually were well below levels of health concerns.

Presence of a golf course within a half-mile of either community water system or rural domestic wells reflected negligible effect.

A Phase II report, to be released

this year, will discuss EPA's assessment of the causes and factors associated with the occurrence of pesticides and nitrate in drinking water wells.

Fertilizer spokesmen were among industry forces hailing most segments of the report.

Said Gary D. Myers, president of The Fertilizer Institute, "This should reassure Americans — particularly those in rural America — that their drinking water is safe.

"That may come as a surprise to some environmental groups that

have been seeking to force farmers to change their production methods to protect groundwater. Our farmers have managed fertilizer well.

"A nitrate is a nitrate, regardless of source," added Myers. "This data tells us nothing about the source of nitrates. Many states have conducted nitrate studies that indicate that nitrate occurrence above a natural background level usually can be traced to a poorly-constructed well or other point sources."

Pete Dye's first course in Hawaii gets go-ahead

HONOLULU, Hawaii — After years of controversy and delay, construction of the 36-hole golf course here — the first Pete Dye-designed layout in Hawaii — is moving right along.

The 1,096-acre parcel was sold in 1986 to Yasuo Yasuda, a Japanese vending machine executive. Yasuda formed Y.Y. Valley Corp., parent company for the \$50-million golf project.

Only 450 acres will be used for golf. The rest will be conservation land.

The first 18 holes — nine of each of the eventual Makai and Mauka courses — are expected to be completed late this year.

Said Dye: "The challenge is to retain the natural vegetation and terrain while enhancing and preserving the environment for the future."

Airport property course proposed in Marion, Ill.

MARION, Ill. — Former professional golfer Roy Glenn of Carterville proposes to build an 18-hole golf course on airport property at Marion.

He has submitted his plan, the first phase of a \$1.2-million project, to the Williamson County Regional Airport Authority.

Glenn described his plans for "The Knolls" golf course as similar to desert golf courses, since the proposed site is in the mine spoils area north of the National Guard armory site and east of the main north-south runway.

Second phase of the project would be an additional nine-hole executive course.



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Course a focal point for \$400M N.Y. resort

An 18-hole golf course will be part of a \$400-million all-season resort in Great Valley and Ellicottville, N.Y.

Preliminary planning and development work on the golf course will begin in the spring.

Developers may install a ski lift on part of the land envisioned for the ski area for use in the 1991-1992 season.

Part of that land used as a pasture has been cleared.

The project eventually would include a ski resort able to accommodate more than 4,000 skiers daily. Developer Vincent Bonerb said the resort would draw people from Canada, as well as the Cleveland, Pittsburgh, Chicago and Rochester areas.

About 62 percent of the Canadian population lives within a 500-mile radius of Buffalo.

Utah-based Jack Johnson Co. is the project's master planner.

715-yard hole a family course's challenge

LAVALETTE, W.Va. — When the Lavalette Golf Club course opens, hopefully in May, fancied heavy hitters should be high on the starter's sheet.

These long-ball exponents are aching for a crack at the 14th hole, which measures 715 yards from the back tees and is listed as a back-breaking par 6.

The curious have been out in force since last July, when Albert Anderson, brothers Ken and Loren, father Pat and course professional Ken Lacy began their ambitious project.

While the unusual length of the 14th hole has attracted most attention, Lacy said there will be other tests at course opening this spring.

Stretched to the maximum, the course will be 6,500 yards, and only 5,588 from the white markers.

Tee shots will be played from elevated tees or blindly over a rise. There are eight lakes. Bunkers are plentiful, along with strategically placed trees and mounds, and greens range from double-tier to one that serves two holes.

Owner Albert Anderson believes the variety of terrain and trouble

will mean use of many more clubs than is customary at courses where driver and short iron are too frequently employed.

Purchase of the farmland ended a year of property exploration throughout the Tri-State area. Ground-breaking took place as soon as the deal was closed.

The Andersons, Lacy and a handful of other workers labored dawn to dark seven days a week, regardless of the weather. Water and drainage systems are in, and grass has been mowed.

When work resumes in the spring, fairways and tees will be reseeded and fertilized, and greens top dressed.

Bolstered by their success and undismayed by the prospect of more 14-hour workdays, the Andersons plan to develop another nine holes in the spring.

There are two cemeteries within the course's boundaries.

Illinois resort eyes fall start for construction

CARLYLE LAKE, Ill. — Construction of an \$11.5-million resort with an 18-hole golf course here could begin next fall.

Golf course cost is estimated at \$2 million.

Tom Hendrick of the Mariner Hotel Corp. said the hotel would include 120 rooms, all with patios. Half the rooms will overlook Carlyle Lake, the other half the golf course.

Hendrick said the West Access marina would be dredged to increase the size and to provide additional boat slips at the resort.

A new water plant is needed to serve the resort. The city of Carlyle has applied for a \$1.125 million U.S. Economic Development Administration grant to cover half the projected cost.

Grow-in delay means late start at Redhawk

Developers of the 18-hole Redhawk golf course in Southern California want things just right, so opening won't take place until early 1991.

The course was completed some time ago. Decision to delay opening was based on infrastructure improvements not yet complete — and Mother Nature.

"The grasses have not established themselves as firmly as we would have liked," said Larry Heffner, senior executive vice president of Great American Development Co., developer of the course and surrounding 1,300-acre master-planned community off Highway 79 in the Temecula Valley area of southern Riverside County.

The 140-acre course was designed by Santa Rosa-based Golfplan/The Fream Design Group in conjunction with professional Mark O'Meara.



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Growing better through technology.

England's Howard Swan follows Jones' footsteps

Russia getting first golf course/academy facility

YALTA, USSR — Robert Trent Jones Jr. has designed Russia's first golf course. Now British golf architect Howard Swan will help developers give this seaside resort area in the Soviet Crimea the first location in the USSR to have a golf course and academy.

The nine-hole course is expected to attract both Russians and foreigners. It will have its own golf hotel, developed by a consortium of the local municipality and the

Soviet airline Aeroflot.

"I was delighted to have been able to accept an invitation to Yalta," said Swan, of Essex, England, who has designed a number of courses throughout the United Kingdom and Europe.

"Providing this resort with its first taste of golf is going to be a great challenge, and in such beautiful surroundings, I'm sure we can make a wonderfully attractive course."



Directors of the Yalta development company with Howard Swan, center, discuss plans for the country's first resort golf course in the Crimea.

Pennsylvania board grants course approval

NORTH COVENTRY, Pa. — John H. Albright Jr.'s request to build an 18-hole championship golf course on the Gruber estate along Route 724 here has received zoning hearing board approval.

Ground is expected to be broken next year. Preliminary plans for the private course call for using either tunnels or bridges over Route 724 and the Route 422 bypass, which transverse the property.

Albright also is considering placing one green on an existing island in the Schuylkill River.

Albright negotiated a deal with Edward Gruber in November 1989, giving him title to the Gruber Edgewood estate and more than 200 surrounding acres.

In August, Gruber filed a security loan against Albright after he failed to make his most recent payment on a \$7-million loan. Albright is obligated to make quarterly payments to Gruber, who holds the mortgage, until October 1994.

Ft. Myers moves ahead with plan for course/houses

FORT MYERS, Fla. — Plans for the city of Fort Myers' proposed Westwood Golf Course and residential development are progressing nicely. The city holds options to purchase 367 of the 400 acres targeted for the project. Land cost is estimated at \$4 million.

The city hopes to build and operate a third public course off Ortiz Avenue.

Fort Myers would sell the property to a developer, who would donate a portion of the land back to the city in return for the city's assistance in building homes.

Dale Siska, vice president of a local engineering firm, said building a housing development near a course has an added benefit. "A major concern for a golf course is having water hazards," he said, "while a developer must be concerned with storm water drainage.

"The nearby golf course allows the developer to drain off water and create water hazards for golfers."

TPC project gains ground

SAN DIEGO — A Tournament Players Club golf course here, to be called Black Mountain Ranch, is in prospect.

After nine months of hearings, the city council approved in principle a zoning ordinance that would allow development of a TPC golf community.

The course would be designed by Johnny Miller, and a private course would be designed by Rees Jones, with Mark O'Meara consulting. Building is expected to begin early in 1992, with the courses ready for play by 1995.

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'Senior Golf' exhibit on view at USGA's Golf House until May 5

FAR HILLS, N.J. — A new exhibit, "Senior Golf: Collecting New Memories," is on display through May 5 at Golf House, the museum and library of the United States Golf Association.

The display is divided into three parts — "All-Stars," "Future Prospects" and "Legends."

"All-Stars" highlights memorabilia on loan to the USGA from Arnold Palmer, Jack Nicklaus, Gary Player, Chi Chi Rodriguez and Lee Trevino.

The display includes many trophies and medals won by Nicklaus, among them those from his four U.S. Open, three British Open, six Masters, five PGA Championships, and two U.S. Amateur Championships. The trophy and medal Palmer won at the 1960 U.S. Open, along with a driver he used in that championship, are also featured. Visitors will also be able to watch "Reunion at Ridgewood," a videotape of the 1990 U.S. Senior Open Championship.

The "Future Prospects" section displays items from those men who will soon be eligible as senior players, such as Tom Weiskopf, Raymond Floyd, Isao Aoki and Hale Irwin.

The "Legends" sections contains the story of the beginnings of the Senior Tour. It includes memorabilia of Jimmy Demaret, Sam

Snead and Gene Sarazen. The Demaret items are on loan from Onion Creek Club, in Austin, Texas, the home of the Demaret exhibit.

The exhibit features the use of enlarged baseball-card type displays and the museum's collection of cigarette cards. Some of the cigarette cards are more than 100 years old. Used to stiffen cigarette packs, they featured illustrations of royalty, actors and athletes.

Located on the grounds of the USGA, Golf House is open weekdays from 9 a.m. to 5 p.m., and weekends from 10 a.m. to 4 p.m. It is located near Far Hills, N.J., near the intersection of Interstate Routes 78 and 287.

Area degraded by cattle said prime site for California course

Cattle are being branded as culprits by a Santa Clarita Valley, Calif., land developer in beefing up arguments for a huge golf course and housing project in a sensitive wildlife habitat.

Newhall Land & Farming Co. said its cattle operations already have degraded the area, a 798-acre site west of the Golden State Freeway that includes 300 acres of a county-designated Significant Ecological Area (SEA) lying between Valencia Boulevard and McBean Parkway.

Newhall Land's plan calls for building 350 houses and part of the golf course in the SEA,

while saving most oak trees.

Newhall Land officials say "a variety of factors ... in addition to our company's cattle operation" have contributed to the SEA's decline — including the Golden State Freeway and other development in the area.

An SEA technical advisory committee member said damage from over-grazing is no reason to allow overdevelopment to destroy the habitat altogether. Frank Hovore said oak savannas are highly resilient and quickly recover in habitat value when overgrazing stops.

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Delaware County getting two \$10M private facilities

Two \$10 million private golf clubs will swing into operation next spring in southern Delaware County.

The Lakes Club north of Westerville is being played now, but won't be ready officially until March or April, according to head professional Steve Groves.

Wedgewood Golf and Country Club, also 18 holes, will open May 31, said Tom Cassady, a partner in Day Brothers Development Co. Wedgewood is near Powell.

Ed Sneed designed The Lakes, Robert Trent Jones Jr. Wedgewood.

The Lakes Club will become the permanent host of the Bobby Rahal Columbus Charities Pro-Am when it moves there for its third staging Sept. 16.

Wisconsin board approves project

MARION, Wis. — A golf course development here has been approved by the Waushara County Zoning and Planning Committee.

Jerry Caswell of Wautoma plans to develop a nine-hole golf course, pro shop with a clubhouse and lounge, and a 30-unit condominium complex.

The course is expected to be finished by spring 1992, with the clubhouse to be completed the following fall.

Bankruptcy Court grants Eastern Air OK

PUERTO RICO — Eastern Airlines has received approval from U.S. Bankruptcy Court to launch a luxury golf course development here.

The joint venture with a Hyatt Hotels affiliate involves a 400-acre property on the north shore of Puerto Rico west of San Juan.

First domed golf course overcomes winter woes

FLINT, Mich. — Move over, ye giant all-weather creations for baseball and football games. And who said it never rained on the golf course?

"A real marriage of the art of golf and science" now allows golfers to play in a facility always dry and insect-free, with no wind and in comfortable temperatures.

A domed golf facility that permits golfers to play a nine-hole round during the winter months opened Jan. 5 in Flint Township.

The par 3 course, which features natural grass, is covered by a translucent dome trademarked "Turfdome," that allows natural light to pass through.

The course has been named Winter Greens Golf Club at King Par Golf.

Michael A. Thompson, president of American Golf Domes, Inc., of Mount Clemens, Mich., developed the concept and designed the air-supported structure.

Thompson said golfers "can play their game the same way they

play during the summer months. The only difference, if any, at Winter Greens is that you're stepping up to your approach shot to the green."

Michigan PGA head golf professional George Morgan, pro manager at Winter Greens, said initial operating hours will be 8 a.m. through 9 p.m. daily.

The course, "challenging for the accomplished golfer," said Morgan, "also is ideal for beginners, women and seniors."

Winter Greens offers a driving range and full-service golf pro shop

on the premises, as well as other attractions for the entire family.

"American Golf Domes has been erecting air-supported structures for golf since 1968 in Europe and the U.S.," Thompson said. "But this is the first natural grass indoor course in the world, during the development of which we worked with the Sod and Turf Division of Michigan State University and Dupont Plastics."

Michael McElroy of Great Lakes Golf Renovations, the Michigan firm that shaped and grassed Winter Greens, said: "It has been a chal-

lenge to take the plan concept to the undulating terrain of a functioning golf course. I believe golfers will appreciate the test."

A comfortable inside temperature is maintained at about 60 degrees Fahrenheit, regardless of outside conditions.

Broom makes do at ModSod layouts

Hardy souls who wish to stretch their season in the sometimes harsh outdoors are managing a couple of months of extra swings in North and South Dakota and Minnesota.

Veteran pro tour player Fred Haas of Metairie, La., has installed his Mod-Sod at 10 courses in those three states.

"Play at the end of fall and the start of spring is extended," Haas noted. "Golfers need only sweep the snow off the greens. There are no soft bumps on the surfaces, a boon to course superintendents."

Golfers searching for ways to enjoy golf year-round may find domed and Mod-Sod answers.

Maine super makes winter play possible

By Vern Putney

Maine's golf image nationwide perhaps is "beautiful courses beckoning in the summer and fall, but forbidding in the winter."

Webhannet Golf Club in Kennebunk Beach defies that description.

True, temporary greens and tees are in use from November through April, but play is fairly steady and there's added zest to the sport.

Member matches are spirited. After the action, when players move at a pace far more briskly than in languid summer months, coffee is the favorite 19th hole drink.

Course superintendent Roger L. Lowell annually cuts temporary greens from the fairways. They are cut with a hand greensmower at 1/2-inch height, and are about 300 square feet with an eight-inch cup in the very center.

Tee markers, one set of white only, usually are placed on a reasonably flat area nearest the tee.

The temporary course plays host to the annual Blue Ball tournament held either in January or February the past 10 years.

In this A.B.C.D. "one club" scramble, between 30 and 40 players compete in temperatures as low as 5 degrees and as high as 40 degrees.

Snow is not a problem. Players simply clean the snow from the cups, then putt out. Weather permitting, all 10 temporary holes are played, and always the minimum four.

All tournaments have been recorded on video. Wives accompany participants to act as caddies and to keep them comfortable.

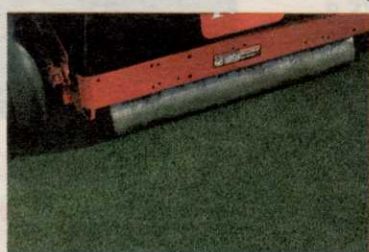
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Coeur d'Alene course faces dredging permit woes

By Bob Spiwak

A request by Hagadone Hospitality of Coeur d'Alene, Idaho to dredge a portion of Lake Coeur d'Alene is still wending its way through a permitting process.

The request was made to allow the resort course's floating green to reach its closest-to-shore location of 75 yards out during periods of low water.

The 5 million pound green draws 5 1/2 feet and was designed to be moored from 75 to 175 yards from the shoreside tees. However, it was

discovered that in the months essentially from September to June, the lake level drops and leaves only about 4 feet of water near the shore. The developer has sought permission to dredge an underwater trench up to 5 1/2 feet deep, 180 feet wide and 430 feet long to accommodate the shoreward location of the green.

According to Will Pitman, Lake Protection Act manager of the Idaho Department of Lands, the permitting process has gone before the Army Corps of Engineers. De-

velopers have proposed putting large angular rocks on the slopes of the intended dredged area to prevent sloughing of the sides. As this constitutes "introduction of fill material," it comes under Corps jurisdiction.

The rock fill was one of the precautions advised by the Kootenai Environmental Alliance, a citizen group which works independently, as well as with state environmental and wildlife agencies, to protect the local ecology.

Art Manley, an alliance member,

said his organization is not "standing in the way of the project." He added that if the group had its choice, "it would rather not see (the dredging) done." He feels it sets a dangerous precedent, and cites individuals who have been refused dredging permits to deepen the water at their docks. "It's a matter of protecting the lake," he said.

On a recent newscast on KREM television, Spokane, Wash., John Barlow, who oversees the golf project at the Coeur d'Alene resort, stated that the original design (of

the course) had the green some 400 yards from its final location, inferring that in the change of location the depth of the water was an unforeseen factor. Attempts to contact Barlow were unsuccessful. Likewise, an associate of course architects Scott Miller Design, Scottsdale, Ariz., would not comment for the record.

There was the feeling, in conversations with several persons involved with the golf course, that the local media were blowing the problem out of proportion, and particularly blamed Spokane's Spokesman-Review daily paper of a vendetta against developer Duane Hagadone, who controls rival newspapers across the state line in Idaho.

Pitman said the Kootenai Environmental Alliance had made a list of requests to be met before a permit to dredge was granted. These included: chemical analysis of the water to check for toxic chemicals or minerals, placement of the large rocks on the slope of the dredged area, drilling of core samples to be certain the lake bottom will be gravel and not silt, and the maintenance of a silt curtain around the dredged area.

All of these, according to Manley, have been, or are being done. He said the request for the rock fill was to ensure that dredging would not have to be done repeatedly in the coming years.

While attention has been drawn to the floating 14th green, Miller Design and Hagadone have taken great pains to protect the environment throughout the entire course. There is no doubt in the minds of anybody involved that what needs to be done on number 14 will be done properly.

The question that pervades the minds of golfers and officials alike is, "Why didn't they measure the water first?"

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Golf growth prospects far from 'bust'

You may have read or heard of the recent article in *Forbes* (Dec. 24) reporting on the National Golf Foundation's Golf Summit.

The feature story titled, "Extrapolation Madness," questioned the NFG's growth figures for participants and the real demand for golf facilities.

In some instances I agree that the NFG's figures may be aggressive, but I disagree with the conclusion that the future growth of the industry is a bust!

I responded to *Forbes* with the following letter. I'll look forward to

your comments.

Dear Sir:

Golf Course News associate editor Peter Blais responded to the National Golf Foundation's predictions as "wishful thinking"... He's right.

The NFG's numbers may be wishful thinking—and I personally think that 350 new golf courses per year is preposterous.

But remember, the NFG never projected that 350 new courses would be built. The projection is that 350 new courses will be needed to meet the demand.



C. von Brecht

new golf courses.

The problems involving golf courses are not necessarily the courses, but rather the real estate development surrounding the courses. The demand for stand-alone

The methods used to count golfers may not be valid. However, you should understand that there is a demand for

courses, primarily in the public and municipal categories, is real. Just try to get a tee time at a Chicago area muni on a Saturday morning in July.

I have presented *Golf Course News*' projections for new facilities on a number of occasions.

Although more conservative than the NFG's estimate (we're projecting 150 new courses per year for the next five years, along with 200 renovations), this steady growth is far from a bust!

Sincerely,
Charles E. von Brecht

COMMENTARY

Family affair leaves no widows, orphans

Everywhere you turn, the courts, the government, the schools, the voters — someone somewhere in the country is putting a chink in the armor of the American family.

And now, just as the golf industry has resolved to be a part of the solution, not a part of the problem with the environment, it should resolve to be part of the solution to the destruction of the family, not a part of the problem.

I don't know exactly when the decline of American society began. I'll let the sociologists and psychologists argue about that. But you don't have to be a "ologist" to figure out some of the actions taken in our country have been devastating to family life.

If you're a **job-ologist** or **school-ologist**: Children and parents alike are faced with more pressures out-

side the family — either from jobs or school. More extracurricular activities keep more kids away from their families. (When your son's basketball team practices nearly every day over Christmas vacation, including New Year's Day, this suddenly becomes very real to you.)

Jobs also are often more demanding and many send parents traveling much more today. Mobility itself, from airplanes to automobiles, has hurt family life.

If you're a **mother-ologist**: Each year, more and more mothers are joining the workforce, either by choice or necessity as inflation eats at family earnings. The one person who has traditionally been home to hold the family together is often not there for the children.



M. Leslie

and children.

If you're a **TV-ologist**: Television and movies alike have desensitized child and adult alike to violence, death, bad manners and degrading sex... a complete list could fill anyone's scroll. Family values are next to non-existent, and Christians, Christian values and morality undergo constant attack.

How often in the last month did you see a family presented as a real, hon-

If you're a **father-ologist**: More men today are taking second jobs. More time away from home means less time with wife

estly communicating unit on TV or in a movie? How often were father-mother-son-daughter doing something, anything together as a family? Check out the new subtlety — little white lies that are just fine in the ads ("Sorry, honey, there's no more Coke in the fridge."). Lying as much as anything pulls child away from parent.

If you're a **vote-ologist**: We're doing some crazy things in the United States that are just tearing apart parent-child relationships. Some places have voted that a minor girl can have an abortion without her parents being informed, for instance.

Just last November Maine voters joined those in other states who have approved Sunday store openings. Did the "yeah" voters ever consider the

Continued on page 13

GUEST COMMENTARY

ModCourses the answer for many

By Bill Amick

Golf seems to be on television almost constantly these days, with professional events for men, women and senior men. Superstars of golf are even well-known to millions of non-golfers.

Then why aren't greater numbers of people heading towards a first tee? It's a challenge to shoot a good score. You can compete with a single opponent or a whole field, have a friendly match, or try to lower your handicap. Golf is an eternal quest, changing daily and with each course, never completely learned or conquered.

Is golf perfect, or could it be that not all is paradise in fairway land? With all of golf's popularity, many public courses are crowded and play at some private clubs is exasperatingly slow during the busy season. Not everyone has the time to wait to tee off and then the patience to suffer through a five-hour round.

In metropolitan areas all of the nearby courses may be clubs with long membership waiting lists or fees too high for most working people or the young or retired.

If only enough new courses could easily and quickly be built in these

places. The demand by golfers is usually there. But in populated places 150 acres of vacant land can be impossible to find or extremely expensive.

Just as critical, construction and annual maintenance of these huge grassed playing fields is costly.

With today's long-driving game have come bigger courses that require more land, more money to build and maintain, and more time to play.

Yet the game continues to be just as difficult to learn, possibly more discouraging with the longer holes. With high land, construction, and financing costs, a conventional-sized golf course often is not feasible. When elected officials start discussing building a municipal course, even where there is an obvious need, a large block of non-golfing taxpayers usually gets very vocal. These voters fear such a project might increase their taxes or reduce the monies available for new roads or the police force.

And in an increasing number of places, a limitation to building a big course is finding enough water and obtaining permission to use it to irrigate all of that thirsty grass.



Bill Amick

A way to reduce the size and cost of building courses would make it easier to provide the joys of the game to more people.

We certainly don't expect long hitters to start swinging easier or hitting 5-irons off every tee so that golf holes can be made shorter. Nor do golf's rules makers—the United States Golf Association and the Royal & Ancient Golf Club of St. Andrews — seem ready to throttle back on how far today's "hot" golf balls can be hit.

A SOLUTION

Fortunately, a solution is already here and being used to accomplish these goals — playing a reduced-distance ball on modified golf courses.

MacGregor Golf Co.'s "Mactec" ball goes about 60 percent of the distance of a golf ball when driven

Are there any solutions for this new golf course dilemma, a shortage that continues to grow near most large cities?

by a long hitter. It weighs approximately .84 ounces (24 grams), a little more than half of the 1.62-ounce (45.93 gram) golf ball.

A modified golf course can be set up several ways. What many golfers and developers think of first is what housing developer Andy Combs opened in 1987, at Eagle Landing near Charleston, S.C. This is essentially a miniaturization of a conventional golf course, at a scale to fit the modified ball.

A second option is a par-3 course that can also be played as a modified course with a modified ball. This is the route taken by Charles Pasternak in building his Missing Links course near Milwaukee, and Joe Clark in remodeling the Highlands Links Colony par-3 course in Plymouth, N.H.

Another choice is what the developers of the Britannia course in the Cayman Islands decided upon. There are alternative ways the course can be played, depending on where the tee markers and cups are placed. It can be arranged as an 18-hole Cayman course for the modified ball, an 18-hole executive course when played with a golf ball,

Continued on page 14

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Publisher
Charles E. von Brecht

Editorial Director
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Circulation Manager
Nicole Carter

Editorial Office
Golf Course News
PO Box 997
38 Lafayette Street
Yarmouth, ME 04096
(207) 846-0600

Advertising Office
National Sales:
Charles E. von Brecht

Marketplace Sales:
Simone M. Lewis

Golf Course News
7901 Fourth St. North
Suite 311
St. Petersburg, FL 33702
(813) 576-7077

West Coast Sales
Wayne Roche
James G. Elliott Co.
714 W. Olympic Blvd.
Suite 1120
Los Angeles, CA 90015
(213) 746-8800

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The critical hire — superintendent — was omitted

To the Editor:

In the December 1990 issue of *Golf Course News*, the article "Golf Course Europe" contained comments by ASGCA (American Society of Golf Course Architects) President Dan Maples stating that "the key to a successful golf course development is assembling a professional team. Included should be an experienced land planner, civil engineer, golf course architect, housing architect, attorney and financial consultant."

How sad that the golf course superintendent was omitted from his statement. Who is better qualified to assist in grass selection, determine initial start-up costs, labor requirements, maintainability and the necessary equipment, in addition to establishing budgetary demands?

Would new developments have an increased success rate if a qualified golf course superintendent were included as part of this professional team?

Could maintenance costs and construction problems be reduced while maintainability is increased?

Would developments be better prepared for the tremendous start-up costs of golf course construction and maintenance — primarily the first year, but certainly second and third years as well?

Food for thought, certainly.

Sincerely,
Mark J. Hoban, CGCS
President
Georgia GCSA

Not mixing irrigation with great architects

To the Editor:

In November's issue were listed golf course architects headquartered in the United States. I was honored to be on the roster with such great people as Jay Morrish, Tom Fazio, Bob Cupp, Art Hills, Roger Packard and Scott Miller. The truth of the matter is, Larry Rodgers is an irrigation consultant to golf course architects, not a golf course architect, as you listed.

My only attempt at design was a three-hole course on a friend's ranch. It was this humbling experience that taught me just how important selecting a quality golf course architect is. I am quite happy in my role as the irrigation designer on the many fine projects I have been involved with.

Thank you for putting my name in print in

association with such great architects. My role in the golf course design field is an important one, but the art and strategy must come before the mechanics of golf course architecture.

Sincerely,
Larry Rodgers
Lakewood, Colo.

Comment

Continued from page 12

tens of thousands of people who would no more have Sundays with their families?

Let's be **golf-ologists** and be a part of the solution.

Jerry Gelinas, vice president of marketing with Club Corporation of America, said potential club members "want benefits that fit theirs' and their families' needs. We've found a strong trend toward the entire family becoming part of the club environment."

Gelinas said families offer a major opportunity and a more stable membership for a club.

So, business-wise — as well as good neighbor-wise and plain good citizenship-wise — getting entire families involved in golf is a positive for golf courses everywhere.

What can you do? Ski areas are finding success with one tactic: Giving "first-timers" the opportunity to ski free of charge (including skis, poles and boots in some instances) on a particular day. Other ski areas offer ongoing teaching programs for very little money.

This is all geared to teach young and old alike the sport so that they can enjoy it to its fullest — and return and keep returning.

Would this be difficult for golf courses to do?

Courses could offer special "family" green fee discounts, or father-son discounts, husband-wife discounts... the list goes on. Biting the bullet today could mean eating a meal of success tomorrow.

Let's give the many "golf widows" new life by bringing them out, showing them respect, and honestly illustrating that they are welcome.

Junior programs, women's programs, teaching for the physically challenged... the opportunities are boundless, the untapped ideas endless.

Let's be inventive. It will help our business, our society, and perhaps even our self-esteem..

Roberts: Answering tough questions

BY ELIOT C. ROBERTS

Reports of municipalities in the more densely populated parts of the country considering landscape restrictions and ordinances have become more common. To some degree, this is related to increasing interest in Xeriscape, which emphasizes use of native vegetation with proposed reductions in water and energy use for maintenance. A back-to-nature or natural practices philosophy has appeal, particularly in densely populated regions where in recent years much of nature's value has been tarnished by pollution of various sorts.

Of the many questions asked The Lawn Institute, seven are key to better understanding landscape quality and environmental relationships. These are:

- 1) Which are better, trees or grass, in taking carbon dioxide out of the atmosphere and returning oxygen?
- 2) What does landscape sustainability have to do with landscape value?
- 3) What is really the goal of most new landscape ordinances?
- 4) How can we deal with landscape plans, regulations and specifications?
- 5) Are energy costs unreasonable in landscape maintenance?
- 6) How much idealism is behind demands for landscape change?
- 7) Why do we so often read in news stories that turfgrasses are an enemy?

Answers to these questions should help clarify some important issues.

Q — We hear a lot about photosynthesis using carbon dioxide out of the atmosphere and releasing oxygen. What does it all amount to? Which are better doing this, trees or grass?

A — This type of comparison makes woody plants look good and turfgrasses look poor, but it doesn't present the whole picture. All carbon fixed in organic matter (biomass) oxidizes in time. This may be fast — such as burning — or slow (by) decomposition. In decomposition, micro-organisms are involved and humus is formed, enriching the soil.

Woody plants contain a lot of carbon and therefore may take years to die and decompose. Or they are harvested for construction, pulp or fuel. Ultimately, virtually all of this carbon ends up back in the earth's atmosphere and there is very little net gain in oxygen.

With turfgrass, clippings decomposed continuously as long as temperatures are warm and the soil is moist for microbial activity. This enriches the soil and improves its structure so that water drains better and erosion is reduced.

This benefit is far more important than the so-called balance of carbon-dioxide and oxygen.

When considering a closed system where wood may be removed and replaced regularly with immature plants, the gain in oxygen cited for woody plants may be expected.

In an open system, characteristic of the real world, biodegradation of wood is continual so that atmospheric gains in oxygen are not realized.

The "liability" of turfgrass not accumulating more carbon over time becomes an asset in providing carbon energy for some 45,000,000,000,000,000 [quadrillion] microbes living in every 1,000 square feet of turfgrass root zone. These soil-building organisms require carbon as a source of energy for natural humus-forming processes.

Since terrestrial plants that fix carbon through photosynthesis all biodegrade, and consume oxygen and release carbon dioxide back to the atmosphere, where has our at-



Dr. E. Roberts

mospheric oxygen come from?

The 20 percent oxygen found in the atmosphere is quite stable. Much more or less would make life hazardous for both plants and animals. The biotic origin of oxygen is aquatic, or at least plants and animals that have their final resting place under water where anaerobic decomposition is prevalent. Deposits of carbon containing coal, oil and natural gas have all formed under these anaerobic conditions.

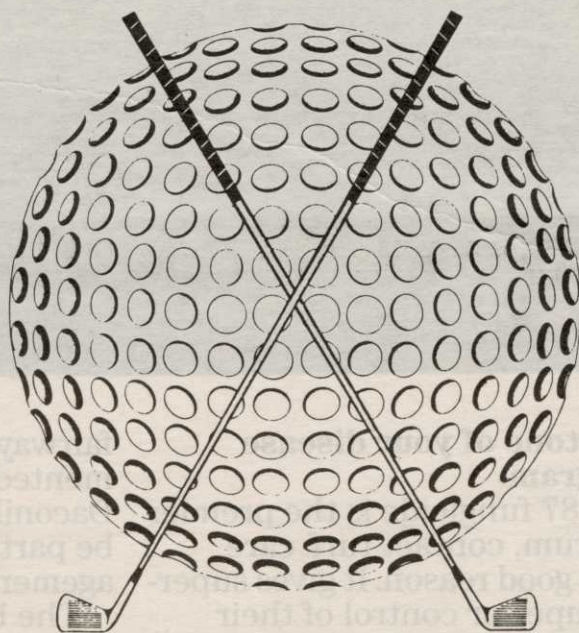
Thus, our fossil fuels of stored carbon, which originally came from carbon dioxide in the atmosphere, are only now being burned. Had these sources of carbon not been discovered and used, we would most likely have been limited to burning wood as a source of energy.

With finite amounts of fossil fuels available, we must look for other sources of energy.

Providing positive levels of carbon storage and oxygen productivity are the least likely of all landscape benefits to be realized. To be sure, every little bit helps, and we should promote the concept of living plants in the landscape. They are infinitely better than the alternative — dust and dirt, asphalt and concrete.

Continued on page 54

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ModCourses may resolve problems for some

Continued from page 12

or as a nine-hole course with a regulation golf ball.

At Britannia, use of golf balls has pretty much won out because golfers visiting the resort bring with them on their vacations their old orientation towards golf. After all, the game of golf does have at least a five-century head-start over modified golf.

To date, the types of courses have not generated enough rounds to support themselves from modified golf alone. Asking longtime golfers to quickly adopt modified golf may be like asking older people to learn another language. Not many do unless forced by the circumstances.

There is often peer pressure against a golfer trying something new and different. Comments from friends at the suggestion to try modified golf often follow the lines of: "What do we want to play goofy or whiffle-ball golf for? Ah, let's play real golf!"

The present modified courses have either not had the means or made the effort to effectively advertise and publicize modified golf. People who have never played or not yet become regular golfers are likely to comprise the bulk of the future modified golf market.

One fact revealed from the results of questionnaires from participants of modified golf tournaments is that women of all ages and a number of men older than 60 immediately find hitting a modified ball very satisfying. These are people who cannot drive a golf ball a great distance and can hit a modified ball almost as far.

FRESH APPROACH

A better method for setting up a modified course could be to take a fresh approach to it and to the game's procedures, while getting rid of as many of golf's weak points as possible.

These courses might be called "ModGolf" courses, or simply "ModCourses." They might be a single loop of 12 holes. This would reduce the area required for a complete course, allow players to complete a round even faster, eliminate delays caused by some groups stopping at the clubhouse at the turn, and perhaps fit the limited concentration span of many players better than 18 holes.

Most golfers find par 3 and par 4 holes more interesting to play and these are more land-efficient than par 5s. So ModGolf courses should be a mix of par 3s and 4s. If a developer has the land, several 12-hole loops could be built. This would provide additional fairway frontage for housing and give players a variety of courses to play.

Six-inch diameter cups could be used, rather than golf's 4-1/4 inch holes. This would reduce the dominating importance of putting to scoring. These larger cups have already been tried in a couple of modified golf tournaments and were enthusiastically received by almost all participants.

In addition, greens, sand traps, tees and fairways would not have to be or look like the features on golf courses. Not only because they are smaller, but if ModCourses features are built more simply, they could be maintained at less cost.

A ModCourse, requiring fewer clubs and shorter distance, would make walking and carrying a bag easier than on a conventional course.

WHAT'S NEEDED

What does a ModCourse require? Thirty-five acres for a 12-hole course. Another five acres is ample for a

driving range, and this can be a pond, since these balls float.

With another 15 acres ModCourse can be designed so that it can be converted into a nine-hole executive course. Five additional acres would be required to go from a driving range for modified balls to regulation balls.

This backup approach gives a developer the option of converting or combining a ModCourse to play with golf balls. There would be an extra expense to this, mainly in preparing the extra area needed for expanding fairways and roughs, and

lengthening some par 3 holes.

A ModGolf course could fit nicely as a second or third course, where space is too limited for another regular golf course and/or a mix of courses is desired to attract different types of players.

Creating a ModCourse is also an option due to highway encroachment, for more land to develop housing, or other reasons to reduce the size of an existing big golf course.

Lighting a ModCourse for evening and night play can be considered because it is so small.

If a ModCourse has a good loca-

tion, is well designed, efficiently built and maintained and operated, promoted properly, and the fees are right for enough of the player market, a lot of people should eventually find happiness playing such a course.

Bill Amick, of Daytona Beach, Fla., has had his own golf course architectural firm for more than 30 years. He is a past president of the American Society of Golf Course Architects and is the founding president of the American Modified Golf Association, a non-profit group promoting the development of this new game.



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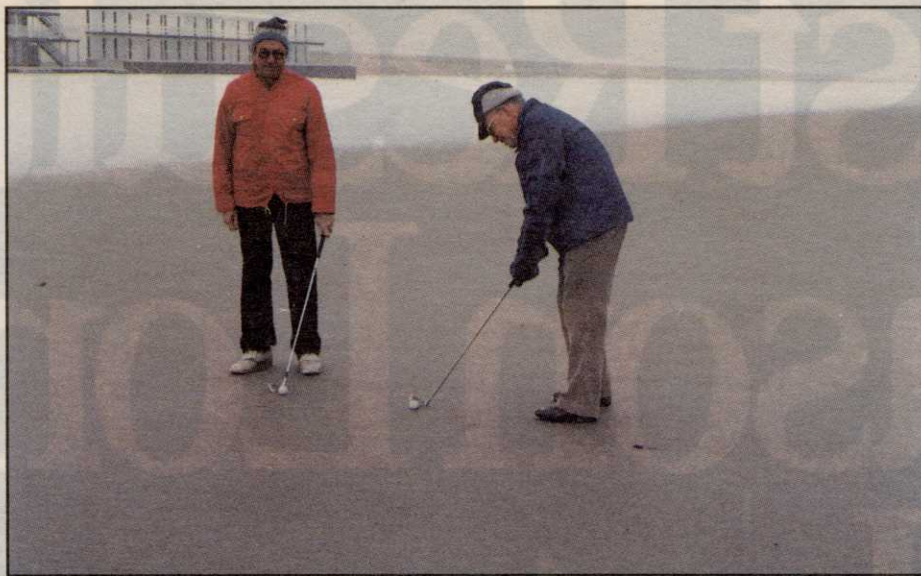
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Elmer Smith watches Perry Craver hit from sand on 'the world's largest sand trap'—a stretch of beach in Maine that golfers use to keep their game in tune during winter months. Four-irons are normally the one clubused.



Who has biggest trap? Maine, a 3,500-yarder

By Vern Putney

Cynics might say that at the moment the world's largest sand trap is in Saudi Arabia, but for golf purposes such claim to fame is located about four miles from President George Bush's summer home at Kennebunkport, Maine.

It's a stretch of sand that runs from the parking lot at Ogunquit Beach northeast along the beach (in the sand) to Moody Beach and back.

"Course" yardage is 3,500 yards

out and 3,500 yards in, with a very large sand trap and a large water hazard all along the right side of the course outbound and all along the left side of the course inbound.

Said George Young, just back from a brisk course tour and deep into his second cup of coffee, "Everyone knows that in Maine during the winter, at some point the regular golf course is going to pick up a snow cover which, to say the least, impairs the precision with which golfers produce their competitive game."

The retired General Electric Company executive and other members of Webhannet Golf Club, Kennebunk Beach, then must explore other options to stay close to the game they favor year-round.

The hard-packed beach, which Webhannet members call their "deep snow" course, has been the answer. Shorts, shirts and sun tan lotion must give way to a couple of heavy sweaters, sometimes even a parka, chapstick and heavier gloves and hat.

That's adequate preparation to venture into the cold and hit the beach and the ball.

There are no holes, flags, greens or grass, notes Young. "Scores are not counted by strokes but by how well the shots were hit and whether any of the players get frostbite.

"Par for this course is whether the players have had a good time. It has little or nothing to do with how often they hit the ball."

The best part of winter golf, Young declares, is that snow is a negligible factor. "After the fiercest storm comes the tide, and we're ready to roll again."

Bob Lewis, 81, is Young's frequent playing companion. The Kennebunk resident, part of the York County golf scene for more than six decades, in his early teens caddied at a private New York state preserve owned by New York Tribune publisher Ogden T. Reid.

He was looping for world heavyweight champion Gene Tunney the day after Charles Lindbergh landed in France on his stunning solo stint.

While the rest of the world hailed Lucky Lindy's feat, Lewis was shocked by Tunney's observation, "What's so remarkable about staying awake for 39 hours?"

Lewis was further disenchanted when Tunney upbraided him for not finding his lone golf ball, belted deep into the woods.

Reid forked over a dozen new balls to Tunney. Lewis "heeled" four hit off the fairway so that they became lost balls, returning later to reclaim these souvenirs of a sour experience.

Time hasn't softened Lewis' outlook on Tunney, long a summer resident of Christmas Cove, Maine. He maintains toward the former Marine and Shakespearean scholar the fight night attitude of Jack Dempsey.

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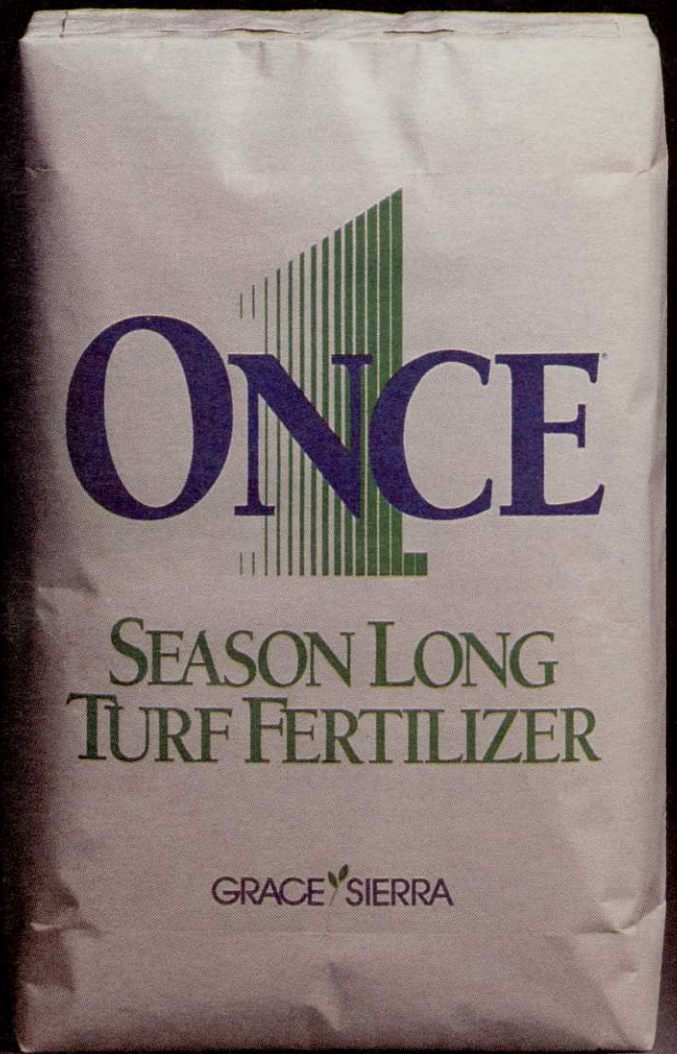
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Briefs



FITZGERALD MAN OF YEAR

CINCINNATI — Former Ohio Turfgrass Foundation president and longtime Century Toro, Inc. Vice President John Fitzgerald received the Professional of the Year Award during December's OTF Annual Conference and Show luncheon in Cincinnati.

Fitzgerald was one of the founders of the OTF annual conference and show 23 years ago, according to Century Toro President Bob O'Brien. He helped sell booths at the show before joining the OTF board of directors in 1972. He became OTF president in 1978 and served on the board of directors a dozen years.

Born in Springfield, Ohio, Fitzgerald worked for Quick Manufacturing and later a Toro distributor in Memphis, Tenn., before joining Century Toro in Cincinnati as a commercial salesman in 1962. He eventually became head of Century Toro's Cincinnati/Dayton office and the company's commercial division before assuming the vice presidency of the commercial division in 1985.

MOTZ NEW OTF PRESIDENT

Joe Motz, president of Motz Sports Turf Inc., succeeded John Fanning as OTF president. Paul Jacquemin is the new vice president and Ohio State University Professor William Pound treasurer.

Jim Loke, superintendent at Quail Hollow Golf Club in Mentor, was elected to a three-year term on the board of directors. He joined returning trustees Fred Bosch, Sue-Ann Brown and Tom Walker who were re-elected to three-year terms.

\$118,650 GRANTED FOR RESEARCH

Research grants totaling \$118,650 were awarded to OSU researchers John Street (\$11,700), Harry Niemczyk (\$29,500), Bill Shane (\$27,000), Karl Danneberger (\$29,500), Bill Pound (\$5,000) and the OTF Turfgrass Research Facility (\$15,950).

USGA HIRES SPECIALISTS

FARHILLS, N.J. — The United States Golf Association Green Section has named Kimberly Erusha manager of technical communications and Nancy Sadlon environmental specialist.

Erusha's appointment will enable the Green Section to better provide turfgrass science information and golf course management programs to its 15 regional agronomists and the more than 7,100 USGA member clubs and courses.

Sadlon joins the USGA in the watch of its increased commitment to turfgrass research.

"Golf course construction and maintenance practices, and their effects on the environment, increasingly draw the attention of regulatory agencies, environmental groups and the public," said Jim Snow, national director of the Green Section. "The addition of an environmental specialist and a technical communications specialist to its staff will put the Green Section in a much better position to address golf's environmental challenges in the 1990s."

Crackdowns expected against underground tank law violators

By John G. Casana, Ron Steg and GCN Staff

Federal and state agencies are beginning to talk tough as deadlines for installing leak detection devices on underground storage tanks come and go.

"If your tank leaks you're going to get caught," warned federal Environmental Protection Agency scientist Michael Kalinoski, whose agency can fine the owner of a non-conforming tank up to \$10,000 per tank per day.

"At the point you have a leak, you're in real

trouble. Leaks don't go away. They can take from one to five years to discover and cost millions of dollars to clean up. It's better to confront the issue now rather than pay for it later."

Confronting the issue involves several steps. Federal law required all USTs to be registered with the appropriate state environmental agency beginning in May 1986. Newly installed systems must be registered within 30 days.

Kalinoski estimated 90 to 95 percent of all tanks have been registered. Ignorance of the

law is likely responsible for most of the non-registered tanks, although a small percentage are probably ignoring the law in the hopes they won't be caught, he acknowledged.

"We have fined tank owners in a couple of cases where (non-registered) tanks have leaked," Kalinoski said.

"At some point, ignorance of the law won't be a defense," added Chris Schulz, public information officer with the Ohio State Fire Marshal's Office, which is responsible for

Continued on page 19

CCA beats winter kill before it hits

By Frances G. Trimble

The extensive winter kill suffered at Texas golf courses last year may have a positive side.

One group of Southwestern superintendents intends to put the devastation in the past by taking a giant stride forward into the future.

Charles Fabyan, regional superintendent for Club Corporation of America's 22 golf facilities in Texas and Oklahoma, calls CCA's recent decision to buy green covers at \$700 apiece "a tough decision to make."

Tough, because Fabyan's region could just as easily not experience killer cold conditions this year. Or, the area — known for freakish weather — might have another damaging cold spell before April.

Lingering memories of "the hassle of fumigating and re-planting 142 putting greens" at a cost of \$250,000 led Fabyan and CCA to buy protective blankets for all 22 facilities.

Fabyan believes the technology has come



Club Corporation of America superintendents learn how to lay down course covers at a training session at Brookhaven Country Club. Photo by Quenton Johnson

of age in the Bermudagrass belt because of the success of a colleague in Dallas.

Fabyan says that in preparation for the winter of 1989, Quenton Johnson, the greens superintendent at Brookhaven Country Club a 54-hole facility, bought covers to protect 14 newly planted greens.

He added, "The ones Quenton covered

survived, and the fact that they did led us to believe covers would be useful for all our greens under the right conditions."

Fabyan cautioned that he doesn't feel anything absolutely guarantees against winter kill. "It can always get cold enough and stay cold long enough to kill Bermudagrass,

Continued on page 24

Environment dominated Faubel's presidency

By Peter Blais

Gerald Faubel hopes people will remember his term as president of the Golf Course Superintendents Association of America as a time when the entire golf industry focused on the importance of the environment.

"We've policed ourselves, we're truly concerned and we will act," said the outgoing GCSAA president. "You don't see many industries that do their own research, find fault and make changes without government force."

Faubel said he has thoroughly enjoyed his year as president, which ends during this month's GCSAA Annual Conference and Show in Las Vegas.

"It's been a real pleasure to represent an organization dedicated to teaching its members relevant subjects. We've gotten tremendous cooperation from everyone in the industry. (PGA Tour Commissioner) Deane Beman has even recognized the importance of the golf course superintendent in



G. Faubel

getting the environmental matter taken care of."

Faubel has stressed the need for cooperation rather than confrontation between the golf industry and environmentalists. During the past year, EPA administrator Anne Leslie was named to the United States Golf Association Environment and Research Committee; GCSAA secretary/treasurer Bill Roberts testified before a U.S. Senate hearing on the environment; the USGA and the New York Audubon Society started a program that will make golf courses bird sanctuaries.

"(EPA Associate Administrator) Lewis Crampton said at the Golf Summit how much he appreciated the GCSAA's effort to work with government agencies," Faubel said.

Continued on page 24

Satellite turf campuses proposed

From staff reports

Southern Turf Nurseries President Dr. Tim Bowyer hopes to create satellite campuses internationally to train golf course superintendents and other turf managers.

"The structure for such education, as well as the information itself, has been well selected and applied at Lake City (Fla.) Community College for years," he said.

"Basically, we plan to provide educational material in language comfortable to proper local authorities to reduce learning time. It has been our company experience that those executives with whom we are in contact with in Europe, Africa and Asia relate better to our message if given easy-to-understand information in a comfortable setting. They, in turn, pass along this newly acquired knowledge to company personnel."

Bowyer believes involvement of institutions such as Lake City Community College on an international level is almost essential to

Continued on page 24

Ward gives course feminine touch

By Vern Putney

Jo-Ann Eberle and John Ward met at the Playboy Resort, but it was all business. Down-to-earth business.

Their common interest was a love of the soil and Mother Nature.

John came to the Playboy Resort Golf Course in New Jersey in 1979 as the new assistant superintendent. Jo-Ann had been a "groundsman" there since 1975.

Her fascination for the managerial part of the job brought her in closer contact with John, who liked to elaborate on the technical aspects of turf management.

He told her about Rutgers University turfgrass courses. It changed her life. She

attended Rutgers in 1979 and 1980, and during that time was promoted to 27-hole supervisor at Playboy.

She became course assistant superintendent at High Mountain Country Club in Franklin Lakes, N.J., in late 1980, and early in 1982 became assistant super at Americana Resort and Country Club in McAfee, N.J.

Responsibilities included 27 holes, all hotel grounds and activity areas. Three supervisors and three mechanics reported to Jo-Ann. Total crew comprised 40 men and women.

Jo-Ann and John were married in 1981. He had been working as course super at Cedar Hill CC in Livingston, N.J. Daughter Kate

was born Christmas Day, 1983, "in the off-season, of course," jokes Jo-Ann.

She switched to her present post, super at Sunset Valley Golf Course in Pompton Plains, N.J., in August 1984. Sunset the past three years has been nominated for inclusion among *Golf Digest's* top 75 courses.

Since last August, Jo-Ann has been filling the vacancy of golf director, overseeing 36-hole Flanders Valley and 18-hole Pinchbrook as well as Sunset.

"At first, an 18-hole course and a 7 winter, 13 summer crew seemed like a vacation," Jo-Ann noted. "Then the push for public golf was on. Players came out in droves and continue to this day. I'm learning that communication and cooperation between pro shop personnel and the golf maintenance department is the key to mutual respect and a well-run organization.

"We try to put our best foot forward. Not only is pride the outcome, but excellent conditions for our customers. I'm often dubbed 'Unique Ward' thanks to a newspaper article referring to my pioneering as a woman in this field. I hadn't realized I was among a handful of women in the U.S. working in this position."

Jo-Ann's success meant some sacrifices for John. For 20 years, he'd managed golf courses, the last at Tamiment Resort and Country Club in the Pocono Resort Region of Pennsylvania. Their home was on the Sunset Valley GC grounds, which meant a two-hour commute for John.

In the winter of 1989, he changed careers. He became superintendent of horticulture for three internationally acclaimed arboretums in Morris County, N.J.

Jo-Ann thrives on the outdoor life, and Kate is proud of her mother's special role.

Jo-Ann is elated to be part of an industry she feels has come out of the Dark Ages and is growing by leaps and bounds. She points to sophisticated irrigation systems, computers, newer and better equipment, and a business much more aware of and concerned with the environment.

She never has encountered prejudice or



Jo-Ann Ward at Sunset Valley GC.

discrimination among her peers and, except once, has been hired for key positions where she's applied.

Application to a private club in northern New Jersey went into the "round file," she said, because her resume indicated she was female.

Jo-Ann is a long-standing member of the Golf Course Superintendents Association of America, New Jersey Turfgrass Association, Metropolitan GCSA and the GCSA of New Jersey, in which she served as district director and chairperson for organizing state association meetings and speakers.

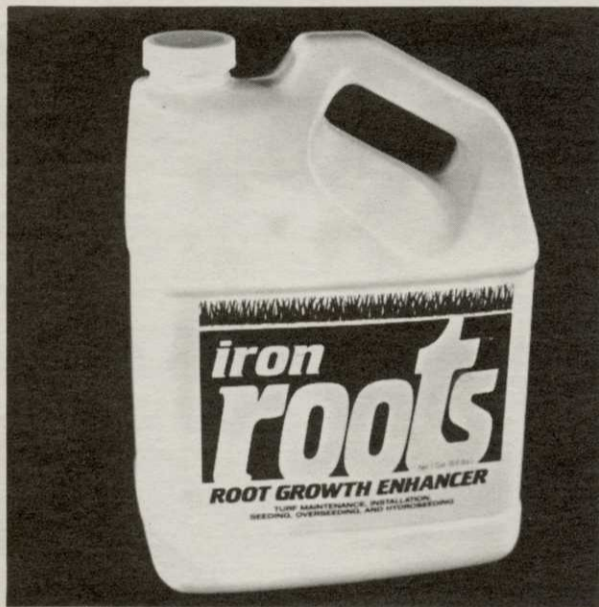
That post led to one memorable incident. She was conducting a state meeting at a private country club. The all-male superintendents were in the men's grill.

"I was not permitted to go in (according to the club's charter) and hand out dinner tickets. I packed up my paperwork, drove two miles to the local driving range, and hit golf balls for a few hours. I returned close to dinner time, so as not to cause too much chaos.

"I never intended to go against the club's charter, but it was the first time I was flatly turned down and not able to run the meeting according to plan simply because I was a woman."

That years-ago annoying episode, she feels, has yielded to an enlightened era.

Comments now are confined to course conditions. Feedback is largely positive, and the Good Earth doesn't seem to mind that feminine hands provide the gentle touch.



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Eliot C. Roberts
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USTs

Continued from page 17

carrying out the EPA mandate in that state.

"If people honestly didn't understand the law we still encourage them to register their tanks. If they come forward, we'll work with them."

The second step regarding USTs involves installing leak detection devices. Dec. 22, 1990 was the deadline for providing leak detection equipment on all tanks installed in or before 1969. All USTs placed in operation between 1970 and 1974 must have the safety devices by this Dec. 22. The next leak detection deadline will be Dec. 22, 1992, for USTs installed between 1975 and 1979 and Dec. 22, 1993, for those installed between 1980 and 1988.

"Don't put off installing leak detection devices, even if your deadline is a year or more away," counseled Ohio State Fire Marshal Michael Nimocks during December's Ohio Turfgrass Conference and Show. "Contractors are busy and aren't always available when you want them. But that isn't an excuse for missing the deadline."

Several tank owners have been fined between \$5,000 and \$20,000 for failing to meet the Dec. 22, 1989 leak detection device deadline for tanks installed before 1965, Kalinoski said.

"We've tried to keep the fines in proportion," the EPA official said. "We're also concerned about a company's ability to pay. We don't want anyone to go bankrupt. But we are serious about this."

Another deadline occurs this spring when insurance will be required for tank owners and operators to cover the clean-up costs of a release and third-party properties contaminated by a spill.

Several groups have sponsored insurance programs, including the Golf Course Superintendents Association of America and the National Club Association.

Heating oil and above-ground storage tanks are currently exempt from federal and state regulations. But Nimocks expects the EPA to establish above-ground tank regulations within the next few years.

"And you still have moral and potential legal obligations if you have a leak from a heating oil or above-ground tank," he added. "We recommend you have those tested, too."

GOLF COURSES VULNERABLE

Historically, storage tanks were buried for lack of space and fire protection. Little consideration was given to preventing leaks.

More than 2 million tanks are buried in the United States. Many are old and lack corrosion protection. An estimated one-third leak and sometimes contaminate ground water supplies.

Leaking tanks are potentially explosive as are septic tanks, sewers and basements where petroleum vapors from leaking storage tanks can accumulate.

Cleaning soil contaminated by a spill gen-

erally ranges from \$10,000 to more than \$100,000. The cost can exceed \$1 million when petroleum must be extracted from ground water. Releases extending to neighboring properties may result in additional tort liabilities.



M. Nimocks

Golf courses commonly have buried steel tanks containing petroleum and other chemicals. USTs are subject to EPA regulations and, in some cases, even tougher state and local standards.

Prior to the new EPA regulations, a Versar, Inc. study of 12,000 tank releases in 50 states concluded that:

- The median tank age was 17 years.
- Pipe failures caused more than a third of the releases.
- In 80 percent of the cases, substantial damage occurred before the release was discovered.

The EPA later set the following goals:

- Preventing and finding leaks.
- Correcting subsequent problems.
- Making certain owners and operators of USTs can pay for corrective activities.

- Requiring each state to adopt a regulatory program as strict or stricter than the EPA's.

EPA regulations include a detailed tank registration system and a release reporting system for leaks and spills from overfilling tanks. Inspections, investigations and harsh fines reinforce control and correction.

Owners and operators are liable for releases and are required to obtain insurance or provide proof of financial responsibility.

Some states have imposed requirements that exceed EPA's. For example, the federal agency requires a suspected release to be reported within 24 hours. Maryland has cut that to two hours.

Other states have placed special criteria on tanks, pipes and components, including the cathodic protection subsystem, monitoring devices and tank testing elements. Many tank owners find the regulations overwhelming and seek professional help.

Federal law requires tanks placed in operation after December 1988 to be properly installed, protected from corrosion, equipped with leak-detection devices and to have spill and overflow protection.

A tank installed before December 1988 must have tank filling procedures to prevent spills and overfills. By December 1998 it also must have corrosion protection along with spill and overflow prevention devices.

Leak detection requirements can be met with continuous automatic devices, monthly monitoring, or, tank integrity testing combined with inventory control. The choice and duration depends upon factors such as corrosion protection, tank upgrading and installation date.

Regulations for removing or closing a tank differ from state to state. Retiring an existing

tank requires evacuating liquids and vapors, cleaning the tank and disposing of accumulated sludges. These are potentially hazardous activities that should be undertaken only by professional companies.

"Our only fine to date involved a tank removed by someone other than a professional installer and remover," said Schulz of the Ohio State Fire Marshal's office.

Companies unfamiliar with remediation methods or specific local clean-up standards may face rejection at the work site. Selecting the best and most economical alternative is a high-dollar decision. For example, the cost difference between aeration, displacement or incineration of soils can be enormous.

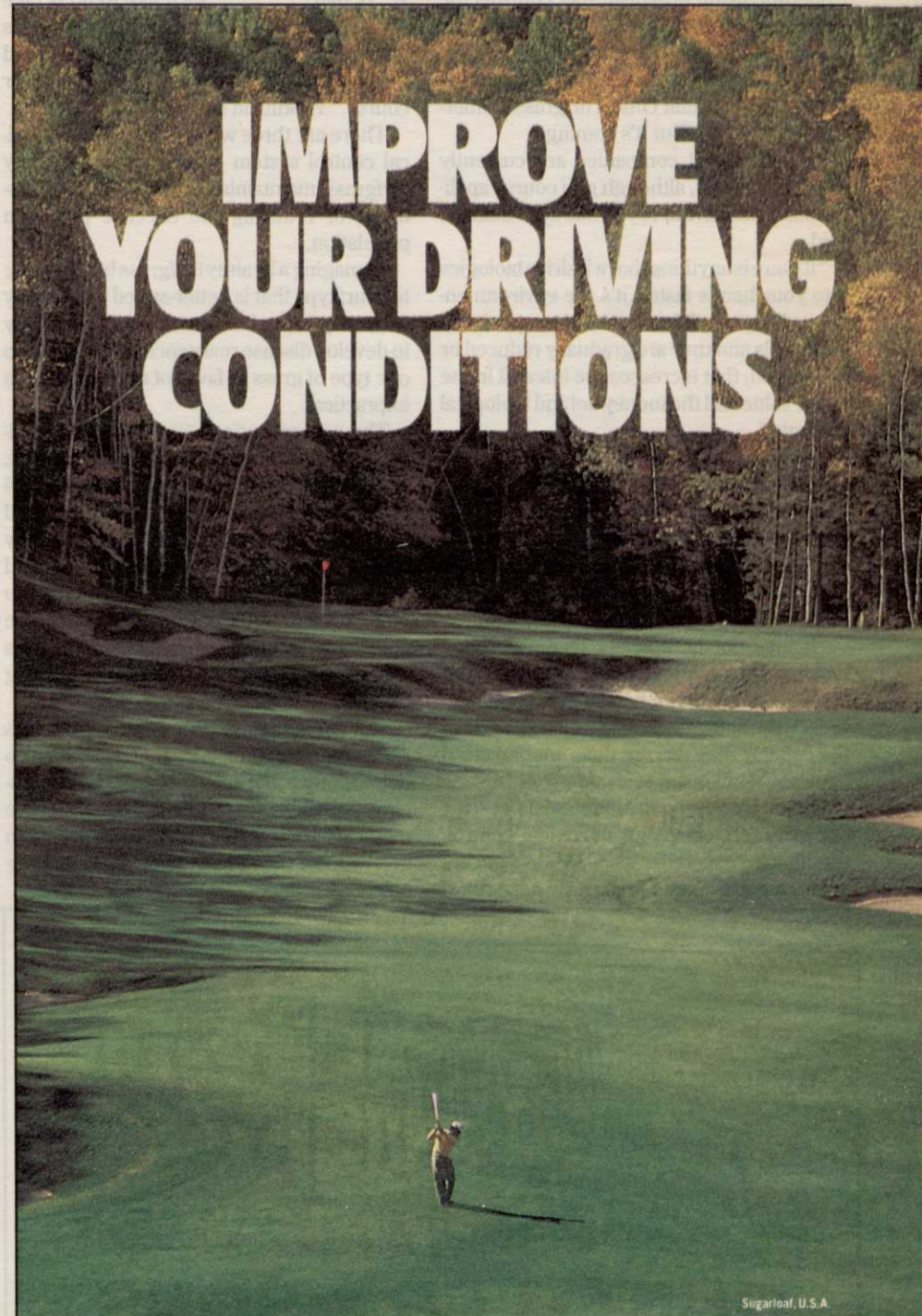
The worst-case scenario is employing a contractor who is unable to complete the job. Most small testing or "yank-a-tank" firms are

unable to handle environmental clean-ups. Switching firms in midstream can be very expensive and time consuming.

The American Petroleum Institute has developed standard practices for tank removal, disposal and installation. Associated General Contractors of America is developing a handbook on methods for different geographical locations.

Such publications are useful but do not remove the subjective judgments of local officials who ultimately determine whether a clean-up is acceptable.

John G. Casana is corporate director of tank programs and Ron Steg manager of golf course environmental programs at Versar, Inc., an environmental risk management company in Springfield, Va. Versar has opened a toll-free inquiry line at 800-283-7727.



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Nature playing increasing

Future fairly bright for biological disease controls...

By Peter Blais

CINCINNATI — The future looks fairly bright for biological controls of insects and disease as an alternative to pesticides, according to Dr. Hank Wilkinson, a turfgrass pathologist at the University of Illinois.

With chemicals coming under increasing fire from environmentalists, biological controls (one living organism that controls the growth of another) are being touted as an alternative in the battle to control turf diseases.

"We're not there, yet," Wilkinson said at last month's annual Ohio Turfgrass Conference and Show. "But it's coming."

Agro-chemical companies are currently testing biologics, although golf course applications are still five to 10 years away, Wilkinson said.

"If there is anything that will drive biologics into your hands faster, it's the environmentalists," he explained. "As they push on chemicals and they are gradually reduced or eliminated, that increases the interest in the dollar value and the money behind biological controls."

Biological controls are not expensive to produce, but they take a long time to develop. The reason is there are hundreds of turf diseases and many different types of turf (bluegrass, bentgrass, Bermudagrass, etc.). But each organism and each turf type must be dealt with singly.

"It may not be efficient to develop one biologic that controls many diseases. Two diseases may require two different controls. In fact, the same disease in different parts of the country may require different biological controls," Wilkinson said.

For every pathogen there exists at least one naturally occurring biological control, the Illinois researcher said. Disease occurs when one pathogen temporarily gets out of



Dr. H. Wilkinson

hand. Most diseases will eventually disappear, which is the natural biological control.

"Research tries to understand how nature does it, and then speed up the process. What we'd like to do is take the control that is naturally established in five to 10 years, and make it take hold in one or two on your course," Wilkinson said.

There are three ways to achieve a biological control system — managing a healthy turfgrass; maintaining a balanced, living biomass; or reducing the effective pathogen population.

Managing a healthy turfgrass by changing to a turf type that is better-suited to naturally occurring biological controls is the best way to develop disease resistance. But ripping up one type of grass in favor of another is often impractical.

The second option — maintaining a balanced, living biomass — is more practical, especially in the soil. The soil tries to keep all organisms in balance. This is called general suppression and is accomplished by many organisms working together. Dying or dead soil has low general suppression leading to more disease. Cultural practices like core cultivation, proper fertilization and others can make the soil more active in fighting disease.

Soil amendments with organic materials and organisms can also be added to the soil to help improve the biomass and control disease. But there are so many products on the market that it is difficult for any researcher to determine if the introduction of any one significantly reduces disease, Wilkinson said.

That leaves the third method of biological control, reducing pathogens, as the easiest to research and perhaps most promising biological control of turf disease, Wilkinson said.

Specific suppression is the technical term for one organism attacking and actually suppressing another organism. The controls work in different ways on the pathogen — directly attacking it, reducing its food supply, secreting toxins on it.

The control works best when it is present in the turf when the pathogen attacks. It is much less effective if applied after the pathogen establishes a foothold.

"They are more protective than curative," Wilkinson said.

Soils tend to keep all organisms in balance. Foliage is constantly reproduced and replaced. That means biological controls introduced at the roots rather than soil or foliage level will be most successful and will likely be the first available to the golf course market, Wilkinson predicted.

"The protection, if it needs to be there before the pathogen, has to continuously grow and respond to cover up those new tissues," Wilkinson explained of the likely success of root-level controls.

Using biologics will force superintendents to re-think how they deal with disease. While eliminating the disease-causing pathogen may seem the best response, "it's basically a better idea to suppress a disease than eliminate it," said Wilkinson.

"If you eliminate the organisms that cause disease, you create imbalances in the soil. Other things can happen. Other pathogens may fill in that niche and give you bigger problems. The goal of biological control is to reduce disease to acceptable levels and hold it without eliminating it."

Biologics (usually in the form of bacteria)

respond to diseased grass. The cycle works like this: A diseased root develops, bacteria grow on it, pathogen numbers are reduced, less disease develops and the situation eventually stabilizes.

"You get a little disease and no symptoms," Wilkinson explained of the natural cycle.

An organism must not only survive, but also grow to be successful as a biological control. Competition with other organisms that are already in the soil, plus the constant reproduction of grass foliage, make that difficult.

The control must also continue effective against constantly changing pathogens. Pythium blight and dollar spot are two diseases, for example, that can change and become resistant to a certain biological control.

Some diseases and grasses are more receptive to biological control than others. Warm-season pythium is one that has proven extremely difficult to control.

Warm-season pythium can consume grass within a few hours. Bentgrass and ryegrass are very susceptible to it. Bluegrass is more resistant. As the turf's resistance increases, the biological control has less work to do. The more susceptible the grass, the more effective the biological control must be. So the integration of a resistant grass with a strong biological control is important.

How do researchers find effective controls considering there are thousands of different organisms in a single handful of soil?

It is time-consuming process that involves scraping bacteria found on foliage and smearing it on a petri dish where the pathogen is also present. In most cases, the bacteria has no effect in limiting the pathogen's spread. In the rare instances it does inhibit pathogenic growth, the bacteria is subjected to further

Continued on page 22



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role in turf maintenance

...while biostimulants turn supers', researchers' heads

The world of biostimulants has taken the giant step from snake oil-type doubt to science-supported legitimacy.

While testimonials are still coming in, golf course superintendents are cashing in on the years of research done on biostimulants to improve or accelerate plant growth.

"It's another tool that if golf courses aren't using nowadays they'd better, or the person in charge is behind times," said Melvin B. Lucas Jr., former president of the Golf Course Superintendents Association of America.

"You can do a lot more with biostimulants than you can with just putting out fertilizer..." said Lucas, who operates Round Hill in South Dartmouth, Mass., after 25 years at two Long Island golf courses. "You have fairly good control of your growth of turf. You never seem to get a flush as you will with nitrogen fertilizers. You can maintain a nice even quality of turf with any of these biostimulants."

Superintendent Dean Graves, of Bethesda (Md.) Country Club, site of the Mazda PGA Championship, said he has used biostimulants to encourage root growth and develop a stronger plant for three years.

At the same time, Graves said, the biostimulants green up turf, making it aesthetically pleasing for the tournament cameras.

Unlike nitrogen or fertilizer, it gives a green color but not a flush of growth, he added.

Dr. Michael Goatley, an assistant professor of agronomy researching Roots biostimulant at Mississippi State University in Starkville, said golf courses where superintendents are managing sand-based greens, are a good "fit" for biostimulant use.

"In this situation, biostimulants could be a valuable management tool during stressful times of year, as in the case of severe drought, because of stronger, more developed root systems," said Goatley, who is testing Roots

Root Growth Enhancer and PGR IV.

"There are testimonials from a lot of people," said Dr. Richard E. Schmidt of Virginia Tech in Blacksburg, who has researched biostimulants for more than a decade. "I think a lot of people see what they want to see. But it's there. It's for real... It's like an insurance policy.

"We're now trying to get them into the 90th percentile, so that when you apply them, 90 percent of the time they will have positive results."

The word "biostimulant" itself has brought debate. According to Schmidt, "Biostimulators stimulate growth biologically.

"A lot of people want to call them 'growth regulators,' but growth regulators can either enhance or inhibit growth."

Schmidt said his research shows biostimulant use "can be a good insurance policy. If a turf manager gets in an adverse situation caused by moisture, heat or cold stress, the treatment might help him through."

Biostimulants are not a cure-all, Schmidt warned. "Our research has shown that these materials work well under some conditions," he said. "We know we can stimulate growth — especially roots — with some materials, and we are also getting better tillering and initiating of buds.

"However, under certain conditions results of our research infers that growth stimulation with biostimulants is not necessarily associated with nutrient uptake."

Dr. Eliot C. Roberts, director of The Lawn Institute in Pleasant Hill, Tenn., said: "We have to do something to help build more stress-resistance within the plant other than simply watering practices and trying to control the rate of nutrient release within the plant so they don't get oversucculent.

"These growth substances do this. They

It's another tool that if golf courses aren't using nowadays they'd better, or the person in charge is behind times.'

— Melvin B. Lucas Jr.
Round Hill operator

help to regulate cell division so that it slows down growth. They also help to control cell elongation. And growth is either a function of cell division or elongation, or a combination of both. When you apply fertilizers ... more nutrients mean more cell division and cell elongation, more hydrated cells, and thus they are more sensitive to stress environment.

"If you can control this growth in a way that will make the plant hardy, you have a turf that will withstand more play on golf courses, more traffic on greens, more soil compaction, and withstand the adverse high summer temperatures. When you try to put bentgrasses in the South, anything you can do to make it more hardy during the summer the easier you're going to make it on the superintendent."

Lucas, who designed and built Round Hill, said he gained state Conservation Commission approval largely because of his promise to use biostimulants.

"The No. 1 consideration here was that the course was being built in and around wetlands," Lucas said. He said the commission was "highly receptive and openly taken by the abilities of biostimulants ... in providing many nutrients without an overuse of fertilizers.

"This was a selling point that I had to have. Indeed we have not eliminated fertilizers,

but we have indicated the continued use of biostimulants would reduce our nitrogen use on the areas near and in wetlands."

Lucas said for many years he applied iron to bentgrass greens and tees as a "dormant feed" and got "tremendous results."

"Now there are new products coming out," he said. "I've used all of them. They all produce very good end results. Coming into the spring the root density and depth are far greater than the check points (areas not treated).

"More and more people are realizing these products can enhance and make a better turf than just relying on nitrogens. They're finding these are very qualitative materials. They do what they say. They will enhance root growth, maybe help in soil formation to some extent."

Dr. Hans Helmprecht, president of Chemical Consulting of Babylon, N.Y., agrees.

"Customers (using biostimulants) report better root systems and more vigorous growth of grasses such as bentgrass and general turf mixtures of bluegrass and fescue," he said. "In terms of consistency of results, a biostimulant, when used in a uniform approach, results in vigorous growth of young plants. Once roots are stimulated by a biostimulant, the rate of fertilizer usage and nutrient uptake increases."

Dr. Graeme Berlyn of the Yale University School of Forestry and Environmental Studies in New Haven, Conn., reported that in one experiment, perennial ryegrass treated with a biostimulant had twice the chlorophyll content of untreated grass over a seven-week period.

"Even two weeks after mowing, the treated grass was much larger than the untreated. The residual effect of the biostimulant was

Continued on page 23

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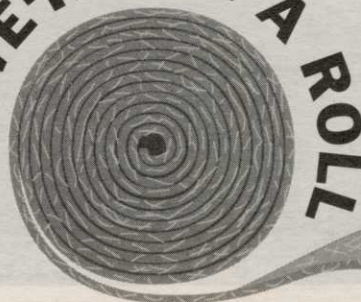
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Biologicals: The proof is on your turfgrass

Continued from page 20

tests on actual grass grown in the laboratory. Even if it survives this second round of lab tests, it must still test positively in the field.

"Don't buy anything that is only laboratory-tested in terms of a biological control. The proof is on your turf, not in the laboratory," Wilkinson said.

Since many of the biological controls tested on warm-season pythium have done little more than slow the growth of disease, Wilkinson predicts the first wave of

biologicals on the market will be mixed with chemical fungicides.

A successful biological control keeps 97 to 98 percent of the plant surface, according to researchers. What diseases potentially have biological controls that fit the bill?

Tests have shown many patch diseases, take-all and summer patch among them, to be successfully suppressed by certain bacteria. They are suppressed naturally, although it may take five to 10 years for the diseases to run their course.

In addition to natural suppres-

sion, the patch disease has two phases — a seedling blight phase and a mature declining phase. Biologicals work best on seeds rather than mature grass stands that are more resistant to change. Grass seeds coated with a certain bacteria have proven resistant to patch disease on grass-less soil containing patch fungi.

Tests have been less successful on mature turf where the biologic must be drenched into the ground and then journey to the plant root to attack the fungus. Many of the

bacteria don't survive the trek. Biological controls have been only half as successful on mature turf as grass-less soil.

Coating the disease-carrying fungi itself with a biological control and then placing both in the turf has yielded interesting results. Introducing the problem and the solution at the same time kills some of the plants, but also helps build resistance against future attacks, Wilkinson said.

Perhaps the biggest obstacle to full-scale development of biologicals

is the bacteria's ability to change, Wilkinson said. A researcher can give an agro-chemical company a bacteria that has proven effective in deterring disease. But if the company's method of growing the biologic is even slightly different than the researcher's, the control could change into something ineffective or even harmful to turf.

So what is the future of biological control?

"We'll probably never be able to rely completely on biologicals," Wilkinson concluded. "They're not designed to do the whole job.

"But with an integrated approach of biologicals and other combinations of chemical, managerial and fertilizer solutions, we'll probably be able to reduce the impact of pesticides into the system and gain very acceptable levels of control."

Ohio Turfgrass Foundation gives out scholarships

CINCINNATI — OSU senior Robert King received the \$2,000 George Biddulph Memorial Scholarship from the Ohio Turfgrass Foundation at its annual show.

OSU junior Carolyn Fisk was given the \$1,000 Dick Duke Award.

The \$1,000 Glen Hudson Scholarship went to OSU junior Michael Fast. Fast worked most recently at Sycamore Hills Golf Club in Fort Wayne, Ind., and would like to become a superintendent.

Fast also received a \$1,000 Central Ohio District Golf Scholarship, as did fellow OSU students Dawson Thombs, Gary Posey and David Zahniser. The \$1,000 NorAm Award went to Thombs.

Recipients of \$1,000 OTF scholarships were ATI seniors Ron Swing and James Kracker as well as sophomore Monty Hale; Clark State University sophomores Mark Seitz and Joseph Wichie; and OSU seniors Zahniser and Donna Barlow along with junior Timothy Kelley.

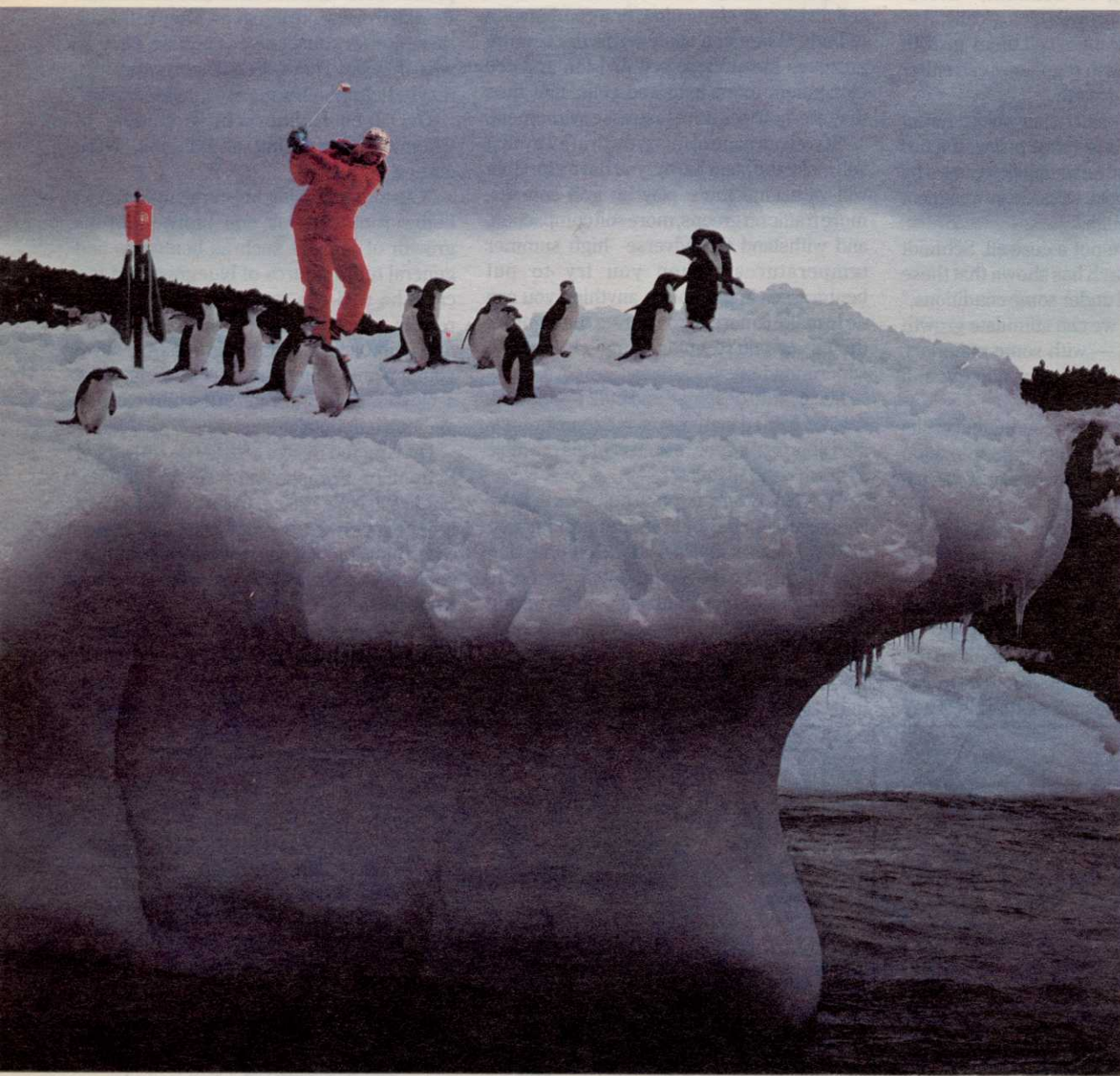
Kelley also received a \$1,000 scholarship from the Trans-Mississippi Golf Association.

Michigan State adds specialist

Frank S. Rossi has been appointed to the new position of environmental specialist in turf at Michigan State University.

Rossi will be responsible for developing and teaching material concerning safe pesticide use, and concepts of integrated pest management. He also will develop and coordinate seminars dealing with environmental stewardship and turf management.

He holds bachelor's and master's degrees from the University of Rhode Island. He is finishing his Ph.D dissertation at Cornell University.



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Pictured above: The inaugural drive at the world's first Antarctic Open.



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Biostimulants

Continued from page 21

very impressive," Berlyn said.

He added that the material seems to work best in sandier soils because they are so permeable.

"The biostimulant promotes rapid uptake of nutrients and other beneficial compounds before they have a chance to leach out of the soil," he said.

Goatley found different responses to biostimulants between warm- and cool-season grasses.

He said warm-season varieties respond most under stress conditions. Cool-season grasses, he said, have a measurable response regardless of growing conditions.

Goatley recommended applications for warm-season grasses in early fall, "as turf begins to prepare for winter dormancy. In this situation, we see more enhanced root development late in the growing season, which could result in better carbohydrate storage and preparation of plants for winter. There is also evidence that biostimulants could enhance spring green-up as temperatures warm up and spring dormancy breaks."

"When a biostimulant ... has iron added to it, the biggest advantage would be an immediate color response that wouldn't be associated with a resulting flush of shoot growth. This could be very advantageous to turf managers in the spring when everyone is trying to get their grass to green up without promoting shoot growth at the expense of root growth."

"The lush growth of turf following an early-season nitrogen application is very susceptible to injury from late frosts."

Graves applies biostimulants in March, April and September.

And Lucas agreed they should be applied "from mid-fall to spring, when the roots are growing like crazy — March, April, May. If you've got these materials available, you create and enhance a root system that is tenfold better than your normal dormant feeding of milorganites or sulfur-coated ureas, which are somewhat of a norm these days."

He added current research has revealed that minute amounts of the sulfur-coated ureas are getting "somewhat of a flushing effect" in dormant feeding. "You're losing a very small percentage, but a percentage that could basically be used by the plant at a more optimum growing period," he said.

Virginia Tech's Schmidt added that biostimulant use might improve salt tolerance.

He said in one experiment he irrigated a turfgrass plot heavily with salt water trying to create an artificial drought.

"Salts hold back turf," Schmidt said, "but we're offsetting it. We're actually stimulating these roots with biostimulants whether we're irrigating with salt water or not."

Schmidt said he believes enzymes in biostimulants "are doing something to the plant so that it can take water up that is normally not available to it. Normally when the water gets that low, the plant wilts.

But we are still seeing it grow.

"We think it has something to do with the fatty acids and we're investigating that; but it's a story that will have to be told later."

Among the biostimulants on the market are Roots and ironRoots, made by Roots, Inc., 25 Science Park, New Haven, Conn. 06511, telephone 203-786-5295; Panacea, produced by Emerald Isle, Ltd., 2153 Newport Road, of Ann Arbor, Mich. 48103, telephone 313-662-2727; and Bovamura, made by PBI/Gordon Corp., 1217 W. 12th St., Kansas City, Mo. 64101, telephone 816-421-4070. *This story was prepared with assistance from the people at Roots, Inc., of New Haven, Conn.*

Danger ahead without organization — Roberts

Legitimate biostimulant manufacturers must address ways to regulate the industry or see charlatans enter the marketplace, according to The Lawn Institute director.

"Research interest in biostimulants is keen and will continue, and will be competitive. But the bottom line is, ultimately, this industry is going to have to look at policing itself through regulation and controls, just like the seed and fertilizer and pesticide industries," said Dr. Eliot C. Roberts.

"The companies that really have legitimate products have to agree

among themselves on procedures they can follow for analytical purposes so they can label products and then advertise based on the label," he said.

Roberts said the fledgling biostimulant industry is not regulated, posing a threat to companies financing university research.

"A company forms and advertises its product. How do you know what's in that product?" Roberts asked. "There's not much information on the label that helps you know if it contains cytokinin, or gibberellin, or some other growth substance.

And there's not much that tells you how much there is of these.

"In time ... there will be a better means of identifying and describing contents, just as we now have procedures to identify pesticides, their active ingredient, amount, et cetera.

"In the long haul we are going to have to have state and federal agencies involved. Of course, any industry hates to be controlled. But there isn't enough (law) at the present time so that any company has to meet any criteria in the marketing process."



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Faubel signs off after exciting year as president

Continued from page 17

"We're determined to show that superintendents want to do the right thing and are good stewards of the land. If we ever find something we're doing is hurting the environment, we'll stop those practices."

Faubel and PGA President Patrick Reilly also stressed the need for the members of their organizations to cooperate. "The superintendent and pro can work together to let the club's members and the community know what is happening environmentally. It's not something the superintendent should do alone."

A meeting of the major industry organizations is being planned later this year to discuss each organization's responsibilities regarding the environment, Faubel said.

'If we ever find something we're doing is hurting the environment, we'll stop those practices.'

— Gerald Faubel

Manufacturers have answered the needs of superintendents, Faubel said, by developing equipment such as the rotary groomer that allows for a higher cut with no drop-off in putting conditions, and the water jet aerifier that permits aerifying of rocky soils.

Faubel has been on the road 160 days in the past year. His travels have taken him to Canada for the annual golf tournament between the two countries' superintendent or-

ganizations; England to visit BIGGA headquarters and the Sports Turfgrass Research Institute; and Spain to help develop the Volderama Masters Scholarship for a Spanish student to study at a U.S. turf school.

"The GCSAA and our industry have really elevated the superintendent to a position of respect. Wherever I've gone, I've always been treated with respect by people who want to know what is happening. The environmental issue has really brought the superintendent to prominence," Faubel said.

While no one can surpass superintendents in technical knowledge, they need improvement in managerial skills, Faubel said.

"Meeting the challenges of the coming decade while staying competitive is our greatest challenge. We will meet the envi-

ronmental challenges. But we have to be good managers, especially on the business side," the outgoing president said.

Now that his term is done, Faubel is looking forward to spending more time watching over his home course, Saginaw (Mich.) Country Club. He is also starting a new business, a search firm matching courses with superintendents. His partners are former Michigan State University Turf Program Director Ken Payne and Robert Trent Jones Sr.

As for his successor, new GCSAA President Stephen Cadenelli, Faubel said: "He'll do a tremendous job. He has a great vision of where this organization should go. He comes from a teaching background and he's already had a big impact on our educational system. He'll be a tremendous benefit to the GCSAA."

Satellite classes

Continued from page 17

the continued high quality standards being set for golf courses around the world.



Dr. T. Bowyer

Golf contractors, architects and owners may find particularly useful the latest techniques in management of warm-season grasses, he said.

Bowyer has been nominated to serve on Lake City's golf and landscape operations industry advisory committee, which offers advice on new academic programs in the sports field.

Va. project OK'd

CHARLOTTESVILLE, Va. — Construction of a private golf course in the Glenmore subdivision east of this community, near Shadwell, will begin in the spring and should be playable in 1993.

The development on 1,195 acres bordered by U.S. 250 to the north and the Rivanna River to the south and west will include a clubhouse, equestrian center and 750 homes.

Texas courses covered against threat

Continued from page 17

no matter what you do to protect it. We feel this is insurance against the widespread, no-rhyme-or-reason type damage we suffered," he said.

Nevertheless, he said he has every confidence the covers will work."

To make certain the covers do the job, Fabyan called all CCA superintendents in the region together for a how-to-use, when-to-use session at Kingwood Country Club near Houston.

"Quenton Johnson put together a slide presentation that showed a crew performing each step of the deployment task. We also recommended a trial run on every green at every golf course, so that when the temperature was dropping and the wind was gusting to 30 miles per hour the guys wouldn't be out there trying to figure it out for the first time."

There is a trick to deploying a 200-pound polyester cover so that the entire putting surface is protected and a minimum amount of the rectangular-shaped blanket is wasted. "How you lay the rolled cover down and

which way you roll it out determines how precisely the green is covered," Fabyan said.

Once the best way is ascertained, Fabyan asked his colleagues to write instructions for deploying each blanket on the specific green for which it was designed.

Though there are several methods for anchoring the blankets, the CCA superintendents elected to go with sod staples — four-inch-long, U-shaped pins set about five feet apart.

Asked when to lay the covers, Fabyan said: "If it is going down to 20 degrees and the weather has been cool previously, the covers should be strongly considered. If the forecast is for a 20-degree low tonight, followed by a freeze the next night, just do it!"

Fabyan added that, while conditions will determine when the covers are used, the demands of golfers will most likely determine when covers are rolled back or removed completely in this area of year-round golf.

Why would Fabyan go to so much trouble to recommend covering greens when, in the past, Bermudagrass winter kill was considered just one more greenkeeping headache with no cure?

Fabyan measures the cost and extent of the devastation in his region against the purchase price, labor cost, and deployment problems associated with covers, and still finds ample justification for use of technology new to his region.

"If the covers last about six years, as they should, they are worth the initial cost even if we only have to use them one year out of six," he said.

The superintendent also believes in a modern, aggressive approach to an old situation.

"Twenty years ago, one-quarter inch was as low as greens were cut. Now we cut at one-eighth inch during some of the growing season. We are putting more stress on greens with lower cutting heights and more play," he said. "With less play and higher mowing heights, we may have had less damage and no need for blankets at all. But this isn't 20 years ago and we don't have to just sit and hope for the best."

Frances Trimble is a freelance writer based in Houston, Texas.

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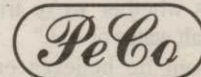
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 k. Assistant Superintendent e. General Manager i. Research Professional
 b. Green Chairman f. Owner/CEO j. Others allied to field
 c. Director of Golf/Head Pro g. Builder/Developer

2. My primary business is:

1. Public Golf Course
 2. Private Golf Course
 3. Municipal/County/
State Course
 4. Hotel/Resort Course
 5. Golf Course Architect
 6. Golf Course Developer
 7. Golf Course Builder
 8. Other, please specify _____

3. Number of holes:

- a. 9 holes d. 36 holes
 b. 18 holes e. Other, please specify _____
 c. 27 holes

4. My total annual maintenance budget is:

1. Under \$50,000 5. \$500,000-\$749,999
 2. \$51,000-\$99,999 6. \$750,000-\$1,000,000
 3. \$100,000-\$249,999 7. Over \$1,000,000
 4. \$250,000-\$499,999

5. My 1990 capital expenditure is:

- a. Under \$100,000
 b. \$100,000 - \$249,999
 c. \$250,000 - \$499,999
 d. Over \$500,000

6. My purchasing involvement is:

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

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USGA announces research it will finance

Continued from page 1

was a very difficult process choosing the final projects," said Snow, the committee chairman. "We started with 83 proposals and whittled that down to 23 before selecting the final ones.

"We spent two days looking at the final proposals. (Green Section Research Director) Mike Kenna plastered big sheets about each project along the walls. We kept going around and around the room.

"We tried for geographical diversity, especially in the pesticide and nutrient fate projects, since conditions can vary so much around the country."

The USGA chose not to release the amounts awarded to individual projects while contracts are being negotiated.

PESTICIDE AND NUTRIENT FATE STUDIES

Eight pesticide and nutrient fate projects are being funded. The project titles and schools involved are:

- Pesticide and Fertilizer Fate in Turfgrasses Managed Under Golf Course Conditions in the Midwestern Region — University of Nebraska, Iowa State University and Kansas State University.

- Groundwater Contamination Potential of Pesticides and Fertilizers Used on the Golf Course — Michigan State University.

- Mass Balance Assessment of Pesticides Applied to Golf Turf — Cornell University, Pennsylvania State University and University of Massachusetts.

- Fate of Pesticides and Fertilizers in a Turfgrass Environment — University of California, Riverside.

- Mobility and Persistence of Turfgrass Pesticides in a USGA green — University of Florida, Fort Lauderdale.

- Evaluation of the Potential Movement of Pesticides Following Application to Golf Courses — University of Georgia.

- Quantification and Fate of Nitrogen from Amended and Trafficked Sand Putting Green/Tee Profiles — Washington State University.

- Effect of Salinity on Nitrate Leaching From Turfgrass — University of Nevada,

Reno.

ALTERNATIVE PEST MANAGEMENT PROJECTS

Six alternative pest management projects will be offered contracts. They are:

- Potential for Physiological Management of Symptom Expression by Turfgrasses Infected by *Bipolaris Sorokiniana* — Iowa State University.

- Biological Control of Golf Course Turf Pests: Isolation and Evaluation of Nematode and Bacterial Pathogens — U.S. Department of Agriculture in Wooster, Ohio, Rutgers University and University of California at Davis.

- Microbial Basis of Disease Suppression

'We tried for geographical diversity, especially in the pesticide and nutrient fate projects.'

— Jim Snow

USGA Green Section

- in Composts Applied to Golf Course Turf — Cornell.

- Investigation of Turf Disease Decline for Potential Development of Biological Control Methods — Univ. of Calif., Riverside.

- Pathogenicity and Biological Control of

Gaeumannomyces-like Fungi — Univ. of Fla., Ft. Lauderdale.

- Damage Thresholds, Risk Assessment and Environmentally Compatible Management Tactics for White Grub Pests of Turfgrass — University of Kentucky.

The one project in the Golf Course Benefit category awarded funding in December was a Texas A&M University study entitled "Quantification and Validation of the Beneficial Contributions of Turfgrasses to Our Environment and Quality of Life."

"A couple of projects were funded for one year. They could get more funding if the preliminary results show promise," Snow said.

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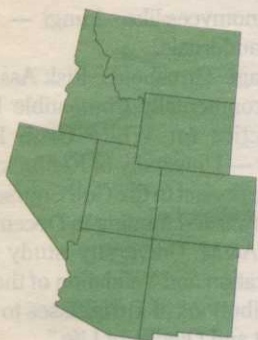
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Mountains



INTERMOUNTAIN ELECTIONS HELD

Dale Nelson, Oakridge Country Club in Farmington, Utah, is the new president of the Intermountain Golf Course Superintendents Association.

Steven Budge of Riverside Country Club in Provo, Utah, is vice president, Detlef Schwurack of Highland Equipment Co. in Salt Lake City, Utah, secretary, and Paul Baker of Conely Co. in Salt Lake City, treasurer.

Board members from Utah are Ed Tomlinson, Davis County GC, Kaysville; Scott Allen, Highland Equipment; Howard "Skip" Dunlavy, Moab CC; Mark Hyland, Gladstan GC, Payson, and Perry Dye, Meadowbrook GC, Salt Lake City.

PALM HIRED IN ARIZONA

PHOENIX, Ariz. — Donald Ross Society founder and President Barry J. Palm is the new assistant executive director at the Arizona Golf Association.

Executive Director Ed Gowan said: "Barry's extensive marketing experience, coupled with his motivation and ingenuity, make him the perfect person to represent the AGA."

"We're looking forward to capitalizing on his many talents to make AGA membership even more informative and valuable."

Palm began his position on Jan. 2, replacing Tim Greenwell, who left to become the tournament coordinator for the Southwest Section of the Professional Golfers Association.

Palm, a cum laude graduate of New England College in New Hampshire, has held several advertising and public relations positions in the East.

He helped increase attendance at the Canon-Greater Hartford Open by 100 percent through marketing and advertising campaigns.

South Central



TEXAS ELECTIONS

The Central Texas Golf Course Superintendents Association has elected Greg Hinton as 1991 president. Hinton is superintendent at the Hills of Lakeway in Austin.

Hinton succeeds Ken Grozycki of Four Oaks Ranch Golf and Country Club in Boerne. Grozycki will continue on the board of directors.

Also elected were Bill Hanna of Austin

Country Club, vice president; Mike Exhorn of San Antonio Country Club, secretary-treasurer.

Directors are Ricky Heine of River Place Golf Course in Austin, Darren Fletcher of Horseshoe Bay Slick Rock Course in Marble Falls, and Scott Roberts of Pecan Valley Golf Course in San Antonio.

Randolph Russell, of City of Austin Golf Courses, will continue as editor of the newsletter.

MAXWELL MISSISSIPPI'S PRESIDENT

The Mississippi Turfgrass Association has elected Max Maxwell, golf and grounds superintendent of The Country Club of Jackson, as its new president.

Maxwell has served as a central director since 1985 and was the MTA's Outstanding Turf Professional in 1987.

He replaces Curlee Green, county agent for Jackson County, as the head of the 238-member association.

Other officers are Vice President Bob Pyle, PGA golf professional and superintendent of Naval Construction Battalion Center in Gulfport and Secretary-Treasurer Dr. Michael Goatley, professor of agronomy at Mississippi State University.

Northern District directors are Bill Colloredo, superintendent at Old Waverly Country Club and David Jumper, superintendent at Greenwood Country Club.

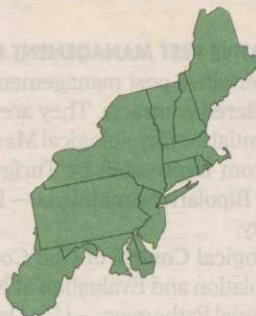
Central District directors are Britt Pollock, superintendent at Northwood Country Club and Martha Hill, landscape management instructor at Hinds Community College.

The Southern District is represented by Directors Tom Boudreaux, owner of Custom Spray in Covington, La., and K.V. Estess, owner of Southern Green in Baton Rouge, La.

Dr. Don Blasingame, Extension plant pathologist at Mississippi State University, is the editor.

The MTA, with members from 13 states, funds both turf research and a scholarship program for needy turf-related students.

Northeast



LOWELL AT HELM

Roger L. Lowell, president of the Maine Golf Course Superintendents Association, returns to a post he first held 25 years ago.

The superintendent at Webhannet Golf Course in Kennebunk Beach since 1973, Lowell long has been active in superintendents' conference and committee projects, chairman of special awards and until 1989 chairman of the Maine Supers' Newsletter



R. Lowell

staff.

David Kile, superintendent at Causeway Club in Southwest Harbor, was elected vice president.

George Howe, superintendent at Bristol Inn and Country Club, is secretary, and Chris Heath of Agri-Turf in Hatfield, Mass., is treasurer.

Directors are Ken Flisek of The Woodlands Country Club in Falmouth; Steve Hoisington of Martindale Country Club in Auburn; Pat Lewis of Portland Country Club; and Kevin Ross of Falmouth Country Club. Ross is a former MGCSA president.

CAPE COD ELECTION HELD

Thomas A. Flaherty of Woods Hole Golf Club in East Sandwich will head the Cape Cod Turf Managers Association this year.

The new board of directors for this Massachusetts organization, which has been prominent in environmental and legislative issues, comprises Vice President James B. Conant of Kings Way Golf Club in Yarmouthport; Treasurer Dennis F. Penner of Town of Dennis Golf Courses; and Secretary Eric E. Newell of Rockland Golf Course.

Directors are Thomas Colombo of New Seabury Golf Course, Jeffrey Carlson of Ocean Edge Golf Course in Brewster, and Charles T. Passios of Hyannisport Club, immediate past president.

SUPERS, PGA OFFICIALS MEET

Members of the board of directors of the New England Professional Golfers Association and the Golf Course Superintendents Association of New England met recently at Lynnfield, Mass.

Topics ranged from pesticide applications, posting and exposure to integrated pest management and its effect on golf and the environment.

Subjects vary in these sessions, and the end result has been much-improved communications between the professions, officials say.

The annual joint educational seminar has brought the memberships of the two groups together to share experiences and concerns within the game.

RHODE ISLAND OFFICERS NAMED

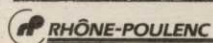
Lou Roccobello of Goddard Park Golf Course in East Greenwich, is the new president of the Rhode Island Golf Course Superintendents Association.

He succeeds Mike Iacono of Metacomet Country Club in East Providence.

Other officers are Vice President Thomas Ohlsen of Fall River (Mass.) Country Club; Treasurer Edward Ellis of Wanumetonomy Country Club in Middletown; and Secretary Patrick Vetere of Potowomut Golf Course in Warwick.

Vincent Iacono of Alpine Country Club in Cranston, is newsletter editor.

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Southeast



BIGGERS ELECTED

Fredrick S. Biggers of Greenville (S.C.) Country Club, heads the 1991 officers of the Carolinas Golf Course Superintendents Association.

Other officers elected at the 1990 Clemson Turfgrass Conference in Greenville, were T. Stephen Sheets of Linville (N.C.) Country Club, vice president; Robert O. Farren of Pinehurst (N.C.) Hotel & Country Club, secretary; and Michael K. Fabrizio of Wild Dunes Golf Course in Isle of Palms, S.C., treasurer. Joseph A. Kennedy Jr. of Laurel Ridge Country Club in Waynesville, N.C., is past president.

GEORGIANS VOTE

Mark Hoban of The Standard Club, Duluth, has been elected president of the Georgia Golf Course Superintendents Association.

William Shirley, Idle Hour Club, Macon, is the new vice president, Karen White, Watkinsville, executive secretary.

Directors are Steve Davis, immediate past president, Nob North Golf Course, Cohutta; Mike Hamilton, Lanier GC, Cumming; Mike Martin, Berkeley Hills CC, Norcross; Paul Petrie, Pine Tree CC, Kennesaw; Bob Perry, Griffin CC; Mark Esoda, Atlanta CC; Ralph Hinz, The Landings Club, Savannah; Chuck Underwood, Northwood G and CC, Lawrenceville; Hoban and Shirley.

TEST PLOTS IN ORLANDO

Cary N. Lewis has established test plots at his Country Club of Orlando, Fla.

A new family of Bermudagrasses propagated by Oklahoma State researchers will be studied.

LICENSE FEES ESCALATE

Testing and renewal fees for Florida Restricted Use of Pesticides licenses are on the rise. Fees reportedly will jump from \$5 to \$75 beginning next year.

FLORIDA GREEN EXPANDS

The Florida Golf Course Superintendent Association's publication, *The Florida Green*, will expand from four to six issues annually beginning this year.

EDUCATIONAL SEMINARS

Chemical application and turfgrass diseases will be featured topics at three-day minicourses offered through the Donaldson Brown Center for Continuing Education at Virginia Tech in Blacksburg, Va.

The chemical application program, Feb. 25-27, will be directed by S. Wayne Bingham, professor of weed science, and David R. Chalmers, Extension agronomist in turf.

Houston B. Couch, professor of plant pathology at Virginia Tech, will direct the turfgrass disease course, Feb. 27-March 1.

Chemical application topics include fertilizer and pesticide formulations, equipment selection and calibration, application hazards to non-target plants, nozzle tip and pump selection, tank additives, fertilizers plus pesticide combination products, fate and environmental safety of pesticides, factors improving pesticide effectiveness, tank mixing, pesticide safety and integrated pest management.

Turfgrass disease coverage will include nature of turfgrass disease, epidemiology, environment-management-disease interactions, diagnosis and life cycles of specific turfgrass diseases, pesticide formulations, phytotoxicity, compatibility and application techniques, and development of a balanced disease control program.

MECHANICS WORKSHOP

The Georgia Golf Course Superintendents Association held its mechanics workshop on Jan. 22 at The Landing Club in Savannah.

Speakers were John Oldenburg from Jacobsen, Eddie Cox from The Toro, Co., Ed Combest and B. J. Cannon from Lake City Community College.

ELLISON JOINS PALMER

Jim Ellison, formerly the superintendent at the Bay Hill Club, Orlando, Fla., has become the agronomist for the Arnold Palmer Golf Management Company, Orlando.

Dwight Kummer has moved over from Hammock Dunes GC, Palatka, Fla., as the new Bay Hill superintendent.

North Central



QUINLEVAN WISCONSIN PRESIDENT

Richard E. Quinlevan Jr. of the Milwaukee Country Club has been elected 44th president of the Wisconsin State Golf Association.

A WSGA director since 1978, Quinlevan, 63, also is a director of the Western Golf Association.

The WSGA, formed in 1901, lists 300 member clubs and serves more than 60,000 members.

Richard Pearse Jr. of La Crosse Country Club was elected first vice president. Other vice presidents elected were Chuck Butzow of Wausau Country Club; Gene Koepke of Tripoli Country Club in Milwaukee; Hal Knuth of Tuckaway Country Club in Milwaukee; and John Manning of Westmoor Country Club in Brookfield.

Jack Scherer and Bob Koonz, both members of Chenequa Country Club in Hartland, were elected secretary and treasurer, respectively.

New directors are Ken Berke of Brynwood Country Club in Milwaukee; Bob Davis of North Shore Golf Club in Menasha; and Dick Sucher of Ozaukee Country Club in Mequon.

Sam Ruskin, of the University of Wisconsin Golf Course in Madison, retired after 11 years as director.

Gene Haas, of Westmoor Country Club, begins his 15th year as executive director.

MIDWEST GCSA ELECTION

Bruce R. Williams of Bob O'Link Golf Club in Highland Park, Ill., will head the Midwest Association of Golf Course Superintendents.

Ray Schmitz of Flossmoor (Ill.) Country Club, is vice president, Timothy Kelly of Village Links of Glen Ellyn, Ill., secretary-treasurer.

Board of directors members are Michael Bavier, Inverness GC, Palatine, Ill.; Kerry Blatteau, Woodmar CC, Hammond, Ind.; Ed Braunsky, Geneva, Ill., CC; Donald Cross, Skokie, Ill., CC; Alan Fierst, Oak Park CC, Glencoe, Ill.; Joel Purpur, River Forest GC, Elmhurst, Ill., and Dave Meyer, president emeritus, Prestbury GC, Sugar Grove, Ill.

KANSAS GCSA ELECTIONS

The Kansas Golf Course Superintendents Association has elected A.J. Panter of Junction City Country Club as its new president.

Panter, who replaces Immediate Past President Cliff Dipman of Manhattan Country Club, heads a new slate of officers that includes Vice President Ron Reese of Marysville Country Club and Secretary/Treasurer Jack Tripp of Terradyne Resort Hotel and Country Club.

Directors elected to two-year terms are John Wright of Reflection Ridge Golf Course and Robert Eichenberg of O.M. Scott.

Jim Pyle of Great Bend Petroleum Club is fulfilling his second year as a director.

Jeff Kreie of Bentwood Golf Course will begin his second year as editor of *Kansas City Roots*, the association's newsletter.

West



DESERT, WATER TOPICS

LAS VEGAS, Nev. — Dennis Underwood, Commissioner of the U. S. Bureau of Reclamation, set the framework for the recent three-day Desert Turfgrass/Landscape Conference here.

He focused on the maintenance needs of the desert and the water shortages afflicting the southwestern United States.

The Reclamation Bureau operates the Colorado River, from which a significant portion of water is supplied for the metropolitan areas of Las Vegas, Phoenix and Tucson, Ariz., and Los Angeles and San Diego, Calif.

Underwood discussed the concept of new project landscaping which produce desirable surroundings in desert areas without intensive water use. Sixty percent of Colorado River water transported into the Las Vegas Valley is for external use — landscaping, lawns and golf courses.

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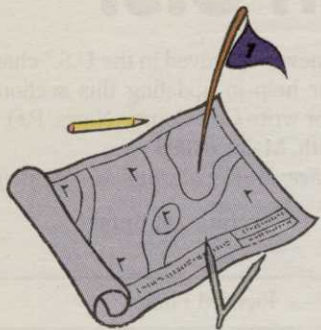
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Briefs



JAPAN CITES VON HAGGE COURSE

Von Hagge Design Associates of Spring, Texas, has learned its Horai Country Club in Tochigi Prefecture, Japan, north of Tokyo, will receive the country's Best New Course award for 1990.

Earlier, Robert von Hagge accepted "Le Premier Trophée Du Meilleur Golf De L'Annee" (the first trophy for the best golf course of the year) for France 1990 for the Golf du Seignosse.

Last year, the firm's Golf International "Les Bordes" received the only new five-star rating in 20 years on the European continent.

Recently, associate and lead architect Rick Baril and Mr. and Mrs. von Hagge attended the opening of another von Hagge Design Associate course, Golf Club National.

The Golf National, outside Paris, is the first stadium-style golf course on the European continent and will be the permanent home for the French Open.

PALMER PUTTING IMPRINT ON LAYOUT

COLUMBIA, S.C. — Arnold Palmer is adding his personal touch to Plantation Pointe here, with a 18-hole championship golf course carved from the woods along the shores of Lake Murray.

Palmer and the Palmer Course Design Co. team will master-plan the remainder of the more than 550-acre community surrounding the lakefront course.

INDIAN TRAILS NEARS OPENING

BUCK GROVE, Ill. — The back nine of the new 18-hole Indian Trails Golf Course should be ready for play in March, and the other nine playable by early to mid-summer.

Course superintendent Paul Pierceall said he irrigation system is in place on the back nine and the holes seeded.

The course is on 145 acres, five miles south of Mattoon. Lakes come into play on seven holes.

PGA professional Kelly Spaulding will be course director.

YOUNG, CLASSIC GOLF ON PROJECT

MARIETTA, Ga. — Mike Young Designs, of Watkinville, Ga., and Classic Golf Management of Athens, Ga., will redesign and renovate the former Marietta Country Club.

Construction of the 18-hole layout is under way and the course, purchased by the city, is expected to reopen as the Marietta Municipal Golf Course early in the fall of 1991.

The clubhouse dates back to before the Civil War, when it housed the Georgia Military Academy.

GOLFSCAPES CHOSEN FOR COURSE

LINCOLN, Neb. — Golfscapes of Arlington, Texas, will design the 18-hole Highlands golf course in the northwest section of the city.

The course is a major aspect of the development plan in the Highlands, annexed into the city in December 1989.

Construction is scheduled to start next fall, grass to be seeded in August 1992 and the course open in June 1993.

Pesticides last hurdle for major Sherman Hollow project in Vermont

By Vern Putney

HUNTINGTON, Vt. — The proposed golf course at Sherman Hollow here, which since 1984 has suffered more rejections than 5-6 Atlanta Hawks guard Spike Webb attempting a scoop shot on basket-guarding Patrick Ewing of the New York Knicks, tried for the umpteenth time to live up to the Tenth Commandment of the state Environmental Board.

The board held rigid to its dictum, "Thou shalt not permeate the ground with pesticides not meeting our standards."

Developer Paul Truax and Sherman Hollow

Inc. associates, cleared on nine counts, have been relentless in pursuit of golf course approval, considered a necessary first phase to transform this chosen land into a destination resort, bedecked with a hotel, restaurant, conference center and swank condominiums.

The original project price tag was \$22 million. Truax and partners, while declining to be specific on costs aimed at obtaining approval, won't quibble with a "hundreds of thousands of dollars" guesstimate. The current cross-country ski area can not survive unless allowed to expand, Truax ventured.

Town officials, hard-pressed for the Yankee dollar, can break their expenditure down to pennies.

Residents fighting Sherman Hollow claim the town has spent \$13,422.76 on legal expenses defending and supporting the project since 1985. That kind of coin buys a lot of hay and maple syrup in the belt-tightened Green Mountain State.

Project opponents find it especially galling that their taxes are being used to further the pro-golf course lobby. Despite this, Huntington

Continued on page 53



The par 4, 331-yard 4th hole at Cypress Knoll Golf Course in Palm Coast, Fla., is vintage Gary Player design. The tee shot is critical, carrying a wild-growth area. The second shot is a short iron to a green guarded by three pot bunkers.

Int'l golf future bright

By Peter Blais

The opportunities for overseas golf course development are excellent in most of the 126 countries where golf is played, according to a panel assembled at November's Golf Summit 90.

The panel was moderated by Gary Wiren, president of Golf Around the World and master teacher at PGA National Golf Club.

Panel members included John Gordon, managing editor of Score magazine, Canada's largest monthly golf publication; Jillian Yorke, editor of the magazine Japan Golf Report and vice president of International Golf Research Institute; Australian journalist Douglas Mason; Lage Engebo of the Swedish Golf Federation; and John Laupheimer, staff vice president of International Management Group.

CANADA

Canada's population of 25 million, about the same as California, is spread over a land mass larger than the United States, Gordon said. Yet, 95 percent of Canadians live within 100 miles of the U.S. border.

Gordon said there are 5.1 million golfers in Canada that represents 21 percent of its citizens, giving Canada the highest participation rate in the world.

Canada has 2,000 courses with 200 more under construction or planning. The hotbeds are southern British Columbia and Alberta in the west and southern Ontario farther east.

In the past 15 years, the number of golfers and courses has doubled.

Canada has a rich golf history. The Royal Montreal Golf Club founded in 1873 was the

Continued on page 50

Blenders, golf courses a perfect mix

By Mark Leslie

A million things can kill a green and there is no excuse for opting for the cheap choice in mixing soil, according to experts in the soil-blending industry.

"The top architects and the aggressive leaders in the industry are specing the blending into contracts," said Troy McNeill of Transamerican Soil Blenders in Lubbock, Texas. "The greens are the heartbeat of the golf course. If you don't have good greens, people won't play your course."

"A first-class green only costs two to three percent more than a third-class green. The

money saved won't be saved a year later when you have to rebuild a green," said Tom Briddle of Tectonic, Inc. in Longmont, Colo.

Briddle, who said he recently blended the soil for a 22-green facility for \$18,000, could only question why a developer would choose to mix the soil with a front-end loader or rototiller.

Golf course architect and builder Jim Fazio of Juno Beach, Fla., agreed. Putting the cost of blending for 19 holes at \$30,000, he said: "On a \$3-million golf course that's only one-tenth of one percent. The average cost of buying the materials and building 19 greens is \$275,000 to \$300,000, and no one's going to

take a chance with that kind of money of not having it right."

Though there are only a handful of blenders in North America, the field is expected to grow, since, as Briddle said: "Anything that's successful always attracts more players."

Christine Faulks, president of Greensmix of Waupaca, Wis., explained the rising importance of blending: "In the past five years or so the whole industry has become more sophisticated. And, in turn, a lot of contractors have been burned—gotten into lawsuits, and had jobs shut down—because their mix was not accurate."

Continued on page 34

Oregon development plans course to attract out-of-state buyers

BEND, Ore. — An 18-hole golf course with a clubhouse will be prominent in a 528-acre planned-unit development west of this community

The course is designed by the Scottsdale, Ariz., firm of Weiskopf/Morrish.

Ann E. Thompson of the Portland-based Cascade Highlands Inc. real-estate development concern said the "Broken Top" development will be a "unique golf community" marketed as second homes primarily to buyers in Portland, Seattle and California.

Courses newly approved in U.S.

Golf Course News is publishing this list monthly. It includes courses that have been approved around the country in the past month. In addition, the chart further below contains the sites and contacts for new courses and renovations in the planning stages. When those courses are ready to begin construction they will be

listed again in this "Courses newly approved in the U.S." chart.

We would appreciate your help in updating this section. To contact us call 207-846-0600 or write Golf Course News, P.O. Box 997, 38 Lafayette St., Yarmouth, Maine 04096.

Under "Type" — D= Daily Fee; P= Private; and M= Municipal.

Location	Course Name	Type	Holes	Address	Architect/Contact
Colorado					
Arvada	Westwoods GC	M	18	N/A	Richard Phelps
Georgia					
Newman	Orchard Hills GC	D	18	Hwy. 16	Cottle Course Designs, Inc.
Warner Robins	Satham's Landing GC	P	9	P.O. Box 7869	Cottle Course Designs, Inc.
Warner Robins	Waterford South GC	D	18	Hwy. 96	Cottle Course Designs, Inc.
Nebraska					
Lincoln	Highlands	M	18	N/A	GolfScapes
Ohio					
Union Township	Wetherington	P	18	Cincinnati-Dayton Rds.	Wetherington Assoc.
Oregon					
Bend	N/A	N/A	18	Century Drive	Tom Weiskopf/Jay Morrish
Pennsylvania					
North Coventry	N/A	P	18	Rt. 724	John H. Albright
South Carolina					
Columbia	Plantation Pointe	N/A	18	N/A	Arnold Palmer
Virginia					
Charlottesville	Pen Park GC	M	9	N/A	Bill Love
Shadswell	Glenmore	P	18	U.S. 250	Frank Kessler
West Virginia					
Lavalette	Lavalette GC	D	18	N/A	Albert Anderson

Courses newly proposed in the U.S.

Following is a chart containing the sites and contacts for new courses and renovations in the preliminary planning stages. When

these courses are ready to begin construction they will be listed again in the "Courses newly approved in the U.S." chart.

Location	Contact	Location	Contact
California		Massachusetts	
Concord	The Levitt Group, Los Angeles	Salem	Mayor Neil J. Harrington
Los Angeles County	Newhall Land & Farming Co.	Minnesota	
Rancho Palos Verdes	Long Point Development	Grant	Gem Lake Hills GC
San Clemente	Arnold Palmer	Rochester	Paul Pehler
Colorado		Ohio	
Fruita	Ned Wilson, Grand Junction	Lorain	Victor Nardini
Florida		Oregon	
Fort Myers	Dale Siska	Cornelius	John Shonkwiler
Jupiter	Town Manager Griff Roberts	Tennessee	
Illinois		Franklin	Norman Carl
Carlyle	Mariner Hotel Corp.	Wisconsin	
Hawthorne Woods	DiMucci Home Builders, Palatine	Marion	Jerry Caswell, Wautoma
Savanna	Patten Corp.		

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Japanese owners plan to remodel Woodlake

SAN ANTONIO, Texas — The Woodlake Golf and Country Club here has been sold to a group of Japanese investors, headed by Kiyonori Higa of Osaka, who plan to spend close to \$1 million in capital improvements.

San Antonio-based CCI Inc. will manage Woodlake. CCI manages 10 golf courses around the country, including the Club at Sonterra in Tapatio Springs and Woodlands at Canyon Lake.

Woodlake, which opened in 1972, hosted five straight Texas Open tournaments during the 1970s.

All 18 greens will be completely rebuilt and replanted.

Charlottesville course to break ground

CHARLOTTESVILLE, Va. — Construction of a private golf course in the Glenmore subdivision east of this community, near Shadswell, will begin in the spring and should be playable in 1993.

The development on 1,195 acres bordered by U.S. 250 to the north and the Rivanna River to the south and west will include a clubhouse, equestrian center and 750 homes.

Limerick GC adding 210 condominiums

LIMERICK, Pa. — Limerick Golf Club property is being targeted for a housing development.

The township planning commission recommended sketch plan approval for John Benson of Exton, who wants to build a 210-unit condominium complex on 31 acres once part of the club.

Meanwhile, nearby Waltz Farms Inc. wants to create an 18-hole golf course and build 58 single-family houses at its miniature golf course and turf farm site on Ridge Pike. The homes would be built on 13 acres of the 200-acre tract.

Contending that it is preserving open space with the installation of a golf course, Waltz Farm through Collegeville attorney Robert L. Brant Jr. has submitted a proposed zoning change.

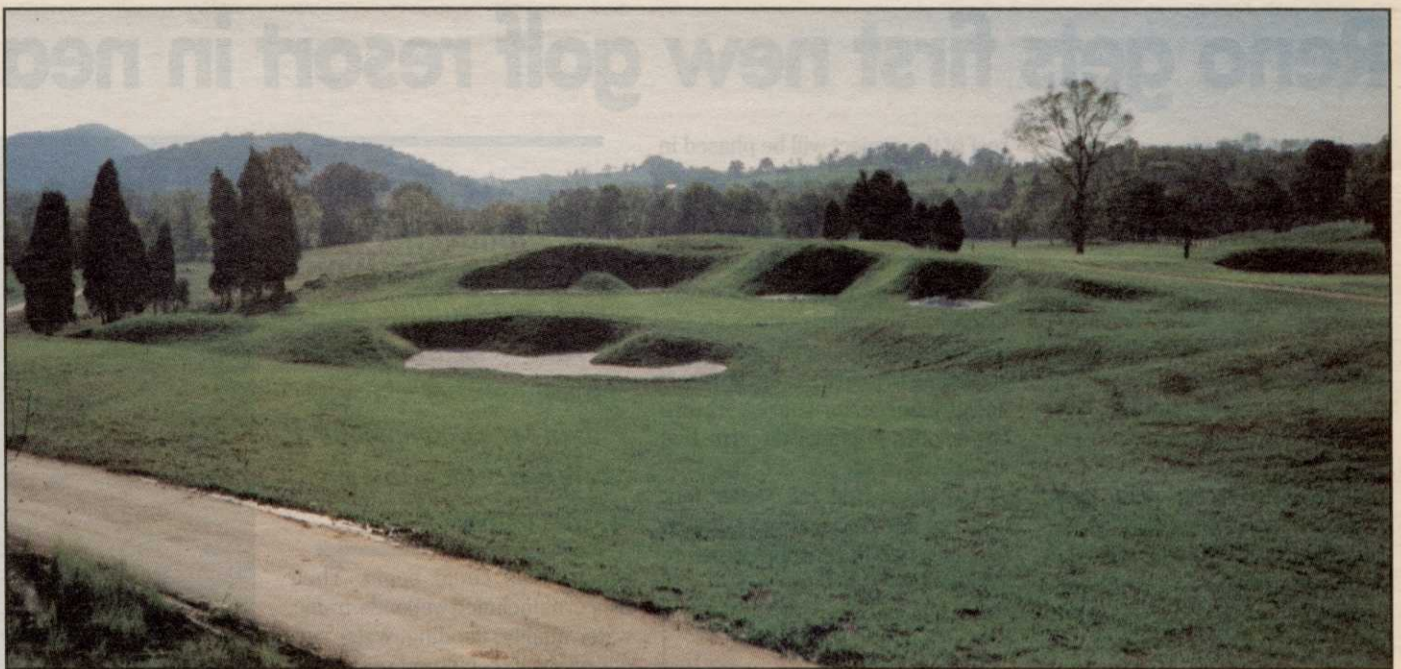
Although the plan outlined only 58 houses, it did not eliminate the possibility of building on the remaining acreage if the golf course proposal fell through.

Ground broken

UNION TOWNSHIP, Ohio — Ground has been broken for a new 18-hole golf course in this township, 25 miles north of Cincinnati.

Course opening at the \$300-million private country club community is due in the spring of 1992.

General Electric Capital Corp. of Dallas, has approved \$19.7 million in financing for the first phase of Wetherington.



The River Island Club's 17th hole as seen from the forward tee.

River, islands add zest to Hills' Tenn. course

A private course that plays on both sides of the French Broad River and crosses it on two islands will open in June in Kodak, Tenn.

Co-owner Tony Hagwood of Associated Benefits Corp. of Greenville, Tenn., said: "It's unbelievable. All the credit goes to (architect) Arthur Hills and the lay of the land. It's not gimmicky at all — just a fantastic layout."

Hagwood said getting the project off the

ground was a feat that included dealing with six different landowners, one year acquiring environmental permits, and an archaeological study that found two areas that had to be left alone because they had been Cherokee Indian campgrounds.

Hills, of Toledo, Ohio, designed the first two holes along the river in Knox County.

The course then crosses onto a half-mile-

wide, 30-acre island on which are the green for the par 3 third hole, two par 5s, and the tee for the par 5 sixth.

The next eight holes are links-style along the river in Sevier County. Play continues across the river via a small island with a green, a par 3 and the tee for the 17th hole.

Bridges — one 325 feet long — span the river. A David Wright designed the clubhouse.

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Reno gets first new golf resort in nearly 20 years

By Peter Blais

Eight years of planning will finally pay off this spring when the Galena Resort begins construction in Reno, Nev.

The 3,000-acre resort will include an 18-hole, Algie Pulley-designed golf course, 107 ski runs, underground parking for 1,000 cars, hotels, 1,460 condominiums, 100 single-family homes and housing for 500 employees.

The ski area is scheduled to open in 1992 or 1993 contingent upon financing. The golf course and the

rest of the project will be phased in over the next 15 years.

The Reno-Lake Tahoe area was under a building moratorium for large projects from the mid-1970s through the mid-1980s. Developing plans and obtaining permits for Galena Resort began eight years ago, according to Bruce Erickson, resort design manager for The Sear-Brown Group, the engineering firm that spearheaded the project.

Twenty-two federal, 10 state, four regional and 13 local government agencies had to be satisfied before

The regulations changed halfway through the process... We had to go back and evaluate eight alternative locations for the project, some of which we didn't even own. None were better than this site.'

— Bruce Erickson

construction could begin. Their concerns included wetlands, traffic, water quality, flooding, water supply, air quality, cultural resources, erosion and geologic hazards (earthquakes and avalanches).

The final agency, the U.S. Army Corps of Engineers, gave its approval by issuing a permit last November to fill in 5.5 acres of wetlands, about two percent of the 252 acres of wetlands at the Galena site.

"We started working on this project in 1983 — the conceptual plan, cost work, identifying potential problems," Erickson said. "We got all the federal, state and local permits we needed, except for wetlands, in six months. It took from 1984 to 1990 to complete the wetlands work.

"The regulations changed halfway through the process. President Bush promised when he took office there would be no net loss of wetlands. We had to go back and evaluate eight alternative locations for the project, some of which we didn't even own. None were better than this site."

The keys to obtaining approval, Erickson said, were doing a complete engineering study as early in the design phase as possible; tier-



Mountains rise as a backdrop to the Galena Resort golf course site.

ing the approval process, meaning the approvals for each issue are built on previous approvals; sharing information with the public; the refusal of Galena partners Bob Weise, Bob Wells, Alpine Meadows of Tahoe, Doug Clyde, Redfield Land Co. and Jerry Smith to be intimidated by opponents into dropping the project; and using the Development Standards Handbook to provide enough technical data so that agencies could make decisions.

To minimize changes to the terrain, some ski runs were laid out along fairways. Erickson said skiers should have little impact on turf quality because of the area's snow conditions.

First, the Reno-Lake Tahoe area receives 400 inches of snow a year, providing a deep cushion between skis and grass. Second, the snow is much drier than that found in the East, meaning it won't ice over and further damage the turf. Pre-season turf treatments should also help reduce wear.

"There will be some compaction, but it should be minimal," Erickson said.

The ski runs were also aligned so they didn't come into contact with the most sensitive areas of the course, the greens and tees.

"Galena promises to be a challenging resort golf course that appeals to both the high-level amateur and beginner golfer," Pulley said. "It will represent the state-of-the-art in golf course design with minimal irrigated and fertilized areas and an overall layout that offers a strategic game."

Water will be supplied from as many as seven wells drilled on the property. Studies showed they would have little measurable impact on the surrounding water table. Effluent was considered as a source of irrigation water, Erickson said. But it was rejected because of the area's 8,000-foot altitude and its long, cold winters.

Of great benefit during the water supply discussions, Erickson said, was having all the water needed for the project (and substantial reserves) in the direct ownership of the partners as early as possible, but definitely before the public approval process.

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Program for handicapped schoolchildren scores

Kids make Mr. Mac's retirement years golden

By Vern Putney

Retired phone worker George R. McGrory would brush aside mention that he must have a hot line to Heaven, but he'll beam affectionately when one of his golf pupils happily shouts, "Look, Mr. Mac!" after a good shot.

The North Palm Beach, Fla., resident has seen his weekly teaching program for handicapped kids mushroom from one grade school and nine students in September 1988, to eight schools and nearly 500 boys and girls.

Said McGrory: "We have seen tremendous changes in their outlook on life, school work and attitude toward other persons. They are aware that they can do some things with their lives and bodies once believed out of reach. They recognize that 'somebody cares.'"

That particular somebody is McGrory, who stashed his electronic equipment in his native Rhode Island a few years ago and made tracks for Florida and "the good golf life" in what Palm Beach County claims is the "Golf Capital of the World."

He found a better way to spend his "golden years." The world of the handicapped was awaiting a kind man with a warm heart. "Mr. Mac's Kids" are those with learning disabilities, cystic fibrosis, multiple sclerosis and other crippling diseases.

Barbara Blank, a teacher at Grove Elementary School in Palm Beach, planted the program idea in McGrory's mind.

How might she provide her autistic students something besides reading, writing and arithmetic? she inquired of McGrory.

McGrory suggested golf. A program was launched the next week. McGrory dug into his pocket to provide clubs, tees and balls.

Youngsters' handicaps range from learning and language disabilities, those wheelchair-bound and paralyzed from the waist down, to the mentally retarded.

They share a love for "Mr. Mac" and appreciation of volunteers he's lined up as the program has expanded.

Foremost is Dennis Walters. Walters in 1974 was a rising star headed for the professional tournament tour. Then a golf cart accident left him totally paralyzed from the waist down.

After months of hospitalization, agonizing therapy and rehabilitation, he returned to golf by cutting the legs off a bar stool and mounting it on a golf car. He's back in business in what has been called "Golf's Most Inspiring Hour" and is termed by Gary Player as "a great



Handicapped golfer Dennis Walters shows a class they can truly overcome their physical problems

example of skill, courage and determination for everyone in the world to see."

Walters, whose exhibition schedule from his Plantation, Fla., base spans the nation, squeezes in time for "Mr. Mac's Kids." He featured the recent Christmas party hosted by Moose Lodge #2010 and auxiliary of Palm Beach Gardens and attended by more than 300.

Kids astounded by Walters' trick shot magic truly believe "nothing is impossible." One must only believe and have faith.

Jan Beljan of North Palm Beach,

one of a handful of women golf course architects in the world and prominent in the kids' program, has her own grand design for the children's golf future.

"I'd like to help George attain his goal of a three-hole golf course for these special youngsters," she said, "and if I can, through my contacts across the country, scrounge old clubs that can be cut down for use, fine."

Meantime, McGrory will continue to apply his never-ending devotion to a great cause. Sure, at 64 he and wife Alice could be relaxing

'They are aware that they can do some things with their lives and bodies once believed out of reach. They recognize that 'somebody cares.'

— George McGrory

at the 19th hole of some club, sipping a cool one and savoring the so-called finer things.

Instead, they spend most Sunday afternoons washing clubs and golf balls at the kitchen sink as he

prepares for the week's instructional programs.

At Christmas time, the recipients of McGrory's generosity have a grateful hug for their year-round Santa and his unsung helpers.

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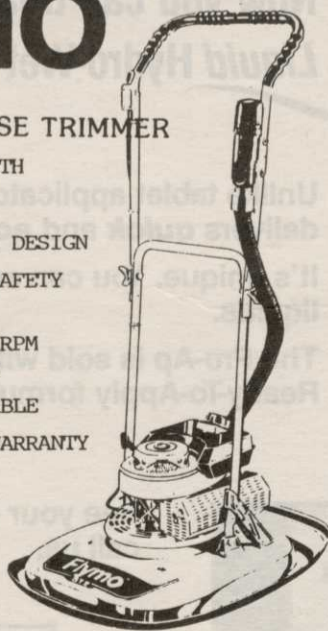
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Arontend loader adds material to a hopper on a blender.

Photo courtesy of Greensmix

Blenders see technology, innovations improving golf course construction

BY MARK LESLIE

Major improvements loom ahead in golf course green construction as soil blenders mix their imaginations and technology.

Quicker maturity and less disease during the grow-in period of a course are the biggest benefits as blenders look to adding fertilizers, micro-organisms and other materials into the root-zone mix for certain projects.

"The chemical and soil laboratories are the doctors and (blenders) are the pharmacists," said Troy McNeill of Transamerican Soil Blenders of Lubbock, Texas. "They

write the prescription for the blending to fit a given golf course and given conditions. We fill that prescription."

The future of blending is scrutinizing the chemical as well as physical properties of the soil, he said.

McNeill said the industry will see micro-organisms added to the blending process where greens won't be gassed with methyl bromide.

Adding bacteria to the sterile media will help prevent disease and will push the green to maturity much quicker.

"This is extremely important," said Dr. Michael Hurdzan, an golf course architect in Columbus, Ohio, who holds a PhD in agronomy. "The first one to two years, you get some weird diseases. You have a sterile mix (sand) and organisms can just move in there. Putting micro-organisms into the blend can significantly reduce that from happening."

McNeill added: "Maturity increases the productive capability of turf. It helps it to heal from spikes and compression ... and rounds played on the course is the bottom line — getting a return on the investment on the course."

"They can open a course a lot faster this way," agreed Christine Faulks of Greensmix in Waupaca, Wis.

Architect and builder Jim Fazio of Juno Beach, Fla., said this procedure would depend on soils and climate, adding he recommends putting fertilizer on top afterward in the South, "but up North it's a different story."

Faulks said products that are dry and free-flowing, such as water absorbers, can also be added.

"In Gainesville (University of Florida's Ben Hill Griffin Stadium) we blended in lime to help the pH. You will see different amendments that will enhance the root-zone mixture," she said.

Another "additive" of the future will probably be fibers for reinforcement.

Dave Minner of the University of Missouri in Columbia is researching this work, which uses fibers to hold soil together better, much as those used in concrete.

The industry may also see blenders take on more of the workload.

Tectonic, Inc. of Longmont, Colo., can already do the entire greens construction, according to Tom Bridle.

"We grow our own Penncross and the new 1020 from Seed Research of Oregon. We mine our own sand and gravel. We manufacture top dressing and our own bunker sand... the things that other people have to go out and buy on the open market," Bridle said.

Yet McNeill doesn't intend to touch that part of construction. "If we did," he said, "I feel we couldn't zero in on the growing media for the turf."

"Plus, if I jump into that business I'm competing with the people who are giving us the work."

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Blenders making crucial difference in greens

Continued from page 29

"Contractors are more quality-conscious than they were before... Plus, players are more demanding, there's a lot more traffic, and members want shorter grass and firmer greens" — so more perfect conditions are required.

"Everybody's looking for perfection," Fazio said. "If an owner doesn't get perfection, then he blames the contractor, who blames the architect for recommending the mix. It's a matter of who does not want to get sued..."

Faulks said that while most blending is done for the root-zone on greens, there have been more calls to mix for tees the last couple of years. "The sports turf field is also taking a harder look at blending now," she said.

When a golf course is under construction the architect has a soil laboratory test the sand and other material to be used in the root-zone mixture. The lab recommends the mix — say, eight parts sand to two parts sphagnum/peat moss.

Fazio recalls when he worked with his uncle George and the firm bought the first four Royer shredders built by The Toro Co. in the early 1960s, then



A blender sends a predetermined mix into a stockpile

Photo courtesy of Greensmix

used them to mix soil.

"Using a front-end loader, we would pre-mix the soil — sand, peat moss and topsoil. We pre-mixed it in a front-end loader to the lab's specs, and would actually pick the soil up and roll it around three or four times before we would put it in the shredder. Then it would come out as uniform as you could ever get it —

in those days."

"It is humanly impossible to blend every day in exactly the same way with a front-end loader," Faulks said, adding, "When the contractor is done, you've got 18 greens that could be totally different in physical characteristics — standing water in one, percing like a sieve in another. So the owner spends more for

maintenance than if he had had it done properly in the first place.

"With our equipment, we guarantee the accuracy of a blend at plus or minus 1 percent. That takes the liability right off the contractor and puts it with the professional that's in the business."

"We built some great golf courses (Jupiter Hills and Hawk's Nest)

where we used pure sugar sand — no drain tile, no stone — because the nature of the sand didn't need it," Fazio said. "On some of those greens we never put peat moss on... The USGA (U.S. Golf Association) has built greens out of pure sand. We've built greens just using sand with peat on top.

"But if they're going to mix sand and peat 12 inches all the way through the mix, then I would say it is absolutely necessary to use a blender... to get a uniform grade."

Fazio said a builder must recommend USGA specifications to a client as the client's first choice. In his case, 70 to 75 percent of the owners decide to use a blender.

The blending companies send their crews, with equipment and mobile homes sometimes, across the country, some following golf course builders from job to job.

In fact, McNeill's equipment even includes percolation testing gear so that his crews can test the mix every 15 minutes to an accuracy "within one to four percent of the labs."

An 18-hole course normally uses 7,000 to 10,000 tons of materials, which takes four to five days to blend, Faulks said.

Dakota Peat defies the odds, scientists testify

By Mark Leslie

While soil blenders are normally crucial to successful golf course greens construction, spokesmen for university athletic departments, football teams and racetracks agree at least one peat on the market needs no blender.

They say Dakota Peat is so fine and mixes so well with sand that it can be blended by front-end loader with the same accuracy as a mechanical blender.

Mike Powell, construction administrator for the University of Florida at Gainesville, hired a blender to mix Dakota Peat for the new Ben Hill Griffin Stadium. When the university builds its 2-1/2 new practice fields, Powell will most likely bucket-mix Dakota and sand, he said.

"K.W. Brown (laboratory) and Powell (Gaines at Tifton Laboratories) were enthusiastic in recommending Dakota Peat as a superior product. My paid agronomist and two volunteer agronomists agreed it was the one to use," Powell said.

Since the Griffin Stadium field was built, the mix has lived up to expectations.

Louisiana State University and Mississippi State University representatives "were amazed at the condition of the field" when they visited it after three successive home games, Powell said. "It was worn but not destroyed."

Ross Kurcab, turf manager at the Denver Broncos training facility which used Dakota Peat for its two full-size and one half-size workout

field, said a few months after construction: "We have 10 inches of roots already, which is amazing. And it has held water way better than I thought it would. It mixed beautifully. It rates out at 97 percent organic.

"We did exhaustive research. Everyone I talked to that used reed-

sedge just love it."

At Santa Anita racetrack in Los Angeles, rebuilt with Dakota Peat, five speed records were broken in the first 30 days.

Soil scientist Chuck Dixon, formerly with K.W. Brown and now at International Sports Turf Research Center, Inc. in Olathe, Kansas, said:

"Dakota Peat is really different from other reed-sedge peats. A lot are really muck... I have not seen anything that compares with Dakota Peat.

"The only thing close to Dakota's carbon-to-nitrogen ratio is city sludge, but that is loaded with heavy metals or ash. Every bag of Dakota

I've gotten has been clean as a whistle. I haven't seen any that blend as well."

Dixon said a "hidden difference" with Dakota is the resulting depth of root systems and the economy of the greens built with it. He said: "Santa Anita had nine-inch root

Continued on page 36

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Dakota Peat

Continued from page 35

growth after eight weeks... And it is really good in low water-use areas because it holds moisture so well.

"Their maintenance costs are one-tenth what they used to be."

Dixon performed extensive tests comparing North Dakota reed-sedge peat with a Canadian sphagnum peat, a rice-hull compost and a fir bark product from California — all of which are frequently submitted to soil labs for evaluation.

He said reed-sedge peat had the only carbon-to-nitrogen (C:N) ratio (23:1, dry weight basis) that would not tie up nitrogen.

"It was the most decomposed

and also had the highest cation exchange capacity and humic acid content," he said, adding the ratios were 65:1 for Canadian sphagnum, 80:1 for rice hulls and 100:1 for fir bark.

"Dakota really falls in with 'peat humus' rather than 'reed-sedge,'" Dixon said.

Dixon found that "all the mixes met the USGA (U.S. Golf Association) criteria for water holding and decreased bulk density. Based on the C:N ratio and total carbon content, the rice hull compost does not fit USGA criteria. The fir bark product contains a better total carbon content but has a high C:N ratio.

"The lowest infiltration rate, still

almost 20 inches per hour, was a 10-percent reed-sedge peat and 90-percent sand. It is interesting to note this mix had a better infiltration rate and water-holding capacity at a 10-percent volume than the other amendments at a 20-percent volume."

Tom Briddle, director of marketing for Tectonic, Inc., of Denver, has used the Dakota reed-sedge since he ran a test on it five years ago and "was amazed at the results."

He said, "The greens we have built with the reed-sedge peat are far superior to any of the greens we did with the others."

Briddle described Dakota as an

older peat that is further decomposed, "and it mixes to the consistency that every single grain of sand has a little grain of peat clinging to it. We run it through a mechanical mixer and I would categorize that 100 percent of our sand has a little grain of peat clinging to it... The closest you could come is with an amalgamated mix of sphagnum, which runs 60-40.

He said soil laboratories that have received samples of Dakota have sometimes claimed the bag was hand-mixed.

"We did the Denver Broncos training facility, which consisted of 15,000 cubic yards of root-zone mix, and we were within plus-or-minus 1

percent throughout the entire project. There's not a soul in the sand business in the entire U.S. that can do that," Briddle said.

"We have a bentgrass nursery. The guy from USGA looked at my turf and wanted to know where I got it. He didn't believe it was reed-sedge."

Briddle estimated the cost of peat for a normal 18-hole course between \$25,000 and \$50,000.

"The cost involved in a new golf course in building new greens — one with inferior peat and one with top-grade peat — is almost equal. It doesn't cost that much more to do a top-notch one. But it costs 10 times more to redo them," he said.

With others in the industry raving about his product, Mike Pierce is a happy man.

The president of Pioneer Peat of Mesa, Ariz., and Grand Forks, N.D., which produces Dakota Peat, Pierce agreed he is blessed to have a unique deposit of peat in North Dakota that is unlike any other, except one in Russia.

He added that his material's success is also partly due to his processing, which has also been cited with outputting a "clean" product minus twigs and other debris.

Pioneer unveiling three blenders

Pioneer Peat, Inc. President Mike Pierce has announced that his company is manufacturing two models of compact soil blenders, and is designing a third, that will sell for a fraction of the cost of others on the market and make it possible for golf courses and other facilities to buy their own machines.

"These will make blending more affordable," Dixon said. "They are designed for any contractor or sand company that needs to blend. And the baby blender that we're working on, which we hope to have at the (GCSAA) Las Vegas show, will be sized and priced so every golf course or sports turf facility can have its own, just like mowers."

The larger models are the two-hopper "Dakota 2200" and three-hopper "Dakota 3200."

Pierce said 90 percent of all mixing jobs use one type of sand and one other material. The 2200 model — measuring 8-1/2 feet wide by 20 feet long and 10 feet high and selling in the \$33,000 range — has two hoppers and its own stacker. It can be hauled behind a pickup truck and is powered from a tractor's PTO.

The 3200, measuring 17 feet long, has three hoppers and its own payloader. It can be hauled with a trailer and is powered by a truck's hydraulic unit.

The 1200 "baby" will probably measure around eight feet long by five feet wide and high and cost around \$8,000, Pierce said.

Pierce, whose firm has headquarters in Grand Forks, N.D., and Mesa, Ariz., said the biggest complaint he hears is that "certain golf courses want a mix (of sand and peat) that's not available in their area. With their own blender, they can buy small portions of the materials they want when they're available and do the blending themselves."

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GOLF COURSE NEWS



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see details inside...

Companies from all facets of golf

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Advertisers in this issue of *Golf Course News* are those listed in color.

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	3933
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	3350
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Airlake Aeration, Inc.	3546
	3548
Alamo Group	2467
Albright Seed Company	2653
All West Golf Services	211
Alprene/Iowa Exp. Import	3145
American Colloid Co.	3937
American Cyanamid Co.	2451
	2453
	2455
American Eagle Golf Prod.	3035
American Golf	1122
American Honda Motor	2519
American Irrigation	
Repair and Supply	807
American Monarch	2600
	2602
ASGCA	2142
Ametek/Plymouth Prod.	2416
Amiad U.S.A.	3149
	3151
AMPEL	812
Andersons, The	824
	826
Applewood Seed	1535
Applied Biochemists	827
Applied Engineering Prod.	2948
Aqua-Aid Inc	706
Aqua-Turf	2851
Aquamaster	3721
	3723
Aquashade	3614
Aquatrols Corp. of America	2808
	2810
Arbor Grove	3549
Arborguard Industries	1734
Arco Parts	2407
Arizona Turf Products Co.	1832
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B & W Sales/Trebor	2608
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B.I.G.G.A.	1717

BASF Corp.	1640
	1642
BIOSYS	1340
	1342
Ball-O-Matic	934
	936
Bamert Seed Co.	938
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Barebo, Inc.	2535
	837
	839
	841
	843*
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Bay Bronze Industries	
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	1733
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	3720
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	1244
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Bench Craft Co.	3250
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	2405
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Better Golf, Inc.	2232
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	2336
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	1436
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	2729
Boething Treeland Farms	3920
	3922
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	2856
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Brooks Products	2527
	2529
Brouseard-Carney	
Rice Hull Organice	2378
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Brownline Pipe Company	803
Broyhill Co.	1222
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Bunton	849
	1752
Burco Industries, Inc.	1743
	1745
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Cal Olson - Architecture	2743
	2745
Canaan Industries	3921
	3923
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Carney Companies, Inc.	2482
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Carsonite International*	818
Cart-Parts	2415
Cedar Chemical	1646
Cedar Forest Products Co.	1544
CelPril Industries	3620
Century Products	801
Chem-Pro Precision	
Spray Systems	2853
Ciba-Geigy	656

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	2834
	2836
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CoRoN	404
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	2826
	2828
Conwed Fibers	1840
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	1536
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	3822
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	2483
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	825
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Ditch Witch	2234
Dol Brothers Ltd./	
Anderson Agencies	3646
	3648
Douglas Products	406
DowElanco	259
Duerr	3357
DuPont	2420
Dura Plastic Prod.	3621
	3623
Dye Designs	2551
	2553
E-Z-Go Division of Textron	631
E.F. Burlingham/	
Farmers Marketing Corp.	1038
	1040
	1042
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	2358
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Excel Brush Works	902
	904
Excel Industries	648
Exide Corporation	829
	831
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Fairway Designs of Fla.	3547
Fairway Products	2848
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	3454
	3447
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	908
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	1334
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	2437
	2439
	2441
	2443
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	3248
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	621
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	1548
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	2332
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	2735
	2737
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	3453
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	2752
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Grazer Division of M & W Gear	3915
Company	3917
Great Salt Lake Minerals	
& Chem	2354

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Greensmix	3153
	3157
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	2725
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	1635
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Hyundai Precision & Ind.	201
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I. S. I./Terra-Sorb	304
ICI Americas	713
	715
ISK Biotech Corporation	412
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	1447
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	1248
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	2402
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	3537
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	2630			R.W. Klusmeier	3252		2412	United Stockmen	1331
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Lasco	3152		2822	Rain Bird Sales, Inc.	2801	Spyker Spreader Works	2850	Vandermolen Corp.	1406
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Leisure Time Associates	3653	Oregon Fine Fescue Comm.	712	Recreation Resources	2035	Stenten's Golf Cart Access.	2847	Vicon	3632
Lely Corporation	2601	Oregon Ryegrass/		Reemay	2136		2849		3634
Leonard Technologies	2649	Highland Bentgrass	2429	Regal Chemical	2324	Stihl Power Tools	3819		3636
Lesco	2300		2431		2326		3821	Vigoro Industries	1028
	2301	Oregon Tall Fescue Comm.	3722		2328		3823		1030
Lester Electrical	3507	PBI-Gordon Corporation	3135	Regency Wire & Cable	3644	Stockhausen, Inc.	3650		1032
Living Waters	2947	PGA of America	2242	Reliable Racing Supply	2404		3652	Wallah Fairway Markers	1845
	2949	Pacific Coast Nursery, Inc.	2604			Summit Supplies	2646	Warrens Turf Nursery	310
Lofts Seed	1422	Pacific Sod	3831	Repower Specialists	2427	Superior Controls	822		312
Lombardini USA	305	Page-Com	2473		2475	Supreme Mowing	3231		314
	307		2475	Rhone Poulenc	830	Sure-Flo Fittings	1254	Water Hog	2513
Lubin Fertilizer & Equipment Corp.		Palmetto Turf Farm	928	Richway Industries	714	Surefoot Texturing Co.	2852	Water Utilities Services	308
3245		Par Aide Products	2701	Rico Mfg. & Supplies	1728	Sustane	1333	Watertronics Pumping Sys.	2641
Lundin & Co.	2946	Parker Sweeper	1713	Ringer	1522		1335	Weather-Tec Corp.	2401
M-B Company of Wis.n	3919		1715	Riverdale Chemical	601	SynTenniCo Inc.	2547	West Coast Greens	924
		Parkway Research	2380		603		2549	West Coast Turf	2406
Maibo	2755	Patterson Fan Co.	3927	Robert Brow Marketing	1936	SyncroFlo	1322	Western Golf Car Mfg.	2941
Maletti Macchine			3929	Roberts Seed	2650	T. Christy Enterprises	3244	Western Pumping Systems	2619
Agricole Spa.	800	Peco	2421	Rockwell Consolidated Ind.	2950	T.A.T. Golf Signs & Supply	3247	Western Sod	2508
Manhattan Ryegrass Growers			2423	Rohm and Haas Co.	1540	Target Products	2652	Western Wood Structures	209
Assoc.	727	Peabody Engineering & Supply Inc.	2425	Roots	1842	Tee-2-Green	718	Weyerhaeuser Silva-Fiber	1130
Manhire Ball Barrier Netting	3736	2951		Roseman Mfg.	326		720		1132
Markers	3344	Pelican Marine Ent.	3830	Ruffin	2457	Teemaster Golf Signs	1124	Wheel Spray	274
Martin Wheel	1034	Pennington Enterprises	2034	SGD Company	1940	Terra International	3726	Wilbur-Ellis	809
	1036		2036		1942	Terracare Products Co.	1345		811
Master Distributors, Inc.	3553	Pepco	3349	SISIS Equipment	109		1347		813
	3557	Perfect Picker	820		111	Teufel/Leahy	2152	Wilco Distributors	2382
Master of the Links	3622	Perma-Sign by Ocala Marble &		Safety Equipment & Supply	2037	Tex-Net	910	Wilkins Regulator Div., Zurn Ind.	2141
	3624	Granite	3448	Safety Storage, Inc.	1837	Textron Financial Corp.	624	Willamette Seed	2040
Matco Products	2530	Pickseed West	609	Salsco	2841	Thompson Mfg.	3641		2042
McCumber Golf, Inc.	2531		611	Sandoz Crop Protection	2456	Tifton Turf Farms	2606	Winrock Grass Farm	2469
Medalist Rein Leitzke	1432		613	Sartec Corporation	1953	Toro Co., Comm'l Products	3001	Wisconsin Box Co.	3449
Melex USA, Inc.	2424		615	Sauer-Sundstrand Co.	2526	Toro Co., Irrigation Div.	3101	Wittek Golf Supply	1230
Michigan Peat	1930	Pierce Corp.	3635		2528	Trans Pacific		Wood Bay Consulting Group	3353
Micro-Trak Systems	1830		3637	Saxon	1114	Golf Course Construction	2749	Yamaha Motor, U.S.A.	1412
Milliken Chemicals	2461	Pioneer Peat	1941		1116	TransAmerican Soil Bl'ers	381	Yanmar Diesel Engine	3515
Milorganite	1402		1943	Scepter Mfg.	2552	Trojan Battery	2374		3517
	1404		1945	Schendel Tire Services	2525		2376	Yardage Graphics	1934
Milona Turf Products	2520	Plant Bioregulator Tech.	2648	Schipper Bulb	1233	Truax Company	2536	Yardney Water Mgmt. Sys.	2846
	2522			Seed Research of Oregon	313			Yeager-Twose Equipment	1140
	2524				315			Zajac Performance Seeds	2422
Mitsubishi	1622								

Monday to Friday, Feb. 4-8

MONDAY AND TUESDAY FEB. 4 AND 5

GCSAA Golf Championship in Scottsdale, Ariz., at the Palm and Pine courses at McCormick Ranch Golf Club; Stonecreek, The Golf Club; Orange Tree Golf Resort; and Papago Golf Course.

TUESDAY FEB. 5 (RIVIERA)

8 A.M. - 5 P.M.
 • Developing your hazard communication program
 • Safe pesticide management
 • USGA golf course rating system

TUESDAY AND WEDNESDAY FEB. 5 AND 6 (R)

8 A.M. - 5 P.M.
 Two-Day Seminars Continue
 One-Day Seminars
 • Basic principles of turfgrass

management
 • Basic turfgrass botany and physiology
 • Golf car fleet operations
 • Golf course construction techniques and management
 • Integrated pest management
 • Introduction to soil science
 • Irrigation I: system component technology
 • Landscape design and plant materials
 • Weed control

WEDNESDAY FEB. 6 (R)

8 A.M. - 5 P.M.
 Budgeting and forecasting
 Effective business writing
 Maximizing job satisfaction

THURSDAY FEB. 7 (R)

8 A.M. - 5 P.M.
 Calculations and practical math-

ematics in golf course management
 Cardiopulmonary resuscitation
 Financial management
 Negotiating
 Preparing your golf course for a major tournament
 Underground storage tank selection and installation
 USGA intermediate rules of golf
 Water quality and irrigation scheduling

THURSDAY AND FRIDAY FEB. 7 AND 8

8 A.M. - 5 P.M.
 Business communication and assertiveness techniques (Flamingo)
 Disease identification and control (R)
 Environmental considerations in golf course management (F)
 Golf course design principles (F)
 Golf course restoration, renovation and construction projects (R)

Insect pests on golf course trees (F)
 Introduction to surveying (R)
 Irrigation: system design operations and management (R)
 Managerial productivity (R)
 Plant nutrition and fertilizers (F)
 Protection of water resources (F)
 Public relations and public speaking (F)
 Turfgrass insects: basic and advanced principles (R)
 Turfgrass identification and utilization (F)
 Union labor relations/NLRB regulations (F)

FRIDAY FEB. 8

8 A.M. - 5 P.M.
 Two-Day Seminars Continue
 One-Day Seminars (R)
 Certification exam study guide-

lines
 Golf course safety, security and risk management
 Scouting, sampling and monitoring golf course pests
 5:15 - 8 P.M. — Opening Session and Reception at the Riviera Hotel. Mark H. McCormack, author of the best-seller "What They Don't Teach You at Harvard Business School" and manager of professional golfers, will deliver the keynote address.
 Music and dancing will follow his talk.



M. McCormack

Saturday and Sunday, Feb. 9-10

SATURDAY FEB. 9

8:30 a.m. - Noon — Concurrent Educational Sessions (20 minutes per topic):
 • Golf Course Management Techniques — Part I, chaired by Dave Heegard of O.M. Scott & Sons: You are only as good as your interpreter; Tees and me; Bunker renovation or course remodeling; Development of a driving range; Management skills that lead to success; Building a jewel in the desert; Creation of "the mirage" landscape; Water injection research; The ins and outs of deep aeration; Golf course management in the Southern Hemisphere.
 • Managing Today's Environment — Chaired by Dave Fearis of Blue Hills Country Club in Kansas City:

Managing today's environment: An overview; Water quality, media relations and the Cape Cod Study; Don't bag it; Golf course composting operation; Wetlands: Considerations in the construction and management of new golf courses; Crisis communication: Dealing with your members and the media; Low chemical landscape management; Herbicide mobility in turfgrass; The facts: Vermont model regulations for golf course management plans.
 • Southern Turfgrass Management — Chaired by Gary Bennett of Crickentree Country Club in Columbia, S.C.: Developing improved Bermudagrass and centipede grass; Developing the optimum cultivation program; Color retention in warm-season grasses; Trends for potassium use on

bermudagrass; Managing turf to maximize cold tolerance; Bermuda encroachment into bentgrass greens; Turf management on the slope and in the shade; Modified USGA greens: Why they're not worth it; Hydrosprigging techniques; Manage job stress: Trade frustration for results.
 • Golf Course Management Techniques — Part II, chaired by Harold J. Loke of Quail Hollow Inn and Golf Course in Mentor, Ohio: Water-hogging turf: Fact or fancy; Turf growth regulators for poa annua; Rolling turf: Effects on soils; Varieties for converting fairways to bentgrass; Subsurface application of pesticides and biological controls; Leaching of organics: Fertilizers and pesticides; Animal pest problems and recommended controls; Mi-

crobiology of minor root pathogens and nonpathogens in high-sand content greens; The right plant for the right location; New concepts on tree planting
 • Legal Questions and Concerns — Chaired by Dave Nielsen of Ohio State University: Legal questions about job contracts; Wrongful termination: avoiding a lawsuit; Using retired folks for labor; State politics made easy; The liabilities of owning and operating a golf course; Liability for chemical damage; Tree hazards and professional liability; Educating club officials on regulations and liabilities.
 • Water Issues — Chaired by James R. Watson of The Toro Co.: Golf course irrigation the 1990s; Flood management; Effluent irrigation of turfgrass; Surviving the Cali-

fornia drought; Building a water coalition; How to handle your friendly local regulator; Landscape water audits: Helping good water managers become better; Developing a plan to reduce water usage; Methods for complying with water allotments; "Water, water everywhere and not a drop ..."
 11 A.M. — Luncheon for certified superintendents.
**SUNDAY
FEB. 10**
 7 A.M. — Prayer breakfast with Dr. Houston Couch speaking.
 9 A.M. — The CGCS examination will be given at 9 a.m. Sunday.
 9 A.M. - 5 P.M. — Trade Show open in the Las Vegas Convention Center.
 Noon — Luncheon for voting delegates and/or alternates.

Monday and Tuesday, Feb. 11 and 12

MONDAY FEB. 11

9 A.M. — Motivational speaker Richard Ruhe presents the renowned training program, "The One Minute Manager," an in-depth analysis of practical managerial skills, at the Convention Center.



R. Ruhe

9 A.M. — The Golf Course Builders of America meets at the Convention Center. "Building Today for the Future" is the theme.
 9 A.M. - 5 P.M. — Trade Show open in the Las Vegas Convention Center.
 1 P.M. — Duane E. Patton, superintendent at Lawrence, Kansas,

Country Club, is the facilitator for a computer special interest group meeting at the Convention Center. Superintendents can share the latest computer methods, ideas and software.
 1 P.M. — Donald E. Hearn, superintendent at Weston Golf Course in Chelmsford, Mass., will chair a symposium on underground storage tanks at the Convention Center.
 Panelists include Robert G. Klitz, superintendent at Inverrary Country Club in Coral Springs, Fla.; Dr. Ed Kettenbrink of Advanced Environmental Specialists; Robert Yoos of Franklin Associates, Lee Daniels of EPA Region VII; and Rick Shanks of Jardine Insurance Brokers. 1 - 4 P.M. — "Can We Co-exist with the Environment?" is the question members of the American Society of Golf Course Architects will explore at 1 p.m. Monday at the Convention Center.

Dan Maples of Pinehurst, N.C., ASGCA president, will introduce these speakers and their subjects: Brian M. Silva of Whitinsville, Mass., "Overview of the current environmental situation"; Roger Rulewich of Montclair, N.J., "Planning — The vital first step on an environmentally sensitive site"; J. Michael Poellot of Saratoga, Calif., "United States sets standards for design considerations worldwide"; John LaFoy of Taylors, S.C., "Remodeling — What environmentalists see in a project"; and Tom Fazio of Jupiter, Fla., "Case history of a 'mega' project."

TUESDAY FEB. 12

8 - 11:45 A.M. — The U.S. Golf Association's Green Section program will address "Environmental Opportunities in the 1990s" at the Convention Center.
 Raymond B. Anderson, Green Section committee chairman and

USGA Executive Committee member, will welcome attendees.
 • Regional directors speaking on the "Best Turf Tips" from the Green Section staff will be Larry Gilhuly, Western; John Foy, of Florida, and Dave Oatis, Northeastern.
 • Looking at the environment from three angles will be Richard Klein, president of Environmental Defense Associates; Rees Jones, Montclair, N.J., golf course architect; and James T. Snow, national director, USGA Green Section.
 • George Thompson, superintendent at Country Club of North Carolina, Pinehurst, will speak on Canada geese — waterfowl or just plain foul?
 • Providing more "Top Turf Tips" from the Green Section staff will be region directors Jim Latham, Great Lakes, and Jim Moore, Mid-Continent, and region agronomists Jim Skorulski, Northeastern, and Tim

Moraghan, Championships.
 • Gerald L. Faubel, GCSAA president and superintendent at Saginaw, Mich., Country Club, will discuss responsible stewards of the land — an opportunity, and Steve Wynn, board chairman of the Mirage Hotel, Las Vegas, will outline the story of Shadow Creek CC, Las Vegas.
 • Green Section region directors Pat O'Brien, Southeastern, and Jim Connolly, Northeastern, will provide more "Top Turf Tips," as will region agronomists Paul Vermeulen, Western, and Jim Connolly, Northeastern.
 9 A.M. - 1 P.M. — Trade Show open in the Las Vegas Convention Center.
 7 P.M. - Midnight — The Banquet and Show at the Riviera Hotel will close out the conference with awards, dancing and entertainment with singer Neil Sedaka.

GCSAA honoring industry's best at banquet

Old Tom Morris, Distinguished Service and Leo Feser awards being presented at international conference

LAS VEGAS, Nev. - When an expected 16,000 or more people from all segments of the golf industry gather here Feb. 5-12, the host Golf Course Superintendents Association of America will bestow its annual honors for accomplishment to a wide range of experts who have helped the game of golf and the science of course maintenance.

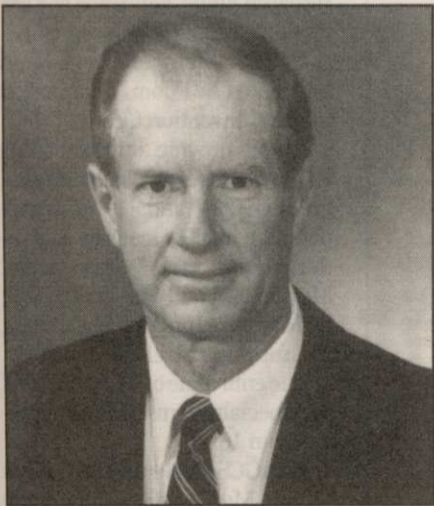
At its closing Tuesday (Feb. 12) evening banquet and show the 9,000-member organization will cite William C. Campbell of Huntington, W.Va., as winner of the Old Tom Morris Award, following the like of superintendent Sherwood Moore, professional golfer Chi Chi Rodriguez, and famed golf course architect Robert Trent Jones Sr.

Campbell is past president of the United States Golf Association and served as captain of the Royal and Ancient Golf Club of St. Andrews, Scotland. He is the only American to have held both the presidency of the USGA and the captaincy of the R&A.

Campbell has long championed the superintendents' position in golf for maintaining "the stage on which the game is played."

"No one has given more to the game than

Campbell newest Morris honoree



William C. Campbell

Past winners of the GCSAA's Old Tom Morris Award are:

- 1991 — William C. Campbell
- 1990 — Sherwood Moore
- 1989 — Chi Chi Rodriguez
- 1988 — Gene Sarazen
- 1987 — Robert Trent Jones Sr.
- 1986 — Patty Berg
- 1985 — Gerald Ford
- 1984 — Bob Hope
- 1983 — Arnold Palmer

Schinderle's article best in 1990

Former Leo Feser Award winners are:

- 1990 — Gary Schinderle
- 1989 — Ted Horton and Mary Medonis
- 1988 — Sherwood Moore
- 1987 — David E. Hassel
- 1986 — David C. Harmon
- 1985 — Theodore W. Woehrle
- 1984 — Jerry W. Redden
- 1983 — Gordon C. Witteveen
- 1982 — Louis E. Miller
- 1981 — Paul N. Voykin
- 1980 — Donald J. Pakkala
- 1979 — Oliver Miles
- 1978 — Dan Jones
- 1977 — James M. Hildebrand
- 1956 — Tom Dawson Jr.

Mr. Campbell," said outgoing GCSAA President Gerald Faubel. Faubel said that as USGA president from 1982-84 Campbell strived to tighten the bonds between the USGA and GCSAA.

The GCSAA will also present its Distinguished Service Award to three men in the industry. University of Rhode Island plant pathologist Dr. Noel Jackson, The Lawn Institute Executive Director Dr. Eliot C. Roberts of Pleasant Hill, Tenn., and long-time golf course architect W. Bruce Matthews of Grand Haven, Mich., will receive the honor.

Jackson has taught and done research in turfgrass at URI since 1965. Roberts founded The Lawn Institute in 1962, keeping track of

and publishing findings of research in the field.

Matthews founded the firm which now includes three generations of members of the American Society of Golf Course Architects. Son Jerry Matthews and grandson W. Bruce Matthews III also belong to the elite ASGCA.

Meanwhile, the annual Leo Feser Award, presented for the best article written by a GCSA-member superintendent and published in *Golf Course Management* magazine, will be presented Friday, Feb. 8.

Stephen Cadenelli, superintendent at The Metedeconk National Golf Club in Jackson, N.J., is succeeding Faubel as GCSAA presi-

dent.

Elections for other offices will take place at the conference.

Vice presidential candidates are Randy Nichols of Cherokee Town and Country Club in Dunwoody, Ga., and current Secretary/Treasurer William R. Roberts of Lochmoor Club in Grosse Pointe Woods, Mich.

Three new board members will be elected. Candidates are Gary T. Grigg of Shadow Glen Golf Course in Olathe, Kansas, Charles T. Passios of Hyannisport Club in Hyannisport, Mass., Gary D. Sayre of Overlake Golf and Country Club in Medina, Wash., and Bruce R. Williams of Bob O'Link Golf Course in Highland Park, Ill.

Jackson, Matthews, Roberts chosen for lifetime contributions

Past winners of the GCSAA's Distinguished Service Award are:

- 1991 — Dr. Noel Jackson
W. Bruce Matthews
Dr. Eliot Roberts
- 1990 — William Bengueyfield
Dr. Thomas Watschke
- 1989 — James W. Brandt
Dr. C. Richard Skogley
- 1988 — Dr. Jack Butler
William B. Davis
Dr. Kenyon Payne
Eberhard Steiniger, CGCS
- 1987 — Dr. James R. Love
David S. Gourlay Sr.
- 1986 — Andrew Bertoni
John B. Steel
Howard Kaerwer
Chester Mendenhall
- 1985 — James L. Blackledge
William C. Campbell
Clifford A. Wagoner
- 1984 — Warren A. Bidwell
Keith Nisbet
- 1983 — James B. Moncrief
Dr. Joseph Troll
Dr. James R. Watson
- 1982 — Milton J. Bauman
Sherwood A. Moore
Alexander M. Radko
Ben O. Warren Jr.



W. Bruce Matthews

- 1981 — Geoffrey S. Cornish
Dr. Ralph Engel
Hans C. Schmiesser
- 1980 — Manuel L. Francis
Dr. John Madison
- 1979 — Dr. C. Reed Funk
- 1978 — Dr. Roy L. Goss
Dr. John C. Harper II
Arthur A. Snyder
- 1977 — Harold W. Stodola
Paul E. Weiss Sr.
Robert M. Williams

- 1976 — Dr. Joseph M. Duich
Leo J. Feser
Thomas C. Mascaro
- 1975 — Dr. William H. Daniel
Raymond H. Gerber
Dr. Fred Grau
- 1973 — Walter R. Boysen
- 1964 — Theodore W. Woehrle
- 1961 — Dr. Jesse H. DeFrance
Eugene Marzalf
James Smith
- 1960 — Joseph C. Dey Jr.
Helen F. Lengfield
Oyvind J. Noer
- 1959 — Dr. John Monteith
Oyvind J. Noer
Richard S. Tufts
- 1958 — Dr. Glenn Burton
Professor L.F. Dickinson
Malcolm R. McLaren
Professor H. Burton Musser
Joseph Valentine
- 1957 — Thomas Dawson Jr.
Herbert Graffis
- 1954 — Dr. Fred V. Grau
- 1952 — Oyvind J. Noer
- 1941 — Frank W. Ermer
William H. Johnson
- 1940 — Colonel John Morley
- 1935 — John MacGregor
- 1932 — Colonel John Morley

Steve Cadenelli takes over GCSAA reins from Gerald Faubel

Past presidents of GCSAA are:

- 1991 — Stephen Cadenelli
- 1990 — Gerald Faubel
- 1989 — Dennis Lyon
- 1988 — John A. Segui
- 1987 — Donald Hearn
- 1986 — Riley L. Stottern
- 1985 — Eugene D. Baston
- 1984 — James W. Timmerman
- 1983 — Robert W. Osterman
- 1982 — James A. Wyllie
- 1981 — Michael R. Bavier
- 1980 — Melvin B. Lucas Jr.
- 1979 — Charles H. Tadge
- 1978 — George W. Cleaver
- 1977 — Theodore W. Woehrle
- 1976 — Richard W. Malpass
- 1975 — Palmer Maples Jr.
- 1974 — Charles G. Baskin
- 1973 — Clifford A. Wagoner
- 1972 — Robert V. Mitchell
- 1971 — Richard C. Blake
- 1970 — Norman W. Kramer
- 1969 — John J. Spodnik
- 1968 — James W. Brandt



Stephen Cadenelli

- 1967 — Walter R. Boysen
- 1966 — Edward Roberts Jr.
- 1965 — L.R. Shields
- 1964 — David S. Moote
- 1963 — Roy W. Nelson
- 1962 — Sherwood A. Moore

- 1961 — L.E. Lambert
- 1960 — James E. Thomas
- 1959 — Elmer G. Border
- 1958 — Robert M. Williams
- 1957 — Paul E. Weiss Sr.
- 1956 — A. Ward Cornwell
- 1955 — William Beresford
- 1954 — Norman C. Johnson
- 1953 — Leonard J. Strong
- 1952 — Malcolm E. McLaren
- 1951 — William H. Johnson
- 1950 — Ray H. Gerber
- 1949 — Carl A. Bretzlaff
- 1948 — Chester Mendenhall
- 1946-47 — Marshall E. Farnham
- 1941-45 — Harold W. Stodola
- 1940 — John Gray
- 1939 — Frank W. Ermer
- 1938 — Joseph Ryan
- 1937 — John Quail
- 1936 — John Anderson
- 1935 — Fred A. Burkhardt
- 1934 — W.J. Sansom
- 1933 — John MacGregor
- 1926-32 — Colonel John Morley

'Green' education keys international conclave

LAS VEGAS — "Green Education" for golf course superintendents will be in the spotlight at the 62nd International Golf Course Conference and Show.

Thousands of superintendents and other turfgrass professionals will attend more than 40 educational sessions, many focused on sound environmental practices.

New this year is an in-depth Environmental Management Program (EMP) developed by the Golf Course Superintendents Association of America.

This will provide specialized instruction in six environmental areas: Integrated Plant Management; Underground Storage Tanks (USTs); Employee Safety and Right-To-Know; Water Quality and Application; Golf Course Development; and Storage, Disposal and Recycling.

Superintendents may earn "specialist" certificates in each area. To achieve such status, a superintendent must complete as many as seven courses designed specifically for a particular area.

Three EMP seminars — "Protection of Water Resources," "Scouting, Sampling and Monitoring Golf Course Pests" and "Underground Tank Selection and Installation" — will premiere.

The one and two-day seminars include:

- Developing Your Hazard Communication Program, Feb. 5
- Safe Pesticide Management, Feb. 5
- Water Quality and Irrigation Scheduling, Feb. 7
- Integrated Pest Management,

Feb. 5-6

- Protection of Water Resources, Feb. 7-8

- Environmental Considerations in Golf Course Management, Feb. 7-8

- Underground Storage Tank Selection and Installation, Feb. 7

- Scouting, Sampling and Monitoring Golf Course Pests, Feb. 8

Donald E. Hearn, GCSAA past president, will moderate a special UST symposium at 1 p.m. Monday, Feb. 11. The panel will feature Robert Klitz, superintendent at Inverrary Country

Club in Coral Springs, Fla.; Ed Kettenbrink, senior consultant at Advanced Environmental Specialists; Robert Yoos, environmental scientist at Franklin Associates; Lee Daniels, representative from EPA's Region VII; and Richard Shanks, president of Jardine Insurance Brokers in Kansas City.

The panel will discuss UST selection, installation, closure and monitoring. Information will be presented on legal requirements that affect an estimated 85 percent of all golf facilities.

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A seeded turf-type, lower-growing bermudagrass with the quality and uniformity of sod...
at a fraction of the cost



"The above soccer field in Kansas was seeded on July 1st, 1990, temperatures were in the 90s to the 100s...seed germinated with noticeable top growth in 5-7 days!"

"On September 25...temperatures down into the mid 30s...local common Bermuda is completely browned out and dormant...Cheyenne Bermuda...still green."

Cheyenne is the answer to areas where bermudas are winter-killed and cool grasses exhibit disease problems.

Cheyenne is significantly more compact, more dwarf-like and more cold tolerant than common bermudas or any other seeded Bermuda available. It is uniform in texture, dark green in color and offers rapid rhizome production.

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- Road Sides
- Parks
- Cemeteries
- Athletic Fields



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GCSAA presenting its many services

Information about the membership services offered by the Golf Course Superintendents Association of America will be available at GCSAA Member Services during the conference and show.

GCSAA headquarters staff members will be on hand to discuss membership matters and answer questions about member services, publications, government relations, public relations, scholarship and research funds, education and professional certification programs.

GCSAA Member Services will be located in Room 17 of the Las Vegas Convention Center.

It will provide information on employment referral and assistance; group health and life insurance; pollution liability insurance for underground fuel storage tanks; MasterCard and Visa credit cards; and discounts on car rentals, hotels, plus moving and relocation services.

The entire line of GCSAA apparel and specialty items will be available in Room 16.

Both GCSAA Member Services and GCSAA Merchandise will be open 10 a.m. to 5 p.m. on Distributor Day, Saturday, Feb. 9, as well as during regular GCSAA Trade Show hours—9 a.m. to 5 p.m. Sunday and Monday, Feb. 10-11, and 9 a.m. to 1 p.m. Tuesday, Feb. 12. Neither will require a trade show pass for admission.

A specially commissioned line of apparel featuring the "GCSAA Las Vegas" logo will be for sale at the Riviera Hotel, GCSAA's headquarters hotel even before the show opens. The "Las Vegas Logo Store" will be open 11 a.m. to 5 p.m. Friday, Feb. 8, and 7:30 a.m. to 5 p.m. Saturday, Feb. 9, in Room 2 of the Riviera.

After the store closes Saturday, any remaining commemorative merchandise will be moved to GCSAA Merchandise in Room 16 of the Las Vegas Convention Center.

Dr. Couch prayer breakfast speaker

Dr. Houston Couch of Virginia Polytechnical Institute and State University, will speak at the annual Prayer Breakfast at 7:30 a.m. Sunday.

The breakfast is being coordinated by Ben Staggs of Hog Neck Golf Course in Easton, Md.

Plenty of trips, shows planned for spouses

Wives of golf course superintendents will have rare time off from accustomed daily chores during the International Golf Course Conference and Show, but a variety of events should keep them entertained and bustling.

Choosing attractions could be challenging.

The round of activities starts at 10 a.m. Saturday, Feb. 9, with a filmed introduction to Las Vegas. Questions about dining, shopping and entertainment are welcomed.

The program at 10:45 a.m. has the intriguing title, "Peek Into the Life of a Las Vegas Showgirl." The transformation from serene to siren is demonstrated. This one-woman show reveals the secrets of one nocturnal star of the stage in a delightful presentation laced with comedy.

From 1:30 p.m. to 3 p.m. there is a choice of a guided bus tour of Las Vegas, or a seminar on gaming in Las Vegas. The latter session features the techniques and etiquette of gambling and is designed to eliminate the symptoms of "casino intimidation."

"Styles for Smiles" is the offering from 3 p.m. to 5 p.m. It's a new twist in fashion — dressing to create the illusion of a well-proportioned figure. A fashion consultant demonstrates the art of adapting styles to enhance individual body shapes.

Sunday morning choices are a seminar on basic principles of horticulture on the golf course (as they apply to turfgrass management), a bus tour through Red Rock Canyon, 20 miles from Las Vegas, and a bus tour of Hoover Dam.

Evolution of a 400-million-year-old sea bed highlights the Red Rock Canyon experience. The brilliantly-colored sandstone rock formations sculpted by water and wind decorate the desert magnificently.

Holding back the Colorado River to form Lake Mead, Hoover Dam is considered an engineering wonder, a project that lifted the spirits of a troubled land during the Great Depression. It's 25 miles from Las Vegas.

"Our Love Is Here to Stay; Marriages That Last" is a seminar from 1:30 p.m. to 5 p.m. that should entice many spouses. This marriage enrichment seminar will teach communication skills, problem solving and stress management to enhance personal relationships.

The afternoon option is bus transportation to the Fashion Show Mall on "The Strip."

Richard Ruhe will speak on the "One Minute Manager" from 9 a.m. to 11:30 a.m. Monday.

Trade Show activity is from 9 a.m. to 5 p.m., and a buffet brunch in the Spouse Activity Center from 11:30 a.m. to 1 p.m.

"A New You By Armando" will be the program lure from 1 p.m. to 2:30 p.m. Renowned cosmetologist Armando will discuss makeup, hair

care and styles, color coordination and skin care. Audience volunteers will be "made over" to demonstrate his skills.

"One Life To Live — So Get Out There And Live It," the program from 3 p.m. to 4:30 p.m., is a powerful presentation that will provide inspirational concepts and creative techniques. It's tailored to help realize personal strengths and use one's own natural resources.

U.S. supers profiled for Japanese

First-ever session being translated

LAS VEGAS — A profile of U.S. golf course superintendents for Japanese will highlight special educational and informational sessions at the 62nd International Golf Course Conference and Show here, Feb. 5-12.

For the first time ever, the host Golf Course Superintendents Association of America will present a special Japanese educational session in English that will be

simultaneously translated into Japanese.

The session will profile U.S. superintendents, give an overview of warm-season turfgrass disease control and introduce the GCSAA's benefits for potential Japanese members. A panel discussion will conclude the program.

The Japanese educational session, beginning at 1 p.m. Monday, Feb. 11, at the Las Vegas Convention Center, will be open to all GCSAA Conference and Show registrants.

Meanwhile, the conference will also be the site for the second annual International Golf/Turfgrass Round Table sponsored by GCSAA.

Leaders of golf course superintendents' and greenkeepers' associations in 18 countries have been invited to meet with GCSAA leaders to discuss common problems, opportunities and goals.

Last year, participants from GCSAA and national associations from 10 countries discussed the environmental challenges facing golf course managers.

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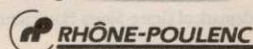
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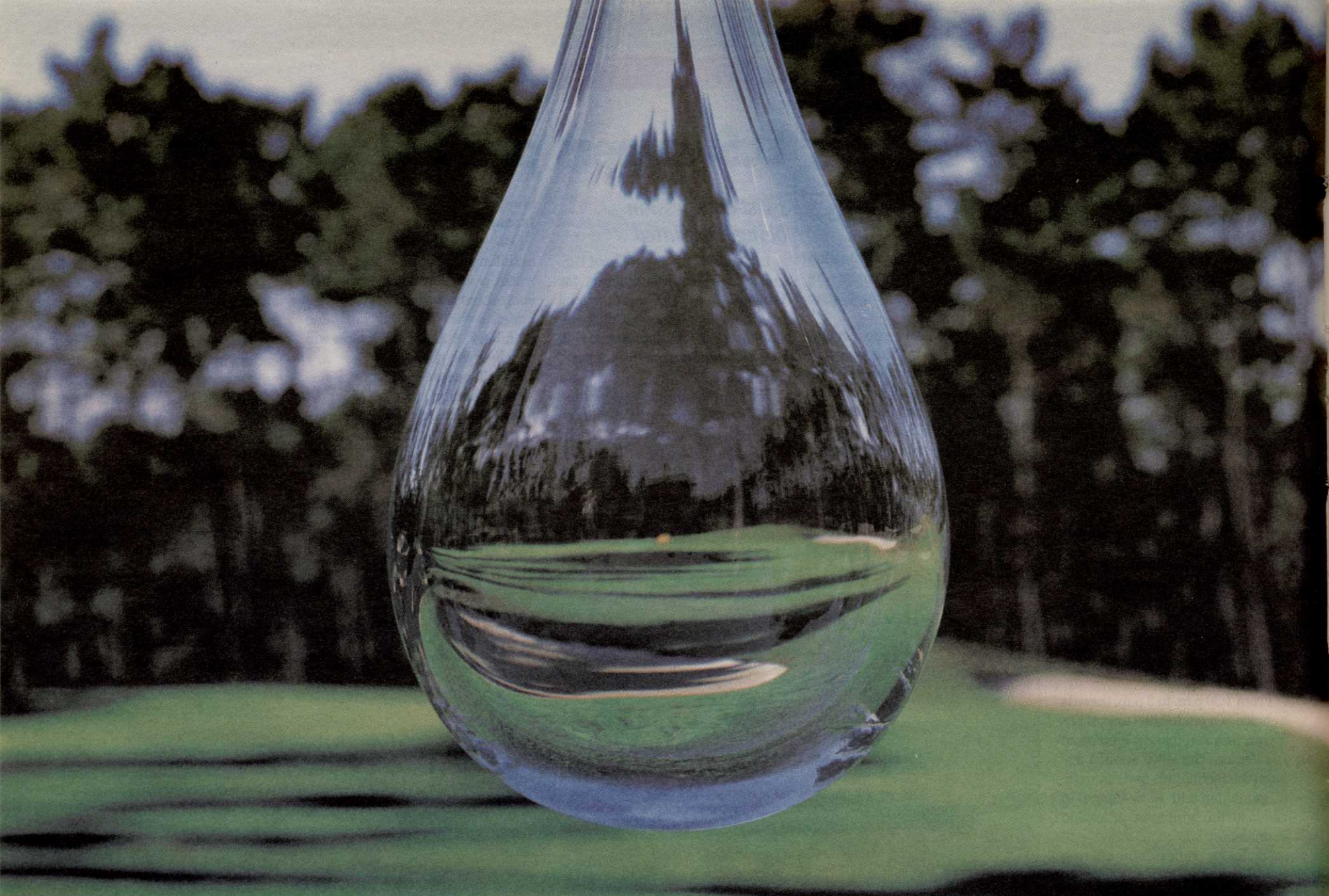


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Municipal courses proving profitable across U.S.

Continued from page 1

From 1983 to 1989, the number of municipal courses in the United States grew from 2,032 to 2,166 — an increase of 6.6 percent. Daily fee courses grew from 5,915 to 6,296, an increase of 6.4 percent, while private courses grew from 5,137 to 5,276, an increase of only 2.7 percent.

Palermo said 60 percent of golfers are public course players.

"Daily fee and municipal golf courses will never stop," said P.B. Dye, a West Palm Beach, Fla., architect involved with four municipal projects. "There are more people out there than there are golf courses."

"Golf is no longer the sport of the wealthy," said architect Rees Jones of Montclair, N.J., who is designing the Ladies Professional Golf Association's new municipal course in Daytona Beach, Fla. "It's the sport of everyone."

There's a growing demand for lower-level, lower-cost public courses," said Robert Muir Graves, a Walnut Creek, Calif.-based architect involved with four municipal courses. "We don't need higher-end courses. We need a good old-fashioned public course you can play for 10-15-20 bucks."

MONEY-MAKERS

Municipal courses can be money-making

machines "if they're properly run and maintained," Graves said. Revenues can be put back into the course, or returned to the local government's general fund.

Jones said "munis" probably produce the most revenue of any area. "Public golf is a definite profit center," he said.

"If you can offer a private country club atmosphere at a daily-fee price, you'll be successful," said Dye. "If you charge a high greens fee and the course is in poor condition, nobody wants to play it. A course can handle up to 100,000 rounds a year, but you have to put the money back into it. As soon as the condition of a golf course deteriorates,

everything goes downhill. Nobody wants to play a cornfield."

"In most cases, the towns and cities take a tremendous pride in the courses," said Geoffrey Cornish, an Amherst, Mass.-based architect who has designed 22 munis. "Years ago, you referred to the municipal course with disdain. Now, you try to give them country-club courses."

Graves feels munis should also present a country club-type atmosphere by offering such things as good practice facilities, a convenient clubhouse and plenty of parking.

Dye said there should be such extras as

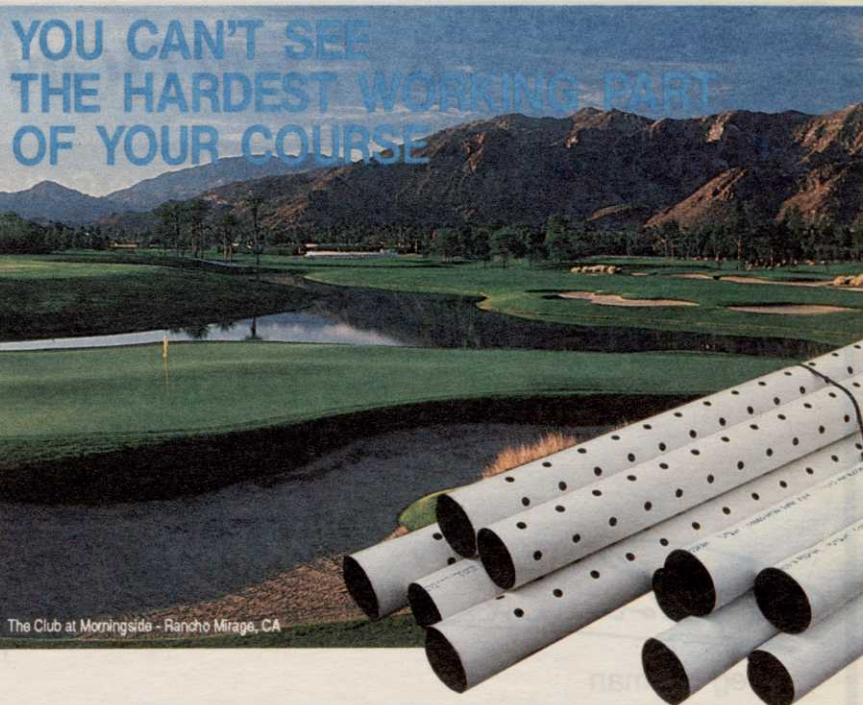
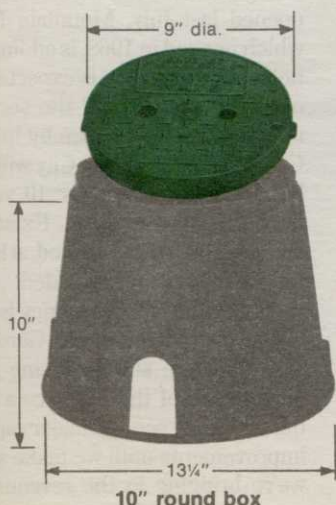
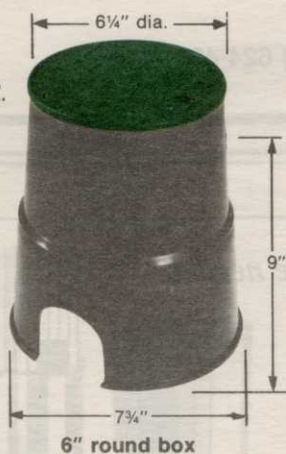
Continued on page 47

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Workers inspect a new green being built at the municipal Blue Hill Golf Course in Orangeburg, N.Y. Project architect Stephen Kay of Bronxville, N.Y., said communities are updating existing municipal courses to meet the needs for better quality, more play and safety.

Photo courtesy of Stephen Kay



Low supply, high demand ideal mix at Salt Lake City

By Bob Seligman

When officials of Salt Lake City, Utah, began planning to build the city's newest municipal golf courses — Winged Point and Mountain Dell — they were faced with a low-supply, high-demand situation.

Scott Gardner, the city's director of golf and recreation, said all four of the city's 18-hole municipal courses were doing more than 100,000 nine-hole rounds annually. The city's two nine-hole courses totaled 50,000 to 70,000 rounds a year. With a population of 165,000 in Salt Lake City, and 800,000 to 900,000 people within a 20-square-mile radius, there weren't enough golf holes.

"In Salt Lake City, you can hardly get a tee time," said Gardner. "Years ago, it pretty much slacked off after Labor Day. Now, people will play in November if there's no snow on the ground, no matter how cold it is. We just ran out of golf courses."

Gardner added that Winged Point also was built to improve the city's west side region, and to attract new businesses.

The new courses are being funded by municipal revenue bonds under the Municipal Building Authority of Salt Lake City, thereby keeping taxpayers from being responsible for payment of the bond. The debt payment is \$7.75 million over the next 10 years.

Despite the demand for public golf, Gardner doubts the courses would have been built if they were tax-supported.

Yet the public, or at least the golfing public, still is paying the way. To be eligible for the bonds, the municipality had to show that enough money was being generated by the existing "munis."

So, greens fees were raised two years ago by \$1 per nine holes.

"The greens fees are paying back the bond. If our revenue doesn't best our expenditures, we'll have to raise the greens fees," said Gardner. "We can not go after the renewal fund to bail us out if we don't make our payments."

Winged Point, an 18-hole course, opened last July. Mountain Dell, which opened in 1968, is adding 18 holes. The first nine is expected to open this spring, and the second nine is expected to open by July 1. Gardner said Salt Lake City will not build a new course for 10 years because of the debt. Existing courses also will be affected, at least for the time being, he added.

"Right now, all the money is going to pay off the debt," Gardner said. "We are still grooming and taking care of the other courses, but you won't see any major capital improvements until we make sure we're bringing in the revenue to pay off the debt."

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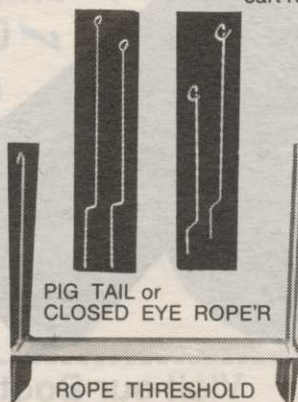
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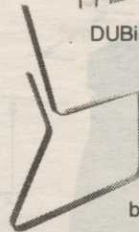


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Munis

Continued from page 45

caddies and shoe shine boys.

No matter what they offer, munis are not just a strong recreation lure for citizens within a community, but also for businesses looking to locate or relocate into an area.

Scott Gardner, director of golf and recreation for Salt Lake City, Utah, said Winged Point, a new muni, was built to attract business to the city's west side.

"With the rapid pace of the world today, people are counting on the green space for a leisurely stroll or a competitive game, and that's what golf does," said Gardner. "We are encouraging people to know that life is more than just a job."

Architect Patrick Wyss, of Rapid City, S. D., who has designed more than 20 munis, added: "Public golf is one of those images of quality of life for a community. Businesses that are looking to locate or relocate look for quality-of-life factors."

Cornish said the presence of a muni raises surrounding property values. Munis also are beneficial to the environment. As Jones said, they enhance a park with their beauty.

"Any golf course architect worth his salt wouldn't go into an area to destroy it and set up a monument to himself," said Graves. "You'll be very conscious of the environment that's there and use it to the best of your ability."

While munis generally are seen in a positive light, architects acknowledge there are several disadvantages. Wyss said someone who owns an existing private daily fee golf course in an area might be threatened by a new municipal course and be forced to reduce green fees.

Dye said munis suffer when operated by management teams that lack golfing backgrounds.

Yet the darkest cloud hovering over the building of new munis is apprehension caused by the economic recession. Even though Jones and Dye, among others, said the recession is not affecting their development of munis, Palermo said the current rate of growth is the result of planning and implementa-

tion that took place three to four years ago. He wouldn't predict what the future holds.

"Fiscal conservatism is ruling the decisions of local governments. Golf courses are not a high priority on the recreation or community needs," Palermo said. "It's not likely municipal courses will take precedence over other municipal improvements. To some degree it's a reflection (of tough economic times)."

FINANCING

To get funds to build municipal courses, communities are practicing what Dye termed "creative financing." Salt Lake City, for example, issued revenue bonds for its

two new munis, meaning bond holders are paid through money generated by the courses.

Graves called revenue bonds "the fairest way to proceed."

In other cases, a town will enter into a lease purchase agreement, where a company will build and finance a course and the municipality will repay the builder on an annual basis from the revenues generated. Payments must be made in order for the municipality to keep the course. The debt is incurred by the leaseholder, not the municipality.

General obligation bonds, another method of funding, put the onus of paying the bond on the taxpayer, regardless of revenues generated

by the course. However, taxing the public appears the least acceptable option.

"The problem is that municipal courses have several strikes against them," said Graves. "The idea is repugnant to some voters. In a typical community, only 10 to 20 percent of a population would play golf. Since the majority of a community doesn't play golf, they'll vote it down. The point is to let the revenues of the golf course pay for it."

"Municipalities provide good public facilities and charge rates that will cover the ongoing high quality of operation and maintenance," said Wyss. "Public golfers are willing to pay the costs of keeping the facility open to the pub-

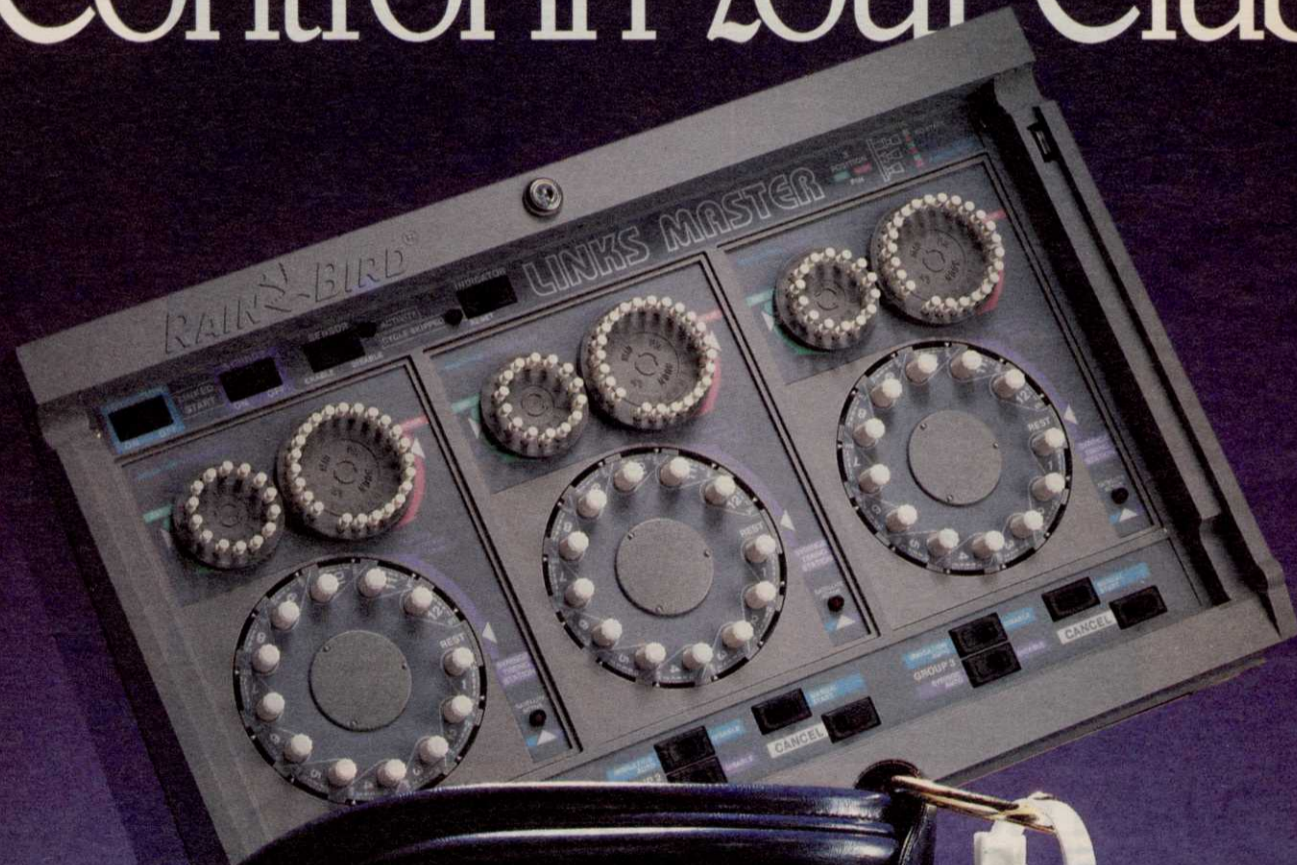
lic. The taxpayer is not inclined to subsidize the cost of the courses. The trend is toward golfer-supported courses."

As golf continues to grow, the supply of golfers will have to meet the demands players are creating. While Wyss admits there may be a slowdown in the next 12 months in the development of municipal courses, he speaks glowingly of the long-range future.

"The demand over the next 10 years will be tremendous," he said. "There's a need out there and we need to keep up with it by providing good public facilities."

Bob Seligman is a free-lance writer based in Pomona, N.Y.

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Profits push city to build second 9

SALEM, Mass. — Buoyed by a \$150,000 profit last year at Olde Salem Greens municipal golf course, Mayor Neil J. Harrington is pushing for a second nine holes and a clubhouse.

The new nine would cost \$1.1 million, the clubhouse \$400,000.

The golf course made \$70,000 more in 1990 than in 1989.

"Golf courses are environmentally sound and don't disturb the natural habitat," declared Harrington, who made the course expansion an issue in his successful mayoral campaign.

He plans to meet with environmental groups who have opposed course expansion into the city's last remaining tract of open land, and has met with course architect Philip A. Wogan of Topsfield, Mass.

Beard declares: Inform the misinformed

Continued from page 1

doesn't make sense. Unfortunately, they don't have the facts and the turf group does. A lot of the stuff they put in the newspaper is being proven incorrect and their credibility is going down the drain."

"It's important you speak out on behalf of the turfgrass industry and its contributions to counter some of the unfounded accusations and fantasies concerning turfgrass. If you people don't start doing it out in your own communities, I don't know who is."



If anything, it's man who wastes water. And that's where the solution is, not in cutting back on turf areas.'

— Dr. James Beard

FUNCTIONAL BENEFITS

Turf has many functional benefits in addition to being attractive, the college researcher said.

Among them are soil erosion control; dust stabilization; heat

dissipation; noise abatement; glare reduction; reduced runoff of precipitation; ground water discharge; entrapment and biodegradation of pesticides and other chemicals; atmospheric pollution control; con-

version of carbon dioxide emissions; safety in vehicle operation; facility security for military and other key installations; reduced fire hazards; reduction of noxious pests.

Turf opponents tend to focus on a single issue when they attack the grass industry rather than looking at the whole picture, Beard said.

Specifically, turf is the most inexpensive and durable ground cover available, Beard said. Recent Pennsylvania State University studies show lawns absorb rainfall six times better than a wheat field and

four times better than a hay field, being exceeded only by a virgin forest in its ability to trap water. A study of a 200-acre Eastern U.S. golf course showed it contributed more water to the water table than it extracted for irrigation.

Turf is especially valuable in urban areas as a filter for the chemicals and residues that wash off the streets and eventually into ground water. Turf also uses much less water than trees, shrubs or flowers.

"Where are the great grass lands of the world? They are located in the semi-arid climates. The extensive tree growth is in the higher rainfall areas. If anything, it's man who wastes water. And that's where the solution is, not in cutting back on turf areas," Beard said.

The overall temperature of urban areas is 10 to 12 degrees Fahrenheit warmer than surrounding rural areas. Grass, through the cooling process of evapotranspiration, helps dissipate the higher heat levels and cool urban areas. On a typical August day in College Station, Texas, irrigated turf temperature was 88 degrees, dry bare soil 102 degrees, unirrigated turf 126 degrees and artificial turf 158 degrees, he said.

"The value of evaporative cooling is very, very substantial. No other surface offers that type of capability. It's been calculated that a football field has the cooling capacity of a 70-ton air conditioner. The cooling capacity of turf can result in substantial energy savings," Beard said.

Being a rough surface area, turf absorbs noise and reflects light in many directions, reducing glare. A 70-foot grassed area mowed at four inches along a roadway reduces noise by 40 percent, Beard said.

Turf is very effective in trapping runoff and airborne particulate matter. "Nothing, other than a virgin forest, is better," Beard said.

Turf's extensive, fibrous root system adds organic matter to improve the soil. That supports living organisms in soil that reduce pesticides and improve ground water quality. Most of the nitrates added to soil are taken up by the fibrous root system, except when the plant is dormant.

Nuisance pests like snakes, rodents, chiggers and mosquitoes are reduced in maintained turf areas. They prefer higher grass and woodlands, reducing the need for pesticides and other chemicals to control them in maintained turf areas. Organisms living in turf areas also provide a food source for birds.

In terms of economics, lawns have a positive impact on employees that translates into higher productivity, Beard said.

Holland, the most densely populated and one of the more productive countries in the world, makes extensive use of turf, trees and ornamentals, Beard pointed out.

"Then you go to other countries that are far, far less productive and harmonious," he said. "You see the



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Beard ——— Navy to build course in Lemoore NAS

By Peter Blais

The U.S. Navy plans to seek bids from private companies to build and operate an 18-hole, championship golf course at the Naval Air Station at Lemoore near Fresno, Calif.

If Congress approves the project, which Navy Golf Program Manager Roger Patrick expected it to do in late January, the Navy will send out requests for proposals on the course, clubhouse and driving range.

The master jet base at Lemoore was selected for this unusual joint

military/civilian venture because of the base's stable population, the area's shortage of public golf opportunities and the availability of land along the base's perimeter, which could allow for civilian access to the course.

The Navy hopes the project will excite private developers, despite their lack of interest in renovating and managing the course at the Naval Air Station at Cecil Field near Jacksonville, Fla.

"Things just didn't match up at Cecil Field," Patrick said. "What the industry wanted back was more

than we were willing to give up."

The major sticking points at Cecil Field involved greens fees, civilian access and the timetable for renovations.

"We wanted the capital improvements up front rather than phased in slowly. The course did 47,000 rounds last year, so it wasn't a fire sale. The course will just make the improvements itself," Patrick said.

The Cecil Field project became less attractive to private developers because courses recently built in the Jacksonville area diluted the

market, Patrick said.

Too many courses shouldn't be a problem at Lemoore, where the nearest public course is a 45-minute drive.

Building a new course eliminates any capital improvement problems. And the possibility of civilian access should make Lemoore more attractive to private developers, Patrick said.

Golf is a profitable business for the Navy. The service's 59 courses showed a net profit of \$5.2 million in 1990, up 16.5 percent from the year before.

RECREATIONAL BENEFITS

Recreational benefits of turf include better health of participants, protection against injury and a low-cost playing surface.

A \$1 million injury lawsuit has been filed against a town because it didn't maintain adequate turf to protect the plaintiff from injury. The cost of maintaining the turf would have been far less than the lawsuit, Beard argued.

The cushioning effect of natural turf has not been duplicated on artificial turf. Grass still supplies greater protection against injury, and at a much lower cost than artificial surfaces, Beard said.

In urban areas, town officials often contend they cannot afford to build recreation areas for inner-city youth because it is too expensive.

"But in the long term, what happens when you put these kids out on the street day after day after day. There's something about green grass that has a positive impact on the attitude of people versus hard, concrete streets.

"We say we can't afford green, recreational areas. And yet we'll turn around when a certain percentage of those people become part of the criminal element and spend great amounts of money putting them in jail for many years.

"What about some front-end investment to protect these kids and save the expense of ever having to put them in jail."

ORNAMENTAL BENEFITS

Turf provides ornamental benefits, complementing trees, shrubs and ornamentals. That's why, Beard said, he finds it so frustrating when the tree, shrub and ornamental people work against the turfgrass industry.

"They need to get back with us in speaking out on the overall benefits of landscaping instead of having active programs trying to reduce one segment of the industry," he said.

Other ornamental benefits include improving beauty and aesthetics, mental health, social harmony, work productivity, physical health and quality of life, especially in urban areas where 85 percent of Americans live.

"Properly maintained lawns and recreational turfs contribute a diverse array of benefits that make turfgrass one of the best friends of urban environmentalists and greatly enhances the quality of life," he concluded.

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International report: Golf courses are

Continued from page 29

first club in North America, Gordon said. By 1903 every province in Canada had at least one golf course. A year later the first Canadian Open was held at Royal Montreal GC and George S. Line (sp???) of Toronto won the gold medal in golf at the St. Louis Olympics.

In 1911, the Canadian Professional Golfers Association was founded, five years before its U.S. counterpart. The Canadian Ladies Golf Association opened shop two years later. In 1966 the Canadian Golf Course Superintendents Association was born. The Canadian

Golf Foundation was formed in 1979 and 10 years later the first Canadian Golf Summit held. The second summit will be held in 1991.

Geography varies greatly over the 10 provinces. Golfers play year round in southern British Columbia, but are limited to two months in the far north. Memberships at some of the better clubs in the Toronto area cost as much as \$25,000 to join and have 10-year waiting lists. Equity memberships in Ontario's largest city range up to \$75,000, although equity clubs are virtually non-existent elsewhere.

Unparalleled interest in golf ex-

ists in Canada. A Score magazine survey revealed that courses throughout the country were at or beyond capacity.

"But there is disinterest at all levels of government in supporting the foundation of the game or new courses," Gordon said.

Agricultural land preservation and environmental concerns "that sometimes border on hysteria" are other barriers to new development, Gordon said. Many years and millions of dollars are sometimes required to get the necessary permits.

What is done in the United States

affects its northern neighbor. Canadian golfers watch U.S. television and expect the PGA conditions they see to be available at their courses, Gordon said. They also want courses built by well-known U.S. architects.

On the plus side, Canadian golfers, like Dave Barr, have benefited from scholarships at American colleges. Companies like TaylorMade, Links and Ram have opened wholly-owned subsidiaries in Canada instead of the traditional distributor system. The Canadian Open is the only foreign stop on the PGA Tour, although many Canadians are dis-

pleased with the lack of television coverage given the world's fourth oldest national championship.

Canadian courses are looking to the United States for expertise in running their operations, Gordon said. For example, Fairway Capital Partners issued a \$216 million public share offering last summer to build 10 golf courses designed by Canadians but managed by Club Corporation of America. The offer didn't go through because of economic problems similar to those in the United States.

Canada has some of the best golf courses in the world, Gordon said. Among them are Jasper Park Golf Course in Alberta which Cypress Point designer Alister Mackenzie called the finest golf course he'd ever seen. Jasper Park, Banff Springs and other western courses draw thousands of Japanese visitors every year.

But Canada has done little to promote itself as a golf destination, said the author of *The Great Golf Courses of Canada*.

"Canadians are restrained and low key, for the most part. We need schooling in the hospitality industry and the financial realities of attracting tourism," Gordon said.

A Canadian Golf Foundation study is looking at Ontario as a tourist destination for golfers. British Columbia has been designated a PGA Tour destination.

As for the recession overtaking the United States, "There is no doubt we are in one, too, particularly in Ontario and Quebec," Gordon said. He predicted the current downturn will force some courses to close and membership rolls to decline at others over the next few years.

Equity clubs have been a successful investment since coming on the Canadian market four years ago. Before the recession, it was a good way for a developer to build a course and get out quickly. But that's changed with the economy.

Investors used to buy multiple equity club memberships as investments. A membership at Toronto's National Golf Club, the country's top-rated course, jumped from \$39,000 in 1987 to \$65,000 today. Devil's Pulpit memberships that sold for \$17,000 in 1989 are now listed at \$56,000.

"But both of those now have line-ups to sell," Gordon said. "And buyers are around, especially from the Far East."

Buying farm land near a metropolitan area for a golf course and then "flipping it" has become common, Gordon said.

"One Toronto architect I know is dealing with his fourth set of owners for a project he started two years ago," he added.

In the Vancouver area, Gordon said golf course restrictions have been eased and 80 projects proposed. "The question arises: 'Once these projects are cleared, how many will stay in the hands of the original developers?'"

But economic trends are cyclical and the recession won't be around

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GOLF COURSE NEWS

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forever, Gordon said. One need only look at Toronto to see the demand is still there.

A provincial study rated Toronto the third largest golf market in the world after San Diego and Chicago in rounds played annually per capita. The 5-million round demand is running into a 3.5-million round capacity at Toronto's 100 courses, meaning everyone who wants to play won't be able to.

JAPAN

Asian golf dates back to 1829 with the founding of India's Royal Calcutta Golf Club, making it the oldest golf club outside the British Isles, Yorke said. There were 12 clubs in India by 1900 and 140 today.

The growth of golf in Asia was influenced by the British and other colonial powers who helped build the first courses in Sri Lanka, Hong Kong, Singapore, Malaysia and Thailand in the 1880s and 1890s.

During the American occupation after World War II, the Japanese were forbidden to play on their own courses, although the Americans kept the facilities in good shape.

Golf has been a game for the rich in Asia, but is gaining popularity among ordinary people, Yorke said.

There is a construction boom in Asia, particularly in Singapore, Malaysia and Indonesia. Thailand has 58 courses with 50 more in the works and memberships costing up to \$30,000.

"While the boom is very good for golf as a whole, it has very little to do with the vast majority of Asian people for whom there are far more pressing problems, like survival," she said.

Other golf course development problems in Asia include lack of land, difficulties locating water, heat, monsoons, snakes, lack of knowledge, few professionals to educate the people and the difficulty in obtaining equipment, Yorke said.

On the plus side is a greater awareness of Asia as a golf market; upcoming Asia Golf 91 which will bring equipment manufacturers to Singapore in April; and the growth of professional golf. Golf has returned to Communist China, where seven courses have opened and several more are under construction.

While the game is growing throughout Asia, Japan is the country most people think of when discussing the game.

Japan's first course was built in 1901 by an English tea merchant. It remained a game played mainly by foreigners during the early 20th century.

The country is enjoying its third golf boom. The first was in 1957 when the Japanese won the Canada Cup, now the World Cup. From 1957 to 1961, the number of courses grew from 74 to 263.

The second boom lasted from 1973 to 1976 when 100 new courses were added to the Japanese landscape.

The recent upswing has brought

the course total to 1,700 with another 300 planned or under construction.

Many of the new courses are being designed by famous American architects. While the American presence has resulted in many beautiful facilities, it has also jacked up the price of golf course design, Yorke said.

Memberships in Japan are an investment generally made by corporations rather than a recreational expense incurred by an individual as in the West. Memberships are bought and sold on the stock market like stocks and bonds. The av-

erage membership price for newly built courses is \$270,000.

The high prices are directly related to the high price of land. But the combined effects of the Middle East crisis, the high price of oil, the coming of winter and the general slowdown of the Japanese economy have led to a drop in the Japanese stock market and a 30 percent decline in the cost of golf club memberships over the last few months.

"We feel that the economy of the past few years is a bubble that will decrease in the near future," Yorke said. Yorke called this a positive development that could bring

prices down to a more realistic level.

Yorke predicted the recent rise in interest rates for Japanese bank loans will slow golf course construction over the next few years. The tightening of regulations concerning golf course development, environmental restrictions, the movement against the use of agricultural chemicals on golf courses and the lack of land will also brake new development, she added.

But practice facilities should remain a hot commodity. Since the first driving range was built in 1922, the number of Japanese practice facilities has grown to 4,600. Many

Japanese play only at driving ranges.

While the three-tiered ranges are well-known, most practice facilities are far smaller. The average driving range has 48.2 bays and a hitting distance of 160.3 yards.

The numbers of women golfers are growing in Japan. Of the 60,000 students enrolled in golf schools, 51 percent are women. Still, only 10 percent of the golfers at courses and 25 percent at practice ranges are women.

As for those interested in investing in Japan, Yorke said, "It is

Continued on page 52

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International

Continued from page 51

possible to succeed in the Japanese market if you take the time and effort to do your homework, study your market and build good relations with Japan.

AUSTRALIA AND NEW ZEALAND

The number of courses in the two countries has grown steadily over the past 20 years, Mason said. Australia went from 1,218 to 1,441 facilities during that time. New Zealand's course total rose from 365 to 402.

There are slightly more than 1 million golfers in Australia and 276,000 in New Zealand.

Resort courses have grown significantly, particularly in northern

New South Wales and Queensland, Australia. New Zealand's growth has averaged just two to three courses a year and the number of golfers has remained static.

The game is booming in Australia thanks, in part, to the success of professional golfer Greg Norman, Mason said. There are waiting lists to join private clubs, although memberships are much less expensive than in the United States.

Apart from resort courses, few new facilities are being built — 10 to 12 annually in Australia and one or two in New Zealand. There is potential for greater growth in Australia and moderate growth in New Zealand through the year 2000, Mason said.

"The down side to that growth is

the two Es. The economy of both countries and the environment. The economy in New Zealand has been static for several years... The economy in Australia is quite depressed, although it seems not to be having any effect on the golf industry," Mason said.

In terms of the environment, Australia is the driest of the continents and has serious water problems that must be addressed before more courses are built, Mason said.

The main thing the U.S. and Australian governments can do to help the Australian game is reduce the high tariffs in both countries, Mason said. Because of tariffs and taxes, a \$700 set of golf clubs in the United States costs \$2,000 in Australia.

On the plus side, it is less ex-

pensive to play golf in Australia than the United States. The speed of play is also much faster Down Under.

"While golf may be inexpensive to play down there, it is very expensive to equip yourself," Mason said.

As for maintaining Australian and New Zealand courses, Mason said: "They aren't manicured down there to within an inch of their lives. A par 3 in Australia and New Zealand consists of a tee and a green. In between is rough. It's expected that if you're on a par 3 you hit it onto the green or into the bunkers.

"On the par 4s and par 5s the first 100 yards is rough.

"That cuts down on maintenance and is one of the reasons golf Down Under is relatively cheap," Mason said.

SCANDINAVIA

The recent success of Scandinavian golfers like 1988 Ladies' U.S. Open winner Liselotte Neumann and the four-man Swedish team that won this fall's world amateur championship in New Zealand is largely responsible for making Scandinavia one of the fastest-growing golf markets in the world, Engebo said.

Sweden, Norway and Denmark make up Scandinavia. If golf is booming in the United States, it is exploding in those three countries. While the number of golfers is growing at seven percent annually here, it increased in Sweden by 130 percent from 1985-90.

The Nordic countries, including Finland and Iceland, boast 380,000 players. Of those, 290,000 are in Sweden, 41,000 in Denmark, 30,000 in Finland, 15,000 in Norway and 5,000 in Iceland. The biggest increases have been in Sweden and Finland. In Sweden, 3-1/2 percent of the population plays golf.

Approximately 460 courses are in operation in the Nordic countries with another 200 on the drawing board. Sweden has the most, 290, giving it an average of 1,900 people per hole.

Predictions call for an annual increase in golfers of 10 to 15 percent through 1992 and three to seven percent for the remainder of the 1990s. That would project out to 550,000 golfers and 600 courses by the year 2000.

There are barriers to reaching those goals, Engebo said. The primary one is the lack of land, particularly near the cities. Lack of political will, environmental problems and lack of financing will also hinder growth. In Sweden, where most everything is government-subsidized, only five of the country's 290 courses have received any government assistance.

Building a course in Scandinavia costs between \$1.5 million and \$6 million. Most new courses are coming in under \$4 million, Engebo said.

"This is what we need, ordinary courses for the ordinary man," he said. "We would very much like to share the results of your research in the areas of new architecture, construction, environmental issues and how to run a course. We would also like you to continue to provide us with good golf equipment."

There are five things anyone interested in the Scandinavian golf market should know, Engebo said. They are:

- Organizing sports is done by local, non-profit organizations, creating commitment and many leaders at all levels. In Sweden you might find 200 to 300 volunteers picking stones to make way for grass on a new course.

- The Swedish Golf Federation is one of 62 members of the Swedish Sports Federation. Similar organizations exist in the other Nordic countries. Cooperation between countries is done within the Nordic Golf Union.

- To play on a Swedish course you must be a member of a golf club associated with the SGF and must have completed practical and theoretical tests to get a club handicap

Continued on page 53

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International

Sherman Hollow faces pesticide hurdles

Continued from page 52

between 36 and 54.

• Twenty-four percent of golfers, approximately 72,000, are juniors. The SGF tries to keep it at this level or higher through inexpensive junior memberships. Engebo said his 10-year-old son pays \$30 annually for his membership.

• The climate is similar to Canada. One-fourth of Scandinavia is beyond the Arctic Circle, where play is limited to three to four months a year. Warmed by the Gulf Stream, play in the south extends 10 to 12 months.

EUROPE

"Europe is undergoing a metamorphosis in golf," Laupheimer said.

Golfing interest was basically limited to the United Kingdom and Ireland until the mid-1970s. But since then interest has spread throughout Europe.

"Europe has become the most exciting and fastest growing continent in terms of golf development and participation in the world," Laupheimer said. "But remember, we are starting from a low base."

From 1974 to 1989 there was a 231 percent increase in golfers and a 70 percent jump in courses, higher on both counts than any other continent.

But Europe is "at an embryonic stage of development" compared to North America. North America has 21,000 courses and 23 million golfers. Europe, including Scandinavia, lists only 3,600 courses and 4.2 million golfers.

With a geographic area comparable to the United States and a surge in golfing interest, the number of golfers is expected to more than double to 10 million by the year 2000. A 25 percent growth in courses is expected over the next two years.

Increases in leisure time and disposable income are the driving forces behind golf's new status as the "No. 1 growth sport in Europe," Laupheimer said. Then there is the success of professional golfers like Nick Faldo, Ian Woosnam, Sandy Lyle, Seve Ballesteros and Bernhard Langer as well as the European Ryder Cup team. Television coverage and tournaments have also increased.

The increase in incomes and courses have opened the game to more people. But the growth is different in various countries.

Laupheimer divides Europe into four development categories. Great Britain and Ireland are traditional golf nations; Spain and Portugal are holiday golf nations; France, Germany, Italy, Austria, Belgium, Netherlands and Luxembourg are emerging golf nations; and Eastern Europe consists of potential golf nations.

Demand exceeds supply throughout most of Europe, Laupheimer said. Public courses are in very short supply since 82 percent of Europe's courses are private.

Environmental restrictions and financial difficulties are the two major stumbling blocks to building the necessary facilities, he added.

Continued from page 29

selectmen have sent out another round of letters to Chittenden County's state senators, declaring that the controversial Act 250 process has let them down. They contend that "during the Sherman Hollow permitting debacle, several other (golf courses) are now operating with little or no opposition and/or scrutiny." Truax concurs, accusing the District Commission of holding Sherman Hollow to tougher environmental standards than other Vermont golf courses.

Michael O'Connor, serving as representative on the Vermont Industry Policy Board, an executive board under the Vermont Golf Association, strongly disagrees.

O'Connor, course superintendent at Basin Harbor CC, Vergennes, perhaps is the most knowledgeable and informed on the Sherman Hollow infighting. He's been president of the Vermont supers and prominent on area and state environmental boards.

Said O'Connor: "Currently the industry, comprising 54 golf facilities in Vermont, has expended more than \$25,000 just in meeting the current pesticide regulations adopted Oct. 25, 1990. The Vermont Industry Policy Board has raised an additional \$25,000 just to comply with the industry's need to hire a turfgrass position within the Vermont Department of Agriculture."

O'Connor is concerned with golf's good name in the wake of develop-

ment. While it bothers him that Vermont is perceived by the rest of the country as the villain, he applauds the applicant's decision to appeal.

Decisions like this, left untouched, he said, set a precedent that others would have to overcome. He hopes for a settlement soon in a case that has become known as "Politics, Pesticides and a Permit."

Opponents contend they must come up with their own Stamp Act and propaganda campaign to counter "official" mailing. "They (town fathers) might as well have a franking privilege," commented one dissenter.

While project opponents lack the impressive array of scientists enlisted

by Sherman Hollow advocates, they have a distinguished voice.

Dr. Hugh Brown from the University of Vermont, representing naysayers, testified that when he used his input data, he found three times as much runoff and 40 to 90 times more leaching than the model had shown by Sherman Hollow.

If the state board overturns the second and latest District 4 Commission veto, Sherman Hollow can proceed with course construction.

Should the Board dash Sherman Hollow hopes, the Vermont Supreme Court appears the next step. Or, Truax could start from scratch with a new set of hearings studying all potential impacts of the golf course.



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Lawn Institute's Roberts answers course foes' questions

Continued from page 13

Q — What does the new buzzword "landscape sustainability" mean?

A — Catch words, like "sustainability," are technically not very meaningful. Agriculture today is accused of lacking sustainability. The term is no better understood concerning agriculture than landscaping. (Reference: Alternative Agriculture - Scientists Review, Special Publication Number 16, Council for Agricultural Science and Technology, Ames, Iowa, July 1990. 182 pages.)

Sustainability in agriculture and in the landscape is a complex concept. Most conventional farming

practices contribute to a sustainable system. That is, they help crop production, promote yields at economic levels and help conserve soil and water. The same holds true for most landscape construction and maintenance practices. Most of these being used today are the result of hundreds of millions of dollars spent the past 50 years for research. Commercial research dollars and public funding of Land Grant University Agricultural Experiment Stations have supported most of this research. The Current Research Information System of the U.S. Department of Agriculture identifies some 300 research projects on turfgrass alone.

Often the issue of sustainability is linked with use of chemical fertilizers that are alleged to poison the soil and increase disease and insect problems of plants so that more pesticides are required. The proposed alternative is use of natural organic fertilizers and elimination of all pesticides.

Agricultural Experiment Station research across the country has not demonstrated undue risk from normal use of chemical fertilizers. Nor is there evidence that use of natural organic fertilizers can reduce weed, insect and disease problems to the point where pesticides are no longer needed.

Thus, sustainability is widely ac-

cepted in general agriculture and in landscape horticulture. This does not mean that there haven't been over-uses of fertilizers and pesticides in isolated instances. As with all excessive use, risk increases. It's the dose that makes the poison.

A sustainable landscape promotes practices that conserve, recycle and reuse the resources invested in these landscapes.

All landscapes should be designed and maintained to incorporate organic soil management practices. But inorganic fertilizers, herbicides and pesticides must not be excluded. When properly used, risk to people, animals, plants and environment is not unreasonably

increased.

It will be interesting to speculate how effective programs to educate the public about ideas and benefits of sustainable landscapes will be when accurate technical information is so scarce. Perhaps it will be a matter of dis-education.

Q — What is really the goal of most new landscape ordinances?

A — It's difficult to understand the meaning of many of them. The bottom line often seems to involve use of water, fuel for equipment, fertilizers, pesticides and labor in landscape construction and maintenance. Some group must feel that there are excesses in one or more of these inputs. If this is so, landscape professionals should recommend changes. If policies and guidelines are left to the political system, the landscape quality of the community will surely suffer.

A successful landscape improves the functional and aesthetic environment. Cost/benefit studies may show some landscapes more costly than others, but what does this have to do with success as long as someone is willing to pay? Some people drive Lincolns, others Fords. The landscape creates and/or modifies space.

It makes better places to live, work and play. Remove it and the inert environment of the central city is left.

Now, some people prefer this environment and live in areas devoid of interiorscapes or external landscaping. Most residential development favors a well-planned landscape. If a certain landscape imposes environmental costs, such as pollution, then it is ill-conceived. It is not helping the environment, although it may look good.

These landscapes require modification so the functional environment is improved. Often this means sound soil-plant management and not elimination of water, fertilizer, pesticides, fuels or labor.

Many times it seems the community plans to "throw out the baby with the bath water." It is worth emphasizing "this ordinance must involve and combine larger issues if the environmental foundation for landscape development is to be integrated into cultural, political, aesthetic and economic factors of positive urban development."

The landscape enhances the aesthetic and functional life for people, animals and plants. This is environmental health.

However, there are limits. In high-population areas, the landscape may fight a losing battle in maintaining environmental quality.

Use of accounting procedures to measure the magnitude of decisions and practices is valid. Interpretation of data must be handled with care. Performance standards are difficult to come by for living entities. It's a good objective, but must be administered by technically well-qualified horticulturists and agronomists.

Q — Landscape plans, regulations and specifications seem to stand in the way of successful development. How can we deal with this?

Continued on page 55

GOLF COURSE NEWS

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Roberts

A — Guidelines are the answer. Development plans and permits are appropriate in regulating land use. Dealing with engineering and construction specifications for soil and building materials is one thing. Landscape specifications cannot be so tightly administered without the ultimate demise of the intended plant material. Each site and case is different.

Formulating rules, procedures and interpretations for biological systems probably will have limited constructive value and, more likely, enormous negative value. With biological systems, there are more exceptions to the rule than there are rules.

A "sustainable landscaping guideline manual" must emphasize the word "guideline." It's interesting to note that in an alternate title "sustainable landscape design manual" suggested by one community, the term "guideline" had already been deleted. This is a move in the wrong direction.

Compliance statements indicate little flexibility and forecast ultimate failure in the use of such a document.

Landscapes designed with plants that have similar climate, water, soil, sun exposure and maintenance needs are, for the most part, natural landscapes. They are desirable but the landscape benefits that can be obtained with diverse plant materials.

Landscapes with reduced amounts of turfgrass greatly restrict functional and aesthetic aspects of many landscapes. When this is done, a non-living mulch is often substituted for a living mulch (turfgrass).

Q — Are energy expenses unreasonable in landscape maintenance?

A — Energy costs are interesting from the standpoint of alleged waste. In the first place, the value of the landscape in creating habitats of highest quality is well worth the cost.

Secondly, hundreds of thousands of professionals make a living from landscape construction and maintenance, and other do-it-yourselfers gain personal satisfaction and exercise from gardening.

The agribusiness impact of lawns and sports turf is estimated at more than \$25 billion a year. Turf and landscape products are not more energy-demanding than other products used about the home and in pursuit of recreation.

In regions where air pollution and water shortages are increasingly severe, it is necessary to recognize the effects of high population. Only population reduction can improve quality of life. More concrete canyons mean more pollution of ground and water that has limited exposure to the roots of plants.

For those who understand the function of grass plants in soil-building, the statement: "the primary goal of urban landscapes is to build upon the functioning and momentum inherent in natural systems" is meaningful.

There is no need for by-products of landscape maintenance to result in pollution and stockpiles of unused waste. If this is assumed necessary, there is a grave misunderstanding concerning the inputs and outputs of landscape construction

and maintenance.

There is nothing noble about ugly if one has an appreciation for visual scenery. If ugly is noble, that's a value judgment that should not be fostered on a neighborhood, town, city, county or state.

Increases in capital, resource use and manpower are all part of a capitalist society. If this should be changed, then we should say so. Most Americans will not agree.

Q — Since our life styles influence our appreciation for different landscapes, how much idealism is involved in current demands for change?

A — That depends on who is making the evaluation. Certainly the issue of the landscape can be complex. But millions of people across the country come up with scores that are favorable in terms of cost/benefit ratios.

I doubt people in region are much different than in other areas. After all, many of us have migrated from one region to another.

To say that much of the urban ornamental landscape has no value for the environment is wrong, according to data from Land Grant University and Agricultural Experiment Stations. Even with almost overwhelming gloom-and-doom forecasts from the media and a variety of activists and extremists, support of quality landscapes increases yearly. The environmentalist who has a knowledge of ecology, hydrology and the soil and atmospheric sciences does not have difficulty making choices. Those who do not have these qualifications will continue to be misled.

Q — If the environmental benefits of lawns and sports turf are so

obvious and so well supported by science, why do we read in newspaper that turfgrass is an enemy?

A — Danica Kirka states in the April 9, 1990 issue of the Los Angeles Times the the city of Irvine has a new enemy, turfgrass, that is in the same classification with chlorofluorocarbons. In fact, CFC's are not believed to be the only contributor to ozone changes perhaps not even the gravest cause for concern.

Now it appears that another scapegoat may have been identified. Do city governments really need to spend this amount of time, energy and money to try to disprove the value of landscapes?

Is the need for causes so much a driving force in government today that activists and extremists espousing change command the attention of reasonable officials in

the name of unreasonable causes?

Often, all that is required is the identification of environment with some aspect of agriculture or landscape horticulture to instill suspicion, fear or even panic in many people.

At a time when we should be enjoying the benefits of science and technology as never before, we are subject to accusations that make science the enemy rather than the cure.

The real issue in all highly populated parts of the country is population density. The problems faced by many metropolitan areas are not those common in rural America. And, they are not likely to be solved by landscape ordinances that identify turfgrass as the new enemy.

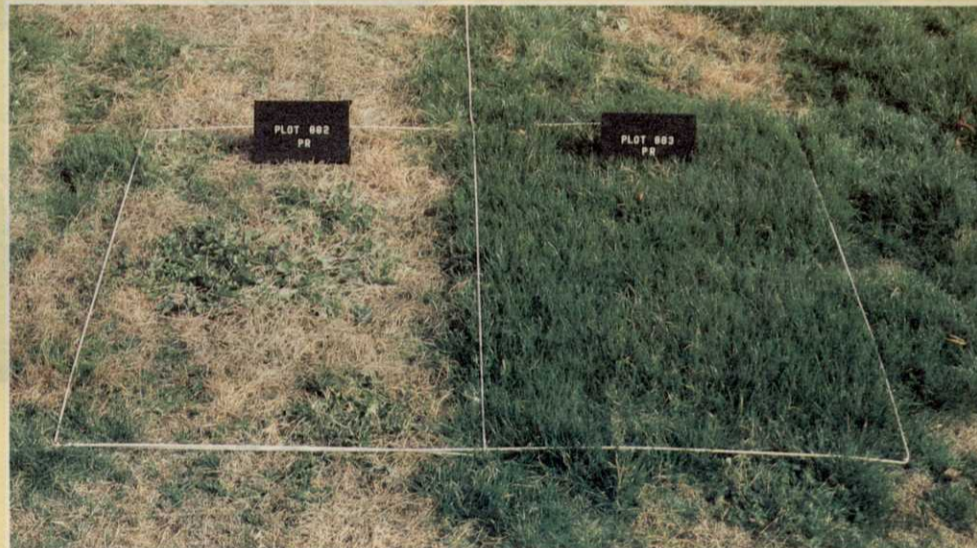
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- a. 9 holes d. 36 holes
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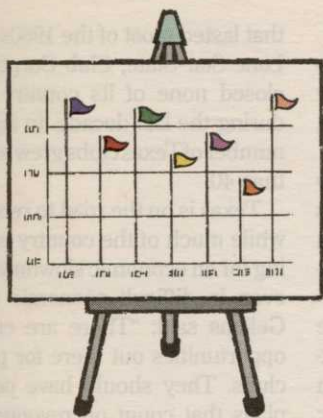
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Briefs



ARVIDA HIRES DEVELOPMENT HEAD

SAN CLEMENTE, Calif. — Glen Allen, hired as vice president of Arvida's California commercial development division, will oversee a planned community project here anchored by 36 holes of golf designed by Arnold Palmer.

A 150-acre town center and business park are planned as part of a 3,500-acre community called Talega.

BILTMORE OVERSEEING PROJECT

SCOTTSDALE, Ariz. — A \$150-million facility featuring a Tom Weiskopf/Jay Morrish 18-hole championship golf course soon will be constructed in the north end of the city.

California-based Biltmore Hotel Co. will oversee all club operations for Estancia Corp. These include a tennis facility directed by former Davis Cup star Marty Reissen, health club and spa, swimming center and private accommodations for members.

ASSOCIATION CHANGES NAME

CHARLESTON, S.C. — The National Golf Course Owners Association is the new name of the Golf Course Association.

Explaining the reason for the name change, Executive Director Mike Hughes said, "The association is truly national in scope and solely interested in assisting owners and operators of profit-oriented golf courses."

In the last six months, member courses have doubled to more than 600.

The association has incorporated all members of the Pennsylvania Golf Course Owners as affiliate members, and Golf Properties Association has merged into the Golf Course Association.

ZMISTOWSKI DESIGN CITED

BOULDER, Colo. — Golf clubhouse architectural firm William Zmistowski Associates received a 1990 Merit Award from the Colorado section of the American Institute of Architects for The Golf Club of Oklahoma's clubhouse in Tulsa, Okla.

Zmistowski previously received an AIA Western Mountain Region Award of Honor for design excellence for Desert Highlands Golf Club in Scottsdale, Ariz., and an Award of Design Excellence from the Arizona Society of the Institute of Architects for Desert Highlands GC clubhouse interiors.

The Golf Club of Oklahoma has a 27,000-square-foot native stone and shingle clubhouse to complement its Tom Fazio-designed golf course.

STONECREEK MAKES MOVES

PHOENIX — Stonecreek, The Golf Club, has named Rick Williams head golf professional and Catherine Curry director of sales.

Williams, previously head professional at Arizona Country Club here, was chosen to oversee golf operations and services because of his extensive knowledge and experience in the Arizona golf industry.

Recession presents opportunities

Private clubs should not be afraid, says Club Corp. America vice president

By Peter Blais

A recession like the one most of the country is experiencing can be a time of opportunity for private golf clubs if managers listen and respond to their members.

"Don't run scared," advised Jerry Gelinis, vice president of marketing with Club Corporation of America, which operates 200 private clubs nationwide.

"Opportunities are out there. If you take advantage of them, you will have a better club. In good times, clubs tend to relax. In a recession, you have to be targeted."

At the center of the target is the club member. Private clubs have a big advantage over public facilities when it comes to membership. Most private club members are financially secure. They are better able to weather an economic downturn and keep their memberships than are their public club counterparts, Gelinis said.

"You're not dealing with a member who can't afford your club, even in tough times," he added.

But you are dealing with a member who has priorities. If a club is not meeting his

needs, he'll go elsewhere.

"The question is 'How do you make your club more valuable so he'll give your club a higher priority?'" Gelinis said. More on that later.

Recessions are generally not broad-based. Some people will be hurt during an economic slowdown, while others will be unaffected, or even prosper.

"For a manager to understand how economic conditions in his area will affect his club, he must know certain things, like what

Continued on page 58

Japanese continue U.S. buying spree

Continued from page 1

primarily courses that have already been built. Ninety-three were complete, 14 under construction and 15 in planning stages at the end of 1990.

Christopher Mead, who has been tracking the transactions, said there are probably many more Japanese-owned courses in the United States, "some of them bought under U.S. corporate names and others purchased under Japanese names but not known to Mead Ventures or the executives and industry experts we consulted."

In a 180-page report released in mid-January, Mead said Japanese companies own less than 2 percent of the country's 14,000 courses. But, he said, because they own such "trophy courses" as Pebble Beach in California and Grand Cypress Resort in Florida, the market value of Japanese-owned courses may comprise as much as four or five percent. Cosmo World paid around \$800 million for the Pebble Beach complex alone.

Mead predicted Japanese firms would own between 500 and 1,000 U.S. courses by the year 2000. He added that although that is still a small percentage of total U.S. ownership, it is "a major portion of the newer and trophy courses and of those not only in Hawaii but also in California, Oregon, Washington, Arizona and certain other states."

Japanese firms own nearly all Hawaii's non-public courses — 37 or 38 in all. "With no more courses left to buy (in Hawaii), Japanese have been forced to build, and they appear to be doing so with surprising speed," Mead reports.

He said in his report that most of the 40 or more courses planned or under construction on the Big Island of Hawaii, Oahu and Maui, are being built with Japanese funds or with the expectation of a sale to Japanese buyers.

Meanwhile, Mead said Japanese own at least 32 courses in California, eight in Texas, seven in Oregon, six in both Arizona and Georgia, five in New York, four in Florida, three each in Nevada, North Carolina and

Continued on page 58



Pete Dye's new Ocean Course on Kiawah Island is one of the golf properties involved in the joint venture purchase deal between Daiichi Real Estate Co., Ltd., of Tokyo and Landmark Land Co. officials.

Landmark, Daiichi put \$739 million deal in works

CARMEL, Calif. — Daiichi Real Estate Co., Ltd. of Tokyo, Japan, in joint venture with senior management personnel of locally-based Landmark Land Company, Inc., and international Pacific Rim and European investors have plunged heavily into the United States golf course market.

Golf course and resort areas on both coasts, plus Oak Tree Golf and Country Club, Edmond, Okla., will be bought for \$739 mil-

lion.

Closing date for the first phase of the transaction is March 31. If options are fully exercised, Landmark would receive an additional \$106, then \$92 million.

Golf courses include three rated among the top 100 in the world.

Properties are spread among such Landmark developments as Kiawah Island, South Carolina; Palm Beach, Fla., Polo & Country

Club, and California courses Carmel Valley Ranch, Moreno Valley, PGAWEST, LaQuinta, Oak Valley and Mission Hills in Rancho Mirage.

Gerald G. Barton, Ernest O. Vossler and Joe W. Walser, Jr., of Landmark will be new team members.

The transaction is subject to approval by shareholders and the Office of Thrift Supervision.

CCA official: Recession 'beatable' for private clubs

Continued from page 57

his members do for a living and how often they visit his club," Gelinas said.

Even private clubs in a relatively depressed area are in potentially good shape. As the 1990s unfold, the oldest of the massive Baby Boom generation are heading into their late 40s and early 50s, the age when most people join clubs. The 45-to-54 age group is expected to add 11.7 million people during the decade.

"That's a pretty big market," Gelinas said. "The demographics should overshadow any cyclical economic problems."

Finally, private club members are value conscious and media sophisticated. They demand clubs offering prestige and value suited to their particular needs. Clubs must position themselves accordingly to be successful.

"Potential members will usually reject a canned sales pitch or standard set of benefits," Gelinas said. "They want benefits that fit theirs' and their families' needs. We've found a strong trend toward the entire family becoming part of the club environment."

Families present a significant opportunity and a more stable membership, the CCA executive said.

"It's easier to resign from a club if there's just one person involved, say a golfer. But if the wife is in the tennis league, the son in the junior golf program and the daughter on the swim team, it's less likely the club will lose a member," he explained.

Whatever a member's involvement, it must be meaningful. In some cases, a member may want relaxation. For others, it may be self-improvement. Still others may want competition.

"Tennis clubs, because of the different skill levels in the game, have been hurt among those wanting relaxation. Relaxation is a little easier in golf, although some clubs are competition driven," Gelinas said.

Once a club figures out what members want, it can position itself to fill those needs. Positioning involves listing what the club has to offer, figuring out what the market is and determining what members want.

Focus groups are one of the best ways to discover what members desire from their club. While the term "focus group" may sound technical, it can be as simple as inviting 20 members to lunch (hoping at least 10 will show) at the club's expense and asking them what changes they'd like to see.

Members are often friendly with the club staff and may be hesitant to criticize them. That's why it is often better for someone outside the club to conduct the focus group. CCA generally uses corporate headquarters employees to head the meetings. If using an outside person is impractical, it is important for the club staff member running the group to emphasize that members

should hold nothing back because they might hurt the staff's feelings.

Focus groups give a sense of what members want. They should be followed up with written questionnaires for specific recommendations.

Another source of information is local real estate brokers and developers. They are the ones bringing residents, and thus potential members, within distance of the club.

"The whole point is to listen," Gelinas said. "And then respond."

One of the responses at some CCA

facilities has been to provide an atmosphere in which members can conduct business. That could mean building a private meeting facility with audio-visual equipment or simply making business guests feel welcome by giving a free sleeve of balls to a guest playing with a member.

The dining area can fill another need. CCA has traditionally priced its a la carte menu at or below neighboring restaurants.

"Clubs can subsidize the a la carte menu with their private party business. The parties are the real money-

maker," Gelinas said.

If a club does its homework, aggressive advertising is unnecessary to keep and recruit members, Gelinas said.

"It will happen naturally. The key is to develop the product first. If it's good, word will get out. And you can't beat word-of-mouth advertising," he added.

CCA's experience in its corporate home state of Texas is a good example of what private clubs can accomplish during lean economic times. Despite an economic slump

that lasted most of the 1980s in the Lone Star State, Club Corporation closed none of its country clubs during the last decade. In fact, the number of Texas clubs grew to more than 40.

Texas is on the road to recovery, while much of the country is gearing for an economic slowdown. But even in difficult economic times, Gelinas said: "There are enough opportunities out there for private clubs. They should have positive plans that count on revenue generation rather than cost cutting."

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Club Corp. of America starts capital expansion

DALLAS—Club Corporation of America has started a major expansion push by buying its first two properties with its newly funded \$50 million of expansion capital.

CCA paid an undisclosed amount of cash for The Club at Cimarron in McAllen, Texas, and the Club at Mission Dorado in Odessa, Texas — both held by First City Texas Bank in Houston.

CCA is considering five other acquisitions. It expects to use the funding, with some debt, to add 12 to 15 golf properties to its operations over the next six to 12 months.

"CCA has commitments for ap-

proximately \$50 million worth of equity funding from internal and external sources to be used primarily for all-cash acquisitions of existing, profitable country clubs and public fee golf courses," said Randy Williams, executive vice president of business development. "And up to 20 percent of the funding may be used for to-be-developed golf operations."

The Club at Cimarron is part of an 800-acre planned community that opened in 1982.

CCA's purchase encompasses approximately 204 acres of the community, which includes a

34,000-square-foot clubhouse, 18-hole golf course, pro shop, racquetball center, six outdoor lighted tennis courts and Olympic-sized pool. The club has about 1,100 members.

The Club at Mission Dorado is located within the 2,000-acre Mission Dorado Master Planned Community.

CCA bought the 32,000-square-foot clubhouse, pro shop, 18-hole golf course, tennis and swim center, which make up approximately 290 acres of the development. There are approximately 800 members at Mission Dorado.

Myrtle Beach National and Litchfield strike a deal

MYRTLE BEACH, S.C. — Myrtle Beach National Golf Club, Inc. struck what officials called "a natural business match" when it finalized an agreement to buy four Waccamaw Neck resort properties from The Litchfield Co. of South Carolina, LP and Litchfield Golf Co., Inc.

The properties are the 18-hole River Club, 18-hole Willbrook Plantation Golf Club, 96-suite Waccamaw House, and Litchfield Country Club, with an 18-hole course and 19-court racquet club. The sale does not include various Litchfield By The Sea real-estate de-

velopments owned by The Litchfield Co. and Litchfield Golf Co.

"The combination of Myrtle Beach National's extensive golfing resources and our offering of quality real-estate properties is a natural business match," said Russ Campbell, executive vice president and general manager of The Litchfield Co. "We look forward to joining marketing and promotion forces with Myrtle Beach National."

Myrtle Beach National has been operating the Litchfield properties since Sept. 19 when a purchase agreement was signed. The operating company is Litchfield National Co.

Japanese

Continued from page 57

Washington, two in South Carolina and one each in Colorado, Illinois and Mississippi.

Donald Wizeman, president of Dai-ichi Corp. in Myrtle Beach, S.C., said his company is negotiating on behalf of Japanese buyers for purchase of 50 courses in the Southeast.

This trend of Japanese investments is a creature of the last six years. With increased spending power and foreign "bargains," their real-estate spending in the United States soared from \$1.86 billion in 1985 to \$7.53 billion in 1986, \$12.77 billion in 1987 and \$16.54 billion in 1988, according to Kenneth Leventhal & Co. Purchases dropped off to \$14.77 billion in 1989, with a further 20-percent drop anticipated last year.

While real-estate investment was tapering off the last two years, golf course buys increased, emerging as "one of the most promising aspects of their investment activity in the U.S.," Mead said. "In this period, companies began to search for investments that made sense not merely from the standpoint of currency benefits or long-term capital gains, but from an income or short-term gain perspective. Golf courses and the resorts that included them often fit the new requirements. Moreover, Japanese frequently had a substantial edge over rival American bidders for golf course properties."

Mead said that while Japanese real-estate investments may decline again this year, over the long run most experts expect them to be an important force in U.S. real estate.

"Moreover, certain types of investment remained very strong in 1990, such as direct investment by Japanese manufacturers. (This is not classified as real-estate investment.) Golf course investment, too, rose substantially from the level of 1989," he said.

Saying factors indicate that Japanese interest in golfing abroad is "far from its peak," Mead cited figures showing that Japanese have per-capita incomes of about \$43,000 compared to Americans' \$20,000; they spend \$586 a day while traveling compared to Americans' \$149; and more are traveling abroad each year — increasing from 5.5 million in 1986 to a projected 10 million this year — many to play golf.

People interested in obtaining the Mead Ventures report may call 800-669-6323.

He gave our 1200 the test we couldn't

We couldn't go out and build 27 golf holes to test the durability of our 1200 Bunker and Field Rake. That's why we went to talk to John McWhite. Because that's exactly what McWhite did at the Buck Creek Golf Plantation near Myrtle Beach, South Carolina.

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middle and rake in the rear. A hydrostatic machine simply can't do what the 1200 can here.

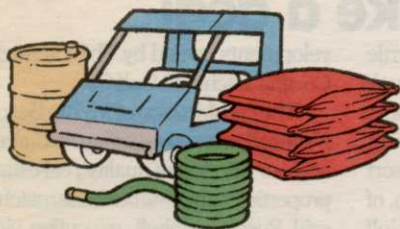
"I've used the 1200 to move soil, prepare seedbeds, dig up roots, spread sand, smooth bunkers, and pull aerators. I still don't know what its limits are. I've never even seen its belt slip!"

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Briefs



ANDERSEN HEADS UP NASM

LAKE ZURICH, Ill. — Ken Andersen, vice president of product service for Echo, Inc., is the new president of the National Association of Service Management (NASM).



K. Andersen

NASM represents all aspects of the product service industry. It includes service professionals from the business equipment and appliance industries, as well as outdoor

power equipment.

Andersen has been president of NASM's Atlanta, Ga., and Chicago chapters, and also treasurer of the national organization.

AQUATROLS ADDS TECHNICAL REP

PENNSAUKEN, N.J. — Jim Ellis of Flint, Texas, has joined Aquatrols as technical sales representative.

A graduate of Tyler Junior College, Ellis has more than 15 years of experience in horticulture sales and customer service, representing a distributor and manufacturers.

Ellis will work with Aquatrols distributors and horticulture and turf professionals in a territory covering the South Central and Southwestern states and California.

FISCHER HEADS TURF SALES

MADISON, Ga. — Pennington Seed has promoted J. David Fischer to director of turfgrass and governmental sales and marketing, and named Russell Nicholson turfgrass agronomist.

Fischer has been with Pennington in several capacities of sales and marketing for five years. He will be responsible for marketing Pennington's growing line of specialty turfgrasses from the firm's new production and shipping facilities for cool-season turfgrasses in Lebanon, Ore., and the Cactus Seed Co. facility in Roll, Ariz., for Bermudagrass and other warm-season varieties.

Nicholson will be responsible for support and consultation to customers on the use of specialty turfgrasses. Nicholson has a degree in agronomy with more than 10 years of experience in the golf course and turfgrass industry.

KEARBY GETS REGIONAL POST

SAN MARCOS, Calif. — Mike Kearby has been named Hunter Industries regional golf sales manager.

Gard Crow, golf sales and marketing manager, said Kearby will coordinate the regional sales program of new Hunter golf course irrigation products, and will provide technical and educational support. He was formerly Hunter's district manager in Florida for three years.

Prior to his affiliation with Hunter, Kearby operated a landscape contracting business in Texas. He is a graduate of North Texas State University.

Cohen firm takes plunge into world golf course environmental obstacles

Late in 1983, Stuart Cohen, then with the Environmental Protection Agency, Washington, D. C., received a letter from Dr. Stuart Blauner of the Board of Health, Brewster, Mass.

"Our town is considering building a golf course," wrote Blauner. "We love golf and our drinking water. Can we have both?"

It was an intriguing inquiry.

Cohen since has become immersed in many golf course problems, has been prominent in many welcomed solutions featured by the widely-hailed Cape Cod Study, and recently with W. Kent Alkire II, Simi Valley, Calif., formed Environmental & Turf Services.

Alkire previously had been environmental consultant and Western regional agronomist for Jack Nicklaus Golf Service Co. Cohen is headquartered in Wheaton, Md.

Representatives of the four Massachusetts golf courses participating in the Cape Cod Study will be honored by the Golf Course Superintendents Association of America at Las Vegas, Nev.

Edwin Nash, superintendent at Bass River CC, South Yarmouth, one of the courses involved and a conference speaker, will make the presenta-

tions. Other courses to be cited are Falmouth CC, Hyannisport GC, and Eastward Ho!, Chatham.

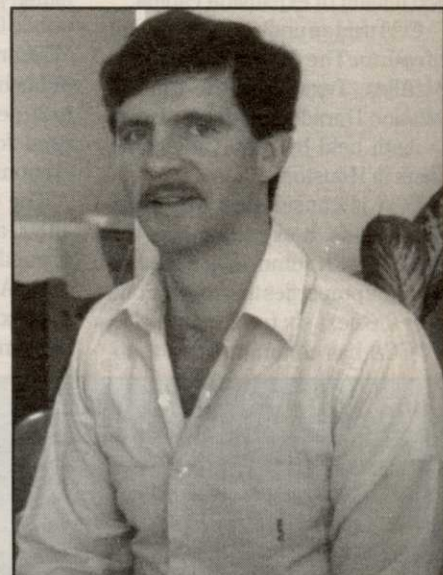
GCSAA and Pat Jones, that organization's director of communications, also merit a bow.

"We of course realized the tremendous amount of time and study poured into this effort between late 1986 and 1989. EPA had come up a bit short in funding," explained Jones. "The study was complete. Writing the report remained. We paid Cohen to complete a very technical, thorough and comprehensive task. The study impacted upon the ecological system, and had brought extreme cooperation among the four golf courses. It was imperative we get out such knowledge and benefit all."

The Captain's Course, Brewster, is the end product of Cohen's link with golf. It's a very profitable operation at no risk to the environment.

Such result runs counter to Cohen's initial reaction to Blauner's contact. He was skeptical that high quality water and golf courses could co-exist without contamination danger in a vulnerable environment such as Cape Cod.

Cohen's new company will focus upon



Stuart Cohen

satisfying the needs of golf course superintendents and developers and imparting specialized knowledge. Cohen's background will be most helpful — 11 years with EPA, two in charge of its ground water section. He holds a Ph.D in

Continued on page 62

Hunter Conservation Award presented to Cuyamaca prof

COLORADO SPRINGS, Colo. — Brad Monroe, Southern California college instructor and landscape designer, recently received the Edwin J. Hunter Conservation Award at the Hunter Industries' annual distributor meeting.

Monroe has directed the horticulture program at Cuyamaca College, El Cajon, Calif., for more than 10 years, and is an authority on landscape planning, irrigation system design and golf and sports turf management.

He introduced the first horticulture program at Cuyamaca and wrote the course curriculum. Under his tenure, the program has expanded to five majors and now offers a certificate and degree in landscape irrigation technology and golf and sports turf management.

Monroe belongs to the Golf Course Superintendents Association and the California Landscape Contractors Association, and is a member of the California Community College chancellor's advisory committee for agriculture and natural resources.



Cuyamaca College program coordinator and instructor Brad Monroe, left, receives the annual Edwin J. Hunter Conservation Award from Hunter Industry's founder, Ed Hunter.

Lesco opens new distribution center in North Carolina

Lesco Inc. has opened a regional distribution center/warehouse in Charlotte, N.C., to serve golf course and lawn care customers throughout the Mid-Atlantic states. The facility is 38,400 square feet with six loading docks, and is served by a rail spur.

Dave Alexovich, previously manager of purchasing in the Rocky River, Ohio, headquarters, is facility manager.

The center will stock fertilizers, turf and horticultural control products, seed, turfcare equipment, replacement parts and golf course accessories.

Irrigation Association president Emmerich foresees many changes

Robert Emmerich, National Golf Accounts Manager of The Toro Company, Riverside, Calif., is the new Irrigation Association president.

Emmerich, in a recent address to the membership, said: "We learned two years ago during the national drought that our industry is water, not just irrigation."

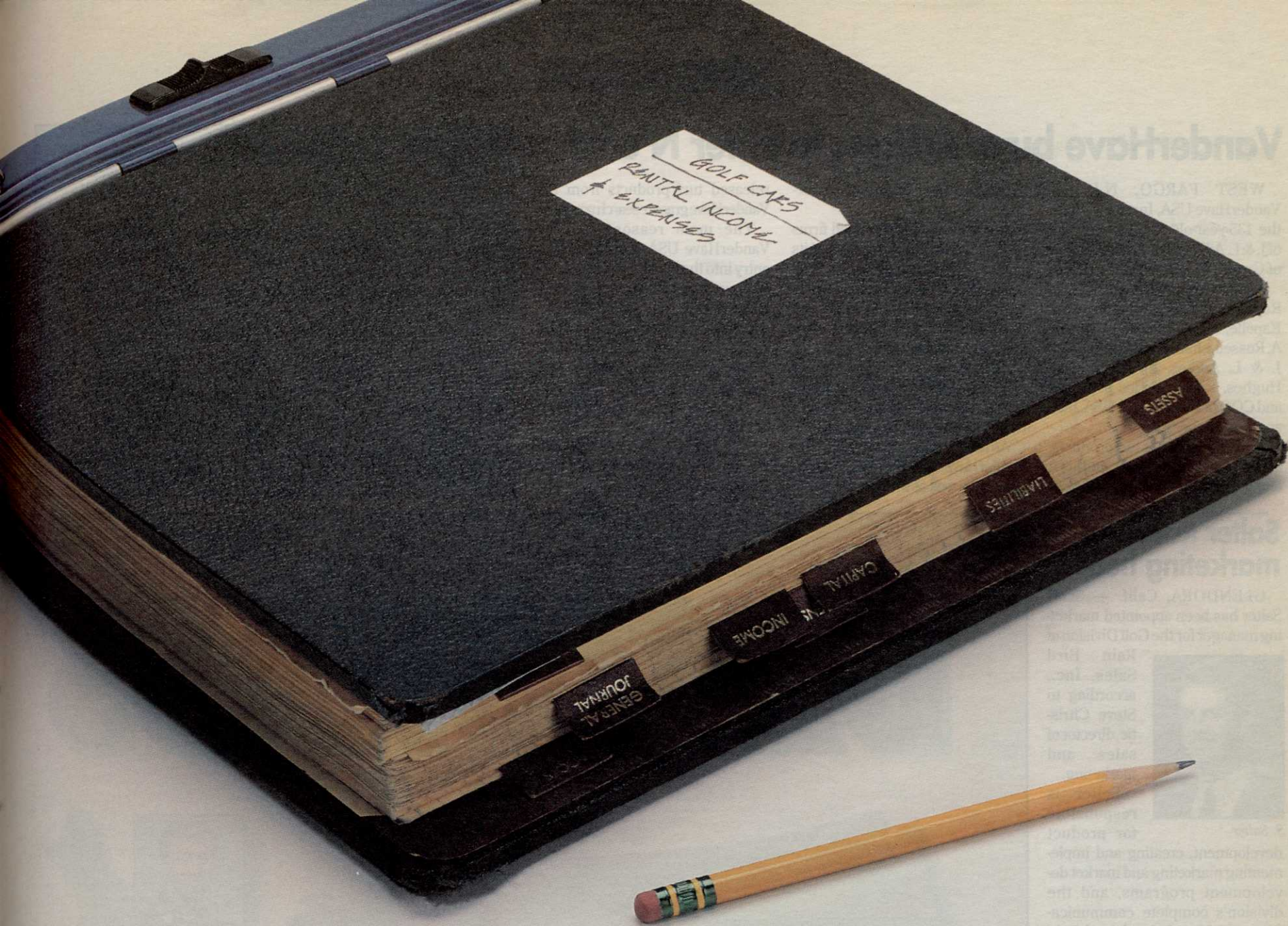
"We'll see more change in our industry the next 10 years from regulations and technology than it has seen since its inception. We'll have to be environmentally minded and externally oriented."



R. Emmerich

Emmerich's goals include increasing the organization's membership and revenue, and developing a strong water conservation program under the auspices of the IA Educational Foundation.

Emmerich first was elected to the IA board of directors in 1985. He was graduated from St. Norbert College, De Pere, Wis.



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VanderHave buys Adikes, to enter N' east

WEST FARGO, N.D. — VanderHave USA, Inc. has bought the 135-year-old Long Island firm of J. & L. Adikes, Inc., manufacturer of Gro-Well Garden Products.

VanderHave USA is a division of Royal VanderHave Group of Kapelle, The Netherlands. Robert A. Russell, chairman of the board of J. & L. Adikes, Inc., and Mike Hughes, executive vice president and COO of VanderHave USA, Inc., announced the sale.

Adikes distributes turf products, lawn and garden fertilizer, and lawn and garden chemicals on the East

Coast and from Maine to Minnesota.

It is one of the oldest seed firms in the United States. But one of its main strengths will be its Gro-Well label, said Hughes. It is a newly designed, premium label, and will be used exclusively with proprietary lawn and garden products.

Adikes owns two proprietary grasses — Adelphi, which is a proprietary bluegrass, and All*Star, a proprietary perennial ryegrass.

Adikes will promote the VanderHave varieties into its new system, as well as incorporate newly

released turf products from the VanderHave grass research program.

The main reasons for the VanderHave USA acquisition was entry into the Northeastern market and purchase of the Gro-Well label, Hughes said.

Previously owned and managed by Robert Russell, Adikes will be managed by Tom Corell. The company consists of 21 other employees and works out of facilities in Jamaica, N.Y.

VanderHave USA now has two the Agribusiness Division and The Turf and Forage Division.

Fine Lawn Research names Danneberger as adviser

Dr. T. Karl Danneberger, Ohio State University associate professor, has been named technical adviser for Fine Lawn Research, Dublin, Ohio.

Danneberger was from 1983-1989 OSU Department of Agronomy assistant professor, and in 1989 became associate professor.

He received his A/S from Parkland Community College, Champaign, Ill.; B/S from

Purdue University, Dept. of Agronomy; M/S from University of Illinois, Horticulture Department, and Ph. D from Michigan State University, Department of Plant Pathology.

He coordinates and teaches the OSU undergraduate turfgrass program in agronomy, and teaches 700 students in the introductory biology class.

Salter Rain Bird marketing head

GLENDORA, Calif. — Scott Salter has been appointed marketing manager for the Golf Division of



S. Salter

Rain Bird Sales, Inc., according to Steve Christie, director of sales and marketing.

Salter is responsible for product

development, creating and implementing marketing and market development programs, and the division's complete communications activities. Salter joined Rain Bird in 1989 as a product manager for the Turf Division.

Prior to joining Rain Bird, he held sales and management positions with The Toro Co. and Pacific Products Inc. (now Ewing Irrigation). Salter holds an MBA from the University of La Verne and a bachelor's degree in marketing from San Diego State University.

Cohen

Continued from page 60

physical organic chemistry with emphasis on hydrolysis reactions.

Nash termed Cohen "extremely helpful while with the EPA in jump-starting and implementing the Cape Cod Study."

Charles T. Passios, Hyannisport CC super, echoed Nash's comment and added, "Cohen is a highly-skilled technician of superb scientific background."

Before concentrating on the golf course aspect of business, Cohen managed ground water and environmental programs for Biospherics, Inc., Beltsville, Md.

The company's four major areas are targeted as: risk assessment for runoff and leaching of pesticides; turf agronomy and development of integrated golf course management plans; ground water monitoring studies, and environmental site assessment in real estate transactions.

Cohen said hottest golf course development action may be in Hawaii, though he has worked on projects in North Carolina, Michigan, Vermont, Rhode Island, New Hampshire and, of course, Massachusetts. His new firm recently won a major contract in Hawaii.

BENTGRASS

Chester Manni
Bodega Harbour Golf Links
Bodega Bay, CA

Armen Suny
Castle Pines Golf Club
Castle Rock, CO

Wesley L. Mathany
Glen Echo Country Club
Normandy, MO

Ben Crenshaw & David Doguet
Barton Creek Conference Resort
Austin, TX

Kenny Goodman
Bull Valley Country Club
Woodstock, IL

Wesley L. Mathany
Glen Echo Country Club
Normandy, MO

Steven A. Nash
International Town & Country Club
Fairfax, VA

Anthony W. Gustaltis
Whitemarsh Valley Country Club
Lafayette Hill, PA

Timothy O. Madden
Mt. Snow Country Club
Mt. Snow, VT

David Fleming
Singing Hills Country Club
El Cajon, CA

These Pros Know A Great Bentgrass When They See It.

It takes a real professional to recognize the benefits of a superior turfgrass. These superintendents are pros at growing grass. Their expertise is invaluable in evaluating new turfgrass cultivars. So when we developed Providence and SR 1020 we went straight to them. We realized that university data was useful but that evaluation by outstanding superintendents under varied golf course conditions was more important.

These superintendents have all used Providence and/or SR 1020. Their comments have been enthusiastic about the performance

of both cultivars: the color, texture, density, disease resistance, and heat and drought tolerance are outstanding.

Providence and SR 1020 also produce excellent putting quality. That's important to the superintendent and to the golfer. Especially, a professional golfer like Ben Crenshaw. Ben knows golf greens and appreciates a bent that can provide a fine textured, uniform surface with an absence of grain for true putting quality.

Both cultivars produce this outstanding turf and putting quality with reduced maintenance. That's

important to superintendents, golfers, architects, and greens committees.

So nationwide the pros agree, Providence and SR 1020 really are exciting new cultivars. They represent the new generation of creeping bentgrasses.



P.O. Box 1416 • Corvallis, OR 97339 • (800) 253-5766

Southern Turf Nurseries announces appointments Agronomy, horticulture specialists add expertise to operations

ATLANTA, Ga. — Southern Turf Nurseries has named James Bridges Jr. general manager of its Fredericksburg, Va., production farm and appointed Don W. Roberts consulting turf agronomist.

Bridges has more than 26 years experience in turfgrass management and has worked in golf course construction.

Bridges received a bachelor's degree in agronomy from Mississippi State University in 1966, and in 1978 completed the Golf Course Superintendents Association of America certification program. He has served as president of the Tennessee Golf Course

Association, Southern Turfgrass Association, and Tennessee Turfgrass Association.

Prior to joining Southern Turf on Nov. 1, Roberts worked for Pennington Enterprises Inc., where he served as senior agronomist in charge of research and development, fine turf seed marketing, and as golf course consultant for the U.S. Air Force. Roberts has worked with the University of



J. Bridges

Georgia Extension Service, and Clemson University Horticulture Department as coordinator of their turfgrass integrated pest management program.

He holds a bachelor's degree in horticulture from the University of Georgia College of Agriculture, and a master's degree in horticulture and turf pathology from Clemson University.



D. Roberts

Vigoro names Smith president of specialty items

John R. Smith has been appointed president of the specialty products division of Vigoro Industries, Inc., Fairview Heights, Ill.

Smith, a graduate of the University of Notre Dame, will be based in Winter Haven, Fla. Irv Stacy will remain as division vice president.

The division markets proprietary fertilizer products under brand names Par Ex and Woodace. This line of environmentally-oriented products features exclusive IBDU and Escote slow release nitrogen sources for the professional turf and ornamental industry.

More Varieties Available

Other Seed Research cultivars bred for golf courses include:

- SR 4000 Perennial Ryegrass
- SR 4100 Perennial Ryegrass
- SR 4200 Perennial Ryegrass
- Nova Perennial Ryegrass
- SR 3000 Hard Fescue
- SR 5000 Chewings Fescue
- Titan Tall Fescue
- Trident Tall Fescue
- SR 8200 Tall Fescue

For Additional Information

Contact your nearest Bentgrass Marketing Group member for information and university test results:

Agriturf
59 Dwight St.
Hatfield, MA 01038
(413) 247-5687

Arkansas Valley Seed Co.
4625 Colorado Blvd.
Denver, CO 80216
(303) 320-7500

Arthur Clesen, Inc.
543 Diens Dr.
Wheeling, IL 60090
(312) 537-2177

Crenshaw & Doguet Turfgrass
7447 Bee Caves Rd.
Austin, TX 78746
(512) 263-2112

Lea's Green Meadows, Inc.
5050 Beach Place
Temple Hills, MD 20748
(301) 899-3535

Old Fox, Inc.
38 N. Court St.
Providence, RI 02903
(401) 438-5000

Pacific Horticultural Supply
12714B Valley Ave. East
Sumner, WA 98390
(206) 863-6327

Plant Gro Corp.
P.O. Box 703
San Jose, CA 95106
(408) 453-0322

Professional Turf Specialties, Inc.
133 Kenyon Rd.
Champaign, IL 61820
(217) 352-0591

Smith Turf & Irrigation
P.O. Box 669388
Charlotte, NC 28266-9388
(704) 393-8873

Sweeney Seed Company
488 Drew Court
King of Prussia, PA 19406
(800) 544-7311

The Terre Co.
P.O. Box 1000
Clifton, NJ 07014
(201) 473-3393

FOREIGN GROUP MEMBERS:

Kenko Commerce & Co. Ltd.
Mizushima Bldg., 4th Floor
2-11, Uchikanda 3-Chome
Chiyoda-ku, Tokyo, 101 Japan
(03) 3258-8061

Rothwell Seeds Ltd.
P.O. Box 511
Lindsay, Ontario, Canada K9V 4S5
(705) 324-9591

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Seven Hills, N.S.W.
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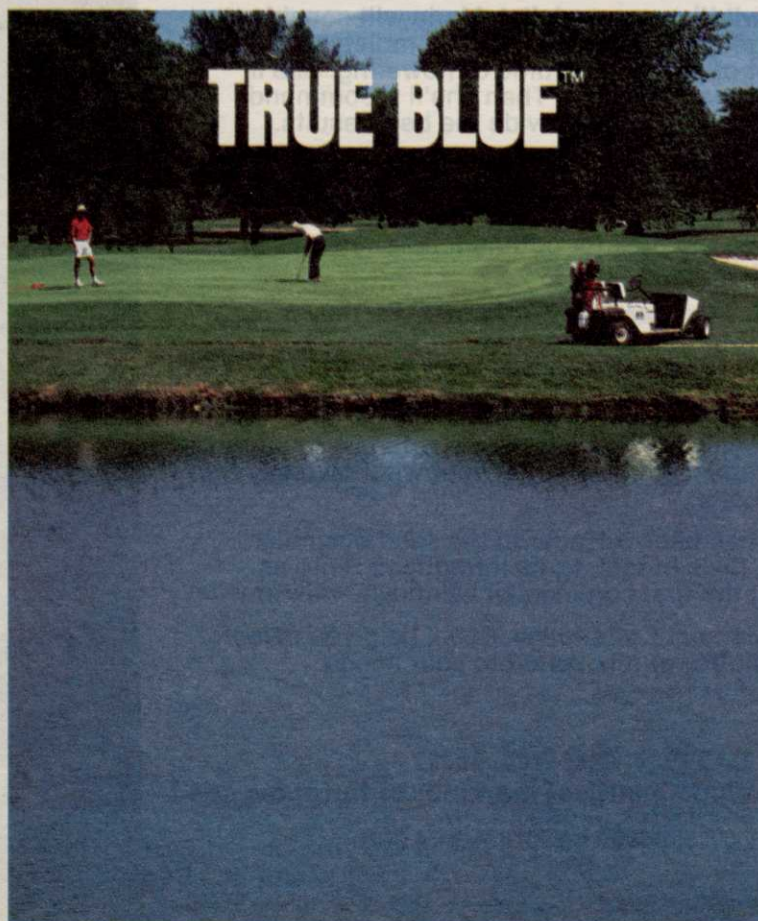
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CIRCLE #112/GCSAA BOOTH #208-210

Development conference to tap art of a deal

HILTON HEAD, S. C. — The Golf Development Conference here Feb. 20-21 spans a wide range of topics prominent in the industry.

Subjects will include: how to finance your deal; who's paying top dollar for courses; who will joint venture with you; major trends; how to use golf to create value, and cost to build and operate.

There will be in-depth talks on construction costs, special district bonds for low-cost money, assembling market study and feasibility analysis, land loans and raising

equity for golf projects, next steps by big developers, mistakes others have made that can be avoided, overcoming environmental obstacles, selling a golf course twice, and recycling waste water for irrigation.

Also, how to get Japanese money, public, private or semi-private course, club house expenditure, best way to tie in with a hotel, negotiating a development/management agreement, hot spots for new development, maximum value through master land planning, eco-

nomics of golf deals, and solving water problems.

A wealth of golf experience is embodied in these speakers:

Rees Jones, president, Rees Jones Inc.; Thomas Sasser, executive vice president, Golden Bear; Anthony Kindred, president, Kindred & Company; Tim Hiers, golf course manager, Johns Island Club; Patrick Fister, vice president, development, Hale Irwin Golf Services; William Horne, president, Club Operations & Property Management; Al Bechtel, president,

Golf Course Advisors; Kent Curley, president, AquaTurf; Bland Pittman, president, Pittman-Poe & Associates; Kent Crippin, director, Grant Thornton; Jack Sheaffer, partner, Sheaffer & Roland; Donald Breckenridge, president, Breckenridge Development; Joe O'Brien, senior developer, Marriott Golf Management; Russ Maloney, president, Maloney Golf Finance; Gary Derck, vice president, Edward Stone Jr. & Associates; Allan Reich, senior partner, McDermott Will & Emery; Paul Courtneil, attorney,

Gunster, Yoakley & Stewart; Robert von Hagge, president, von Hagge Design; Jim Rutherford, general manager, USX Realty Development; Mark King, president, Club Group Ltd.; Kurt Thiel, president, Designhaus; Anita Welch, president, Club Marketing; Donald Carpenter, senior vice president, American Golf, and Bran Fanning, president, American International Golf Resorts.

Interested people may contact Crittenden News Service, Inc., P. O. Box 1150, Novato, Calif. 94948.

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Wildflowers! They're a beautiful, low-maintenance alternative to mown turf. And no one can help you choose wildflowers better than Marie Pompei at Lofts.

As a wildflower specialist, Marie will consider your geographical area, the soil moisture, height of growth and time of flowering. She'll even consider colors. Then she'll recommend the specific mix to provide the best results.

If soil erosion or weed invasion are problems in your area, Marie can suggest the best companion grass. She'll also suggest how to properly manage the field for optimum floral display in the years to come.

Wildflowers need very little care. So they're perfect for roadsides, parks, golf courses, estates or industrial sites. They're ideal for areas that are hard to mow. Or any place that needs color. Try low-maintenance, natural wildflowers as your colorful alternative to high-maintenance turf. And get your wildflowers from Lofts.

Lofts has been a leader in the seed business since 1923. In fact, Lofts introduced Pinto as one of the first commercial wildflower mixtures.

Call Marie at Lofts today. She'll help you select the wildflower mix suited to your needs.



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CIRCLE #142/GCSAA #1422

Rutgers gets \$98,000 from seed royalties

Seed Research of Oregon has given more than \$98,000 in royalty payments to Rutgers University.

The royalty payments were based on sales of SR 4000, SR 4100, and SR 4200 perennial ryegrasses; Titan tall fescue and SR 3000 hard fescue. All of these varieties came out of Dr. Reed Funk's turfgrass breeding program.

Royalty payments in excess of \$4,000 and \$6,000 were also made to the University of Rhode Island and Arizona State University, respectively, for sales of the improved creeping bentgrasses, Providence and SR 1020.

Architects to see Britain's best at conclave

A 10-day tour of English golf courses will constitute the bulk of the American Society of Golf Course Architects' annual meeting.

Beginning April 20, the North American architects will visit some of England's great courses, meet with English architects, greenkeepers and historians, and discuss the future of the game with European counterparts.

The annual Donald Ross Dinner will be held at the Broughton Park Hotel in Broughton, Preston, on April 23. Each year the society presents the Donald Ross Award to someone who has made a significant contribution to golf, especially in focusing attention on the contributions its architecture has made to the success of the game.

ASGCA President Dan Maples said the architects have included Royal Birkdale, Royal Lytham's and St. Annes, Southport, Ainsdale, Royal Liverpool, Sunningdale, Wentworth, Royal Cinque Ports and Royal St. George's on their English tour.

Officials of each course will provide historical and architectural information. ASGCA members toured Scotland in 1980 and Ireland in 1985.



C. Grant Spaeth

Spaeth up for 2nd term with USGA

MINNEAPOLIS — C. Grant Spaeth, of Palo Alto, Calif., faced reelection to a second one-year term as president of the United States Golf Association when the Executive Committee voted here Jan. 26.

Nominations of officers and members of the Executive Committee were announced by William J. Williams Jr., chairman of the 1991 Nominating Committee and a former president of the USGA.

Others nominated as officers were Stuart F. Bloch, of Wheeling, W.Va., and Reg Murphy, of Baltimore, Md., as vice presidents; Eugene M. Howerdd Jr., of Atlanta, for his first term as secretary; and Judy Bell, of Colorado Springs, Colo., for her first term as treasurer.

Nine members of the 1990 Executive Committee had been renominated. They are Raymond B. Anderson, of River Grove, Ill.; Thomas Chisholm, Birmingham, Mich.; D. Ronald Daniel, New York City; John P. Diesel, Houston, Texas; M.J. Mastalir Jr., Englewood, Colo.; John D. Reynolds III, Augusta, Ga.; Jerry Stahl, Rochester, N.Y.; F. Morgan Taylor, Hobe Sound, Fla.; and Peter Trenchard, Sister Way, Wis.

Two new members were nominated: Trey Holland, of Zionsville, Ind., and Paul G. Jenkins, of Palm Desert, Calif.

B.P. Russell, of Morristown, N.J., left the Executive Committee after six years of service, including one as treasurer and one as secretary, and Richard F. Runkle, of Los Angeles, after three years.

Spaeth joined the Executive Committee in 1978. He was treasurer in 1983, secretary in 1984 and 1985, vice president from 1986 through 1989, and president in 1990.

Holland, 41, is a member of the board of directors of the Western Golf Association and the Evans Scholars Foundation. He has been a member of the USGA Sectional Affairs Committee since 1987.

A physician with Associated Urologists Inc., in Indianapolis, he was graduated from Wabash College and the Indiana University School of Medicine.

Jenkins, 63, is a former president of El Dorado Country Club, in Rancho Santa Fe, Calif. He has served as vice president of the Southern California Golf Association and as director of the Pacific Coast GA.

Spanish/English maintenance tape cuts training time

"Introduction to Golf Course Maintenance," a new video tape in Spanish or English, is a modern training tool that covers cup changing, cart maintenance, greens cutting and sand trap raking.

Author Jerry Mach, course superintendent at Lake Bluff Golf Club, Wauconda, Ill., believes the tape will cut two to three weeks from the initial training period, and help avoid costly mistakes.

After 24 years of golf course involvement (12 at private clubs and 12 at public courses), Mach realized that something was needed to reduce the training time of new seasonal employees.

The tape explains the team concept and what the total picture is before new employees begin work.

The tapes are available for \$39.95 apiece plus \$4 shipping and handling or \$80 for the pair with free shipping. For more than four tapes add \$1 per tape for shipping and handling.

To order copies write Mach IV Productions, P. O. Box 543, Wauconda, Ill. 60084; phone at 708-526-9122 or 708-234-6788.

Booklet discusses pumping stations

A multi-page presentation booklet used by Rick Reinders of Watertronics, Inc., at the recent Myrtle Beach, S.C., Turf Expo may prove useful to golf course operators.

The booklet was developed as a leave-behind primer on electronically controlled, electrically actuated pressure regulated pumping systems versus conventional hydraulic and relay logic types of pumping stations.

Watertronics, prominent in the irrigation pumping industry, is located in Elm Grove, Wis.

Chris L. Hague, superintendent at Hazeltine National Golf Club, Chaska, Minn., wrote, "Since changing to the Watertronics electric butterfly programmable logic pumping system, problems with proper adjustments, micro switches, water hammer etc., have been virtually eliminated.

"I probably spend 60 hours less time with this system, and have a high quality reliable source capable of keeping my flow and pressure demands where they should be. This has equated to more uniform sprinkler coverage and better playing conditions."

For more information write to Watertronics, 13400 A Watertown Plank Rd., Elm Grove, Wis. 53122.

The Future of Golf Course Irrigation Has Dawned

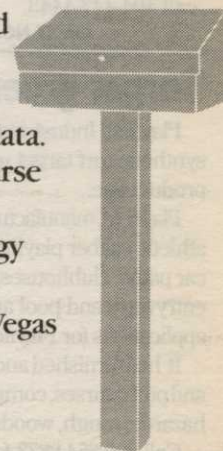


Hunter Moves Into Golf

Join Hunter at the International Golf Course Conference and Show and see the most technologically-advanced golf course irrigation equipment in the world. After years of research, Hunter introduces ETC, an intelligent control system that stores historical evapotranspiration data. Along with ETC, you'll also see an innovative new line of golf course sprinklers with precision distribution control.

Hunter moves into golf, and golf course irrigation technology moves into the 21st century.

SEE THE FUTURE AT BOOTH NO. 2611 February 9 - 12 in Las Vegas



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CIRCLE #153/GCSAA BOOTH #2611



Spray Safety Kit Suit

Spray safety kit makes pesticide applications safer

Parkway Research has introduced a new "Spray Safety Kit."

The kit contains supplies of all necessary safety equipment for safe pesticide, herbicide, fungicide or fertilizer applications.

Kits include respirators, replacement filters, disposable suits and gloves, and eye and dust protection.

"Trio," another new Parkway product, is a surfactant that provides wetting, tank acidification for spray mix pH reduction, as well as a compatibility agent to help mix otherwise incompatible chemicals.

Contact Parkway Research, P. O. Box 5441, Kingwood, Tex., 77325 or call 800-256-3668.

CIRCLE NO. 308

New pumping system available

SyncroFlo Eagle Series irrigation pumping systems now are available for golf, turf and irrigation markets.

The new Eagle systems are self-contained water pump stations that meet special requirements of golf course superintendents and other turf and irrigation professionals.

The pre-assembled systems include the PC-based controls for completely automated operation.

Special features include NEMA 3R rated enclosures and UL-listed electrical systems, a programmable logic controller which eliminates adjustments for routine operations and minimizes system downtime, and optional RS 232 port for on-line data communications to remote terminals or peripherals.

Contact SyncroFlo Inc., 6700 Best Friend Rd., Norcross, Ga. 30071 or call 404-447-4443.

CIRCLE NO. 332

Target green added

Playfield Industries Inc. has added synthetic turf target green to its golf product line.

Playfield manufactures all-weather, athletic caliber playing surfaces. Golf car paths, clubhouses, locker rooms, entryways and pool areas are typical applications for Playfield products.

It has furnished and installed pitch and putt courses, complete with water hazards, rough, woods and tee areas.

Call 800-654-8873 for the new golf products brochure.

CIRCLE NO. 337

Flail mower now in three widths

The new Ford heavy-duty Model 918H flail mower is available in 60-, 72- or 88-inch cutting widths.

Designed for tractors up to 72 PTO horsepower, the mower fits either Category I or II 3-point hitches and can be centered behind the tractor or offset to mow close to walls or other obstructions.

It has lateral float for more accurate work on uneven ground.

The new mower's ability to groom lawns and mulch clippings avoids the need for removal. Landfills no longer accept yard waste, and

composting is not considered feasible.

Forward rotation maximizes acreage mowing capacity. Reverse rotation provides even finer shredding.

A full-width rear gauge roller mounts close to the flails to provide positive cutting height control and prevent scalping on uneven ground.

Flails swing back to pass obstructions and can be reversed to extend use life.

For more information on the Ford heavy-duty Model 918H flail mower contact Ford New Holland, Inc., 500 Diller Ave., New Holland, Pa. 17557.

CIRCLE NO. 345

Feldmann makes hitch adapter

Feldmann Engineering and Manufacturing Co., Inc. has announced a new aeration accessory — the 3-point hitch adapter for use with Model 2340-32 or Model 2340-48 core plug pull-behind aerator.

Optional accessory No. 2510 enables use of the tractor's hydraulic power to lower and raise the aerator tines for coring or for over-the-road transport. The adapter is sized for category "0"/"1".

Built of steel angle and bar stock, it is fastened with four bolts to the aerator frame and does not inter-

fere when adding or removing weights for more or less core plug penetration.

Feldmann's new portable hydro-auger will drill through tough soils. It mates directly to the Feldmann power head, using a section of 3/4-inch pipe, and the socket head set screw.

The hydro drilling method employs the erosion principle of moving earth together with mechanical drilling. The kit used with the powerhead eliminates the need to trench through lawns and across streets.

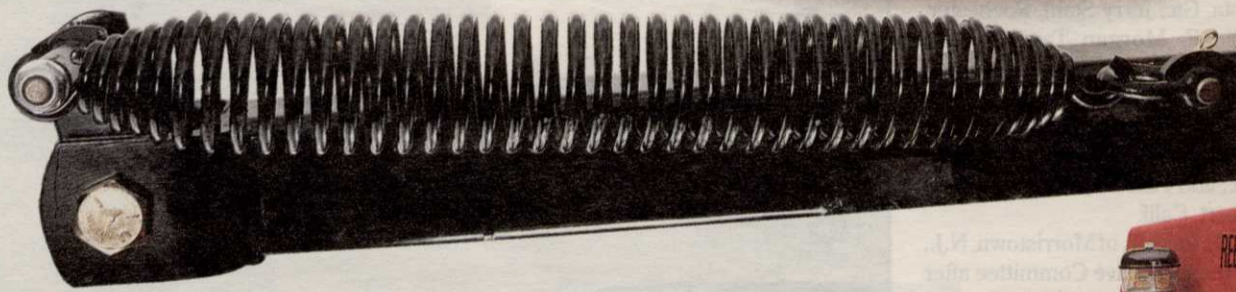
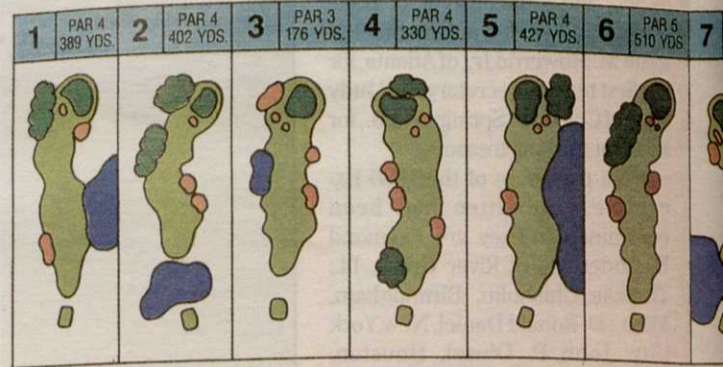
Contact Feldmann Engineering & Manufacturing Co., Inc., 520 Forest Ave., Sheboygan Falls, Wis. 53085-0908 or call 414 467-6167.

CIRCLE NO. 318

The Most Advanced Is Merely A Product

If you've been looking for a lightweight fairway mower that can deliver unsurpassed performance now and well into the future, your search is over. Introducing the Toro Reelmaster® 223-D. No other mower knows your fairways better. And through conditions of all kinds, the Reelmaster 223-D gives you the productivity and consistent quality of cut you've been striving for.

To meet golfers' rising standards, the 223-D combines superior technologies: It begins with an exclusive positive down pressure system. The system, adjustable at 4 positions in 8 lb. increments, helps to maintain the reels in position over varying contours for a smooth, consistent cut.



Next is the exclusive design of the cutting units. An easy rear roller adjustment changes height of cut from 1/4" to 3/4" while maintaining the correct bedknife angle. This assures consistent cutting quality throughout the height of cut range. Quality golfers can't help but notice.



Just a twist of two dials is all it takes to adjust reel speeds. This allows you to tailor your clip length to your specific turf conditions and height of cut at the mowing speed you find most productive.





Worksaver landscape rake

Landscape rakes level top soil

The new PLR Series of pull-type landscaperakes from Worksaver, Inc., can be used for landscaping, soil preparation, leveling and a variety of maintenance jobs.

The rakes permit close work around fences, walls and other objects.

Engineered with an adjustable clevis type hitch, the rakes fit most tractor hitch points and are designed for 10- to 22-hp tractors.

Other features include five angle positions, heavy-duty, heat-treated tines, transport/gauge wheels and an easy-to-reach lever that allows adjustment from tractor seat. A retractable grader blade assembly that locks out

of the way when not in use is optional.

Available in four-, five- and six-foot models, the grader blade is constructed from 1/4-inch steel and has bolt-on end plates that allow the blade to be used for leveling.

The rakes are available in three models. Model PLR-24 is a four-foot configuration designed for tractors up to 18 hp. Model PLR-25 is a five-foot unit designed for 10- to 22-hp tractors, and Model PLR-26 is a six-foot configuration for 10- to 22-hp tractors.

Contact Worksaver Inc., P.O. Box 1000, So. State St., Litchfield, Ill. 62056 or call 217-324-5973.

CIRCLE NO. 306

Amiad unveils new water filters

Amiad U. S. A. Inc. has unveiled a new line of electrically operated, automatic 8- to 14-inch filters for use primarily at golf courses.

Filtration is accomplished when particles are trapped by the stainless steel screen. Partial blockage causes a pressure differential between the filter inlet and outlet, activating the self-cleaning mechanism when the differential reaches 4 psi.

During the cleaning operation a hydraulic valve automatically opens while revolving brushes dislodge the particles trapped on the screen. They are flushed out through the open valve for 15 seconds without disrupting the continuous water flow through the filter.

Contact Amiad U. S. A., Inc., P.O. Box A, Reseda, Calif. 91337 or call 800-969-4055.

CIRCLE NO. 330.

Con/Span lowers maintenance cost

The load-carrying capacity and structural performance of Con/ Span's patented arch-box shape is particularly significant in the new 28-, 32- and 36-foot series.

The precast units are custom manufactured for site and loading requirements, then delivered and set in place within hours. The buried concrete structure and clear waterway opening eliminates most bridge maintenance costs.

Contact Con/Span Culvert Systems, 1563 E. Dorothy Lane, Dayton, Ohio 45429 or call 800-526-3999.

CIRCLE NO. 336

Ransomes adds safety equipment

Seeking to enhance safe equipment operation practices, Ransomes Inc. has designed operator present controls for Bob-Cat Mid-Size machines manufactured before 1989.

When the blades are engaged, the controls automatically stop the engine if the operator's grip on the handle is released. This stops the motion of the blade. The new controls help assure the operator uses good safety practices.

Conversions are available through authorized Ransomes/Bob Cat dealers.

CIRCLE NO. 335

Mulcher adapts to Deere mowers

A new leaf mulcher kit from John Deere & Co. can be placed in the mower discharge opening.

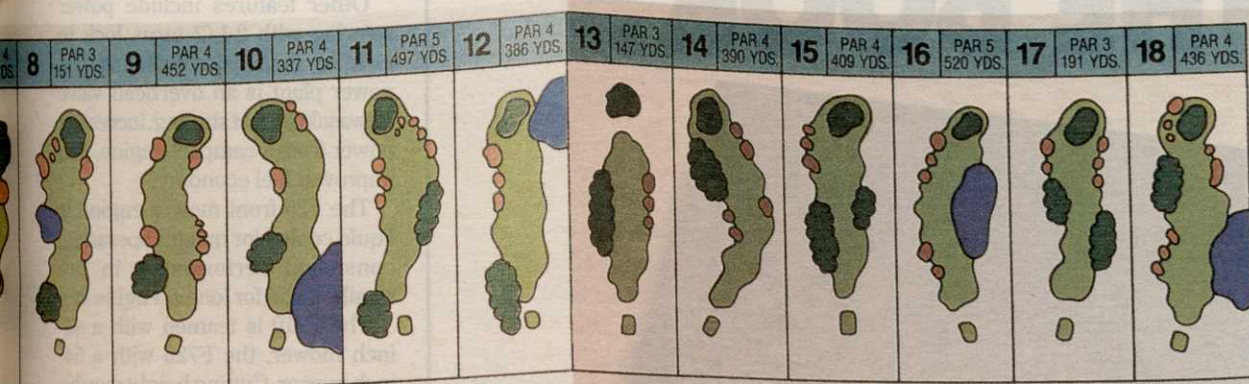
The attachment holds dry leaves in the mowing chamber so the cutting blades can chop them into tiny particles. The leaf particles are then blown into the turf.

The new attachment can be added to the 48- and 54-inch walk-behind mowers and the mowing decks of F710 and F725 foot mowers.

Contact Deere & Co., John Deere Road, Moline, Ill. 61265.

CIRCLE #341

Mower Ever Designed Of Its Environment.



The design of the Reelmaster 223-D has produced a new standard that other lightweight mowers are sure to follow. It's built cleanly and efficiently for smooth operation and easy servicing. All controls are conveniently arranged in one easy-to-reach location.

Maneuverability is unsurpassed due to a short wheelbase and precise, full-power quad-link steering. A taller tire design gives you greater traction with less compaction and faster turning without scuffing.

Golfers expect a well-groomed playing surface. And their standards are rising. Only the Reelmaster 223-D can handle the job. From bent grass to Bermuda, hills to contours, no other lightweight fairway mower gives you this kind of productivity, quality of cut or superior turf. Call your local Toro distributor for a demonstration. Or contact Toro at the address below.



TORO

The Professionals That Keep You Cutting.

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CIRCLE #165/GCSAA BOOTH #3001

John Deere introduces four new tractors

John Deere & Company, Moline, Ill., has introduced a series of four premium lawn tractors providing many unusual features.

Three hydrostatic "no-clutch" models include two foot pedals to control direction and speed — an industry exclusive. One model is powered by a liquid-cooled v-twin-cylinder gasoline engine. Another model is teamed with a 48-inch mower deck designed for easy on and off.

All four models are powered by John Deere K-Series overhead valve engines with full-pressure lubrication and oil filters for long engine

life. Overhead valve design delivers more power from a compact engine and improved fuel economy.

The two-pedal foot control relieves fatigue on a long mowing job because operators can rest their heels on the deck platform and pivot easily between pedals.

A new hydro interlock system provides an extra margin of safety by prompting the operator to lock the parking brake and shut off the mower drive (PTO) before leaving the seat when the engine is running.

The new series has been designed with comfort in mind. A con-

toured seat provides more low back support. Leg room has been increased, and an operator platform free of obstructions makes the tractor easy to mount and dismount. Steering effort and turning radius have been reduced, and control switches and levers have been redesigned to make them handier.

A new 48-inch mower deck is said to increase productivity dramatically on the 17-hp model.

Deere also has announced two new front mowers: the 17.5-hp F710 and the 20-hp F725.

On both models, a hydrostatic transmission controlled by two foot pedals allows the operators to keep both hands on the steering wheel and both eyes on the job.

A hydraulic weight transfer system permits the operator to transfer mower deck weight from the deck's caster wheels to the unit's drive wheels for improved traction and reduced caster wheel tracking. A differential lock increases traction on hillsides and in wet areas. The operators can change mower cutting height by turning a single crank handle at the front of the mower deck.

Other features include power steering with 2-1/2 turns lock to lock for responsive handling. The power plant is an overhead valve Kawasaki for fast starting, increased power from a compact engine, and improved fuel economy.

The F25 front mower engine is liquid cooled for quieter operation, consistent performance in hot weather, and for longer engine life.

The F710 is teamed with a 48-inch mower, the F725 with a 54-inch mower. Cutting height may be adjusted from 1 to 4 inches.

For more information contact Deere & Co., John Deere Rd., Moline, Ill. 61265.

CIRCLE NO. 340

Toro improves mower traction

The Toro Co. has introduced a new hydrostatic-drive option for 14-horsepower and 18-horsepower mid-size, walk-behind mowers as part of an expansion that includes new products in the ProLine lineup.

Hydrostatic drive improves traction because there are no belts. Other key benefits include zero-radius turning, instant reverse and lower maintenance.

The Toro hydrostatic drive features two Sundstrand pumps and two Ross wheel motors with ball bearings and tapered output shafts for increased durability. The unit also features a hydraulic oil cooling system for longer life.

Another development for mid-size walk-behinds is a new operator-presence control, which automatically places the traction system in neutral and disengages the blade. The engine remains running.

For more information, write The Toro Company, ProLine Products, 8111 Lyndale Ave. South, Minneapolis, Minn. 55420.

CIRCLE NO. 329



John Deere LX178 Mower

BEFORE YOU BUY JUST ANY BENTGRASS, GO BY THE BOOK.



Phone 1-800-547-0255 today for your complimentary copy of the Penn Pals catalogue. You'll see why Penncross, Penneagle, PennLinks and Pennway blend set the standard for bentgrass on golf courses.

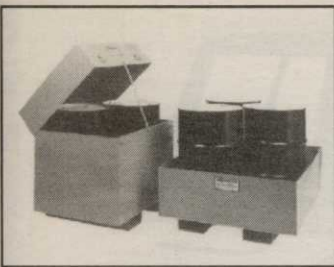
Tee-2-Green Corp.

PO Box 250, Hubbard, OR 97032

FAX 503-981-5626

1-800-547-0255

CIRCLE #158/GCSAA BOOTH #718-726



ECC Waste Oil Containment System

Waste oil containment prevents spills

Portable secondary containment for drummed waste oil now is available from Environmental Container Corporation.

Steel Enviropac open dikes and covered vaults provide this secondary containment for two or four 55-gallon drums.

In addition to eliminating the potential liability from leaking drums, the system provides a sump to catch potential environmental spills during the filling of drums. Safe storage is provided until the drums are picked up.

Contact Environmental Container Corporation, P. O. Box 161, Delafield, Wis. 53018. or call 800-729-7137.

CIRCLE NO. 307

Kubota mower gets new engine

Kubota's new F2400 front mower is equipped with a 24-hp, vertical, liquid-cooled, 4-cycle, 3-cylinder diesel engine.

The F2400's hydrostatic transmission (HST) works together with the front differential lock and 4WD to provide powerful traction and allow for smoother operation on uneven or slick terrain.

A tight 60-degree rear wheel turning angle and off-set cutting ability makes it easier to mow around the base of bushes and trees.

The new mower ensures good visibility and ease of operation. Main levers and indicators are conveniently located. The F2400's tilt steering wheel, combined with power steering, reduces operator fatigue.

Contact Kubota Tractor Corporation, 550 West Artesia Boulevard, Compton, Calif. 90220.

CIRCLE NO. 312

Signs made from recycled metal

Signs and Blanks, Inc. announces availability of signs manufactured from 100 percent recycled aluminum.

This new alloy, a recent innovation in aluminum technology, is compatible with current highway sign requirements.

In addition, recycled aluminum signs are ideal for other sign needs, including mass transit, parks and recreation areas and utilities.

For more information, contact Signs and Blanks, Inc., P. O. Box 2234, Akron, Ohio 44309-2234. or call 800-837-2245.

CIRCLE NO. 311

Irrrometer system has four zones

Irrrometer Co., Inc. has introduced a new soil moisture control system for automatic landscape irrigation systems.

The Watermark four-zone moisture control panel interfaces with any standard 24 VAC irrigation controller.

An irrigator can divide the valves on a controller into as many as four "zones" representing various irrigation needs, such as turf versus shrubs, full sun versus shade and top of a slope versus toe of a slope.

Each "irrigation need" zone then has its own moisture sensing station, which in turn controls the valves which irrigate that "irrigation need" zone.

Each zone can be independently adjusted and fine-tuned at the panel for desired moisture level.

The panel also features a bypass capacity switch for manual override of the sensor control.

Contact Irrrometer Co., Inc., Dept. WCP, P.O. Box 2424, Riverside, Calif. 92516-2424 or call 714-689-1701.

CIRCLE NO. 331

New bio-fertility product available

Turftech II, a new bio-fertility product, will be introduced by Soil Tech at the Golf Course Superintendents Association of America Conference and Show Feb. 9-12 at Las Vegas, Nev.

Consisting of dormant microorganisms in a wettable powder, it can be used with any type of grass to enhance soil-plant relationships.

When applied to the soil, these legume-like microbes produce organic compounds which include nitrogen from

nitrogen fixation, polysaccharides, organic acids and plant growth stimulating hormones.

The product is spray-applied at 45- to 60-day intervals during the growing season.

This natural process is ecologically safe and poses no threat of phytotoxicity.

Combining nitrogen-fixing bacteria with the soil-aggregating agent polysaccharide, Turftech II is considered a breakthrough in soil management.

Contact Soil Technologies Corp., P.O. Box 1415, Fairfield, Iowa 52556 or call 515-472-3963.

CIRCLE NO. 333

To Get Better Pythium Protection You'd Have To Take In The Turf At Night.



When Pythium conditions are right, you can either take in the turf or take out the best Pythium control money can buy: CHIPCO® ALIETTE® brand fungicide. CHIPCO® ALIETTE® brand is unlike any other Pythium-prevention fungicide. Its true systemic action spreads protection throughout every blade of turfgrass, including the roots. Protection that lasts up to 21 days from a single application.

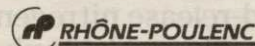
Plus, the unique chemistry of CHIPCO® ALIETTE® brand actually stimulates turf's natural ability to fight off infection.



So you get two-way protection that can't be beat. Now add to that the fact that a foliar application of CHIPCO® ALIETTE® brand prevents

Phytophthora and Pythium on a wide variety of ornamental and landscape plantings, and you've also got the most versatile fungicide on the market today. So when conditions are right for Pythium, don't roll up the turf, lay down CHIPCO® ALIETTE® brand fungicide.

Chipco® Aliette®
Brand Fungicide



Rhône-Poulenc Ag Company, 2 T.W. Alexander Drive, Research Triangle Park, NC 27709. For additional product information, please call: 1-800-334-9745.

As with any crop protection chemical, always read and follow instructions on the label. CHIPCO and ALIETTE are registered trademarks of Rhône-Poulenc. © 1990 Rhône-Poulenc Ag Company.

CIRCLE #167/GCSAA BOOTH #830

New cab now available for Cushman utility vehicle

Cushman has announced a new fiberglass cabin for its GT-1 utility vehicle.

The cab provides security for the operator and his equipment, plus protection against inclement weather.

The durable one-piece fiberglass cab, designed specifically for the GT-1, is available with galvanealed steel doors and high quality paint finish to minimize rust and fading.

The doors have double-catch

safety latches, lockable for improved security. Doors also have sliding, safety glass windows, to eliminate the problem of scratching.

A front air vent permits flow-through ventilation. An optional roof vent is available. Acoustic foam insulation in the roof, back and floor panels reduce noise.

The GT-1 cab attaches so that the vehicle box can be easily tilted for inspection and service.

Other options include a dome light, vinyl doors and tool box.

Capacity is 1,200 pounds, yet is only 45-1/2 inches overall in width and 105 inches overall in length. Maximum speed is 12 mph and the vehicle seats two.

For details and pricing, contact a Cushman dealer or write: Cushman, Inc., P. O. 82409, Lincoln, Neb. 68501 or call 800-228-4444.

CIRCLE NO. 302



Cushman utility vehicle cab

New Ditch Witch trencher ready

The first all-hydraulic modular trencher/plow has been introduced by Ditch Witch.

The 50-HP class Model 5020 has a hydraulic digging chain/vibratory plow drive.

The 5020 is available with a full complement of Modularmatic work modules, including backhoe, vibratory plow and combo attachments.

Digging attachments use power-efficient hydraulic components that maximize torque for greater productivity.

The digging module drive uses a double reduction gearbox and is available in three speed options for hard, standard or easy digging conditions.

The vibratory plow module requires no daily maintenance because of its dry rotating eccentric weights. A hydraulic plow swing adds controllability when working on slopes.

For more information contact The Charles Machine Works, Inc., P. O. Box 66, Perry, Okla. 73077 or call 800-654-6481.

CIRCLE NO. 303

Dol overseeder quickens job

Dol Brothers has introduced the DB-Ov200 commercial overseeder.

The OV 200 will overseed up to 20 acres per day. Incorporating a double row of staggered seeding discs has made possible seed row spacing of 1-1/2 inches.

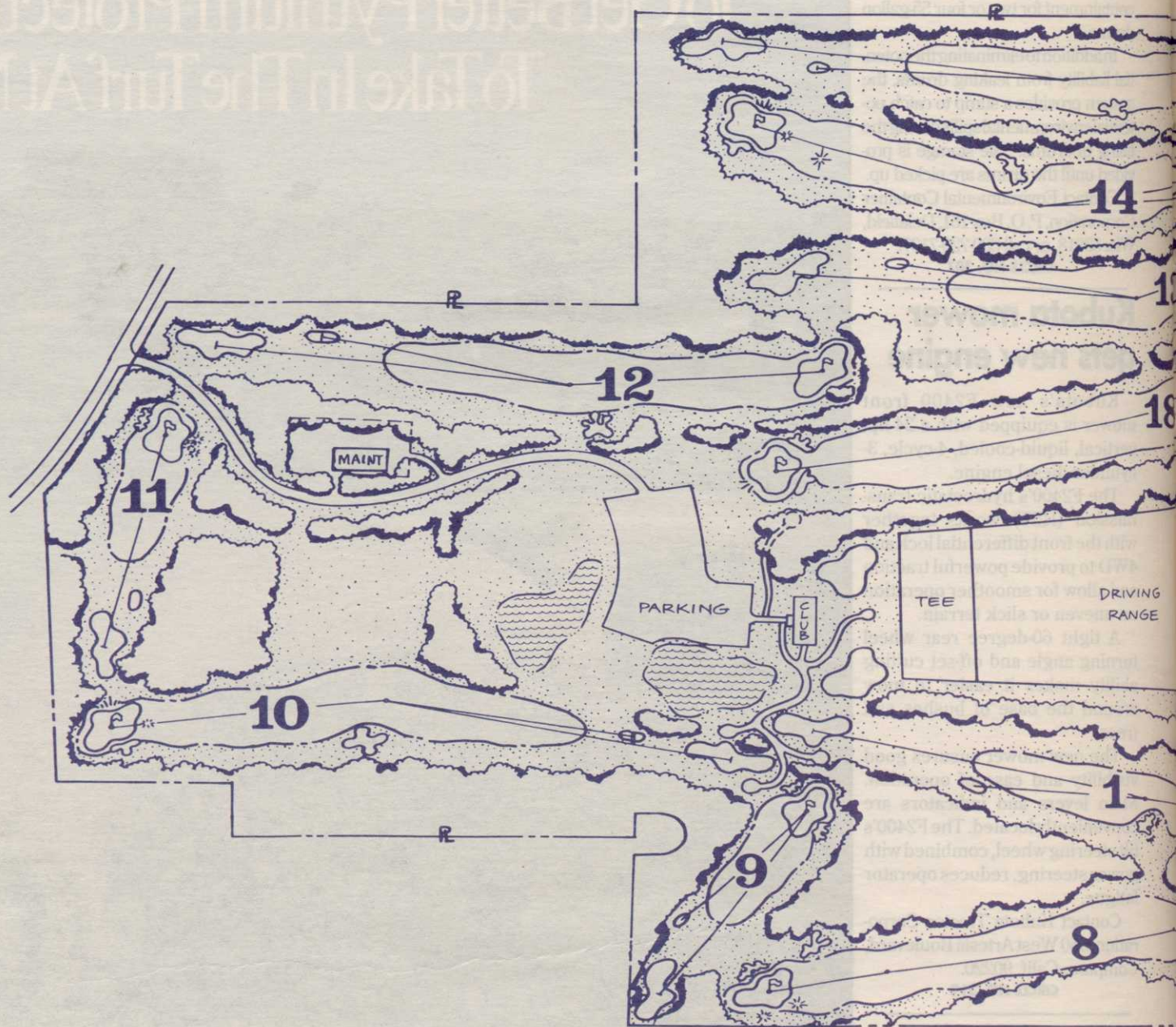
Each of 43 seed planters is individually sprung so that the seeding depth remains constant, regardless of ground contours. The double disc seed placement system ensures precise seed placement for maximum germination.

This system will cut through thatch or compacted soil without the necessity of being preceded by a vertical mower. This leaves the playing surface virtually undisturbed and ready for immediate use.

The machine is easily calibrated for all types of turf seeds and may be used for subsoil placements of granular materials such as insecticides.

For more information contact Dol Brothers Ltd., R. R. #4, Cookstown, Ont., LLO 1L0 or call 705-458-4353.

CIRCLE NO. 304



You've designed the ultimate floor

Compared to all the work that goes into building a golf course these days, choosing the seed and fertilizer is simple.

You simply choose the proven, the failsafe, the best. Scotts® HD Starter® Fertilizer and PennPals® bentgrass seed.

HD (for high density) Starter Fertilizer gives new seedlings everything they need, except sunshine and water. It provides controlled-release nitrogen in proper balance with readily-available phosphorus and potassium

to promote vigorous seedling growth and root development. And its homogenous, free flowing, high density particles provide even distribution of required nutrients.

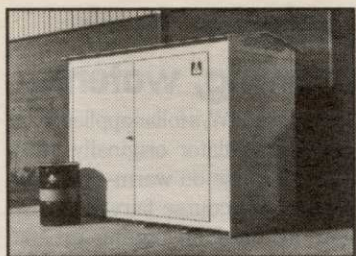
You don't have to worry about it burning or quitting early, either. HD Starter uses a readily-available phosphorus source (monoammonium phosphate) to stimulate rapid response and safely transform newly seeded areas into thick, attractive turf. While controlled-release nitrogen assures sustained, vigorous top growth.

Steel buildings store hazardous materials safely

A new line of prefabricated steel buildings designed for the storage and handling of hazardous materials now is available from X. S. Smith, Inc.

The buildings qualify as secondary containment structures to comply with federal, state and local regulations to prevent spills or leaks from contaminating groundwater.

The buildings are suited for storing pesticides, herbicides, growth retardants, fertilizers and other horticultural and agricultural



Smith's steel containment building products.

All units feature heavy duty steel construction, a chemical-resistant epoxy finish, require no additional foundation or support, with explosion relief roof panels and vents for cross flow and gravity ventilation.

Contact X. S. Smith, Inc., Drawer X, Red Bank, N. J. 07701.

CIRCLE NO. 315

Kubota launches Verti-Reel product

Kubota Tractor Corporation has launched the Verti-Reel product line, complete mowing and cutting units for total turf maintenance.

Ideal for golf courses, sports fields, sod farms and other commercial mowing applications, this line features 5-gang and 7-gang units.

The 5-gang unit is designed for use with the L3250F turf special tractor, the 7-gang unit with the M4030SU turf special tractor.

The power pack, mounted on the tractors' 3-point hydraulic hitch, enables the operator to

clearly view clearly the cutting reels.

The 5-gang reel has a cut blade reel mower easily converted to a vertical cutting unit.

Heavy-duty, reversible blades with close spacing for efficient thatch removal ease vertical cutting.

The 7-gang mower heads have eight blades and 7-1/2-inch diameter reels that clip every 1/4-inch of turf. Reel speed is adjustable from 210 to 1400 rpm, independent of ground speed.

Contact Kubota Tractor Corporation, 550 West Artesia Boulevard, Compton, Calif. 90220.

CIRCLE NO. 327

Club washer cleans irons fast

Par Aide has introduced a simple, versatile club washer for dirty irons.

The club is scrubbed front and back by a pair of brushes that remove dirt and grime in seconds.

The washers are ideal for par 3 tees, mounted below the ball washer in tandem with a spike brush or shoe cleaner. They are appreciated on driving ranges and practice tees, mounted right on the ground.

Mounted on any rigid, vertical surface, many courses have installed them near the clubhouse or locker room entrance. They even mount on golf carts.

Each washer comes with a flanged base for mounting on horizontal surfaces. For mounting on vertical surfaces, there is an optional mounting bracket.

Contact Par Aide Products Company, 3565 Hoffman Rd. East, St. Paul, Minn. 55110 or call 612-779-9851.

CIRCLE NO. 321

HP markets new rotary mower

Howard Price Turf Equipment has introduced its 1260 Turf Blazer rotary mower.

A combination of a 60-inch mower out front and two 38-inch hydraulically operated wings provides 75-percent capacity over a standard 72-inch mower.

The wings are strategically located in line with drive wheel pivot point for maximum trimming capabilities, even under trees and bushes. It has a 4-cylinder, water-cooled, 40-hp diesel engine in conjunction with hydrostatic transmission.

Contact Howard Price Turf Equipment, 18155 Edison Avenue, Chesterfield, Mo., 314-532-7000.

CIRCLE NO. 310

Lofts introduces new bluegrass

Lofts Seed Inc. has introduced an unusually aggressive Kentucky Bluegrass.

Princeton, P-104 is so vigorous that only five to 15 percent completely dominates a sod blend in two to three years. Only five per cent seeded today can be 100 percent within a few years.

Contact Loft Seed Inc., Bound Brook, N.J. 08805-0146 or call 201-356-8700.

CIRCLE NO. 326

Kwik-Trench improves trencher

Kwik-Trench Earth Saw has introduced an all-new model K-T 200 double V-belt drive portable trencher.

The V-belt drive system eliminates engine vibration and any PTO damage due to operator abuse in problem digging areas. It will cut a 6-inch root in seconds and still leave a clean trench.

Contact Kwik-Trench Ditch Digger, P. O. Box 987, Lehigh Acres, Fla., or call 800-327-4997.

CIRCLE NO. 313



plan. Don't skimp on the carpeting.

But, of course, no matter what fertilizer you use, you have to start with the best seed. Penncross, Oregon Blue Tag Certified Seed, is the standard of the industry. For thirty-five years it's proven itself through heat, drought, snow and flood as the premium surface for greens, tees and fairways.

Your Scott Tech Rep—a trained agronomist—can help you design a seeding and fertility program to fit your exact floor plan and your budget. Which makes it seem silly to consider

anything else. Because the way we see it, designing a golf course and skimping on the turf is like designing a swimming pool and skimping on the water.



© 1989 O.M. Scott and Sons. *PennCross, Penneagle, PennLinks and Penway blend from Tee-2-Green Corp.

CIRCLE #168/GCSAA BOOTH #240

Dixon mower speeds work on course

Two 50-inch cut ZTR riding mowers, the ZTR 502 and ZTR 503 HG, mark the Series 500 mowers in Dixon Industries' 1991 line.

Both feature Sundstrand BDU piston-type hydrostatic drive transmission with continuous fluid recirculation to help prevent overheating and stalling under grueling conditions.



Dixon ZTR Riding Mower

Both also have quick-release flip-up bodies for easy maintenance and servicing, and both

are designed with six-way seat adjustment for operator comfort.

A 20-hp Kohler engine powers the ZTR 503 HG.

Independent hydro-gear units on each drive wheel are sealed in a self-lubricating assembly.

The combination delivers a smooth, quiet turning radius operation.

ZTR 502 is powered with an 18-hp Kohler engine and chain drive to the rear wheels.

Contact Dixon Industries, Inc., P. O. Box 1569, Coffeyville, Kan. 67337-0945 or call 800-635-7500.

CIRCLE NO. 305

Cutless reduces mowing, watering

Cutless 50W, a foliar-applied plant growth regulator originally introduced for use on warm- and cool-season golf course fairways, also may be used on putting greens, bunkers, tees, green collars, around traps and cart paths, and on hard-to-mow areas.

It can reduce turfgrass water use. A Type II plant growth regulator, it suppresses vertical turf growth but has little effect on other processes such as seedhead development.

Vertical foliar growth is reduced due to suppression of gibberellic acid. Turfgrass grows thicker and

more competitive.

Cutless is absorbed by the plant's leaves and roots after irrigation or rainfall.

Contact DowElanco Specialty Products, 4040 Vincennes Circle, Indianapolis, Ind. 46268-3030 or call 317-870-7126.

CIRCLE NO. 324

Lawnaire has several options

New Ryan Lawnaire IV aerators come in a choice of engines.

The Lawnaire IV is available with an optional 3.5-hp Honda air-cooled engine. The aerator can be ordered with the standard 3-hp, Briggs & Stratton 1/C air-cooled engine. Both are gasoline powered.

The Lawnaire IV is a self-propelled, roll-type aerator that can core aerate up to a depth of 2-3/4 inches, with a 19-inch operating swath that leaves a hole pattern of 3-3/4 inches x 7 inches.

The Lawnaire IV is equipped with a 55-pound capacity polyethylene water drum which, when filled, adds weight for better tine penetration in dry or hard soils. The unit also comes with a removable 38-pound weight bar for additional downward pressure.

Other improvements for the newest models include engine-protecting frontguard, protective shields for drive chains, heavier lift handle with locking hardware, a stainless steel throttle cable and two lubrication fittings on the tine axle.

Contact Cushman, Inc., P. O. Box 82409, Lincoln, Neb. 68501 or call 800-228-4444.

CIRCLE NO. 323

Bermudagrass seed available

Cheyenne "turf type" bermudagrass seed will be available to the professional and home lawn market in the spring of 1991.

Arizona certified production fields at Pennington's affiliate Cactus Seed Company near Roll, Ariz., produced seed as scheduled, and production acreage will be expanded quickly.

It features compact growth, dark green color, excellent cold tolerance and ease of establishment for seed. It stays green significantly longer in the fall and greens up earlier in the spring.

Contact Pennington Seed, P. O. Box 290, Madison, Ga. 30650 or call 404-342-1234.

CIRCLE NO. 322

Improved Walk-R-Ide on market

Terracare has introduced a redesigned Walk-R-Ide, WR 11.

The revised model has 70 aerating tines or deep spiking tines. Tines are free swinging and are mounted on an individual disk for easy turning with a minimum of turf damage.

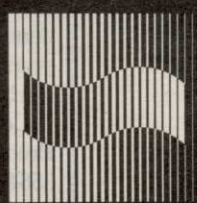
The Walk-R-Ide has an aerating width of 18 inches and is powered by an 8-hp Briggs & Stratton engine.

A quick lift from aerating position to transport is a special feature.

Contact Terracare Products Co., Inc., P. O. Box 506, Pardeeville, Wis. 53954 or call 608-429-3402.

CIRCLE NO. 316

THE BEST PUMP STATION ON THE MARKET IS NO LONGER BEST.



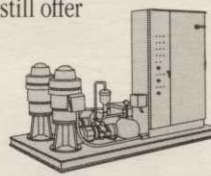
FLOWTRONEX
International

(Announcing a new division of Best Equipment)

It's Flowtronex International.

So why did we change our name? Simple. Because we wanted to better serve the turf grass industry with a division solely dedicated to it. And the name had to reflect the technical expertise and global experience already established under Best. Therefore, the creation of our new name. Flowtronex International.

But you'll discover that's the only thing we've changed. We still offer you the world's most dependable Variable Speed Pumping Systems.

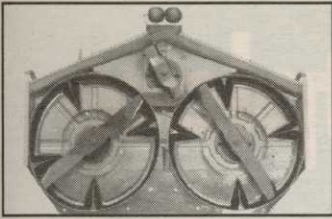


And we still include our powerful, energy saving Smoothflow control software with every Flowtronex VSPS. But most importantly, we still give you the personal attention that insures your new pump station is perfect for your course. Perhaps that's why twice as many superintendents use our VSPS's on their golf courses as all our competitors variable frequency drive stations combined.

So if you're in the market for the best pump stations available, remember Flowtronex International. It's the name that's better than Best.

For more information call
1-800-537-8778 or write
Flowtronex International
P.O. Box 7095 Tyler, TX 75711.

CIRCLE #169



Toro 48-inch Recycler

Toro's ProLine debuts Recycler technology

Recycling grass clippings is no longer something that concerns only homeowners.

Toro is introducing several Recycler ProLine products that leave lawns looking professionally cut without bagging.

Models new for 1991 include: a 21-inch heavy-duty Recycler walk-behind mower, a 48-inch Recycler deck for walk behind and riding products, and a recycling kit for 32-inch mid-size walk-behind mowers.

There has been fear among homeowners and commercial cutters that leaving grass clippings on lawns will cause thatch buildup," noted ProLine marketing manager Jim Wallace.

"Also, there is concern about the final appearance of an unbagged lawn because existing mulching mowers will not leave the lawn looking as if had been bagged. Toro's Recycler mowing technology will solve both problems."

The new 48-inch deck is designed to accommodate all conditions where 44-inch and 52-inch side-discharge decks with or without baggers are used.

The 48-inch Recycler deck features a multiple spindle design with two recycling chambers and a center blade to cut the overlap.

The 21-inch Commercial Recycler comes with a bag for use when bagging is required. The unit features a commercial-grade rear-wheel drive and is CPSC certified. It is powered by a two-cycle Suzuki engine. Recycler conversion kits will be available for existing Toro commercial rear-bagging mowers.

The final element of the Pro-Line yard-refuse product teams is a Recycling conversion kit for 32-inch decks. It contains Recycler deflectors, a special blade and a metal shield that goes over the side-discharge chute.

For additional information, write: The Toro Company, ProLine Products, 8111 Lyndale Avenue South, Minneapolis, Minn. 55420.

CIRCLE NO. 301

New sand rakes easier to find

Sand traps must be maintained, but misplaced rakes are a problem.

Frank Venezia of Philadelphia, Pa., has invented the Sand Stand to end that annoyance. Early response has been most favorable.

For more information on Sand Stand contact National Idea Center, 4545 42nd St., NW, Washington, D. C. 20016.

CIRCLE NO. 320

New attachments from Bobcat

The Melroe Company has introduced two earth auger attachments for use on its Bobcat loaders.

A unique knuckle-joint style of linkage makes it easy to position the auger with plumb-line accuracy, regardless of the terrain or position of the machine.

The Bobcat auger is available in model 12, for standard applications, and 18, for tougher digging applications that require higher torque.

Auger bits range from six to 30 inches in diameter, with a digging depth of more than four feet.

The model 843B skid-steer loader is Melroe Company's latest product.

The 843B features a four-cylinder, 169-cubic-inch, liquid-cooled Isuzu diesel engine rated at 54 hp. A rated operating capacity of 1,700 pounds and tipping load of 3,420 pounds makes the 843B useful in markets ranging from construction, rental and industry to agriculture and agribusiness.

More than 20 attachments are available.

Contact Leroy Anderson, Marketing Communications, Melroe Company, P. O. Box 6019, Fargo, N. D. 58108 or call 701-241-8700.

CIRCLE NO. 309

ParCar unveils 1991 features

New features on 1991 Columbia ParCars are a centrally located ball holder for convenience of both golfers and slightly more angled seat backs for golfer comfort.

The Classic model features an angled back rack with a tilt-up rear body. The Legacy features exclusive clam shell rear body style.

Other features common to both

are dash-mounted safety directional key switch, 2-cycle engine, speed control module and speed balanced rack and pinion steering with front wheel camber adjustment.

Contact Columbia ParCar Corp., P. O. Box One, One Golf Car Road, Deerfield, Wis. 53531 or call 608-764-5474.

CIRCLE NO. 319

Plant feeder works on turf or garden

Peters Plant Food of Milpitas, Calif., has introduced the Peters Professional Lawn & Garden Feeder.

This gardening tool is equipped

with a unique all-in-one dual nozzle with two spray patterns — one for lawns and one for flowers and plants.

CIRCLE NO. 325

PENNINGTON

DELIVERS YOUR SEED NEEDS NATIONWIDE

Quality Brands...Research...Production...Personal Service

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TURF TYPE TALL FESCUE 5GL

Finelawn 1
TURF TYPE TALL FESCUE

Wrangler
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Call Toll Free
1-800-277-1412

For additional information write
PENNINGTON SEED, INC. Turf Dept.
P.O. Box 290 • Madison, Georgia 30650

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2. Pennington Seed, Inc. of Columbia
Columbia, SC (803) 771-4222
3. Pennington Seed, Inc. of Cullman
Cullman, AL (205) 734-9486
4. Pennington Seed, Inc. of Orlando
Orlando, FL (407) 295-6271
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Roll, AZ
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Lebanon, OR

PRODUCTION FACILITIES

CHEYENNE
TURF TYPE / BERMUDAGRASS

TRIPLE PLAY
ELITE PERENNIAL RYEGRASS BLEND

Stallion
TURF TYPE PERENNIAL RYEGRASS

SUNRISE
Two Forty Six
TURF TYPE PERENNIAL RYEGRASS

Chateau
PREMIUM KENTUCKY BLUEGRASS

Pebble Beach
Perennial Ryegrass
(Turf Type)

Ask for: **PENKOTE**

Increased Plant Survival
Fungus Protection
Increased Drought Tolerance
Less Attractive to Birds

Insure your stand.

February

5-12 — 62nd Annual International Golf Course Conference and Show, sponsored by the Golf Course Superintendents Association, in Las Vegas, Nev. Contact the GCSAA at 1617 St. Andrews Drive, Lawrence, Kansas; 913-841-2240.

6-7 — Garden State Nursery and Landscape Conference and Trade Show in Somerset, N.J. Contact the New Jersey Nursery and Landscape Association at 609-737-0890.

15-16 — Association of Professional Landscape Designers Annual Meeting and Symposium in Bethesda, Md. Contact Environmental Design at 301-652-1212.

19-21 — Northeastern Pennsylvania Turfgrass and Grounds Maintenance School in Nanticoke. Contact William Pencek at 717-963-4761.

20-21 — Golf Development Conference at Hilton Dead, S.C., coordinated by Crittenden Research Institute, with speakers from various segments of the industry on topics ranging from designing to developing, managing and marketing. Contact Crittenden at 250-G Bel Marin Keys Blvd., Novato, Calif. 94949; telephone 415-382-2486.

21 — Pennsylvania Golf Course Owners executive board meeting in Monroeville. Contact President Carol Nill at 1322 Penhurst Drive, McKeesport, Pa. 15135; 412-751-0852.

21-22 — Landscape Industry Conference and Trade Show in Denver, Colo. Contact Associated Landscape Contractors of Colorado at 303-425-4862.

22-23 — American Landscape Maintenance Association Expo in St. Petersburg, Fla. Contact ALMA at 800-992-ALMA.

26-27 — Irrigation Part I seminar, sponsored by GCSAA, in Seattle, Wash.*

26-28 — Western Pennsylvania Turf Conference and Trade Show in Monroeville. Contact the Pennsylvania Turfgrass Council at 814-863-3475.

28-March 1 — GCSAA seminar in Cincinnati, Ohio, on Landscape Design and Materials.*

March

10-12 — Ohio State Golf Course Owners Conference in Akron. Contact Allan Whaling at 614-889-1593.

12 — Seminar on Recent Developments in Turfgrass Disease and Control by Dr. Houston Couch in Edmonton, Alberta, Canada. Contact the Canadian Golf Superintendents Association, 203-2000 Weston Road, Weston, Ontario M9N 1X3; 800-387-1056.

12-13 — GCSAA seminar in Philadelphia, Pa., on Environmental Considerations in Golf Course Management.*

13-14 — Reinders Brothers, Inc.'s 10th Turf Conference, Equipment Show and Service Clinic at Waukesha (Wis.) Expo Center. Contact Ed Devinger at 13400 Watertown Plank Road, Elm Grove, Wis. 53122; 414-786-3301.

15 — Seminar, "Update on Pesticides and Spraying Calibrations," by Dr. Chris Hall in Hamilton, Ontario, Canada. Contact the Canadian Golf Superintendents Association, 203-2000 Weston Road, Weston, Ontario M9N 1X3; 800-387-1056.

18-19 — GCSAA seminar in Minneapolis, Minn., on Public Relations and Public Speaking.*

21 — GCSAA seminar in Milwaukee, Wis., on Safe Pesticide Management.*

Continued on page 75

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Continued from page 74

24 — *Seminar on Soil Modifications in Montreal, Quebec, Canada*, by Dr. Donald Waddington. Contact the Canadian Golf Superintendents Association, 203-2000 Weston Road, Weston, Ontario M9N 1X3; 800-387-1056.

25-26 — *GCSAA seminar in Indianapolis, Ind.*, on Integrated Pest Management.*

April

11-14 — *Golf Asia '91, the first international golf show for the Asia-Pacific region*, at the World Trade Centre in Singapore. Contact Zainal Abidin Shah, exhibition manager, at Connex Private Ltd., 3015A Ubi Road 1 #05-11/12, Kampong Ubi Industrial Estate, Singapore 1440; telephone 7489696.

16-17 — *GCSAA seminar in Palm Springs, Calif.*, on Disease Identification and Control.*

18-19 — *Landscape Industry Show/Greentech 91 in Long Beach, Calif.* Contact California Landscape Contractors Association at 916-448-2522.

22-24 — *Golf Development Expo in Palm Springs, Calif.* Contact Crittenden Research Institute, Inc., P.O. Box 1150, Novato, Calif. 9448; 800-443-8318.

July

28-30 — *International Lawn, Garden and Power Equipment Expo 91 in Louisville, Ky.* Contact Expo Hot Line at 800-558-8767.

August

7 — *Illinois Landscape Contractors Association Summer Field Day in St. Charles, Ill.* Contact ILCA at 708-932-8443.

8 — *MNLA Summer Meeting and Trade Show in St. Paul, Minn.* Contact Minnesota Nursery and Landscape Association at 612-633-4987.

16-18 — *TAN-MISSLARK Regional Nursery and Garden Supply Show in Dallas.* Contact Texas Association of Nurserymen at 512-280-5182.

25-27 — *National Lawn, Garden and Power Equipment Showcase in Toronto, Ontario,*

Continued on page 76

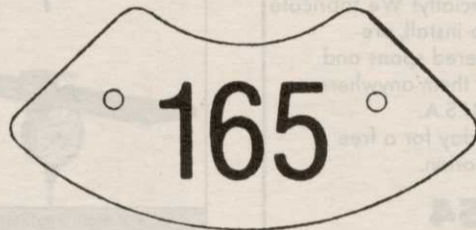
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CIRCLE #171

Continued from page 75

Canada. Contact show producers at 705-741-2536.

September

1-3 — International Garden Trade Fair in Cologne, Germany. Contact show producers at 212-974-8836.

13-15 — Florida Nursery and Allied Trades Show in Orlando, Fla. Contact FNCA at 407-345-8137.

15-17 — GMA Show-International Professional Lawn, Garden and Outdoor Power Equipment Exhibition in Kempton Park, United Kingdom. Contact Andry Montgomery Group at 502-473-1992.

16-19 — Northwest Turfgrass Conference and Exhibition in Coeur d'Alene, Idaho. Contact NTA at 206-754-0825.

November

5-6 — Indiana State Lawn Care Association Conference and Show in Indianapolis. Contact ISLCA at 317-575-9010.

5-8 — New York State Turfgrass Association Turf and Grounds Exposition in Rochester, N.Y. Contact NYSTA at 800-873-TURF.

10-13 — International Irrigation Exposition in San Antonio, Texas. Contact The Irrigation Association at 703-524-1200.

14-16 — Landscape Maintenance Association Meeting and Demo at a site to be announced. Contact LMA at 813-584-2312.

17-20 — Green Industry Expo in Tampa, Fla. Contact Associated Landscape Contractors of America at 703-241-4004.

18-21 — Professional Lawn Care Association of America Convention and Trade Show in Tampa, Fla. Contact PLCAA at 404-977-5222.

19-21 — Inland Northwest Turf and Landscape Conference and Trade Show in Spokane, Wash. Contact show producers at 800-729-5904.

December

3-4 — Southern Grounds and Turf Maintenance Expo in Myrtle Beach, S.C. Contact show producers at 800-553-7702.

9-12 — Ohio Turfgrass Conference and Trade Show in Cincinnati. Contact Ohio Turfgrass Foundation at 614-292-2601.

* — For more information or to register, contact Betsy Evans, education coordinator, Golf Course Superintendents Association of America, at 800-472-7878 or 913-841-2240. The seminars are dependent upon the availability of the instructors, and are therefore subject to change. One-day seminars cost \$100 for GCSAA members and \$120 for non-members; two-day seminars cost \$180 for members and \$210 for non-members.

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APPLETON, Wis. — Developer Thomas Purdy hopes to build an 18-hole championship golf course on the north side of the community.

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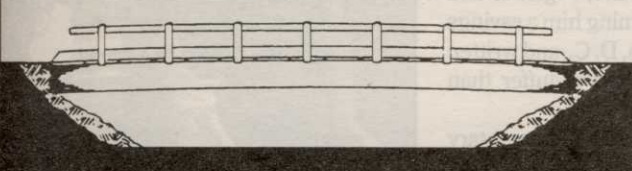
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Invention

Continued from page 78

Casey and his family saw commercial opportunities in the tee and began showing the tee to golf course superintendents, asking for suggestions about how to improve the product.

One immediate result was deleting the grass seed and fertilizer from the mixture.

"Superintendents didn't like that idea," Casey said. "There are a lot of different types of grass on different courses, and we didn't want bentgrass growing on a bluegrass course because of the tee.

After consulting with Hauser Laboratories in Boulder, Colo., all ingredients were changed.

"The new version doesn't have any of the original ingredients," said father John. "Superintendents were unhappy with the idea of fertilizer on the course that they didn't apply, or the thought of bent shooting up through Bermuda, so we came up with a new formulation."

The lab also helped ensure that the end product met all the strength and rigidity requirements necessary to make the tee usable during a round of golf.

The commercial finished product, BIO-T, is produced by Bio Dynamics Ltd., the company formed by the Golden to manufacture Casey's invention.

The BIO-T is virtually indistinguishable from a conventional golf tee, except for its enhanced biodegradability. Broken and immersed in water, a BIO-T will dissolve in about 24 hours.

The tees are treated with an ultraviolet-sensitive chemical that ensures that even intact tees will break down if left exposed to the elements.

"The result is priced competitively with personalized tees," said John Golden. "And it offers obvious environmental appeal. If a golf tee can be sexy, we're sexy."

Casey's talent as an inventor has earned him considerable media attention and a trip to Japan, but he has no plans to turn his hand to any new projects right away.

"I kind of want to see this invention all the way through before I start another one," he said.

He hasn't let the possibility of entrepreneurial success distract him from his two primary concerns, which remain school and improving his golf game.

The youthful inventor leaves the details of running Bio-Dynamics to his father.

"I'd better not make him mad," said John Golden. "He'll fire me."

Patrick Quinn is a freelance writer based in Lawrence, Kansas.

Mechem takes reins from Blue at LPGA

DAYTONA BEACH, Fla. — Charles S. Mechem Jr. has replaced the fired Bill Blue as commissioner of the Ladies Professional Golf Association.

Mechem, 60, retired last June after 24 years with the Great American Broadcasting Co., formerly called Taft Broadcasting Co. He served as chairman and chief executive officer from the time he joined the company in December 1976 until he retired. He then assumed the chairmanship of Great American Broadcasting Co.'s executive committee.

A native of Nelsonville, Ohio, Mechem graduated in 1952 from Miami University in Oxford, Ohio, then attended Yale Law School, graduating in 1955. He joined the law firm of Taft, Stettinius & Hollister, where he became a partner and remained until joining Taft Broadcasting Co.

Boy turns care for environment into innovation

By Patrick Quinn

A well-learned lesson in golf course etiquette and an idle question during a summer round with his father has turned into a world of commercial opportunity for 12-year-old Casey Golden.

Casey's father, John Golden, always has required that his son pick up and dispose of his broken tee after a drive. The Evergreen, Colo., seventh-grader, who aspires to be a PGA Tour player, asked his dad what happens to broken tees left on the course.

The elder Golden, who helped pay his way through college working for a golf course superintendent, explained that the unsightly wood fragments are cleaned up by the course

maintenance staff to prevent them from dulling mower blades.

Casey did some research and learned that there are additional costs associated with wooden golf tees.

"Wooden tees," he explains, "use up the equivalent of 40,000 birch tees, each 40 feet tall and 18 inches in diameter."

That struck Casey as wasteful. Working in his mother's kitchen, he created a mixture of water, flour, peat moss, fertilizer, grass seed and ... applesauce.

"The applesauce makes it stiff," he said. "I molded it into a little cylinder and cooked it in the microwave oven. Once it was hard, I sanded it down into a tee." The result was a

biodegradable golf tee — the perfect accessory for the Green Decade.

"Kids today are much more environmentally aware than we were when we were growing up," said Casey's father. "And he's always been creative."

Casey improved the appearance of the finished product by molding the next prototype through the tip of a caulking gun.

He entered that tee in Invent America, a contest for creative grade-school students sponsored by the Commerce Department.

Casey's tee won the state, regional and national competitions, earning him a savings bond, a trip to Washington, D. C., and written congratulations from no less a duffer than President George Bush.

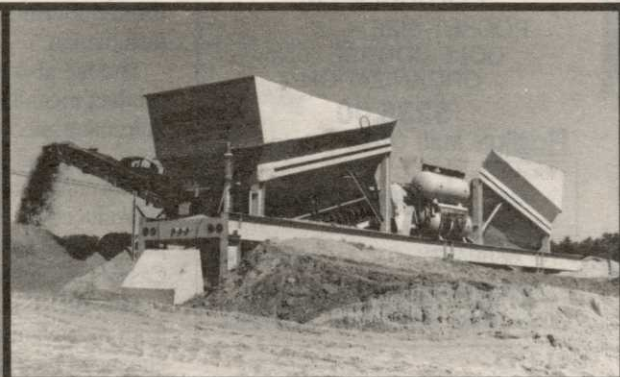
As part of his prize, Casey's elementary school received a grant of computer equipment from the government.



Casey Golden: player, now inventor

Continued to page 77

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RS#	Advertiser	Page	RS#	Advertiser	Page
146	Ametek	45	117	Guettler & Sons	20
186	Anderson Instruments	76	164	Hahn, Inc.	50
157	Aquatrols	54	147	Hancor	45
127	B.H.Sales	25	156	Hoechst-Roussel	53
108	Barebo, Inc.	28	195	Homotech Industries	77
189	Bell Turf Equipment	76	153	Hunter Industries	65
188	Bloch & Co.	76	162	ISK Biotech	14-15
155	Carroll Childers	52	175	Jacobsen	80
115	Certified Consultants	18	135	Jesco Products	32
102	Ciba-Geigy	3	160	John Deere	58-59
122	Club Car	23	178	Johncke, Bates & Assoc.	75
180	Colorado Lining Co.	75	139	Kalo	34
191	Continental Bridge	76	106	Kubota	9
103	Cushman	4-5	134	Lebanon Turf Products	32
145	E-Z-GO	2	138	Lebanon Turf Products	33
174	E-Z-GO	79	142	Lofts Seed	64
184	Excel Bridge Mfg.	76	198	Maine Surveyor's Service	77
123	Flexalon	24	118	Markers, Inc.	20
169	Flowtronex	72	148	Master of the Links	46
130	Fore Par	30	182	Milona Turf Products	75
140	Formost Construction Co.	13	159	Mitsubishi	56
171	Fraser Golf Consultants	75	133	Nearly Manufacturing	31
173	Glenmac	78	119	New Golf Concepts	21
194	Golf 2000 Pavers	77	126	North American Green	25
113	Grace-Sierra	16	104	O.M. Scott	6-7
144	Grace-Sierra	44	168	O.M. Scott	70-71
149	Greens Encroachment Barrier	46	129	Page Com	30
172	Greensmix	78	181	Page Com	75
			121	Par Aide	22
			136	Partac Peat	19
			124	Peco, Inc.	24
			105	Pennington Enterprises	42
			170	Pennington Enterprises	73
			101	Perfection Sprinkler	3
			131	Pioneer Peat, Inc.	31
			132	Pioneer Peat, Inc.	31
			112	Precision Labs	63
			137	Precision Small Engine	33
			185	Precision Tool Co.	76
			187	Precision Tool Co.	76
			120	Proseed	21
			197	Quail Valley Turf Farm	77
			150	Rain Bird	47
			128	Rhone-Poulenc	26-27
			143	Rhone-Poulenc	43
			167	Rhone-Poulenc	69
			154	Ringer	51
			114	Roots, Inc.	18
			199	Schipper Bulb Co.	77
			110	Seed Research of OR	62-63
			111	Southern Concrete	63
			190	Sporting Valley Sod	76
			141	Standard Golf	36
			196	Syntennico	77
			158	Tee-2-Green	68
			151	Textron Financial Corp.	48
			163	The Andersons	8
			107	Toro Comm'l. Prod.	10-11
			165	Toro Comm'l. Prod.	66-67
			166	Turf-Seed	55
			109	Unit Structures	35
			179	USA Golf	75
			116	Valent USA	19
			193	Warehouse Radio	77
			152	Watertronics	49
			192	Western Wood Structures	77
			125	Weyerhaeuser	25
			183	Willadsen Scale Models	75
			161	Yamaha	61
			177	Yard Edge	75

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