

GOLF COURSE NEWS

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INSIDE

Chemical Update

In the News: Relative toxicity; GCSAA working with EPA; 2,4-D cleared; Nematic restricted 3,4

Mollusk Menace

Zebra mussels move into Southern waters, leaving a trail of clogged irrigation systems behind 13

Steps for Winter Prep

A GCN special report focuses on maintaining healthy turf in the face of winter kill & snow mold 26

Practitioners cite success with ceramics

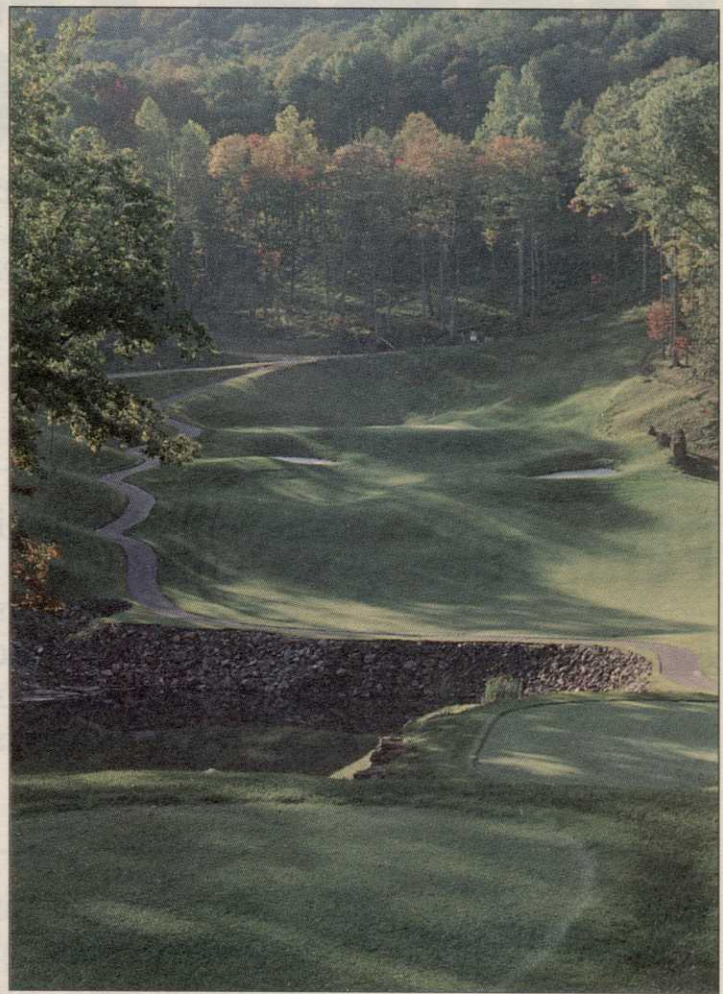
By MARK LESLIE

Arnold Palmer, who wants nothing but the best for his home course, has taken the plunge with porous ceramics. Old buddy Gary Player has, too. And arguably the most agronomically knowledgeable golf course architect, PhD-carrying Michael Hurdzan, has been an engineer on the putting-green-sans-peat train for years.

Now, even as the debate over organics-vs-ceramics in greens mixes boils in the golf industry, more superintendents, architects and builders are venturing into the world of custom-designed root zones.

"I think there is no question porous ceramics have physical characteristics that can be used to amend a sand to

Continued on page 19



Warren Grant photo

BREATHE IT IN

Mountain Air Country Club in Burnsville, N.C., is the latest design from Pete Dye disciple Scott Pool. Mountain Air ranks as the third-highest golf course east of the Mississippi River. In fact, it boasts both the highest nine holes, not to mention the highest airport runway east of the Mississippi. For story, see page 31.



STRAIGHT UP, ON THE ROCKS

Keith Foster (right) and Thomas Patrick chart their new desert course. For story and photo, see page 31.

COURSE MAINTENANCE

- Aid turf's health by monitoring soil pH 11
- Mechanics plan first national conference 13
- Saving time, labor at your wash station 16

COURSE DEVELOPMENT

- Atlantic City golf course in the cards? 7
- Ross Forbes busy on Chinese mainland 31
- GCBA adds to board of directors 33

COURSE MANAGEMENT

- Destination Hotels plans steady growth 35
- Be cautious when ejecting members 35
- Expo: Education for owners and managers 46

SUPPLIER BUSINESS

- Penncross bentgrass turns 40 39
- Trade show wars escalate in Asia-Pacific 39
- What's new in the marketplace? 42

DEDUCTION REDUX

Private clubs suffer under new tax code

By PETER BLAIS

ALEXANDRIA, Va. — More than a quarter of the nation's private golf clubs experienced a drop in membership sales and one-third reported a decline in gross food and beverage revenues one year after the federal government eliminated the income-tax deductibility for club dues and reduced deductions for business entertainment, according to a National Club Association (NCA) study.

The Government Relations Education Fund surveyed NCA-member city and golf and country clubs to determine what economic changes they had experienced since 1993,

Continued on page 36

Par-3 development gains popularity, viability

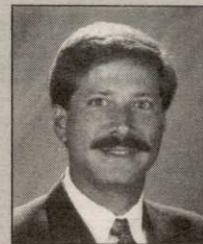
By PETER BLAIS

New golfers need a place to learn the game. Developers can't find reasonably priced land for larger facilities.

The solution: Build more par-3 golf courses.

That's just what's happening as the shorter layouts are springing up as both additions to existing courses and as stand-alone facilities throughout the country.

According to National Golf Foun-



Barry Frank

ation figures, the number of new par-3 openings increased from seven in 1989 to 24 in 1994. The most-recent figure represents 6.3 percent of the 381 courses opened last year.

"In a lot of cases, a par-3 makes sense," said Barry Frank, vice president of NGF Consulting. "You don't need much land, somewhere between 15 and 50 acres depending on the layout

Continued on page 34

GOLF COURSE



EXPO

ORANGE COUNTY CONVENTION CENTER
ORLANDO, FLORIDA
NOVEMBER 9-10, 1995

CONFERENCE PREVIEW:
MARKETING & MANAGEMENT
SEE PAGE 46

Public-access boom pushing existing courses to upgrade

By J. BARRY MOTHES

ORLANDO — Upgrade. Upgrade. Upgrade.

Get used to that word. It just might be the golf industry mantra for the rest of the decade, and into the 21st century. Consider the following items from less than a week's worth of national news clippings:

- A \$2.3 million upgrade is ongoing at the Salishan Golf Links, a 30-year-old resort course in Gleneden Beach, Ore. Holes have

been remodeled, a new irrigation and drainage system is being installed, and an 18-hole putting course is planned.

- The 27-hole, daily-fee Galloping Hill Golf Course in Union, N.J., opened in 1928, has embarked on a \$4.8 million upgrade that includes a

new automated sprinkler system, fairway reconstruction, new tees and greens, and new cart paths.

- The Golf Course Com-

Continued on page 38



Expo "upgrade" panelist Rees Jones

From Tee-2-Green

Penn Pals Profile:

A portfolio of creeping bentgrasses perfect for your plans... from the world's foremost marketer

Scientific name:	Growth habit:	Shade tolerance:	Heat tolerance:	Cold tolerance:	Traffic and wear tolerance:	Seeding rate, greens:	Seeding rate, fairways:
<i>Agrostis stolonifera</i>	Spread by aggressive stolons	Fair	Good	Excellent	Very good	1 to 1 1/2 lbs. per 1000 sq. ft.	Up to 50 lbs. per acre

Penncross

For tees and greens

The standard for creeping bentgrasses since 1955 and still the most specified bentgrass for golf courses. Recovers quickly from injury and divots. Good heat and wear tolerance. First choice of golf course architects and superintendents.

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- The Vintage Club
- Troon North Golf Club
- Wolf Run Golf Club
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- Kananaskis Country Golf course



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- Butler National Golf Club
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A few fine courses with PennLinks greens:

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- Inverness Club (Toledo)
- SandPines Resort
- Prairie Dunes Golf Club
- Baltimore Country Club
- Wild Wing Plantation



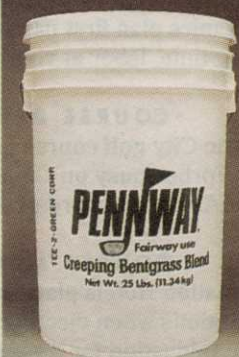
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- (winter overseeded greens)



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NEWS IN BRIEF

CASA GRANDE, Ariz. — Prisoners at the Arizona Department of Corrections will soon be doing maintenance work at the Dave White Municipal Golf Course here. Inmates already work at a landfill on garbage maintenance and weed control, and the City Council recently voted 6-0 to allow them to work on the golf course.

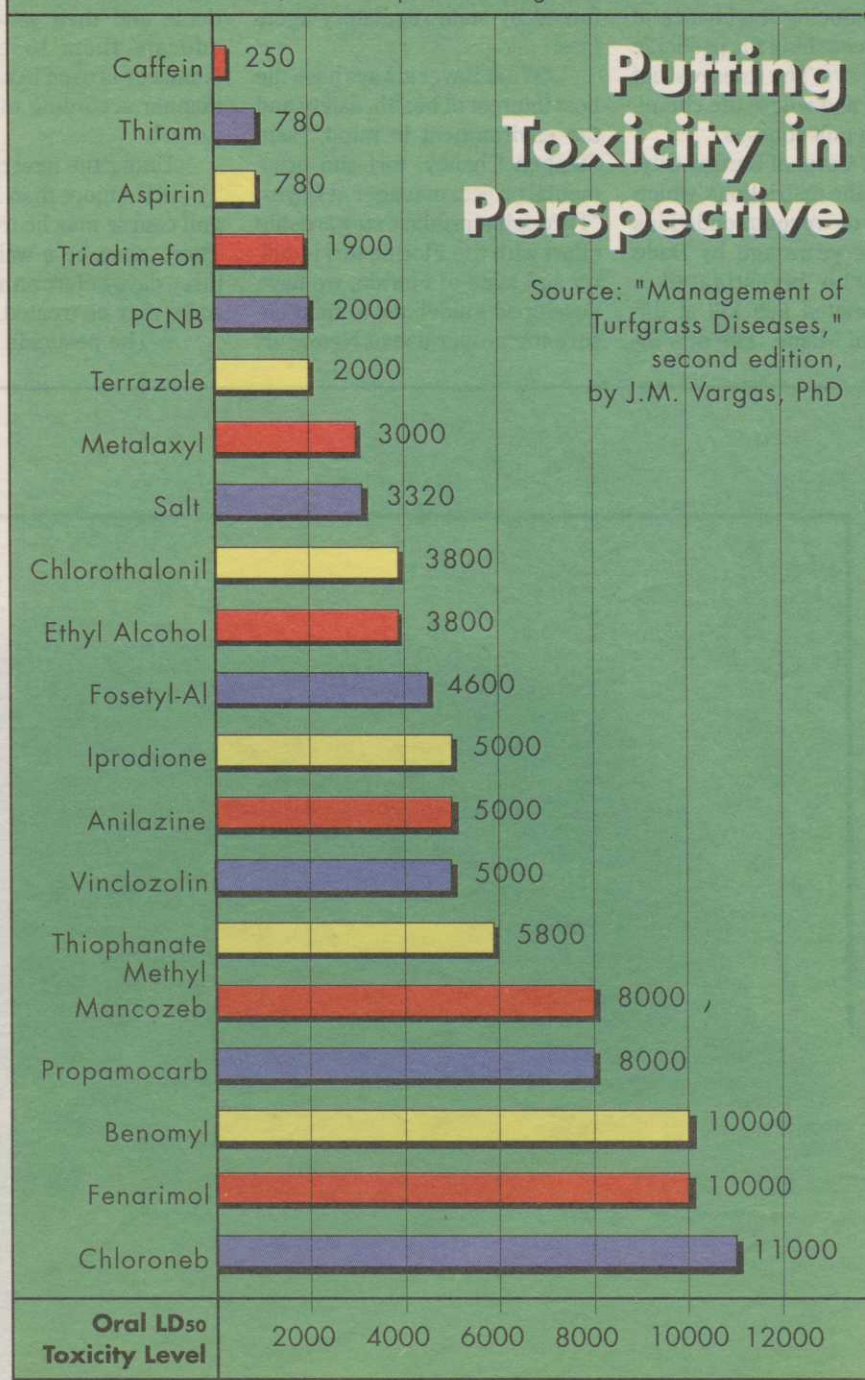
PONTIAC, Mich. — American Golf Corp. (AGC) will run Pontiac's newly-designed 18-hole municipal course. The city track was rebuilt at a cost of about \$6.3 million as part of an overall \$35 million development that includes 185 new homes. The AGC proposal guarantees the city at least \$200,000 of revenue from course operations each year. The firm also pledged to renovate the clubhouse and let the city pay it back over the length of the lease.

VASS, N.C. — Construction is underway here at Woodlake Country Club on a new 18-hole course designed by Arnold Palmer. The new track will give Woodlake a total of 36 holes. Plans call for remodeling nine existing holes and building nine new ones. The new course is scheduled to open in late spring 1996.

DAYTON, Nevada — The first golf resort in northern Nevada will not spring up in Reno or Lake Tahoe. Try Lyon County here in the Dayton Valley. John Lawrence Nevada Inc. is developing plans to build a 300-room resort to complement the existing Arnold Palmer-designed course, which gets 30,000 rounds of golf per year.

PRESCOTT VALLEY, Ariz. — An 18-hole golf course could be part of a proposed 5,000-unit housing development now known as StoneRidge. The project, formerly called Lynx Creek Ranch, would be located south of Highway 69 at Old Black Canyon Highway. StoneRidge planner Gil Martinez said he didn't know whether the course would be public or private, but added there is a possibility of a resort component on the hill surrounding the golf course.

Figures below chart the LD₅₀ oral toxicity ratings for turfgrass and agricultural pesticides, in addition to a few benchmark items. LD₅₀ is an abbreviation of "median lethal dose," indicating the amount of toxicant necessary to affect a 50% kill of the pest in question. The lower the LD₅₀ number, the more potent the ingredient.



GCSAA signs on with EPA risk reduction plan

LAWRENCE, Kan. — The Golf Course Superintendents Association of America (GCSAA) will participate in the federal government's new Pesticide Environmental Stewardship Program. Under the program, GCSAA will work in partnership with the U.S. Environmental Protection Agency (EPA), the department of Agriculture and the U.S. Food and Drug Administration to develop a strategy that further reduces risks from the use of pesticides on golf courses.

"We are absolutely committed to using responsible management practices that pose little, if any, environmental risk," said GCSAA President Gary Grigg. "Through this partnership, we'll be able to work with the leading federal authorities to find new and innovative ways to use pesticides effectively and safely and to minimize any potential harm to people, wildlife and the environment."

The stewardship program is the first under a commitment made by the three agencies before the U.S. House of Representatives in September 1993. The program commits the agencies to work jointly with pesticide user groups.

In a news release announcing the pesticide initiative, Carol M. Browner, EPA administrator, said, "I congratulate the companies and grower groups that are joining with us for their forward-thinking approach to environmentally sound pesticide use practices."

The EPA's Anne Leslie, who will coordinate GCSAA's strategy development, said, "We are very pleased that GCSAA has joined our Pesticide Environmental Stewardship Program, and I look forward to working with this professional organization in developing their strategy."

The framework for the strategy emphasizes education, training, research and continued development, and careful use of pest control products that pose risks.

"GCSAA has already demonstrated a commitment to educate their members in less risky pest control methods by initiating IPM curriculum as a part of their certification program," said Leslie. "GCSAA has also established its own Environmental Stewardship Awards program, which highlights the efforts of individual superintendents to reduce the risk of pesticides to the environment. A large number of superintendents have enthusiastically adopted the New York Audubon Society's Cooperative Sanctuary Program, which is an important part of this."

EPA: NOTHING ADVERSE IN 2,4-D

The re-registration task force on 2,4-D has reported to the U.S. Environmental Protection Agency that the 50-year-old product presents no significant adverse effects to human health or the environment. Even when used at three times the dose levels previously tested, 2,4-D did not result in carcinogenicity. Dr. Phillip Szmedra of the U.S. Department of Agriculture's Economic Research Service said there would be a \$2 billion economic impact on industry if 2,4-D were banned. The 2,4-D Task Force was initiated in 1988 in response to a data call from the EPA requiring 200 toxicology, environmental fate, wildlife and residue studies on the multiple forms of 2,4-D.

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Bayer Corp. agrees to restrict Nematicur use on Florida golf courses

MIAMI — Bayer Corporation, the manufacturer of Nematicur, has agreed to restrict the pesticide's use in Florida to protect wildlife and waterways.

Nematicur is used against nematodes, but has been linked to deaths of fish, birds, waterfowl and river otters at golf courses, including courses in Miami, Hollywood and Plantation. The pesticide allegedly killed wildlife when heavy summer thunderstorms flushed the chemical off the grass

and into canals and lakes.

The new restrictions are aimed at reducing the chance of downpours washing the pesticide into waterways. The rules restrict how, when and where the chemical goes on golf courses.

Bayer Corp. of Kansas City, Mo., wrote the restrictions, which are based on recommendations made three years ago by Dade officials who investigated a Nematicur-related fish kill at the Golf Club of Miami. The new in-

structions on the Nematicur label are in effect law and can be enforced by state regulatory agencies.

"We at Bayer always have the best interest of health, safety and the environment in mind," said Stephen Chaney, turf and ornamental project manager at Bayer. "Through a product stewardship effort with the Florida turf industry and state of Florida, we have developed guidelines to help ensure the proper use of Nematicur.

Our field sales people are working closely with golf superintendents and their associations to educate them to ensure that Nematicur is used in a responsible manner according to label directions."

Under the new restrictions:

- No more than 10 acres of a golf course may be treated a day. There must be a wait of at least three days before an additional 10 acres may be treated.
- The pesticide may not be

used within 10 feet of a waterway or fairway drain. The buffer is intended to soak up the chemical before it migrates to water.

- No treatments will be allowed between noon and sunset from June 1 to Sept. 30, the hours when heavy thunderstorms usually occur during the rainiest months.

- Nematicur cannot be used to control mole crickets, whose treatment requires heavier doses of pesticides than nematodes.

Mole crickets threaten N.C.

RALEIGH, N.C. — The South American mole cricket has reportedly been eating its way across North Carolina's golf courses and now threatens the greens at the legendary Pinehurst Resort and Country Club.

"There's no doubt in my mind that mole crickets will become a serious problem in the next years at Pinehurst," said Rick Brandenburg, an insect expert at North Carolina State University.

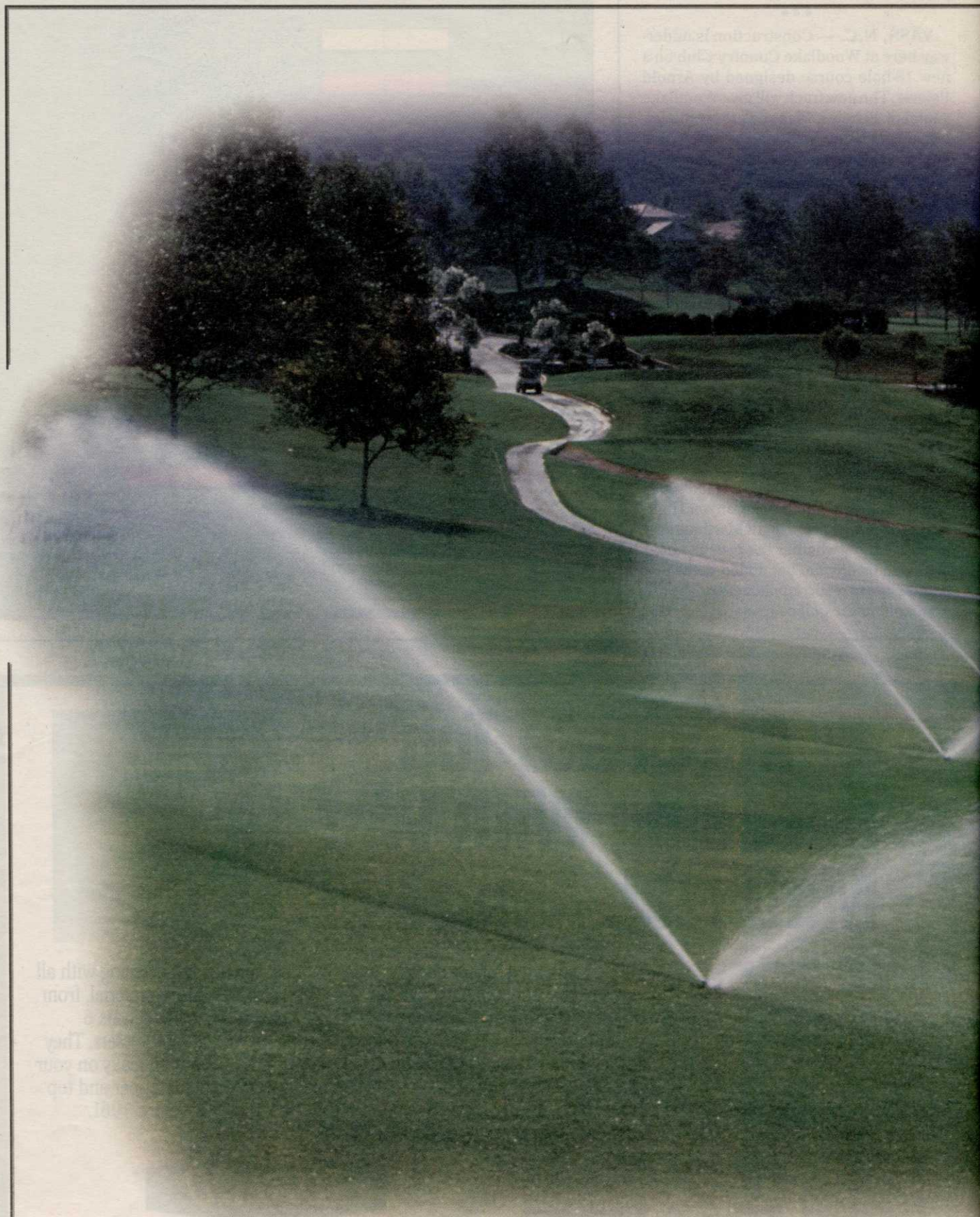
The subterranean mole crickets have no natural enemies and are not fazed by pesticides alone. Brandenburg has recruited two of its enemies from South America — red-eyed flies and tiny, transparent roundworms — to combat the problem.

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Florida gator attacks golfer in Cocoa Beach

COCOA BEACH, Fla. — And you thought the hazards at your local course were nasty.

An 18-year-old golfer was hospitalized recently after being bit by an 8-foot-long 300-pound alligator named Stubby that prowled a pond at the Cocoa Beach Country Club's River Course.

Michael Gordon Watson of Cocoa Beach was apparently combing the pond on the River Course's sixth hole for extra golf balls with a friend when Stubby attacked. It's thought that Watson was searching an area that may have been in the alligator's feeding den. The alliga-

tor, who was well known at the course, tried to drag Watson under 4 feet of water. Watson was pulled to safety by his friend, Jason Balazs, who helped fight off the gator. Watson received bites on his left arm and both legs.

The attack on Watson is the second in Brevard County in 1995 and a frightening reminder that alligators, who are often regulars at Florida golf courses, cannot be taken for granted. Officials estimate there are one or two alligators in each of the 17 ponds on the Cocoa Beach course alone.

Alabama course could be classroom

BIRMINGHAM, Ala. — PGA Senior Tour star Chi Chi Rodriguez and his Youth Foundation are looking at Birmingham as a possible site for an unusual school for disadvantaged children.

The school combines typical classroom subjects with hands-on learning experiences on a working golf course that would be built as part of the school.

Students at the school would learn biology and chemistry using the golf course as a classroom and laboratory.

Math concepts would be taught using a golf scorecard. The idea is to build an elementary school, a middle school and a high school on a golf course for children who are abused, disadvantaged, underachieving and underprivileged.

The Youth Foundation is a non-profit organization founded in 1979 by Rodriguez, Bill Hayes and Bob James in Florida. The foundation tries to help kids improve their academic progress, self-esteem, appearance, work effort and social adjustment in a safe, protected and nurturing environment.

The game of golf usually plays a significant role in the education program.

The foundation has already built the Modesta Robbins Partnership School in Florida, where 36 fifth-grade students get a full academic curriculum along with vocational, hands-on learning in an operating golf course environment.

The school's curriculum was developed by county school officials and the foundation. The science curriculum revolves around the various eco-systems at the course and how different plants and animals in nature interact and how that relationship is affected by man.

Hayes said a Birmingham program would serve up to 800 students. He also said the local economy would benefit from the golf course and local youth agencies could use the course for kid's golf programs. Construction of the school and golf course would cost \$6 million to \$8 million.

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Fla. city treated kindly in treated water settlement

OCALA, Fla. — The city of Ocala will get nearly \$2.2 million in a legal settlement from consultants who helped design a faulty system to spray treated sewage on the city-owned Pine Oaks Golf Course.

The out-of-court settlement caps eight years of litigation between the city and its main engineering consultant, Boyle Engineering Corp. of Irvine, Calif.

Hired by the city in 1982, Boyle designed a system to irrigate the courses with treated wastewater. Boyle determined the golf course could handle 2.46 million gallons of treated sewage a day. Instead, tests determined the 27-hole facility could handle only 600,000 to 700,000 gallons daily. As a result the city had to create a 40-acre spray field near the course to handle the overflow.

Boyle will pay \$1.7 million of the \$2.17 million settlement. The remainder will be paid by different engineering firms and architects.

Bay State officials set to raise green fees to fund improvements

BOSTON, Mass. — Massachusetts officials are preparing to increase greens fees 42 percent at the state's most heavily used golf courses. They say they intend to seek legislative approval to use the extra money for improvements.

Greens fees at the state-owned Leo J. Martin course in Weston and two Ponkapoag courses in Canton would rise from \$12 to \$17 on weekdays and from \$14 to \$20 on weekends, according to Metropolitan District Chief David B. Balfour Jr.

The new rates would still be lower than

virtually all other public courses in Greater Boston, but they represent a dramatic price increase for one of the best golf bargains in Massachusetts. The low prices have attracted more than 1.25 million golfers a year to the three courses.

The increased funds are scheduled to help what some see as long overdue improvements at all three courses. New irrigation systems have been designed and are ready for installation and there are plans for more ball washers, benches and tee markers — many of which have been

stolen or vandalized over the years. Landscaping around the clubhouses has been improved and parking lots will be repaved.

In a move related to the planned improvements, Richard Tworig, former superintendent of the Ponkapoag course, has been promoted to oversee both courses there.

Balfour of the MDC also said there are plans at the Martin course to recut and resand numerous bunkers that course architect Donald Ross originally included in the layout which have since been filled in.

N.H. developer donates land in lieu of \$50K fine

NASHUA, N.H. — Developers of a golf course in Litchfield pleaded guilty to violating wetlands laws and have donated 19 1/2 acres to the town instead of paying a \$50,000 fine.

Pleasant View Country Club acquired a permit in November 1993 to dredge and fill about 15,000 square feet on its property in hopes of building a golf course, according to Attorney General Jeffrey Howard.

Howard said the club illegally installed underground drainage pipes without the knowledge or permission of the Wetlands Board. The club pleaded guilty to a felony wetlands charge. The club's treasurer, Thomas DeBlois, also pleaded guilty to a misdemeanor for his role and was sentenced to a 25-day suspended jail sentence, a year's probation and 50 hours of community service.

The club donated the land to the Litchfield Conservation Commission.

Rock video shot at Maryland GC

ROCKVILLE, Md. — The new Rattlewood Golf Course in Mount Airy has already had its 15 minutes of fame.

The 18-hole, par-72 public course designed by Ault, Clark & Associates of Kensington, which opened in June, was the location for an MTV video shoot for the band Hootie and the Blowfish with cameos by PGA touring star Fred Couples and CBS television golf broadcaster Gary McCord.

Band members and Couples and McCord all played the course for golfing footage in a video that is getting daily play on MTV. Footage from the Poolesville Golf Course is also in the video.

The video was shot during the Kemper Open week. Two members of the band, guitarist Mark Bryan and bassist Dean Felber, are graduates of a nearby high school. Hootie and Blowfish were recently featured on the cover of Rolling Stone magazine.

BOSTON LAYOUT RESTORED TO ORIGINAL ROSS DESIGN

WINCHESTER, Mass. — The leaders of the Winchester Country Club outside Boston have taken a firm stand with history and tradition. The Donald Ross design recently underwent an \$850,000 improvement project that included restoring 18 of the original bunkers, reshaping tees, eliminating trees that affected the original design, and contouring fairways. Superintendent Dan Higgins and architect Stephen Kay collaborated on the project.

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Salem opens to Mass. golfers

PEABODY, Mass. — Residents and city employees here recently got the chance to play a round at the private Salem Country Club (CC), a Donald Ross-designed course consistently rated one of the best courses in New England.

Two notable anniversaries created the opportunity. Salem CC, which is located in Peabody, is celebrating its 100th anniversary this year. It

is also the 200th anniversary of the birth of George Peabody, the city's namesake.

Club officials approached Mayor Peter Torigian with the idea of opening the course for a day. The first Peabody Golf Day was born. The event was expected to raise about \$15,000 for a city scholarship fund.

The club offered 260 rounds at \$50 each, which cart, lunch and bag tag souvenir.

Trump hopes to build Atlantic City course

ATLANTIC CITY, N.J. — A showdown between New York area real-estate developer Donald Trump and Las Vegas casino mogul Steve Wynn over a parcel of undeveloped land could ultimately lead to a new golf course project here.

Trump and officials at Harrah's Casino Hotel in Atlantic City have made a joint proposal to establish a \$25 million golf course on what is commonly known as the "H" tract, a weedy, 178-acre plot which was once a

landfill near the city's main casinos, including one owned by Trump.

Meanwhile, Steve Wynn, creator of mega-sized fantasyland casinos in Las Vegas like the Mirage and Treasure Island, has teamed with Circus Circus Enterprises Inc. with a grandiose \$1 billion casino-hotel-entertainment complex plan for the site that would dwarf every other casino in New Jersey.

Wynn's vision calls for two 31-story hotels, two or three the-

aters with live nightly entertainment, restaurants and ballrooms. A tram would shuttle visitors from a parking garage to the hotels and there would be pond-sized outdoor fountains and a pedestrian area dotted with banana trees and palms, covered with Plexiglas.

A nine-member committee of Atlantic City councilors and other city officials formed in April will review the two proposals. The decision to award the tract will be a winner-take-all proposition.

Public-access course opens in northeast Ohio

NEW PHILADELPHIA, Ohio — The Dover/New Philadelphia area in northeast Ohio just got its first new public links since 1960 with the opening of Oak Shadows Golf Course.

The front nine of the par-72 course opened in late July and the GAC Corp. that developed the course expects to open the back nine in early September. A grand opening is scheduled for late fall or spring 1996.

GAC Corp. was formed by a group of area business and professional people. There are 14 investors, 13 of whom live in the area.

The course, which ranges from 5,207 to 7,015 yards, was designed by John Robinson of Huntsville, Ontario. Robinson's portfolio is primarily filled with courses in Canada, but he designed the private Union County Club's course in Dover in 1969. Craig McConnell is the course manager and golf professional. Steve Honeycutt is the course superintendent. Both McConnell and Honeycutt had previously worked at Union for many years.

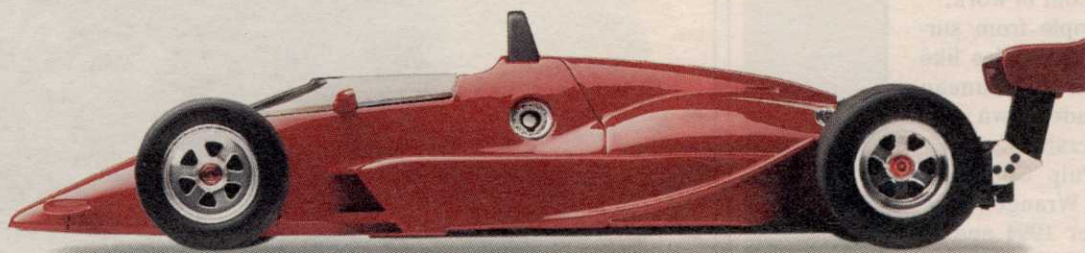
Oak Shadows is the first public course to open in the area since Hidden Valley (now known as Green Valley) in 1960. Oak Shadows has a 2,100-square-foot, air-conditioned modular clubhouse, pro shop, snack bar, and driving range.

VANDALS STRIKE AGAIN AT ALBUQUERQUE COURSES

ALBUQUERQUE, N.M. — Vandals have been wreaking havoc at the city's four public golf courses this summer. The latest incident saw a group of 4-foot high letters carved into a 10-by-12-foot area of the No. 6 green at the Arroyo del Oso golf course. The hole was closed for eight hours to make repairs. Damage was estimated at \$2,000. Because of the increased vandalism, the parks department recently installed metal bars over the windows and doors at the pro shop. Mayor Martin Chavez has also asked the parks department and the police to start patrolling the golf courses regularly at night.



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Wis. layout gets environmental pat on back

SHEBOYGAN, Wis. — Hmm. A golf course that is considered good for the local environment? Even by state environmentalists?

Yes, Wisconsin's Department of Natural Resources recently released a report that said the proposed 18-hole Pete Dye-designed Whistling Straits links course on the shoreline of Lake Michigan will not significantly harm the environment and will actually help it in some areas.

The Kohler Co. is seeking local, state and federal permits to build the course on a 500-acre parcel near Haven in Sheboygan County.

Development of the land will help stabilize the existing bluff shoreline, which has been eroding at a pace of 1 to 2 feet per year, according to a draft environmental assessment of the project by the state Department of Natural Resources (DNR).

Other benefits include a

\$300,000 cleanup of asbestos and other waste at the former Camp Haven military base and the restoration of native prairie plants along the shoreline. The removal of underground fuel storage tanks and the cleanup of numerous dumps at the former anti-aircraft weapons firing range began last month under DNR supervision.

Kohler and Dye are planning a natural, shoreline walking course styled on Scottish links courses. The shoreline's exist-

ing 50-foot high bluffs would be regraded to provide two tiers for tees and greens, one at 20 feet above the lake and a second at 30 to 50 feet above the water.

The eroding bluff will reportedly be replaced by areas of rock revetment and sloping, vegetated dunes. The development as planned will, however, destroy about 7.6 acres of wetlands.

Construction could begin later this year if all permits are approved with a scheduled opening date of June 1997.

Omaha waits on third 27-holer

OMAHA, Neb. — A third 27-hole golf complex in the Omaha area is awaiting city approval.

The Players Club at Castle Brook, which will be public, is part of a proposed 789-acre development in northwest Omaha. Of the 789 acres, 143 belong to the Bauermeister family. One of the four family members has not yet agreed to the sale. If the project proceeds, developers must also

meet 24 design conditions before getting city approval.

Principals in the project include Dan Livingston of Sports Video Productions, former Wake Forest football coach Bill Tate and golf architect Andy Nelson of Blue T Golf of Omaha and CBS Real Estate.

Tiburion and Indian Creek, which is building its third nine, are the other 27-hole complexes around Omaha.

Golf being counted on to help revive Alaskan community

JUNEAU, Alaska — The Panhandle of southeast Alaska is getting another golf course.

Construction of a nine-hole layout and driving range is well underway in the coastal community of Wrangell.

Project organizers hope the golf course will end the frustration of golfers south of Juneau and bring much-needed extra income to the financially-strapped Wrangell area, where the local sawmill recently shut down and put many people out of work.

About 170 people from surrounding towns and cities like Ketchikan, Sitka and Juneau have already made down payments on memberships.

The Alaska Pulp Company, which closed its Wrangell Sawmill in December 1994 and in the process eliminated 225 local jobs, has donated a significant amount of equipment, supplies and personnel to help clear trees for fairways.

Corrections

Though he has numerous associations, U.S. Golf Association championship agronomist Tim Moraghan is not a member of the American Society of Golf Course Architects, as reported in the June issue of GCN.

...

Tee & Green Sod, Inc. of Exeter, R.I., supplied the sod and washed, delivered and installed it on the restored Eisenhower green at the White House (GCN August) in Washington, D.C. A reporting error did not include Tee & Green in this project.

A new twist to

A new 18-hp diesel engine powers higher-capacity hydraulic pumps in the new 2653A to deliver 33 percent more torque to the reels.



Indy track set to reopen after 30-month facelift

INDIANAPOLIS — Coffin Golf Course, opened in 1904 and once the crown jewel of the city's 12 public golf courses, is set to regain its former glory after a \$3.2 million restoration project that lasted nearly two and a half years.

Coffin, which hosted the National Public Links tournament in 1935, 1955 and 1972, slid into disrepair in the 1980s and was temporarily closed after the 1992 season.

Tim Liddy, a golf course architect based in Muncie who trained with another Indianan,

Pete Dye, redesigned the course to focus attention on the White River. The river winds along the edge of the property and comes into play on 18 holes. Liddy also raised fairways to encourage quick runoff, included wetlands, installed more than 50 bunkers and seeded the tees and greens with bentgrass.

The course, which opened in late June, is overseen by the minority-led, non-profit Indianapolis Golf Management Corp. There is also a fundraising effort underway for clubhouse renovations.

Three projects underway in Mont.

GREAT FALLS, Mont. — It's been more than 25 years since a brand new golf course has been built in the Golden Triangle — an area expanding north of Great Falls, south of Canada, and bordered by Cut Bank to the west and Havre to the east.

But projects currently under development in the towns of Fairfield, Shelby and Power could turn the Golden Triangle into the Golden Golfing Triangle.

Harvest Hills Golf Club in Fairfield is the closest to reality

of the three new projects. Ground was broken this spring and the course was expected to be seeded by the end of August. Harvest Hills is a community-operated course. Thanks to volunteer work during construction, the entire course, including the clubhouse, will be built for about \$400,000, as opposed to the predicted \$900,000. Supporters are hoping the 18-hole Harvest Hills will be ready for play by summer 1996.

Volunteer labor is also being used on the nine-hole addition in Shelby at Marias Valley. The new nine should be open by summer 1996.

The third project is the 18-hole Big Muddy Creek Golf Course three miles west of Power and 28 miles from Great Falls, where local farmer Brad Schaefer and a group of farmers and business people are hoping to build a 3,250-yard, nine-hole course on farmland. Schaefer is looking to raise \$285,000 before starting major construction and apparently fundraising efforts have temporarily slowed down because of the harvest.

a great story

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NOTHING RUNS LIKE A DEERE®

Ga. track first in S'East to receive full certification

DULUTH, Ga. — The Standard Club, a private 18-hole club opened in 1983, is the first golf course in the U.S. Golf Association's Southeast Region to be named a fully-certified Audubon Cooperative Sanctuary by the New York State Audubon Cooperative Sanctuary System.

The course was certified in all six category designations: environmental planning, public involvement, wildlife and habitat management, water conservation, water-quality management and integrated pest management.

Mark Hoban, the superintendent since the course opened 12 years ago, said his goal from the beginning has been to ecologize the course. Hoban has combined manicured greens with native vegetation in the rough where local wildlife live. Bluebirds and purple martins prosper thanks to nesting boxes on the course, quail live in plant habitats and red-tail hawks and barn owls thrive in areas that have been left in their natural state.

Hoban worked with horticulturist Mike Crissman to develop plantings and projects to enhance nature on and around the course. Butterfly gardens, native plantings of broomsedge, wildflower meadows, blackberries along cart paths and tall grasses bordering play areas are some of the environmental features of the course. Wildlife inventories include species counts of 31 birds, 18 reptiles and amphibians, 13 mammals and 25 butterflies.

Seeing the light 'down the Cape'

News item: The National Park Service and U.S. Coast Guard have decided to move historic Cape Cod Light back from the raging Atlantic, which has encroached to within 115 feet of the aged beacon, built in 1798, making it the second-oldest in the country.

Golf angle: Highland Light, as it's known colloquially, will soon take up new residence some 450 feet inland — seven feet off the 7th fairway at Highlands Golf Links in Truro, Mass. A classic 9-hole design first laid out in 1892, the course is an historic landmark in its own right; too bad this grand dame will soon suffer all manner of miniature golf references. "We'll get a windmill from Eastham and put it on No. 1," superintendent Shawn Callahan told the *Boston Globe*. "We'll get a whale and put it on No. 5."

Let me tell you a few things about Highland Links. First of all, it's one of the few courses in New England open year 'round. I grew up in Boston and many diehard golfers, like my dad and I, would routinely travel to Truro in February to scratch the winter itch. As the only public-access course on the Cape's outer reach (that's the "forearm" for you foreigners), the Links have been administered by the town of Truro since 1967 under a concession from the National Park Service. In truth, the course is a rugged links hybrid, designer unknown, featuring five outstanding holes, a couple so-so holes and two dogs. But the atmosphere is everything here, akin to the west coast of Wales.

The course was originally built as part of a 19th-century resort called the Highland House, which now houses the Truro Historical Society and sits between the 8th green and 9th tee. In the lighthouse parking lot, separated from the 7th fairway by a weathered snow fence and scrapes of Cape heather, are signs that read "Golf in Play. Park at your own risk."

There's a lesson here for all of us — friends and foes of golf alike. In New England, where the game has been part of the culture and landscape longer than almost anywhere in America, there exists a fuller understanding that golf courses are part of the environment. That means give and take. Nowhere in the debate over Highland Light's new resting place does one hear, "Absolutely not!"

According to Mark Tabor, a landscape architect with the Park Service, installation of shatter-proof glass will render the lighthouse "relatively ball-proof." The \$1.6 million moving bill will be split by the federal government (\$950,000), state government (\$500,000) and Truro Historical Society, which has raised some \$200,000 by selling lighthouse souvenirs: coffee mugs, T-shirts, even golf balls.

Nick Nickerson, a member of Truro's golf advisory committee, isn't thrilled with the idea ("You don't save one historic object and destroy another," he told the *Globe*), but he isn't digging his heels in, either. Course manager Manuel Macara is nervous the move won't be completed by April, when golf season really picks up in Truro. But he has resigned himself to the continuing prospect of peaceful co-existence with Highland Light and its visitors.

As a veteran Highland Linkster, I applaud both sides for their cooperation and long-sighted approach to the situation. Besides, a round at Highland is enjoyable precisely because of the severe obstacles: biting cold, 35-mph winds, impossible heather and the hardly-Augustan playing conditions befitting a links-type course. What's not to love about a lighthouse abutting the 7th fairway?

"We wanted to have the least amount of change to the topography and character of the place," Tabor told the *Globe*. "You'd have to hit a pretty goofy ball to hit the lighthouse."



Hal Phillips
editor

Coming to a theater near you

From my golf bag to yours, here are some movies (accompanied with a hint to their plots) you might want to check out as fall approaches:

• Who Needs Enemies When Earth First's Your Friend?

In this expose of modern environmental activism we see that those poor folks at *Earth First!* may unwittingly physically damage, if not kill, their own home-cultivated terrorists. Perhaps they should call themselves *Ohhh, Darn!* Here's the scoop: A couple of months back *Earth First! Journal* printed a Dear Ned Ludd column (or perhaps it's Nedd Ludd; they have it spelled both ways) illustrating how to destroy a golf course irrigation system, one head at a time, using a hammer and flathead screwdriver. Well, don't be surprised if you hear about someone getting killed by doing this. When you snap a head off an irrigation system you are unleashing 120 pounds of pressure per square inch. That pressure can propel the irrigation head 30 feet into the air. If someone gets their own pea-head in the way of one of those rocket-launched heads, some superintendent somewhere might find a dead *Earth First!*er laid out in his eternal resting place on the 13th fairway. Talk about an ill omen.

• Invasion of the Zebra Mussels...

Sounds like a bad "B" movie, doesn't it? And, we're not talking about muscle-bound zebras stalking Kansas City, but zebra mussels — miniscule mullosks that can wreck havoc with pumping stations and irrigation systems. Best beware. Especially if your golf course uses water from a public waterway (See page 13).

• PhD: 'USGA OK'

A drama of reconciliation? This will remind you more of *On Golden Pond* when the character played by Jane Fonda kind of err, ahh draws closer to a dad who had long spurned her. This flick involves the U.S. Golf Association and golf course architect Mike Hurdzan, a past critic of the USGA green construction specifications. "The fact the USGA is opening up new research to allow for a better evaluation of materials is really encouraging," said Hurdzan. "I applaud [Green Section National Director] Jim Snow and the USGA for being open about looking at all the alternatives. The USGA and I find little to disagree on since the new specifications have been published."

• Battle of the Titans

Thanks to Mark Jarrell, CGCS, of Palm Beach National, for this full-length documentary setting apart the Audubon Society of New York (ASNY) and National Audubon Society. Mark's column in *The Florida Green* said: "There are more than 500 Audubon Societies in the United States, separately incorporated, each guided by its own board of directors with their own programs and positions. The ASNY, the sponsoring organization for the Audubon Cooperative Sanctuary Program (ACSP), was the second state Audubon Society to be formed, founded in 1897 by Theodore Roosevelt and others. The National Audubon Society was formed in the 1940s to focus on issues beyond the scope of the state Audubon Societies."

"Given this fact, the suggestion by members of the National Audubon that the ASNY was attempting to exploit 'the good Audubon name' when it instituted the ACSP, seems arrogant and presumptuous. The Appellate Division of the Supreme Court of New York apparently agrees, since it ruled against the National Audubon's lawsuit in 1987 in their attempt 'to permanently enjoin the use of the term "Audubon Society" or any variation thereof by the Audubon Society of New York State."'

The National Audubon has been at odds with the New York Audubon for years because of New York's attitude of "wise use," rather than environmental idealism.



Mark Leslie,
managing editor

Letters

SUBSURFACE DRIP FEEDBACK

To the editor:

I found your story on subsurface drip irrigation (*GCN August*) interesting. Because of major water constraints on my golf course, I have been experimenting with drip irrigation for three years on a 20-by-80-foot teebox, and I can shed some light on the issue.

Running a nine-hole course at an elevation of 8,500 feet is not an easy task. I have only one full-time and one part-time employee and a very small budget, and trying new ideas makes the task even more difficult.

When I took the job in 1992 as manager/superintendent, Valle Escondido golf course was still

limited to 1.1 acre feet of water per year as was ordered by the 10th Appellate court back in the 1980s. Originally, the water was applied by means of a garden hose, two Rainbird sprinklers and many hours of labor. So the first task was to find as many extra manhours as possible. It was determined automatic sprinklers would accomplish this. Within about two months, implementation provided not only lower labor costs, but more efficient use, and better playing conditions. By the end of the next year, we had automated half of the nine holes, and installed a Netafin drip irrigation system on one of the combination men's and women's teeboxes. The

teebox covers 1,000 square feet. Using 10 tons of sand to, first, level the enlarged site and serve as a base, we then added a four-inch bed of sand for the Toro .6 GPM Netafin drip irrigation system, two inches of black dirt, and sod. The sod had eight- to 10-inch roots and was being played within two months.

Three years later, we've got some positive results and some negative. I've found that drip irrigation is expensive and time-consuming to install, but is low in maintenance.

On the positive side: The turf is still fast to recover from play and drought; root structure is immense and almost undiggable; the Netafin design has held up

(so far) against clogging, and there is no hindrance to the play of the turf.

On the other hand: Surface watering is still occasionally needed for fertilizer and surface turf softening; we had to change the tee markers to short spike cage style to prevent puncture; aeration has been limited to shallow tine or HydroJet; the system had the tendency to migrate toward the surface in the early stages.

We ruled out drip irrigation for use on our greens because the system would have to be buried too deep to be effective.

Michael Wiergacz, manager
Valle Escondido
Taos, N.M.

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Controlling soil pH allows plant to maintain consistent growth rate

By TOM LUBIN

The need to have control of the pH of the soil is very important to the quality of all plant material. If the pH of irrigation water is controlled, less total fertilizer may be required to produce the same growth rate and disease may be minimized.

The main methods for pH controlling the past were associated with the application of large quantities of sulfur or nitrogen fertilizers in a form that would oxidize, producing hydrogen ions in the process. The hydrogen ions produced in these processes can lower the pH of the soils, but it is impossible to precisely control the quantity of these materials to maintain the desired pH.

Even if proper quantities of these materials were added, a change in the weather may cause the oxidation process to speed up or become too slow for proper pH control. If the pH were adjusted to the desired value, irrigation with the high pH water could raise the pH again. The two more reliable methods of soil pH controls actually alter the soil pH by changing the pH of the irrigation water. Either type of system, if carefully maintained and monitored, can give reliable pH control. These systems can provide a safe, long-term answer for high pH soils and the control of salt buildup in soils.

The first type of system uses fertigation, injection of an acidic solution directly into the pressurized irrigation line to pro-



This is what can happen to turf when high pH conditions are not controlled.

vide pH control of the water and ultimately the soil. More than 275 of these systems have been in use throughout the world over the last seven years. The most reliable, injectable, acidic, water treatment solution is a compound formed from the reaction of urea and sulfuric acid, monocarbamide dihydrogensulfate [MCDS (($\text{nh}_2\text{-co-nh}_3$) $^+$ (hso_4) $^-$); trade name: pHairway].

Several types of systems have been specifically designed for the direct safe injection (fertigation) of this acidic material which has no DOT restrictions

and is not "listed" as an EPA hazardous waste. These systems have been designed to inject the material proportionally to the water flow rate and/or have a pH controller which can monitor and maintain the desired pH in the water.

Along with the acidification of the water from the sulfuric acid portion of the compound, the urea portion of the compound can give the advantage of additional acidification as the nitrogen is added. A good record should be kept of the total quantity of fertilizers applied including the nitrogen applied with this pH adjustment. As the soil pH is decreased, the plants may respond more efficiently to all applied fertilizers.

The water pH treatment additive required on any facility is always applied in a conservative program. As with any material that is applied through a fertigation system, the rate of injection is easily increased or decreased, as required, to obtain the desired results. Since the nitrogen is added in small and steady applications, the nitrogen applied in your fertilizers program may be reduced. This material is acidic and is being injected under pressure, therefore all fittings should be checked on a periodic basis.

...

The second type pH system utilizes sulfuric acid for pH control. More than 150 sulfuric acid pH control systems have been installed and used safely. Most of these systems have been installed in the southwestern U.S. and other arid and semi-arid areas around the world, but interestingly the first

sulfuric acid system was installed on a golf course in Ohio.

These sulfuric acid systems require that the acidification process be accomplished before the water enters the pump station. The acid is metered into the wet well, proportional to water flow, and with good mixing. A double pH control override monitors the pH of the water in the wet well and the water in the irrigation line that will stop the metering pump if the pH becomes lower than the desired value. The pH of the water may be easily maintained at the desired pH \pm 0.1 units, but it should be noted that sulfuric acid must never be injected under pressure into a closed line. Heat is generated when the acid is diluted with water.

The sulfuric acid pH control system treats high pH irrigation water without nitrogen being added. This may be important if reclaimed water with high nitrogen concentration is used for irrigation. A person may apply fertilizers for their nutrient value alone.

In conclusion, many water pH control systems have been installed in areas where the water has a pH as high as 11.0 and ECw values well above 3.0. This water may be made usable for irrigation when the pH is properly controlled.

The result of proper use of either urea-sulfuric acid or sulfuric acid pH control systems can allow the pH of the soil to be maintained at or near the range of 6.5 to 7.2. When the soil is maintained in this range, the plant expends less energy to control its own active transport system.

OBITUARY

James G. Harrison, 95

Architect James G. Harrison, whose career began with Donald Ross at Pinehurst in 1921 and spanned 60 years, died July 21, in Monroeville, Pa. Mr. Harrison, who lived in nearby Wilkins, was 95.

Mr. Harrison was one of the few to serve two terms as president of the American Society of Golf Course Architects (ASGCA), having led the organization in 1955 and 1969. In later years he was a Fellow of the society, which includes the leading golf course architects in North America.

After having worked alongside Ross for six years and briefly with Orrin Smith, Mr. Harrison opened his own practice in the late 1920s. Between 1955 and 1964, he was joined in his practice by son-in-law Ferdinand Garbin.

During his career, Mr. Harrison designed more than 70 courses, including Warwick Hill Country Club in Flint, Mich., site of the PGA Tour's Buick Open. Other Harrison-designed courses include Sewickley Heights Country club in Sewickley, Pa.; Lakeview Country Club in Morgantown, W.Va.; and Penn State University's White Course. Mr. Harrison also renovated the Blue Course at PSU.

Mr. Harrison was born in Wilkins Township, Pa., and left the bulk of his architectural legacy, 45 designs, in his native state.

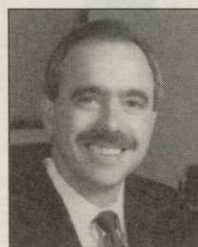
Who needs third-party pump certification? You do

By DAVID THRAILKILL

Since 1971, OSHA has required that pump systems be third-party certified. The pump station as a complete unit must meet all applicable national standards, and must be suitable for its intended purpose. In a typical pump station destined for an irrigation application, certification includes confirmation that a tank is fabricated to ASME standards; a welded steel header and components are manufactured to ANSI standards; AND water pumps are manufactured to Hydraulic Institute standards. OSHA 1929 CFR1910.303/399 contains the federal standards and definitions relating to pumping station certification. System specifiers must require pump stations bear the label of a Nationally Recognized Testing Laboratory (NRTL).

It wasn't until 1988 that OSHA established a program (OSHA 1929 CFR1910.7) to accredit a network of independent NRTLs that were truly independent of standards setting authorities, manufacturers, fabricators, or designers operating under those standards.

An NRTL performs standards conformity assessments and implements the disciplinary phases of compliance engineering. They assure



David Thrailkill

that a system meets all relevant standards for a given application. Certification encompasses three levels, from basic component recognition (level 1, i.e. wires, fuses, etc.), to product listing (level 2, electric motors containing basic components) to full system certification (level 3, complete unit composed of level 1 and level 2 components).

There are approximately 10 NRTLs operating in the United States. At least as many laboratories are applying for NRTL accreditation, which OSHA accredits and recognizes for a 5-year period.

Among the largest, UL and FM operated initially as both standard-setting authorities and testing laboratories, contrary to the initial OSHA mandate. Their NRTL re-accreditation status remains under review because they were not independent as specified in OSHA certification requirements. ETL Testing Laboratories, the largest testing service in the world, has been accredited since OSHA first established NRTL accreditation in 1988. With the signing of SyncroFlo in 1992, ETL became the first to provide full inspection, testing and evaluating services to pump system vendors in the irrigation industry.*

The cost of third-party certification for a manufactured system is very little if all components used in a system are already up to standards of good engineering practices, are suitable for

the intended purpose, and meet all OSHA and EPA standards for safety. This is especially true if the manufacturer has established rigid quality assurance procedures, routinely provides the highest quality equipment, and supports the system with full documentation.

NRTL certification of a pump station can be done in a manufacturing environment or on a golf course after installation. Obviously, buying a pumping system from a certified manufacturer is easier and less costly than obtaining the necessary certification for a single unit on-site.

System owners are liable for injuries in installation, operation or maintenance.

There have been many court cases establishing the owner's ultimate responsibility. Apart from owner liability risks, installations that do not meet code are subject to a first offense fine up to \$7,000 per unit, subsequent fines up to \$70,000 per unit.

However, owners are able to shift much of the responsibility and liability if they can show that designers, installers, or manufacturers had easily available and economically viable alternatives, installers, or manufacturers had easily available and economically viable alternatives to third-party certification.

The bottom line benefit of systems certification is the raising of overall pump station safety and quality standards with negligible pass-along cost to the end user.

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exhibition and conference, will be a series of educational seminars conducted by the Golf Course Superintendents Association of America (GCSAA). These seminars are traditionally well attended by golf course superintendents from clubs throughout the region.

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KNOTTS EARNS CERTIFICATION

NAPLES, Fla. — Prentis C. Knotts of Eagle Creek Country Club here has been designated a certified golf course superintendent (CGCS) by the Golf Course Superintendents Association of America. Superintendent at Eagle Creek since 1991, Knotts passed a rigorous examination and his course was inspected by two CGCSs.

ISS INKS PENNBROOKE PACT

LEESBURG, Fla. — ISS Golf Services of Tampa has reached an agreement with Florida Leisure Communities for maintenance of the nine-hole Pennbrooke Fairways golf course here. Florida Leisure has added three Gordon Lewis-designed holes at Pennbrooke Fairways and plans to expand to 18 holes in 1996.

LARGE-ROLL SOD HARVESTING A HIT

OMAHA — Large-roll sod harvesting and delivery systems captured the imagination of the 850 registrants at the Turfgrass Producers International (TPI) Summer Convention and Field Days held July 26-28 at Todd Valley Farms 35 miles west of Omaha. TPI officials said highly automated, one-person roll sod harvesting machines also drew interest, as did improvements in forklifts, large mowers and irrigation systems. The event was attended by 60 representatives from 14 countries.

FIDDLER'S ELBOW QUALIFIES

FAR HILLS, N.J. — Fiddler's Elbow Country Club has earned full certification in the Audubon Cooperative Sanctuary Program (ACSP). Specific projects undertaken at Fiddler's Elbow include the release of two rehabilitated American Kestrels on the property; the use of bluebird nest boxes as 150-yard markers; a club-wide recycling effort; the continued use of a comprehensive, "natural-organic" integrated pest management program; and the creation of sediment-traps and buffer zones around many on-course waterways. In addition, Fiddler's has set a total of 107 acres of property aside as "no-mow" areas.

GEORGIA GIVES STEWARDS \$3,000

EATONTON, Ga. — The Georgia Golf Course Superintendents Association has donated \$3,000 toward creation of a new exhibit at Rock Eagle Natural History Museum here. The Stewards of the Land exhibit will introduce visitors to the world of urban agriculture, including turf and landscape.



Zebra mussel menace threatens South

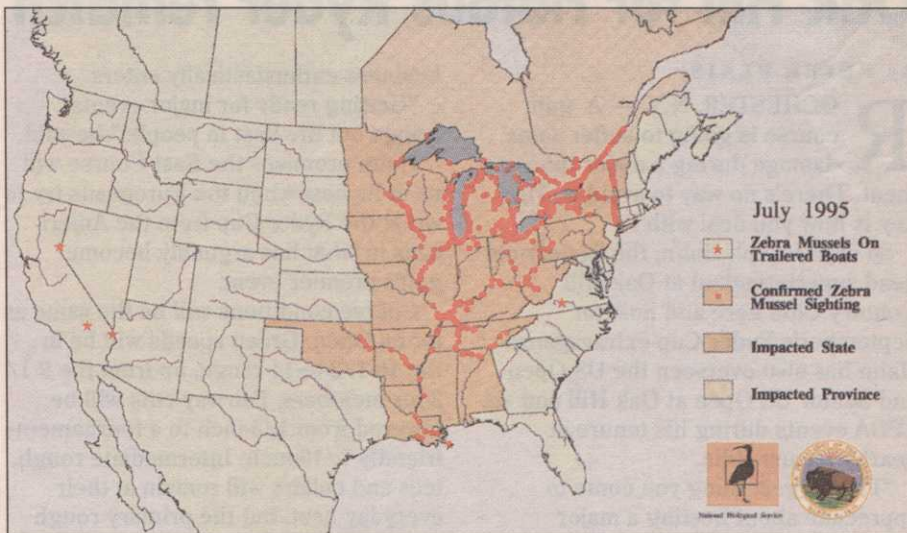
By MARK LESLIE

GAINESVILLE, Fla. — The Southeast is bracing for what scientists feel is the imminent invasion of the zebra mussel — a menace that has plagued the Great Lakes area since arriving in the ballast of a ship from Europe nine years ago.

Already, the clamlike shellfish have invaded golf courses in Illinois, Minnesota and New York, and shut down water-management and power companies. So minute in their veliger, (the larval form, which is 70 microns or larger), zebra mussels swim right through conventional water filters. They have been found up to two feet thick on the intake of a water system.

"All of us from North Carolina on down the coast are trying to set up preventive programs," said Marion Clarke of the Sea Grant Extension Program at the University of Florida in Gainesville. "Northern Florida will be the first vulnerable area because our waters are cooler longer. They [zebra mussels] are becoming more tolerant of warm water and are developing immunities to salinity."

Golf course superintendents should



The National Biological Service's Nonindigenous Aquatic Species Data Base at the Southeastern Biological Science Center in Gainesville, Fla., keeps track of zebra mussel distribution in North America. This map depicts the zebra invasion as of July.

be most concerned if they draw from open water, Clarke said, adding: "Zebras get into the irrigation system and clog up their sprinkler heads and pipes. You can be [closed] down weeks doing chlorination treatments and scraping and blowing out pipes. "It is very labor-intensive. You

intensively chlorinate the pipes, let it sit and then pressure-blowout the pipes; then keep chlorine in there to kill whatever larvae survives."

The Great Lakes area has spent millions of dollars combating zebras. Indeed, if not money then at least fear

Continued on page 23



The dead-air green at Atlanta Athletic Club is divided into 5-by-10-foot plots for 28 cultivars and five blends of turfgrass.

Dead-air green's gift: Life to the industry's turfgrasses of the future

By MARK LESLIE

DULUTH, Ga. — Dead air oftentimes means dead grass. But Georgia superintendents and researchers hope the "dead-air green" they built at Atlanta Athletic Club (AAC) here will help produce turfgrasses that survive regardless of air movement.

"I think we'll wind up with better year-round conditions on the putting greens," said AAC Director of Golf Courses and Grounds Ken Mangum. "The more information we have, the better decisions we can make."

The Georgians built almost a worst-case scenario when they constructed this 9,000-square-foot green. Trees edge two sides of the putting surface and eight-to-nine-foot-high mounds enclose it on all sides. Cut to a height of 9/64 inch, it is being maintained like the other greens on the golf course — even to the extent of

double-mowing and rolling during the state amateur tournament in July, Mangum said.

"It was done mainly to research performance to find the best cultivars for those conditions," said Dr. Gil Landry of the University of Georgia. "That's the number-one question for all golf course superintendents. The feeling is, if we can get a grass that will survive that stress it will survive other locations on a golf course."

The green was built to U.S. Golf Association specifications by area shaper Mitch Bourgeois, and AAC crews seeded four replications of cultivars instead of the three common to national trials.

The plots are 5 by 10 feet, which is twice the size of normal test plots. Twenty-eight cultivars and five blends grace the green.

Continued on page 22

Mechanics tune up 1st nat'l conclave

By MARK LESLIE

COBBLESKILL, N.Y. — The fledgling Golf Course Mechanics Association (GCMA) is gaining momentum in numbers and now plans its first Mechanics School, a five-day program hosted here by State University of New York at Cobleskill, Jan. 8-12.

"Hopefully, it will be yearly," said GCMA Vice President Brian Alford of Dedham (Mass.) Country and Polo Club. "It will stay on a regional level for the time being. If [GCMA] really gets rolling, perhaps 10 years from now, we might have a one-week national conference."

The \$685 course, consisting of eight half-day sessions, will instruct members on the ins and outs of products made by Jacobsen, Toro, Cushman, Ryan, Ransomes, John Deere, Troy-Built, Melroe-Bobcat, Kawasaki, Honda, Briggs & Stratton, Tecumseh/Peerless, Rainbird, Buckner, Neary, Foley and many others, according to organizers.

Open to GCMA members only, the sessions are structures such that the SUNY-Cobleskill instructors determine at what experience level classes will begin and cover. Instructors may also look to students' experience to help the class.

Sessions will include repair welding, diesel engine fundamentals, electrical systems diagnosis, hydraulic system diagnosis, carburetion and gas engines, grinding reel mowers, irrigation system repair and sprayer calibration maintenance.

Continued on page 20

Tourney veteran Hahn prepping Oak Hill for riotous Ryder rematch

By PETER BLAIS

ROCHESTER, N.Y. — A golf course is going to suffer some damage during a major tournament. There's no way to avoid it. The key is how you deal with it.

So says Joseph Hahn, the 54-year-old head superintendent at Oak Hill Country Club here and host for September's Ryder Cup extravaganza. Hahn has also overseen the US Open and Senior US Open at Oak Hill and six LPGA events during his tenure at nearby Locust Hills.

"The biggest thing you come to appreciate about hosting a major tournament," Hahn said, "is the amount of preparation involved. Your crew, the tournament staff and outside contractors are all over your course. Everyone has good intentions. But with all that work and all those people, some damage to the course is inevitable.

"It really irritates you the first time it happens. But you finally learn that it happens every time and to everybody. The course eventually gets repaired and it's not such a big deal. It just comes with the territory."

And it's a territory the 40-year veteran of the course management

business enthusiastically enters.

"Getting ready for major events brings out the best in people," he said.

Hahn promises the East Course will be at its best when the Europeans try to wrest the Ryder Cup from the Americans in what has arguably become golf's premier event.

Course conditions will be the same as for an Open. Green speeds will be in the 10 1/2-to-11 range, up from the 9 1/2 for members. Fairway cuts will be lowered from 1/2-inch to a tournament-friendly 7/16-inch. Intermediate rough, tees and collars will remain at their everyday best, but the primary rough will better than double its normal 2-inch height to 4 1/2 inches.

Three bunkers were restored to their original Ross-designed dimensions last fall. Every bunker on the course received new sand, 1,400 tons in all, so they would play consistently throughout.

While course conditions are similar to those demanded for an Open, the extracurricular requirements are much greater than for a normal PGA Tour event, Hahn said. For example, there were 15 hospitality tents at the 1989 U.S. Open here compared to the 57



Oak Hill superintendent Joe Hahn, right, supervises as Vince Hegarty waters down a hot spot on a green.



planned at this year's Ryder Cup. More flag poles have to be planted to fly the colors of the various countries. Accommodations must be made for the gala opening ceremonies. Extra bridges have been erected for the anticipated crowds crossing Allens Creek.

"Anything moving onto the course has to go through this office," Hahn said.

But even with the additional Ryder Cup demands, most of the things any superintendent does, whether it be in preparation for a major tournament or the daily operation of the course, are a matter of successful repetition, Hahn said. That's the main thing he learned from the two men Hahn considers his mentors, Charles Ludecker and Lynn Davis.

Davis succeeded Ludecker as head superintendent at Brookfield Country Club in Clarence, N.Y., where Hahn first went to work on a grounds crew at age 14. Both men are deceased, but they were Hahn's professors in the University of Hard Knocks.

"My formal education ended with high school," Hahn said. "But they both saw I wanted something more and took me under their wings. They used to tell me something over and over, and then

they'd make me do it over and over. The repetition used to irritate me. I hated it when I was living through it. But learning to do something the right way, and then being able to repeat it again and again, is the key to being a good superintendent."

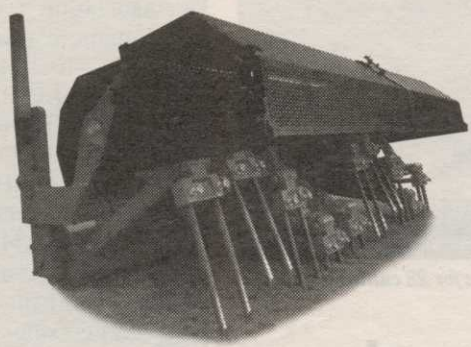
On a more personal level, Hahn credits his wife Elaine and brother Pete, a fellow superintendent who died last year, with helping him succeed.

"My wife had to put up with a lot," Hahn said. "We had seven children. Many times she ended up having to take the kids to ball games and school functions because I was tied up at the course. Now that they are all grown [the youngest is 20], I'm looking forward to spending more time with her and playing a little more golf."

Hahn also plans to continue his involvement with the Golf Course Superintendents Association of America. He has served and will continue to serve on numerous GCSAA committees, he said. He also had a brief tenure on the board of directors.

But he lost a 1994 re-election bid, in part because of his support for several con

Continued on next page



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CIRCLE #109

Putting-green research priming pump for wisdom

By MIKE KENNA

FAR HILLS, N.J. — Thirty-eight preproposals were submitted to the U.S. Golf Association (USGA) Turfgrass Research Committee in response to its June 1 call for studies dealing with putting-green construction and maintenance. The USGA Green Section's "Specifications for a Method of Putting Green Construction" uses sand as the principal component of the root-zone mix to provide adequate drainage and resistance to compaction, and incorporates a perched water table in the profile to provide a reservoir of moisture for use by turf.

The goal of the new research is to identify the best combinations of construction, grow-in procedures, and post-construction maintenance practices that prevent long-term problems, reduce environmental impacts, and produce high-quality playing surfaces. At the July 20 Research Committee meeting, 18 preproposals were selected for development into full proposals.

Final selection of full proposals will be made the last week of November. Ten to 12 projects will be funded at \$20,000 per year for a period of up to five years. The Golf Course Superintendents Association of America has agreed to consider co-sponsoring a number of projects selected by its own Research Committee.

Several interesting questions are raised by the research preproposals which will directly benefit golf. Can the conditions for the removal of the intermediate (choker) layer be less stringent? How does the shape (i.e.,

angular or round) of the sand affect green performance? Why are some sands more stable than others? Can calcareous sands be used successfully in regions where they are more abundant?

The hydrology of movement of water through putting-green root zones will also be further investigated during the next five years. How does the profile design, root-zone composition,



slope of the green, drain spacing, profile depth, and irrigation protocol impact water movement and the extent of water perching in a USGA green? How do these factors change over time? How do alternative putting-green construction methods stack up to the USGA Green Section recommendations?

Beyond these questions dealing with the chemical and physi-

cal properties of root-zone mixes, how should they be grown in and made ready for play? Are the extremely high rates of nitrogen used to accelerate growth a short-term solution to meet opening day but a path to long-term failures? How can dark, organic grow-in layers be avoided? What are the criteria for allowing play on new greens?

Several projects propose to thoroughly study the microbiology of high-sand root zones. What species of bacteria are found in new greens? Where do they come from? How do microbial populations change over

time? What effect do they have on the development of layers high in organic matter? What effect do micro-organisms have on turfgrass pathogens?

These are just a few of the interesting questions that university scientists will attempt to answer during the next five years. It is important to remember that the answers will be based on thorough, side-by-side comparisons of a wide range of construction, grow-in, and post-grow-in regimes. The research will provide more sound, scientific information upon which the putting green construction and maintenance debate can be based.



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Dr. Michael Kenna is director of Green Section research for the United States Golf Association.

Ready for Ryder

Continued from previous page

troverial bylaw proposals involving the board's authority to set dues and establish membership classifications.

"My short term on the board was interesting, but I have no desire to run again," Hahn said. "The reorganization at the headquarters level seems to have the association generally moving in the right direction. We need to keep pushing continuing education and make certification tough enough that it still means something. But we have to diversify our educational programs to offer more for the people working for us. We [GCSAA] concentrate a lot on the superintendent and don't do much to help the mechanics and spray technicians."

As for the future, Hahn said: "I have no aspirations to move, unless the club decides I should. I like it here. We have a quality golf course, an ample budget and occasional major events. The 1998 U.S. Amateur will be held here. I don't plan on retiring until I'm somewhere between 62 and 65."

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Double Eagle's three-hose wash station.

Clean-up x 3 = time-labor savings bonanza

By TERRY BUCHEN

A major obstacle at maintenance complexes is efficiently cleaning equipment at the end of the day when the entire crew returns at once. The old scene of one person cleaning their equipment and the rest of the crew watching is outdated and unnecessary — a time/motion study at its worst.

An answer: the wash/cleaning rack. This rack has three hoses coming off the irrigation



system at 125 pounds per square inch, each with a plastic fireman's adjustable nozzle. A fourth hose faucet — which comes off the

maintenance building's domestic water system — supplies the pressure water/steam cleaner that is used for cleaning freshly lapped reels and for any other in-depth equipment cleaning.

A fifth hose faucet is available during the winter months, when the irrigation system is drained and the domestic water line is also winterized. This faucet is made of a farm-type frost-free hydrant.

Since cleaning with air instead of water is becoming more popular, air lines, coming off the air compressor in the maintenance building, could also be added next to each of the three hoses. The drainage grate is 12 inches wide and 40 feet long and has a quarter-inch mesh screen zip-stripped to the grate to keep grass clippings from clogging up the six-inch drain pipe. The pipe is drained back into the irrigation lake for recycling.

State laws will change in future years. With that in mind, this wash rack was designed to accommodate a rinse-aid type cleaning system, with electricity and piping installed during initial construction.

An isolation valve is located adjacent to the wash rack to shut off the three hoses from the irrigation system for repairs. One also should be incorporated for the air lines.

The concrete apron is six inches thick with reinforcing rods and is pitched at about a 2-percent slope toward the grate on all four sides. The hose holders are old automobile wheel rims and are bolted to a 4-by-4-inch post, as is the 1-inch PVC irrigation and air piping. Another option is a cleaning nozzle wand, with a hook-up for both air and water. This does a great job cleaning — almost as good as a pressure washer.

Most modern pressure washers/steam cleaners that are a combination unit operate on 115-volt household current. But many turf managers are buying units with 230/208 single phase, which has a slightly larger up-front cost but is much cheaper to operate in the long run. Some superintendents even have a special electrical outlet male and female waterproof connection for obvious reasons. It doubles as an employee fool-proof connection so that it is not inadvertently plugged into a 115-volt regular electric outlet.

Three to five employees cleaning their equipment at one time? It is truly a win-win situation.

HOLTZ OPENING GCSAA CONFERENCE

ORLANDO, Fla. — University of Notre Dame football coach Lou Holtz will keynote the opening session, Feb. 7, of the 67th International Golf Course Conference and Show here.

Holtz will speak at 5:30 p.m. at the Orange County Convention Center.

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A picture/video file is worth a thousand pages

By TERRY BUCHEN

In today's high-tech society, a superintendent can be much more thorough using a video camera/recorder and 35mm and Polaroid cameras in the daily work routine.

During the grow-in renovation of a course, it is good advice, to document all phases of construction with a camcorder and 35mm camera for a permanent file for the course archives.

It also helps employees to actually see how the irrigation system or drainage was installed, in case they have to work on it.

Taking this one step further, superintendents at many courses take 35mm pictures of each piece of equipment they own and put it in the archives to prove to their insurance company, in case of loss, that they were still using it, the equipment's condition, and to give a better estimate for replacing it. Also, videos of the entire maintenance building complex, soil storage building, fuel storage and pesticide storage provide a permanent record for insurance purposes in case of a loss. Do this annually to make the photographic records more accurate and complete.

Also annually photograph other physical buildings such as rain shelters, bathrooms, pumphouses, swimming pools, tennis courts, clubhouses, golf shops, trap and skeet ranges, ice skating rinks, etc.

Many companies provide this same service to homeowners. One copy of the records is kept in a safety deposit vault and the other at an attorney's office. In most cases, having this type of documentation will expedite settlement of insurance claims.

NEWSLETTER TOPICS

It's that time again, when planning the superintendent's next newsletter column, to select a timely topic for golfers to read with interest. One favorite topic for Northern and transition-zone golf courses in the fall (done in the spring on Southern courses) is for supers to write about what they and their staff accomplished during the off-season, as most golfers are unaware.

Many construction projects can be completed during the off-season, such as building a new tee, bunker renovation, adding new bunker sand, trimming and removal of trees, etc. to least inconvenience golfers and they usually can be finished in the spring if the winter is too severe. Also explaining the equipment renovation and painting of course accessories is thought-provoking.

Listing all turf conference seminars, USGA regional conferences, and renewing pesticide licensing, etc. further explains the complexity of our business.

GRAIN FUTURES

It is always interesting to lis-

ten to television golf announcers talk about the grain of the grass on the greens and in which direction the greens will break — such as toward the mountains, or toward Indio in the Palm Springs area of California, or toward the ocean at Pebble Beach. As every superintendent in the world knows, the ultimate objective is to have all grass blades grow vertically, which is impossible. Nonetheless, we keep trying to make it grow vertically. With groomer and verticut at-

tachments for greensmowers, top dressing, dragging in with a steel drag mat, and mowing in different directions, it would seem that we have a pretty good handle on grain. But do we?

I visited with Allan MacCurach, senior agronomist for the PGA Tour, Senior PGA Tour and Nike Tour and he had some interesting revelations! "In most cases, most grain on a putting green runs east and west so it is best, when verticutting, to accomplish this going in a north

and south direction. I think that, in most cases, the mowing of greens in multiple directions is overkill and that only two directions for mowing, such as a north/south and east/west is needed to properly control grain," he stated emphatically. We also talked about my technique of testing the trueness of a putting surface using the USGA Stimp meter which really helps in eliminating grain and what direction the grain is coming from and he truly agreed. He also said that brushing of a putting surface should be in the same direction as the grain is

SAVVY SUPERINTENDENT



running, usually east/west.

Surface water draining toward the front of the green obviously has quite an effect on the direction of grain but, all in all, Allan makes an interesting, proven point.



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Peat advocates cite positives of organics

Confronted with the debate about porous ceramics, peat proponents point to the positive attributes of the organic material.

"The most evident discrepancy comparing peat and ceramics is that peat is of biological origin and ceramics are fired mineral — meaning they are sterile," said Tom Levar of Peatlands Diversified in Hermantown, Minn. "Peat — and some high-quality composed materials — contain humic substances and biologicals ... such as naturally occurring enzymes, and humic substances."

Saying it is logical that a plant material would be the best for supporting plant life, he added: "Ceramics are not of plant origin and are only as good as how you manage them and what you put into them... Also significant is this: As organic matter accumulates — such as thatch and the natural die-back of the turf roots and clippings — those materials must be acted upon biologically so they can decompose. That's part of the package when you use an organic in your mix."

Ceramics proponents argue there are a number of products that can be and are added to ceramics as a sort of nutrient soup in the root-zone mix.

More research is necessary before this organics-vs-ceramics debate is resolved. Indeed, it is ongoing at Iowa State University, Ohio State University, Penn State and Florida State. "All of this research is because the industry demands it for us to be viable and credible," Parker said.

"I think we're just scratching the surface of root-zone amendments," said Dr. Michael Hurdzan, a golf course architect. "We're not far along on the road to knowledge. We're still dealing with old wives' tales and alchemy."

"It's disturbing to me when we don't try to apply emerging technology in the field of turfgrass science. We have stuck our head in the sand and said, 'Bygones, we are only going to use one method that was introduced in the 1960s and was slightly refined over the last few years. We are using 35-year-old technology... It's a shame, and we need to stay current with emerging technology if we are going to advance the art and science of golf course design.'"

Former high-cost factor of ceramics being minimized

By MARK LESLIE

Developers commonly wonder if it is worth it to add ceramics, as opposed to organic material, to the root-zone mix for greens.

"In terms of new construction on high-sand greens, it hinges on the original sand you are working with," said golf course architect Mike Hurdzan. "If we can buy inexpensive sand and mix in either an inorganic material like porous ceramics or an organic material and make it better than a more expensive sand without those materials, then the cost-benefit ratio makes sense."

But the industry is waiting for information to make that type of decision. An effective research project would maintain side-by-side plots with 1) pure sand, 2) porous ceramics and sand, and 3) peat and sand, and determine which plot uses less water, fertilizer and pesticide.

"If you could demonstrate that, then you could put a dollar figure on it, and make intelligent decisions," Hurdzan said. "You need to quantify what this material is worth, and that's where we have a problem. I know that with the proper sand we can grow great turfgrass with neither of the two."

Porous ceramics can either cost more or less than organic material, according to Roy Parker of Soil Management Technologies (SMT) in Lakewood, Colo., which distributes Profile Porous Ceramic, a product of AIMCOR made in Blue Mountain, Miss. "The worst-case scenario is that it will cost \$30,000 more to build a green with ceramics," he said. But sometimes it may cost less.

"And it will continue saving money in mainte-

Related story page 20

nance," he said, claiming less fertilizers and pesticides as well as water need to be used when ceramics are present in the root zone.

The standard 90-10 ratio of sand and peat used in greens mixes contains 32 pounds of peat per ton, said Dave Tooley, a 25-year golf course superintendent and now Colorado Division Manager of SMT. "That isn't much material. A 90-10 mix with Profile contains 75 pounds of Profile. Would an addition of 75 pounds do more than an addition of 32 pounds?" He said his recommendations differ from site to site, adding: "With some sand, 10 percent Profile does wonders. With others, we recommend 15 percent."

The cost to blend the organic matter into a root-zone mix is about \$3 a ton for the material and \$2 a ton for handling. Using about 8,000 tons to build 18 greens, that cost would be \$40,000.

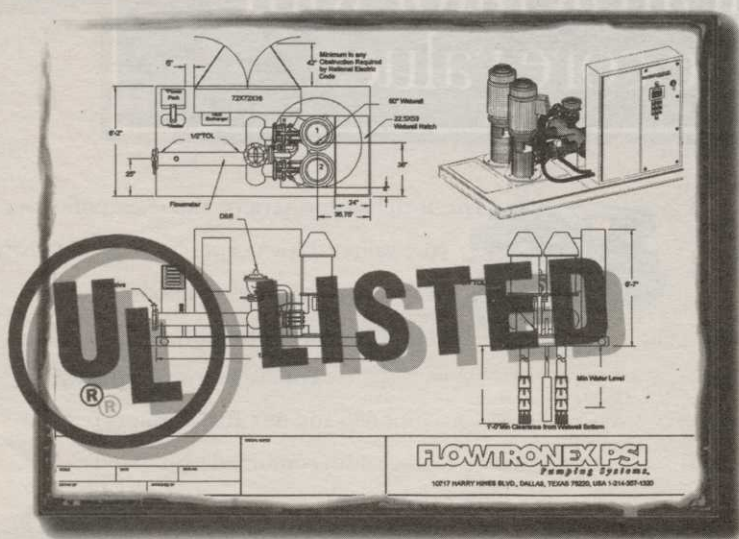
Figuring that a 10-percent Profile blend in the top six inches of the root zone equals 1,735 pounds per 1,000 square feet, Tooley estimated the cost for 120,000 square feet at \$52,800, or 44 cents per square foot.

Course architect Ed Seay added a twist to the figures, saying no subsurface drainage system is needed when porous ceramics are used. "Just 12 to 15 inches of mix and that's it," he said. "The savings is \$20,000 per green, easily, from not having tile and rock — depending on how far you have to go to buy it. The source is the key."

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Ceramics have a future on greens

Continued from page 1

a better root zone," Hurdzan said. Palmer Design Co. President Ed Seay was more emphatic. "It [porous ceramics] has marvelous qualities that will help with some very poor soil conditions," he said. "If it does what it says it will do — and what we have observed — you will be able to incorporate this material into native soil and achieve the porosity and soil qualities you need in order to grow good turfgrass and putting surfaces. And it will go beyond that. It can make a dry area moist, or dry up a wet area."

Said Seay, who with Palmer decided to renovate Bay Hill's Charger Course using Profile porous ceramic soil modifier, added: "Another beauty of it is, you need no rock and tile with it — no sub-surface drainage system."

"We're sold on it as a company," said Tim Freeland of Gary Player Design Co. "We think it's going to be fabulous, and we don't see any negatives. It's another step in providing a better putting surface for the industry."

The water-holding ceramics — including the diatomaceous earth product Isolite and calcite-and-clay Profile — provide the capability to manipulate pore balances and percolation rates, as well as maintain the microbial content in the root zone. Cation exchange capacity (CEC) and pH reportedly are also positively impacted.

Palmer is rebuilding the Charger greens using Profile and SLS Humates, a natural organic material designed to rapidly stimulate microbial counts and contribute to the organic needs of the root zone without decreasing percolation rates.

Player first used Profile in a renovation of three greens at River Run in Ocean City, Md., and is incorporating it during construction of the new Tournament Players Club facility in Princeton, N.J.

"We've already seen the benefits [at River Run]," Freeland said. "The best benefit is a more consistent green surface in distribution of water. We have no hot spots."

Hurdzan said the jury is still out on effectiveness of porous ceramics in new construction, but related successes in renovations.

"The best results we have seen is with guys who are doing deep aerification of old greens — usually top-soil greens or ones with a poor root-zone mix — and then supplementing that with porous ceramics," he said. "Those are the people who are singing the praises of porous ceramics the most. They are seeing prolonged improvement of what was previously a very bad area."

"So I think the porous ceramics have a very strong application in trying to take old greens and improve them without having to rebuild them."

Hurdzan is perhaps the hardest "sell" in the industry because of

his doctoral degree in environmental turfgrass physiology, master's degree in turf studies and bachelor's in turfgrass management, as well as experience as a golf course superintendent. While standing firmly behind the concept of a man-engineered subsoil as a viable option, he said: "We need both. In many sands we need to use an organic matter. Sometimes we need porous ceramics. Sometimes we find sands that need neither of those two."

Sometimes organic matter is necessary to give "better body" to the sand, Hurdzan said. "But that's what the ceramic does, too. The

difference is, the ceramic is not going to break down and the organic matter is going to break down. By its very nature it will go towards mineralization... To decide which is best, you send it to good testing laboratories and ask them to run a physical analysis using the different materials."

Course architects exert the most influence on developers, and "most of them have not wanted to venture out and take the risk [with ceramics]," said Roy Parker of Soils Management Technologies in Lakewood, Colo., which distributes Profile porous ceramic soil modifier for greens mixes.

"They don't have much of an incentive to do it. But now we have people who have given us a shot to get in the door..."

"We're spec'ing it in all of our courses," said Freeland. "Some clients are against it, because it's different and they feel it's a risk. We're not selling it, just recommending it."

Concerns about ceramics are diminishing, Parker said. "Nobody wanted to be the guinea pig. Well, there's no guinea pig any more. There was no tougher sell than Arnold Palmer, and he made the commitment."

"I think the fact that costs have

come down have made them much more attractive," Hurdzan said. "People have experimented with them and had great success. We have more consistent laboratory testing procedures. We have university test plots. All of these have lessened the anxiety about whether these have a place in the market. They do have a place. We just need to select it intelligently."

"The overall life of the green will be extended," Freeland said. "Too often the death of a green is because of lack of drainage. This will keep the green porous for a long time. We will have virtually no black layer."



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University research finds 'dramatic' results using porous ceramics

By MARK LESLIE

IOWA CITY, Iowa — Advocates of porous ceramics in root-zone mixes feel a University of Missouri study confirms their stance.

"We found pretty dramatic pictures" when top dressing dry spots with ceramics compared to straight sand, said Dr. David Minner, a Iowa State University professor who conducted studies on Profile Po-

rous Ceramic Soil Modifier while at the University of Missouri.

Minner was commissioned for the study by Applied Industrial Materials Corp. (AIMCOR), which manufactures Profile. He said he also discovered lower temperatures both on the surface and in the top three inches of the soil, and higher infiltration rates than sand-peat mix.

See related stories
pages 1, 18 & 19.

With one summer's worth of preliminary data, Minner pointed particularly to results of research on dry spots. He used a 25-by-25-foot section of a Research Center putting green that — though built to U.S. Golf Association

recommendations — required "extra syringing and was problematic." Maintaining six replications of 2- by 2-foot plots, Minner core aerified them and top dressed them either with sand or Profile.

"As the dry-spot areas started to develop," he said, "there were many more of them in the sand [top-dressed] areas, as opposed to Profile areas. We saw two keys: You had to continue sy-

ringing, or hand-watering; and it made your hand-watering program much more effective. The water was pulled down into the soil profile and held there for later on.

"During a three-week dry-down phase in August, we hand-syringed, treating them just like a superintendent would — cooling them once or twice a day."

Meanwhile, Minner also reported temperature relief where ceramics were top dressed into the soil profile. "The plots were wilting less, and there were lower temperatures in the surface and the soil to three inches deep," he said.

"We were seeing surface canopy temperatures as much as 20 degrees cooler. You can expect that when you have a plant that's wilted as opposed to one that is not wilted. The plots with Profile would not wilt as much. The ones with sand would wilt quite readily. Soil temperatures were 1 to 3 degrees cooler, mostly. But on some days it was as much as 7 degrees cooler."

Now that he has moved to Iowa State, Minner said he will construct some plots this fall to continue the study.

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PETE GERDON
Golf Course Superintendent
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Mechanics set education conclave

Continued from page 13

SUNY Cobleskill agricultural engineering instructor Larry Van DerValk actually approached GCMA founder and President Steve Lucas of Weston, Mass., about conducting a school and began planning curriculum in May.

Teaching sessions like this are badly needed, Alfond said, because "it's getting so specialized and the equipment is getting more and more complex. A good course in electronics is a must now. No more is it simple automotive mechanics. You're getting into computerization. And it isn't stopping. I predict it's just the beginning of computerization on this machinery."

Since the association was formed two years ago, its membership has grown to approximately 300.

"Our membership now spans Massachusetts, New Hampshire, Maine, Connecticut, Rhode Island and New York," Alfond said. "We've been in contact with other associations, particularly Florida, and in Colorado. Eventually it will be nationwide. It's in growing pains right now."

More information is available from Alfond at 617-245-6092. Golf Course News welcomes news from all mechanics associations.

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Dead-air green to reveal secrets of air movement, turfgrass growth

Continued from page 13

Seeded Nov. 22, 1993, the turf didn't accomplish good coverage until late spring of 1994. This year's data will be the first, and Landry and the others intend to widely disseminate the findings.

The main problem for superintendents growing bentgrass in the Southeast is summer stress and limited air movement. The Georgia Turfgrass Foundation (GTF) decided to fund construction of the dead-air green when Atlanta Athletic

Club was considering building a nursery green at the same time the GTF wanted to improve cultivar evaluations.

The project actually correlates to a program superintendent David Stone started at The Honors Course in Ooltewah, Tenn., where he didn't have much air movement, Landry said.

Yet, findings from this research will be pertinent across the country, Landry added.

"Our data will help give most



"The feeling is, if we can get a grass that will survive that stress it will survive other locations on a golf course."

— Dr. Gil Landry, UGeorgia

people insight into cultivar performance under similar types of environmental conditions," Landry said. "And we compare our data with David Stone's data as well other data across

the South.

"Dr. Keith Kornack is trying to determine whether there is a cultivar relationship between localized dry spots. That will be applicable to anywhere in

the world. Next summer a pathologist will inoculate the plots with dollar spot, brown patch and maybe pythium, and try to get ratings based on disease tolerance. We're trying to make it as all-encompassing as possible."

This spring researchers began to investigate green speed to determine cultivars' relative performance on ball roll.

"I think we will see you definitely get a difference based on the innate characteristics of each cultivar," he said.

Next summer, a traffic simulator will be used to determine wear tolerance.

Meantime, the GTF has purchased a weather station and installed it about 50 yards from the dead-air green.

In addition to being part of an 18-station environmental and climatological monitoring program in Georgia, it will measure environmental conditions in the area of the dead-air green and help researchers correlate better environmental conditions and cultivar performance.

"This will help enormously," Mangum said. "What you may find using the weather data is that one cultivar may do better in hot and dry weather and another better in wet conditions — that sort of information."

"For putting green performance, no one has done this extensive a test plot," Landry said.

The dead-air green is already paying dividends.

"This gave us an opportunity to look at all the new bentgrasses in the Atlanta area," Mangum said. "There are many golf courses here, a lot of new construction and reconstruction. It gives people the opportunity to bring their committee members, architects, developers and others out to take a look first-hand. A week hardly goes by when we don't have a visitor."

...

An added plus is that 10 different warm-season grasses, from buffalograsses to zoysias and Bermudas, were grown around the green "so that people can get an idea of what they look like," Mangum said.

"We also have four 20- by 20-foot bunkers with sands that are readily available in the area," he added. It's educating people. They can look at this sand versus that sand, or this zoysia versus that zoysia."

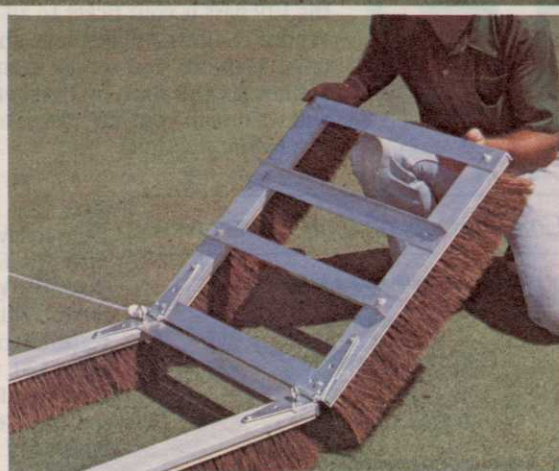
A lot of information superintendents are waiting for expectantly won't be available for perhaps five years, Mangum said. He specifically pointed to certain blends of bentgrass seed, such as Southshore-Crenshaw-SR1020, Penncross-Crenshaw and Crenshaw-Providence. "And a lot of people are interested in these," he added.

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Zebra invasion

Continued from page 13

has run rampant in the Great Lakes Region. "We were fortunate we had a filter, or it could have been a lot worse," said Fernando Fernandez, superintendent at Green Acres Country Club in Palatine, Ill.

Two years ago Green Acres had zebras two inches thick coating the sea wall around its irrigation pond. Fernandez, who buys water from Lake Michigan, told water plant operators about the zebras and, "very mysteriously, they all died within three or four weeks," he said.

Fernandez believes the water company injected chlorine or sodium hyper chloride into his water "because our turf got very yellowish and faded."

Fortunately, Fernandez mixes the lake with rain and well water.

"I would have had some bad problems if I had used it straight," he said.

A marine biologist took samples and recommended that Fernandez lower the pond down to the mud in the winter, so the mussels wouldn't have anything to stick to. Basically, the exposed mussels would freeze to death.

Bill Aiston was not as fortunate as Fernandez. Superintendent at Lake Shore Country Club in Glencoe, Ill., Aiston buys Lake Michigan water for his three small irrigation ponds before that chlorine-treated water can kill the zebra mussels. And since his ponds contain a lot of filamentous algae, the water would clog a filter as fine as 50-micron mesh.

"They're going right through to the sprinkler heads, so we spend a lot of time cleaning strainers on individual heads," Aiston said. "A lot of it is teeny slivers of broken shells, and in their juvenile stage they are mushy and can be wiped off."

The mussels stick on submerged golf balls, aerators, the filter screen, anything, he said, adding, "Monthly I have to knock them off my filter screen."

This fall Aiston will completely drain the ponds and let them sit for two weeks. "We'll have to do that every year. There is no chemical or electrical means to control them that is feasible for a golf course."

By blowing out the irrigation system before winter, he will knock a lot of debris out, he said.

But Aiston doesn't describe the zebras as a big problem — yet. "Since our lakes are only 3 years old, we don't have any mature zebras in them," he said. "They grow to the size of 1-1/2 inches and get four or five deep."

National Biological Service (NBS) fishery biologist Amy Benson said water heated to 100 degrees also kills zebra mussels, which can withstand water temperatures in the 80s. Then again, a course's irrigation system would have to be shut off.

Even with these treatments, the zebra mussels return "if you don't take preventive measures," Clarke said.

To prevent an infestation of a irrigation system, "take precautions," advised Nancy Balcom, Extension educator with the Sea Grant Marine Advisory Program at the University of Connecticut. The mollusks have expanded their range most quickly through the major river systems — flowing with the currents or being transported on the hulls of barges and large vessels, she said. Some are also being transported from one body of water to another by unwitting boaters and anglers, she said, adding, "We educate people to rinse off and dry out their boats, to scrape off aquatic weeds, to not transport bait from lake to lake..."

Zebras enter water intakes several ways: in the form of veligers they are carried by the water flow; as juveniles they can crawl in using their clamlike foot; and as adults they can break loose from colonies and travel to intake mouths with the currents.

Balcom said superintendents could install 50-micron-mesh in-line filters, but they would clog quickly. "A better alternative is to use a fine sand filter like those used for swimming pools, or an automatic backwash filter," she said.

So invasive are the zebra mussels that a Zebra Mussel Information Clearinghouse has been initiated at New York Sea Grant, and the NBS is mapping their movement and operates a worldwide web site devoted to zebra mussels.

"The prognosis is grim for all of the continental U.S.," Balcom said. "If there are appropriate water temperatures, enough calcium in the water for shell formation and a good food supply [plankton], they can spawn when water reaches 54 degrees, so that's seven to eight months of the year or longer. They can survive in eight to 12 parts per thousand of salinity in a laboratory. And they're prolific. Over a season one zebra can produce more than one million eggs."

Once zebra mussels arrive in an area, they are there for good. Europeans have dealt with them for more than 100 years and have succeeded by engineering infrastructures with the little creatures in mind.

"Our problem is that we're playing catch-up," Balcom said.

Teleconference aims to raise defenses before zebras arrive

GAINESVILLE, Fla. — A free satellite teleconference on the predicted zebra mussel invasion of the Southeast will be held from 9 a.m. to 4 p.m. Sept. 27. One of the four case studies scheduled to be aired deals with impacts on golf courses.

Sponsored by Florida Sea Grant in cooperation with the Southeastern Sea Grant Programs, the conference will bring together experts from around the country who have first-hand experience in tracking, analyzing and fighting zebra mussels.

"We're uplinking in Gainesville and will go out to any Extension office across the Southeast," said Marion Clarke of the University of Florida campus here. Although anyone can tune in to the teleconference, it is being targeted to states from Texas to Florida, up the Atlantic Coast to North Carolina and as far as Oklahoma, Arkansas and Tennessee.

For more information and downlink sites, people should contact their Sea Grant Program offices: Texas (512-994-8426); Louisiana (504-388-6305); Mississippi (601-388-4710); Alabama

(334-438-5690); Florida (904-392-1837); North Carolina (919-515-2454); Georgia (912-264-7268); and South Carolina (803-727-2075).

Meanwhile, the Florida Sea Grant Program is funding research into the most vulnerable environments in the state.

Ernie Estevez at Marineland will look at the environments where the zebra is flourishing in the Northern states and comparing those environments with Florida," Clarke said, adding that other states are undertaking similar studies.

Sources of zebra mussel information: Marion Clarke, Sea Grant Extension Program, University of Florida at Gainesville (904-392-1837).

Amy Benson, fishery biologist, National Biological Service (904-378-8181; FAX 4956). The NBS has a zebra mussel database on the world-wide web, address: WWW.NFRCG.gov

Chuck O'Neill, Zebra Mussel Information Clearinghouse at New York Sea Grant (716-395-2638; FAX 2466).

Nancy Balcom, Sea Grant Marine Advisory Program, University of Connecticut (203-445-8664), which has produced the 10-minute videotape, The Invasion of the Zebra Mussel: Just a Matter of Time?

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UMass releases landscapes guide

AMHERST, Mass. — The University of Massachusetts Extension has developed the guide, "Planting and Maintaining Sustainable Landscapes." UMass experts compiled the booklet "to help progress toward ecologically and economically sustainable land management systems: those that support an integrated system of plant management practices that enhance the environment and sustain the continued economic viability of landscaped properties." Among other topics, it contains current, research-based information on fertilizers and fertilizing trees, shrubs and lawns; pesticide fate; low-maintenance trees, shrubs and turfgrass. It is available for \$7.50 from Bulletin Center, Cottage A, Thatcher Way, UMass, Amherst, Mass. 01003.

Southwest GCSA antes up \$5,000

The Southwest GCSA joined the Platinum Tee Club in July with a \$5,000 contribution to the Golf Course Superintendents Association of America (GCSAA) Foundation. The funds are earmarked to support association programs for student financial aid and turfgrass research. GCSAA President Gary Grigg, who received the gift on behalf of the association, said, "I would like to thank Southwest GCSA President James Hodnett and the members of the Southwest chapter for their support of The GCSAA Foundation."

"These contributions ensure that our profession continues to address the issues facing golf course management through research and scholastic efforts."

ISS expands business staff

TAMPA, Fla. — ISS Landscape Management Services, Inc. has added an additional business development representative to its team. Brian McFarlane will be responsible for sales in ISS Landscape's Golf Services Division. McFarlane brings over 10 years of golf course experience to ISS. Before joining ISS he served as NTS Development Co.'s general manager at Sabal Point Country Club in the Orlando area. He has also served as the general manager for River Bend Golf Club and Windermere Country Club, two private clubs in central Florida.



Dominic Morales, chairman of the golf/turf management program at State University College of Technology at Delhi, rides the latest gift to the program — donated by Toro.

LATEST DONATION FROM TORO

Delhi generates \$200K in support

Toro is the latest industry leader to support the golf/turf management programs at the State University College of Technology at Delhi, N.Y.

Toro recently donated a Workman utility vehicle, valued at nearly \$14,000, for use by students involved in a unique educational venture: construction of the back nine at the Delhi College Golf Course. The project, which has generated more than \$200,000 in industry donations,

is providing golf/turf management majors at Delhi College with hands-on experience in golf course construction techniques. Delhi is the only college that offers students such comprehensive training.

The utility vehicle donation, arranged by Grasslands Equipment and Irrigation of Latham, N.Y., marks the third consecutive year that Toro has lent its support to Delhi's golf education programs.

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Mountains

HORTICULTURE, ANYONE?

PHOENIX, Ariz. — The 1995 Southwest Horticultural Trade Show — which has educational opportunities for golf course superintendents, nursery owners, pesticide applicators, landscape contractors and landscape architects — will be held Sept. 7 and 8, 1995, at Phoenix Civic Plaza.

A new feature is a "Growers

Short Course" to be offered prior to show opening on Thursday morning. This will feature research updates by Dr. Jimmy Tipton of the University of Arizona and Dr. Chris Martin from Arizona State University. Included will be updates on a water use study being conducted by Tipton, heat effect of containers on plant roots by Martin, and a yard waste compost evaluation.

The annual Xeriscape Conference will also be held.

For more information call the Arizona Nursery Association at 602-966-1610.

South Central

WEST TEXANS TO MEET

SNYDER, Texas — The West Texas Golf Course Superintendents Association and Western Texas College will host their 9th annual West Texas Turfgrass Conference at the school here, Oct. 10-12.

Educational sessions will cover growth regulators for Bermudagrass, identification and management of turf insects

and mites, zoysiagrasses, overseeding, herbicides, pre-emergent weed control, greenhouse operations, renovation of greens, turfgrass management, superintendent's responsibility, pump efficiency, turfgrass mathematics and beneficial insects.

Seven continuing education units will be available for pesticide applicator licensing by the Texas Department of Agriculture and the Structural Pest Control Board.

A golf tournament and barbecue kick off the conference Oct. 10.

Southeast

FIELD DAYS IN VIRGINIA

BLACKSBURG, Va. — Turfgrass and landscape research results, an equipment demonstration and certification examinations will be featured at the Virginia Tech Turf and Landscape Field Days here, Sept. 19-21.

Co-sponsored by Virginia Tech and the Virginia Turfgrass Council, the program will begin with a morning golf tournament and evening research session at the Blacksburg Marriott, Sept. 19.

On Sept. 20 viewing of research plots and a tour of Virginia Tech's Lane Stadium will consume the morning, and an equipment demonstration and reception in the horticulture gardens the afternoon. Certification exams will be given Sept. 21.

More information is available from Virginia Cooperative Extension offices and Virginia Tech at 540-231-5797.

Northeast

RUTGERS PREPARES SCHOOL

NEW BRUNSWICK, N.J. — The Cook College Office of Continuing Professional Education and the Rutgers Turfgrass Alumni Association will present the Sixth Annual Rutgers Professional Golf Turf Management School and Alumni Awards Banquet for the Graduating Class of 1995 on Nov. 4.

Representatives from the Golf Course Superintendents Association of New Jersey, the Rutgers Turfgrass Alumni Association, and the New Jersey Turfgrass Association will attend.

The event will be held at the Ramada Inn in East Brunswick on Route 18 South. Cocktail hour begins at 5 p.m. with an open bar.

For more information or for a registration form people should write Cook College, Office of Continuing Professional Education, P.O. Box 231, New Brunswick, N.J. 08903, or call 908-932-9271.

WEST VIRGINIA RAISES \$14,100

The West Virginia Golf Course Superintendents Association (WVGCSA) raised \$14,100 at its 10th Annual William C. Campbell Turfgrass Scholarship and Research Fund-raiser Golf Tournament.

The event's chairman, Bill Nickerson Jr., presented WVGCSA President Art Casto Sr. with a check for the amount, topping last year's fund-raiser. Proceeds are used to promote education of those working at golf courses in the state.



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Winter preparation: A chore for supers in all regions

By MARK LESLIE

By its sheer sound, "winter preparation" sends chilling signals of Sargent Preston-type footage through your thoughts. But, while Northern golf course superintendents insulate what can be insulated — from greens to irrigation heads — and pray for a winter-long covering of snow, transition zone and Southern superintendents have the toughest chore, experts say.

"Winter prep is a major issue in this part of the world," said Jim Moore, who directs the U.S. Golf Association Green Section's Mid-Centroid Region from Waco, Texas.

"I see a lot more winter kill in the southern portion of my region than I do the northern part. Oklahoma, Arkansas, Missouri, Kansas and north Texas, superintendents are all growing warm-season grasses on fairways and tees, but they are far enough north that they get frequent winter injury. I hardly ever see winter kill in places like Colorado or Nebraska, because they are all growing cool-season turf.

"You see snow mold and some ice damage, but, by far, short of the Northern courses losing their poa annua periodically, the most serious winter injury is in the transition zone."

In South: Healthy turf, happy golfers don't mix

Basic in the struggle for Southern superintendents to prepare for the winter is keeping both healthy grass and happy customers. Those two goals are often at cross-purposes.

"Winter prep in Florida is preparing for the snowbirds who are coming down," said Jan Beljan, a landscape architect and agronomist who is a lead designer for course architect Tom Fazio in Jupiter, Fla.

"Keep in mind that the people who are coming down to play in the winter just got finished playing golf on a course that is probably in its best condition of the year," Beljan said. "It's through the major heat stress, you've had wonderful fall foliage and good crisp nights and warm days, and golf courses look gorgeous and feel good."

Therein lies the pressure.

Moore pointed out that Southern superintendents should raise the cutting heights on their turfgrass, regardless of any outcry from golfers.

"It's real important — and hard to do — to raise cutting heights in September," he said. "That's prime-time playing conditions and you're having to raise the cut at a time when the players don't want you to. But superintendents have to do it and take the grief. A lot of [club] memberships have learned the hard way."

Cal Roth, director of golf course maintenance operations for the PGA Tour's 14 Tournament Player Courses, agreed. Pointing to his facilities in Washington, D.C., Charlotte, N.C., and Memphis, Tenn., he said: "Charlotte and Memphis have warm-season Bermudagrass roughs. We start raising the height of the rough in late August, so it gets to 2-3/4 to 3 inches going into the winter. Normally we mow it at 2 inches. All three have zoysiagrass fairways. We raise the height on those fairways and tees from 3/8 to 3/4 inch. That's a big



Winter kill can be devastating.

jump but extremely beneficial to get through the wintertime."

The reason for higher cuts, Moore said, is "so the grass can produce and accumulate the carbohydrates necessary for spring regrowth."

In North: The fear that reigns is lack of snowfall

Desiccation is the annual nemesis of golf courses across the Northern tier of the United States. "Front-range" properties in Colorado, New Mexico and Wyoming know this better than any.

"Shinnock winds come through and we have daytime temperatures in the 60s and 70s. In the evening it will be in the 20s," said Larry Rogers of Larry Rogers Design, an irrigation expert.

"Irrigationwise, we need to have our systems set up in such a way that we can water during the 60-degree days because, with the Shinnock winds, it's not unusual to get 120-mile-per-hour winds flying through Boulder Canyon and drying this place up quick. We have to react to that and get some water down for the turf plants. We do that in different ways. Some courses that have old equipment rent a water truck. Many of our newer courses put in deep-buried lines below frost level that allow them to get water to priority areas throughout the winter."

"Colorado guys live in fear of an open winter," Moore said. Adding to the difficulties in that region is that they have to drain the irrigation systems, or they will freeze, and "once they drain their systems they are stuck without water for three or four months," he said. "If you have an open winter you have to get water on the golf course. That's where the water trucks come in."

Since bentgrass is more prone to desiccation than bluegrass, Moore suggested that superintendents with bentgrass fairways in the cold dry climates like Wyoming or Colorado should install frost-free systems. They would then have a regular irrigation system, plus a separate system below the frost line that is not drained in the winter.

"Sometimes they are composed of metal instead of PVC pipe. They have long risers on them so they can plug in snap valves so they can water in the winter," he said.

Continued on page 30

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Tips to supers in the fight to prevent winter kill

Experts share these ideas in the battle to prevent or control winter kill:

- Greens covers remain popular throughout the North to protect putting surfaces. PGA Tour's Cal Roth, director of golf course maintenance, said the Tournament Player Courses in Michigan and Connecticut use covers on "some specific greens that tend to give us problems in the winter — ones that are more exposed to winds and temperatures."

- "We apply extra pot ash on all our courses going into the winter, slow-release fertilizer that will be available when they start to green up in the spring," Roth said.

- "With our mountain courses," said Rogers, "it's not unusual that the guys have to get out there with snowthrowers. On certain dates they have to snowplow the greens so they can apply various snow-mold protection for the long term (from mid-November to mid-March)."

- A snow mold prevention program should begin in the early fall with a fungicide application against Fusarium patch.

Systemic fungicides must be applied before the turf goes dormant, so the plant can take it up.

Contact fungicides can be applied to dormant

turf and should be spread just before snowfall for best results.

Because certain fungicides are registered for one type or the other, superintendents should discover whether grey snow mold or pink snow mold occurs in their area.

- Northern superintendents can cut six or eight cup holes in each green before the ground freezes for the winter.

- "The school is still out as to whether you bring your irrigation clocks inside, or leave them out and have electricity running through the solid state controllers, keeping programs in them," Rogers said. "In the old electro-mechanical days we always brought them in so you could reset them and make the mechanical adjustments for better accuracy in your timing. With these solid-state units, it's a tossup."

"The pilot valve assemblies on all the valve-in-hand equipment are so close to the top of the ground that the 60-degree daytime temperatures and the 20-degree nighttime temperatures freeze up the pilot assembly — containing the brains of the sprinkler itself — so it can't operate," he added.

"That's why we have to use manual-type equipment."

By DR. JOHN M. ROBERTS

DURHAM, N.H. — Crown hydration damage continues to be one of the most destructive yet least preventable forms of winterkill. It is a problem generally associated with turf growing in wet soils whose saturated cells rupture and die following extreme fluctuations in temperature.

Many of the specific environmental conditions required to cause damage are not fully understood. However, serious injury has been reported when warm temperatures are followed by rapid decreases in soil temperatures below 20 degrees Fahrenheit.

Golf courses in the central and northern regions of the United States are prime targets and can be damaged throughout the winter. Even so, turf in these regions is particularly vulnerable to crown hydration damage in the two- to three-week transition period during snowmelt in early spring, during which time standing water and saturated crown tissues often exist on semi-frozen soil surface.

This is especially apparent on greens that have not been contoured to allow for surface runoff. Also during this transition period, wide-ranging daily temperature changes are common, and carbohydrate levels of the turf are low. As a result, the young tissues being produced are highly susceptible to crown hydration damage at this time.

Today's Best Management Practices

Dr. John M. Roberts works at the University of New Hampshire in Durham, N.H.

Future grasses promise better tolerance to temperature changes

By MARK LESLIE

GRiffin, Ga. — Just over the horizon looms a whole new generation of grasses that will be much more temperature tolerant and environmentally compatible, according to Dr. Ronny Duncan of the University of Georgia.

"We are attacking [environmental issues] from all angles — from plant breeding to turfgrass management," said Duncan from his Extension Service headquarters here. "We'll see great improvement in zoysiagrass, Bermudagrass, bentgrass, seashore paspalum ... by the year 2000."

Duncan is working in particular on U.S. Golf Association-funded research on seashore paspalum. "This is really exciting," he said. "I see it as one of the most environmentally compatible grasses that we will ever have. It's salt-tolerant, drought-tolerant, can stand periodic water-logging, reduced pesticides and reduced fertilizer compared to the Bermudas or bentgrasses. And I have fine-enough textured material that we're evaluating it on greens."

Breeders are striving for overall stress tolerance, he said, "so we can reduce fertilizer and pesticides and have a lower growing habit to keep overhead costs down. We're attacking the environmental thing big-time because, like it or not, major regulations are coming down both federally and from the states."

In the meantime, he said, the golf community should get the idea that "a weed here and there is not catastrophic."

Crown hydration remains most destructive, least preventable killer

may help provide protection:

- maximizing bentgrass populations (poa greens and harsh winters often are incompatible);
- avoiding cultural practices that stimulate excessive growth during the hardening period of late fall;
- maintaining high potassium levels entering the winter;
- designing greens that allow for rapid surface runoff; and
- constructing greens with permeable soils and installing drainlines for rapid subsurface drainage.

One of the key principles in reducing

injury involves maintaining low crown hydration levels. However, under field conditions, wet soil surfaces often exist because frozen soils are impermeable, and water moves upward from the frozen soil during thawing periods. As a result, large sections of greens can still be lost despite various attempts to limit excessive crown hydration.

Field experience has indicated that following severe winters, the portions of greens (especially poa annua greens) where water collects are most often injured. This includes greens built with permeable soils and those having sub-

surface drainage.

Detecting crown hydration damage in the early days of snowmelt often is difficult. During the winter, despite having water-soaked blades, turf retains its green color under a snow or ice cover and still appears to be alive.

It is not until the warmer temperatures of spring arrive (generally within a few days of the course opening for play) that turf injured by crown hydration damage will begin to turn brown as the green chlorophyll pigment fades from the leaves.

The process of overseeding usually follows, and two to three months generally are needed before injured greens are fully restored. The recovery time can be particularly slow if cool spring temperatures prevail.

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CIRCLE #124

Supers in South, transition zone face many winter prep challenges

Continued from page 26

Unfortunately, he said, instead of raising the cutting heights some superintendents "just quit mowing when it gets cold. But without that extra leaf surface, the plant can't produce enough excess carbohydrates."

"Raising the height is not the end of the world because as soon as it gets cold, all that extra leaf surface on top is worn off. Once it goes dormant you don't feel like you're cut real high any more," Moore said.

DESICCATION DISASTER

Moore said desiccation and traffic control are major factors in surviving a win-

ter for transition zone and Southern superintendents.

"In my career I have not seen severe winter kill on Bermudagrass or zoysia without also having either way too much water, which equals ice, or way too little water, which equals dessication," he said. "Most often it's dessication. By far the most severe winter injury we've had in Texas and Oklahoma has been when we get the combination of a real cold and real dry winter."

The danger with warm-season turfgrasses is that they get brown in the winter and give no visual indication of drought stress. Yet, that plant is especially prone to winter injury when it is

also suffering from dessication or dryness, he said.

"You must balance the soil moisture," Moore said. "Superintendents have to get out with soil probes and take plugs out of the fairways to see if there is good moisture. They have to constantly evaluate the soil moisture, and, if necessary, they are going to have to fire up the irrigation system and water dormant turf."

Yet irrigating can be a roll of the dice. "It's a fine line to cross, he said. "If it's a borderline freeze you can irrigate right beforehand... But if it's a real hard freeze and you water before, you're going to get ice damage. You have to be lucky, that's

what it boils down to.

TRAFFIC TROUBLES

"Traffic control is every bit as important as dessication," Moore said. "The Southern winter kill is tougher because we have play all winter and you're adding the compaction factor."

Crucial to keep in mind, especially with warm-season grasses, is that the crown is above the soil line, he said. "So if you don't have some organic matter around that plant, and if it is a compacted area, that whole crown will be right on top and exposed to winter injury."

"The reasons we see plants dying on compacted areas are, first, it tends to dry out more quickly because it's not in the soil; and second, it's far more exposed to the colder air temperatures."

Meanwhile, superintendents can use other tactics in dealing with the demanding wintertime clientele, Beljan said. "They come down here when we get cooler temperatures in January and February — cooler than Bermudagrass can handle — and the Bermuda goes dormant and changes to slight shades of tan. So some winter prep is either in fertilization, adding iron or potassium to promote green growth, or overseeding. If it's overseeding, that is the major work — seeding poa trivialis, ryegrass or bentgrass, depending on how far south they are."

Roth pointed toward "the number-one trend" in the Southeast — using a higher percentage of poa trivialis in overseeding.

While bentgrasses possess superior putting quality, a number of high-quality poa trivialis are now on the market, Roth said. "They require a little different management than bent to keep from getting grainy, but they're proving to be a better overseed because of their cold-hardiness."

In the past, mostly bentgrass was used in overseeding, then the trend turned to bent-poa trivialis mixtures, he said. "And now a lot of courses are going to straight poa trivialis. It germinates quickly and allows them to continue to overseed during the winter and withstand heavy play. It germinates quicker under cooler temperatures down here, where bent won't."

Another possible reason courses have gone to poa trivialis, Roth said, is that they have groomers and verticutters — equipment necessary to maintain poa trivialis, which tends to run and lay over on the green surface when it matures.

The downside of still using bentgrasses in overseeding in the South is that they sometimes stay alive into the summer when the main grass, Bermuda, should be dominant.

On the other hand, he said, a number of superintendents are including bentgrass in their overseed mixtures because bentgrass "comes on later in the season and helps combat the wear and tear as temperatures start to warm back up."

"I tell the clubs, Moore said, "the blessing is, you can grow just about any type of grass; and the curse is, there is not one of them that will make it through every year. In St. Louis you'll have a zoysiagrass, a bentgrass, a ryegrass and a Bermudagrass course all in the same town, and in any given year there will be at least one of them dead. There could be three that look pretty smart. And if you're there four years yours will be one of those that will die."

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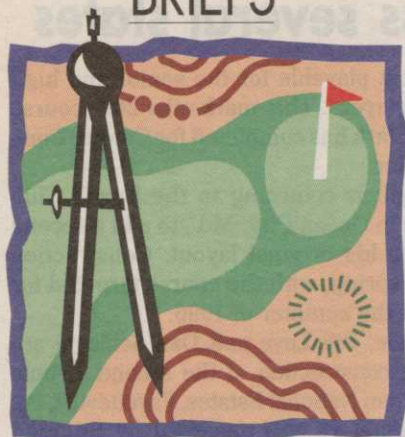
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BRIEFS



BYRD HIRES BOSWELL

ATLANTA, Ga. — Golf course architect Willard C. Byrd and Associates has hired architect William F. Boswell. Boswell, who recently joined the American Society of Golf Course Architects, has worked in the business for 10 years, including several years with Robert Trent Jones Sr. in Europe, designing a dozen courses in five countries, and the past three years with Hurdzan Design Group in Columbus, Ohio.

ENGINEERS JOIN INDUSTRY

PHOENIX, Ariz. — Golf Engineering Associates (GEA), led by principal Gary S. Kaye, is offering professional consulting services in irrigation, drainage and agronomy for new construction and remodeling projects throughout the United States and abroad. A certified golf course irrigation designer, Kaye worked extensively for Paul Clute and Associates, a golf course builder in Hartland, Mich. GEA is located at 1640 E. Kelton Lane, Phoenix, Ariz. 85022; 602-482-8270.

MILLER, MOGG PROMOTED

HONOLULU, Hawaii — The golf course architectural design firm Nelson • Wright • Haworth (NWH) has promoted project managers Mark Miller and Brett Mogg to the positions of vice president and director, respectively. Miller has been with NWH in Honolulu since 1989. Mogg, who divides his time between Singapore and Sydney, Australia, joined NWH in 1989 as a project manager.

CLASSIC GOLF EXPANDS

WINTER HAVEN, Fla. — Classic Golf Group, Inc. has announced the expansion of its offices here. The firm can be reached at 505 On The Park Building, 505 Avenue A Northwest, Suite 218, Winter Haven, Fla., 33882; or calling 941-299-0900; or faxing 941-299-6147.

HILLS OVERSEES WYKAGYL FACELIFT

NEW ROCHELLE, N.Y. — Wykagyl Country Club completed an \$825,000 renovation as part of a master plan developed by architect Art Hills in time for the LPGA's JAL Big Apple Classic in July. The project included work on 46 tees, 64 bunkers and three greens.



Art Hills

Lawrence Van Etten designed the original course in 1905 with Donald Ross (1916) and A.W. Tillinghast (1931) adding their touches in later years.

GOLF COURSE NEWS



The 17th green complex indicates the character of the new Keith Foster-designed SunRidge Canyon Golf Club.

Suncor, MCO strike gold with Foster in Arizona

By MARK LESLIE

FOUNTAIN HILLS, Ariz. — The Quarry in San Antonio, Texas, opened the door, and Keith Foster says he has walked on in, grabbing the opportunity afforded by great new sites to design some eye-openers.

"We're gaining momentum and getting good opportunities to create great projects for good people," Foster said from his St. Louis headquarters. "The Quarry enabled people to see what we could do. Now we have to follow up to get to the top, to create wonderful courses."

Five Foster designs stand on the

brink of opening, beginning in mid-November with new SunRidge Canyon Golf Club in this community neighboring Scottsdale and the Foster-remodeled Paradise Valley Country Club, an exclusive club in Phoenix.

Next summer will come Buffalo Run, a high-end municipal course in the City of Commerce City, Colo., and Washington National, a low-use daily-fee club in Seattle. Steamboat Springs, Colo., will add a high-end municipal course, Haymaker, which will be finished this year but won't be grassed until next spring for a 1997 opening.

Words like stunning, incredible,

wonderful, dramatic, striking, refreshing flow from Foster's lips as he describes his new creations.

SunRidge Canyon, he said, will be "incredible. The front nine does not return to the clubhouse. You go out, have an uninterrupted experience and then come back to the clubhouse. It is reminiscent of classic golf courses of years ago and abroad."

SunCor Development Co. and MCO Properties, two of Arizona's largest developers, formed a joint venture to build this project. SunCor Vice President Thomas Patrick asked, "How can

Continued on next page

Forbes forging fairways in China

By MARK LESLIE

FOSHAN, China — Wing Shan International Country Club Ltd. is building a major housing and golf project here, about 15 miles west of Guangzhou, a city of approximately 5 million, and 60 miles north of Hong Kong.

A joint venture of Wing Shan Enterprises (Holdings) Ltd., New World Development Country Club Ltd. and the Foshan Economic Development Group Corp., the plan includes a resort hotel, a 36-hole country club, and a variety of housing from apartments to row homes, large villas and condominiums.

American Ross Forbes of Uniontown, Pa., former project manager for Asian development for Ron Fream-Golfplan, is designing the two golf courses — his first solo project.

The practice range opened in mid-June and developers hope to open the first nine holes by the end of the year, said Forbes, who has also worked in Asia-Pacific with J. Michael Poellot and Brad Benz. The second nine holes should open by late 1996 and the date for the second 18-hole track is unsure, he said. The owners are undecided whether the courses will be private, semi-private or public.

The property is primarily former "dead-flat agricultural lands and some rolling terrain that runs abruptly into 50-foot-high hills," Forbes said, "so we smoothed out the transition areas."

The resulting first 18 is a par-72 layout with five sets of tees measuring

Continued on page 33



An airplane flies over Mountain Air Golf Course as it comes in for a landing on the highest airstrip east of the Mississippi River.

High... Higher... Highest!

By MARK LESLIE

BURNSVILLE, N.C. — Having reached high in golf when working with Hilton Head Co. in South Carolina and Winter Green in Virginia, Randy Banks must have had altitude in mind when he returned to his roots here. Working on family-owned Slickrock Mountain, he is opening the third-highest golf course east of the Mississippi River and boasting both the highest nine holes and the highest airport runway east of the Mississippi.

Banks' sights are indeed lofty for Mountain Air Country Club and its 500-acre private housing development — perhaps the highest golf community east of the Mississippi?

"This was very difficult land to develop and to build a golf course on," said Banks, president of Mountain Air Development Co. "Holes 10 and 11 drop 600 feet. There's

a vertical drop of 1,190 feet in 11 holes."

The lowest point on the front nine is 4,300 feet above sea level. The lowest on the back nine is 3,500 feet, affording 25- to 100-mile views on nearly every hole. And three greens are perched on the edges of cliffs.

The powers behind Mountain Air — Banks' father Bill and uncle Earl Young — are longtime residents of Burnsville. Bill Banks, who owned most of the mountain, owns Banco Lumber Co. and supplies hardwood timber to the furniture industry. Young co-owns Young and McQueen Grading, Inc. That combination of resources made the project financially feasible and physically possible — even though it was six years in the making (the first nine opened three years ago and the second nine on June 24).

Continued on page 33

September 1995 31

Rees Jones adds 9 at Otter Creek

COLUMBUS, Ind. — Otter Creek Golf Course, one of the top public golf courses in the United States, has opened a new nine holes. The addition was designed by Rees Jones, son of original Otter Creek architect, Robert Trent Jones Sr.

Since opening for play in 1964, Otter Creek has been host to the Indiana State Amateur for 25 years in a row; 1991 USGA Amateur Public Links Championship; several U.S. Open and U.S. Senior Open Qualifiers; four American

Junior Golf Association Championships, and two Independent Insurance Youth Golf Classics.

While the new nine holes reflect some of the character of the original course, Jones has created a track with its own identity as well. It spans 3,530 yards from the back tees, with at least four tee placements on every hole.

The \$3 million addition will help Otter Creek better meet demand and provide flexibility when making improvements to the original course.

Ault, Clark designing across several states

KENSINGTON, Md. — Ault, Clark & Associates, Ltd., the golf course architecture firm based here, is busy in several states. To wit: Tom Clark is designing the firm's seventh course at Hot Springs Village, Ark., for Cooper Communities, Inc. Construction started in March. Ault, Clark recently completed the new Diamante Course, which is a private club built by CCI and Club Corp of America.

The new Magellan Course will be built by the Property Owners' Association at the site of the ParFormance Golf School. With wide, generous fairways, just over 40 sand bunkers, and hundreds of grassy depressions, this course

will be most playable for the senior and high handicap players. This marks the 20th course that Ault, Clark has completed for Cooper Communities, Inc.

Brian Ault is returning to the Beach Club Golf Links in Ocean City, Md., to add a second 18 holes to his original layout. Construction starts this spring, with the course targeted for opening in the summer of 1996.

Meanwhile, Bill Love and Dan Schlegel are overseeing construction of the second 18-hole course at Penn National Estates, Fayetteville, Pa.

The original 18 was designed by Edmund Ault, and opened in the late 1960s.

American Cyanamid And I Want to Give You \$10,000.

Details October 1st.

SunRidge

Continued from previous page

we create the most wonderful experience in terms of golf and the land plan?" Foster recalled.

"The clubhouse setting is stunning and overlooks the canyon," said the architect.

"We wanted to create an experience in terms of the land we had to work with. The course starts with a high position and plays down through a wonderful canyon and deep ravines to dramatic green sites, then turns up toward the clubhouse at the 11th. We were very fortunate our client allowed us to do something like this."

The 16th and 17th holes, in particular, provide "a striking and refreshing combination," he said. Anyone who sees the 16th hole, he added, "is mesmerized by this gem of a green. It's a par-5 hole that moves slightly to the right, with a wide and generous fairway, then a significant canyon down the left-hand side. The green extends within a huge bowl that gives a real sense of intrigue from the landing area."

The par-3 17th plays from two angles on a ridge to two contiguous greens. From one tee it plays 220 yards, over a deep canyon with a dramatic rock outcropping. From another tee it plays 140 yards to the smaller of the two greens.

"The combination of 16 going to 17 is exciting," Foster said. "Both are beautiful, dramatic, stunning and very unique."

...

Paradise Valley — whose members include Lyle Anderson, Rusty Lyon, Joe Black and Birdie Dickey — required restoring classic elements to a track built in the 1950s.

The membership has allowed the course to be closed to reinstall classic box tees, Alistair Mackenzie-like bunkers, subtle putting surfaces, better drainage and a new irrigation system, and to sod the entire course, Foster said.

Foster credited Wadsworth Golf Construction Co. and new superintendent Rob Collins for their work on the renovation.

"Two projects of this stature in Phoenix at the same time was a godsend," Foster said.

Higher is better at Mountain Air

Continued from page 31

Located 35 minutes northeast of Asheville, the development will include a range of condominiums from \$140,000 and homes from \$500,000 — revenues of which will drive a possible third nine holes. "We're fairly certain it eventually will be a 27-hole complex," Banks said.

The 6,425-yard, par-71 golf course is the product of architect Scott Pool, a former Pete Dye pupil, who performed much of the design work in the field, climbing atop a bulldozer to sculpt the 18 holes from rocky mountainsides.

"This golf course is the result of Scott's artistry, vision and complete hands-on approach to the challenge," Banks said. "Building 18 holes across this kind of topography takes constant supervision from the architect. We're thrilled with the results."

"Now, we've breathed a sigh of relief," Banks added, saying the course and swimming and tennis complexes are complete and the new \$1.4 million clubhouse will be finished later this year.

"Then everything's done except building homes," he said. "The market seems to be responding very well."

Banks well knows the drill. He was involved from 1975-80 with Winter Green, which operates one mountaintop course. After working with the head golf pro at Shipyard Plantation on Hilton Head in 1982-83, he joined Gulfstream Development Corp. of Florida, overseeing completion of the condominium complex at Palmetto Bay Club on Hilton Head.

Pool previously worked for Dye for 12 years, on such projects as the Ocean Course at Kiawah Island, Blackwolf Run in Kohler, Wis., and the Honors Course in Chattanooga, Tenn. Pool designs include Legend Oaks in Summerville, S.C., and Kiva Dunes in Gulf Shores, Ala., with Jerry Pate.

Forbes in China

Continued from page 31

from 4,600 to 6,220 meters.

A local earth-moving company is building the courses, but "almost all the detailed 'finish' work is being done by hand," Forbes said.

Meanwhile, in the United States, Forbes and colleague Ron Forse are designing a new nine holes at Methodist College in Fayetteville, N.C. The school, whose men's golf team has won several Division III national titles in recent years, owns an existing nine-hole facility. Situated along Cape Fear River on campus, the property features rolling terrain with "a hint of sand hills," Forbes said.

GOLF COURSE NEWS

Builders association adds new members to board of directors

CHAPEL HILL, N.C. — The Golf Course Builders Association of America has announced the election of new members to its board of directors. These newly elected directors are now serving their first, two-year term: Mike Harrington of Harco Fittings and Gary Paumen of Kenova Construction Corp.

Current officers of the GCBA are President Jim Kirchdorfer of Irrigation Supply Co., Vice President Paul Eldredge of Wadsworth Golf Construction, Secretary Bill Kubly of Landscapes

Unlimited, Inc., and Treasurer Jeff Gredvig of John Deere Co.

Other directors serving on the board are Larry Brown of Atlantic Golf Construction, Dave Canavan of Moore Golf, Paul Clute of Paul Clute & Associates, Rick Elyea of The Scotts Co., Christine Faulks of Greensmix, S. Gene Giannulli of Environmental Golf, Jeff Harstine of Central Florida Turf, Doyle Jacklin of Jacklin Seed Co., John McDonald of McDonald & Sons, O'Brien McGarey of Dye Designs

International, Rod McWhirter of Rain Bird, Warren T. (Tom) Sasser of Paragon Golf Construction, David Truttmann of Legacy, and Bud White of The Toro Co..

The Golf Course Builders Association of America, based here, is a non-profit trade organization founded in 1970 and comprised of the world's foremost golf course builders and leading suppliers to the golf course construction industry. Its members represent all segments of the golf course construction industry.

Stock finish is powder coated Hunter Green paint. Other colors are available in baked enamel finish.

Rugged steel, channel iron frames formed to a tested "No-Tip" design.

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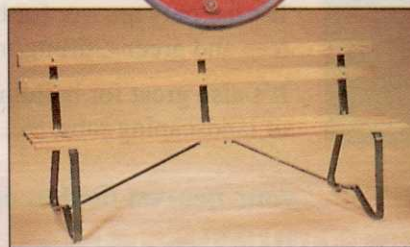
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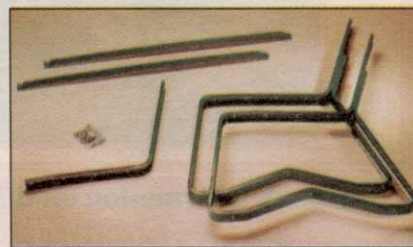
choice of two woods. Add to this the fact that you can assemble the whole thing in just ten minutes and you've got a rugged, yet light-weight bench with a tested, non-tip design that will give many years of low maintenance service. Just like Par Aide's other quality products, this new "Park Bench" has already proven itself to greens committees, course members and superintendents alike when it comes to working within budgets.



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CIRCLE #127

Par-3s

Continued from page 1

and other features, like wetlands. And it serves a purpose in the golf education pyramid. A new golfer goes to a practice range to learn the basics and then advances through par-3, executive and regulation layouts."

The Mississippi state park system anticipated that many beginning golfers would be attracted to the new courses it had planned for Percy Quin and John Kile state parks, according to Steve Forrest of Art Hills and Associates. So, along with the regulation-length layouts, Hills was commissioned to develop a par-3 track at Percy Quin and Bob Cupp to do the same at John Kile.

Hills also has a three-hole, par-3 teach-

ing loop under construction around the perimeter of the practice area at the Family Park Golf Course near Milwaukee. A similar three-hole teaching loop is planned as part of a Hills golf facility under construction in Newark, Ohio.

"I don't know if I'd define it as a trend, but we are seeing more and more par-3s included in new projects," Forrest said. "You're more likely to see it if the developer has some extra land. And you'll likely see even more as they become more economically feasible."

"Developers didn't request this type of facility 10 years ago. We're seeing it more and more with daily-fee and municipal layouts that want to attract junior and beginning players."

Par-3 layouts are hot items in the Waterloo, Iowa area. The city Parks Department is planning a new nine-hole, par-3

track adjacent to its South Hills regulation-length layout. Nearby Cedar Falls hopes to do the same at Pheasant Ridge.

"Our courses are full and some groups are starting to feel uptight about getting on them," said Waterloo Golf Course Coordinator Dean Fagerland. "We realize such a facility could be a major benefit for our beginner, junior and senior golf outings."

Waterloo Park Planner Bill Bachman, a professionally trained landscape architect, will likely design South Hills' new holes. The Parks Board has expressed interest in the project and Fagerland hopes it will approve the proposal this fall allowing construction to begin next spring.

"There are other par-3s around," Fagerland said. "But most just head out from the clubhouse, turn around and come back. Not much thought was given to their design. This will be a first-class,

par-3 with well-designed holes."

Overcoming the pitch-and-putt mentality many people have regarding par-3s is one of the biggest obstacles to their development, agreed Fagerland and others. They point to the many high-quality, par-3 layouts at some of the most prestigious golf venues.

The top-ranked course in the world, Pine Valley in Clementon, N.J., has a new Tom Fazio-designed, par-3 track, noted designer Lester George of Richmond, Va. Augusta National's par-3 hosts a major shoot-out every year just before the Master's Tournament. Developers of Alabama's Robert Trent Jones Trail included "some of the greatest par-3 courses I've ever seen" at many of their locations, Frank added.

"Golfers sometimes look down their noses at par-3s," said the NGF executive, a single-digit handicap player. "But they are a great place to sharpen your game. Joe Lee recently redid the greens here at Palm Beach Par-3 Golf Club. It's a beautiful course located between the ocean and Intercoastal Waterway. It gets constant play at \$18 to \$20 a round."

That largely untapped market for beginners, juniors, seniors and expert golfers looking to hone their skills is attractive to developers, George said. George is currently involved with four, what he terms "alternative" facilities, including a par-3 track at Richmond's veterans hospital and an executive course in New Braunfels, Texas, near San Antonio.

"Many of our clients look at par-3s as an additional profit center," George said. "But golfers want something more than a pitch and putt with round greens."

What they want is often U.S. Golf Association-spec putting surfaces, water features and bunkers, Frank noted. Those cost money, usually at least \$750,000 for an 18-hole layout. Because of the longer payback for that kind of investment, the developer is committing the property to golf course use for an extended period. That's different from a driving range, which many developers consider an alternative land use until real-estate values make their property more attractive for residential or commercial use.

"You can open a range for \$300,000, run it for three to five years and then use it for something else," Frank said. "Developers aren't building par-3s with the intent of doing something else with the land in a few years. It's too expensive."

Coore, Crenshaw on board in Georgia

CUSCOWILLA, Ga. — Bill Coore and Ben Crenshaw have been selected to design an 18-hole championship course on Lake Oconee here—their first significant design work in the Southeast.

The newest golf community in the Lake Oconee area, Cuscowilla is the vision of entrepreneurs William M. Harrington, Peter Bailey and German businessmen Heinz Wilhelm-Nathe and Michael Huber.

Crenshaw and Coore plan to create a golf course based on the principle that strategic golf is the most rewarding and enjoyable style of play. It will ramble naturally over 600 acres of rolling countryside blessed with stands of hybrid pines, fertile meadow lands and 6-1/2 miles of Lake Oconee shoreline. According to Coore, the Cuscowilla site lends itself to the construction of a variety of wonderful holes.

Cuscowilla's master plan provides for a limited number of home sites and cottages, most of which are lake-oriented.

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BRIEFS



CLUBCORP OPENS EASTERN OFFICE

VIENNA, Va. — Club Corporation of America has opened its newly established Eastern regional office here in Tycon Tower I/Tysons Corner to oversee operations for the more than 90 CCA clubs in the Northeastern and Southeastern United States. CCA has owned the Tower Club since 1994.

PALM-AIRE NAMES COLLINS GM

POMPANO BEACH, Fla. — Palm-Aire Resort Management Corp., has named W. Gary Collins president and general manager of Palm-Aire Country Club.



Collins has been in the club and resort management business for 20 years including stints with Club Resort & Management, Dye Club Management and ClubCorp of America. The 1,600-acre Palm-Aire community includes five golf courses, 37 tennis courts and two full-service clubhouses.

CMAA HEAD RECERTIFIED

ALEXANDRIA, Va. — Club Managers Association of America Executive Vice President James Singerling has been recertified as a Certified Club Manager (CCM). A 22-year veteran of the private club industry, Singerling has served as CMAA executive vice



president since 1990. Prior to that he was chief executive officer of Robert Trent Jones Sr. International Corp. and served as general manager of Coral Ridge Country Club in Fort Lauderdale, Fla. He is on the National Golf Foundation board of directors and served on the scholarship and research committee for the Golf Course Superintendents Association of America.

SULLIVAN TAKES CALIF. POST

EL DORADO HILLS, Calif. — Western Golf Properties has named Tom Sullivan general manager of Serrano Country Club, part of the master-planned Serrano El Dorado community being developed here. Serrano includes a Robert Trent Jones Jr.-designed golf course. Sullivan previously served as clubhouse consultant to the Paiute Indian Tribe in Las Vegas and club manager for PGA West in La Quinta, Calif. He has also worked for Walt Disney Productions, Hyatt Hotel Corp., and La Quinta Hotel Golf & Tennis Resort.

GOLF COURSE NEWS



Crosswater at Sunriver is the newest addition to the growing Destination Hotels family.

The end of the line is profits for Destination Hotels and Resorts

By PETER BLAIS

ENGLEWOOD, Colo. — The recent opening of Bob Cupp-designed Crosswater, an 18-hole golf course at Oregon's Sunriver Resort, is just a taste of things to come for Destination Hotels and Resorts.

The Denver-based subsidiary of Lowe Enterprises, a national real-estate services company, plans to open a major golf resort/community complex every 12 to 18 months into the foreseeable future, according to Vice President of Marketing Tom Goodwin.

"We have development deals that are close to being completed in Florida and Arizona," Goodwin said. "We should be able to make an announcement by the end of the year."

Destination Hotels and Resorts manages commercial hotels and resorts from the East Coast to Hawaii. Golf courses are an integral part of several properties:

- Sunriver near Bend has three courses — Crosswater, North Woodlands and Cascades.
- The Inverness Hotel and Golf Club (GC) in Denver includes Press Maxwell-designed Inverness GC.
- Wild Dunes outside Charleston, S.C., features two Tom Fazio layouts, the world-ranked Links Course and challenging Harbor Course.

"Golf will be a major focus in our future resort-side development," Goodwin

Continued on page 37

LEGAL CORNER

Lawyer warns bad manners insufficient to bounce member

By NANCY SMITH

Even the vulgar and filthy are entitled to respect, according to a California court. The court recently held that a male country club member, who allegedly used the "F" word to describe women golfers, still deserved a fair hearing before being expelled.

In *Aluisi v. Fort Washington Golf and Country Club*, the California Court of Appeal ruled that member Terry M. Aluisi had been improperly kicked out of his club because the board did not give him proper notice and an opportunity to confront witnesses against him.

Although the identity of the women who complained about Aluisi's conduct was kept confidential because they were afraid of him, the court held Aluisi had a right to confront his accusers before losing his membership.

The suit stemmed from a 1990 incident involving allegations of cheating at golf by Aluisi's wife. In response, Aluisi allegedly told his wife, in a loud voice heard by a group of nearby women members, that she should not play with "those f—ing old women." He also reportedly said his wife should advise the women as to certain sexual conduct they should perform on themselves.

The incident prompted a complaint letter by the women's board to the club's governing board. The identity of the complaining women was not revealed, however, because they claimed to be afraid of Aluisi. After determining that the com-

Continued on page 37

Nancy Smith, J.D., is an attorney practicing in Pasadena, Calif. Her "Legal Corner" feature will appear in these pages on a regular basis. You may call her with story suggestions/queries at 818-585-9907.

MARKETING IDEA OF THE MONTH

The art of bartering creates a masterpiece in N.J.

By PETER BLAIS

CRANBURY, N.J. — The art of bartering can reduce costs and boost sales for many golf courses.

"Trade-outs are a very underutilized way of doing business," said Rich Katz, vice president of marketing for Billy Casper Golf Management (BCGM).

Katz's most recent horse-swapping experience came at Cranbury Park Golf Club (GC) in Cranbury, N.J. As of July 15, Casper was able to increase rounds by 33 percent over the same 6 1/2-month period a year earlier.

Course owner Sky Court Ltd. of Japan hired BCGM to manage the facility last year. Casper went to work immediately. An \$800,000 capital improvements and renovation plan brought a new irrigation system, continuous cart paths and remodeled clubhouse. Casper imported a new superintendent to oversee the various projects and the company provided daily oversight from its Vienna, Va., headquarters.

But no one would come see the Eiffel Tower if the French tourist board didn't



Trading rounds for television ads got Cranbury GC the exposure it needed to become a success.

do such a great job marketing the thing. Same with Cranbury and BCGM, despite all the changes. "Improve it and they will come" doesn't necessarily work in an area, like central New Jersey, already endowed with a healthy supply of golf courses.

Katz contacted the local cable television company about advertising. He was particularly interested in obtaining local

spots during ESPN's coverage of PGA and Senior Tour events as well as time on the early-evening editions of SportsCenter.

"Television advertising on tournament events maximizes the captiveness of the audience we're after," Katz said.

For its part, the cable company was

Continued on page 36

Tax changes

Continued from page 1

the year in which the latest deductibility rules occurred.

Golf clubs fared much better than city clubs, which have been struggling for the past few years. For example, total gross revenue at private golf clubs grew 4 percent between 1993 and 1994, compared to just 0.8 percent at city clubs. While the demand for golf facilities protected the country club market from the adverse effects experienced by city clubs, private clubs didn't benefit from the tax law changes either.

John Kinner, general manager of the Woodlands Country Club in Falmouth, Maine, sees it more as a business and cultural shift away from the city and to-

ward the country club market.

"City clubs may be laying some of the blame on the tax changes," he said. "But they have been dying slowly for the past 20 years. Corporations aren't looking to get involved in controversial perks for their employees. Buying a membership for key employees at a men's only city club doesn't sit real well with the human resources department."

Jerry Gelin, a long-time ClubCorp marketing executive and president of recently formed Jerry Gelin & Associates, explained the city club/country club differences this way.

"City club memberships have long been a perk provided by corporations," he said. "It was part of an executive's job to eat there with clients. But corporations have been cutting city club memberships to

save money for some time. The deductibility changes have just sped up the process.

"Companies have offered to subsidize a portion of their employees' city club memberships or asked them to take over the whole thing themselves. Many employees have chosen to just leave the club. That's taken 10, 20, 30 members away at a time. Small business owners and professionals have been picking up some of the slack. But they join one or two at a time. So the general trend at city clubs has been toward diminishing membership numbers.

"Some companies give their employees several memberships split between city and country clubs. When they cut that back to just one, employees frequently choose to stay with the country

club rather than the city club because of the extra benefits for their families.

"Also, unlike city clubs, most country club memberships are not corporate. At least 75 percent of our [ClubCorp's] memberships are individually owned. People are choosing to keep them because they enjoy the country club atmosphere. There's been minimal loss in the individual membership area."

According to the National Club Association study, 29 percent of private golf clubs reported a decline in membership size between 1993 and 1994. That is up slightly from the 25 percent reporting a drop-off in 1993, the year before the deductibility changes. On the other end, 23 percent reported membership increases in 1994, up from 21 percent a year earlier.

Average golf club food and beverage sales jumped 3.7 percent, from \$1.236 million in 1993 to \$1.281 million in 1994.

"Most companies we deal with have responded to the changes by bumping up their F&B budget at the home office," said the Woodlands' Kinner. "It's what the market demands. If they don't do it, they may lose out to their competition."

Added Gelin: "Food and beverage profits have been nibbled away at. But it hasn't been a big deal. And corporate outings continue to be big money makers."

Other golf/country club figures from the survey included:

- The number of meals served increased for more than half the respondents in 1993 and 1994.
- Eight percent in 1993 and 11 percent in 1994 reported staff reductions.
- More than two-thirds made a change in dues or initiation fees for members. Most increased dues or fees. Some offered limited-time discounts on initiation fees.
- Forty-five percent expanded membership development campaigns.

Bartering for advertising

Continued from page 35

interested in getting its sales people onto a top-quality golf course where they could play and close deals with potential advertisers. A match made in heaven.

"We were able to barter rounds during off-peak hours in exchange for commercial spots touting the improvements at Cranbury during Friday, Saturday and Sunday tournament coverage," Katz said. "We saturated the area within a 30-mile radius."

As a result, rounds increased by a third through the first half of the year. BCGM is happy. The cable company is happy. And the course owner is definitely happy.

"We expect to make back the money we spent on capital improvements within three years," Katz said.

When determining how many rounds to swap for advertising, Katz recommended sticking to a 2:1 ratio in the course's favor. "Never include among your outlay hard costs such as merchandise or food and beverage," Katz said. "Also, whereas you would waive green fees, you should usually make cart fees mandatory. When applicable, simply cite that carts are leased on a revenue-sharing basis, and exceptions to cart fees contractually out of bounds. It makes for an accounting nightmare."

BCGM has worked out other trades, Katz noted, including tee times for direct-mail drops, seasonal memberships for equipment leases, group or corporate outings for insurance premiums and instructional clinics for fertilizers.

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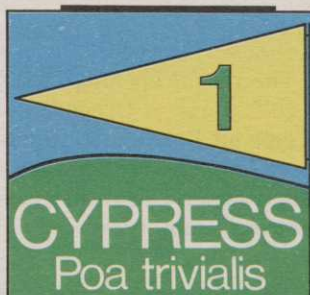
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Obnoxious golfer

Continued from page 35

plaint had some merit, the board suspended Aluisi's membership. The board gave him notice of a hearing in which his expulsion would be considered.

The notice of hearing only mentioned the 1990 incident. No mention was made of the three prior complaints about Aluisi's conduct, including threats to "bust" a board member's face, "mash" another's face or throw another through a window. When the hearing was conducted, Aluisi presented a defense. He denied using the offending language in the 1990 incident. He denied ever threatening anyone. He complained about not being given the names of his accusers.

The board heard Aluisi's comments and then adjourned to a closed session. In the closed meeting, board members discussed numerous incidents which were not disclosed in the notice to Aluisi about the hearing. Board members not only discussed the 1990 incident but also talked about the alleged threats and various other matters, including allegations of lechery by Aluisi's father and a fist fight between Aluisi and his brother.

At the private meeting, the board voted to expel Aluisi based on "this complaint and prior complaints." Aluisi sued, claiming he had not been given a fair hearing. The trial court agreed. On appeal, the reviewing court also agreed that Aluisi had been denied fun-

damental fairness because he did not have full notice and an opportunity to be heard.

The Court of Appeal analyzed several statutes which apply to golf clubs as private, non-profit organizations. The court found that the California Corporations Code requires expulsion hearings to be conducted "in fair and reasonable manner." Such hearings are considered "fair and reasonable" if the member is given 15 days notice, if the club articles or bylaws describe the hearing procedure and if the member is given an opportunity to be heard. Fairness also requires the opportunity to confront and cross-examine witnesses, the court held.

The court found the names of the witnesses against Aluisi were withheld. "The refusal to permit Aluisi to confront the complaining witnesses and examine their testi-

mony violated his right to fair procedure," the court wrote. Also, the board acted improperly when it raised and considered multiple issues in its private meetings that were never disclosed to Aluisi. He had no chance to address the undisclosed allegations.

"Aluisi was not given an opportunity to defend himself against serious accusations that he was disqualified from a golf tournament, had been banned from another course, violated parking regulations, intentionally drove into people with his golf cart, got in a public fist fight with his brother and that his father was a lecherous felon," according to the court.

The court was offended by the manner in which the board members had talked behind Aluisi's back. "The board's consideration in closed session of unnoticed and undocumented matters regarding which

Aluisi had no opportunity to respond clearly deprived him of a procedurally fair hearing," the justices wrote.

The argument by the club's attorneys that Aluisi would have been expelled even without consideration of the extraneous matters was rejected. The court's review of the board's records indicated that its decision was made on the overall review of even the improperly considered matters.

The "business judgment rule" did not protect the board because a denial of a fair hearing prejudiced Aluisi. When procedural rules are not followed, the court ruled, a board cannot claim it was making a discretionary decision to overcome the error.

The court ruled that the club reinstate Aluisi's membership until he could be given proper notice and a full hearing on all charges against him.

Destination Hotels

Continued from page 35

said. "We're looking at purchasing existing properties and developing new ones.

"We're primarily attracted to markets with above-average, white-collar employment. Raleigh/Durham (N.C.), suburban Chicago, Dallas, Denver, Phoenix, Salt Lake City, Portland (Ore.), Seattle and the San Francisco Bay area are among the areas we're looking at."

Land, both its cost and availability, may be a problem in some of those areas, Goodwin noted. But the hotel-building market has been constrained for so long that many cities sorely need new facilities.

"Raleigh/Durham, for instance, is severely undersupplied," Goodwin said. "And there is plenty of land available."

In addition to courses it owns and operates, Destination Hotels has agreements with local courses that provide playing privileges to guests at the company's Shadow Mountain Resort in Palm Desert, Calif., and the six Hawaiian properties that comprise Destination Resorts Maui. Destination manages 17 facilities in all, including is non-golf operations.

But what distinguishes Destination from many other golf resort operators is that it owns rather than simply manages many of its golf properties, Goodwin said. "That requires us to make a stronger commitment to improving and maintaining our facilities," he added.

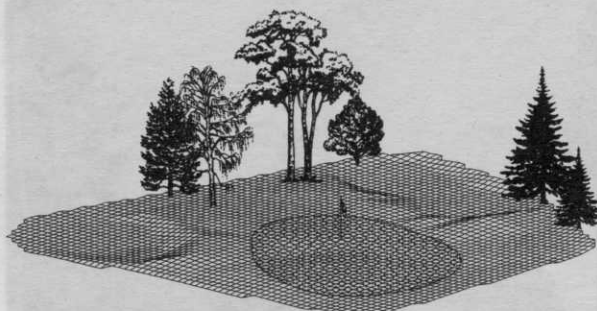
Wild Dunes Managing Director Earl Hewlette has overseen improvements to that facility designed to reduce the environmental impact of the courses in environmentally sensitive Isle of Palms.

Charlie Pack holds the same title at Sunriver where, in addition to Crosswater, the company is set to break ground for a new clubhouse and has extensively refurbished the existing layouts.

At Inverness, General Manager Mark Hickey has changed from asphalt to concrete cart paths. Ponds have been dredged and many bunkers rebuilt.

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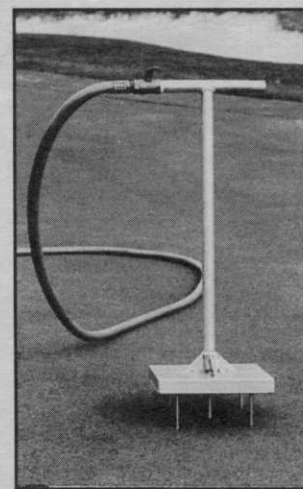
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CIRCLE #135



Upgrade/Upscale

Continued from page 1

mittee in Allentown, Pa., is considering \$750,000 in improvements over three years to the Allentown Municipal Golf Course, including a new irrigation system, new cart paths, and two new ponds to reduce flooding. Upgrading is something almost no course operator can afford **not** to consider.

"There are many golf courses that could benefit from some enhancement," said Larry Hirsh, a golf course appraiser in Harrisburg, Pa. Hirsh will be one of three speakers addressing upgrading/upscaling here at Golf Course Expo, Nov. 9-10. Joining Hirsh will be course architect Rees Jones and Dave Johnson, chief

agronomist with Dallas-based GolfCorp, operator of 41 daily-fee courses nationwide.

Hirsh, who has completed more than 100 course assignments in the last five years, insists every course has its own specific upgrading issues. "I've yet to use the same spreadsheet for two cases," he said.

Jones put it succinctly. "Private courses might restore because members love the course. The daily-fees are the ones that have to do it to compete. I'm not sure *upgrading* is really the word. Sometimes it's *restoring*. Regardless, you're going to see it more often."

Hirsh said one common bottom-line principle in upgrading is an old standby: contribution.

"We try to apply that to any upgrade," he said. "The question is,

'Is it going to contribute as much to the property value as the cost incurred?' That gives you an idea whether the upgrade is feasible. There may be cases where it isn't, but you still feel you need to compete with other courses. You must get a sense of your marketplace."

Added Jones: "With daily-fees, an owner must be careful not to incur debt service that forces him to raise fees above the competition. In Orlando or Scottsdale, where you have a different client every day, it doesn't matter. But in non-resort areas, an architect must be very careful."

Courses can improve greens without overwhelming costs and extended labor that interrupt play, Johnson explained. "Besides," he said, "if you don't have

good greens you're not going to have any customers."

Salishan's upgrade is an effort to keep up with the times and competition. "Golfers are more sophisticated nowadays," said Hank Hickox, president of Salishan Lodge Inc. "This is our 30th anniversary, and it is time for change. We have tried to reflect the opinions of our customers in our improvements."

Salishan has always done well in course rankings, in part because of excellent promotional work. But there was a feeling the course could improve. Architect Bill Robinson of Florida has introduced mounding on holes that lacked definition and focal points. Certain tees have

been changed for playability. New drainage will hopefully make year-round play a reality. A new 18-hole putting course measuring 340 yards has 18 holes with undulations and curves.

While many course operators automatically convert upgrades into higher greens fees, Salishan won't raise prices. Green fees will remain between \$30-\$40.

That exemplifies a distinction between upgrading and upscaling. Upgrading is making improvements to the course and facilities. Upscaling is an upgrade specifically intended to allow increased green fees. The two are closely related, and sometimes interrelated. But virtually any course can—and in many cases, should—consider upgrading. Upscaling, on the other hand, is a riskier, more aggressive venture having more to do with testing the limits of what golfers are willing to pay and meeting the conditions they expect.

The proposed upgrade at Allentown Municipal, of which \$350,000 is pegged for a new irrigation system, is considered critical to its future and competitiveness.

Designer Daniel J. Schlegel of Ault, Clark and Associates said one proposal is to change the course from a three- to a five-tee system, which would attract all levels of golfers.

When most course operators think "upgrade," the focus is usually on the course. But Hirsh said there are other things to consider.

"Something we fail to look at in this business is that it's a business, not just a piece of real estate," Hirsh said. "It is a business that's very management intensive. You could not do a thing to the physical facility, but upgrade your people and you still have done an upgrade. You see the result of bad management in the shape of the facilities."

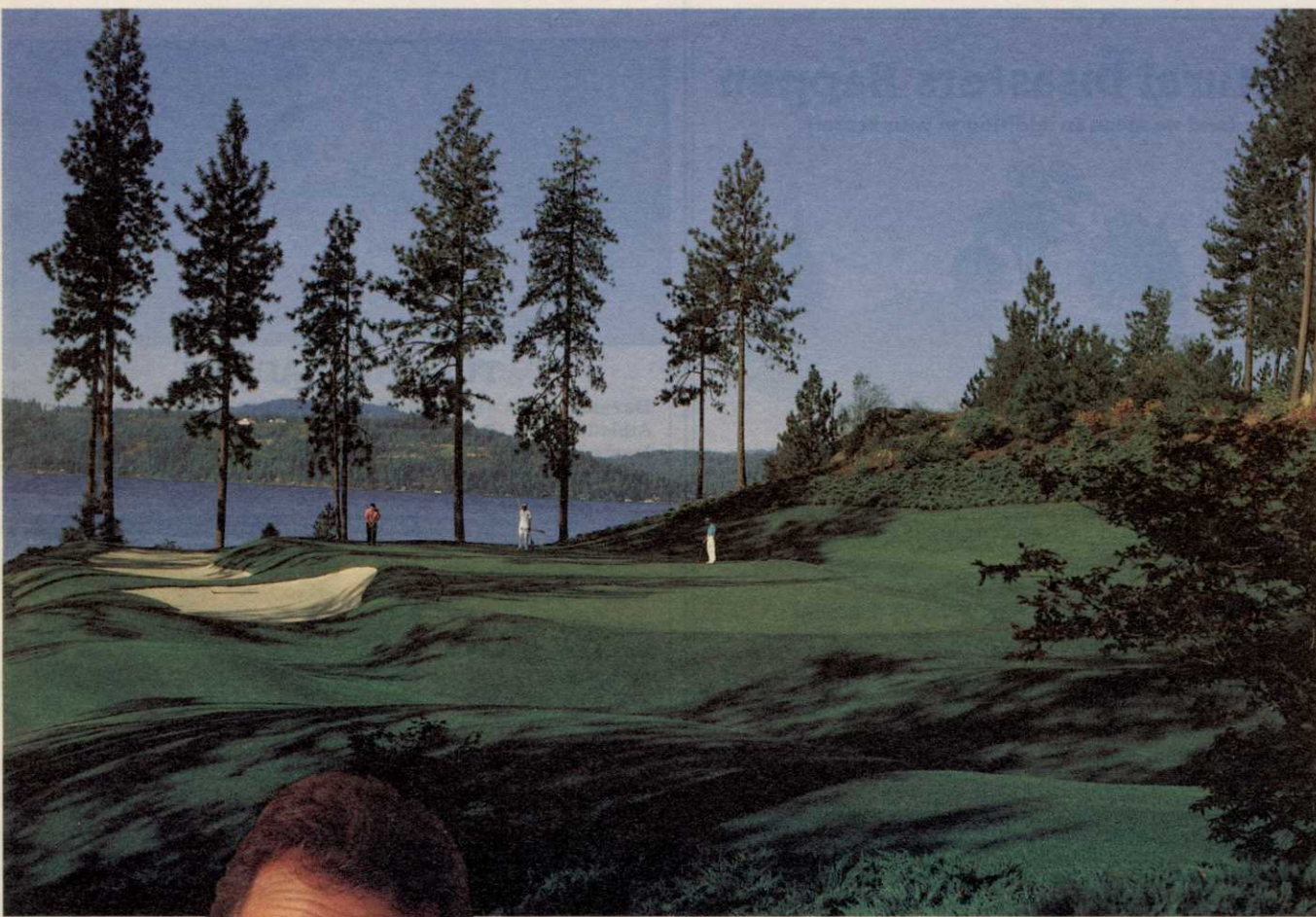
Not just older courses benefit from upgrades, said Jones, whose recent efforts include The Equinox in Vermont and Duke University Golf Course in Durham, N.C.

"I think the nice aspect of today's designs is we're building lower-profile courses without the bells and whistles that golf magazines told us we should in the 80s," he said. "It's easier and less expensive to restore these courses..."

"You can accomplish the task by rebuilding the greens to USGA specs, restoring or redoing bunkers that have been removed. In the 50s, when my dad originally designed Duke, they didn't have enough money for any fairway bunkers."

Industry experts and specialists like Hirsh, Johnson and Jones always come back to the putting greens and fairways and tees, the true essence of any golf course.

"Fifteen or 20 years ago the only thing you could do was rebuild your greens," said Johnson. "Now, with developments like deep-tine aerification and Verti-drain, you can pretty much modify the soil profile and end up with the original greens in better shape."



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CIRCLE #136

Tony Jacklin is the winner of 14 PGA European Tour events (including the 1969 British Open) and 11 other international events (including the 1970 U.S. Open). Tony is also a four-time European Ryder Cup captain, and has recently joined the Senior PGA Tour.

BRIEFS



HUNDT TO HEAD NATIONAL SALES FOR VERMEER

PELLA, Iowa — Doug Hundt has been named national sales manager for Vermeer Manufacturing Co. In addition to overseeing sale of all Vermeer's industrial product in North America, Hundt will oversee a staff of seven regional managers and work with the firm's distribution network, which consists of 75 dealerships in all 50 states, as well as five Canadian provinces. Previously, Hundt was a regional sales manager for Vermeer, cooperating with dealers in the Northeast region.



Doug Hundt

PRECISION TOOL BUYS RIGHTS TO WETTING FORK

SALINE, Mich. — Precision Tool Products Co. has purchased U.S. distribution rights to the Wetting Fork, a tool used to combat hot spots on turf. The Fork, which will continue to be manufactured by the Hermitage, Tenn.-based Thinking Superintendent Co., features tines mounted on a foot-square platform which connects an ordinary water hose. The tines are pressed into the earth and, under 20 to 200 pounds of pressure, ejects water that saturates an area in 10 seconds. For more information on the wetting fork, contact Precision Tool at 313-429-9571.

Verti-Drain suits multiply

By HAL PHILLIPS

BATON ROUGE, La. — A cease and desist order, followed by ongoing product confusion in the field, has led to a pair of lawsuits; both concerning anti-compaction products; both filed here in federal court.

Redexim, the Dutch company which developed the Verti-Drain line of products, and distributors of Verti-Drain deep-tine soil aeration machines are pursuing litigation in the United States against a former distributor, Southern Green, Inc., marketers of the Soil Reliever aerator, for infringement of Redexim's patent and trademark rights.



In its lawsuit, Redexim alleges that Southern Green, Inc., of Baton Rouge, La., a former distributor of Verti-Drain equipment, has infringed Redexim's United States patent and the Verti-Drain trademark, misappropriated trade secrets, and engaged in unfair competition.

"It's actually a countersuit," explained K.V. Estes, co-owner of Southern Green. "We sued them last November [1994] and we received their countersuit [in August]. We sued last year because they were telling everyone in the industry that we had infringed on their patents and they

Continued on page 44



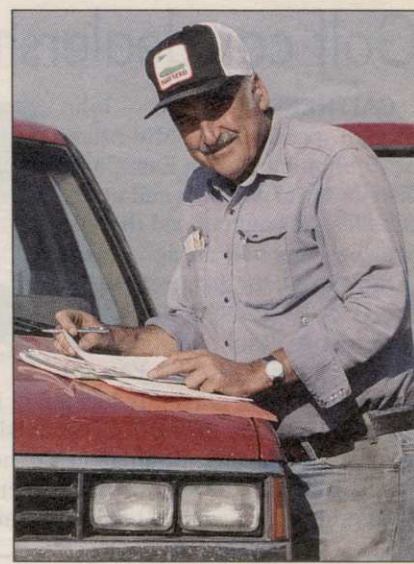
Harper Bros. storm Florida sand market

PALMDALE, Fla. — A 535-acre silica sand mine and state-of-the-art processing facility here, just west of Lake Okeechobee, now offers sand that meets U.S. Golf Association recommended specifications to golf course designers, developers and operators throughout South Florida.

The mine is owned and operated by Fort Myers-based Harper Bros. Inc., one of the region's largest producers of raw materials for road building and site development. The technologically advanced processing facility will monitor the sand's gradation and

colormetric standards on a daily basis and use a washing & scrubbing operation designed to ensure production of a superior quality sand with no iron, clay or organic matter impurities, according to Ron Inge, Harper Bros. vice president.

"The Palmdale Sand Mine establishes Harper Bros. as a major player in the production of top quality sand for the construction and maintenance of golf courses throughout South Florida," said Inge. "The Palmdale site was selected because of the quality of the sand deposit." For more information on Harper Bros., call 941-481-2350.



Tee-2-Green President Bill Rose

Marking four decades of Pennncross

By HAL PHILLIPS

The challengers are legion, some of them even originate in-house. But the long-standing king of bentgrass stolons — Pennncross, which turns 40 years old this year — remains the putting turf of choice in transition and Northern climes.

"I would say, before they get contaminated with *Poa annua*, 85 percent of bentgrass greens in America are Pennncross," said Bill Rose, president of Tee-2-Green, the marketing group with exclusive rights to Dr. Bert Musser's famous creeper. "Everybody's trying to do better, but I can't see anything lasting 10 years, much less 40 years. There isn't anything like it; never has been and probably never will be again."

Rose explained that today's Pennncross seed — the first generation, straight from the parent stolons — is the same seed produced by Penn State's Prof. Musser in 1955. This direct line to Musser's innovation helps explain the product's unparalleled longevity, he said.

Continued on page 43



NEW PRODUCT OF THE MONTH

Parker Sweeper has introduced the 11-hp Portable Truck Loader for picking up leaves, grass clippings and mulch. Equipped with a high-speed, 6-blade impeller, the Loader is equipped with a durable, lightweight pick-up wand and an 8- x 15-foot flexible, steel ribbed intake hose. For more information, call 708-627-6900. For more new products, see page 42.

New era for Golf Asia

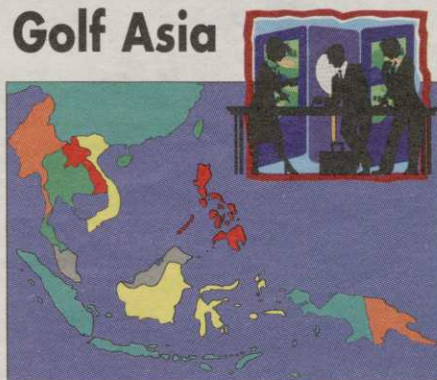
By HAL PHILLIPS

SINGAPORE — With seven months remaining before the ribbon is cut here at the World Trade Centre, Golf Asia '96 has booked more than 60 percent of its available booth space, according to the show's new marketing manager, Clare Milford. And though it drew a record 21,000 visitors from a reported 31 countries in 1995 — and 82 percent of last year's 212 exhibitors reported they achieved their pre-show objectives — Golf Asia faces many new challenges in 1996.

The number of show organizers has been trimmed from three to two, leaving Singapore-based Connex Private Ltd. and International Management Group (IMG) in charge of booth sales, show operations and marketing. The Golf Course Superintendents Association of America (GCSAA), which had been a co-organizer for Golf Asia '94 & '95, has relinquished its U.S. booth sales role. The GCSAA will continue to conduct the Golf Asia education conference, however.

While Connex is responsible for the bulk of Asia-Pacific sales,

Continued on page 41



Hong Kong show reports first-year occupancy of 74%

By HAL PHILLIPS

HONG KONG — Since the end of World War II, Hong Kong and Singapore have openly cultivated their rivalry of little tigers. Whose standard of living is higher? Whose container port is bigger? Whose Chinese population sends more money back to the mainland?

Come November, the market will begin to mete out the next big question: Whose golf trade show is more successful?

The first International Hong Kong & China Golf Exhibition and Conference is scheduled to take place here at the Hong Kong Convention and Exhibition Cen-

Continued on page 40

Golf car dealership purchase adds to Mid-Atlantic's reach

GAITHERSBURG, Md. — John Clough, president of Mid-Atlantic Equipment Co., an East Coast distributor of golf cars and utility vehicles, has announced that his firm has reached an agreement with Textron, Inc. to purchase the assets of its E-Z-GO dealership here. As a result, Mid-Atlantic Equipment will merge its Eastern Golf Car branch, currently located in Laurel, Md., with the new E-Z-GO acquisition to form Mid-Atlantic Equipment Co. here.

According to Clough, the newly-merged dealership will cover a territory that in-



John Clough

cludes Maryland, Southern Delaware, Virginia and parts of West Virginia. It will now offer golf course and industrial customers a full line E-Z-GO and Yamaha vehicles.

The new Mid-Atlantic Equipment location will be staffed by 20 employees, composed of 10 service specialists and 10 administrative and sales people. Rich Arnold, formerly with E-Z-GO, has been appointed general manager of the dealership, while Jim Cobb of Eastern Golf Car will oversee industrial and commercial sales. The distributorship is also maintain-

ing a Richmond, Va., satellite office, offering sales and service.

Clough projects \$28 million in total sales for his firm in 1995, of which \$15 million should be generated by the new Gaithersburg facility. "We believe this new initiative will help us expand and enhance our product and service offerings to customers up and down the East Coast," he said.

This latest acquisition follows close on the heels of its purchase of Stuart, Florida-based Flying Dutchman Inc. last year. Renamed Golf Cars of Florida, the dealership is providing personalized golf cars to a booming South Florida market.

Hong Kong show

Continued from page 39

tre Nov. 9-10. Organized by Golf World Exhibitions — a Perth, Australia-based firm founded by former Golf Asia vice president Stephen Allen — the Hong Kong show is the first to challenge Singapore-based Golf Asia in size and scope.

While some turf maintenance firms have committed to exhibit (The Toro Co., Ransomes Cushman Ryan, Yamaha and John Deere), the Hong Kong show has a distinct development flavor. The show's six original sponsors are, with the exception of course construction giant Pacific Golf, all golf course architecture firms: JMP Golf Design Group, Nelson Wright Haworth, Palmer Course Design Co., Nicklaus Design, and Robert Trent Jones II International.

The exhibitor list also includes several Hong Kong-area clubs-in-development, all looking to sell memberships on the show floor. This is typical of the Asia-Pacific market, said Allen, where the sale of memberships drive a club's liquidity through and beyond the course opening.

While its competitor, Golf Asia, endeavors to serve the entire Asia-Pacific region, Allen also makes no apologies for the show's concentration on the southern Chinese market.

"I do consider it to be a regional event," said Allen, who reported that 74 percent of the hall's available booth space has been sold, and another 15 percent committed pending payment.

"Interest is high in Hong Kong and China and I believe this interest will increase, but certain issues have to be addressed, such as environmental concerns and the acquisition of land. A lot of these issues will be addressed at our conference."

The Hong Kong show is being held simultaneously, but not in conjunction with the Heineken World Cup, the event pitting two-man teams from more than 60 countries. This year's tournament marks the first World Cup ever held in China, at Nicklaus-design Mission Hills Country Club in nearby Shenzhen.

"We have no contractual arrangement with the organizers of the Heineken World Cup," said Allen. "However, we are liaising closely with them for the benefit of the golfing industry in general."

Allen has made a point of noting that Golf World Exhibitions (GWE) is committed exclusively to the organizing of golf shows only, of which the Hong Kong exhibition is the first. While the Hong Kong show is a regional event, look for GWE to target other developmental hot spots in Asia-Pacific.

For more information on the Hong Kong show, call GWE in Perth at 619-322-3222; or fax 619-321-6461.

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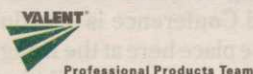
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Golf Asia's new era

Continued from page 39

booth sales in the U.S. are now being handled Newport Beach, Calif.-based Interport Ltd., IMG Singapore and IMG Cleveland.

"We're all cooperating on marketing booth sales effort for Golf Asia," said Chris Roderick, head of IMG's Golf Division. "Obviously, we'll concentrate on the U.S. and [IMG] Singapore will concentrate on the Asia-Pacific region."

Roderick said Golf Asia is eager to expand its retail exhibitors, meaning an increase in the ball, shoe and club vendors that often make turf maintenance vendors squirm. "Industry" firms insist on industry-only shows in the United States, where the market is fully mature. Here in Asia-Pacific, Roderick noted, a less mature market means cross-pollination is not only unavoidable but advantageous.

"We've always looked at this show as eventually developing a section of retail, due to the market still maturing. But we never want to lose sight of the industry sector," said Roderick. "Developing a retail sector is a perfect extension of what's being done. When development comes on line [in Asia-Pacific], they're looking for a source. That means turf equipment and pro shop items."

"We don't want to lose our focus, but that's what Golf Asia has always been about: the market sectors interlinking. The resort or golf development business needs an overall one-stop shop. Obviously, we want to segment components in order to give them their own arenas to do business in. But we also want to make that whole week more vibrant."

Perhaps more important than Golf Asia's organizational and sectors shifts is the emergence of competition. The first International Hong Kong & China Golf Exhibition is scheduled to take place at the Hong Kong Convention and Exhibition Centre Nov. 9-10. Organized by Golf World Exhibitions — a firm founded by former Golf Asia vice president Stephen Allen — the Hong Kong show is the first to challenge Golf Asia in size and scope.

"I've heard so many different things about it," said Roderick. "Stephen's a great promoter. And sometimes you read things and they sound tremendous. But who knows? We wish him well, I'll say that."

Be it new competition or newly streamlined organization, Golf Asia is not resting on its laurels. Representatives from India have recently been appointed to promote the exhibition in the country's north and southwest regions. In addition to sourcing representatives for the Philippines and Indonesia, organizers have stated their intention to recruit agents in Vietnam, Myanmar (Burma), China and the Middle East. For more information on Golf Asia, contact Milford here in Singapore at 65-296-6961.

GOLF COURSE NEWS

Milford replaces Parr at Golf Asia

SINGAPORE — Jonathan Parr, formerly the marketing manager for Golf Asia, has accepted a position at the International Management Group (IMG) office here. Parr is now manager of the IMG Singapore's Events Group.

Replacing Parr at Golf Asia — an event co-owned by IMG and Singapore-based Connex Private Ltd. — is Clare Milford, the former advertising manager at *Asian Golfer* magazine.

Milford joins an established team at Golf Asia, including Director of Sales and Operations M.S. Mathy and Director of Administration Dharel Tan.

Parr now reports to IMG's International Vice President Mike Reilly, who heads up IMG Singapore.

Golf Asia '96 is scheduled for March 28-31, here at the World Trade Centre. For more information, contact Milford at 65-296-6961.

Kelty succeeds Stahl at O.M. Scotts

MARYSVILLE, Ohio — Michael P. Kelty, PhD, has been named senior vice president, Professional Business Group (PBG) at The Scotts Co., replacing the recently retired Richard B. Stahl. Kelty will oversee the growth and development of Scotts' three PBG divisions: ProTurf, which serves golf courses and other professional turf markets; ProGrow, which serves the commercial lawn and garden sector; and Horticul-



Michael Kelty

ture, which serves the greenhouse, specialty agriculture businesses.

Kelty joined Scotts in 1979 and most recently served as senior vice president of Technology & Operations. Stahl had been with Scotts since 1967, holding a succession of positions including technical representative, regional manager, director of ProTurf sales, and vice president/director of corporate sales. He had led the PBG since 1976.



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CIRCLE #138

Sweepster unveils walk-behind model

Sweepster, Inc. has introduced the new Model C36TW, a compact walk-behind sweeper with left and right brush angles, which eliminate the need to stop sweeping and move away from the operating position to swing brush.

At the end of each sweeping run, simply engage the hand lever, swing the brush to the left or right, and the sweeper is ready for a return pass.

The compact, heavy-duty design of the new Model C36TW is tough enough to handle con-

struction clean-up, yet small enough to transport in the back of a pick-up truck. A 5-hp Briggs & Stratton engine powers the large 36-inch-wide by 24-inch-diameter sectional brush.

The brush head angles 15 degrees to the left and right with the new two-way angle feature. A 32-inch sweeping path (angled at 15 degrees) gets clean-up jobs done in less time than sweeping by hand.

For more information, call 1-800-456-7100.

CIRCLE #302

ETEC sprayer provides safe option

The new Drift Guard TM60 from Environmental Technologies Equipment Corp. (ETEC) doesn't look like a sprayer. With the Drift Guard, the spray is contained under a shroud so people aren't concerned; in fact, most have no idea what you're doing.

Spray drift is virtually eliminated allowing the operator to spray right up to sensitive areas. Spraying is also safer because the operator, and oth-

ers, are not unnecessarily exposed to the spray.

The 7-foot wide TM60 has a 40-gallon tank and utilizes a high-volume 12-volt pump system. A nozzle flow indicator and speedometer are standard. The Drift Guard is also available in a 7-foot walking boom and an 18.5-foot boom that easily mounts on any sprayer. For more information, call 306-934-3832; or fax 306-934-1615.

CIRCLE #301

Toro introduces new Groundsmaster

The Toro Co. has unveiled the all-new Groundsmaster 3000, a riding mower designed to provide specific features requested by superintendents.

The 3000 combines a 33-horsepower gas or diesel engine of noticeably quieter performance with improved hillside stability, due to a larger wheel base, lower center of gravity and wider tires. In addition to a wider recycling deck, a highly versatile "quick-attach" system means cutting decks and attachments can be changed very quickly with few tools.

A two-wheel drive version of the Groundsmaster 3000 will be offered in October, a two-wheel drive gas model in January 1996, and four-wheel drive diesel model in spring 1996. The latter will offer on-demand forward and reverse four-wheel drive.

For more information, contact your local Toro distributor by calling 1-800-803-TORO, ext. 116.

CIRCLE #303

Confused By Particle Size Claims?

We Asked An Independent Laboratory To Level The Playing Field.

The Andersons has long prided itself on its innovative technology regarding our uniform, mini particle sizing capabilities. And, according to recent independently conducted research, we have every good reason to take pride. After all, our greens grade products were tested against our leading competitors – Scotts, Lebanon and Vigoro – and the results were convincing.

The Importance of Proper Sizing and Uniformity

There are two key measurements that help determine the performance of a greens grade fertilizer product.

SGN (Size Guide Number)...this has to do with the size of the granules. For greens, the particles need to be very small to penetrate the turf canopy and not interfere with playability. On the other hand, particles can't be too small or they can be blown away – dust-like – during application.

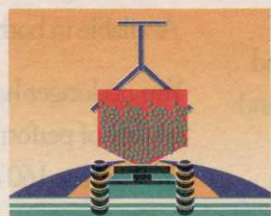
The Andersons SGN specification for ideal greens grade performance is 90 to 100.

UI (Uniformity Index)...this has to do with size uniformity. Granule uniformity is critical to assuring the even distribution of product during application. Granule ballistic characteristics change according to size. The more uniform the granules the more controllable the application. **The Andersons UI specification for ideal greens grade performance is 50 to 60.**

Lab Results For Greens Grade Products

Company	SGN#	UI
The Andersons		
TeeTime 21-3-16	90	53
Lebanon		
Country Club 18-3-12	135	52
Scotts		
Scotts 22-0-16	110	42
Vigoro		
Par Ex 21-3-16	90	36

Application Uniformity

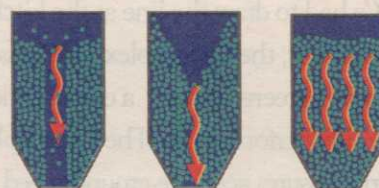


The importance of uniformity in application is demonstrated here. If a wide disparity exists in particle sizing, the risks of uneven – and improper – product coverage increases.

Trajectories For Several Sizes Of Granular Raw Materials (Granular Urea)

- 3.3 mm / 6.2 ft.
- 1 mm / 5.2 ft.
- .5mm / 4.2 ft.

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CIRCLE #139

New stain-free Turf Mark II

Liquid Turf Mark spray pattern indicator now has a stain-free formula that allows colorant to rinse from hands and equipment with tap water. Becker-Underwood, Inc. has dubbed the new product, Turf Mark II, which mixes with water-soluble pesticides and fertilizers to mark sprayed areas, thereby eliminating misapplication of turf management products. Turf Mark II is available in one quart, gallon and 2 1/2 gallon containers. For more information or for a free sample call 1-800-232-5907.

CIRCLE #305

GOLF COURSE NEWS

Golf Course Marketplace

To reserve space in this section, call Diana Costello-Lee at 207/846-0600

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CAREER OPPORTUNITY

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GOLF COURSE SUPERINTENDENTS & ASST. SUPERINTENDENTS.

American Golf is rapidly expanding, offering opportunities for advancement & relocation. This is an excellent opportunity to gain experience and advancement in the New York, Michigan & Ohio areas. Send resumes to: **American Golf Corporation, Northeast Regional Office c/o Dean Wochaski, CGCS-6904 Salisbury Road, .Maumee, OH 43537.**

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Penncross turns 40

Continued from page 39

"Time and time again we go through these trials and others jockey for three years, then you see Penncross is still the best," said Rose. "The bents are getting better all the time, and Penncross won't be nearly as dominant in 10 years. But there will be Penncross sold in 10 years, and people will still be pleased with it."

The careers of Penncross and Rose are nearly concurrent. Penncross was released in 1955, and Rose got out of the military service a year later. After becoming aware of the new creeping bent at an Oregon Seed League meeting the following winter, Rose got interested, secured some stolons from Musser and planted a small field in 1958.

"The quality wasn't good," Rose admits. "I happened to go on a trip back to Penn State and met Dr. Joe Duich. "There

was some turf conference going on and I was waiting outside in the hall for about an hour. Finally, a bunch of them found out I was growing Penncross, and soon they were all out in the hall talking to me.

"All the researchers claimed the seed that was getting to me wasn't Penncross. Even today you see stories about substitution, and that's certainly what happened back then. We had an all-night session to discuss the problems. Out of that, Penn State decided to release Penn-cross to us exclusively and we committed to growing only certified seed."

Rose helped form the Penncross Bentgrass Association, the exclusive grower and marketer of Penncross, in 1971, included most of the 14 growers that remain members today. Turf Seed, Inc. does the actual contracting with Penncross growers, while Tee-2-Green markets the product.

Duich has continued his relationship with

Tee-2-Green, consulting to the firm ever since. And the rest, as they say, is history.

"It took a while to realize what we had," Rose explained. "Penncross got down to about a dollar a pound and everyone was complaining. But we've kept the same price for 10 years, through the shortage years in the 1980s. Now everything's back up again."

Forty years is an amazing run for a single strain of bentgrass, and Rose knows it will end someday. This explains why Tee-2-Green has invested in new strains to compete with its own product.

"Our new bents are absolutely spectacular," said Rose. "I like to think they're breakthroughs in creeping bentgrasses. These grasses demand to be mown at 1/8 of an inch. They'll stand up to it, and no other grass will. We're going to call it Penn A-1. But Penncross is still the king, by 10-fold. Everyone's still shooting at it, even ourselves. But that's what happens when you're no. 1."

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For more information, call
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CALENDAR

September

7-8 — Southwest Horticultural Trade Show in Phoenix, Ariz. Call 602-966-1610.

7-10 — RISE Annual Meeting in Arlington, Va. Contact 202-872-3860.

9-12 — America Society of Irrigation Consultants Annual Conference in Atlanta. Contact Wanda Sarsfield at 510-516-1124.

9-12 — Club Managers Association of America Leadership/Legislative Conference in Pentagon City, Va. Contact Kathi Driggs at 703-739-9500.

12-13 — Turfgrass Research Conference and Field Day and Landscape Management Research Conference and Field Day in Riverside, Calif. Contact Susana Denney at 909-787-4430.

17-19 — Southeastern North Carolina Professional Turfgrass Conference in Sunset Beach, N.C. Contact Dr. Bruce Williams at 910-253-4425.

19-21 — Virginia Tech Turf and Landscape Field Days in Blacksburg, Va. Contact David Chalmers at 703-231-9738.

24-27 — Florida Turf Assn Annual Conference & Show in Tampa, Fla. Contact Susan Callahan at 800-882-6721.

October

7-10 — American Society of Landscape Architects in Cleveland. Contact Mindy Peckham at 202-686-2752.

9-12 — 49th Northwest Turfgrass Conference in Stevenson. Contact 360-754-0825.

11 — West Texas Turfgrass Conference in Snyder, Texas. Contact Pam Deeds at 806-354-8447.

31 — The Carolinas Golf Investment Seminar in Pinehurst, N.C. Contact Andy Hinds at 910-379-1400.

November

4 — 6th Annual Rutgers Professional GolfTurf Management School and Alumni Awards Banquet in East Brunswick, N.J. Contact 908-828-6900.

4-7 — Georgia GCSA Annual Meeting at Jekyll Island. Contact Karen White at 706-769-4076.

9-10 — Golf Course Expo in Orlando, Fla. Contact Golf Course News Conference Group at 207-846-0600.

13-15 — Women in Golf Summit '95 in Pinehurst, N.C. Contact 904-254-8800.

* For more information contact the GCSAA Education Office at 913-832-4430.

Verti-drain suit

Continued from page 39
were going to sue.

"There was no patent infringement here. We researched it very carefully. This is strictly a sales ploy by Redexim." According to Estes, Southern Green ended its relationship with Redexim in 1993. The firm put its Soil Reliever on the market in 1994, he said.

The Verti-Drain product line is represented in North America by Emrex, Inc., an independent importer, and a national network of more than 30 distributors. According to Charles Otto, president of Emrex, Redexim caught wind of the Soil Reliever's emergence and sent Southern Green a cease and desist order in October 1994, on the basis that it was a copy.

"On Nov. 4, the folks at Southern Green literally raced to the courthouse and filed a suit," said Otto. "Instead of responding to the cease and desist, they filed a suit which said, basically, that 'Redexim is trying to ruin our business.'"

According to Otto, in May of 1995, Redexim tried to have the Southern Green suit dismissed. However, a dismissal judg-

Continued on next page

Golf Course Marketplace

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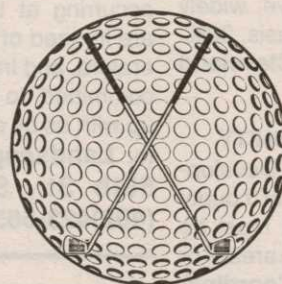
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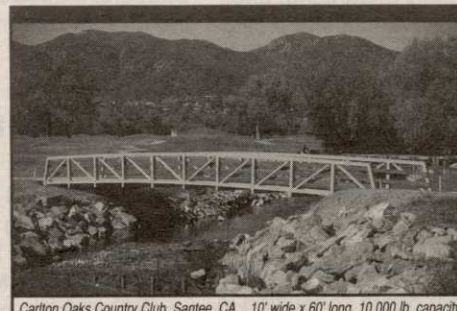
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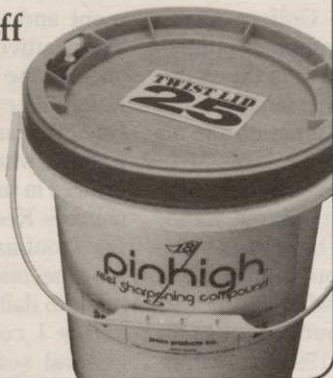
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ADVERTISERS' INDEX

Cir.#	Advertiser	Page
143	18th Green Bent Grass	19
126	American Cyanamid	32
132	Anderson Instruments	37
139	The Andersons	42
110	BASF	15
103	Buckner/Legacy	4-5
123	Ciba	27
105	Ciba	7
150	Colorado Lining Co.	44
161	Continental Bridge	45
115	Deltran Corporation	18
158	Environmental Compliance Systems	44
168	Enwood Structures	45
155	Excel Bridge Mfg.	44
104	Fine Lawn Research	6
114	Flowtronex/PSI	18
129	Fore Par	36
151	Formost Construction Co.	44
131	Fox Valley Systems	36
—	Golf Asia '96	12
—	Golf Course Expo	21
—	Golf World Exhibitions	47
152	Harrington/Harco Corporation	44
136	Jacklin Seed Co./Jacklin Golf	38
142	Jacobsen	48
144	Jacobsen*	28-29
160	Jesco Products/Pinhigh	45
106	John Deere	8-9
157	Kirby Markers	44
166	Lester Building Systems	45
109	Lofts, Inc.	14
154	Master of the Links	44
162	Master of the Links	45
125	Milorganite	30
121	Milorganite	24-25
140	National Mower	46
127	Par Aide	33
119	Partac	23
164	Pavelec Bros. Construction	45
167	Precision Small Engine	45
153	Precision Tool Prod. Co.	44
135	Precision Tool Prod. Co.	37
159	Quail Valley Farms	44
111	Rain Bird	16
138	Ransomes, Ransomes America Corp.	41
116	Regal Chemical	20
124	Rohm & Haas*	28-29
118	Standard Golf	22
156	Steadfast Bridge Co.	44
133	T.I.P. I.N.C.	37
113	Tee & Green Sod	46
101	Tee-2-Green	2
112	Toro Comm'l. Prod. Div.	17
163	Trims International Software	45
130	Turf Merchants	36
122	Turf Merchants	26
102	Turco, Inc.	3
128	Ty-Crop	34
137	Valent	40
108	Verti-Drain/Emrex	14
120	Warren's Turf Professionals	23
165	Yard Edge	45
134	York Bridge Concepts	37

*Appears in regional editions.

Verti-drain suit

Continued from previous page

ment would have required a separate action, which Redexim didn't care to pursue, said Otto. Consequently, Redexim served counter claims on July 14.

"The fact that it's a countersuit is a technicality," said Otto. "Basically what it means is, Southern Green saw it coming and tried to take an aggressive stance by suing first.

"[The Soil Reliever] is a knock-off as far as we're concerned. There are some differences but we don't think it's as good... They admitted, when we talked to them, that they wouldn't have had the idea if they hadn't worked for us.

"The real problem is, there's confusion in the marketplace. Among the distributors on the front lines, it's getting pretty ugly. We welcome competition in the industry. It's a just a question of how that competition develops."

In a statement, Redexim stated the countersuit reflects Redexim's philosophy to vigorously defend and protect its investments in the development of innovative and patented technology, and to protect related proprietary rights. In recent litigation in Germany, Redexim was awarded damages for patent infringement under the European counterpart of Redexim's United States patent on deep-tine aeration machines.

Golf Course Expo Management Program designed to help owners keep pace

By HAL PHILLIPS

ORLANDO, Fla. — Golfers may enjoy the proliferation of public-access courses across the country, but course owners and managers see nothing but increased competition in an already tight marketplace.

The Management & Marketing program at this year's Golf Course Expo, scheduled for Nov. 9-10 here at the Orange County Convention Center, was designed with the following figures in mind: In excess of 330 public-access facilities opened for play in 1994; more than 1,200 have come on line since 1991. The unique education sessions at Golf Course Expo have been coordinated to help owners and managers set their facilities apart — aesthetically and monetarily — from this pool of new kids on the block.

On Day I, following a keynote address from architect Pete Dye and his family, conference attendees will split up into three separate tracks: Agronomy, Management & Marketing, and Development. The purchase of one conference registration offers access to all three programs, allowing attendees to pick and choose their disciplines.

The Management & Marketing track kicks off the morning of Thursday Nov. 9, with a seminar on "Group Marketing Dynamics", led by Charles Callaghan, the architect of Florida's most recent golf success story. Five years ago, the First Coast of Golf didn't exist. However, by pooling their marketing and advertising resources, the 26 golf courses in greater Jacksonville created a powerful regional identity. Under Callaghan's leadership, First Coast is now recognized nationally as a golf hotbed by travel agents, tour groups and individuals looking for low-key golf-destination alternatives to better-known but more congested locales.

While computerization in the pro shop/clubhouse is hailed as an agent of efficiency, the results are often difficult to identify on a spread sheet. During Thursday's midday session, "Yield Management Strategies", experts will dem-

onstrate how computerized cart management and tee-time reservation systems will positively impact the most important sheet in the business: the tee sheet. Led by Mike Tinkey, head of the NGCOA's Smart Buy Program, this session will feature Jim Keegan, whose firm, Fairway Systems, specializes in tee-time networks for municipal courses. Keegan will share the lecture with Jay Troutman of Par Business Systems, a tee-time reservation provider that caters more to daily-fee and resort facilities.

Day I concludes with an interactive general session on perhaps the single most important issue for public-access golf courses today: upscaling (see story page 1). Of those courses opened in the 1990s, the great majority fall into the upscale, daily-fee category. Experts agree: Existing courses must compete by offering comparable design, management and agronomic conditions; and those intent on standing pat will do so at their peril. Speaking and answering audience questions on this subject are renowned architect Rees Jones, who has extensive experience leading upscale renovations; Larry Hirsh of Golf Property Analysts, a firm committed to helping owners translate course improvements into increased property values; and David Johnson, head of agronomy for GolfCorp, which has responded to this industrywide trend by embarking on agronomic upgrades at all 41 of its daily-fee courses.

Friday morning — following a keynote address by Robert Dedman Sr., founder and chairman of Club Corporation International — Day II of the Management & Marketing track opens with a seminar addressing crucial "Safety and Staffing" issues. On-course subjects such as crew liability, workers' compensation and innovative shift management will be handled by Cal Roth, director of golf course maintenance operations for the PGA Tour's Tournament Players' Club (TPC) network of courses. Clubhouse issues will be addressed by Debi Means, a senior associate attorney with the law firm of Page & Addison. Means will prep owners on understanding the range of liability, controlling workers' benefits, creating operations documentation, and securing easy, effective release documents from golfers.

Friday's final two sessions target clubhouse revenue centers and how to enhance them. Brett Moore, vice president of development for The Antigua Group, will tell owners and managers how inventory and display decisions can help increase sales in the pro shop. As an executive with one of America's hottest golf attire manufacturers and the former manager at one of the nation's top 100 pro shops, Moore brings big-picture vision and a practitioner's common sense to the daunting prospect of "Competing With Off-site Wholesalers".

In the track's final session, "Range and Bar Management", Gregg Gagliardi will discuss the art of turning profits in these two vital areas. "When I came here, we lost something like \$4,000 a year in the bar," said Gagliardi, the general manager and pro at Lansbrook Golf Club in Palm Harbor, Fla. "Last year we netted more than \$100,000... If you want to make money in the bar and range, you have to treat them as totally separate entities."

For more information on how to register for Golf Course Expo, call the Expo Hotline at 207-846-0600.

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CIRCLE #113

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Ed Seay, Vice President & Chief Operating Officer of Palmer Course Design Company, said: "We look forward to participating in the first exhibition. The golfing industry will be the benefactor of this event and we look forward to being a part of the launching of this new endeavour."

Jack Nicklaus II, Design Associate of Nicklaus Design, said: "For the past few years, golf course growth in Asia has been one of the primary focuses of Nicklaus Design. China, in particular, is one of the fastest-growing golf markets in the Far East and I'm looking forward to designing my first course there."

Robert Trent Jones Jr., said: "From experience we know Stephen Allen shares our values and his customary personal attention is a necessary ingredient to make this show a success. We will give our full support and attention to help ensure this will be the first of many successful exhibitions in various parts of the world for the betterment of golf as a game and a beneficial asset to the community."

Robin Nelson, President of Nelson • Wright • Haworth commented: "Stephen Allen's commitment to quality as well as to the growth of the game in Asia are 2 major factors which will ensure instant success and make this exhibition a major force in the golf industry. During the current decade and well into the 21st century, Hong Kong and Southern China will be the focal point of the growth of the game in Asia."

Michael Poellot, President of JMP Golf Design Group, commented: "1995 represents a benchmark year with the birth of this exhibition which we believe will quickly become the largest and most important golf industry trade exhibition in Asia."

Mike D. Martin, Managing Director of Pacific Golf Inc, said: "It gives me great pleasure to enthusiastically endorse The 1st International Hong Kong & China Golf Exhibition & Conference. The common bond that unites all Golf World Exhibitions founding members is our dedication to the game of golf and its expansion to all corners of our planet. I firmly believe that this exhibition will provide all people associated with this great industry an opportunity to gain valuable information from some of the leading experts in the field."

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Stop Press

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