Nation's eyes on board ruling

BY VERN PUTNEY

The Vermont Environmental Board is sitting on a decision that could affect golf course development nationwide. Scientists and turfgrass professors feel the Environmental Board has slighted their expertise by rejecting the initial request for a golf course in Huntington, Vt., on the grounds pesticides used on the course would threaten groundwater used for drinking as well as a nearby stream.

As the board ponders the developer's latest appeal in the case, more upset and worry are being aired in the golf course industry and science community.

"Does Vermont know something we don't?" asks Dr. Richard Cooper of the University of Massachusetts' Department of Plant and Soil Sciences. His comment is echoed by other scientists.

At the heart of the debate is the 4-year-old effort of Paul Truax and Vermont partners to build an 18-hole golf course as the forerunner of a planned $22 million resort that would embrace luxury condominiums, hotel, conference center, theater, sports center and chapel in Huntington.

The board, which Nov. 9 again rejected Truax' application to develop the course adjacent to the Sherman Hollow Inc., ski resort, met Jan. 11 at Williston to consider an appeal. Because of probable lengthy review, a decision isn't due until Feb. 7.

That ruling isn't expected to be the last word.

Continued on Page 12

Insurance spreading nationwide

BY MARK LESLIE

A veteran employee self-assuredly working with heavy equipment after so many years on the job, gets lackadaisical and a mower blade slashes off his index finger.

An inexperienced lady golfer hops onto a golf cart and promptly puts the vehicle into reverse instead of forward, pinning the caddy master behind her against a wall and breaking his leg.

A spectator at a golf tournament is hit in the head by a ball and returns the favor by suing both the club and the volunteer who was running the tournament.

In mishaps like these two parties can get badly hurt - the individual physically and the golf course in the wallet.

Physical danger seems to be inherent any time you combine machinery and people. The combination personifies Murphy's Law: "Anything that can go wrong will go wrong."

But by the end of this year golf courses throughout the country will be able to pro-

Continued on Page 33
Introducing the all-new Jacobsen LF-100, the 5-gang designed to increase your lightweight mowing productivity.

The wing mowers are up front for better visibility. So the operator can hold a closer line—even at mowing speeds over 5 mph—to take full advantage of the 100" cutting width. This unique, up-front configuration also gives better access to all mowing units to quickly empty catchers and make mower adjustments easy.

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Letter from the Publisher

Welcome to the premier issue of Golf Course News.

The concept of Golf Course News comes from Mr. Ted Gordon. No stranger to the publishing business, Ted founded Gordon Publishing in the late 1950s, built it to 35 titles across many trade categories and recently sold it to the Dutch firm Elsevier.

Ted's involvement in golf also is extensive. He has served as greens chairman, club president and on various boards and golf committees. (He also is a strong five handicap.)

Recently, Ted participated in the redesign of the Rio Mar Golf Club in Vero Beach, Fl. There he realized the need for a publication that would serve the industry with timely information on golf course design, development and maintenance, in an easy-reading format. Golf Course News is the answer to that need.

Managing editor Mark Leslie and associate editor Vern Putney have shown a remarkable feel for the business early in the development of our publication. You will see their interest and enthusiasm as you read this premier issue.

Our plan to serve the industry is an aggressive one. Golf Course News will reach a minimum of 20,000 readers each month beginning in April, and plans call for an increase to 20 issues (approximately every other week) in 1990. Golf Course News readers will be like yourself—superintendents, architects, builders and developers, greens chairmen, club presidents, and general managers.

If you're interested in receiving Golf Course News, simply fill out the card which will pop out at you a few pages back. You'll receive the first issue to be mailed mid-April. Our goal at Golf Course News is simple: to serve our readers with fast-breaking industry news and to provide the decision-makers at all golf facilities in the country, as well as builders and developers.

The bottom line is to serve the industry for the betterment of the game. If we can accomplish our goal, Golf Course News will be a factor in the growth of this great sport.

Charles E. von Brecht
Publisher

When good shots end up in bad lies on dollar spotted fairways, it can spot your course's reputation. That's good reason to put Rubigan® in play. Dollar for dollar, nothing controls dollar spot better. Just one Rubigan application controls even resistant strains of dollar spot for up to 28 days. And one case of Rubigan will treat up to four acres of greens and fairways.

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BYVERN PUTNEY

While PGA Tour players sharpen their games in Hawaii after stops in California and Arizona, course superintendents at the next six sites are preparing welcome mats studded with stroke hazards.

The city of San Diego again hosts the Shearson Lehman Hutton Open on Feb. 16-19 at the 36-hole public course of Torrey Pines Golf Club in LaJolla, while superintendents work ahead to prepare the famed "Blue Monster" course at Coral Country Club in Miami, Eagle Trace CC in Pines Golf Club in LaJolla, while Gearing up for a major tournament superintendents work ahead to prepare the for television.

Otherwise, rough wouldn't be the prescribed surfaces in the 9.5-10 stimpmeter range. However, tournament preparation began in November with gradual greens shaving. By tourney time, especially top-dressed and verti-cut greens will become smooth putting surfaces in the 9.5-10 stimpmeter range. Perennial rye grass, which Vincent says "is great filler grass and gets greener and prettier," will decorate green corners and avoid the appearance of clumpiness. Four days before the two practice rounds, the 7,000-yard South course and the 6,600-yard North layout will be closed to public play. Final grooming will take place.

The Honda Classic at Eagle Trace on March 2-5 again looms as a test of Man against Wind. Superintendent Jeff Haley and assistant Ron Wright can't stay the high-velocity breeze buffeting down from the Everglades to the unprotected west and northwest, but they will have done their course homework.

Eight tons of rye grass has been deposited in the rough. "It's a little shaggy now, but hopefully fun to play," observes Haley. Greens have been overseeded with rye grass, fairways have received the green's mowertreatment, employees added to shag divots, traps hand-raked, especially greenside banks, tees groomed and protected at the tips and par-three tees given special attention.

The driving range, which covers about a half-acre, is ready to take a frightful beating from the practice-conscious field. The Tournament of Players Championship's "Island" 17th, the PGA Tour's picture hole in Jacksonville, will test the attention of the television public on March 16-19. At maximum 145 yards, it has spelled heartbreak for many a title contender. With the green entirely guarded by water, the gripping test of nerves frequently ends in fatal fascination as a challenger's ball sinks from sight.

A new spectator setup just behind the green will provide a close-up view of disaster, hairbreadth escapes and, possibly, cupping shots. All greens have been changed from bent to bermudagrass. Bermgrasses on all fairways will improve color and playability. Twenty tons of fertilizer have been deposited in the winter fertilization program as crews work around 350 to 300 players daily.

Course superintendent Fred Klauk hopes Florida's ideal winter weather holds. He spent three blustery seasons at Eagle Trace. That's because the "Blue Monster," one of five under the Doral umbrella, as a resort course can be maintained year-round as a championship test.

Members and guests electing to tee it up there accept the challenge - close-cropped fairways, deep rough, fast greens. More refinements will be made after PGA officials and Kuhn huddle, notably a transitional 7-foot-wide 1 1/4-inch collar cut between the half-inch fairway trim and the 2 1/2- to 3-inch rough. Basically, though, course personnel will remain the same - nine workers for each course, an in-house operation again expected to proceed smoothly.

Not that Kuhn is waiting until early March 9-12 at The Nestle Championship, TPC at Sawgrass, 103 Course superintendent Fred Klauk hopes Mitchell Wilkerson, because of its different February to prepare. He began an orderly tournament program in mid-December with painting and general sprucing up. Overseeding the greens with bent grass was a prime project. "The pros consider

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For Information Circle # 103

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ASK FOR A DEMONSTRATION TODAY!
BY VERN PUTNEY

One major focus of the new administration of the Golf Course Superintendents Association of America will be "additional emphasis in the international market," according to Dennis Lyon.

Lyon, who will take over the GCSAA presidency from John A. Segui at its 60th International Golf Conference and Show at Anaheim, Calif., added, "We are the best at what we do, and what we do best is provide the world with outstanding golf courses."

Lyon oversees four public courses for the city of Aurora, Colo.

While looking abroad to provide GCSAA expertise and exchange information with interested Japanese and European course superintendents and developers, Lyon is most mindful of continuing and expanding the "many current positive things" domestically.

These include, he said, keeping on track successful programs dealing with education, conferences and seminars, public relations, and relations with allied groups such as the United States Golf Association, PGA of America, National Golf Foundation, American Society of Golf Course Architects, and club managers.

"An area I feel is especially important," Lyon said, "is our government relations program. We must work in concert with the federal government where appropriate in the areas of pesticide and related environmental issues."

"I have a concern that, all too frequently, federal bureaus provide notice of hearings or meetings on subjects vital to our business, and we don't react quickly to furnish timely input. If we are not astute enough to recognize this opportunity, our industry can lose out. It's up to us to take the initiative."

Aware of government's increasing role in environmental matters, GCSAA has retained the Washington, D.C., consulting firm of Myers and White to keep it abreast of lawmaking trends. GCSAA, though not in the lobbying field, could proffer advice that could help legislators make decisions, Lyon said.

Another association step forward in the environmental field is the agreement reached recently with Hall-Kimbrall Environmental Services of Lawrence, Kan.

Hall-Kimbrall has designed a self-audit package to assure a course's compliance with health and environmental laws. It was drafted specifically for golf courses and is being field-tested and fine-tuned with the assistance of William R. Roberts, GCSAA board of directors member and chairman of its government relations committee, is course superintendent at Lochmoor Club in Grosse Pointe Woods, Mich.

Lyon is eying overseas in both directions for membership cooperation internationally. "We look forward to working with our counterparts in other parts of the world," he said.

In that connection, he points out the probability of "sizable" attendance at Anaheim by Japanese forces. A turf conference sponsored by Toro Co. was held in Osaka, Japan, last October.

Japan's GCSAA members are a mere dozen, half affiliates. These numbers are expected to climb. European interest in GCSAA also has risen. The recently formed British International Golf Greenkeepers Association lists 2,000 members. Many are looking to the United States for close working ties.

Lyon's route to the top spot in GCSAA stemmed as much from early interest in plants as in golf courses. He noted that his native small town in Colorado had no golf course until he was a high school student. Lyon majored in horticulture at Colorado State University, and looked more closely at turf management and its golf course applications.

After graduation 15 years ago, he obtained a job as assistant course superintendent at Heather Ridge Country Club in Aurora. He earned a master's degree in management at the University of North Colorado in 1976.
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RICHARD E. "DICK" HUNTER, a partner with Hunter Industries in San Marcos, Calif., has been installed 32nd president of the Irrigation Association, heading a new slate of officers.

The association at its recent annual meeting in Las Vegas, Nev., named new officers and honored Bart Nelson of Walls Walla, Wash., Dr. Leslie Sheffield of Lincoln, Neb., former association leader Walter D. Anderson, and Robert Williams-Freeman of Lethbridge, Alberta, Canada.

Hunter's father, Ed, founded Moist-O-Matic in 1952, and is an IA Industry Achievement Award winner.

Hunter is joined on the association's executive committee by Glenn Tribe of Portland, Ore., president-elect; Michael Sypolt, Sacramento, Calif., vice president; Robert Emmerich, Riverside, Calif., treasurer, and Bill Fogure, Riverside, past president.

R. C. "Boby" Sears is the IA's executive vice president and chief operating officer.

BART NELSON of Walla Walla, Wash., named new officers and honored Dr. Sheffield was named IA's Man of the Year.

The award honors individuals outside the irrigation industry who have made outstanding contributions toward good irrigation practices.

Extension Farm Management specialist in the University of Nebraska-Lincoln's Department of Agricultural Economics, Sheffield has written 135 professional articles on water resources, irrigation and irrigation economics.

He is the author of the IA's "The Economic Impact of Irrigated Agriculture." Completed in 1985, this 360-page study provides information and materials on the impact of irrigation and the irrigation industry on the economics of states and the United States and on the vital role of irrigation on a worldwide basis to help meet the food requirements of a rapidly growing world population.

Anderson was recognized for 16 years of service to the association, and was cited for bringing worldwide attention to the association among universities, federal agencies and state institutions.

Under his leadership, the Sprinkler Irrigation Association expanded to include all segments of the irrigation industry and it became the Irrigation Association. During his tenure, from 1969 to 1985, membership grew from 200 to more than 1,000.

Williams-Freeman, CID, manager of Oliver Industrial Supply’s Irrigation Division, Lethbridge, received the IA’s Crawford Reid Memorial Award.

The award cites those making significant achievements in the promotion of proper irrigation techniques and procedures and who have brought about major advancement of the industry outside the United States.
Taylor to be honored
Richard S. "Dick" Taylor, editor and vice president of Golf World magazine, has been selected by the American Society of Golf Course Architects to receive its 1989 Donald Ross Award. Taylor will receive the award at the ASGCA's annual meeting April 3 at the Pinehurst, N.C., Hotel.

ASGCA President Pete Dye said the society was honoring Taylor for his "more than 40 years of outstanding golf writing, particularly for noting the contributions the country's golf course architects have made to the game by constantly striving to provide the best possible courses for the golfing public."

Dye said Taylor understands "the problems the experienced golf course architect faces in today's marketplace with its complex site, environmental and real estate restrictions, and he has written extensively about the knowledge and ability necessary to transform a barren piece of land into a challenging but fair test of golf."

Taylor has been editor and vice president of Golf World for 26 years. Prior to joining the golf publication, he was golf editor of the Palm Beach, Fla., Post for 14 years.

He was born in Indianapolis, Ind., attended Butler University there, was a pilot in World War II, and began his journalism career as a feature writer for the Tampa, Fla., Times.

The Ross nominee, a past president of the Golf Writers Association of America, was its secretary for seven years and a board member for 20 years. He twice won the association's writing contest in the magazine division. He also is a member of the Association of Golf Writers (Britain), and an honorary member of the Australian GWA.

In his golf writing career, Taylor has seen the world, its courses and players many times over. He is a member of the Board of Governors of Pinehurst No. 7 Club, a member of Pinehurst CC and Pine Needles Resort, which he considers his home course; Pinehurst National Golf Club; and honorary member of Ballybunion, Ireland, for his initial efforts to raise funds for the club's erosion-prevention project; Guadalajara Country Club in Mexico, and Waitangi GC, Bay-of-Island, in New Zealand.

"This honor is the most meaningful of my life," Taylor said.

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Dye envisions tackling wetlands regulations
Pete Dye of Delray Beach, Fla., president of the American Society of Golf Course Architects, says the association's annual meeting in April will focus on water usage and the environmental impact on wetlands of building golf courses.

Golf course architects everywhere are being confronted with environmental regulations regarding wetlands — thought by many to be a misnomer because even hollows of land containing puddles have been designated wetlands. The April session will educate architects how to work around the wetlands and protect them, yet still build a golf course.

In some cases, golf courses can improve wetlands, some of which are stagnant or even sewages. Government officials will explain the regulations and how architects can deal with them and complete the permit procedure to build a course.
Architects schedule meeting
Group retains rich heritage

The Ross plaid blazer will be the colorful dominant dress at the American Society of Golf Course Architects annual meeting April 3 at the Pinehurst (N.C.) Hotel.

The blazer, symbolic of a group almost as select as the Order of the Garter, honors the family plaid of renowned golf architect Donald Ross. The "Father of Golf Architecture in America" and ASGCA founding member, Ross designed 600 courses over a 50-year career.

Although golf course architecture has been a recognized profession for more than 100 years with many distinguished practitioners, no formal organization existed until 1947. In that year, 13 charter members met in New York City.

Robert Bruce Morris, Chicago, Ill., was elected president; Donald Ross, Pinehurst, honorary president; Stanley Thomas, Toronto, Canada, vice president, and Robert Trent Jones, Montclair, N.J., secretary-treasurer. Jones is the only living founder member.

In December, 1947, Ross hosted a meeting of the new organization at Pinehurst. A constitution, by-laws and a code of ethics were adopted. Initial goals and concerns were to protect and upgrade the profession and to advance concepts and techniques of design consistent with the spirit of the game.

The organization has grown in stature and numbers, expanding its interest and influence.

The ASGCA has 81 regular members (including 11 Fellows) and 13 associate members. These 93 men (and Alice Dye, Gulfstream, Fla.) represent about 90 percent of the world's active practitioners.

ASGCA qualification standards include an established ability to design representative golf courses. Applicants are reviewed regarding ethics and methods of professional practice. To be selected as an association member is peer recognition of the applicant's personal and professional integrity and abilities.

The society nominates, selects and presents annually the Donald Ross Award to a member of the golf industry who has made a significant contribution to golf in general and golf course architecture specifically.

Let us know
Golf Course News is asking all of its new readers—from golf course superintendents to architects to developers, Green Committee officials, and suppliers—to send in news of your organizations. If it is organizing a meeting, has elected officers, or has released a report of any kind, please send the information to Golf Course News, P.O. Box 767, Yarmouth, Maine 04096.
If you think he had added headaches the past eight years, pity Gregory D. Searle the next four seasons.

Searle is golf course superintendent at Cape Arundel Golf Club in Kennebunkport, Maine—the summer headquarters for avid golfer and President George Bush.

Bush, once a left-handed-hitting first baseman at Yale University, hits from the right side in golf and scores in the 81-89 range. Searle and the Secret Service have taken elaborate precautions and made extensive plans to accommodate the Bush fitness and recreation program, often springing into action on short notice. Security now must be beefed up considerably now that Bush is president. There's a lot of course acreage to cover in satisfying security arrangements.

Cape Arundel, an 18-hole semi-private layout built around the turn of the century, boasts neither a bar nor restaurant. Its members mostly are summer residents in the Kennebunkport area. The Bushes and family have been members for years.

Searles says, "As Cape Arundel takes in a certain amount of greens fees, just having (Bush) arriving to play golf causes a certain amount of amazement." The drive into the clubhouse crosses five golf holes. You can imagine the looks when an entourage of limousines, long station wagons and the like enter from the parking area to them a sound of a gunshot is heard in your direction. Make sure your turf vehicle—you superintendents are often doing a lot of driving around—well, you know what a puppy often does. We've got grounds to prove it.

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The only holes in our claims have flags in them.

TGR Poa AnnuA Control
Sherwood Moore keeps an eye on future

By VERN PUTNEY

Sherwood A. Moore — who already has a golf tournament and annual award named after him — will be doubly honored at the 60th International Golf Course Conference and Show Feb. 6-13 in Anaheim, Calif.

The Brewster, Mass., resident will receive a 50-year membership pin from the sponsoring Golf Course Superintendents Association of America and also be presented the Leo Feser Award for the best 1988 article by a course superintendent.


Fittingly, Moore is featured as Golf Course News’ first Super subject — a man who has seen the time when it could take five men a day or two to do a green and now the time when a sit-down tractor can cut grass many times more quickly and to within 1/62nd of an inch.

Moore has written many published articles pertaining to the practical side of golf course maintenance and the profession. He also has spoken at a number of national and regional turf conferences.

Memories

Moore in a half-century of close course ties has accumulated a barrelful of memories and experiences, and has seen many industry changes.

Ants and earthworms were early problems. A drop of ant bait on greens eliminated the ants, but over-use killed the grass. The chemical “Diworma” would irritate the worms. They would almost pop out of the ground, to be raked in piles and removed by the backfoul.

A drop of ant bait on greens with a push-type greensmower; or top-dressed greens by means of a wheelbarrow, shovel, rake or hand-drawn mat; or aerified greens with a foot aerifier.

Moore cites three great breakthroughs in turf management (outside of equipment): the advent of fenoxia, the pre-emergent chemicals, and the introduction of the new grasses — bents, bluegrasses and, especially, the turf-type ryegrasses.

An eye to the future

Moore believes increased computer use will be the next leap forward. He sees it as a promising new tool, one whose potential is not yet realized.

In such areas as cost-accounting, budget development and control, personnel record-keeping, chemical management and equipment, irrigation control, inventory and maintenance, computers are a must. To have all this information at one’s fingertips is spectacular, Moore says.

Awards accruing to Moore for a lifetime of dedication have been numerous. GCSAA president in 1982, he’s also been president of New Jersey and Metropolitan New York Golf Course Superintendents associations.

Moore received the GCSAA’s Distinguished Service Award in 1982 and the NewYork State Turfgrass Association’s Citation of Merit in 1984.

The 1985 Massachusetts Turf Grass Conference and Show was dedicated to Moore. He entered the New Jersey Turfgrass Association’s Hall of Fame in 1986, and received the USGA Green Section Award in 1987.

The Metropolitan Golf Course Superintendents Association annually presents a Sherwood Moore Award, and MCSA of New Jersey conducts a golf tournament in his name.

Late bloomer

For all this, Moore could be classified as a late bloomer.

Horticulture was his chief interest when he enrolled in 1934 at the Stockbridge School of Agriculture, on the then-Massachusetts State campus in Amherst.

Love of grass and soil led him to the Greenkeeper (now Turf Management) course. Classmates were two other young men.

Fortunately, Moore’s first training was at Great Barrington (Mass.) School, whose grounds included a small nine-hole golf course.

Moore hadn’t caddied, so it was a new experience, one that was to become a trained eye and lead to a cartful of honors.

More practical experience followed. From 1938 to 1958, Moore was part of a course labor crew at the 27-hole Passaic County course in Totowa, N.J.

Then came his first course superintendent job, at Lake Mohawk Golf Course in Sparta., N.J. Feet firmly planted there were uprooted in 1941 by Uncle Sam. After infantry service came Air Corps duty as weather forecaster in the European Theater.

At war’s end, he returned to Mohawk.

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For Free Information Circle #108
Privacy issue worries clubs across nation

The National Club Association, comprising of 1,000 private social, athletic and recreational clubs, is keeping a wary eye on efforts to deprive golf clubs of private status.

The U.S. Supreme Court last year rebuffed the last threat to long-held privacy, New York City Local Law 63, which had been passed in 1984 and redefined all private clubs as public accommodations if they meet a three-pronged test.

The court held that NYC LL 63 was not unconstitutional on its face but stated that its three-pronged test is not exclusive and does not meet a three-pronged test.

The court also decided that NYC's attack, things can get u-g-l-y. While recognizing that men now own 109 private and public golf courses nationwide, includes many women in golf management roles.

A golf course just doesn't reach this level of beauty and playability without effective control of turf diseases.

Like large brown patch. When tees, greens and fairways come under its attack, things can get ugly. Unless you attack back—with Rubigan, tank-mixed with a contact fungicide (Daconil® 2787, Chapco® 26019, or a thiram product).

This adds even more knock-down power to Rubigan's extended disease control. Just one application can clean out even a heavy presence of brown patch for 10-14 days. One Rubigan treatment also can keep your course dollar spotless—up to 28 days. One case of Rubigan will treat up to 4 acres of greens and fairways. It gives you powerful preventive action against anthracnose too.

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One look tells you. A golf course designed by Geoffrey Cornish and Brian Silva.

The American Golf Corp.,'s American Golf College, a one-week course of instruction that scored well in its November debut at corporate office headquarters in Santa Monica, Calif., will be expanded in an early-February session.

The college, created for introductory training of superintendents and general managers and continued training of present personnel, drew 20 AGC employees with a wide scope of ages and golf backgrounds.

AGC will enroll more people in its new session.

The NCA claims the premise of the law, is based on unsubstantiated, undocumented and false assumptions that clubs are marketplaces for making business deals and that those who want to join and can't are irreparably denied career opportunity.

The new Congress is likely to revive a bill that would have made it simpler to transfer pension benefits when changing jobs.

The bill, which was killed at the end of the 1988 congressional session, would have lifted the prohibition on direct transfers of pension plan contributions to individual retirement accounts (IRAs). That would have allowed employees to take their pension contributions with them from one job to another.

The bill (H.R. 1961) also would have allowed some direct transfers from the former employer's pension fund to the new employer's fund.

Next post was Crestmont Country Club in West Orange, N.J. Moore served 10 years at Hollywood Golf Course in Deal, N.J., before a similar stint at Winged Foot GC, in Mamaroneck, N.Y. He presided over course operations for the 1959 U.S. Open won by Billy Casper.

The West Haven, Conn., native was back in the Nutmeg State for 12 years at Woodway Country Club in Darien, then returned to Winged Foot in 1980.

After course supervision for the inaugural USGA Senior Open in 1980 and the 1984 Open won by Fuzzy Zoeller, Moore "semi-retired" to Brewster, where he oversees operations at the Captains GC, an 18-hole municipal course designed by Geoffrey Cornish and Brian Silva.

He also has helped the USGA in its Green Section turf advisory service and, to keep his green thumb active, works in a nursery.

Brown patch is no match for a Rubigan tank mix.
Developers watching Vt. ban

Continued from page 1

Huntington Selectman Reginald Hathorn, gavelled into silence by Jan S. Eastman of Peacham, who chaired the two previous meetings at which five of the nine Environmental Board members unanimously ruled against the Sherman Hollow project, couldn't be denied expression outside the meeting site.

Carpenter Hathorn hammered away at what he termed the board's "shotgun approach" and "running scared" philosophy regarding pesticides. "Too many give lip service to the benefits attending golf courses, then oppose on questionable grounds," declared Hathorn.

"Stop just short of being escorted from the meeting" by the embattled Eastman after slamming to the table a packet of envelopes containing pro-project petitions from Huntington residents, Hathorn later lamented "lack of board courtesy" in not permitting townspeople's feelings to be made known.

"We're not going to sit back and await a decision. We're going to set in motion legal machinery, and bring our case to the attention of state legislators," said Hathorn.

"Somehow, Sherman Hollow is being equated with a nuclear waste site, rather than a golf course, a facility seen in the rest of the country as a land benefit."

"The February ruling won't be the closing chapter," observed Hathorn. "This is an unfolding story. We realize that, because the board has taken such an arbitrary and inflexible posture, it will be difficult to grant a permit. And attorneys may tread lightly around what we believe to be the board's blatantly biased position."

"Any reasonable group poring over the reams of evidence would come to the same conclusion." Eastman, who several times at the Jan. 11 meeting warned against disturbing the proceedings, maintained that the board had stipulated that additional evidence not be allowed. Board members felt developers couldn't prove the project would not harm the environment.

"The board makes decisions on the basis of evidence presented to it," Eastman pointed out.

"If the wealth of scientific evidence ... we submitted can be ignored, what can happen to planned course expansion in the rest of the country?" — Paul Truax

Continued on page 13
NEWGAS ENGINE

E-Z-GO innovations
ourselves and the competition with our gas cars, electric cars, and charger technology the latest advances in more power and torque! The new, that's quieter, and produces 20% more power and torque! The new, exclusive limited life- warranty.*

MEANS MORE POWER TO YOU.

Our gas cars feature a redesigned, more durable high-performance engine for a cooler running, well-lubricated engine. Another new feature is E-Z-GO's exclusive sliding ramp design ground speed governor that contains vehicle speed going down hills and gives a smoother, more powerful ride going up hills.

QUIET ELECTRIC EFFICIENCY.

E-Z-GO's electric golf cars feature an improved helical axle differential and a brazed copper armature motor with all copper windings for a superior 96% average efficiency. Our single solenoid, self-adjusting rheostat-type speed control system uses less energy. And our new, vertical cylinder for a cooler running, well-lubricated engine. Another new feature is E-Z-GO's exclusive sliding ramp design ground speed governor that contains vehicle speed going down hills and gives a smoother, more powerful ride going up hills.

E-Z-GO's exclusive limited life-time warranty.*

Because this year, we've outdone ourselves and the competition with E-Z-GO innovations that mean more power in our gas cars, greater efficiency in our electric cars, and the latest advances in charger technology.

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Vermont
Continued from page 13
Department of Environmental Quality Engineering.
Karl H. Deubert, a UMass professor based at the Cranberry Experiment Station in East Wareham, Mass., said: "I am sure that proper pesticide use on golf courses will have no detrimental effect on the quality of groundwater."  "Most pesticide residues in groundwater were found in the 0.01 to 1.0 ppb (parts per billion) range," he said.
Deubert used the postage stamp to illustrate the difference between ppm and ppb. "A one-cent stamp is 7/8 inch wide. One million of these stamps would form a line almost 14,000 miles long. Accordingly, one billion of these stamps would form a line almost 14,000 miles long. One part per billion (ppb) would then be equivalent to one one-cent stamp roughly between Boston and New Zealand."  Deubert said, "The reason for excitement about these residue levels is difficult to understand when we may find, in most areas where chlorination is used, up to 1,000 times more chloroform in drinking water (83 ppb being the U.S. average) than pesticide residues where they are detectable."  Unprecedented action
Michael J. O'Connor of Vergennes, environmental chairman, director and past president of the Vermont Golf Course Superintendents, termed the Nov. 9 decision "unprecedented."  O'Connor serves on a sub-committee formed to gather data and form recommendations for the Vermont Pesticide Advisory Council, is a spokesperson for the golf course industry in Vermont, and for more than 10 years has been on the Vermont Golf Course Superintendents Association board of directors.
In a letter to Vermont golf course owners, he noted that the decision went beyond the issue of development.
He wrote: "Your superintendent is concerned with the environment. His greatest pride comes from supervising and reassuring you as owners that your facility is the type of responsible land use so many people enjoy."
"If golf courses in Vermont are to fall victim to unsubstantiated claims, and if the Environmental Commission feels some of the most authoritative inputs in the turfgrass industry can be overruled, consider this: "Golf in Vermont began because the private sector developed golf course industry. If golf courses pose a health threat, how is it that our Northeast neighbors, and states with some of the strictest environmental laws in the country, have established a working relationship to allow sound land-use decisions to be made?"
O'Connor warned: "As owners, you should be concerned with the political process and how it has affected your reputation within the golf industry."
Kenneth W. Pillsbury of Huntington, a semi-retired dairy farmer and former vocational agriculture teacher in Connecticut, came down hard in favor of the project.
In a Burlington Free Press guest column Nov. 29, Pillsbury wrote: "Sherman Hollow Inc. has received national recognition as having created the most comprehensive program to protect the environment of any golf course in the United States."  Pillsbury contrasted "the glaring difference in approach" by Chittenden County Superior Court Judge Matthew Katz, who last August granted Sherman Hollow a conditional-use zoning permit, and the Environmental Board. He said Katz made an objective effort to examine how such a development would help lessen fiscal and residential development problems Huntington has experienced for many years.
Katz' decision met with cool Continued on page 18

Built like a truck... works like a fleet.

The Cushman Turf-Trackster® is your key to cost-efficient turf care.
You get more mileage out of a Cushman Turf-Trackster because it's not only built to go the distance, it's designed to do more jobs, and do them better. Because no other turf vehicle gives you the rugged versatility of Cushman's exclusive pin-disconnect system.

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Burr set, drag mat, flatbed box, short box, and Power Converter are standard accessories. Add optional live hydraulics and you can add shortbox dumping, flatbed box dumping, the Quiet Aerator, and the Greensaver Aerator.
Optional PTO for the spreader/seeder, Vicon Spreader, Cushman Top Dresser, 100 or 150-Gallon sprayers, hand gun and
Scientist: Pesticide harm overstated

University of Massachusetts Professor Karl H. Deubert, believes much of the uproar over pesticide residue is unfounded and that "proper use of pesticides on golf courses will cause no harm at all to groundwater.

"Modern analytical equipment can detect even smaller amounts" than the 0.01 to 1.0 parts per billion of pesticide residues found in groundwater, he says. "At this level, the accuracy of the quantitative analysis is questionable. "Precautionary measures must be taken by analysts to assure that the data are qualitatively and quantitatively correct."

"Otherwise it can happen that "pesticide residues" are detected in soil samples taken nearly 100 years ago and stored in sealed jars," he said.

"The reason for the excitement about these residue levels is difficult to understand when we may find, in most areas where chlorination is used, up to 1,000 times more chloroform in drinking water (83 ppb U. S. average) than pesticide residues where they are detectable," Deubert says.

He said there is as little proof that these residue levels may be injurious as there is proof that they may not be.

"The word 'pesticide' conjures up all sorts of speculation called potential danger," he said. "This does not mean that pesticides are harmless. In concentrated form, they are as toxic as any other chemical."

He said that Dr. Bruce Ames (who uses Ames' test to determine the potential, carcinogenic hazard of chemicals) suggested to rank carcinogenic hazards according to exposure of humans and carcinogenicity to rodents. Based on Ames' estimates, he said, the possible hazard of PCBs, DDT and EDB ranks lower than that of cooked bacon, peanut butter and beer containing natural, non-synthetic carcinogens, Deubert said.

"Unfortunately, despite the absence of supporting data, the general public believes that cancer in humans is caused by synthetic chemicals, pesticides in particular," he said. "Chemical compounds break down in the ground to simpler compounds. The breakdown process can be slow (such as with plastics and DDT), or it can be rapid (as with most modern pesticides), depending on the nature of the chemical in question. Microorganisms are primarily responsible for the degradation of pesticide residues."

Therefore, they generally break down faster in aerated, warm and most soils with a good supply of organic matter, than in cold, wet and compacted soils without vegetation. For practical purposes, breakdown takes place in and above the root zone.

"Chemicals are intercepted in their movement by soil organic matter and clay. Adsorption on organic matter can be very weak (dicamba) or strong (DDE)."

It stands to reason that weakly adsorbed compounds have a better chance to move in the ground than other compounds."

"Breakdown and adsorption determine the persistence of a chemical," Deubert adds. "Modern pesticides are less persistent (10-16 weeks half-life) than the older ones (up to 8 to 10 years half-life)."

They generally break down or are intercepted by soil organic matter before they have a chance to reach the groundwater table.

"Most pesticide residues in groundwater are found in areas with intensive agricultural production," he says. "Where chemicals are used on a large scale, the root mass is relatively small, and where the groundwater is shallow, contamination may occur.

"To reduce the risk of groundwater contamination, one should use the right chemical in recommended amounts and avoid spills. Users should keep book on any chemicals used, data, amounts, treated area (location and size), for their protection and for the protection of groundwater," Deubert says.

Low spots with high groundwater table may be vulnerable to groundwater contamination, although they not necessarily have to be vulnerable," Deubert says, adding, "Unfortunately, there are no black and white situations."
Western Open at Butler National Golf Course

Trevino came within an ace of losing his life, brush with a lightning bolt during the 1975 help. 

Reluctant players retreat to the clubhouse? When is discretion the better part of valor? When storms threaten events at their golf courses, superintendents, who make the "Play, Stop and Resume" decisions when lightning storms threaten events at their golf courses, can put a call in to modern technology for help.

Since Lee Trevino's highly publicized brush with a lightning bolt during the 1975 Western Open at Butler National Golf Course in Oak Brook, Ill., the danger of lightning bolts has worried players.

When is discretion the better part of valor? When should the ball be picked up and reluctant players retreat to the clubhouse? There was a time when stubborn golfers proceeded at their own risk. The focus has changed in the last decade, strongly influenced by Trevino's searing experience. Trevino came within an ace of losing his life, and playing companions were equally endangered.

Lightning tracking makes courses safer

In the form of R*Scan—a comprehensive satellite system for tracking and communicating cloud-to-ground lightning strokes — science and modern technology have come to the rescue, both for golfers and course operators. With the advent of television and the big bucks it brought to tournaments, came the added need to know the weather in advance. An early-warning system not only may save lives, but could reduce insurance costs and legal liability.

R*Scan Corp., based in Minneapolis, Minn., entered the golf scene dramatically. Its Lightning Data and Information Systems was first used during the 1985 U.S. Open at Oakland Hills Country Club in Birmingham, Mich.

The tournament proved an ideal testing ground. Opening day began pleasantly enough, but by afternoon thunderclouds caused some uneasiness. "Not to worry," came word from R*Scan. By Saturday, the horizon loomed especially dark and ominous. Storm clouds were gathering swifly. Frank Thomas, USGA technical director, repeatedly contacted Dr. Kenneth Bauer, R*Scan's vice president of operations.

"Where's the lightning?" was his nervous inquiry. "Not within 300 miles," was the continued assurance.

Rain poured down in abundance, but the show went on. Andy North slogged through a couple of uncomfortable days for the title and, to the immense relief of presumably worried ABC, a bundle of money was saved through no cancellation of play.

Postponing tournament windup to Monday doesn't please sponsors or soap opera fans.

R*Scan monitored the weather during routine Minnesota golf events in 1986, and during the 1987 and 1988 U.S. Amateur tournaments.

Chris Hague, course superintendent at Hazeltine National Golf Course in Chaska, Minn., says he was "real pleased" with results.

"There was early delay in sounding the 'all clear' signal, but improved technology corrected that," notes Hague. "Forecasting probability of precipitation, tornadoes and lightning is a big help."

Implementing this service on a national basis is not far off, Bauer feels. R*Scan, now operational in a quarter of the country, should blanket the United States by the end of this year. He notes that there are 200,000 to 300,000 cloud-to-ground strokes in a busy 24-hour period. His company logged 250 strokes per minute in one Iowa county, "which is a lot of electricity."

R*Scan is only advisory to the golf course superintendent, who usually wears an alphanumerical pager (beeper) on his hip pocket, and makes the final decision on play.

Science seems to have supplanted eyeball observation on the course. As Bauer observed, "Everybody talks about the weather. While we can't control it, we see our product as a valuable tool to minimize its hazards."

Alerting course management to fast-changing conditions can help warn against outages that could affect such things as office computers and irrigation controllers. "Trevino should rest easier now."

R*Scan Corp. offices are at Minnesota Supercomputer Center, 1200 Washington Ave., South Minneapolis, Minn. 55415-1258.
Architects kept busy

The famed Firestone Country Club complex in Akron, Ohio, soon will sport another 18 holes for a 54-hole total. Architects are Geoffrey S. Cornish and Brian M. Silva, Amherst, Mass.

Cornish and Silva also have these courses under construction either as new layouts or additions: Fiddlers Elbow Country Club in Far Hills, N.J.; The Dashawn GC, Peru, N.Y.; Norton (Mass.) CC; Bradford (Mass.) CC; The Links of Amherst, Amherst, N.H.; Plausawa Valley CC, Pembroke, N.H.; Naticook Landing, Litchfield, N.H.; Perry Hollow Municipal GC; Bethel (Maine) Inn and CC; Bridgton Highlands GC, Bridgton, Maine; and Sable Oaks GC, South Portland, Maine.

Fiddlers Elbow, Norton, Plausawa Valley, Bangor and Bridgton Highlands are nine-hole additions. Norton lists semi-private status, Plausawa Valley is a private member club, Bridgton Highlands daily fee and resort.

Bradford and Naticook Landing will be 18 holes semi-private, while the Links of Amherst will be nine hole exclusive daily fee. Naticook Landing 18 hole semi-private, Shattuck Inn 18 hole daily fee; Perry Hollow 27 hole daily fee; Sable Oaks 18 hole daily fee and resort, and Dashawn 18 hole daily fee.

Byrd building anew

Willard C. Byrd and Associates of Atlanta, Ga., list three new courses: The Southland GC in Tucker, Ga.; Sea Trail Golf Links, Sunset Beach, N.C., and Indigo Creek GC, Myrtle Beach, S.C.

The Southland will be 18 holes and private, Sea Trail and Indigo Creek 18 holes and resort daily fees.

Griffiths has five sites

Denis Griffiths and Associates, Inc. of Norcross, Ga., will provide three new U.S. courses in 1989, plus one in Georgia and one in Japan in 1990.

Chateau Elan GC in Braselton, Ga., is scheduled to open in July as an 18-hole par 71 Golf Digest teaching facility. An additional nine holes are planned. Southside GC in San Antonio, Texas, with 18 holes and par 72, lists a November opening and the Chi Chi Rodriguez Youth Foundation GC in Clearwater, Fla., will list 18 holes and par 69.

Veterans State Park GC in Cordle, Ga., will be a par 72 18-hole setup in 1990, and Sasakami Cayman Golf Park an 18-hole resort course in Sasakami, Japan.

Golf courses part of Lake Nona project

Lake Nona Golf Club and Estate, a large planned urban development in Orlando, Florida, plans over the next 25 years to build a nearly self-contained community, with residential areas, resort hotels, additional recreational amenities — including more 18-hole golf courses — shopping parks and offices.

Lake Nona features an 18-room guest lodge, 40,000-square-foot full-service clubhouse and Tom Fazio-designed championship course.

It will contain about 350 residential units — including golf villas, luxury townhouses and single-family and estate homes.

Tennis, swimming, boating and fishing facilities will be added.

Lake Nona officials say it is attracting avid golfers with annual incomes in excess of $50,000 and a net worth of $3 million plus.

Let Golf Course News, ASGCA know

Beginning with this first issue, Golf Course News — in cooperation with the American Society of Golf Course Architects — will publish news stories on new golf courses being built in the United States.

ASGCA Executive Secretary Paul Fullmer has endorsed the effort and Golf Course News already has received responses from some architects. But the ASGCA and GCN staffs hope for a comprehensive, all-inclusive list of new courses for the information of GCN readers, who include architects, developers and builders, superintendents and suppliers.

Fullmer and Golf Course News are asking people who are planning or have begun construction of new courses, or rebuilding or expanding existing ones, to write to the newspaper.

Golf Course News is particularly interested in:

• The city and state of the course.
• The owner, builder and architect.
• The number of holes and total yards.
• Whether the course is private, daily fee or municipal.
• The target date for completion.
• The type of terrain or any outstanding features of the layout of the course.
• Any other information that might interest the reader.

Send to: Golf Course News, Box 767, Yarmouth, Maine 04096.

NEW COURSES

Pete, P.B. Dye join forces

River Ridge, a new 18-hole par 72 championship golf course, designed by the father-son team of Pete and P.B. Dye, has opened for play at Harbour Ridge, Stuart, Fla. It was the second course designed by the two Dyes that has opened recently — the other being the Cypress course at Palm Beach Polo and Country Club in West Palm Beach, Fla.

The 885-acre golf, tennis and boating community at River Ridge also is home to Golden Marsh, Joe Lee’s 6,297-yard championship layout the American Society of Golf Course Architects recently named one of the six best courses built in Florida since 1982.

River Ridge is 6,312 yards long, and is a perfect complement to Golden Marsh, according to developer John Dodge.

The new Cypress course is a championship test for both low- and high-handicap golfers.

<table>
<thead>
<tr>
<th>Par 5</th>
<th>Members</th>
<th>Masters</th>
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<tbody>
<tr>
<td></td>
<td>435 yds.</td>
<td>465 yds.</td>
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GOLFAX, Ltd., the Ponte Vedra, FL based producer of award winning course guides to many of golf’s finest facilities, produced this illustration for Golf World’s issue “previewing” the Masters® at Augusta National Golf Club. Notice the topographic flow depicted in conjunction with the laser distancing. For members, guests, and spectators, the guide is available at the Pro Shop.

The exclusive graphic and laser techniques allow the player to accurately determine his lie in relationship to the flag and select the best club. We also coordinate our course guides with a line of signage to complement the work of the course architect and the team operating the facility.

Our Club Recruitment Group division also provides a direct link between facilities and the professional ranks of superintendents and PGA members.

GOLFAX can be contacted at 800/888-0903 and at P.O. Box 1173, Ponte Vedra, FL 32082. Prices and samples are provided by contacting Whit McGee at the above.

For Free Information Circle #113
Storage tank law takes effect

Underground storage tanks (USTs) must meet new requirements. The EPA has set financial responsibility standards for owners and operators of buried petroleum and chemical tanks. Owners and operators must ensure that they can cover costs of any leaks from USTs. Costs might include clean-up, damage correction and compensation of third parties for personal and property loss. Golf course owners and operators must show "financial assurance" in the form of at least $1 million in aggregate funds and another $500,000 for each tank. Although the financial rules become effective early in 1989, full compliance will be phased in over a two-year period for smaller businesses.

Wiren says people should learn history, lore

Dr. Gary Wiren, author of a new PGA of America instruction manual, highlights the importance of knowing the history and lore of golf as well as the instructional aspects of the game. "Those who seem to appreciate golf the most and who do so over a lifetime are the ones who not only play the game but also have been immersed in the game's lore." This knowledge, combined with quality instruction, he added, helps make the game more enjoyable. Dr. Wiren challenged PGA professionals to use their skills toward making golf an enjoyable experience.

Vermont

"It is not expected that Sherman Hollow will be a panacea for all of Huntington's economic and growth problems, but it will certainly provide the town with a more promising, a more secure future." the demise of all but five working farms, we are rapidly becoming a bedroom community. With limited small commercial property and no industrial property, the town depends for its tax revenue almost entirely on homeowners and landowners. "It is not expected that Sherman Hollow will be a panacea for all of Huntington's economic and growth problems, but it will certainly provide the town with a more promising, a more secure future than without it," Pillsbury concluded.

For 18 years, the Greensmaster® 3000 from Toro has been delivering an unsurpassed quality of cut. Now you can get that same quality of cut in a new diesel model, the Greensmaster 3000-D. The 3000-D is designed with a smooth 17 hp, liquid-cooled diesel engine for increased power and durability. Just what you need for long hours of use on greens, aprons or even fairways.

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PestCaster new name

Neogen Corp. has renamed its "PestCaster" to "EnviroCaster," says President Jim Herbert. The EnviroCaster has been installed in rapidly increasing numbers of golf courses, farms and orchards around the world. When equipped with appropriate sensors, the field-installed system can monitor, record and evaluate air temperatures, rainfall, degree days, dewpoint, leaf wetness, relative humidity, soil temperatures, solar intensity, wind direction and wind speed.
Courses' environmental self-audit kit ready

An exciting step into the future of golf course management will be unveiled during the International Golf Course Conference and Show at Anaheim, Calif.

William Rogers will detail an environmental self-auditing package that will be made available to golf course superintendents. It has been designed to help courses keep pace and comply with expanding scrutiny by governmental environmental boards and regulations.

Roberts, course superintendent at Lochmoor Club in Grosse Pointe Woods, Mich., and a member of the Golf Course Superintendents Association of America's board of directors, has been field-testing this kit for project sponsors GCSAA and Hall-Kimbrell Environmental Services.

Hall-Kimbrell, whose corporate offices are near GCSAA's national headquarters in Lawrence, Kan., has evaluated, designed and managed projects at more than 3,000 public schools and 150 colleges and universities. Hall-Kimbrell has completed an extensive review of federal and state regulations as they relate to golf course operations.

Outgrowth of that study is a checklist and recommendations, instructional videotape and printed materials for course evaluation.

The kit, which offers users a method to anticipate potential regulatory and legal liabilities, costs GCSAA members $825, non-members $900.

Upon return to Hall-Kimbrell, the self-audit is reviewed by computer through an automated response system. The data sorted, and analysis performed.

The project team then provides a point-by-point compliance appraisal. Results are kept confidential.

Steve Wharton, Hall-Kimbrell project manager, visited courses from Maine to California to determine the environmental problems and needs of superintendents.

Says last October, a dozen courses have been involved in the new program.

Hall-Kimbrell's booth at the Trade Show in Anaheim will provide literature explaining the program and will have a video tape presentation.

Those not ordering the kit at Anaheim may do so through GCSAA Membership Services, 1617 St. Andrews Drive, Lawrence, Kan. 66046.

Vermont

Continued from page 18

extend to Vermont's New England neighbors. Maine lists 13 courses due for expansion or construction, New Hampshire has 10 under construction, and Massachusetts is in the market for 11.

Vermont lags with three courses due for construction or addition in 1989, and possibly three in the planning stage for 1990.

Ski resorts sparked Vermont's biggest golf course boom, in the 1960s and 1970s. New Hampshire now is following that pattern.

"Well over 200" courses are being built annually in the United States, according to figures compiled by leading golf course architect Geoffrey S. Cornish of Amherst, Mass.

Cornish adds that the current 57 Vermont courses (two of which are private) can't accommodate interest from tourists and study how to control.

When they emerge, we evaluate and study how to control," Cornish said.

The National Golf Foundation believes 375 layouts annually will be needed by the year 2,000 to absorb the expected player surge from the current 21.7 million to 30 million.

Up-in-the-air Sherman Hollow may not get off the ground to be part of this progress.

Ann Leslie, EPA chemist who works out of Alexandria, Va., is among those disappointed at the Sherman Hollow impasse.

She had hoped to use that course as one of 10 pilot projects.

However, she said, "We need 10 existing courses. The first year or two, there usually are no pests. When they emerge, we evaluate and study how to control."

Right now, Sherman Hollow's future rests in the hands of nine beleaguered board members.
A golf course for less than $1 million

Hurdzan says site selection crucial for economy courses, and he has proved it

BY KATHY BISSELL

At the November 1988 Golf Summit, created and chaired by the National Golf Foundation, golf’s private research arm, the topic was how to assure that golf — the sport and the industry — would be as healthy in the future as it is today. One of the biggest needs facing all golfers is the demand for courses.

The National Golf Foundation (NGF) has estimated that if both the demand and the number of courses being created stay the same, the United States will have a shortage of 4,478 courses in just 12 years. If tee times are tough to get now, just wait. It’ll get worse.

One reason for the shortfall is the cost of creating a new golf course. It’s a cost that can easily climb into the several millions.

Today’s most heralded courses, like the TPC (The Players Championship) Stadium Golf Course at PGA WEST — or any course by a top name designer — are expensive propositions. Joe Walser Jr., senior vice president of Landmark Land Co. Inc., in La Quinta, Calif., says of the construction cost at The Stadium Golf Course, “I gave (architect) Pete Dye an unlimited budget, and Pete exceeded it.”

Not every golf developer is fortunate enough to have such deep pockets. But it serves as a basis of comparison for Dr. Michael Hurdzan’s stance that a golf course can still be built for around $1 million.

To most, $1 million sounds like a lot. After all, Jack Nicklaus has won just over $5 million in his career. But when it comes to building a golf course, it’s bare bones. Consider, again, the PGA WEST Stadium Golf Course. Earthmoving costs were about $1 a cubic yard. Two million cubic yards of earth were moved to create The Stadium Course. That’s just earth moving; never mind irrigation, planting, cart paths and the rest. The scope of the problem becomes more clear.

However, Hurdzan doesn’t just theorize about his price. He has done it. In places like The Vineyards near Cincinnati, Ohio, which Golf Digest names as one of the best new courses in the United States will have a shortage of 150-160 acres.

An 18-hole golf course needs a minimum of 150-160 acres. Unlike agricultural needs, it doesn’t have to be 100 percent tillable acreage. Ravines, streams, rolling landscapes that would be completely unusable for farming may make an ideal setting for a golf hole. Dye often has said that the first thing he does when he sees a piece of property is to "walk it and discover the four or five or six naturally occurring holes in the land." Then he molds the others around what Nature provided. (However, there are some who believe that Pete and Nature never have been on speaking terms.)

The land must have good drainage. Hurdzan says, "Given a choice between a site that costs $1,500 an acre and needs $1,000 an acre in drainage improvements, or well-drained land that costs $2,000 an acre, the choice should be obvious." He also points out that costs apply to "non-optimal locations," meaning that much of the western United States and popular locations such as Southern California and Arizona will not meet the criteria.

Similarly, sites in South Florida, or other locations where the water table is just below the surface of the soil, can still be built for around $1 million. As Hurdzan cautions, expectations must be balanced with reality.

Here are his guidelines:

- The cost of land is not included in the $1 million construction cost.
- The land must have good drainage.
- The land needs to have good surface topography.

"The land needs to have good surface topography," he adds, "and good water movement. If you have 100 acres and it costs $600,000 an acre to drain it, you have $600,000 in drainage costs. The land needs to have good topsoil, few obstacles — environmental and legal — and irrigation water available.

Finally, assuming a good-to-ideal golf course site in a non-arid region, the possible construction budget aimed at achieving the highest reasonable perceived value for $1 million might look as follows (recognizing that exact amounts may shift between activities depending upon exact site conditions):

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<table>
<thead>
<tr>
<th>Step</th>
<th>Activity</th>
<th>Cost</th>
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<tbody>
<tr>
<td>1.</td>
<td>Mobilization of contractor</td>
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</tr>
<tr>
<td>2.</td>
<td>Clearing</td>
<td>$80,000</td>
</tr>
<tr>
<td>3.</td>
<td>Major drainage (estimate)</td>
<td>$75,000</td>
</tr>
<tr>
<td>4.</td>
<td>Earthmoving</td>
<td>$200,000</td>
</tr>
<tr>
<td>5.</td>
<td>Greens construction (100% sand over tile)</td>
<td>$75,000</td>
</tr>
<tr>
<td>6.</td>
<td>Irrigation and pump (low grade automatic)</td>
<td>$250,000</td>
</tr>
<tr>
<td>7.</td>
<td>Planning</td>
<td>$25,000</td>
</tr>
<tr>
<td>8.</td>
<td>Sand bunkers</td>
<td>$25,000</td>
</tr>
<tr>
<td>9.</td>
<td>Bridge</td>
<td>$5,000</td>
</tr>
<tr>
<td>10.</td>
<td>Cart path</td>
<td>$12,000</td>
</tr>
<tr>
<td>11.</td>
<td>Shelter houses, restrooms etc.</td>
<td>$4,000</td>
</tr>
<tr>
<td>12.</td>
<td>Sodding around bunkers (10,000 sq yd @ $4/sq yd)</td>
<td>$40,000</td>
</tr>
</tbody>
</table>
```

Abbreviations:
- If = linear foot
- sq = square foot
- cu = cubic yard
- ac = acre
- dia = diameter
- lf = linear foot
- sy = square yard
- $/ea = $/each

However, Hurdzan doesn’t just theorize about his price. He has done it. In places like The Vineyards near Cincinnati, Ohio, which Golf Digest names as one of the best new courses in the United States will have a shortage of 150-160 acres.

According to Hurdzan, ‘The more complicated planning or construction problems are tackled, there remains environmental im-

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According to Hurdzan, ‘The more complicated planning or construction problems are tackled, there remains environmental im-

According to Hurdzan, ‘The more complicated planning or construction problems are tackled, there remains environmental im-

Today’s golf course construction planning is not a simple matter. After land acquisition and right-of-way questions have been tackled, there remains environmental impact questions, utility questions, historical designations, zoning changes and more. Creating a golf course takes as much land planning expertise as building a business park or a residential community.

According to Hurdzan, “The more complicated planning or construction problems a site presents, the greater expenditure required to make the site suitable.”

The more complicated planning or construction problems a site presents, the greater expenditure required to make the site suitable.

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FEBRUARY 1989

Question to Michael Hurdzan, former President of the American Society of Golf Course Architects: What line items are you including in your $1 million construction cost?

Response: The main categories of golf course construction budgets and unit costs are as follows:

```
<table>
<thead>
<tr>
<th>Activity</th>
<th>Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree clearing, thinning, &amp; disposal</td>
<td>Low $1,200/ac High $3,000/ac</td>
</tr>
<tr>
<td>Major drainage structures</td>
<td>$1/dia/lf $2/dia/lf</td>
</tr>
<tr>
<td>Earthmoving</td>
<td>$3/cy</td>
</tr>
<tr>
<td>Irrigation</td>
<td>$2/cy</td>
</tr>
<tr>
<td>Golf green construction</td>
<td>$5/lf</td>
</tr>
<tr>
<td>Irrigation</td>
<td>$450/lf $750/lf</td>
</tr>
<tr>
<td>Pumps</td>
<td>$75,000 $200,000</td>
</tr>
<tr>
<td>Planting bed prep. &amp; planting</td>
<td>$1,500/ac $3,000/ac</td>
</tr>
<tr>
<td>Sand bunkers</td>
<td>$1/lf</td>
</tr>
<tr>
<td>Cart paths (8' wide)</td>
<td>$1/aggregate stone $4/lf</td>
</tr>
<tr>
<td></td>
<td>$1/Asphalt $3/lf</td>
</tr>
<tr>
<td></td>
<td>$1/cement $16/lf</td>
</tr>
<tr>
<td></td>
<td>$5/bridge $25,000/ea</td>
</tr>
<tr>
<td></td>
<td>$2/shelter houses, restrooms etc. $50,000/ea</td>
</tr>
<tr>
<td></td>
<td>$3/rock removal $25/lf</td>
</tr>
<tr>
<td></td>
<td>$2/sodding $6/lf</td>
</tr>
<tr>
<td></td>
<td>$8/landscaping $50,000/ea</td>
</tr>
</tbody>
</table>
```

Abbreviations:
- LF = linear foot
- SQ = square foot
- CU = cubic yard

UNIT COST

If you have questions or comments about the above information, please contact Michael Hurdzan. He may be reached by calling 1-800-857-HAHN (1-800-857-4226).
If a golf course is well designed and built, you should be able to get 40,000 rounds per year out of it. At $15 per round for fees, plus whatever you get for carts and the shop, you can probably gross a million dollars a year."

--- Michael Hurdzan

Kiddell's partner in golf course design.

"Three years ago, Jack was nearing the age of 70 and sold the interest to me," Hurdzan explains.

Most Kiddell-Hurdzan business has been from city, county, state and governmental agencies, though in recent years they have seen an upswing in the private investors who want a golf course built.

"About 60 percent of our work now comes from governmental agencies and 40 percent from country clubs and daily fee type courses. Of the 40 percent, probably 10-15 percent is daily fee and 10 percent is country club, with the rest housing or resort. They have 35 courses in some stage of construction at present."

"We have the strongest demand right now from daily fee, privately owned and publicly owned courses. But when the economy turns around, the private investors are gone. The government built golf courses even during the Depression. They have a recreational imperative to meet. And golf courses make money."

Hurdzan's courses stretch from Kansas to Massachusetts and from Toronto to Georgia. Most of his business falls east of the Mississippi. "Just because we have built courses for low budgets doesn't mean it's the only kind of work we do. If you give us $4 million, we'll build a world class golf course. Right now, we might not be famous, but we help people make money. We've been in business a long time. We try to be competitive, but we think our work compares with anybody's."
Meetings of interest to golf course superintendents, builders, developers, architects and Greens Committee chairmen:

**FEBRUARY**

- **6-13** - 60th Annual International Golf Course Conference and Show, conducted by the Golf Course Superintendents Association of America at Anaheim, Calif., Convention Center. (See pages 28-32 for details.) *
- **7** - Mid-Florida Turfgrass Annual Conference at Seminole Community College, Sanford, Fla. Contact Uday R. Yadav, University of Florida Cooperative Extension Service, 250 W. County Home Road, Sanford 32773; telephone (407) 323-2500, ext. 182.
- **16-17** - 20th Annual International Erosion Control Association Conference & Exposition at Pan Pacific Hotel, Vancouver, British Columbia, Canada. Contact Ben Northcutt, IECA executive director, P.O. Box 4904, Steamboat Springs, Colo. 80477; telephone (303) 879-3010.
- **21-23** - Western Pennsylvania Turf Conference & Trade Show at Pittsburgh Expo Mart/Radisson Hotel, Monroeville, Pa. Contact Dr. Thomas Watschke, Department of Agronomy, 405 Agricultural Administration Building, Penn State University, University Park, Pa. 16802; telephone (814) 863-1613 or Pennsylvania Turfgrass Council, P.O. Box 417, Bellefonte, Pa. 16823-0417; telephone (814) 355-8810.
- **21-17** - 200th Annual International Erosion Control Association Conference & Exposition at Pan Pacific Hotel, Vancouver, British Columbia, Canada. Contact Ben Northcutt, IECA executive director, P.O. Box 4904, Steamboat Springs, Colo. 80477; telephone (303) 879-3010.

**MARCH**

- **1-2** - Golf Course Renovation, Restoration and Construction Projects seminar, conducted in Cincinnati, Ohio. *
- **6-7** - Golf Course Construction Techniques and Management, seminar conducted in King of Prussia, Pa. *
- **7** - Budgeting and Forecasting seminar.
- **8** - Biology of Turfgrass Soils seminar, conducted in Bozeman, Mont. *
- **9-10** - Insects on Turf, Trees and Shrubs: Principles of Control, seminar conducted in New Brunswick, N.J. *
- **13-14** - Disease Identification and Control, seminar in Brooklyn Park, Minn. *
- **14** - USGA Green Section Conference, Chevy Chase (Md.) Country Club. Contact Jim Snow or Eric Shiel at (201) 234-2300 or Stanley Zontek (215) 696-4747.
- **16** - USGA Green Section Conference, Sleepy Hollow CC, Scarborough, N.Y. Contact Jim Snow or Eric Shiel at (201) 234-2300 or Stanley Zontek (215) 696-4747.
- **21** - USGA Green Section Conference, Ramkota Hotel and Conference Center, Sioux Falls, S.D. Contact James A. Farrell, P.O. Box 616, Crystal Lake, Ill. 60014; (815) 459-5590.
- **20-21** - Introduction to Soil Science seminar, conducted in Sioux City, Iowa. *
- **23-24** - Plant Nutrition and Fertilizers seminar, conducted in Milwaukee, Wis. *
- **28** - Golf Course Safety, Security and Risk Management seminar, conducted in St. Louis, Mo. *
- **29** - USGA Green Section Conference, Weston (Mass.) CC. Contact Jim Snow or Eric Shiel at (201) 234-2300 or Stanley Zontek (215) 696-4747.

**APRIL**

- **1-6** - American Society of Golf Course Architects annual meeting at Pinehurst (N.C.) Hotel. (See story pages 7 and 8.)
- **13-14** - Plant Nutrition and Fertilizers seminar, conducted in Palm Springs, Calif. *
- **17** - Golf Course Safety, Security and Risk Management seminar, conducted in Washington, D. C. *
- **20-21** - Introduction to Soil Science seminar, conducted in Sioux City, Iowa. *
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VFD a cost-saving investment

Pump system already has paid off for some course superintendents

BY KEVIN T. KNIGHT

As supervisor of four landmark land golf courses in Rancho Mirage, Calif., Wayne Conrad knew a problem when he saw one and he saw a big one. Power costs for irrigating just one of the smaller courses at Mission Hills Country Club were exceeding $100,000 annually.

"I felt that our pump station was the problem," Conrad said. "It was a really inefficient conventional system that used a pressure-reducing valve. After looking at all our options, we decided to replace it with a VFD pump system.

Unlike conventional systems that use a pressure-reducing valve, VFD (variable frequency drive) pump systems use solid-state electronics to precisely control pump motor speeds. This regulates pressure exactly, reduces maintenance, virtually eliminates line surge and harmful cycling of pump motors, and produces significant power savings.

In the first month after converting to a VFD system, Mission Hills saved $8,000 in power costs.

In a similar situation, Indian Hills golf course near Kansas City, Kan., had an inefficient conventional system that was wasting energy and having difficulty maintaining water pressure. Since installing a new VFD system in April 1988, the course has been pumping twice as much water for 30 percent fewer kilowatt hours, said course superintendent Ed Huggins.

"With this VFD system, the pump only comes on when it registers a flow," said Huggins. "If we turn on one hose, the pump only runs fast enough to maintain pressure for that flow. If we turn on two heads, then it adjusts accordingly. Unlike our old system, this doesn't take too much water out of the main and suck it dry."

Indian Hills' Greens Chairman Jack Robison believes VFD systems are inherently more efficient than conventional alternatives.

"For quite some time I've felt that VFD pumps are the way to go for golf courses," said Robison, an industry veteran with more than 25 years experience in irrigation systems. "Unless you need a conventional system that always requires a pump's maximum output, then a VFD system, in my opinion, is the way to go."

Two companies at the forefront of VFD technology are Best Equipment, Addison, Texas, and Western Pumping Systems of Chandler, Ariz.

According to Dave Brockway, senior sales engineer at Best Equipment, VFD systems are the wave of the future.

"Golf course superintendents and accountants both benefit from VFD technology," Brockway said. "These systems have been shown to reduce energy costs up to 40 percent and require minimal maintenance since they're computer-controlled. In fact, a single system can be programmed to serve several different irrigation systems at one location, eliminating the need for costly, additional pump stations.

"We've also learned that if our systems are properly installed and work well from the beginning, they will hum right along, virtually problem-free."

The price to pay for those benefits can cost from 10 to 30 percent more than conventional alternatives. Yet, according to Tom Olson, pumping/agricultural representative for Southern California Edison, that cost difference can often be recovered in power savings within six months.

"The price of these systems is coming down as demand for them goes up," Olson said. "Four years ago a VFD system cost approximately $400 more per horsepower than a conventional system. Now they're only $200 more expensive per horsepower. Of course, you don't have to put a VFD on every motor because there's quite a bit of flexibility in designing these systems."

Last year Southern California Edison was so impressed with the power savings VFD systems offer that the company rebated $50 for each horsepower in a VFD system. Thus a 60-horsepower VFD system produced a $3,000 rebate.

Some concern has been expressed that VFD systems are more difficult to service than conventional systems. While it is true that there are more technicians available for conventional systems, the proved reliability of VFD systems appears to have helped calm many fears.

"We originally thought VFD systems would be more difficult to service but when you think about it, there's nothing really easy about servicing a conventional system," said Roger Gordon, president of Gordon's Irrigation Consulting in Laguna Hills, Calif. "I think conventional systems get out of adjustment more often. That doesn't seem to be much of a problem with this new technology.

According to Brockway of Best Equipment, golf courses that can benefit most quickly from VFD technology are those with high energy costs, high maintenance costs, variable water pressures or different irrigation requirements at one location. Brockway also advises working with a manufacturer or consultant experienced in VFD technology.

"I feel that if you go against VFD technology, it's like trying to hold back the tide," said Gordon. "People need power and cost savings right now and it's almost unpatriotic to use more than you require. I'm convinced that VFD technology provides a substantial savings, not just a small one. It's a quantum leap forward."

VFD Power Savings: A Case Study

A six-month study at Indian Hills County Club in Kansas showed a 54% power savings using VFD technology. True savings are much greater, however, because the new VFD pump system has also boosted pressure 60% more than the conventional system.

Data courtesy of Best Equipment, Addison, Texas.
Green Section

Continued from page one

Director William Bengyfield, who has spearheaded the section, its staff of agronomists and its high-powered research funding mechanism since February 1982.

"The strength of an organization comes from the top and Bill has been at the top for a long time," Farmer said. "We hope he'll be doing it for a long time in the future as well. Bill is the perfect mix of knowledgeable agronomist and pragmatic goals-oriented accomplisher.

The USGA Green Section is "always pleased and proud when other organizations recognize its contributions," Farmer said. He said that while golf clubs feel the "immediate impact" of the Green Section when its agronomists visit the golf courses to offer expert help, "the results of the research come in very subtle ways; sometimes the grass seeds do a lot better and no one realizes that that is because of research done a couple of years ago through the Green Section." Farmer said the Green Section's Turfgrass Advisory Service, which has been offered since the organization was founded in 1921, sent agronomists on more than 1,000 visits to give advice to golf superintendents in the last year.

The Green Section's massive turfgrass effort, started in 1983, will have spent almost $3 million on 16 research projects at 12 locations by the end of this year, he said. This research has been supported at 33 experiment stations and universities throughout the United States.

One project is being supported in New Zealand and the Green Section has been involved in projects in the Far East and Europe. Meanwhile, it has created a clearhouse for turfgrass research in the computer system at Michigan State University.

More than 14,000 bibliographic data references on turfgrass research and general turfgrass information are "as close as your computer," Farmer said. By calling 517-353-7200 on his computer a superintendent can tap into studies and research published worldwide.

"Nowhere is this information more evident than in one place in the entire world," Farmer said.

This is the first year the Builders Association has presented the award to an institution instead of an individual. Golf Course Builders President Don Rossi said his organization is honoring the Green Section for "the work they have done in turf research and management and for letting the world know that golf courses are not a problem in the United States."

The USGA has mandated the Green Section to "assist its members in their greening problems."

It states the Green Section's purpose is "to develop and disseminate information and knowledge about turf management and especially as it relates to golf courses."

In order to accomplish this purpose the Green Section shall engage in service to members, both direct and indirect: promotion and development of turf research; cooperation with the U.S. Department of Agriculture and other turf interests; encouragement and cooperation with Extension Service activities and field services; development of trained workers in turf management, and coordination of information relating to turf management."

Rossi also pointed to Bengyfield's leadership in directing the Green Section's national program and its 10 agronomists, supervising championship course preparation and editing the Greens Record.

Bengyfield joined the USGA staff in 1951 and served as agronomist and western director of the Green Section until 1978 when he became director of golf courses and park maintenance at Industry Hills Golf Course in Industry, Calif.

Bengyfield rejoined the USGA staff in October 1981, and in February 1982 was made national director.

Bengyfield feels much of the credit for his staff's accomplishments belongs to Farmer, who was a member of the Green Section committee from 1983-87 and chaired it from 1985-87.

"Marion Farmer helped pioneer the turfgrass research the USGA has done," Bengyfield said.

He explained that Farmer was instrumental in raising more than $3 million for Greens Section turfgrass research.

Bengyfield called the Builders Association award "a very, very wonderful distinction to receive from such an organization."

Farmer, a retired Los Angeles businessman, served on the USGA board of directors from 1983-87 and chaired the Green Section during that time.

Farmer is a member and past president of the Bel Air Country Club in Los Angeles and long active with the Southern California Golf Association, serving on its board of directors.

Buzz Taylor of Jupiter Hills, Fla., is the current chairman of the Green Section Committee but can not attend the banquet, which will be preceded by a 7 p.m. reception.
Fred Haas stands on his Mod-Sod "The Modern Grass" cart path on the first hole of Palmer's Jeremy Ranch Golf Club, Salt Lake City.

For instance, the greatest time-waster with carts under the 90-degree format that most courses employ is the practice of hewing to the edge of fairway or rough until it's time to proceed to the ball. How about pursuing a path almost "straight down the middle" from tee to green? Haas asks.

A group from Hobe Sound, Fla., recently broached the subject to Haas.

"We're mostly senior players, straight but not too long off the tee. We seldom stray from the fairway, and if we didn't have the mandatory back-and-forth cart shuttle from rough to ball to rough, we could make excellent time," they reasoned.

Driving a conveniently connected line from tee parking area to green fringe, no-nonsense seniors would go around much more quickly.

The to-and-fro pattern proved almost too much for one Colorado course. When conditions are right, women can be more than a match for men in playing time. However, the combination of hugging the rough after a 150-yard shot, a 125-yard walk to the ball (a repeat process on a 400-yard hole) and another 75-yard walk back to the cart after holing out proved too taxing. Walking included scaling a few mounds. Colorado's terrain isn't the flattest.

Some women foursomes were taking almost seven hours for 18 holes, observed out-of-patience standout senior player Betty O'Brien of Denver.

That's harmful to course economic health as well as tempers.

Walkways, breezeways andappings for wooden bridges are economic health as well as tempers.

Walkways, breezeways and coverings for wooden bridges are other fringe golf course uses. A wooden walkway at the PGA National course at Palm Beach Gardens, Fla., from the pro shop to the putting green, four years ago was crumbling under constant contact with golf spikes. Mod-Sod was installed and, according to Haas, is holding up beautifully.

Sand traps are another area receiving close scrutiny by Haas.

Six inches of sand atop a Mod-Sod base should do the job," declares Haas. "Sand won't be lost. New sand is terrible to play out of, and is expensive."

Chipping areas around practice greens can take a beating and are prime Mod-Sod targets. Also on Haas' drawing board are three-hole courses for beginners and the not-too-serious player.

"Cost would be $1 (for three holes), $3 for nine holes," Haas said. "That would make the game affordable for the average wage earner who might have eyed golf as recreation but hesitated because of the price tag."

Gene Sarazen, former Masters champion and for a half-century prominent in game development, has Haas' speedup concept. The Connecticut Squire thinks strategic Mod-Sod installation would lessen current exasperating times from 30 to 45 minutes.

Julius Boros, another Nutmeg State native in Sarazen's swift playing vein, backs any device that would cut course time.

Florida-based Boros long has shaken his head at the "Snowbirds," as the Northerners who flee winter's harsh grip are labeled. Their habit often is to drive the golf cart from one side of the fairway to the other. Sometimes by the time they've made it to the 16th or 17th hole, they've run out of gas.

Boros daily would place extra carts at these locations. It saved a lot of calls to the pro shop or maintenance shack and avoided the possibility of disgruntled guests trudging to the clubhouse. A more direct route from tee to green is preferable, so it's understandable that Boros would line up behind Haas' idea.

Haas feels Mod-Sod is the answer to demand by younger, stronger tournament-minded players for "Tiger Tees." This means driving from the extreme length of the course. The game's bombers like to "let out the shaft" and still have more than a half-wedge shot to the green.

Installation of a 4-by-6-foot Mod-Sod piece for $250 would serve the "playing from the tips" purpose and would pose no maintenance problem.

While Haas' product seems to have found favor with the game's veterans and likely will be considered carefully by course developers as golf expands, his pitch for conversion to Mod-Sod greens nationwide has brought a "Go Slow" approach. Dr. Glenn Burton, the U.S. Department of Agriculture's research geneticist at the Coastal Plain Experiment Station, in Tifton, Ga., is among the skeptics. He questions satisfactory use of artificial turf as greens. "It's hard to duplicate Nature," said Burton.

In his 53 years with USDA, Burton has witnessed many failed attempts to modify bent grass. He noted that, even with the climate advantage in Georgia, compared to Florida, experiments and tests met with little success.

Haas isn't discouraged, though. He believes his venture will mushroom with proper financing, that maintenance reduction by 50 to 75 percent is a major factor, and that the substitute soil carpet which requires so little care, yet plays like dry bent grass, is another strong selling point.

Ron Edgecomb is weighing Mod-Sod installation at his 18-hole par 3 Westerly Winds course in Westbrook, Maine. This type course traditionally takes a beating from largely game beginners.
Hyundai

Continued from page 1

on as scheduled and Hyundai officials in Seoul, Korea, and the United States are working on the legal steps. Cho said the carts will be manufactured in Korea. He said the Hyundai cart will be three-wheeled and gas-powered. He said it was "difficult to say" the price of the carts but they "will be no much different than other golf carts."

Asked his firm's distribution plans for the new product, Cho said Hyundai "would like to set up dealerships." Hyundai is not a newcomer to golf cart production, having made carts for other firms in Europe and Asia.

It will be the third foreign firm manufacturing golf carts for sale in the United States. Yamaha Motor Corp. U.S.A. is Japanese and Honda is Polish.

E-Z-GO, Club Car and Columbia Golf Car are the other manufacturers, and it is difficult to project the reaction of these companies to another competitor in a market where an estimated 110,000 units are sold in the United States each year. "I really don't know what will happen. I've never dealt against Koreans in this particular marketplace," said John English, director of marketing for Columbia in Madison, Wis. "There's always a lot of rumors in the golf cart industry. We've heard about different players getting into the industry, but there's not a whole lot you can do about what your competition does."

Still, competitors must wait and see how Hyundai will market its cart and what styles and options it will produce.

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FEBRUARY 1989

Green Section plans sessions

Superintendents in the USGA Green Section’s Mid-Continent area plan regional conferences March 9 at Cherry Hills Country Club in St. Louis, Mo., and March 21 at Runnymede Hotel and Conference Center, Sioux Falls S.D. Information will be offered on a wide range of turfgrass and golf management topics.

The conferences are open to superintendents, golf professionals, club managers, owners and operators of daily fee facilities and golf-related groups.

Nat'l experts set to speak

Experts from coast to coast will speak at the Maine Turfgrass Conference and Show on March 27-28 at Holiday Inn Downtown in Portland, sponsored by the Maine Golf Course Superintendents Association.

Ron Hall, golf course construction contractor in Seattle, Wash., will address the first day session. Nick Christians, professor of turfgrass science at Iowa State University, will speak at both morning and afternoon sessions the opening day.

William Roberts, chairman of the Golf Course Superintendents Association of America’s Government Relations Committee and superintendent at Lochmoor Club in Groves, Pointe Woods, Mich., will speak the second day. Sherwood Moore of Amherst, Mass., and Professor Richard Skogey of the University of Rhode Island, who will both be honored by the GCSAA in February, New York, will also speak, along with Houston B. Couch, professor of turfgrass pathology at Virginia Polytechnic Institute, Blacksburg, Va.; architect Steven Kay of Purchase, N.Y.; Rich Minter of Storrs, Conn.; Ed Correia of Greenland, N.H., and meteorologist Lou McNally of South Portland.

Henry Jennings of the Maine Board of Environmental Control in Augusta, Jim Connolly of the United States Golf Association in Far Hills, N.J., Couch and Roberts complete the conference’s speakers the second day.

Three can hit in golf cage

A three-man Golf Cage, called the "Big Hitter," has been designed to give three golfers adequate space to safely hit woods and irons.

25 Gold Medal Recreational Products, Blue Mountain Industries, of Blue Mountain, Ala., is making the weatherproof knotless nylon setting cages so that their panels are individually replaceable without dismantling the cage.

The double baffle receiving net eliminates rebound. Support posts can't be hit with a driven ball and the cage has a spectator protective net as well as wing nets on forward support cables.
ON THE MOVE

McCumber names Haglund

Norman Haglund has been appointed director of golf for the Golf Management Division of McCumber Golf, with primary responsibilities for the Ravines Golf and Country Club in Middleburg, Fla. Mark R. McCumber of the Middleburg golf course architectural, design and golf-related management consulting firm said Haglund, 35, a Mulberry, Fla., resident and a Class A PGA golf professional, had been director of golf at Imperial Lakes Country Club in Lakeland, Fla., and Sun 'n Lake Golf & Country Club in Sebring, Fla.

The Ravines GCC is a 450-acre residential community located 15 miles south of Interstate 295 in Middleburg, near Jacksonville. McCumber hopes to position Ravines as the premier regional location for high-level corporate golf outings as well as a site for small to mid-size corporate retreats that might incorporate a golf outing.

Hueber leaves NGF

David B. Hueber, who for five years led the National Golf Foundation as president and chief executive officer, resigned on Feb. 3 to join Ben Hogan Co. as executive vice president. NGF Executive Vice President Dr. Joseph Beditz has assumed Hueber's duties until a replacement is found...

NGF board Chairman Dr. John Jepson cited Hueber for giving the NGF focus. "I leave the foundation in good hands with every confidence that it will con time to develop and grow," Hueber said.

Forest Ridge picks Babe

John Babe, former assistant golf course superintendent at Tulsa, Okla.'s Southern Hills Country Club, has been named superintendent at the new Forest Ridge Golf Club being built in Broken Arrow. Babe worked eight years with Southern Hills and three with Quail Creek CC in Oklahoma City. Developer Joe Robson said Babe "comes from a program recognized as one of the top 10 in the U.S. and it is our goal to have the type of... operation comparable to any private club in the area."

Hill promoted at Kubota

Robert J. Hill of El Toro, Calif., has been promoted to the position of director of marketing for Kubota Tractor Corp., according to company President S. Egusa. Hill has served as Kubota's product manager of tractors for 1 1/2 years and will now be responsible for the four product sales groups, product planning, market share and marketing support programs including advertising and public relations.

A Winnipeg, Canada, native, Hill was previously employed by Deutz-Allis, where he held various sales management positions within the United States.

Clark named sales manager

Donald N. Clark has been appointed national sales and marketing manager for the Service Parts division of Power Lawnmower Parts, Inc., Rochester, N.Y. Power Lawnmower Parts manufactures and supplies packaged and bulk replacement parts and accessories for the outdoor power equipment industry.

Fore selected

Fore Golf, Inc. has been selected as the new management company for The Plantation's golf course in Leesburg, Fla. Fore Golf built the first nine holes of the 18-hole, par 72 course.

The choice is yours. Whether your customers need season-long preemergence weed control by itself or on fertilizer from leading formulators, Team fits.

Either way, you can control crabgrass and goosegrass season-long with just one application. Or even a split application, if need be, to better fit your program.

Team granular also fits your high standards of annual grass weed control. University tests show it's outstanding. Team gets to the ground and stays put to form a zone of protection that keeps weeds out all season long.

And Team does all this without hurting your turf, including sensitive bentgrass.

So, spread it straight in granular form. Or spread it on fertilizer available from leading formulators. Team fits your program. See your Elanco representative. Or call toll-free: 1-800-352-6776.

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A Division of Eli Lilly and Company
Lilly Corporate Center
Dept. E-455, Indianapolis, IN 46285, U.S.A.

Refer to Team label for complete use directions.
Hard-hitting issues, educational classes

No other event in golf — certainly none geared toward golf course superintendents — approaches the Golf Course Superintendents Association of America's annual convention, says outgoing GCSAA President John A. Segui.

Segui said from his Philadelphia office that education "affects a lot of different people in the golf industry, in the green industry as a matter of fact, and they look forward to attending the GCSAA meeting each year."

This year, one- and two-day seminars, forums on current issues, awards presentations and a trade show will highlight the 60th Annual International Golf Course Conference and Show, Feb. 6-13, at Anaheim. Carefully. But most importantly, look at the percentage of Water Insoluble Nitrogen. The higher the WIN percentage, the longer your turf will remain green. And the less often you will have to fertilize. That's because WIN is the percentage of total Nitrogen that is truly slow release. Freeing small amounts of Nitrogen each time it's touched by water (Par Ex® with IBDU®) or activated by temperature or bacterial action (competitive products).

No competitor can deliver as much usable WIN as Par Ex. Only Par Ex contains IBDU—a unique Water Insoluble Nitrogen source that is 100% available to your turf in a single growing season. Consider that urea formaldehyde products (bacteria and temperature released) contain about one third of their WIN in the form of plastic polymers. Its long-term Nitrogen release is so slow, it's almost useless, and will most likely occur during the hottest periods, just when you don't want it.

Sulfur Coated Urea (SCU), research has shown that by the time it is spread, about 50% is immediately soluble, effectively doubling your cost of controlled-release Nitrogen and cutting the benefit in half!

**Be sure to read your bag.**

If the percentage of Water Insoluble Nitrogen isn't listed, there isn't any slow-release Nitrogen. If it is listed, chances are it won't be as high as the WIN percentage in Par Ex. Even if it is, we guarantee you that 100% of what we list as WIN is available to your turf every growing season. That means for every six months of growing, you'll receive an additional 46-53% more usable WIN than our competitors can deliver.

So start building your WIN percentage today. Talk to your local Par Ex Representative or call 813/294-2567. And get all the WIN you've been reading about.

Par Ex and IBDU® are registered trademarks of Vigoro Industries, Inc., P.O. Box 512, Winter Haven, FL 33882. ProTurf is a registered trademark of the IBDU® or activated by temperature or bacterial action (competitive products).

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overs a — a luncheon for superintendents from Great Britain, Japan, Germany, Taiwan, Scotland, Australia and South America "coming to see the greatest show in turf.

And it's our way of welcoming them and letting them know that they are part of the golf course industry just as much as we are," he said.

A master schedule follows:

MONDAY, FEB. 6
GCCAA Golf Championship at LaQuinta Hotel Golf & Tennis Resort at Mission Hills Country Club and PGA WEST in Palm Desert, Calif.

7 a.m. — Check-in and seminar registration at Wyndham Hotel.
8 a.m. — Monday-Tuesday two-day seminars:
• "Basic Principles of Turfgrass Management," presented by Iowa State University horticulture Professor Nick Christians, Ph.D.
• "Golf Course Design Principles," taught by architects Geoffrey S. Cornish and Robert Muir Graves.
• "Introduction to Soil Science," taught by Kansas State University soil science Professor Steve J. Thien, Ph.D.
• "Introduction to Surveying," taught by civil engineering Professor Thomas E. Mulinazzi of the University of Kansas.
• "Irrigation Part I: Equipment and Technology," presented by golf course irrigation consultant David D. Davis and Toro Co. Product Application Manager C. William Speelman.
• "Managerial Productivity," taught by George P. Warner, owner and current regional sales manager of O.M. Scott and Sons.
• "Plant Nutrition and Fertilizers," presented by University of Georgia turfgrass science Associate Professor Robert N. Carrow, Ph.D., and Michigan State University turfgrass management Professor Paul E. Rieke, Ph.D.

Noon — Seminar luncheon.

TUESDAY, FEB. 7
7 a.m. — Check-in and registration for seminars.
8 a.m.-5 p.m. — Monday-Tuesday two-day seminars continue.
8 a.m.-5 p.m. — One-day seminars:
• "Effective Business Writing," taught by freelance writer Andrea Warren.
• "Familiarization with Accounting Procedures," presented by accountant and tax consultant Garth J. Terlizzi of Private Ledger Inc.
• "Negotiating," emphasizing employment contracts and presented by attorney Charles F. Garth J. Terlizzi of Private Ledger Inc.
• "Insects on Turf, Trees and Shrubs: Principles of Control," taught by Ohio State University entomology Professor David G. Nielson and Harry D. Niemczyk.
• "Landscape Plant Materials," taught by Clemson University horticulturalist and landscape architect R. Gordon Hallace, Ph.D., and Ohio State University landscape horticulture Professor Jeffrey Kranz, Ph.D.

Noon — Seminar luncheon.

WEDNESDAY, FEB. 8
7 a.m. — Check-in and registration.
8 a.m.-5 p.m. — Tuesday-Wednesday two-day seminars continue.

8 a.m.-5 p.m. — One-day seminars:
• "Calculations and Practical Mathematics for Use in Turfgrass Management," presented by University of Kansas civil engineering Professor James B. Beard, Ph.D., and current regional sales manager of O.M. Scott and Sons.

Noon — Seminar luncheon.

If you think advances in greensmower technology have leveled off, prepare to take off. The Bunton triplex is not only new, it's better. We started with fresh ideas and state-of-the-art technology and developed a truly well-engineered machine where every feature produces performance.

STARTING WITH FRESH IDEAS MEANT THE END TO COMPROMISES.

The Bunton triplex is light on its feet, yet heavy-duty in construction. Until now every greensmower ever built was a compromise designed to keep total machine weight down, to reduce turf compaction, at the expense of heavy-duty construction. Rather than striving to reduce total machine weight, our engineers concerned themselves with the pressure actually transferred to the surface. The result is more durable components that improve cutting performance. That means better greens surfaces... and for a longer time.

THE SOLUTION TO TRADITIONAL GREENSMOWER PROBLEMS.

We started by putting weight where it does some good. Our larger reel motors and counterweights sit solidly on the playing surface to eliminate bounce and produce a truer, more consistent cut. The unique traction wheel design allows more tire surface area to meet the green, to keep ground surface pressure low. Interchangeable parts keep inventories low and maintenance simple. Better performance results from a true hydrostatic transmission and dynamic braking, welded steel frame construction, extra oil filters, independent reel operation, standard backlapping, and a powerful 18 hp Onan engine or optional 16.5 hp Kubota diesel.

And if that isn't enough, Bunton offers standard what others have as add-ons. With Bunton, what you demo, is what you get. And at a competitive price.

Call or write today for more information and a demonstration.

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Louisville, KY 40232
Phone: 502-966-6550 • Telex: 204-340
Fax: 502-966-6564 • Telec: 204-340
Conference

From page 29

THURSDAY, FEB. 9
7 a.m. — Scholarship and Research Committee meeting and interviews.

7 a.m. — Check-in and seminar registration.

8 a.m.-5 p.m. — Wednesday-Thursday two-day seminars continue.

8 a.m.-5 p.m. — One-day seminars begin:

- "Biology of Turfgrass Soils," taught by The Lawn Institute Executive Director Eliot C. Roberts, Ph.D.

- "Cardiopulmonary Resuscitation," taught by the Orange County Chapter of the American Red Cross.

- "Certification Examination Study Guidelines," with instructors including Dr. Nick Christians of Iowa State University, Linda and Dr. Ted Roselius of Colorado State University and the USGA's Ronald Read.


- "Introduction to Computers in Golf Course Management," taught by Rod McWhirter, golf manager with Rainbird Sales, and Richard Silvinski, a consultant with Leisure Time.

11 a.m. — Registration opens.

11:30 a.m. — Past presidents hold luncheon meeting.

Noon — Seminar luncheon.

2 p.m. — International hospitality room opens.

5:15 p.m. — Opening session and reception.

Bob Drum of "The Drummer's Beat" fame on CBS Sports' coverage of golfing events will speak at the opening session at the Anaheim Marriott Hotel. Drum, who has co-authored three books with Arnold Palmer, has consulted for golf tournaments throughout the United States and spoken at many sports banquets nationwide.

FRIDAY, FEB. 10
7:30 a.m. — Registration opens.

8:30 a.m.- noon — Concurrent educational sessions:

- Environmental and Regula-

Keep your fairways looking great.
Golfers love to play on beautiful fairways. It's that simple. Which is why it's so important to keep your course in top shape. That means controlling diseases like dollar spot and anthracnose. And that means a program using BAYLETON®, fungicide.

BAYLETON is taking care of more and more beautiful fairways because more superintendents are discovering how long it lasts. How much they save in application costs by making fewer applications. And how good it makes them and their fairways look.

BAYLETON. Because golfers play favorites. For more information, contact Mobay Corporation, Specialty Products Group, Box 4913, Kansas City, MO 64120.

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Families offered tours, seminars

Trips, cruises and seminars — with topics ranging from the serious ("The Superintendent's Wife: Life Issues") to the comic ("Humor Power") — will spice the days for spouses and children at the 60th International Golf Course Conference and Show in Anaheim, Calif.

Using the Anaheim Hilton as a meeting place, the Spouse Program will start Friday, Feb. 10, and continue through Tuesday, Feb. 13.

The Spouse Program Activity Center will open at 8 a.m. each day and the $2 tickets will be available at the center. Meanwhile, most of the action will take place elsewhere, including:

- A Universal Studios tour and lunch from 9:30 a.m. to 4:30 p.m. Friday.
- Four tours Saturday: a Newport Beach cruise and shopping at Lido Marina Village from 9 a.m. to 3 p.m.; a trip to San Juan Capistrano and to Laguna Beach with its art galleries, studios and boutiques from 9:30 to 3:30; tour of Howard Hughes' Spruce Goose plane and the Queen Mary at Long Beach Harbor from 10:10 a.m.; and a trip to the Spanish gardens at L ray's California Center and the Huntington Museum, Gardens and Library in San Marino from 10:30 a.m. to 4:30 p.m.
- A whale-watching cruise, for an additional fee, from 8 a.m. to noon Sunday.
- A Circus Party for children, at an additional fee, featuring mime, magic, juggling and face-painting from 1 to 5 p.m. Sunday.
- A bargain shopping trip to the garment district, where shoppers can expect 30 to 75 percent off retail prices, from 9 a.m. to 2 p.m. Monday.

Host wives have organized two fashion shows from 1:30 to 4 p.m. Sunday. One show will demonstrate unit clothing, one-size-fits-all, and the mix-and-match concept, while the other will feature the Moroccan-styled, layered "Laise Adzer" look.

Meanwhile, at the hotel, seminars will highlight the weekend. Dr. Virginia Cooper, a former university faculty member who now devotes her time to positive uses of humor on and off the job, will speak on "The Power of Humor" from 9 a.m. to 3 p.m. Friday, with time off for lunch.

Marie Schmidt, an expert in clinical social work, will lead a seminar on "The Superintendent's Wife: Life Issues" from 9:30 a.m. to 4:30 p.m. Saturday, with a break for lunch. She will discuss negotiating periods of crisis, change and growth within family relationships.

From 9 a.m. to noon Sunday conference participants and their spouses may attend one of the concurrent major speaker sessions: Roger Dawson on "You Can Get Anything You Want, But You Have To Do More Than Ask" and Harvey Selverston on "Coping Skills with the Wizard of Stress."

The GCSAA asks spouses to register early since all Spouse Program and optional activities are subject to cancellation if registration does not reach minimum levels.

Tours are also being offered to all conference attendees who arrive before the Spouse Program.

Conference

Continued from page 32

different personality styles so they can get what they want regardless of the situation.

Selverston, the "Wizard of Stress," will deal with the issues professionals face at work and home. He feels people need enough stress in their lives to feel stimulated and productive but not so much that they feel overwhelmed and exhausted. In a session led by Kenneth B. Rue, Selverston will teach the skills needed to find and remain on that middle path between anxiety and boredom.

9 a.m.-5 p.m. — Trade Show.
11 a.m. — Public Relations Committee meeting.
1 p.m. — Voting delegates check in.
1:45 p.m. — American Society of Golf Course Architects session, including:
• "Remodeling for Championship Play" with Reese Jones at 1:15 p.m.
• "There's More Than Meets the Eye" with Arthur Hills at 1:45.
• "Dealing with Contractors" with Jeff Brauer at 2:15.

Chi Chi Rodriguez
their groups have dealt with trying to influence public policy. Issues ranging from posting to water use will be discussed at the session moderated by Sam White of White, White, White and Associates in Washington, D.C., and including a panel of Edward C. Horton of the Huntington Museum, Gardens and Associates in Washington, D.C., and including a panel of Edward C. Horton of the

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FEBRUARY 1989 Golf Course News 33

Accessibility is imminent

The Country Club Insurance Plan timetable is fast-spreading and specific, being available:

• Jan. 1, 1989: In North and South Carolina.
• Nov. 3, 1988: In Illinois.
• Dec. 31, 1988: In Ohio.

He said the exclusive Aronomink club is a very safety-oriented, yet the FAI engineer found a couple of situations he wanted corrected.

"We had one bridge they wanted us to reinforce. We actually replaced it," Campbell said. "And we needed to put handrails on a couple of inclines they thought might cause a problem."

Aromonink was built in 1928, before the advent of golf carts, and it had to recontour areas to facilitate carts. "But you still have hilly areas where the cart will happen during group outings."

"To be frank," said the NCA's Hurley, "we thought it was a good program, and it just hasn't happened."

The insurors say that during the last five years this program has brought in more than $30 million in premiums. The average club's premium will be in the vicinity of $40,000 to $60,000.

As an addelice Markes Promotes the programs at seminars and business meetings with club officials, superintendents and managers.

"To be frank," said the NCA's Hurley from his Washington, D.C., office, "it's been a real problem to address the needs of golf clubs through an NCA program, and it just hasn't happened."

"We're not just marketing an off-the-shelf insurance product," Marks said. "We've developed a comprehensive program for country clubs along with strong risk management programs and inspecting for safety improvements for club officials, superintendents and managers."

The Country Club Insurance Plan is actually one of three FAI has developed for golf courses and associations. In 1988 it put into effect the Executive Risk Plan to provide directors and officers liability and fiduciary liability for private golf clubs, and the Association Insurance Program to provide property and casualty insurance for nonprofit golf associations and liability insurance for their directors and officers.

Adding the Country Club Insurance Program creates a package of products that FAI says can save golf facilities and associations considerable money on their annual premiums.

"We're not just marketing an off-the-shelf insurance product," Marks said. "We've developed a comprehensive program for country clubs along with strong risk management programs and inspecting for safety features."

And those are progressive ideas that will change the heart of insurance coverage at golf courses nationwide in the year ahead.
ASGCA providing brochures

The American Society of Golf Course Architects offers three brochures as guidelines to planning golf course projects.

"Planning The Real Estate Development Course" is a guideline on construction costs, site selection, acreage requirements and financing for the developer.

"Master Planning: The Vital Steps in Golf Course Construction," describes in detail various aspects of course construction and steps involved in developing a golf facility.

"Planning The Municipal Golf Course" is geared to municipal and park district officials planning a public golf course. The eight-page pamphlet outlines the amount of acreage needed, financing and how to proceed with such a project.

For these three brochures, send a stamped, self-addressed envelope to The American Society of Golf Course Architects, 221 N. LaSalle St., Chicago, Ill. 60601. Circle No 166

Safety modules made available

Direct Safety Co. has introduced a collection of safety education and training modules of interest to golf course superintendents and managers.


For a free catalog, write or call Direct Safety Co., 7915 S. 46th St., Phoenix, Ariz. 85044; telephone (602) 969-7009. Circle No 161

Pocket guide a gopher getter

"To Control Pocket Gophers" is a handy pocket guide about the troublesome little rodent and how to control it.

The gopher is a medium-sized burrowing animal which gets its name from the fur-lined external cheek pouches in which it carries its food.

Certain species of this harmless and annoying pest often race backwards through their burrows, using their tails as guides.

Habits, breeding and diet are discussed, as well as principles of control, bait factors, machines to control and traffic control method. Priced at $2.50, it is available from Donald W. Willis, P. O. Box 291, Lompoc, Calif. 93436. Circle No 163

ASGCA directory out

The American Society of Golf Course Architects' new membership directory, is available.

To obtain one, people may send a self-addressed, stamped business size envelope to: ASGCA, 39th Floor, 221 N. LaSalle St., Chicago, Ill. 60601.

The directory contains the name, addresses and phone numbers of the society's 94 members in the United States and Canada. There also is a map showing the location of each member.

This year's officers include: President Pete Dye, Del Ray Beach, Fla.; Vice President, Robert Trent Jones Jr., Palo Alto, Calif.; Secretary Don Maples, Pinehurst, N. C., and Treasurer Thomas E. Clark, Wheaton, Md. Circle No 165

Products shown from tee to green

Standard Golf Co.'s new 40-page, full-color 1989 Catalog displays the wide range of its products - from tee to green, clubhouse, practice range, maintenance shed and more.

More information may be obtained by contacting Standard Golf Co., P. O. Box 68, Cedar Falls, Iowa 50613; telephone (319) 266-2638. Circle No 160

NEW LITERATURE

Is your community up to par?

Or is it short on public golf?

Our research shows the demand for golf in the U.S. is such that some 4,500 new courses will be needed by the Year 2000.

This averages out to 375 per year... one new golf course each and every day for the next 12 years! Unfortunately, the current rate is closer to 125 per year.

Clearly, golf course construction is not keeping pace with demand... especially in the public/municipal sector where the bulk of the demand is occurring.

Recognizing the impact this imbalance could have on the future growth and enjoyment of the game, the National Golf Foundation has developed programs to help communities realize the many benefits of golf course development.

Please contact us to learn how the NGF can help your community assess and meet its public golf course needs.

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To obtain one, people may send a self-addressed, stamped business size envelope to: ASGCA, 39th Floor, 221 N. LaSalle St., Chicago, Ill. 60601.

The directory contains the name, addresses and phone numbers of the society's 94 members in the United States and Canada. There also is a map showing the location of each member.

This year's officers include: President Pete Dye, Del Ray Beach, Fla.; Vice President, Robert Trent Jones Jr., Palo Alto, Calif.; Secretary Don Maples, Pinehurst, N. C., and Treasurer Thomas E. Clark, Wheaton, Md. Circle No 165
NEW PRODUCTS

Lebanon's new product kills weeds

Lebanon has introduced Country Club 19-4-6 with Surflan® and Country Club 7-3-22 with Sukrflan® for use by professionals in controlling annual weeds in southern grasses.

Both new granular herbicide and fertilizer combination products will provide a balanced feeding, while controlling several broadleaf weeds and annual grasses, such as goosegrass, crabgrass and sandbur. Formulated with Surflan pre-emergence herbicide, these products are especially effective on stop-}

Lester device avoids arcing

Lester Electrical has introduced a model to avoid arcing at the contacts of the DC plug when charge is interrupted before the charger automatically shuts off. Golf courses frequently wish to put golf cars in service before battery charging is complete. If the DC plug is removed while the charger is on, arcing can occur between the contacts of the plug on the charger DC cord and the contacts of the receptacle on the golf car.

Contact Vaughn E. Border, Lester Electrical, Inc., 625 West A Street, Lincoln, Neb. 68522; telephone (402) 477-8988. Circle No 182

Cooler, easier water station

Standard Golf Co. has introduced the Kooler Aid Water Station, a rugged steel mesh enclosure that makes dispensing easy while keeping the cooler secure. The new system discourages players and pranksters from opening the cooler to dip towels or clean balls.

The 10-gallon cooler is by Igloo and is manufactured of galvanized steel with a secure lid. A metal cup dispenser and heavy-duty tripod stand are included in the package. Color-coordinated Litter Caddies may be ordered separately to control trash.

For more information, contact Standard Golf Co., P.O. Box 68, Cedar Falls, Iowa 50613; telephone (319) 266-2638. Circle No 183

A light touch with LF-100

Extremely low ground pressure means less soil compacture and healthier turf when you use the LF-100, out-front five-gang reel mower from Jacobsen.

The new mower configuration puts the two outside reels in front of the operator, so the trimming edge is easily seen without looking back and away from the mowing path. The configuration also provides a shorter uncut circle of grass on turns, and makes catcher removal and reel maintenance much easier.

The LF-100 uses full floating reels follow ground contours closely and pivot through turns to eliminate scuffing on the clean-up pass.

Write to Marketing Department, Jacobsen Division of Textron Inc., 1721 Packard Ave., Racine, Wis. 53403. Circle No 181

Handle your grub situation fast, before things get really ugly.

At the very first sign of grub damage, apply DYLOX® insecticide. Nothing kills all species of white grubs faster. Within hours, the grubs are dying and the turf is recovering.

When grubs threaten, act fast. Use DYLOX. And turn an ugly little problem into a lot of beautiful turf.

For more information, contact Mobay Corporation, Specialty Products Group, Box 4913, Kansas City, MO 64120.

Dylox
Mobay Corporation
A BAYER USA INC. COMPANY

For Free Information Circle #126
The 1200's 3-section 78-inch rake
hugs ground contours closely with
a choice of serrated or
smooth blades.

JOHN DEERE
Nothing Runs
Like a Deere®

New water
sources
made possible
Filtomat®, the trade name of a
new phenomenon in filtration
technology, allows use of untapped
water sources such as reclaimed
and semitrated water in a modern
irrigation system.
The self-cleaning water filter
operates on water line pressure
alone, requires no electricity, will
not interrupt flow during rinsing,
is compact, easy to install and
requires no maintenance.
The Filtomat will remove dirt
such as: sand, silt, algae, slime,
clams, snails, leaves and practically
anything from any water source.
Filtration range is down to 15
micron (0.0006 inch), and
minimum required pressure for
standard operation is only 30 ps.
Contact Filtomat, Inc., 6363
Wilshire Blvd., #211, Los Angeles,
Calif. 90048; telephone (213) 651-
0530. Circle No 187

Less mess and
fewer repairs
Broken tees on a golf course
can cost hundreds of dollars each
year in repair bills for mowers
and the time it takes to clear them
away. But Standard Golf Co.'s
new Broken Tee Caddie is made
so broken tees don't have to be a
problem any more.
The caddie is made of spun
steel with a black thermo-coated
powder finish and white "broken tee" decal. Its 9-inch-wide
opening makes it easy for golfers
to toss tees inside.. Its drainage
hole eliminates water accumula-
tion, and a 5-inch steel spike
holds it securely to the turf, yet
allows it to be easily moved as the
te tee markers are positioned.
For more information, contact
Standard Golf Co., P.O. Box 68,
Cedar Falls, Iowa 50613; tele-
phone (319) 266-2638. Circle No
185

Soil-retaining
walls made
KeyStone Retaining Wall Sys-
tems has developed the engi-
neered answer to soil-retaining wall
structures.
The easily installed structures
are structurally sound, durable,
aesthetic and offer diverse applica-
tions.
The pinned, modular and mor-
tarless product is available in three
sizes: standard 8-by-18-by-24-inch,
where height and strength is of
primary consideration; 8-by-18-by
12-inch compac and 6-by-18-by-
driver, with an
impressive gear reduction of 164:1.
Add the standard wet clutch and offset lug
design of the tires and you bring impressive power,
smooth operation and superior traction to every job.
All at an affordable price.
Plus, you don't have to park this one once you're
done grooming your bunkers. A standard hitch and
optional front blade or cultivator helps the 1200 do
even more.
Talk to your John Deere distributor today
for more information about the gutsy new 1200
Bunker and Field Rake. Or write John Deere, Dept.
956, Moline, IL 61265 for free literature. You're
going to like what you see.

The battle
of bunker hill
just became
history
You know the situation. Your hydrostatic rake
loses front wheel traction coming out of a bunker
and becomes as helpless as a beached whale.
That fight is over. Introducing the new John
Deere 1200 Bunker and Field Rake. The 2-wheel-
drive machine that wins the traction battle with
built-in drivetrain efficiency—not built-in drivetrain
expense.
The components are the keys. The 1200 is
powered by a high-torque 10-hp engine. A pressure-
lubricated 4-cycle workhorse designed for long life
in tough conditions. A gear-driven transaxle with
differential lock puts that power to work with an
impressive gear reduction of 164:1.

Contact Par Aide Products
Company, 296 North Pascal Street,
St. Paul, Minn. 55104 or call 612/
647-7368. Circle No 186

Contact Par Aide Products
Company, 286 North Pascal Street,
St. Paul, Minn. 55104 or call 612/
647-7368. Circle No 186

Par Aide
makes it easy
Par Aide announces a portable
sign system in which notices can
be posted in minutes - without
tools.
To install the 60" black enamelled
posts, unlock, twist, lift and
drive 12" into the turf. Removal is
as easy.
White, pre-printed and blank
signs complete Par Aide's system.
The 12" x 18" signs attach to a steel
rod hanger with S-hook fasteners
and are made of 2mm all-weather
plastic.

For more information, contact
Standard Golf Co., P.O. Box 68,
Cedar Falls, Iowa 50613; tele-
phone (319) 266-2638. Circle No
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Soil-retaining
walls made
KeyStone Retaining Wall Sys-
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The easily installed structures
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The pinned, modular and mor-
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driver, with an
impressive gear reduction of 164:1.
Add the standard wet clutch and offset lug
design of the tires and you bring impressive power,
smooth operation and superior traction to every job.
All at an affordable price.
Plus, you don't have to park this one once you're
done grooming your bunkers. A standard hitch and
optional front blade or cultivator helps the 1200 do
even more.
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impressive gear reduction of 164:1.
Add the standard wet clutch and offset lug
design of the tires and you bring impressive power,
Sod cutter
heavy duty

Wikco's Sod Cutter, a heavy-duty machine, mounts on tractors with category 0 or 13 point hitches. Its cutting depth is adjustable from 3/4" to 2 1/2", and two blade sizes are available.

Model 300 comes standard with a 3-hp Briggs and Stratton engine. Model 300H comes equipped with a 3.5-hp Honda engine.

For a free catalog, contact Wikco Industries, Inc., Route 2, Box 154, Broken Bow, Neb 68822; telephone 1-800-247-6167 ext. 734. Circle No 188

Groundmaster covers ground

The Toro Co. is offering a new product, the Groundmaster 580-D, whose high-capacity compact 80 horsepower turbo-diesel engine provides power for cutting up to 14.5 acres per hour while cutting a 16-foot-wide swath.

The 76-inch wheelbase allows for an 88-inch uncut circle without braking. Wide stance and short wheelbase for untraditional maneuverability and stability.

The outboard cutting units feature protection; in case the operator misjudge distance and the unit strike an object, the wings will pivot away from that object.

Contact Commercial Products Division, The Toro Co., 8111 Lyndale Ave. South, Minneapolis, Minn. Circle No 189

Lun-Din markets drainage structures

Lun-Din is a new high performance prefabricated drainage structure for subsurface drainage applications.

Designated LUN-DRAIN PRO 80, it consists of a waffle-like poly-styrene core with low "creep" characteristics and compressive strengths exceeding 5000 psf. The core is wrapped with a high performance polyester 8 oz. needle punch nonwoven filter fabric. The filter fabric is wrapped tightly around the core, and hot melt sealed, using two glue bead lines to insure a high strength drain.

Flow rates exceed 18 gallons per minute per feet width of drain at 1 psi (approximately 2 feet of installed depth), and is available in widths of 4, 6, 12 and 18 inches.

Recent installations have been in bunkers and nursery green at Carolina Country Club, Raleigh, Lundin & Co., Inc., P. O. Box 2445 Charlotte, N. C. 28211. Circle No 190

Otterbine offers many capacities

The Otterbine Power Control Center is available in capacities from 115V single-phase to 460V three-phase.

Designed specifically for Barebo, Inc., by Westinghouse, the Control Center provides built-in protection from phase unbalancing, power surges, low voltage and spikes, and is UL, CSA and ETL safety-tested.

Each Control Center is a NEMA 3R weather-resistant combination starter equipped with a hand-off automatic switch and 24-hour operational timer.

Contact Barebo, Inc., P. O. Box 217, Emmaus, Pa. 18049. Circle No 191

Lakos' flow rates bettered

The manufacturer of Lakos centrifugal-action sand separators introduces the plastic IL-K series.

Designed to accommodate flow rates of 4 to 305 U. S. g.p.m (1-24 m/hr), IL-Ks remove 98 percent of all sand and grit mesh (74 microns) or larger from private wells, irrigation water and other small, fresh-water systems.

Approaching the strength of steel, Noryl plastic is both heat- and pressure-resistant, ideally suited for injection molded plastic separators.

The separators offer protection against plugged spray nozzles and excessive nozzle wear, causing possible turf damage.

Contact Claude Laval Corp., 1911 North Helm Ave. Fresno, Calif. 93727; telephone 800-344-7205, in California 800-742-1850. Circle No 192

For free Information Circle 0127
Bunton offers new 12.5 horsepower engine

Bunton Co. is offering the new 12.5-horsepower Onan engine on its 61-, 52-, 48-, 36- and 32-inch heavy-duty commercial mowers.

The technically advanced design of the Onan engine features overhead valve technology that provides mower power and better fuel economy.

Bunton says hillside mowing performance is improved with a positive-displacement oil pump that provides full pressure lubrication for longer bearing life.

The Onan 12.5-horsepower engine is also available through Bunton dealers as a replacement engine for other mowers.

For more information contact Bunton Co. P.O. Box 33247, Louisville Ky.; telephone (502) 966-0550. Circle No 195

Kubota unveils new G-Series tractors

Kubota feels it has set a new standard of grass cutting with its new G-Series tractors. All three models - the G1800, G1900 and G2000 - come with standard steering or new four-wheel steering (4WS) system.

This feature allows for smoother, tighter turning than a conventional garden tractor and is ideal for mowing around trees and obstacles. An uncut circle of just 1.6 feet in diameter is made possible by the 4WS.

Both the G1800 and G1900 are equipped with liquid-cooled diesel engine, providing 16 and 18 horsepower, respectively. These new models offer improved durability and maneuverability and feature a semi-flat operator’s deck for comfortable operation. Hydrostatic transmission is standard.

For mowing in open areas or long distances, the G-Series models offer “cruise control.” The operator presses the HST foot pedal, adjusts speed with the speed set lever and steers without using the foot pedal.

The shaft driven mid-mount mowers and grass catcher is easily attached and detached. Mowers are available in 48-, 54- or 60-inch sizes. The grass catcher blows clippings into three rear bags with a combined capacity of 7.5 bushels.

Contact the Kubota Tractor Corp. 500 West Artesia Boulevard, Compton, Calif. 90220. Circle No 196

Because accuracy counts.

For accuracy when spraying, put Tracker in your tank. It’s the most concentrated liquid indicator dye you can buy.

See where you spray while saving time, product and money. Environmentally safe Tracker eliminates skip and overlapping, indicates drift and helps detect clogged spray nozzles.

Completely inert formulation won’t react or interfere with product being applied. And new improved Tracker now washes off easily.

Whether you are spraying acres of fairways, renovating turf areas or treating home or commercial lawns, choose Tracker. Because accuracy counts.

Put Tracker in your tank today. Contact your LESCO sales representative, visit the nearest LESCO Service Center or call us toll free.

(800) 321-5325 (800) 686-7413

NATIONWIDE IN OHIO

LESCO, Inc. 20005 Lake Road Rocky River, Ohio 44116 (216) 333-9250

For Free Information Circle # 128
Black Tie Optional

Satisfy your passion for perfection! Insist on the very best. Dress your Tees and Greens with the classic elegance of Par Aide.

Par Aide Products Co.
296 N. Pascal Street, St Paul, MN 55104 • 612/646-7368
XL EXCELS
For longer-lasting, broad-spectrum weed control, excel with XL:

To apply granular XL is to excel in your weed control.

With just one application, you can keep your ornamental and landscaped areas free from many grass and broadleaf weeds for six to eight months. And because XL contains Surflan®, your control’s also stronger than Ronstar® against crabgrass. And just as strong or stronger against many other weeds. At less cost, too. For details, call toll-free: 1-800-352-6776.

Sonar® weed control...

Sonar clearly tells its own story. With season-long aquatic weed control that other aquatic herbicides cannot deliver. Sonar targets specific plants like water lily, hydrilla, duckweed and many other weed problems. And controls them all season long whether you apply before they come up or after.

Unlike other aquatic herbicides, the Sonar label doesn’t restrict swimming, fishing or drinking. So restrict your aquatic weeds, not your aquatic use. Try Sonar. And weed out your water without the worry. For details, call toll-free: 1-800-352-6776.

With Team® on your turf, weeds won’t check in for 20 weeks.

Sorry, crabgrass. Sorry, goosegrass. You won’t be checking in here this season. Not on turf areas treated with Team® preemergence herbicide. Only one group has reservations. Your turfgrass. Even bentgrass can relax, Team is that gentle.

That means you can take a 20-week vacation from weeds. From disgruntled golfers. From callbacks. And costly reapplications. Team is widely available on dry fertilizer from leading formulators, and in granular form from your distributor. So if weeds are planning to visit your turf this season, tell them sorry. You’ve booked Team for the season. See your Elanco distributor. Or call toll-free: 1-800-352-6776.

"I can control weeds three times longer just by adding Surflan® to my Roundup."