

GOLF COURSE NEWS

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INSIDE

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Digital Mapping

This new technology is making its way into every facet of course operations 13



IN DEMAND

Whether captaining the U.S. Ryder Cup team, or working with design partner Bill Coore, left, Ben Crenshaw has been in high demand. And he will not back down in his "classics" philosophy of course architecture. See Q&A with Crenshaw & Coore, page 27.

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NEWSPAPER

New wetlands regs could stifle development

By MARK LESLIE

WASHINGTON, D.C. — The U.S. Army Corps of Engineers is implementing a new cadre of wetlands regulations in early 2000 that is expected to impact a far greater number of residential and commercial developments, including golf courses.

Public comment on the proposed Nation Wide Permits (NWP) expires Oct. 6, making the way for the new rules which affect jurisdictional waters of the United States — wetlands, streams, lakes, etc.

Although the new NWPs have not been officially confirmed, experts in the field anticipate few changes before the

Continued on page 32

Assistants often underappreciated

By PETER BLAIS

While head superintendents are seeking increased recognition and money for themselves, they are also encouraging course owners and members to upgrade the salaries and benefits of their assistants.

Nationally, the mean salary paid superintendents is \$53,205, almost double the \$27,981 average salary of assistants, according to 1998 figures provided by the Golf Course Superintendents Association of America (GCSAA).

Why pay assistants more?

Continued on page 19



The 8th hole on the Creek 9 at Aliso Viejo (Calif.) Golf Club displays Jack Nicklaus and son Jack II's personal touch. They designed the Ridge, Creek and Valley nines at the new public facility in Orange County.

Nicklauses collaborate for AMH

ALISO VIEJO, Calif. — Jack Nicklaus and Jack Nicklaus II have opened their latest creation, Aliso Viejo Golf Club here, a 27-hole public facility midway between Los Angeles and San Diego.

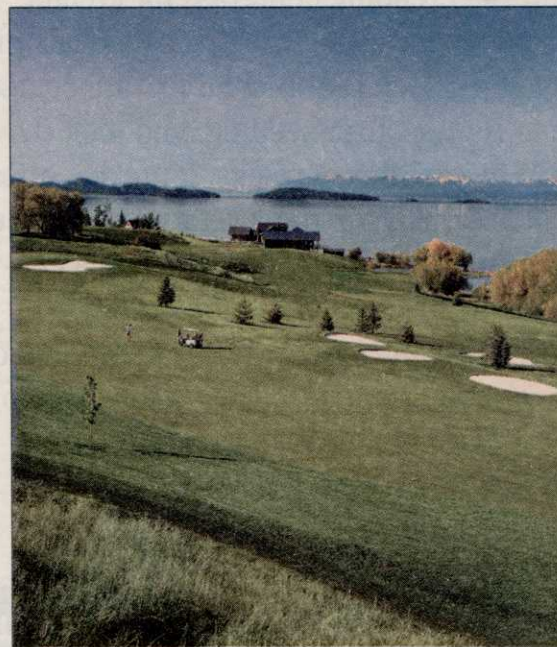
The ninth Jack-Jack II co-design and the first in California, the project is under the auspices of ClubCorp. USA, Inc. and AMH Golf Corp., a Newport Beach-based land-development company specializing in golf, recreation and hospitality properties.

Carved from a dramatic site offering panoramic views of the Saddleback

Mountains, Aliso Viejo is laid out in three distinctive nines — Ridge, Creek and Valley — and features more than 100 feet of elevation change.

"As I get older, the desire to do a lot of golf courses on my own is diminishing," said Nicklaus. "But the desire to continue what I've built with my family is getting greater. So the opportunity to work with Jack (II) ... is something I look forward to a great deal. We have a good relationship;

Continued on page 11



STEIDEL'S PRETTIEST AT POLSON

Polson Country Club's 6th hole may be the best par-5 John Steidel has ever designed. It is certainly the prettiest, he said. For more on the new 9, which brings Polson to 27 holes to the Montana facility, see story on page 33.

Machine takes overseeding to next level

By A. OVERBECK

JACKSONVILLE, Fla. — Turf Solutions has developed the Dry Sprayer, a machine using new overseeding technology that dramatically increases the speed, accuracy and germination time over standard overseeding techniques. Adapting air-blast technology commonly found in agricultural equipment, the Dry Sprayer blows seed directly into the turf canopy.

"We have modified this ag-based small crop machine into one suitable for

Continued on page 26

TREE MANAGEMENT, PAGES 21-25

10 years anniversary

Penn A-4 at Tiffany Greens

Mark Pierce, Superintendent
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John Q. Hammons Development

"If a new course hopes to host a major tournament, it'll have to plant one of the great new bents. Penn A-4 is the right choice for Tiffany Greens and our changeable Kansas City climate."

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Penn A-4 doesn't require any extraordinary maintenance procedures. Anyone who wants smooth, fast greens has to do the same amount of maintenance. I verticut and top-dress twice a month and spoon-feed fertilizer.

My uncle Junior was a superintendent, so I grew up on a golf course. I worked for him 8 years, and have been a superintendent myself for another 19 years. He taught me that greens were like the motor of a car—the most important part—and when the motor was good the car was good. The motor's great here at Tiffany Greens. To host a PGA Senior Tour event in our first year is an honor, a privilege, and a compliment.

Mark R. Pierce

Tiffany Greens hosts the TD Waterhouse Senior Championship, September 3-5

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BRIEFS

GRAND TRAVERSE, Mich.—Gary Player has opened the Wolverine, an 18-hole layout at KSL-owned Grand Traverse Resort here. The front nine is routed through a landscape that incorporates the large wetlands that have been protected, as well as expanded. The second nine holes feature substantial elevation changes that offer views of Traverse Bay and the entire property.

MOUNT SINAI, N.Y.—The Hamlet at Willow Creek will be a new 18-hole upscale daily-fee course on Long Island. Stephen Kay has been retained to provide course architectural services. Construction will commence in early 2000.

GRAY, Maine—Spring Meadows Golf Club here opened its first nine holes Sept. 24. The second nine will open sometime in 2000. Architect Brad Booth designed the 18-hole layout for developers Pollard Associates LLC. Fred Stone Golf Construction is building the course.

LAKE MANASSAS, Va.—A ground breaking ceremony took place August 10 to commemorate the official start of the Lake Manassas Golf Course. Tom Jackson is designing the 18-hole layout.

U.S. golfer spending tops \$30 billion mark

JUPITER, Fla.—The National Golf Foundation has released its golfer spending report for 1998. *Golf Consumer Spending in the United States* shows that total spending on playing fees (cart, green, dues), practice range fees, golf equipment, golf apparel, food and beverage at golf facilities, and miscellaneous items such as golfer “gifts” was just over \$30 billion in 1998.

A similar study was conducted by the NGF in 1994. While not all of the data is comparable between the two studies, it can be noted that playing fees increased from \$6.9 billion in 1994 to \$10.7 billion in 1998, a compounded annual growth rate of almost 12 percent.

“Not all of this increase is due to more products being sold or more rounds being played,” said NGF Research Manager Jim Kass. “According to our recently released report, *A Strategic Perspective on the Future of Golf*, recent golfer spending increases are due primarily to inflation, and real increases in the cost of equipment and playing a round of golf.”

Total fee spending (playing fees plus all other fees) was again the number-one category in 1998, capturing over 60 percent of all golf-related expenditures. Golf clubs was the next highest category (12 percent), followed by food and beverage

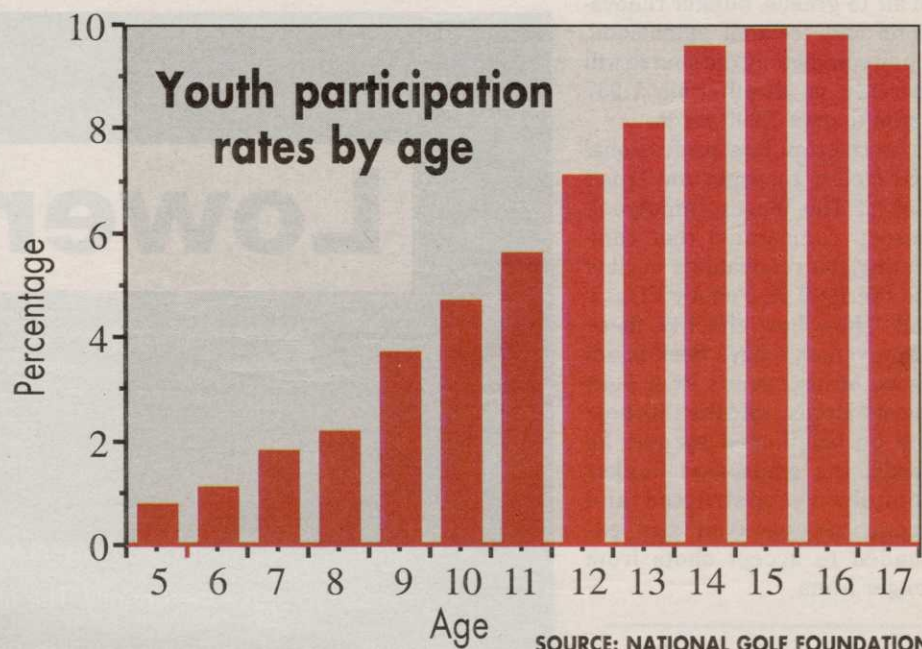
(10 percent) and apparel (8 percent).

On average, each of the 24.6 million golfers aged 18 and older in the United States spent \$1,212 on golf-related products and services in 1998. Specifically, they spend an average of \$751 on fees, \$133 on golf clubs, \$124 on food and beverage and \$92 on apparel. The average amount spent by all golfers, when

adding junior golfers to the mix (2.1 million kids aged 12 to 17), dropped slightly to \$1,152 annually, emphasizing the buying influence of the junior market.

Women continued to show their impact on the golf economy. In 1998, they spent an average of \$1,086 each, with men spending \$1,173. The 5.4 million

Continued on page 6



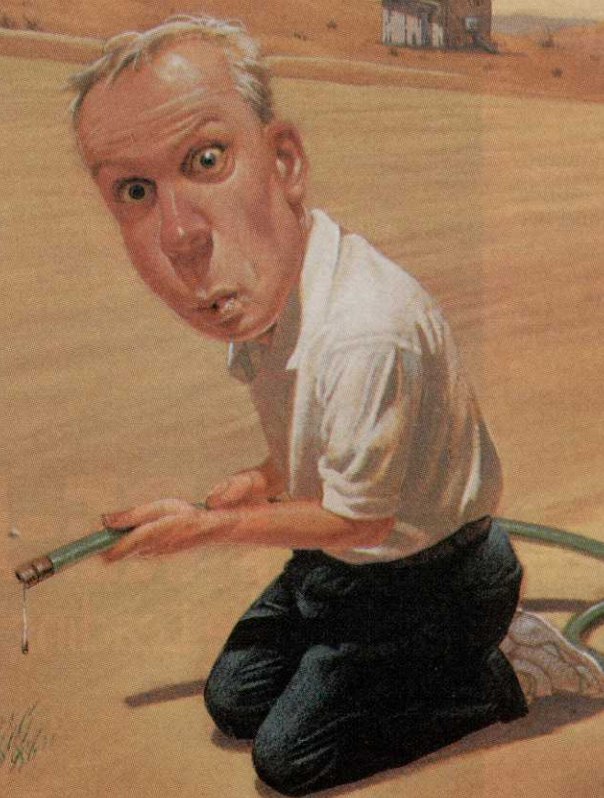
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Extensive renovations planned for Tampa's Innisbrook

TAMPA BAY, Fla.— Tampa Bay's Westin Innisbrook Resort will make extensive renovations to its Copperhead Golf Course, which is home to the 1999 JC Penney Classic and a newly announced PGA Tour event to be held Oct. 16-22, 2000.

The par-71 course will reopen Sept. 21 after the refurbishment of all 18 greens, bunker renovations and tee-area extensions. Upon completion, the course will increase in length from 7,087 yards to over 7,200 yards.

Jay Overton, host professional and facility manager for Troon Golf at The Westin Innisbrook Resort, commented that completing the renovations in time for the 1999 JC Penney Classic will "show how effective these improvements have been in advance of next year's PGA Tour event." He also said the 18th hole will be lengthened by over 25 yards, the green-side bunker complex reconstructed and green recontoured and expanded to accept shots from longer irons.

Haskell to design three military projects

JACKSONVILLE, Fla.— The Haskell Co. has been selected by the United States Army Community & Family Support Center (USACFSC) to provide design-build services for three golf courses. The USACFSC is a Department of Defense non-appropriated fund entity, which manages major construction projects for Morale, Welfare and Recreation (MWR) activities on military bases worldwide.

The projects include an 18-hole renovation at Parris Island, the U.S. Marine Corps training base in South Carolina, and two nine-hole additions to courses at Fort Gordon in Augusta, Ga., and Fort Lee in Hopewell, Va. The projects are scheduled for completion in late summer 2000.

RYAN GOLF SIGNS ON FOR FLORIDA TRACK

ORLANDO, Fla. — Ryan Golf of Deerfield Beach, Fla., has been awarded the site development and golf course construction contracts for Stoneybrook West. This is a new golf course and community to be built in Orlando by US Home Corp. The 18-hole championship course was designed by Arthur Hills and will be open for play winter 2000.

"We'll spend in excess of \$500,000 for the renovation of the Copperhead course in advance for this year's JC Penney Classic," commented Westin Innisbrook Resort's General Manager Michael Welly. "Significant improvements will help protect the integrity of the Larry Packard-designed course,"

Westin Innisbrook Resort's head golf course superintendent Rob Giampietro said the renovation includes installing a Tifeagle putting surface, modernizing the greens' irrigation system, and rebuilding several



greenside bunker complexes. Also included in the renovations is the installation of continual cart paths on the Copperhead with an emphasis away from play to protect the fairway playing surface prior to scheduled tournaments.

Situated on more

than 1,000 acres of rolling hills on Florida's west central coast, The Westin Innisbrook Resort features 90 holes of golf, 1,000 suite accommodations, five on-site restaurants and entertainment, The Innisbrook Troon Golf School, 11 tennis courts, fitness center, six swimming pools, a nature preserve and three conference centers featuring 65,000 square feet of meeting space.

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Meadowbrook joins Smart Buy network

CHARLESTON, S.C. — The National Golf Course Owners Association (NGCOA) has announced that Meadowbrook Golf will join the Smart Buy Network, the electronic commerce marketplace for golf course owners, powered by Consolidated Commerce.

Meadowbrook, which provides management or maintenance services to 60 golf courses,

will join the 2,400 other NGCOA courses already able to perform electronic procurement, order, payment and logistics consolidation with industry suppliers.

"Enabling our organization for electronic commerce is a very strategic step for us," said Bill Stein, president of Meadowbrook Golf. "The Smart

Buy platform will lower our cost of purchasing while at the same time make it easier for our courses to purchase product, take advantage of deals, and maximize rebates.

"Another major factor in our decision was that the Smart Buy Network is up and running today," Stein continued. "We con-

sidered many alternatives, from building it ourselves, to waiting for software vendors to Web-enable their products. Given how fast the Internet is transforming industries like ours, we can't afford to wait for someone to build it."

The Smart Buy Network, launched in March 1999 by

NGCOA and Consolidated Commerce, is a business-to-business electronic marketplace that enables manufacturers and courses to conduct business more efficiently. The Smart Buy program has approximately 25 suppliers, such as Yamaha, John Deere, Solo Cups, and Ball-O-Matic, as well as 2,400 courses enabled for electronic commerce. In addition to helping courses purchase more efficiently, the Smart Buy Network also supports highly granular pricing structures, option-based configuration, and enables suppliers to post price changes, promotions and other announcements for instantaneous communication to all buyers.

Va. board OKs golf community

PRINCE WILLIAM COUNTY, Va. — A 2,073-acre golf course community near Haymarket has been approved by the Prince William Board of County Supervisors.

The board approved zoning changes to the design of Dominion Golf and County Club, which includes an 18-hole layout, 2,800 homes and town houses, swimming pools and tennis courts, and 250,000 square feet of office and retail space. The project is on the site where Walt Disney had once proposed building a historical theme park.

The developer is Toll Brothers Inc., which purchased the property last year. Plans call for the course to eventually expand to 27 holes.

Georgia investors plan development

AUGUSTA, Ga. — Euchee Creek Investors Inc. is planning to build the Bartram Trail Club, which would include a golf course and 750 homes.

Tommy Blanchard, president of Blanchard & Calhoun Real Estate, is a member of the investment group.

Designs call for a clubhouse, professional and retail businesses and room for institutions - a church, day care and an assisted living facility.

UNITED MOVES

NEW YORK — United Golf Group has relocated its office. The new address is 37 West 57th Street, 12th Floor, New York, N.Y. 10019; telephone 212-317-0300; facsimile 212-371-4209.



Canadian juniors gain support

OAKVILLE, Ontario—Kelsey's Restaurants and ClubLink Corp. have climbed on board for 1999, further solidifying Future Links, presented by Mackenzie Financial Corp., Canada's national junior golf development program.

"Corporate support plays a vital role towards improving Future Links and making golf affordable and accessible to kids," said Paul MacDonald, director of membership development at the Royal Canadian Golf Association. "The program continues to expand each year and is expected to introduce nearly 25,000 new golfers to the game in 1999."

In the first three years of the

program, more than 30,000 youths have participated in Future Links activities nationwide.

Kelsey's Restaurants, as an official supplier, is contributing to the financial development of Future Links. The restaurant chain has 76 restaurants across Canada and the United States.

Troon's San Diego layout on schedule for Nov. opening

SAN DIEGO — Construction of Maderas Country Club is on time for a projected mid-November opening.

Designed by Johnny Miller and Robert Muir Graves, Maderas is located in Poway just north of San Diego. The 18-hole course lies within the new real-estate development, The Heritage Estates.



ACQUISITIONS

Commented Sunroad Enterprises Vice President Art Noerhen, the developer: "The course already has 16 of its putting greens seeded and 13 of its fairways and tees fully grassed. Plus the full-length driving range and short-game practice facility are already completely grown-in." Maderas CC is managed by Troon Golf.

NGF report

Continued from page 3

avid golfers in the United States (25-plus rounds per year representing only 21 percent of the total golfer population) maintained their "most favored" status by spending just over \$18 billion (60 percent of total spending), or an average of \$3,339 each. Moderate golfers (8-24 rounds) dropped just below the average by spending \$944 and Occasional golfers (1-7 rounds annually) spend \$375 each.

New to the report this year is spending on individual golf club and apparel categories. For example, the average golfer who purchased equipment in 1998 spent \$426. "Driver buyers" spent \$164 and "fairway wood" buyers spend \$143. "Iron buyers" spend the most at \$355 each, with wedge and putter buyers spending \$73 and \$58, respectively.

And it appears that non-green-grass retail stores continue to make inroads, with strong market shares in most categories. On-course green-grass shops hold the top position in only one major product category, that being golf gloves, with 25 percent of all purchases.

Off-course golf-only specialty stores hold the lead, or are tied for the lead, as the outlet of choice for five major product categories: golf shoes (26 percent total market share), golf bags (23 percent), drivers (26 percent), fairway woods (27 percent) and iron sets (27 percent). Golf balls are purchased primarily at discount shops (30 percent market share) and apparel is purchased primarily at department stores.

Copies of *1998 Golf Consumer Spending in the United States* can be ordered by calling the NGF's Information Services Department at 800-733-6006. The publication is \$115 for NGF members and \$150 for non-members, plus shipping and handling.



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Ore. resort course unveils three new tee complexes

WELCHES, Ore. — The Resort at The Mountain has officially opened three tees, built to create a balance between a challenging golf hole and respect for the natural environment.

These tees are located on the 7th hole of the Thistle Nine, in a beautiful wetland area that, until the floods of 1996, was a large

spring-fed pond.

With the guidance of the US Forest Service and Forest Service contractors, the tee boxes have been constructed from logs brought down by the floods/landslide of 1996. The tee surface is constructed of a man-made material. This process has and will continue to allow for

minimal effect to the natural habitat, while providing an interesting new challenge for the golfer.

"We hope that golfers will enjoy the changes to No. 7 Thistle, but we also hope to impact people with the fact that it is possible to successfully create a partnership between great golf and Mother

Nature," said golf course superintendent and project supervisor Tony Lasher.

These new tees are part of The Resort's five-year golf course remodel plan, which began in 1997. The plan includes creating four tee boxes for every hole, and is designed to make the Three Nines more versatile and enjoyable for golfers of all abilities.

Arizona facility finds new funding partner

SCOTTSDALE, Ariz. — Scottsdale's Grayhawk Golf Club has a new financial partner. Pacific Life, a leading financial institution, has purchased a majority interest in the club from international financier Sandy Chau. The club is now owned through a partnership between Pacific Life and Scottsdale-based Grayhawk Development.

The change in partners will have little impact on day-to-day club operations. The club continues in the hands of Tryhus and Del Cochran, Grayhawk's captain of the club.

Opened in 1994, Grayhawk is a 36-hole, daily-fee facility located within Scottsdale's 1,600-acre Grayhawk master-planned community.

Tenn. community considering new golf development

FAIRVIEW, Tenn. — The Planning Commission is considering whether to approve rezoning for the city's first signature golf course and some expensive homes.

Tennessee Development Partners is seeking the rezoning in order to build half-acre cluster lots, the golf course and a clubhouse on 608 acres. David Coulton is one of the developers.

Peter Jacobson would design the proposed \$9 million course.

If the planning commission approves the rezoning request, Houston-based Golf Services Group plans to start building the public course this fall.



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CORRECTION

KIAWAH ISLAND, S.C. — In a feature story on Ocean Course superintendent George Frye in September the reporter misidentified the architect of Kiawah Island Resort's Turtle Point. design. Jack Nicklaus designed Turtle Point. Tom Fazio designed Kiawah's Osprey Point, while Pete Dye designed The Ocean Course, Gary Player did Cougar Point and Clyde Johnston was the architect for Oak Point.



Medinah baked, pros half-baked

It was so hot on Aug. 13 — the Friday of the PGA Championship at Medinah (Ill.) Country Club No. 3 course — that the pavement “popped” on Chicago’s Lakeshore Drive. A lady actually baked cookies in her parked car outside Wrigley Field. Two weeks of 95-degree weather were capped as temperatures soared to 104 degrees and the heat index hit 120.

Set against this backdrop, it is especially deplorable that PGA Tour pros, who ought to know better, lashed out at the turfgrass conditions at Medinah.

Tiger Woods, who won the Championship at 10-under-par, Fred Couples and Lee Janzen were among them. Janzen even said: “I don’t care about the heat. There’s no excuse for not having perfect greens.”

Thank God for evenhanded South African Nick Price, who said: “When you’re 10 or so under par, you have no right to be complaining. The greens can’t be that bad.”

“Everyone’s been a little harsh on the greenskeeper,” Price added. “This course in June [when there wouldn’t have been so much cumulative heat stress], with the greens hard and fast, would be a monster. The winner would have finished 1 or 2 under par.”

When the heat index reached 120, said Medinah head superintendent Danny Quast: “That’s when we really started to suffer turf loss. We had been out hand-watering and trying to cool down the grass, and in most cases it was very successful. But the sand bentgrass greens couldn’t hold up to it [especially under championship conditions] and consequently thinned out.”

To compound the heat problem, Chicago was in the midst of a drought which, in turn, exacerbated the condition of Medinah’s irrigation water. Quast has discovered that the lake’s salt index had been exceptionally high this summer and salt in the root zone of the greens got worse and worse.

“Flushing is one way to combat that, but we couldn’t flush during the heat spell; that would only compound the problem,” Quast said. “The corrective measures will be to find a different water source.”

Asked if he were surprised by the comments of some of the Tour pros, Quast said: “Yes, it surprised me in that this was not a condition confined to Chicago. This was a problem from the Midwest all the way to the East Coast. The best you could say is that they weren’t too well informed.”

Yes, that is the best someone can say.

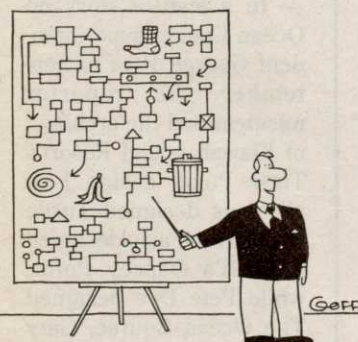
“I don’t want to be critical of them,” Quast added. “I don’t know their job, either.”

“We felt we did a good job — the best we could in those conditions,” he added. “We were trying to cool the greens and I think we did real well. We could have lost them all. The crew worked very hard and deserved credit, which they will probably never get.”

No, they probably won’t — least of all from some of the Tour players.

I have two questions for the complainers:

- 1) If there’s no excuse for not having perfect greens, what is your excuse for not shooting a perfect round?
- 2) Because you drive a car, do you think of yourself as an automotive engineer?



“And those are this month’s new environmental regulations. Any questions?”



Mark Leslie
editor

We’re better for knowing them

I had the pleasure of having dinner with Phil Friel (see obituary, page 9) a few years ago. Seated at the table that warm-ish West Palm Beach winter evening were my nephew (an aspiring young assistant pro who worked summers at one of Friel’s courses) and an older gentleman, whose name escapes me, but who apparently enjoyed considerable success on the New England golf scene some 30 years earlier.

I knew Mister Friel was battling cancer, but he was still an energetic and delightful dinner companion. He was a man who owned a dozen courses, had played in the PGA Championship, and won a number of professional tournaments throughout New England. By all accounts, he was still shooting several strokes under his age.

Yet as I directed questions at him, giving him every opportunity to pat himself on the back regarding his golfing and entrepreneurial accomplishments, he continually deflected the attention toward the older gentleman across the table. “You should have seen him play,” Friel said on several occasions.

That told me a lot about the man.

My nephew and I delighted in the older gentlemen’s company, in their stories, in their camaraderie. By the end of the evening I found myself calling him “Mister Friel,” just as my nephew had been doing from the outset; just as the people in the pro shop at White Mountain Golf Club in Ashland, N.H., called him on the second occasion Mister Friel and I met; just as Souhegan Woods superintendent Jeff Brown (see story on next page) continually referred to him during our phone interviews.

Mister Friel attracted the kind of respect and admiration from those around him that just a few seem to draw these days — Mister Jones, Mister Williams, Mister Jemsek, Mister Wadsworth. Those who have had the pleasure of

meeting these gentlemen are the richer for it.

...

The 5.4 million avid golfers (25-plus rounds per year) spent an average \$3,339 on their chosen sport in 1998, while golfers as a whole spent \$30 billion, according to National Golf Foundation figures (see story page 3).

The average superintendent earns \$53,205 annually (see story page 1). Wykagyl Golf Club Director of Golf Steven Rinzetti

said he doesn’t know a superintendent in the Metropolitan New York area making under \$60,000.

Pebble Beach Co. recently sold for more than \$800 million and green fees at Pebble Beach Golf Links are running \$325 a round.

Kind of hard to believe those who claim the “golf industry is in trouble, the bubble has burst, the boom is over, etc., etc., etc.”

...

Talk about your hard-working guys.

Robbie Hellstrom, president of RJH Golf Course Management Services (see story page 27), is currently working three to five days a week as course consultant at Sugarloaf Golf Club in Carrabassett Valley, Maine. Every week he makes the 10-hour round-trip drive from there to his home outside Montreal, where he consults two days a week for ski industry giant Intrawest on its two courses at Mt. Tremblant and two more days a week at another Montreal course, Vallee des Fort, which is building a second 18 holes.

In his spare time he is raising four children aged 1 to 7.

His philosophy. “We’re here for a short time, so let’s have a good time.”

I kind of like that.



Pinehurst — before and after... truly



THE REAL DEAL

Unfortunately an error in our last issue resulted in the same “before” photograph being placed twice. We want to show our readers what we really wanted to impress them with in the September issue. The inset shows the gallery area between the 14th green and 15th tee at Pinehurst No. 2 following the U.S. Open on June 23. The larger photo shows how superintendent Paul Jett and his crew had the area looking just two weeks later, on July 6. We apologize to Mr. Jett and the Pinehurst staff.

GOLF COURSE NEWS

THE NEWSPAPER FOR THE GOLF COURSE INDUSTRY

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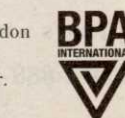
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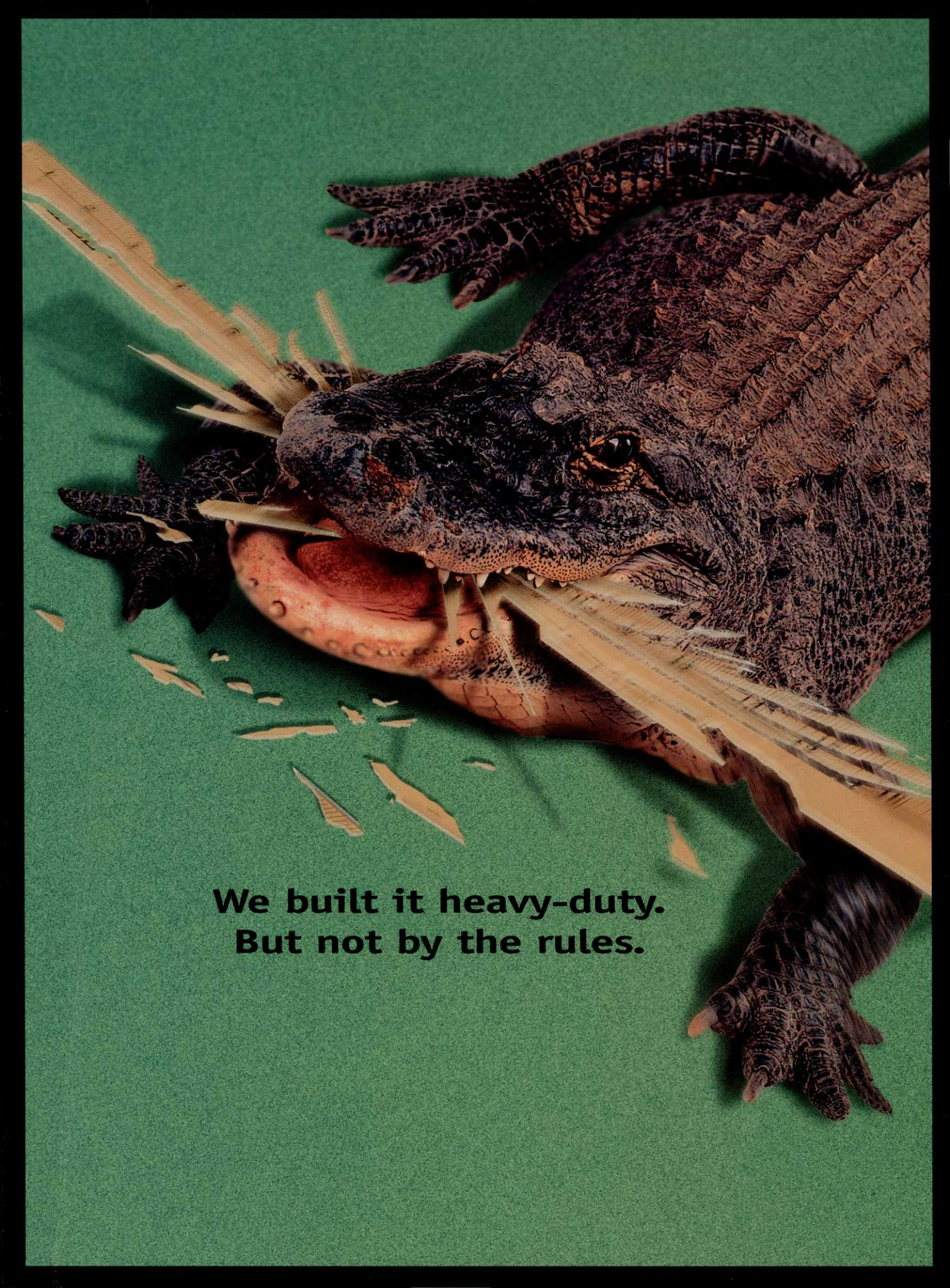
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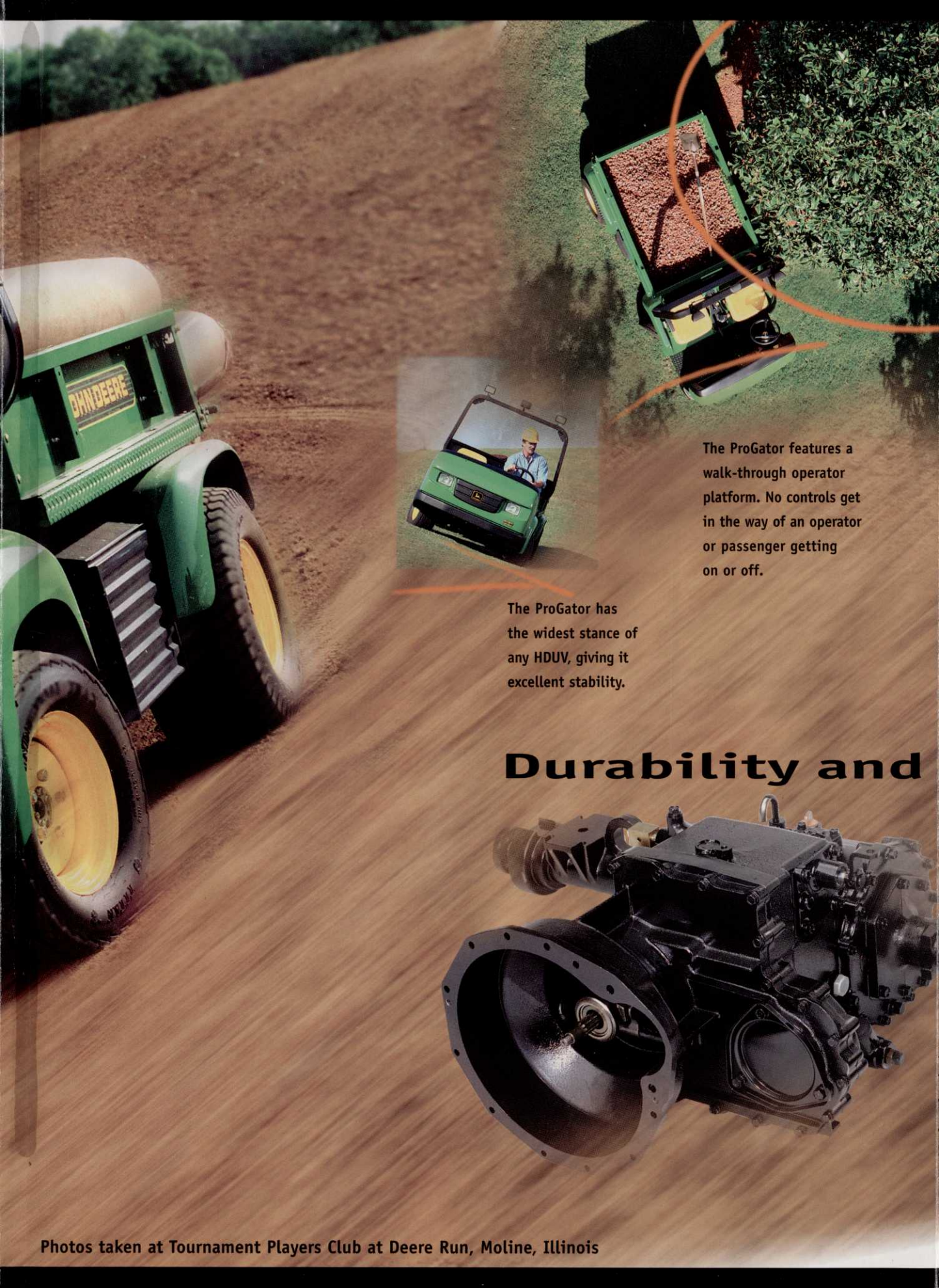


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A close-up photograph of an alligator's head and upper body. The alligator is dark brown with a heavily textured, scaly skin. Its mouth is wide open, revealing a large, light-colored wooden plank that it is holding in its jaws. The plank is positioned diagonally across the frame. Several thin, light-colored wood shavings are scattered on the green surface around the alligator's head. The background is a solid, vibrant green. The lighting is bright, highlighting the textures of the alligator's skin and the wood.

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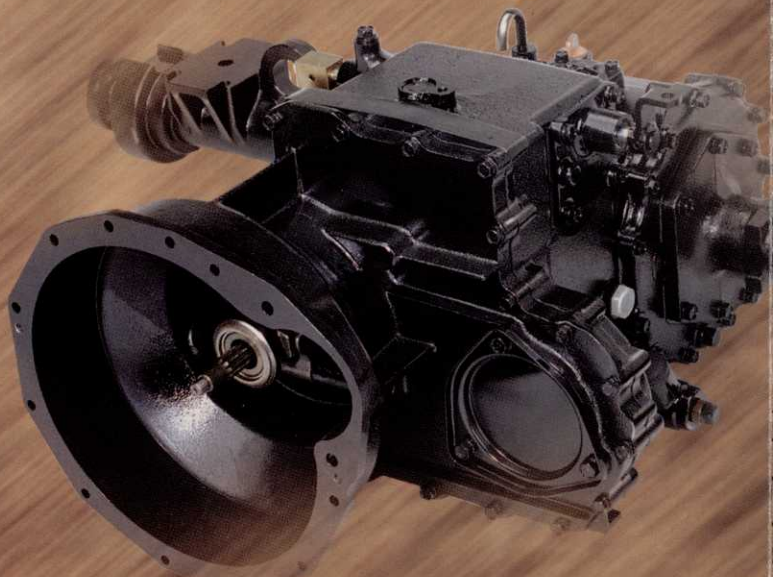




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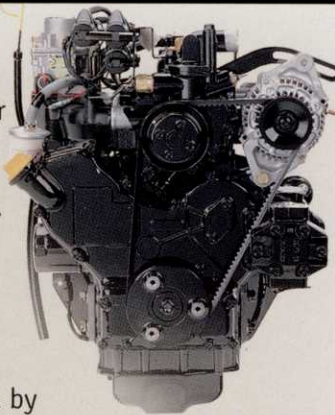
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	2020	2030
Engine		
Manufacturer/Model	Yanmar 3TG72	Yanmar 3TNE74
Configuration	3 cyl. liquid-cooled, gas	3 cyl. liquid-cooled, diesel
Horsepower	26 hp (19.4 kW)	23.5 hp (17.4 kW)
High idle speed	3,600 rpm	3,450 rpm
Displacement	53.6 cu. in. (879 cc)	61.4 cu. in. (1006 cc)
Transmission		
Manufacturer	Kanzaki	Kanzaki
Configuration	5-speed, synchro-mesh	5-speed, synchro-mesh
Maximum speed (std. tires)	19.1 mph (30.7 km/h)	19.1 mph (30.7 km/h)
4-wheel-drive option	Automatic, on-demand	Automatic, on-demand
Ground Clearance (unloaded)	6.6 in. (168 mm)	6.6 in. (168 mm)
Bed Height (unloaded)	31.1 in. (790 mm)	31.1 in. (790 mm)
Dimensions		
Wheelbase	66 in. (1676 mm)	66 in. (1676 mm)
Wheel tread, front	48.5 in. (1232 mm)	48.5 in. (1232 mm)
Wheel tread, rear std.	50.8 in. (1290 mm)	50.8 in. (1290 mm)
Width, overall (std. tires)	62.4 in. (1586 mm)	62.4 in. (1586 mm)
Length, overall with box	129.3 in. (3285 mm)	129.3 in. (3285 mm)
Length, overall without box	125.7 in. (3192 mm)	125.7 in. (3192 mm)
Height, overall	49.0 in. (1244 mm)	49.0 in. (1244 mm)
Steering	Power	Power
Turning Circle Clearance		
Inside diameter - 2wd.	17 in. (432 mm) radius	17 in. (432 mm) radius
Inside diameter - 4wd.	54 in. (1372 mm)	54 in. (1372 mm)
Weight (without cargo box - advertised)	1,850 lb. (840 kg)	1,850 lb. (840 kg)
Rated Capacity (including 200 lb. operator, 200 lb. passenger, and loaded attachment)	2,650 lb. (1270 kg)	2,650 lb. (1270 kg)
Maximum Gross Vehicle Weight	4,500 lb. (1529 kg)	4,500 lb. (1529 kg)
Cargo Box Weight - actual	320 lb. (145 kg)	320 lb. (145 kg)
Cargo Box Capacity (calculated)	1,930 lb. (876 kg)	1,930 lb. (876 kg)
Cargo Box Struck Capacity (w/ dry sand) 100lb./sq. ft.	1,924 lb. (873 kg)	1,924 lb. (873 kg)
Towing Capacity (rear hitch)	1,500 lb. (680 kg)	1,500 lb. (680 kg)
Fuel Capacity	8 U.S. gal. (30.3 L)	8 U.S. gal. (30.3 L)
Tires		
Front standard	23x10.50-12 (4 PR)	23x10.50-12 (4 PR)
Front load capacity	1,340 lb. (608 kg)	1,340 lb. (608 kg)
Rear standard	26 x 12.00-12 (4 PR)	26 x 12.00-12 (4 PR)
Rear load capacity (std.)	1,780 lb. (807 kg)	1,780 lb. (807 kg)
Suspension		
Front	Dual leaf springs with shocks	Dual leaf springs with shocks
Rear	Dual leaf springs with shocks	Dual leaf springs with shocks
Brakes	4-wheel hydraulic drum	4-wheel hydraulic drum
Battery	12-volt, 500 CCA	12-volt, 500 CCA
Alternator size	55-amp	55-amp
Sound level @ operator's ear		
Certifications	C.A.R.B., ANSI B56.8	C.A.R.B., ANSI B56.8

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Prominent New England course owner Friel dies

NASHUA, N.H. — Phillip J. Friel Jr., 83, a former golf pro who owned and operated 13 golf courses in Massachusetts and New Hampshire, died here Aug. 30.



Phillip Friel Jr.

Friel was born in Boston and served in the U.S. Army during World War II before becoming the pro at Woburn (Mass.) Country Club (CC). He later worked as head pro at Bellevue Country Club in Melrose, Mass., and Nashua (N.H.) Country Club.

He enjoyed considerable success as a golfer, competing in seven PGA championships and winning the New England PGA as well as the Maine and New Hampshire Opens.

But he had his greatest impact on the New England golf scene as a course developer, owner and operator. While the head pro at Nashua CC, he designed and built Greenmeadow Golf Club in Hudson, N.H., in 1960.

He and his sons — Phillip, Thomas and David — went on to design, build and acquire numerous courses throughout New England.

In addition to Greenmeadow, Friel Golf Management's Massachusetts operations include Beverly Golf and Tennis, Cape Cod CC in Hatchville, and Hampden CC; New Hampshire courses include CC of New Hampshire in North Sutton, Overlook Golf Club (GC) in Hollis, Pheasant Ridge GC in Gilford, Souhegan Woods GC in Amherst, Waumbek GC in Jefferson, Whip-poor-will GC in Hudson, White Mountain GC in Ashland, and World Cup Golf Center in Hudson; and Foster (R.I.) CC.

"He was a very thorough person in terms of what he saw and wanted done on a golf course," said Chuck Welch, head superintendent at Nonesuch River Golf Club in Scarborough, Maine, who worked for Friel at Sable Oaks Golf Club (a former Friel property) in nearby South Portland.

"He had a good eye for what needed to be changed to make a golf course more playable for the average golfer. He was one of the most gracious people I ever met."

Jeff Brown, head superintendent at Souhegan Woods in Amherst, N.H., worked for Friel most of the past 25 years.

"He was always reading articles about grass and was a great one for experimenting," Brown said. "He always wanted to find new ways to do something on the golf course. He never wanted you to fertilize 18 greens the same way. He'd have us fertilize half a green this way and half that way to see what worked best. As long as you worked with him, he was very loyal to his superintendents..."

"If you listened to him and had a bad year, he didn't use that as an excuse to fire you. He really cared about people. He'll be missed."

Friel's sons continue to operate the family business.



Left to right, Norm Pelletier, Phil Friel, Pete Drown and Jeff Brown.

Friel remembered by those he helped

Editor's note: Jeffrey Brown is superintendent at Souhegan Woods Golf Course in Amherst, N.H. Golf Course News asked him to write this article shortly after the recent death (see obituary at left) of Phil Friel. Brown was one of a group of five teenaged boys — Brown, his brother Mickey, Peter Drown, Bill Andrews and Greg Misodoulakis — who were introduced to the game at Friel's Green Meadow Country Club in Hudson, N.H. a quarter of a century ago. "We grew up playing golf together at Mr. Friel's course and ended up in the golf business mainly because of him," Brown said.

By JEFFREY BROWN

It's difficult to put 25 years of friendship and golf experiences into a few words.

My first encounter with Mr Friel was at age 12, when he showed me the way off the course for spending too much time hunting

for lost balls in the woods. I think Peter and Mickey had similar experiences. Mr. Friel kicked us off so many times, he finally gave up and offered us all jobs.

Billy and Greg grew up on the other side of town at a semiprivate course called Whip-Poor-Will, which Mr. Friel later bought. Billy, who eventually became a professional golfer, began taking golf lessons from Mr. Friel at age 15. According to Billy: "My father knew I loved golf and wanted to be a golf pro. So he talked Mr. Friel into giving me lessons."

Greg met Mr. Friel for the first time at a golf clinic held at Green Meadow. We were laughing at how many times Mister came up to us on the driving range, grabbed our left hands and turned them over. After every session he would chuckle and say "Don't you write this stuff down?"

In the mid-1970s, the five of us played

Continued on page 10

LETTERS TO THE EDITOR

Valid complaints elude even the pros

Editor's note: This is a response to articles in the September issue regarding the drought plaguing the Northeast.

To the editor:

When the superintendents of the Northeast Region golf clubs try and explain to their members how they were affected by the prolonged drought, their members may point to the comments by Lee Janzen, in the *Chicago Tribune*, during the PGA which stated that "bad weather is no excuse for not having perfect greens."

His comments and other similar ones by a few other complainers will hold more weight than the golf course superintendent's valid reasoning. My question to Tiger Woods would be: "How can you shoot 10 under par, win the event and then complain about the course?"

Gary Grigg, CGCS, MG
Naples, Fla.

Interns and the learning curve

To the editor:

I couldn't agree more with Terry Buchen's article about turf students and assistant superintendents. As usual, Terry enlightens us with an excellent article.

Personally, starting at the bottom and working at low-budget golf courses has been a valuable asset in this profession. One needs to be very savvy, learn a number of skills and work quite hard to produce a quality playing surface when not having all the tools. We have also heard from interns at our course who have

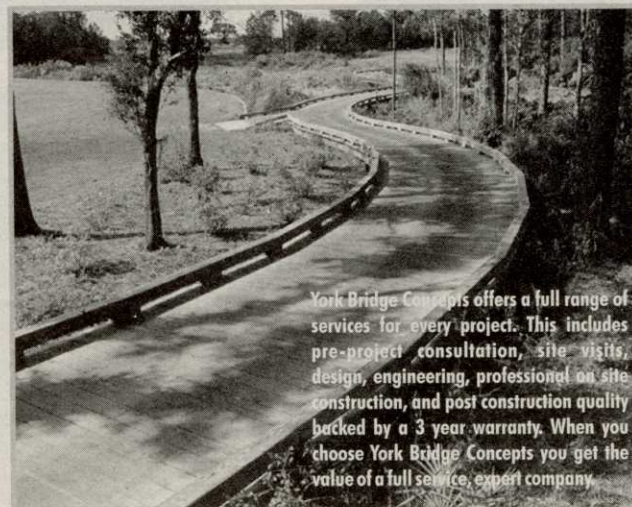
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CIRCLE #106

Friends remember Friel

Continued from page 9

on the same high school golf team. Mr. Friel would always make himself available to us while we practiced after school. Greg recalled how, "Mr. Friel would see me at the range. He'd come over and ask 'How's it going.' Then always 'Let me see you hit one.' Those were some of the best days of our lives."

We were all very competitive and liked beating one another. We still do today. We won the Tri-City Tournament one year, with Peter making a key putt on the last hole to give us the title by a single stroke. Mr. Friel can take some credit for that putt.

By the late 1970s we were all working for Mr. Friel at Green Meadow. His nephew, Dennis Friel, was the superintendent. Dennis taught us the techniques he and his uncle had perfected for growing grass. We can all still remember Mr. Friel riding his mini bike around while checking out the course.

By the early 1980s our careers had begun to take shape. Peter became superintendent at Green Meadow. I was in college and working as Peter's assistant. Mickey was contemplating turf school.

Greg was the assistant pro at the Whip. Billy had graduated from college and was working as the assistant superintendent at Wentworth-by-the-Sea in Portsmouth while contemplating turning pro. The following year, Mickey, Greg and I enrolled at the University of Massachusetts' turf school.

After graduation, Greg returned to Green Meadow as Peter's assistant. Mickey came to Texas to work for me at Austin Country Club (ACC), where we were both fortunate to meet and befriend the late Harvey Penick, the longtime pro who coached Tom Kite and Ben Crenshaw and wrote *"The Little Red Book."*

The turf experience and knowledge of the game we gained from Mr. Friel while at Green Meadow helped us prepare ACC for the Harvey Penick Invitational.

While Mickey and I were in Texas, and Peter and Greg were running Green Meadow, Billy was working at becoming a golf pro.

"It was Mr. Friel," Billy recalled, "who called the golf director at John D. MacArthur Golf Club [in West Palm Beach, Fla.] and secured my golf pro apprenticeship."

I returned to New Hampshire in the mid-1980s and began work-

ing again for Mr. Friel. Mickey had taken the assistant superintendent's job at Haverhill CC. Billy was the golf pro at Rutland (Vt.) CC. Greg had returned to his roots, taking the superintendent's post at Whip-Poor-Will.

Over the years, our professional and personal lives have

continued to cross. We have shared jobs, worked together, and helped one another. We are friends who share two things in common — the love of the game and the dearest admiration for a man who helped us turn that love into successful careers. Mr. Friel is gone.

But he will always be one of us.

He taught us the basics of growing grass and what it takes

to run a golf course. He taught us the game, the swing, how to work the ball. Without him there never would have been a Green Meadow.

Peter and I are still superintendents in the Friel organization — Peter at Overlook Golf Club in Hollis, N.H., and me at Souhegan Woods. Mickey is superintendent at Dublin (N.H.) Lake Golf Club. Greg, who was a superintendent for more than 15

years, has become a salesman for Tom Irwin Inc., a golf course equipment distributor. Billy is head pro at Nashua Country Club.

It's nice to have us all back home, near Green Meadow, where our careers began. But something is missing.

"Things will never be the same," Peter said shortly after Mr. Friel's passing.

He's right. ▶



Nicklaus — Jack, Jack II — team at Aliso Viejo

Continued from page 1

we enjoy the relationship. The commitment has always been to quality and that did not change here."

"The Aliso Viejo project presented a unique opportunity for both my father and me to create a golf course in an urban setting with a rolling hill-

side environment," said young Jack.

"This allowed us to design a course that focused on the strategy of the game of golf. The various elevation changes in the course complemented this philosophy."

Maybe the most dramatic change comes at the par-3 6th

hole of the Creek nine, where a short-iron tee shot drops some 90 feet from tee to green.

From a tee that provides a view of the entire valley, the player surveys a wide but shallow green guarded by a bunker in front and thick, native rough behind, making club selection almost as important as execution.

On the Ridge nine, both the 4th and 9th holes play dramatically downhill from the namesake natural ridge that cuts through the property. At just 360 yards, the 4th dictates that the tee shot — likely played with something less than a driver — be placed right of a long bunker that guards the left side of the

fairway and short of another bunker in the fairway some 240 yards off the tee.

From there, a short-iron approach is played to a green heavily guarded by water and sand.

The same lake that wraps around part of the 4th green also protects the putting surface at No. 9. This time, from tees perched high on the ridge, a drive must stay left of the waste bunker to set up a good approach angle at this 411-yard, par-4 hole.

"Our design at Aliso Viejo places the emphasis on precision rather than power," said the younger Nicklaus. "With a variety of tee locations and the proper weaving in of the bunkers, water and rough, you can allow the golfer the choice of different landing areas and shot strategies. You always want a course that is challenging, but still fair. The Aliso Viejo Course does this."

"My father and I have had the opportunity to co-design numerous projects," young Jack said. "Each time we're asked to collaborate on a project it is both a treat for me and a benefit for the client."

"When we join our design minds we are able to feed off each other's like and dislikes, strengths and subtleties, to create the best possible golfing experience."

Letter on interns

Continued from page 9

worked at other high-caliber clubs, that they did not get the time spent with them or a diversity of job duties.

We limit the number of interns to one or two for this reason. Don't get me wrong as it would be great to have a half dozen or more employees who are dedicated to the profession and have some experience.

But it is not fair to the students who are interning to learn more. It is hard for a superintendent to spend time with a couple of interns in addition to the training we do daily with our key people, i.e. assistants, equipment manager and spray and irrigation technicians.

My message here is the same as Terry's. When looking for an internship or changing jobs to enhance your career, interview the superintendent so you get the most out of what you are striving to achieve.

And don't forget the small unknown golf courses that are out there because there are truly some diamonds in the rough.

Sincerely,
Stephen Maas
The Valley Club
Hailey, Idaho

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CIRCLE #107

Another gem added to Prince Edward Island's golfing crown

By PETER BLAIS

GEORGETOWN, Prince Edward Island, Canada — Dundarave Golf Course, a new Hurdzan-Fry design that opened this summer in eastern PEI's Brudenell Provincial Park, represents another step in the island province's journey toward becoming a major Atlantic Canada golf destination.

The 18-hole, 7,284-yard track runs along the Brudenell River adjacent to the park's existing Brudenell River Golf Course. It

boasts bentgrass tees, greens and fairways and is dotted with more than 120 red-sand bunkers. The peak-season \$60 green fee matches that of nearby Crowbush Cove, a Thomas McBroom design voted Canada's best new course by many golf publications when it first opened several years ago.

"PEI is definitely becoming a golf destination," said Jeff Ready, assistant manager of GolfLinks PEI, the government agency that runs four provincial courses

and promotes golf on the island. "With Dundarave, we have three world-class courses within a half hour of each other. Our other course [Mill River] is only an hour and 20 minutes from Charlottetown."

Dundarave was privately developed, but is operated by GolfLinks PEI, which pays the developers a yearly lease fee on the property. After 10 years, the government has the option to purchase the property at fair market value or continue to lease it.

"It was a good arrangement for both

groups," Ready said. "We [GolfLinks PEI] got a world-class golf course and the developers have an investment to look after."

A group of local golfers/business people had discussed developing a major golf resort on PEI for several years. Charlottetown attorney Eugene Rossiter was among them.

The group, Rossiter said, wrote a business plan that identified a need for a 36-hole resort with a golf academy and accompanying amenities.

"We looked at various sites and Brudenell was an obvious fit," Rossiter said. "It had one of the top 50 courses in Canada already there [Brudenell River GC]. It had 1,800 acres available for development. It had a first-class hotel, RV park and 100 full-service campsites. It was on a river with beautiful views. Horseback riding and a theater were available. It just had everything one could want."

The group consulted with Columbus, Ohio-based Hurdzan-Fry Design and had Michael Hurdzan walk the site. The group approached the province with a public/private partnership proposal in which the government would donate the land and the private group would develop, construct and put together a turnkey operation for the government to take over with the yearly lease arrangement.

"The private sector has the capacity to do things the government can't," Rossiter said. "We could build it on an expeditious basis; make decisions quicker; and bring our resources to bear to get the job done in a timely yet quality manner. We were all of the firm belief that there was nothing the private sector couldn't do quicker, cheaper and better than government... It wasn't built without glitches. There were some disagreements between us and the government. But we're very satisfied with the product."

One of Dundarave's most striking characteristics is the dark red sand bunkers. High concentrations of iron give PEI sands and soils their dark red hue. Most of the island's courses, including the original layout at Brudenell, have opted for imported white sand in the bunkers. But Hurdzan chose the native red sands, an attractive feature that fits the landscape.

"That was sort of controversial," said Hurdzan designer Jason Straka, "because it's a little lower quality of sand. But the owner wanted to use native red sand and buy it from local vendors rather than truck it in from Ohio."

Added Rossiter: "We did everything we could locally — the sod, sand and everything else we could. It was important to us to keep the money on PEI."

Straka said Dundarave is the first course on the island with continuous cart paths and has the widest fairways and largest greens in the province.

From a design standpoint, there were some wetlands to deal with and some land ownership issues that complicated the routing, Straka said. "We had a final routing, but we had to tweak it. It ended up for the best in the long run," he said.

The land was easy to work, being either a red clay or sandy soil, Straka said. "There were no rocks, which was nice for shaping," Straka recalled. "The only problem was when it rained, it turned into

Continued on page 34

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BRIEFS



WILLIAM DANIEL CENTER DEDICATED

WEST LAFAYETTE, Ind. — More than 200 Purdue alumni, friends of the Purdue Turf Program and Daniel family, and industry leaders attended the dedication of the Wm. H. Daniel Turfgrass Research and Diagnostic Center on July 26. The center is a 22-acre research facility on the edge of Purdue University, adjacent to Kampen Golf Course.



It features research projects on many aspects of lawn, sports, and golf turf and a state-of-the-art educational facility complete with classrooms and labs. The Daniel Center is named in memory of Dr. Bill Daniel, long-time Purdue professor and one of the pioneers in the turf industry.

PA. TURF COUNCIL DONATES \$175K

COLLEGE STATION, Pa. — The Pennsylvania Turfgrass Council has allocated \$175,000 to support the turfgrass science program in Pennsylvania State University's College of Agricultural Sciences. The council designated its support for agronomy, entomology and plant pathology. The department could use the funds for staff and research support for projects designed to solve problems relating to turfgrass pests and other cultural practices used in the turfgrass industry.

NYSTA SHOW ITS 50TH

SYRACUSE, N.Y. — The New York State Turfgrass Association (NYSTA), in cooperation with Cornell University, will celebrate its 50th year at the annual Turf & Grounds Exposition, Nov. 9-11, at the OnCenter here. The conference theme is "Committed to Excellence: Plants, People, The Environment, and You." For more information, people may call NYSTA at 800-873-8873.



N.C. STUDENTS GET SCHOLARSHIPS

CHAPEL HILL, N.C. — Seven North Carolina turf students were awarded monetary scholarships from the Turfgrass Council of North Carolina for the 1999-00 school year. North Carolina State University recipients are James Herns, Casey Reynolds and Matt Fagerness. Catawba Valley Community College recipients are Jerrett Blanton and Brian Plummer. Other recipients are Sandhills Community College's John Clevenger and Brunswick Community College's David Bullard.



Under the charge of Rob Hellstrom, right, Dundarave Golf Club was finished in one season. See story on Dundarave on page 12.



Photo by Peter Blais

Hellstrom: A man for one season

By PETER BLAIS

MONTREAL — Building a golf course in a single season is almost unheard of in snow-packed areas like Canada, the Northeast and Midwest United States. But Robbie Hellstrom, a former superintendent turned golf course consultant, may be changing those expectations.

The Montreal-based, 34-year-old owner of RJH Golf Course Management Services Inc. has turned the single-season trick at two recently built Canadian courses — Le Diable in Mt. Tremblant, Quebec, and Dundarave

Former superintendent builds courses in matter of months

Golf Course and Academy at the Brudenell River Resort on Prince Edward Island (PEI).

"Now that we've done it twice, we may have started a trend that will have to be continued," Hellstrom said.

Hellstrom's firm handles everything from course construction to golf event management. He recently coordinated the Molson's Export A Skins Game featuring John Daly, Fred Couples,

David Duval and Mike Wier at Mt. Tremblant. In addition to building and maintaining the two courses at Mt. Tremblant, he was project manager at Dundarave, the new Michael Hurdzan/Dana Fry design on PEI that opened this summer. Sugarloaf Golf Club in Carrabassett Valley, Maine, also recently hired Hellstrom as course consultant.

Hellstrom started RJH Golf Course Management Services in 1996, while still working for Intrawest, a major North American ski resort operator, at

Continued on page 14

Bugged? Try dragonflies

By MARK LESLIE

CASCO, Maine — Superintendent Gerry White had loaded Point Sebago Golf Club with bat and bluebird houses and a purple martin hotel to fight his insect problems. So what else could be done?



ON THE GREEN

Ever hear of dragonflies? As naiads (nymphs) they prey on small aquatic invertebrates, while adults dine on midges, mosquitoes and other insects. The Audubon Society Field Guide to Insects and Spiders states: "Both naiads and adults are highly beneficial predators, destroying huge numbers of mosquitoes."



Gerry White places dragonfly naiads from a container into a pond at Point Sebago Golf Club.

Pursuing the idea planted by a golfer who observed the dragonflies naturally on his course, White set on a mission four years ago to enhance that population in the 10 ponds and various waterways of his 600-acre property. Play a round at Point Sebago today and golfers

Continued on page 17

Digital mapping enters various course operations

By KEVIN P. CORBLEY

Unheard of on the golf course just a few years ago, digital mapping technologies are rapidly being integrated into virtually every aspect of course operations.

First, satellite-based GPS surveying was introduced to map irrigation system components, track golf car locations, and calculate yardage from player to pin. Now, superintendents are increasingly turning to another computerized map tool — known as GIS — to manage daily operations and course facilities.

Geographic information system, or GIS, technology has proven so successful at automating land and infrastructure management

FIRST OF 2 PARTS

functions in industries such as forestry, electric utilities and oil production that some firms are touting it as the future of golf course maintenance.

GroundLinkx LLC of Littleton, Colo., developer of the GroundLinkx GIS golf course management program, has formed a joint venture with IntraSearch Inc. of Denver, an aerial photography and digital mapping firm, to create fully integrated GIS software and digital map packages customized for individual golf courses. Packaged under the GroundLinkx name since 1994, the new integrated system also runs on a standard Pentium desktop computer.

Continued on page 18

'Aerifier dolly' easily rolls around the shop

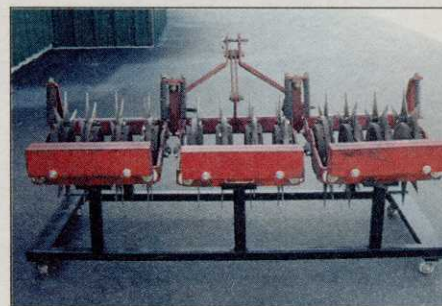
By TERRY BUCHEN

NAPLES, Fla. — Darren J. Davis, superintendent at the Olde Florida Golf Club, and equipment and shop manager Kim Ellis have designed and built an "aerifier dolly" to make their 3-point hitch-mounted aerifier much easier to move around the shop and make repairs, change aerifier tines, slicing blades, etc. without tying up tractor.



SHOP TALK

The frame and five-risers (two front;



Tractor implements can be installed on a three-point hitch easily with this mobile storage system.

three rear) are made of 2-by 2-inch by 1/4-inch square tubing. The 29-by 75-inch frame is lightweight, strong and versatile. The holder or bracket that

Continued on page 17

Man for one season

Continued from page 13

Mt. Tremblant. He opted to leave his position as director of golf operations with a staff of 105 at Tremblant (although he remains a consultant with Intrawest) and concentrate on his consulting business in 1997. RJH co-designed and constructed Vallee des Fort Golf Course, which opened on the south shore of Montreal in 1996. In 1997, RJH was hired as project manager at Dundarave.

While with Intrawest, Hellstrom oversaw construction of Hurdzan-Fry-designed Le Diable, which he built in a single season. He was able to duplicate that feat at Dundarave, another Hurdzan-Fry effort that took 117 days to build. According to Hellstrom, Dundarave and Le Diable are the two fastest-built courses in Canada.

"I dedicated almost 100 percent of my time to Dundarave from January 1998 to July 1999," Hellstrom said. "I'm real proud of what took place there."

The speed at which Le Diable and Dundarave were built was more a matter of circumstance than any sort of grand plan, Hellstrom said. It took Intrawest almost two years, a typical construction timetable, to build its first course at Mt. Tremblant, called Le Geant. At the time, Intrawest was adding hotel rooms faster than the amenities needed to handle the additional guests, Hellstrom said. Company officials asked him if it would be possible to build Le Diable in just six months to provide an additional amenity for its guests. With basically a five-month construction window (May 1-Sept. 30), the only way to establish grass that would be ready for play the following year was to plant seed by September, while the soil was still warm enough to support growth.

"We put the logistics together and laid out a critical path," Hellstrom remembered. "We went to the chiefs of the corporation and said, 'This is how it plays out. If it rains for three days when it's not supposed to, then there goes the schedule. How comfortable do you guys feel with investing based on this sort of a plan?' They asked me how I felt about it. I said it was a risk. But we decided it was something we could do. We got a contractor who had never built a course before, backed up by the general contractor who helped us with Le Geant. Everything fell into place. We started construction May 1 and on Oct. 11 I played 11 holes with the president of Coca-Cola Canada.

"That's why I was attractive to the developers in PEI. A lot of people thought it was a fluke, that we just got lucky and couldn't do it again. We put the critical path together at Dundarave, got a general contractor who never built a course

before, and I served as project manager for both the builder and developer. We got real lucky again with the weather. We seeded the last hole on the golf course by August 28 and the last holes on the academy on Sept. 17. I think this [building in a single season] will become more the standard because developers just don't want to tie up that much cash for that long without a cash flow."

In both cases, Hellstrom em-

ployed inexperienced course builders as general contractors. Was that helpful in getting the course built in a single season?

"There is a corporate thinking within the big contractors that their margins are built a certain way and if you build it in six months instead of 12, then it has to cost more," Hellstrom said. "But the ultimate question I ask is 'If I told you an inexperienced contractor had built this golf course, would

you have known?' That's the important element. If someone walks on your course and says 'What the heck is this?', then you've made a mistake. In both cases, we brought in shapers experienced in the business... There are advantages to hiring an inexperienced contractor, but there are disadvantages, too. You need someone who can work 20 hours a day and be in 50 places at one time."

The key to building a course

in such a short period is "that everyone understands their role," Hellstrom said. "Everyone, from the guy pushing the dirt, to the guy laying the pipe, to the guy shaping the course to the guy seeding it, understood how important it was for each guy to keep speed and keep pace with the guys in front of them."

FROM HOCKEY TO GOLF

Hellstrom never played golf
Continued on next page

SOME PROS EAGLE EVERY HOLE.



By PETER BLAIS

CARRABASSETT VALLEY, Maine — American Skiing Co. (ASC), operators of Sugarloaf Golf Course here, has hired Robbie Hellstrom as course consultant to ensure that course maintenance at the mountain resort is properly handled and to assist in developing long-range plans for the facility, which has been ranked the state's top layout for the past

Hellstrom takes Sugarloaf reins

dozen years.

Hellstrom first visited Sugarloaf last October. While pleased with its No. 1 ranking, ASC hired Hellstrom to take Sugarloaf "to the next level."

"The course is 15, 16 years old," Hellstrom said. "They asked me to focus on what they needed to do to improve the

course and change some of the operating formats they have now. It's a true mountain course built 15 years ago when many of today's efficiencies of construction were still non-existent.

"Because of its environment, there are some things that have become significant challenges, such as the bunkers. In a moun-

tain environment you get a lot of blow-out and debris, so we're looking at a program to revitalize all the bunkers. We're looking to asphalt all the cart paths. We did four holes this July.

"We'll continue to work on drainage. A lot of the cross drainage has grown in over the years... We'll do an extensive program of re-ditching those drainage areas and diverting the water

Continued on page 16

Man for a season

Continued from previous page

up to his late teens. He was a hockey player who was good enough to be drafted by the Montreal Canadiens in 1982. "I didn't think I would ever be good enough to play in the NHL," Hellstrom remembered. "So I decided to continue to go to school."

His father hoped he would follow in his footsteps and become an engineer. But Hellstrom preferred working outdoors and got a summer job with a landscaper while he attended college at Marionapolis near Montreal. He enjoyed landscaping and earned a certificate in horticulture from Marionapolis. He received a full scholarship from the University of Helsinki in Finland, where he had lived until his family moved to Canada when he was 12. After earning a bachelor's degree in business and an associate's degree in agronomy at Helsinki, he went to work for a water park development company north of Montreal, where he cared for the grounds and pump stations.

While at the water park, he met former NHLer Dickie Moore who owned nearby Arundel Golf & Country Club. Moore asked Hellstrom to become his assistant superintendent. Hellstrom had yet to ever swing a golf club, but took the job working under head superintendent "Buster" Cooke.

"He (Stuart) was the most incredible person I ever met and the most influential person in my career," Hellstrom said. "He was 75 years old and looked like 50. And he could out-work any 20-year-old out there... Sharing the expertise this guy had from 35 years in the business was just phenomenal. I learned more in two years with him than I did in six years of school before that."

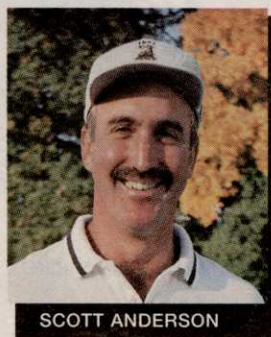
A gentleman named Houssain Soudavar was impressed with Arundel and hired Hellstrom to oversee construction of a new residential golf course he was building north of Montreal named Balmoral. "I hadn't done a full-blown course construction project to that point," Hellstrom said. "But we ended up getting the job done on time and on schedule."

Hellstrom stayed on as director of development once the course opened and became more involved with the other aspects of club operation as well — food and beverage, member services, pro shop.

Some officers from Intrawest played Balmoral in the summer of 1993 and approached Hellstrom later that year about helping develop golf at Mt. Tremblant. He was named to the board of directors in late 1993 and started overseeing development of Thomas Mc-Broom-designed Le Geant. He also worked on Intrawest properties at Mt. Stratton in Vermont and Gray Wolf in Panorama, B.C. ▶

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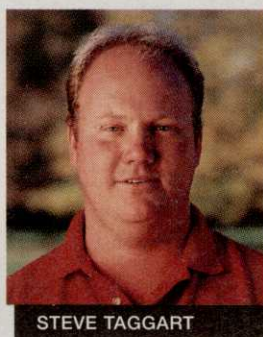
Here's what Golf Course Superintendent Scott Anderson of Huntingdon Valley Country Club in Huntingdon Valley, Pennsylvania, has to say about Eagle turf fungicide:



SCOTT ANDERSON

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Adds Golf Course Superintendent Steve Taggart of Shawnee Inn and Golf Resort in Shawnee, Pennsylvania:



STEVE TAGGART

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Bear Trap Dunes hires Eric Linde

BETHANY BEACH, Del. — Bear Trap Dunes Golf Club, a new 18-hole par-72 course in Ocean View, has hired Eric M. Linde as superintendent and Houston Frey as his assistant.

A certified golf course superintendent, Linde holds a bachelor's degree in agronomy from Penn State University. He

worked as superintendent for many high-end courses, including Landsdowne Resort and Conference Center, Shenandoah Valley Golf Club and Farmington Country Club. He is a founding member of the Zoysiagrass Growers Association, has been active in the Audubon Cooperative Sanctuary Program, and has

spoken at various national and regional turfgrass conferences.

Frey comes to Bear Trap Dunes with a turfgrass degree from Rutgers University. His prior positions were assistant superintendent for Ocean City Golf and Yacht Club, and crew foreman for River Run Golf Club.

HENDERSON, Nev. — Lake Las Vegas Resort has hired Jeff Reid as superintendent of

SouthShore Golf Course.

Prior to joining Lake Las Vegas Resort, Reid worked at Spanish Trail Country Club, La Costa Resort & Spa, Carlton Oaks Country Club and Eaglecrest Country Club.

Reid is a graduate of Grossmont College, with a bachelor's degree in business administration. He also holds a golf and sports turf management degree from Cuyamaca College.

SCOTTSDALE, Ariz. — Sanctuary Golf Course at Westworld, SunCor's new 18-hole, daily-fee golf club here, has named Rick Ulloa assistant superintendent.

Ulloa has more than 10 years experience, assisting in course construction, maintenance and management, serving at such courses as Hillcrest, Wildfire and Kierland golf clubs and The 500 Club Golf Course, all in Arizona.

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Sam Williamson, CGCS
Golf Course Superintendent

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Sugarloaf hires

Continued from page 15

where it needs to go. We'll also put in some subsidiary drainage on fairway areas that in a mountain environment tend to collect and hold water. We're talking about adding three golf holes to the golf academy and building a clubhouse. We're putting together a three-year master plan."

Hellstrom will also assist in the possible development of a second 18-hole layout at Sugarloaf; help construct a new 18 at ASC's nearby Sunday River resort in Bethel; undertake a capital improvement program for maintenance equipment; and develop marketing and operational plans.

Hellstrom has a bachelor's degree in agronomy and describes turf management as his "passion, even though I haven't considered myself a superintendent for many years because I haven't been doing that specific job. I've been hired by companies to assist them in all aspects from construction to grow in to setting up the operational formats to building maintenance centers and clubhouses to purchasing equipment to guest services."

Hellstrom and Sugarloaf have a verbal agreement which results in his spending three to five days a week at the northern Maine resort. "When I'm not here, I pass on instructions to my assistant [Ryan Elliott] and foremen and let them do their jobs."

Hellstrom maintains a home and his office 50 miles north of Montreal. Intrawest remains one of Hellstrom's clients, meaning he works for the two largest ski resort companies in North America. He is also consulting at Montreal's Vallee des Fort, which is building a second 18 holes.

"We don't discuss Intrawest's business with ASC or ASC's business with Intrawest," Hellstrom said. "It's not that hard to balance. Both companies know that we're a consulting firm and don't have a problem with it. They aren't as competitive in golf as they are in skiing... I feel fortunate to work for two such great companies. People recognize it as a compliment to the services we deliver that these companies would both want to have us as consultants." ↑

Dragonflies forever

Continued from page 13
don't get bugged by bugs.

Through the Audubon Society, White found a company that breeds dragonflies, basically to provide school biology classes. Since then, White has bought 1,000 dragonfly naiads (nymphs) each year and distributed them in his ponds and streams.

"It does not matter if it's running or stagnant water," White said. "But they do recommend naturally occurring standing water."

The naiads are shipped overnight in the springtime — 50 or 100 per container. They cost \$27 for 50, \$52 for 100 and \$468 for 1,000 naiads.

White said the naiads usually don't hatch into adults until the following spring because they are adjusting to their new environment. But, according to the Audubon Society Field Guide to Insects and Spiders, that varies from species to species.

The Green Darner, for instance, is found throughout North America and crawls out of the water in early spring or late summer to transform into an adult. The Green Darner transforms in May in New England but in October in Alabama. The 365 Widow emerges as adults in the late summer in the North but in April in the South.

'Aerifier dolly'

Continued from page 13

the machine rests on is 2-inch "C" channel steel. The back three are 6 inches in length and the "C" channel is 2 by 3 inches high, so the back three have "C" channel that runs parallel to the base of the machine.

"The front two brackets are 6 inches long as well, but do not run parallel to the frame. Instead they run perpendicular to the frame. It is also 2-inch "C" channel but is turned upside down and welded at the center. At both ends of these 6-inch pieces of upside-down "C" channel is another piece of "C" channel welded on to it that runs upward, also at 3 inches.

The brackets are wider in the front because the Toro 687 that rests in it is wider in the front.

The three weight trays on the back of the Toro 687 are all independent and narrow enough to use 6-inch "C" channel running parallel to the machine, Ellis explained.

The two front risers and the outside two risers on the back are 13 inches from the outside of the frame, Ellis said. The center riser (on the rear only) is 37-1/2 inches, or exactly centered in the back. These five risers are all equal height off the frame: 12 inches high to the base of the channel. The metal was painted with a primer and then Rust-oleum.

"It took Kim between three and four hours to build it," Davis said. "It cost \$200 for the steel and paint and \$80 for the casters, which are heavy-duty rated for 460-pound load range per wheel and were obtained from Grainger, part # 1F147. I am very pleased with Kim's usual good work that really shows that integrity and hard work pays off." ▶

And Gomphid dragonflies fly from April to September in the North but from June through October in Texas.

For the inquisitive mind wondering how the adults eat: "It is scientifically proven that they collect insects on their wings as they fly, then eat them off their wings," offered White.

Even if the dragonflies were not effective mosquito munchers, White said the public-relations value is worth it. So far, their use on the golf course has been word of mouth, but he said he is considering signs on the course informing golfers of the dragonfly project. ▶

PGMS, GREEN INDUSTRY EXPO READY

BALTIMORE, Md. — The 1999 Conference of the Professional Grounds Management Society, coupled with the Green Industry Expo, is scheduled for Nov. 13-16 at the Convention Center and the Marriott Inner Harbor Hotel here.

The three GIE partner organizations (PGMS, ALCA and PLCAA) will present more than 50 separate education sessions at the convention center, with each organization sponsoring approximately one-third of the sessions.

The PGMS subjects for 1999 include team-building; IPM of perennials and ornamental grasses; skin concerns for grounds professionals; maintaining a positive attitude; moving big trees; becoming a certified grounds manager; athletic field construction; preserving trees during construction; environmental stewardship; diagnosing site-related problems; use of topiaries in the landscape; control of Canadian geese; understanding landscape and herbicide use; managing grounds at a major league ballpark; using native plants in the landscape; sports turf care and trends; and maintaining the U.S. capitol landscape.

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Mapping expands

Continued from page 13

"GIS has been slow to reach many industries, such as golf, for financial reasons," said David Mikes, GroundLinkx president and founder. "Recent advances in computer and software capabilities, together with falling hardware costs, have made GIS accessible to desktop computer users."

Superintendents seem to be making up for lost time. The program has already been purchased by 21 courses, including The Vintage Club in Indian Wells, Calif., Olympia Fields Country Club in Illinois, and Meadow Springs Country Club in Richland, Wash.

Earlier this year, the U.S. Golf Association contracted for systems on five courses to site manage their upcoming U.S. Open tournaments.

WHAT IS GIS?

A GIS is sometimes referred to as a "smart map" because it connects database information with features on a computerized map display. In the GroundLinkx GIS, for example, a course map appears on screen, allowing the superintendent to point and click on any course feature — such as a green, fairway or tree — and retrieve information about it.

Stored in an underlying database, this information pops up on screen in dialogue boxes. Hole number, perimeter length and area measurement are provided for two-dimensional features, while item-specific details such as species or pruning schedule are offered for trees or shrubs. Basic data is either entered during development or afterwards by the superintendent. The system calculates other information on the fly.

GroundLinkx has programmed numerous mathematical calculations into the software so a superintendent can click on a defined feature like a green or outline a portion of one to perform any of several useful functions. The system instantly calculates square footage, measures precise distances, computes sand volumes for bunkers, determines product application rates, shows how many tournament hospitality tents will fit in an assigned area and performs many other golf-specific functions.

"The programming gives 'geographic intelligence' to the GIS, allowing superintendents, course agronomists and tournament directors to work smarter, not longer," said Mikes.

MAKING A GIS MAP

Creating a digital GIS map starts with source material — a paper map, aerial photograph or GPS survey. For its early systems, GroundLinkx obtained existing air photos of courses, scanned them and then digitized them. Digitiz-

ing involves tracing feature edges on screen with the cursor and saving each as a file of point coordinates defining feature boundaries. At the same time, a database file is attached to each digital feature for input of its name, hole number and other details.

IntraSearch provides several new mapping techniques to GroundLinkx that dramatically improve the accuracy of maps and calculations. The first is

orthorectification, a computer-intensive process that removes distortion from aerial photography.

"Orthorectification improves the accuracy of the aerial photograph to 6 inches or less," said Mike Platt, president of IntraSearch, which has provided state-of-the-art mapping services for more than 50 years. "Like GIS, orthorectification was cost-prohibitive until recent computer advancements brought the pro-

duction cost down significantly."

For every GroundLinkx system ordered, IntraSearch acquires new aerial photography of the course so the GIS map will be up to date. On the ground, it obtains six to nine GPS survey points — key ingredients in the orthorectification. The result is called an orthophotograph, from which feature locations can be mapped with an accuracy of less than 1 foot.

"The beauty of orthorecti-

fication is that with less than a dozen GPS points, we can make a course map that contains more data than a costly field survey of 200,000 GPS points," said Platt. "Our entire GIS package with the map and aerial orthophoto commonly cost less than a full-course GPS survey."

However, several courses have already been surveyed with GPS, and that those surveys —

Continued on next page



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Assistant superintendents' salaries

Continued from page 1

"They are very important in the operation of the golf course and deserve the recognition for their role in assisting the superintendent," said Gerry White, head superintendent at Point Sebago Golf Club in Naples, Maine, and president of the Maine Golf Course Superintendents Association.

"I also look at it as an insur-

ance policy. Heaven forbid I'm driving down the road and a tractor trailer hits me, the operation won't fall apart because I have a quality assistant. If I leave in the middle of the season or a family emergency arises, it's the same thing. I've explained this to the owners. I've also explained the need for two [well-compensated] assistants. I'm losing my first

assistant this year and my second assistant will step up."

White knows opportunities exist for well-trained assistants to move on, even in Maine, where the mean superintendent's salary (\$46,932) is near the bottom in the country and the average assistant's salary (\$20,400) is dead last nationwide, according to GCSAA figures.

"What I'm trying to get them to do," White said, "when they leave

here is to take jobs that are at or above the average pay scale in this state. That way they help elevate the salaries of superintendents in the entire state. Both of my assistants who have left here have accepted salaries above the average. Superintendents need to educate their assistants to only take superintendent salaries that are worthy of their skills."

By not settling for less than

Continued on page 20

Mapping expands

Continued from previous page

as well as most other digital map data — can be integrated directly into the GIS.

"An important advantage of GIS is that you can put a lot of your existing course information right into it," said Jason Bass, president of Point Forestry Customized Inventory & Imaging Inc. of Minneapolis, developer of a forest management package now customized for golf course use.

Adding Other Mapping Techniques

GroundLinkx uses the same digitizing technique to make the GIS map from the orthophoto as from the standard air photo, but the orthophoto allows the company to take advantage of another digital mapping capability called photogrammetry.

"Photogrammetry improves the resolution of the photos four to six times," said Platt.

When IntraSearch acquires the aerial photograph of the course, it also shoots two overlapping photos from opposing viewpoints, called "stereo" photos. IntraSearch applies advanced digital processing routines to these stereo photos so they can be viewed in three dimensions.

"Three-dimensional viewing means that GroundLinkx technicians can map much smaller objects into the GIS such as pins, utility boxes, and signs during the digitizing process," said Platt. "Those small objects would just appear as smudges on a two-dimensional photo and would be impossible to map into the GIS."

This type of photogrammetric mapping is offered as an optional service to GroundLinkx clients. IntraSearch also offers a digital topographic map of the course, which is a derivative of the orthorectification process and can be integrated directly into the GroundLinkx program. Most owners purchase the topographic contours layer to use in planning new construction and to determine surface water drainage patterns on their courses.

When the GIS program is in use, the superintendent can stack various data feature layers on top of the basemap on screen. The superintendent has two display options for the basemap — either a colored line map of the course or the orthorectified air photo underlay.

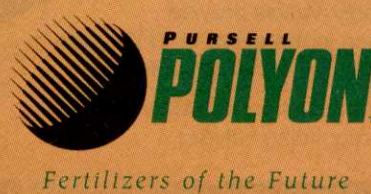
"Most clients use the photo as their basemap because the photograph contains so much more visual information than a simple line drawing," said Mikes. "Superintendents are quickly learning that digital GIS mapping offers many useful tools and benefits previously unavailable for course management and maintenance." ▶

Next month: Real-life applications of GIS and its future.



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Assistant supers' wages

Continued from page 19

they deserve when they move up the career ladder, assistant superintendents are helping the entire profession, White said.

White said convincing his owners to pay his assistants adequately has not been a problem as long as he keeps his total personnel budget in check.

New York is on the opposite end of the spectrum from low-paying Maine. The average \$34,914 paid assistants is second only to Hawaii nationwide, while the mean \$59,721 superintendents receive places it eighth in the United States.

"I don't know a superintendent in the metropolitan [New York City] area who's making \$60,000," said Stephen Rinzetti, director of golf at Wykagyl Golf Club in New Rochelle, N.Y. "That's not even the starting figure. The assistant's salary is pretty much on the money, though."

"The assistant's role has evolved in the past few years to include a lot more responsibility. The assistant is an extension of the head superintendent. And if the head superintendent is putting a lot of the things he was once responsible for in the hands of the assistant, you better have the best guy out there you possibly can. My success and failure is due in large part to the ability of the assistant who is helping me. If I don't get on the golf course for a day, a lot can happen in that single day. The assistant is keeping

me abreast of what's happening out there. And if you want to attract good people, you have to pay good people."

The increases head superintendents have made in recent years have generally exceeded those of assistants, Rinzetti said. Part of the reason is the large number of qualified assistants in the marketplace.

Rinzetti, likewise, encouraged assistants to seek no less than "current market value" in pay when moving from an assistant to a head superintendent post. "They shouldn't sell themselves short," he said. "Clubs are being shortsighted in luring someone in at a low rate because they'll only end up with someone who is unhappy who, once he finds out what the market rate really is, will start looking for a new position. Clubs should pay current market value and applicants should expect it...A lot of the clubs in the Met area that are hiring quality assistants as head superintendents are paying close to market value, more so than they did five or six years ago."

Right in the middle of the assistant's pay scale is Florida, where the mean salary of \$27,843 is within \$160 of the national average.

"When the head superintendent is not on the property, the assistant is his ambassador," said Golf Course Manager Tim Hiers of Collier's Reserve in Naples, Fla. "He should also be an extension of your philosophy — to treat people fairly, be a good listener, organized, loyal, have experience, be ambitious and trustworthy.

That tells how important the position is."

Only owners/members who don't understand the value of the business balk at paying an assistant at or above market value, Hiers said. As for the jump from assistant to head superintendent, assistants should not be surprised to be offered slightly less than a head superintendent would be for the same post, he added.

"If you run an NFL football team and you're looking at bringing in a quarterback with 10 years experience and a Super Bowl under his belt as opposed to someone fresh out of college, you'd expect to pay more for the experience because that person has been there and done that," Hiers said.

"There's a balance. Too many times clubs try to save money by bringing in an assistant rather than paying a superintendent's wage. When they do that they show their lack of understanding of the business. I'm not saying it's wrong to hire an assistant. We were all assistants at one time. But sometimes assistants have a tendency to undersell themselves. They shouldn't expect to receive as much as a qualified head superintendent. But too many clubs think they can save money [by hiring an underqualified assistant] and don't think about liability, lawsuits, workers comp, preventive maintenance and the bigger picture that an experienced superintendent can bring. Hopefully, the assistant has seen that [good] model and can bring that with him." ▶

Average salaries

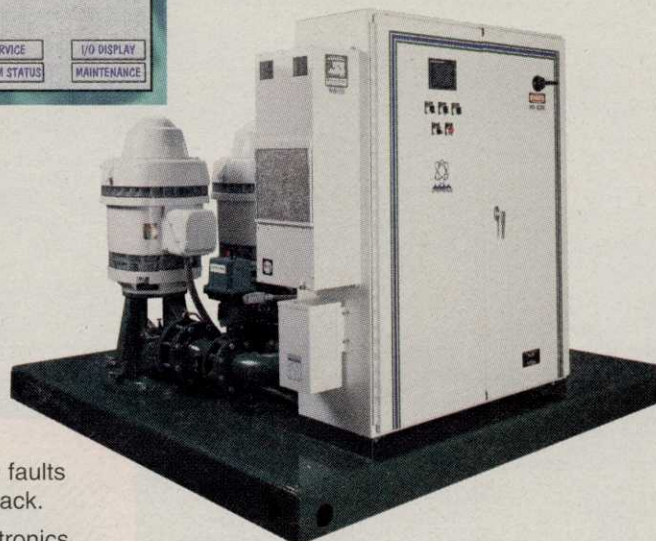
State	Head Super. (\$)	Ass't Super. (\$)
National	33,205	27,981
Alabama	52,911	26,706
Arizona	62,676	28,965
Arkansas	42,718	22,814
California	63,128	32,175
Colorado	52,069	29,225
Connecticut	68,681	34,897
Delaware	53,654	28,350
Florida	57,840	27,843
Georgia	57,351	27,188
Hawaii	59,200	44,667
Idaho	45,785	26,042
Illinois	56,021	28,961
Indiana	50,833	25,936
Iowa	41,319	24,975
Kansas	44,390	24,186
Kentucky	40,264	24,644
Louisiana	44,217	23,136
Maine	46,932	20,400
Maryland	62,111	29,600
Massachusetts	58,757	31,603
Michigan	47,177	25,491
Minnesota	47,327	26,462
Mississippi	49,791	24,286
Missouri	47,417	25,067
Montana	40,554	25,120
Nebraska	42,167	26,354
Nevada	58,032	32,917
New Hampshire	47,032	26,435
New Jersey	65,431	33,608
New Mexico	42,198	24,875
New York	59,721	34,914
North Carolina	52,501	25,100
North Dakota	39,250	22,029
Ohio	49,855	26,975
Oklahoma	45,755	24,956
Oregon	51,795	29,850
Pennsylvania	50,637	26,306
Rhode Island	61,762	33,889
South Carolina	59,789	24,775
South Dakota	36,713	21,530
Tennessee	49,325	24,476
Texas	52,755	25,520
Utah	46,361	26,885
Vermont	50,877	28,631
Virginia	54,357	27,003
Washington	50,840	29,147
West Virginia	50,837	25,833
Wisconsin	47,361	27,120
Wyoming	42,293	25,214

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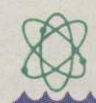


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Tree inventory software eases the pain of tree removal

By ANDREW OVERBECK

"There are only two kinds of courses in this country," said Dave Oatis of the U.S. Golf Association, "ones that are overplanted and ones that will be overplanted."

Despite constant prodding by organizations like the USGA, most courses are just now starting to pay attention to their tree-management practices and implementing selective tree-removal programs.

According to Oatis, more courses are starting to feel the effects of tree-planting schemes that were popular 20 to 30 years ago.

"The top three problems are improper selection of species, improper location and planting too many trees," said Oatis director of the Northeast Region of the USGA Green Section.

These problems can lead to increased tree disease, weaker, poorly developed trees and increased competition with surrounding turf areas for sunlight, water and nutrients, said Dr. Jay Sipes of Virginia Tech University in Blacksburg, Va.

"The first step to combating these difficulties is to prepare a tree inventory," said Sipes. "First, identify the trees; second, scout for disease and pest presence and damage; third, identify pests; fourth, implement a management plan to take care of these problems."

GPS AND GIS

The second step, according to forester Jack Swaze of Swaze Burris Terra Turf and Trees in Houston, is to map the golf course with Global Positioning System (GPS) and Geographic Information System (GIS) software that provides superintendents and greens committees with a visual idea of how trees and turf are interacting on the golf course.

"Most courses are on a collision course with nature and they are going to have to manage trees just as they manage the turf in order to have optimum conditions," said Swaze. "We catalog and identify trees on an aerial map that assesses what they have and then the software can predict what a tree is going to do down the line."

The PC-based software program is pre-



An aerial image prepared by Terra Turf and Trees identifying tree placement on the 10th hole at BraeBurn Country Club in Houston.

pared for each golf course and is a "working tool" that can be used as a constantly evolving management device to change and update course conditions over time. Swaze recommends that an arborist review the data every four to five years to ensure that a proper management program is followed.

Jason Bass, certified arborist and presi-

dent of Point Forestry in Eagan, Minn., prepares similar turnkey software programs for golf courses.

"We do GPS and GIS tree inventories and we catalog tree species, condition, damage and disease," said Bass. "Then we show the superintendent where trees are too thick, where the trouble trees are,

Continued on page 24

Who can take an oak tree? The Stump Man can



"Have stump grinder will travel..." is the raison d'être of the Crews Service Co.

By ANDREW OVERBECK

WALNUT GROVE, Mo. — Sick and tired of dealing with the hassles of owning a medium-sized tree-service company, Ted Crews sold his share of the business to his brother four years ago and struck out on his own. Crews, a certified arborist, is now waging a one-man battle to rid a seven-state region of a persistent evil...tree stumps.

"I wanted to do something that I could do by myself," said Crews. "A stump grinder was the only machine that one man could operate and make a living with."

And what a living Crews makes. In order to make his business feasible, he owns the most powerful stump

Continued on page 24



Dead trees have their uses.

What use is a dead tree?

By RON DODSON

What is a snag?

A snag is a dead or dying tree that is left standing. To many people, a snag is just firewood waiting to be cut, and until recently, foresters systematically removed dead trees because it was thought that they harbored disease and insect pests. In fact, most dead trees do not harbor active diseases or damaging insects.

It is now widely recognized that many bird species feed heavily on insects and thereby help to prevent serious insect outbreaks.

But how does a tree become a snag?

Continued on page 22

Ron Dodson is president of Audubon International, headquartered in Selkirk, N.Y.

Trees versus turf: A constant battle over water

By JACK SWAYZE

That's a fine little sapling you planted there. It may not consume much water today, but have you considered the future?

A plant's leaf surface area basically determines its water usage. The larger the leaf surface, the greater the water loss. Evapotranspiration (ET), the loss of moisture into the atmosphere through the leaves, is effected by temperature, humidity, time of year, wind exposure and sun.

In the winter, for instance, dormant trees and turf require less water due to lack of foliage, cooler temperatures, and shorter daylight hours. Conversely, in the summer the usage can be significantly greater due to higher temperatures, sunlight, wind, and so on.

Cultural practices such as mowing keep the golf turf leaf surface area at a prescribed height. The moisture loss by the relatively small leaf surface area of turfgrasses is minimal

Jack Swayze is a forester and president of Terra Trees Turf, LLC, headquartered in Houston.

compared to tree leaves. The ET is still affected to a great degree by the temperature, wind, humidity, etc.

Overall, the water requirement of the turf is constant from year to year as it covers only the same given area with no change in height or biomass. The golf course will probably always average the same annual water consumption for the turf year after year.

However, trees differ from turf in that they have woody conductive and support tissue that connects foliage with the tender root hairs in the soil. The canopy of the tree is in equilibrium with its roots in the fact that one physiologically supports the other. Leaves are responsible for photosynthesis (carbohydrate production), while roots absorb moisture and nutrients. One can not exist without the other.

Trees have root systems that can extend for hundreds of feet and are often two or three times as long as the tree is tall. Tree roots' influence on turf can be considerable as they can extend into and grow across fairways. Trees can outcompete turf for moisture, nutrients and oxygen.

Continued on page 22

Swayze on trees

Continued from page 21

By contrast to turf, trees are ever increasing in size. Each year they add more biomass in the form of leaves, twigs, trunk tissue and roots. This added tissue growth means an added amount of water, nutrients and oxygen needed to sustain the tree. A small tree requires only a few gallons of water a day. But as it grows, each year the amount needed increases proportionately. As the tree gains height, it is also subject to more extremes in wind and exposure, which can increase the ET rate and thus increase its water needs.

Water consumption for large trees such as the large live oak can possibly exceed 1,000 gallons per day when the ET rate is high. Should a golf course have thousands of trees, the moisture consumption rate of those trees will often well exceed the turf requirements. This amount of water for trees can run into the hundreds of thousands of gallons per day.

Another common misconception is that tree roots grow at deep depths. Generally, this is not true. Trees, like turf and all other plants, require oxygen for root growth, and therefore roots are only found where oxygen is present. In fact, oxygen

availability to the roots is a singular limiting factor for any plant. Since oxygen is more readily available near the soil surface, tree roots are most often found in the turf root zone. Keep in mind that a golf course is irrigated, fertilized, and aerated for better turf quality.

Trees are opportunistic and will send roots where conditions are optimum. In general, the better turf conditions are, the better it is for trees. If irrigation practices are to water lightly each night, then over time tree roots will evolve at a more shallow depth to pick up the available water. Deeper watering will help keep tree roots slightly deeper.

To help in keeping golf turf healthy with less tree-root influence, superintendents should root prune and/or use root barriers.

Root pruning along fairways, tees and greens can give several years of results, but can also damage the trees and cause stress problems if trees have become dependent on the turf irrigation. This approach should be done with caution if valuable trees are at risk.

Removing unnecessary trees as well as pruning will reduce overall moisture losses to trees. Pruning is remedial, though, unless major structural limbs are removed to permanently reduce the tree's



(Above) Roots pruned in 1996 at Riverside CC in Lake Jackson, Texas, show turf in the fairway and less on the tree side. (Below) Workers install a Biobarrier to prevent root encroachment at Riverside.



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size. This can get into aesthetic issues and likewise should be carefully addressed.

Nature has provided a natural selection of tree species for all plant zones. In arid regions, species survive on minimal water and should be used where practical. The same is true for wetter regions

where water issues are of less concern. In any case, planting the correct species in the right place is important. Keep in mind that the trees will grow and will require more water. Hopefully, the tree will have its needs met without compromising the turf quality. Remember that the game of golf is played on turf.

Dead trees

Continued from page 21

Once a tree dies, the process of decay begins. Snags become areas of insect activity, fungal growth, and overall decay. Holes, or cavities, occur in both living and dead limbs and may occur through the process of natural decay, or wind, or lightning damage. Large cavities can occur where major limbs die and fall from the trunk. As snags decay, hardwood softens, and damaged areas become insect-infested. The cavities are enlarged by birds and mammals digging into the cavities and picking apart the wood for insects and for shelter or nesting sites.

What wildlife uses snags?

Two main groups of wildlife use snags — primary and secondary cavity nesters. Primary cavity nesters are species that must make their own cavity nest by drilling or pecking it out of the wood of a tree. Secondary cavity nesters either live in cavities made by primary cavity nesters, or in holes that have been left through the process of natural decay or damage.

Insect-eating wildlife species that are

primary cavity nesters and that are attracted to snags include all of the woodpecker species and nuthatches. Secondary cavity nesters include chickadees, tufted titmouse, brown creepers, as well as several species of larger birds such as the screech owl and American Kestrel.

Some of the larger trees, such as the shag bark hickory, also provide roosting and resting places for several species of bats, which are the single most important form of night-flying, insect-eating wildlife.

In addition to bird species, a variety of mammals, amphibians, and reptiles may also benefit from the food and shelter provided by decaying trees.

What are the benefits of snags?

Leaving dead and dying trees standing when they don't pose a threat to the safety of humans provides valuable resources for a wide range of wildlife species. Insect-eating activity is just one benefit of tree snags — nature's own way of controlling pests. Equally important is their role as nesting sites for a variety of wildlife species.

Continued on next page

Dead trees

Continued from page 21

Dead trees can also be used to mount additional nesting boxes, increasing the available nesting sites for cavity nesting birds. Snags also serve as valuable sites for perching and shelter.

Snags overhanging water provide perches for spotting fish for prey by kingfishers and herons, or at the edge of fairways for catching insects by flycatchers.

They may also serve as den sites for small mammals. Den trees have trunks or large limbs hollowed out by rotting with an opening to the outside. This includes some snags, but den trees typically are still alive enough to continue to produce mast (nuts and

acorns) or fruit. Den trees are used by honey bees, birds, and mammals varying in size from a mouse to a black



bear. Hollow trees broken off at the top and open to rain and snow provide less protection, but are sometimes used by birds like great horned owls for nesting protection.

Once a snag falls to the ground it continues to be beneficial to wildlife as a source of food and shelter, as well as to return nutrients to the soil. A fallen snag and other downed limbs, twigs and debris may also be used as part of a brush pile providing additional wildlife shelter and protection. Brush piles placed in sheltered areas along the edges of fields, fairways and woods provide escape, cover, nesting sites and den sites for rabbits, weasels, woodchucks, skunks, Northern prairie skinks, red foxes, garter snakes and many other species. Brush piles can also provide important reptile, amphibian, and fish habitat if placed on the edge of a small pond so part of the brush is submerged.

What can you do?

- Do wildlife a favor and start a snag conservation program if you don't already have one.
- Develop a management strategy to retain snags in various stages and in a variety of habitats.
- Monitor snags for safety and development of undesirable pest problems.
- Provide additional nesting sites for birds by leaving snags as a source shelter and food.
- Reduce the amount of trees and limbs you have to dispose of by leaving them standing to help all of the cavity nesting forms of wildlife that are looking for homes.
- Use decaying snags and limbs in brush piles.
- Educate club members about the economic and environmental benefits of leaving dead trees to enhance habitat and provide nature's resources for the living.
- Write a short article for your club newsletter, post a sign on a snag explaining its natural resources, take slides and post photos to demonstrate the integration of nature's way as part of the golf course — a contribution to the environment as well as to the aesthetic uniqueness of the course.

Tree software

Continued from page 21

and we offer solutions ranging from pruning to cleaning, or removal.

"We also have a three-dimensional feature that lets you view the tree over time so that you don't put a \$400 tree in the wrong place 15 years down the line."

However, Bass has found that superintendents are still too reactive when it comes to tree management.

"Many are calling us too late. We have seen trees that have been planted too deep, that were suffering from compaction, neglect, poor pruning and structure," said Bass. "People need to remember that it costs three times more money to remove a tree than it does to maintain one."

Terry Gill, superintendent of BraeBurn Country Club in Houston, is learning this lesson the hard way.

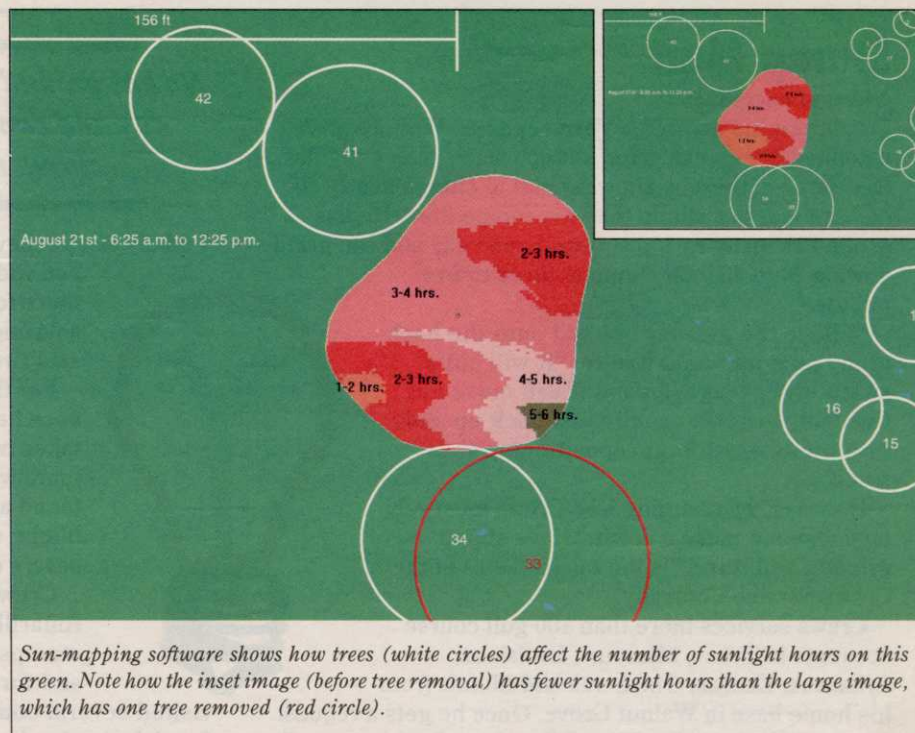
Swaze's Terra Turf and Trees completed a three-hole tree inventory pilot program at BraeBurn in August and the results of that work are already proving to be worthwhile. "We identified 50 'problem trees' and did pruning and removal and they were able to come in and sod areas where they couldn't before," said Swaze.

The impact of the tree work became more evident in early September when a storm packing 60 mph winds caused extensive tree damage, except on the three fairways in the pilot program.

"The trees that had been trimmed we had no damage on, but on the rest of the golf course, we had substantial damage," said Gill. "It took the better part of four days with 18 guys working to clear it out, not to mention laying new sod."

The cost of Swaze's tree inventory was around \$14,000 and the subsequent tree work will cost the BraeBurn close to \$100,000 this year and \$30,000 for the next three years to get the course onto a proper tree-management program.

The average cost of a tree inventory that includes maps, software and recom-



Sun-mapping software shows how trees (white circles) affect the number of sunlight hours on this green. Note how the inset image (before tree removal) has fewer sunlight hours than the large image, which has one tree removed (red circle).

mendations for a management program runs around \$15,000 per 18-hole course, according to Point Forestry's Bass.

SUN-MAPPING

While GPS and GIS help in identifying, cataloging and mapping the course and its trees, sun-mapping technology developed by Toronto-based Arbor Com Inc. is revolutionizing tree-removal practices.

Arbor Com generates sun-mapping software around green and tee areas that are suffering from inadequate sunlight and poor turf growth.

The software is extremely complex and as a result is not a turnkey solution. But it does offer the most accurate calculations and recommendations for tree removal. For example, it can identify which branch on a tree that needs to be removed in order to improve sunlight penetration.

"We take longitude and latitude measurements on site and that tells us how the sun moves through the property," said Scott Robinson, vice president of

Arbor Com. "Then, using surveying technology, we measure 45 points around the green and that tells the software where the green is so it can generate a three-dimensional map."

From there, Robinson measures and identifies the trees surrounding the green, including vertical and horizontal heights so the software knows where the trees are in relation to the green.

"Then we have a model where we can get the computer to show us how shadows move on the green and how many sunlight hours the green is getting," said Robinson.




Robinson then compares the needed light penetration for the particular turfgrass with amount of sunlight hours that the green is actually getting. "If it is deficient and not meeting the goal, we can identify the problem trees and run the model to see what part of the tree is blocking out light," said Robinson.

This simulation process usually begins

Continued on page 24

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Stump Man

Continued from page 21

grinder on the market, a Vermeer 1102. With a speedy machine, Crews can grind stumps faster than a regular tree service, thereby allowing him to charge nearly 60 percent less per stump than his competitors. He has ground as many as 150 stumps in one day and can grind down a 20-to-30-inch stump in three to five minutes.

"I have the grinder hooked onto the back of my pick-up," said Crews. "It will cut a swath eight feet wide and it will move out five feet, so I can usually just back up and grind it away without repositioning the truck."

However, by charging less Crews must rely on volume to make a profit. "Have stump grinder, will travel" is the raison d'être of the Crews Service Company.

Crews services more than 100 golf course accounts in Texas, Missouri, Louisiana, Arkansas, Kansas, Oklahoma and Illinois from his home base in Walnut Grove. Once he gets a request from a golf course in an area, Crews works to set up other work in the region to make the trip worthwhile.

Crews services more than 100 golf course accounts in Texas, Missouri, Louisiana, Arkansas, Kansas, Oklahoma and Illinois from his home base in Walnut Grove.



He has ground as many as 150 stumps in one day and can grind down a 20-to-30-inch stump in three to five minutes.

Many can't believe that Crews is willing to travel far and wide just to grind stumps, but the work is there for the taking according to Crews. "It is amazing how many stumps are out there," said Crews.

For the most part, Crews has found that once he has cleared a course of stumps it takes two to three years before they generate more work for him. However, Crews has found a home in Texas where pine beetle blight, drought and ice storms have done severe damage.

Crews recently cleared the city of Amarillo's five public golf courses of tree stumps left over from last year's ice storm and for three consecutive years he has visited several courses in east Texas that have suffered from pine beetle blight.

"Each time I go down to east Texas I average about 70 stumps a golf course," said Crews. "Each year I go down you'd think that there wouldn't be any trees left, but they still have a lot."

However, Crews still has an ax to grind and is on the prowl for more stumps. Next month, he will be extending his reach into the Memphis, Tenn. area. "It is going to take more courses to fill my schedule," said Crews. "I am working at about 25 percent of my capacity." ▶

Tree software

Continued from page 23

in June, when the sunlight is the brightest. "Then we go to July and August and down the line to re-tune it to the goal since sunlight hours change from month to month with the angle of the sun." Robinson bases his recommendations on these cumulative measurements and sunlight information.

"This way a green committee can see all the factors and decide if the cost of removing the tree from aesthetic, strategic and historic factors is worth the extra light that they are getting," said Robinson. "This makes it a hell of a lot easier to make a decision than just me and the superintendent telling them what we think will make a difference."

Arbor Com has been using sun-mapping technology on golf courses across the country for three years and has worked for Augusta, Ga. National Golf Club, Oak Hill Country Club in Rochester, N.Y., and Point O' Woods Golf Club in Benton Harbor, Mich. The company charges around \$2,500 per site to run the sunlight mapping tests. The number of courses that Arbor Com services is growing each year and Robinson expects it to continue.

"While expectations for green quality have gone up, superintendents are also becoming aware of how important trees are to golf courses and they don't want to take trees out unnecessarily," said Robinson.

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The Cub Cadet Four-In-One

Cub Cadet Four-In-One ready for fall

The new Cub Cadet Four-In-One CSV 220 combines the functionality of chippers, shredders, vacuums and blowers into one ultimate cleanup companion. It features a 5-hp Briggs & Stratton easy start engine, with plenty of power to handle any task. Other features include 1-1/2-inch branch chipping capacity, a patented 22-inch vacuum intake nozzle, a standard blower, single height adjustment and a 2-bushel collection bag.

CIRCLE # 201

Gravelly Skidster offers control

Ariens introduces the new Gravelly Skidster. The Skidster features an intuitive control panel that has four fingertip controls for easy operation, and the twin zero-turn control levers allow the loader to turn on a dime for exceptional maneuverability.

It has been ergonomically designed with the engine out of the way of the operator and the stand-on platform. An enclosed drive-train protects moving parts and the operator, while prolonging the life of the unit. The Skidster is available with a choice of a 20-hp Honda, 20.5-hp Robin or 19.7-hp Kubota engine and has an electric starter and hydrostatic transmission.

The 15 quick-release attachments mechanize labor-intensive jobs such as digging trenches, postholes and tree holes and grading by transforming the Skidster from one site-prep tool to another in minutes. Some of the many attachments available include a 3.5-cu. ft. capacity bucket, an 8- or 12-inch posthole digger and a 24- or 30-inch tree auger.

CIRCLE # 202

Reemay introduces Typar Tree Protector

Reemay, Inc. introduces a new product to its family of lawn and garden fabrics—the Typar Tree Protector. Typar Tree Protector can be easily and tightly wrapped around young trees to protect them. It stretches as the tree grows and can be left in place for several years, protecting the tree from mowers, weedeaters, deer, insects, and anything else that could injure it and therefore affect its health.

In addition to protecting the trunk from damage, Typar Tree Protector prevents bark splitting. It is available in 4-inch by 25-foot rolls, which will cover three or four young trees.

CIRCLE # 204



Thomas Equipment's new T153 skid steer

Thomas rolls out T153 S skid steer

Thomas Equipment's new 1500-pound class offering, the T153 S series skid steer loader, has the power to handle the toughest assignments. The T153 S is powered by a Kubota 52-hp, V2203E engine. Power is transferred from the engine to the loader's hydrostatic pumps through a reliable double universal joint that requires no adjustment.

For operator safety, the hydraulic controls remain locked until the operator is in the seat with seatbelt fastened and the protective seat bar is lowered. When the operator exits the cab, the parking brake automatically engages.

CIRCLE # 205



Excel Hustler's StumpCut'R

Excel Hustler adds front-mounted StumpCut'R

Excel Hustler has introduced a stump cutter for its front-mounted turf tractors. Both the 3000 series and the 4000 series utilize the new patented StumpCut'R. The Hustler StumpCut'R offers mobility, high productivity, and versatility. It is mounted on the zero-turn Hustler and can get in and out of position much faster than self-propelled, trailer-type, or walk-behind type cutters. Hustler powerplants come in 23-, 28-, 38-hp diesels, or 54-hp gas. The PTO-powered 15-inch-diameter cutting wheel can cut stumps from up to 23 inches above to 14 inches below ground. A small hydraulically operated dozer blade can be used for chip removal and to backfill stumps.

CIRCLE # 206

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New Holland ready with LB75 loader backhoe

New Holland Construction introduces its new entry-level model LB75 loader backhoe. The LB75 is powered by a New Holland/Iveco engine, delivering 75-hp. Refinements in the hydraulic system keep performance at peak levels. Steel tubing has been replaced with flexible hose in the hydraulic system and the hydraulic boom lock has been replaced with a mechanical lock. The loader valve has also been modified to help improve hydraulic performance. It features a straight-arm loader with four-bar linkages and dual bucket cylinders, which combine to give it superior bucket rotation and breakout force. An easy-to-use, single-level loader control makes it simple to dig, load and dump with high precision and little effort.

CIRCLE # 203



The Turf Solutions Dry Sprayer uses air-blast technology to blow seed into the turf canopy, allowing for better seed-soil contact.



Dry Sprayer

Continued from page 1

turfgrass applications," said John Wicker, vice president of Turf Solutions, the service arm of local distributor Southeastern Turfgrass Supply. "We built our first machine three years ago and we do the final assembly, modifications and shipping out of Jacksonville."

The Dry Sprayer features a

1,000-pound ground-driven hopper-unit that distributes seed via a clutch-driven paddle to tubes that run down to the 16-foot boom. The seed, which is blown at a speed of 65 mph, then hits diffusers that run along the length of the boom, orienting the seed downward and blowing it into the turf canopy.

"The ground-driven distribution system ensures even application of seed and forces it

through the thatch layer, providing better seed-soil contact," said Wicker. "This leads to better germination, uniform coverage and a reduced outlay of seed by 10 to 15 percent."

The units also have a spray tank that allows liquid products to be applied at the same time as seed or dry fertilizer.

The Dry Sprayer is ideally suited for fairway applications and can cover 120 acres in one day. "We typically make two passes with split applications and with three or more machines we can easily do a course in one day," said Wicker. "One machine can handle 25 to 30 acres a day."

"It is a huge time, labor and seed saver," said John Davis, superintendent at The Ford Plantation in Richmond Hill, Ga. "I did it for the first time last year at the Secessions Club (in Beaufort, S.C.). With other methods, we would overseed in four different directions to make sure that we didn't miss any spots because the wind was so bad."

"But with the Dry Sprayer, we didn't have to worry about the wind blowing the seed, so we were done in a day, if that."

The Dry Sprayer also eliminates the need for crews to "beat" the seed into the turf. "We just mowed right behind it and we were done," said Davis.

Gary Snyder, superintendent at Harbor Town Golf Links in Hilton Head, S.C., said he too appreciates the convenience.

"Before, it would take two to three days," said Snyder. "Now we can get our fairways done in between play and we don't have to close down the course."

Turf Solutions has built several Dry Sprayers and uses five of them in its service fleet which has 60 accounts throughout Florida, Georgia and South Carolina. "We will do about 4,000 acres of overseeding this season in the Southeast," said Wicker.

Thanks to word of mouth, interest in the Dry Sprayer has extended beyond the Southeast. "We have gotten calls from people in California and Arizona," said Wicker. "But we just started selling the machines this year so we couldn't justify getting into that market just yet."

With demand on the rise, Wicker expects to ramp up assembly next year and production could be around 40 to 50 units. The Dry Sprayer retails for between \$15,000 and \$18,000.

While Wicker admits that this new technology could catch the eye of larger equipment manufacturers, he plans to keep it.

"We are not actively seeking out larger companies with this," said Wicker. "Our name is trademarked and we have patents out on the design characteristics. Our guess is that they'll come to us." ▶

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PLANTATION, Fla. — Tom Pearson's renovation of Fort Lauderdale Country Club's North Course completes a three-year \$3.375-million capital improvement program. The project provides two courses, a completely renovated clubhouse, a new pro shop, and a modern energy-efficient 14,000-square-foot cart storage facility that includes storage space for 1,200 bags.

FOSTER AT WORK AT SOUTHERN HILLS

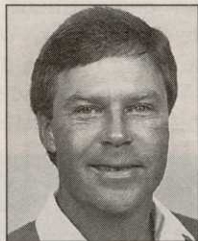
TUCSA, Okla. — Golf course architect Keith Foster is overseeing construction, which began in September, of enhancements to the Championship course at Southern Hills, site of the 2001 U.S. Open. During a 60-day timeline, the greens will recapture their original Perry Maxwell sizes.

NELSON, HAWORTH OPEN OFFICES

Nelson & Haworth Golf Course Architects of Honolulu have opened new offices in the San Francisco Bay area and Montreal. They are located at 3030 Bridgeway, Suite 132, Sausalito, Calif. 94965, tel. 415-332-2889; and at 425 Rue St. Sulpice, Montreal, Quebec H2Y 2VY, Canada, tel. 514-574-6551.

Crenshaw, Coore on top of their 'design' game

Ben Crenshaw has been in demand this year. Most people are following his captaincy of the American team leading up to September's Ryder Cup. The challenges were intriguing. But the PGA Tour great also has been busy designing golf courses, including the recently opened Cuscowilla in Eatonton, Ga., and tracks at Notre Dame University and on Long Island [East Hampton Golf Club, see accompanying story], which will open next spring. Crenshaw and design partner Bill Coore have achieved their greatest acclaim for Sand Hills in Mullen, Neb., Kapalua Golf Club's Plantation Course in Hawaii and Barton Creek in Austin, Texas, where Crenshaw was born. Editor Mark Leslie caught up to Crenshaw and Coore on a job site in Texas, just before the Ryder Cup.



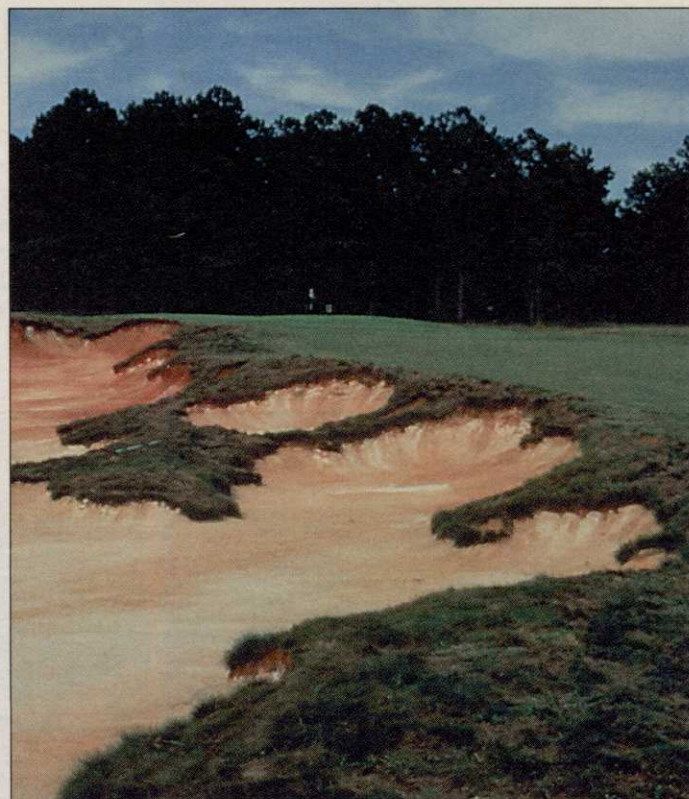
Ben Crenshaw

Golf Course News: Coore and Crenshaw are no longer rookies of golf course design. Have you changed your designs over the years?

Ben Crenshaw: We continue to do a couple projects at a time and still feel comfortable with that and with the people who work for us. We can't see that changing too much in the future...

Bill Coore: If you look at the work we did 14 years ago, you'll see some differences. We make each course different. We don't want a stereotyped style.

When we did Kapalua and Barton Creek, they had some sizable greens. The tendency was for people to say, "These guys do big fairways and big greens." We only did that because of the



Cuscowilla on Lake Oconee, located in Eatonton, Ga., is the latest Coore & Crenshaw design to open.

clientele and Kapalua — the conditions, the land, the wind. Anything smaller would have been unplayable. But we've built small greens as well.

Continued on page 28

Green, Aaron and Mahaffey design 9s for 27 in Florida

LADY LAKE, Fla. — Hubert Green, Tommy Aaron and John Mahaffey are designing separate nine-hole golf courses as part of the new Glenview Champions Country Club being developed by The Villages retirement community here.

H. Gary Morse, chief executive officer of The Villages, selected Green, Aaron and Mahaffey to collaborate with Villages

Golf Architecture Group of Clifton, Ezell and Clifton on the 27-hole complex.

The Villages had 126 holes of golf already in use. The Champions complex is being targeted as the venue for future professional tournaments. The Villages recently hosted the 1998 LPGA Samsung World Championship. It also is home to the 1999 Villages Charity Challenge be-

tween Juli Inkster, Nancy Lopez and Helen Alfredsson.

"Our premier country club has enjoyed hosting these great professional events," Morse said. "We felt now was the time to create a fourth country club specially designed for such major spectator events. The best way to build a course for tour-

Continued on page 29

Quintero: Rees Jones, The Shark and unique financing

Financing carefree travel: no luggage or cleanup

By MARK LESLIE

LAKE PLEASANT, Ariz. — The weather is getting bitter in Chicago, so businessman Max Fli hops on a plane to Phoenix, is picked up at the airport by a limousine and is driven a short distance to his second home where people have been preparing for his arrival, stocking his favorite foods in the fridge, moving his clothes onto hangers, and arranging his preferred tee times.

This scenario is part of the dream that Gary and Lea McClung envision for Quintero Golf & Country Club in this Phoenix suburb.

"Carefree travel," said McClung. "No luggage or cleaning up when arriving and leaving. It's like a private resort."

He and his wife belong to six clubs, McClung said, "and all are wonderful, but none has all the elements we think would fit a certain niche in the market."

Besides two courses designed by Rees Jones and Greg Norman, Quintero's 826 acres will include a wide variety of properties: large estates up to 20 acres; one- to

Continued on page 30



The Rees Jones course at Quintero looks up to the mountains.

Serendipity made this 'private resort' happen for mega-Ford truck dealer

By MARK LESLIE

LAKE PLEASANT, Ariz. — Serendipity and a passion for the game of golf. Those two factors have led Ford truck mogul Gary McClung to the verge of opening a unique golf community here, boasting courses designed by Rees Jones and Greg Norman along with memberships in a "private resort."

"The way this whole project has come together has been a bit of serendipity," said McClung, who is the world's largest Ford truck dealer with his Midway Ford/Sterling Truck Center in Kansas City, Mo., and six other locations in Missouri, Kansas and Arkansas. "You have a problem and walk around and bump into the answer."

Examples abound around this project, called Quintero Golf & Country Club:

- The Rees Jones Connection: McClung and wife Lea are members at Troon Golf and Country Club in Scottsdale, where they met course architect Cabell Robinson at a dinner party. Robinson introduced the McClungs to Jones, who not only jumped aboard the project but helped select the property.

- The Greg Norman Connection: When searching for a way to contact Norman, McClung received a free gift in the mail, a subscription to a newsletter which told readers Norman's phone number. Lead architect Jason McCoy was in the office when McClung called, and, with Norman, visited the property shortly afterwards, both declaring they were ecstatic with the site.

- The Tony Roberts Connection: Who also happens to be-

Continued on page 31

Crenshaw on the 'unjuiced' golf ball

Some people have supported the idea of giving PGA Tour players a ball that has 10 percent less distance.

Does Ben Crenshaw think these balls would help in design? "I think it may," Crenshaw said. "And it may help in assessing what happens from week to week at a PGA Tour event. Jack [Nicklaus] was the first to come out with that idea. It was probably a little revolutionary for its time, but I think it makes good sense over the long haul. I can't believe how far people hit the ball these days. You figure something must be done at some point. You don't know how that will sit, but I think it's a very intriguing proposition."

Q&A with Ben Crenshaw and Bill Coore

Continued from page 27

We've always tried to apply time-proven design principles. The interpretation of those principles hopefully is a little different in each case. But have we changed dramatically in terms of style or philosophy? I don't think so.

GCN: Ben, you're a golf historian and traditionalist. Has the

pendulum swung back to the point where most architects are in your camp — that of the classics?

Crenshaw: A lot of projects these days seem to have a heavier commitment to golf. People are asking, Why is a course being built in a specific area? What are the needs? Is it for golf, or real estate? Every-

body has to ask those questions.

Maybe there is a trend back to the classics, which is great. I don't think Bill or I would take any credit. It's flattering. But there are a lot of architects who are very eager to get out their best work. That's very, very healthy for the people who build golf courses.

GCN: What about the philosophy of a more minimalist approach to design?

Crenshaw: Trends have always been felt, no matter what architectural endeavor you speak of: buildings, offices or residential. It is the same in golf course architecture. It's wonderful if people have rediscovered courses they had grown up on, or go to new places that have that commitment to minimalism.

All of us in the building business continually are challenged with the advances in golf equipment and agronomy. The overall aim is to make it playable.

GCN: Part of it has to do with the available land. There are precious few sites with sand like Pinehurst or Long Island. Yet today you have two projects on Long Island. Are those two giving you the opportunity to build the old-fashioned kind of courses that you like?

Crenshaw: Sand is certainly a blessing no matter where you find it. There is a myriad of things that sand helps so much. It's certainly aesthetics, it's raw material, it's slashes of sand, that lead one to believe it is more natural. It's a lot more economical in every sense. East Hampton was wonderful because of that main ingredient as well as the native grasses.

GCN: What is your favorite type of hole to design?

Crenshaw: I like short par-4s. They're very difficult to bring off. But, properly brought up, they're fun. If you have a hole where it's a thrilling choice to make, but it's exacting as well, it brings a real shot value into the scheme of things. Length is always a fascination because nearly everyone can get there in two strokes.

A long par-4 is something as well. But you never know how long to make them these days. You never know where to end — at 475 [yards] or whatever. A 310- to 340-yard hole, with smallish greens and exacting nature, can be a lot of fun.

GCN: With Tiger playing, it could be a 3-wood for that hole.

Crenshaw (laughing): It might be a strong 3-wood for Tiger.

GCN: Haven't we lost the strategic value of the older courses because of the distances the pros hit the ball?

Crenshaw: If these courses are played in optimum conditions —

Continued on next page



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Q&A: The century's best architects

Who do you think are the top five architects of the 20th century? Ben Crenshaw has his thoughts.

"I'd have to start with [Donald] Ross, [A.W.] Tillinghast and [Alister] Mackenzie," he said. "I would have to include Charlie [C.B.] Macdonald. I might put Harry Colt in there. It's tremendously difficult to leave some people off that list. How do you leave out Perry Maxwell, or [Englishman] Herbert Fowler?"

Crenshaw's course design partner Bill Coore added: "If you asked who influenced or guided course architecture, I would choose those names. But if you asked who had greatest impact, Pete Dye has to be up there with any of them."

"If you ask about 'influential,' Bill is right," Crenshaw said. "No question, Pete and Robert Trent Jones Sr., too. Those were the dominant guys. Mr. Jones, starting in the 1950s and 1960s, and, from the mid-1970s through the 1980s, everyone was influenced by Pete in some way. Whether they agreed with him or not, he shaped what was happening in terms of golf architecture more than any other person."

So, if all these people were alive today, who would Crenshaw hire to design a course?

"I can never put Ross or Tillinghast over Mackenzie or Macdonald," he said. "Can you do a composite?"

But Coore said he would hire Mackenzie. "He was so artistic," he said. "And on top of that he got some of the most fantastic pieces of land — Cypress Point, Royal Melbourne, Crystal Downs... To get extraordinary sites like that and to work them as he did, along with Perry Maxwell and the others who worked with him, is incredible. And they not only work for golf, but from an artistic standpoint are as inspiring as any courses."

The Ryder Cup, the Country Club and Carnoustie

With the British Open at Carnoustie in Scotland in the recent past, and looking ahead to the Ryder Cup at The Country Club in Brookline, Mass., where he would captain the U.S. team in September, Ben Crenshaw was asked to compare the two designs.

"I opted not to play in the British Open this year," he said. "But I have played Carnoustie. And The Country Club is so entirely different. Carnoustie was a very difficult course before this year. The setup [for the Open] was amazing. It was unbelievable to watch it on TV. A links course like that, to me, should have a little more room to play. My gosh. So far as the shot values, Carnoustie remains one of the toughest courses in the world. The Country Club is a totally different proposition. Bill Flynn and Howard Toomey were two wonderful architects. It is very natural and they have beautifully depicted shot values on that terrain. Their bunkering is wonderful — the positions, the things you are required to do with the ball, the contouring. You feel you are playing against New England terrain."

Carnoustie has always been a harsher test of golf. There are some very difficult holes at The Country Club, but it's pleasurable and thought-provoking, too."

Asked which type of course favors Americans and which their opponents, Crenshaw replied: "Most people would say we need a straightforward American golf course. But that was the way Oak Hill [in Rochester, N.Y.] was set up, so I don't really know these days. There's no doubt about it: Whoever gets the best feel for the golf course will come out on top. It's always a question of how quickly you adapt to those conditions."

"It's so terribly subjective. If the Ryder Cup match were staged at St. Andrews, we've had some outstanding performances there. You drive yourself nuts thinking about it, what has worked, and what future sites should be. That's the fascinating thing about golf. No matter what battleground you have to play, you have to prepare hard."

Did Crenshaw have any input about how The Country Club will be set up?

"The only thing I said was that somewhat minimal rough would lend itself to more exciting match play," he said. "There are more choices to be made playing into those smallish greens. The bottom line is, their team and ours have their hands full playing that golf course."

"By the same token," said Crenshaw, "Charlie Macdonald and Seth Raynor did courses that remain in your memory long after you experience them. They did things in the grandest scale. The National is a fabulous piece of art, but the ideology behind it was to elevate, in Raynor's mind, what he thought golf architecture in this country was in the very beginning. He tried to lace it with a flavor of the British Isles, which was tried-and-true principles."

Asked which of these men had the most

profound effect on his own style, Crenshaw replied: "I don't think there was anyone more artistic, or who did more supremely natural work than Mackenzie. He preached it, but he did it. Perry Maxwell did it as well. They both worked with the land as much as anybody. We try awfully hard to do something that remotely resembles nature. That's the aim of everyone."

"We try hard in green detailing and bunkers. Those are the two most integral parts from an aesthetic standpoint."

Green, Aaron and Mahaffey team up

Continued from page 27

namment play was to bring in the guys who have been winning the tournaments."

The nine by Green, Aaron and Mahaffey will have distinct identities reflecting the styles and experiences of each man.

Green, a 19-time winner during his 26 years on the PGA Tour, worked with Fuzzy Zoeller in designing the Tournament Players Club at Southwind in Memphis, Tenn.

"I've tried to utilize my experience from playing some of the best courses around the world — to create a course here at Glenview that is challenging, yet memorable for those who will play it," Green said. "The greens will be large enough to accept a shot and open enough in the front to allow for a golfer to run the ball on to the green."

"In the end, there should be enough variety to bring the players back again and again, and I feel we've been able to accomplish this with my golf course."

"I feel very proud with the results of my course at Glenview," he said. "There is plenty of variety throughout, with a good change of direction on each hole. We've incorporated some water features and trees in the strategy to provide a challenging yet aesthetically pleasing experience for the golfer."

"As part of my design philosophy, I tried to incorporate a strategy that would accommodate all skill levels of golf," said Mahaffey. "My intentions were to design a course that is enjoyable for high-handicap players, yet under the right conditions, challenge the better players."

"I feel the course is aesthetically pleasing and detailed enough to eliminate complacency for those who will play. Golf should be fun and enjoyable — and, in the end, an experience you want to repeat."

The three are scheduled to play the course at a grand opening set for Nov. 30.

Q&A: Crenshaw & Coore

Continued from previous page

meaning keen and fast — the distance has so much effect that the shot values are a little bit lost and the defense is reduced. That's sad.

GCN: Have you been asked to design any Tour-type courses?

Coore: We have had the opportunity, but circumstances did not permit it. But designing those types of courses probably is not our strength. If someone asked us to design just a very difficult golf course, we would encourage them to speak to someone else. Our courses are more based on detail and strategy that requires play and the correct club selection. We try to do courses that are challenges for the best, but we try to accomplish that with the detail work, like placement of greens and bunkers. We give people options of playing around hazards. In most instances you have to risk the hazards in order to get the best shot to the green and score well.

GCN: Do you and owner Dick Youngscap intend to add 18 holes at Sand Hills?

Coore: There's always talk. But I don't know that it will ever happen. People think we can just drop holes anywhere out there, but there's more to it than that. It's the old adage: Sometimes less is more. ▶

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Couples, Bates collaborate

TALLAHASSEE, Fla. — PGA Tour star Fred Couples and Palm Beach Gardens-based golf course architect Gene Bates will design an 18-hole golf course at Southwood, Arvida's master-planned community underway in southeast Tallahassee. Bates and Couples expect to break ground on the course late this year.

"I'm looking forward to working with Gene on the layout for Southwood," Couples said. "Every course has its own personality and our goal is to create a design that complements the natural flow

of the land, and presents a fun and challenging golf experience for players of all levels."

"We are delighted to have such a talented team designing the first course at Southwood," said Timothy D. Edmond, president of Arvida's Capital Region, who is responsible for developing the 3,200-acre community four miles southeast of the state capitol. "We intend to operate it on a semi-private basis and hope to see the first ball teed up in early 2001."

The holes will meander around groves of massive forests of old oaks, play past natural lakes and marshes, over rolling hills and meadows.

Quintero adopts 'The Jerk Rule'

LAKE PLEASANT, Ariz. — To maintain courtesy and decorum between club members and employees, owner Gary McClung will institute a special rule at Quintero Golf & Country Club. We'll call it 'The Jerk Rule.' Every year, McClung said, the staff will have the opportunity to vote for "The Jerk of the Year" among club members and declare the reasons he or she earned that honor. The club will give that person the option of "adjusting themselves to proper decorum, or we'll pay them off," McClung said.

The hope, he added, is that there will be no "Jerk of the Year."

Quintero financing

Continued from page 27

four-bedroom homes; rental homes as an investment; and one- to three-bedroom time shares.

McClung is financing the project in an unusual way. Normally people must purchase property to buy memberships at high-end private clubs.

"We're backwards," McClung said of Quintero. "You have to buy a membership before property. So with these membership sales, my risk in construction, interest, etc. is significantly less than most developers'."

McClung's fee structure is unique as well.

Memberships started at \$50,000 and goes up \$5,000 after every 25 members.

Founding memberships (15 of the 18 available have been sold) may, in fact, earn big paybacks. The cost is \$150,000, but when the 401st membership is sold, the first founding member will get \$200,000 and still retain his membership. The second and successive founding members get their money back, and more, when other levels are reached.

"It's not an equity club," McClung said, "but as the price of membership increases, when a member sells his membership back to the club he gets 90 percent of the going price... The reason I'm doing that instead of equity is that member-owned clubs are often the most poorly operated businesses in the country. There is no focus of ownership, members change, and there is no means of discipline; employees can't uphold the rules because a member can get them fired."

"A benevolent ownership is the best way."

McClung hopes to top out at 700 members for the two courses — 350 for each — and to build 283 dwellings. Automobile traffic will be discouraged in favor of golf cars.

Troon Golf Management's private course division, Troon Privé, is acting as a consultant and will manage Quintero. McClung described Troon Chairman and CEO Dana Garmany as "a visionary."

"I'm not going to live forever and I want the course to live forever," McClung said. "We're ensuring continuity of leadership through Troon Management."



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Rees, The Shark and serendipity

Continued from page 27

long to Troon, and met with McClung at a club function? Roberts, who is one of the world's best known golf photographers and has helped McClung make contacts in a golf world with which the entrepreneur was unfamiliar.

• The Land Connection: 826 acres to develop, plus 526 acres of surrounding mining claims, it sits in the middle of Bureau of Land Management property called "open space," a pocket of land that can be privately owned. Since the area around it cannot be built upon, the community and courses will maintain sweeping vistas of the mountains around it.

Add together all this serendipity and you get Quintero (meaning "five" as in five-star).

"Golf is a passion I've had," said the 58-year-old McClung. "I love to play, and as my business got more successful, suddenly I had all this money with no clue what to do with it. I decided to pursue my passion and build the perfect golf course."

Perfect, in McClung's eyes, meant it would have to meet four criteria: the best climate (for Northerners to visit when it gets too cold outside); within an hour drive of a major airport ("It's a pain to have to switch planes"); a friendly government ("without which you'd never get it done"); and an extraordinary piece of land.

Was it serendipity, again, when McClung's search ended up targeting four cities: three in California and Phoenix — and Phoenix got the nod? It just so happens that the McClungs had chosen the area for their second home.

"It has turned out to be a blessing because we know a lot about the area," McClung said. "My criteria led me to my own backyard, and we had spent eight years determining that was where we wanted our second home."

That backyard has the Jones and Norman teams excited.

"This is wonderful topography," said Jones, who broke ground on his course on Aug. 25 and expects it to open in September 2000. "They let us get the land for golf first, then decided the home sites."

And McCoy said: "We can't wait to get started. It's very dramatic, very unique and very severe. Greg's been out to the site twice already."

About the idea of Jones and Norman courses side by side, Jones said: "That's what's so great about the game. It's not the same tennis and squash court. And people travel so much today to play golf, it's great that we have so many different ideas."

Jones' course "will be a natural golfing experience because the property flows perfectly," he said. "Because the houses are not on the fairways, you will have a pure golfing experience."

Washes run through the property, usually parallel to the holes but cutting across two dramatic "drop-shot par-3s from elevated tees to dramatic greens settings," Jones said.

The wind, he said, will play a major factor.

"Because of the wind we will design it with [Donald] Ross-type openings so you can bounce or fly the ball in," Jones said. "You need all the alternate shots into the green because of the wind. We are only

allowed 90 acres of turf. That's why you build little pads for the tees and use native vegetation. But once you get to the fairway on this course you can hit it on the ground if you want to — with the exception of the par-3s that cross the wash.

"We're trying to use our land a little wider and make sure the grass ties into the green surface so we can work the ball into the green."

On the Norman site, elevations change 150 to 200 feet and it is very rocky.

"We will be doing a lot of blasting," said McCoy. "When it gets done, it will be spectacular."

Norman's designs average around 70 acres of turf, and this track will fit that mold. "There will be a lot

of carries over rock quarries, but not into the greens. The approaches will be bump-and-run," McCoy said.

Yardage on the Norman track will be

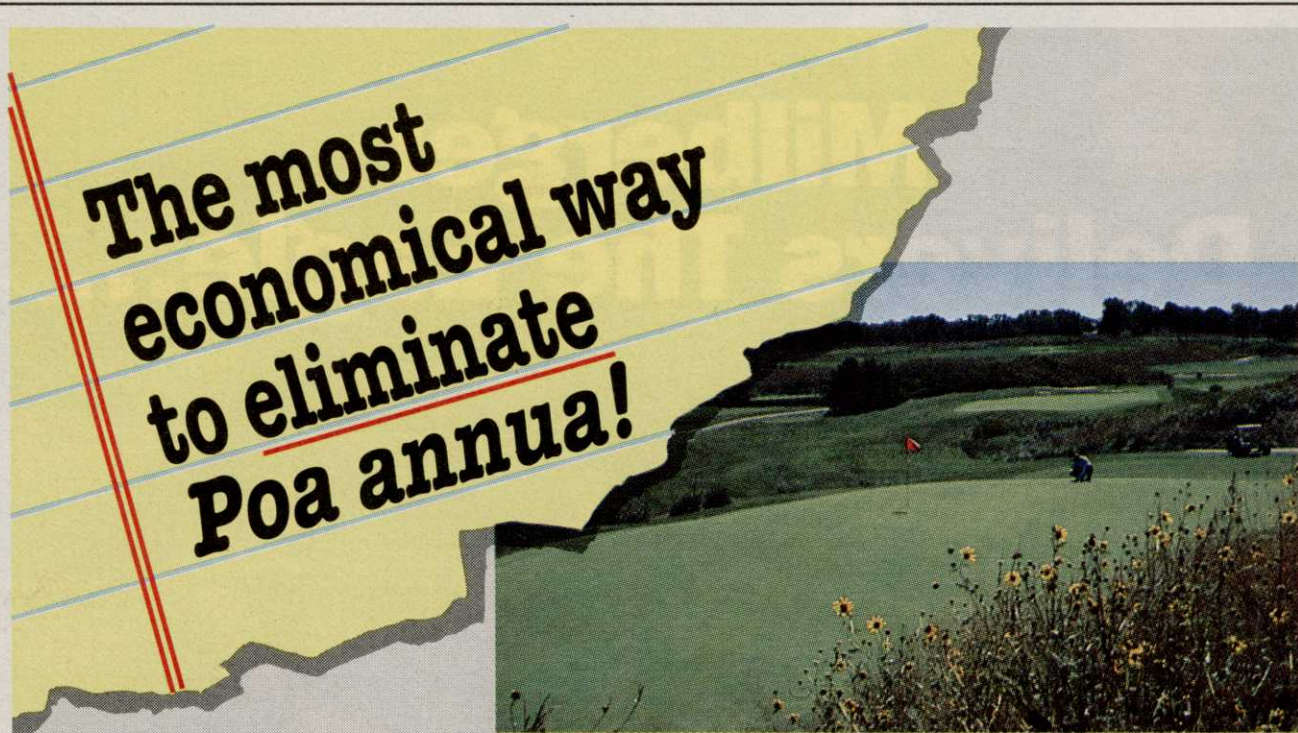
"We can't wait to get started. It's very dramatic, very unique and very severe. Greg's been out to the site twice already."

— Jason McCoy
Greg Norman Course Design

7,200 to 7,300 yards from the back tees and 5,800 to 6,000 from the front.

Construction of the Norman course will follow completion of Jones' 18. The two will share a common clubhouse.

"The main reason we're doing it," said McCoy, "is because of Gary and Lea McClung. I have never met two individuals so devoted to making something happen." ▶



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New wetlands regs could have major impact

Continued from page 1

current NWP 26 expires at midnight Dec. 30.

"There may be minor tweaking, but nothing major," said Dr. Richard W. Whiteside of Wetland and Ecological Consultants in Woodstock, Ga. "But the Army Corps of Engineers [USACE] is encouraging all its districts to

modify them [NWPs] to meet their specific needs. Every district I know has published their own add-ons to this headquarters program, and they are all even more restrictive."

But Carol Sanders of the USACE public affairs office said: "We are still accepting comments. After Oct. 7, we will decide what is

appropriate. The schedule calls for us to issue the final NWPs in early November, with implementation 60 days later."

Whiteside, who deals with a number of golf-related developments, predicted the new NWPs will affect more than half the new golf projects.

According to plans, NWP 26

will be replaced by five new NWPs, but a USACE statement reported: "Permittees will have up to 12 months to complete activities authorized under NWP 26, provided construction activities commence, or are under contract to commence, before the existing NWP 26 expires."

"NWP 26 was perceived as too broad," said Sanders. "With the NWPs you are trying to look at activities that are similar and

have similar effects, such as recreational activities."

"A lot of the courses we're working on are in low-lying areas," Whiteside said. "Stand-alone courses normally don't have many problems [with NWPs] because they don't need to go so low. But courses associated with residential or ancillary development are usually forcing architects down into flood-plain areas. That's when these NWPs come into effect."

NWP 26 was last revised in January 1997, reducing the number of acres a project could affect. Before then, a developer could impact 1 to 10 acres of isolated wetlands or stream headwaters. One acre could be affected without seeking permits. Under the 1997 revision, permits were required for any impact of more than 1/3 acre. The 10-acre maximum of wetlands that could be affected was reduced to 3 acres.

NWP 39, the major revision expected to take effect in January, will reduce that 1/3 acre to 1/4 acre. The 3-acre maximum would remain in place but may often not be met because the limit on any project will be 1/4 acre plus 2 percent of the total project acreage. For example, a 100-acre project site may have a maximum impact acreage of 2-1/4 acres — 1/4 acre plus 100 acres times .02. The 3-acre cap would be achieved when the size of the project site reaches 137-1/2 acres.

Under the anticipated new regulations, mitigation is going to be required for even the smallest of impacts — anything exceeding 1/4 acre," Whiteside said. "And you'd better be in-tuned to your local district restrictions."

The relatively recent cottage industry, land banks — wetlands people have bought and set aside for mitigation — should be in high demand.


According to USACE, NWP 39 will be joined by NWPs 41, 42, 43 and 44. NWP 39 is intended for residential, commercial, and institutional development activities, including construction or expansion of building foundations or pads, as well as attendant features such as roads, utilities, sidewalks, and other similar infrastructure, as well as playgrounds, ballfields, golf courses, and nature trails.

If the proposal remains intact, a pre-construction notification submitted to the USACE "will be required for wetland impacts exceeding 1/4 acre, or for any impact to open waters such as intermittent and perennial stream and lakes."


The regulation, Whiteside said, may be more applicable to clubhouse and maintenance building construction than the course for many developers.

Another new rule, NWP 42, authorizes construction or expansion of recreational facilities,

Continued on next page



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Polson CC expands with Steidel-designed 9

POLSON, Mont. — The city celebrated the expansion of its Polson Country Club to 27 holes with grand opening festivities on July 30. Located on the south shore of Flathead Lake, the project was built on land donated by developers of the Mission Bay Golf Community, with cooperation from the Confederated Salish and Kootenai Tribes.

The newest nine holes will join with nine built 10 years ago to form the Championship Eighteen that will play at around 7,000 yards from the blue tees. The scenic original nine holes, built in the 1930s, will be operated as a nine-hole course.

The new nine was designed by John Steidel of Kennewick, Wash., who said he designed the course to accommodate members and resort play, as well as challenging tournament golfers.

The new nine is highlighted by the 155-yard, par-3 4th that plays into a 60-foot-deep glacier crater, and the 558-yard par-5 6th hole, which doglegs left along the shore of Flathead Lake.

After playing the 6th hole, Steidel remarked: "If Polson's 6th hole is not the best par-5 I've ever designed, I know it's the prettiest."

JOHNSTON SIGNS S.C. DESIGN DEAL

FORT MILL, S.C. — Clyde Johnston has been retained to design an 18-hole daily-fee golf course here, called Springfield Golf Course. The course is owned and will be managed by Leroy Springs & Co., Inc., which has three other courses within a 30-mile radius of Springfield. Clear Springs Development Co. is making available the land for the course. Both companies are located in Fort Mill. In designing Springfield, Johnston will work along the banks of Sugar Creek, a swiftly moving, 70-foot-wide waterway that drains rainwater from much of the metro-Charlotte area.

Wetlands regs

Continued from previous page

which could include golf courses and ski areas, "provided substantial grading and filling is not required."

NWP 43 might also affect golf development. It authorizes construction of new stormwater management facilities and maintenance of existing stormwater ponds and basins. A 2-acre maximum impact for new construction is expected under this NWP, but excludes impacts to perennial streams. A pre-construction notification must be submitted to and approved by the USACE for construction or maintenance of existing facilities if impacts exceed 1/4 acre of wetlands or 500 linear feet of intermittent stream.

These various pre-construction notifications usually must include such items as a stormwater facility maintenance plan, a delineation of streams and wetlands, mitigation for new construction impacts, and measures taken to avoid and minimize stream and wetland impacts.

When the new regulations take effect, Sanders said, "We're not anticipating it slowing things down. By their very nature, NWPs speed up the process. This will probably make the process more efficient because you won't need more analysis." ▶

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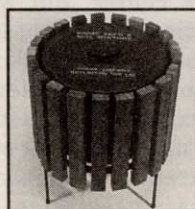
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IRISH EYES SMILING ON O'MEARA DESIGN

DUBLIN, Ireland — Mark O'Meara has announced that he will be designing his first course in Europe at Carton Demesne outside Dublin. The project will consist of two courses, the other designed by Colin Montgomerie, and a hotel and convention center. The course will be located at Carton Demesne, a 17th-century estate that was the ancestral home to the Fitzgerald's Earls of Kildare. "The property offers a host of options and is absolutely perfect for the development of a world class golf course," said O'Meara. O'Meara Design plans to use much of the existing woodland for the routing of the course and three holes will lead down to the River Rye which meanders through the project. Work on the course began in September and is scheduled to be completed in 2001.

Dundarave added to PEI pool

Continued from page 12

muddy clay, like that red Georgia soil."

"We turned the first shovel of dirt on May 4 [1998] and the owners played the course in late October. The last date of seeding was Sept. 15. They wanted to get it done quickly so they could have it up and running this year.

The person most responsible

for getting the job done on time and on budget was project manager Robbie Hellstrom, who had worked with Hurdzan at Le Diable at Mt. Tremblant [Quebec], Straka said.

"When we started talking to Eugene about this project," Straka recalled, "he was looking for a project manager. We told him we had just finished

with Robbie and what a terrific job he'd done for us. He built it [Tremblant] very quickly and it's gotten great reviews. We put Eugene in touch with Robbie and they worked out an agreement."

The need for quick cash flow was the reason for opening the course in one year rather than the two it usually takes to build a course in this region, said Rossiter.

"We worked 20 hours a day, seven days a week," Rossiter said. "We built the course in loops. There were holes 1-2-17-18 in one loop, 3-13-14-15-16 in another loop, 4-5-6-12 in a third loop and 7-8-9-10-11 in the final loop. We might have been 80 percent complete in the first loop, 60 percent in the second, and 30 percent in the others. If the weather was too inclement to work in one loop, we could go work in another. So we kept the men and equipment going all the time. And we had fantastic weather just about the whole time... We understood the time line was very aggressive and knew the risks, but we met it."

The only problem has been the roughs, which suffered from this spring's prolonged drought. "It was late growing in, but that could have happened anywhere," Rossiter said.

"The speed to get it open and the vastness of the grading were the biggest challenges," Straka said. "We used experienced shapers. The builder was a local person, Harry Annear of Kings County Construction. He had never built anything of that magnitude before, but did a great job."

The practice facility was originally envisioned as a three-hole loop with sand greens, driving range and short-game center. But with the increasing number of top-quality courses on the island, Hurdzan convinced the developers to expand the practice facility to a nine-hole track with push-up greens and bunkers.

"That was a testament to Mike's vision," Straka said. "They just had a Canadian Tour stop there in late August and held a pro-am pairing local kids with the pros on the practice course. That drew a lot of people. The pro tournament itself was held in Brudenell, but will be moved to Dundarave permanently next year."

Ann Chinouard, who is the coach for LPGA player Lorie Kane, is the director of the Brudenell Golf Academy.

In addition to Dundarave and Le Diable, Hurdzan's Canadian credits include Royal Woodbine, Devil's Pulpit and Devil's Paintbrush outside Toronto and Westwood Plateau near Vancouver.



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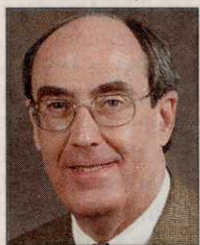
ORLANDO, Fla.— Tom Mason has been named general manager of Diamond Players Club Clermont, a semi-private, 18-hole course that will open soon on the second-highest point in Florida, 20 minutes from Orlando. Diamond Players Club (DPC), which operates Sweetwater Country Club and Wekiva Golf Club, also in the Orlando area, is headed by Arizona Diamondbacks pitcher Todd Stottlemyre. Mason, a Class A PGA pro and a member of the first class to graduate from the Golf Professional Training Program in San Francisco in 1996, will be responsible for all operations, including regular golf, tournaments and special events, clubhouse facilities and membership programs.



Tom Mason

DESMOND NAMED GM AT SC RESORT

NORTH MYRTLE BEACH, S.C.— Daniel Desmond has been named general manager of Barefoot Resort, an \$812-million, 2,377-acre resort that will include four, 18-hole courses designed by Greg Norman, Davis Love III, Tom Fazio and Pete Dye. The courses are scheduled to open in early 2000. Desmond will direct all facets of course operations including the grounds keeping staff. He is a former vice president of development with Club Corporation of America and served as director of operations for Western Golf Corporation.



Daniel Desmond

FINCH TO HEAD FLA. OWNERS' GROUP

FT. LAUDERDALE, Fla.— Ray Finch III, president and partner of Emerald Dunes Golf Group in West Palm Beach, Fla., was named president of the Florida Golf Course Owners Association (FGCOA) during the Florida State Conference. Finch replaces Bill Stine, chief operating officer of Meadowbrook Golf Group, who has completed his two-year term as president. Stine will take over as president of the National Golf Course Owners Association in January. The FGCOA has 136 members representing more than 200 courses.

GOLF COURSE NEWS

An arrival statement sets the proper tone

Editor's note: This is the second of a three-part series on managing the process of creating and nurturing a golf course's visual image, signage, course details and printed graphics.

By FORREST RICHARDSON

Ask most people when and where a round of golf begins and you're bound to hear, "at the prescribed starting time" and "on the first tee."

This is far from reality. A round of golf is much more than a simple appointment at a single location. Rather, it is an unfolding story.

A round of golf can actually begin weeks in advance of the tee time. And, just as the days leading up to a long-awaited concert might produce anxiety and anticipation, so, too, can an upcoming tee time. Add to this all of the moments which occur just prior to hitting the first drive of the day, and you have the "prelude."

As it relates to the course, and those who need to be concerned with its image and presentation, this "prelude" is one of the most essential aspects of golf course image. It may be more important than the logo or course symbol itself. I have visited many courses where neither the name nor logo was especially good, but the experience driving through the gates and eventually finding my way to the first tee was tremendous.



The arrival at Disney's Bonnet Creek Club is announced by a sophisticated sculpture.

In the first part of this series, I provided several thoughts on developing course names, images and how those elements can be put to efficient and memorable use. These decisions — name, image and overall feel — are intertwined with creating an arrival statement. In this install-

ment, we will focus on the arrival statement and the components which make guests feel they have truly arrived.

Unlike name and visual image, which most golfers have been exposed to before they arrive, the arrival statement can be com-

Continued on page 37

Institute of Golf Management scheduled for early January

JUPITER, Fla.— The National Institute of Golf Management is accepting registrations for its 2000 golf course management seminar Jan. 9-13 at Oglebay Resort and Conference Center in Wheeling, W. Va.

Co-sponsored by the National Golf Foundation and the Continuing Education Department at Oglebay, the program is designed for course owners/operators and other key personnel interested in finding solutions to common problems while also sharpening their business management skills. Now in its 17th year, the program annually attracts

more than 200 registrants.

During the five-day program, participants will have the opportunity to learn from and confer with experts on all aspects of golf facility management. Among the areas covered will be golf shop operations; new player development; course renovation, redesign and maintenance; cost-control systems; food, beverage and range operations; personnel and customer relations; publicity and promotions; golf car economics; rule management and tournament play.

Continued on page 38



A DESERT SANCTUARY

Workers lay sod at the Sanctuary Golf Course at Westworld, SunCor Resort and Golf Management's new 18-hole, daily-fee golf club in Scottsdale, Ariz., scheduled to open Nov. 11. "Sanctuary is the very first Audubon International Signature golf course in the Valley of the Sun," said SunCor Vice President Tom Patrick. The 18-hole course was designed by architect Randy Heckenkemper and built within the city limits and the Bureau of Reclamation storm water retention area. "Sanctuary has done an excellent job of integrating the golf course with the environment," said Mike Smart, director of the Department of Environmental Planning of the Audubon International Institute. "One feature the golf course has incorporated that is beneficial to the entire area is on-site recharge wells that re-purify the runoff water from the golf course and return it to the ground, replenishing the area's natural water source."

GDSI purchases So. Florida golf course

ORLANDO, Fla.— Golf Development Services Inc. (GDSI) has purchased the golf course at Magnolia Plantation in Lake Mary. GDSI will also manage the course.

Magnolia Plantation is a 496-lot residential complex being developed by Centex Homes. The semi-private, par-72, 18-hole course was designed by Dave Harman and constructed by Golf Course Consultants, Inc. The course is expected to open October 2000.

Headquartered in Orlando, GDSI provides professional management services to public, municipal, daily-fee, semi-private and resort facilities with expertise in operations management; marketing; advertising and public relations; membership; merchandising; agronomy; employee selection, recruitment and training; food and beverage services; and tournament planning and sports event management.

Since 1994, GDSI has managed The Prestige Club, a summer golf membership program in the Central Florida area. GDSI is also responsible for all national golf advertising for the PGA Tour Radio.

NGCOA offers members administrative expertise

CHICAGO — The National Golf Course Owners Association (NGCOA) has teamed with CNA UniSource, a Professional Employer Organization (PEO), to make available administrative expertise and employee benefit options in a program designed exclusively for NGCOA members.

"This program is responsive

to the employment-related issues that our golf course owners are now routinely facing," said Mike Hughes, executive director of NGCOA. "By making these services available, we can assist our members in transferring the burden of administration and allow them to re-focus their energies on growing their businesses."

Under a co-employment arrangement, CNA UniSource assumes responsibility for many of the administrative functions that course managers are accountable for today. The program's base product provides payroll administration, workers' compensation, and human resource services. It also makes

available a wide array of optional benefits products, including group health and dental coverage, short- and long-term disability, group long-term care and group life, health care and dependent care reimbursement, pre-paid legal services and retirement plans.

"Keeping up with employment-related requirements and other administrative responsibilities

has become a full-time job in itself," said Dan Cacchione, senior vice president of marketing. "With CNA UniSource, golf course owners will be better able to dedicate their time to serving customers and managing their core business. At the same time, with more than 16,000 employees under contract, CNA UniSource may be able to offer employee services and benefit structures to the golf course owner that might otherwise not be available, or would be individually available only at a higher price."

CNA UniSource services will be available to all NGCOA members with 10 or more employees and who have administrative responsibilities for human resources and personnel activities. Members will decide individually if they will take advantage of the program. The countrywide launch began in September, with an initial focus on Florida, Texas and Arizona. The independent insurance agency of Grandy, Pratt, McCoy, Rosenberg & Associates of West Des Moines, Iowa, will act in a marketing and consulting capacity for the program.

NGCOA members can access this program through any CNA UniSource-licensed agent or by contacting a local CNA UniSource office, located in most major cities.

AGC-UK facilities growing quickly

SURREY, England—American Golf (UK) Ltd. has acquired Oak Park Golf Club in Surrey on a 25-year operating agreement and lease bringing to 19 the number of properties operated by American Golf in the United Kingdom.

Oak Park, founded in 1984 as a par-3 facility, was expanded in 1985 and 1993 to its current 27 holes. Situated in the village of Crondall, three miles west of Farnham, the main 18-hole, par-70 Woodland course measures 6,318 yards while the 9-hole, par-36 Village course is 3,279 yards. The other facilities include a 16-bay driving range with specialist teaching bays, practice bunkers and chipping and putting greens.

The location fits in well with existing American Golf (UK) operated clubs in Surrey, Hampshire and Berkshire to include Pyrford Golf Club, Milford Golf Club, Blue Mountain Golf Center, Cams Hall Estate Golf Club and Paultons Golf Center.

Oak Park is the fifth acquisition by American Golf (UK) Ltd. this year and follows the acquisition of Abbotsley Golf Club and Hotel at the end of July. The company also just opened a new Peter Alliss-designed course called Traditions Golf Course, which is situated in Pyrford between Wolong and Weybridge.

GOLF COURSE NEWS

You've Seen it on TV



The INTERNATIONAL CASTLE PINES GC 14 YEARS

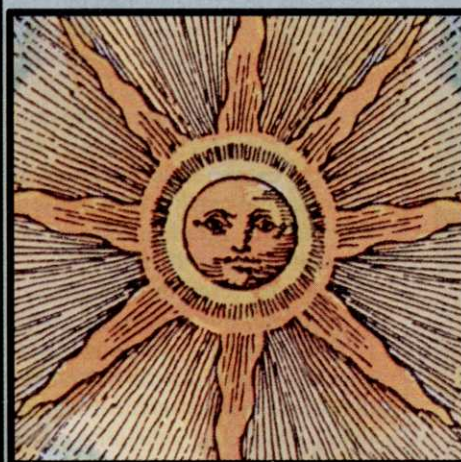
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depending on variable weather
conditions Problem (LDS) areas
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Signs

Continued from page 35

pared to the difference between just orbiting the moon and actually setting foot on the moon. While both were exciting, actually walking on the moon's surface was the defining event. **Think of it as a book**

A book is an excellent metaphor for appreciating how a course's arrival is perceived. Books are judged by their covers. While there is not always a correlation between good covers and good content, a book with a good cover will help sell more copies.

A golf course needs a good outer package to help set the stage for what lies ahead. The main entrance and sign represent the golfer's first impression. It needs to be well planned and should communicate the style and ambiance which distinguishes the course from others. Even the most humble municipal or daily-fee courses should create a welcoming entry.

Next, in our book analogy, there may be a series of informative passages one encounters. There may be a brief biography on the author, a word about the publisher, and a flip through the table of contents to see quickly what lies ahead. There is also ritual. Most people need to be in the mood to read. Without being in the mood, many of us enjoy our book less. Perhaps you like to be in a particular recliner; on a plane or a park bench; or in bed with a cup of tea. In golf, what we see and where we go as we make our way from the parking lot, through the clubhouse, to the putting green and onto the first tee, constitutes the arrival experience. It is equivalent to the parts of the book — from cover to the beginning of the very first chapter — that send signals of what may be expected in the story. It involves rituals. Golf is rich with traditions and these need to be properly exploited in developing a good and memorable experience.

Finally, we are presented with that long-awaited first chapter, the very first words. Perhaps it is a sentence that conjures a particular image; "It was a dark and stormy night..." as one familiar example. Quite cliché, but nonetheless, it puts one into a frame of mind about the experience to be acted out. The first chapter of a golf course begins as the first tee is approached and a foursome is presented with a glimpse of the opening fairway, its familiar — or maybe not-so-familiar — course furnishings, ball washer, tee sign, and colored tee markers.

Good design and creativity, mixed with tradition and uniqueness, can make a strong, everlasting statement at the first tee. Whether the design remains understated and quiet or whether goes full force to the level of a themed tee station, the first tee remains the most opportune moment to convey

a lasting memory to guest or potential member. For an existing member or repeat player, the image of the first tee and its treatment will bring back memories of previous rounds. People need starting points.

Creating an arrival

The first step to developing a positive arrival statement is to write a script. For an existing course, it is necessary to write two scripts. The first is an honest script indicating what is there

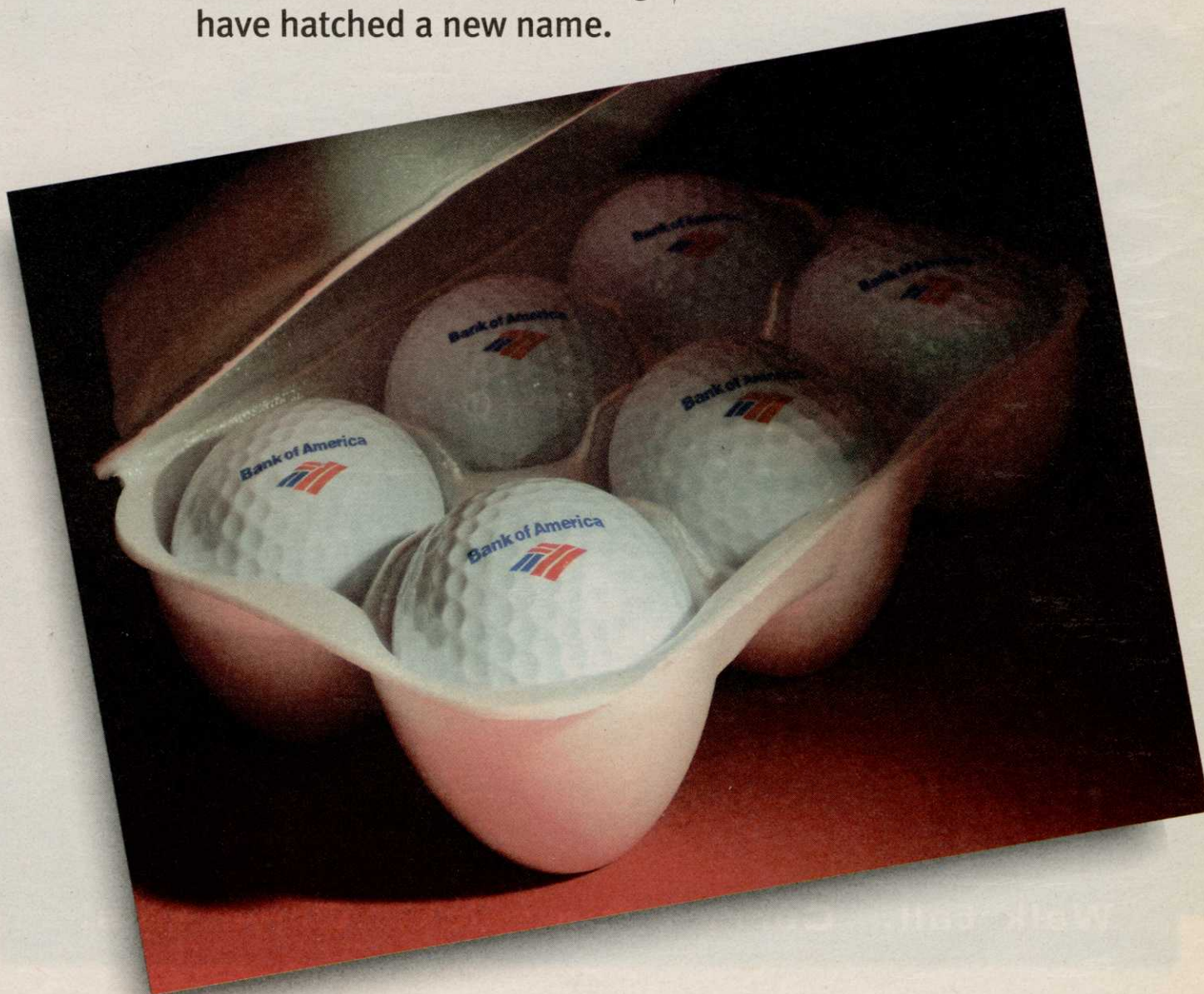
today. The second articulates what the arrival could — and should — become. Should is an important distinction, for it is not usually wise to attempt to write a script for an arrival that will be grossly different from the course itself. The best advice is to be honest and capitalize on what makes the course distinctive. Every course has something distinctive. This is what needs to be

Continued on next page



The leaping coyote emblem is used to frame this club's entrance.

The smartest lenders in the golf business have hatched a new name.



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Mid-Atlantic/Northeast, Rick Nekoroski 978-777-8560 • Arizona/Pacific Coast, John Seeburger 949-442-4356.

Texas/Mountain States, Steve Sparks 775-832-4447 • Southeast/Midwest, Debbie Suppa 770-643-7788.

Bank of America

Troon hires Glasco as Western U.S. chief

SCOTTSDALE, Ariz.— Troon Golf has appointed Bruce Glasco Western regional assistant vice president to oversee day-to-day operations of Troon facilities in the Western United States. Glasco will also oversee the transition of all properties, as well as be responsible for recruiting facility managers for the company.

Glasco moves to Troon Golf after nearly three years with Hines Development Company Inc. A

former PGA golf professional, Glasco served as assistant project manager at the River Valley Ranch development in Carbondale, Colo. Prior to that, he was director of golf at Maroon Creek in Aspen, Colo.

In anticipation of future growth, Troon Golf made the decision to divide the company's operational responsibilities into two regions: Eastern and Western.

Signage

Continued from previous page

brought to the surface in this process. The goal is to find a voice that suits the course and adopt this tone and feel from the arrival point forward throughout the golfer's round.

Once these scripts are written, it is possible to begin designing the various signage, furnishings, graphics, markers and

looks which, in combination, will produce the arrival experience.

Checklist

The following represents a chronological checklist of how a typical arrival experience is presented. Each individual aspect, with some involving course image and signage only remotely, together form a sum of parts which can greatly increase a course's perceived value. And perceived value, in many cases, is a direct link to the actual rate at which golfers are willing to pay to play a round of golf.

The Entry: main signage, entry sculpture, walls, fencing, gates, guard houses, landscaping, road signage, parking logistics

The Bag Drop: signage, bag stands, landscaping, shade umbrellas, employees' uniforms, valet podium, signage

The Clubhouse: the entry steps, pathways, signage, merchandise appeal, display cases, overall decor, employees' uniforms, other amenities (food, beverage, etc.)

Checking-in: cart graphics, signage, range ball baskets/bags, scorecards, yardage guides, pin positions, daily course conditions, employees' uniforms.

Warming Up: putting green pins, practice range furnishings, signage, accurate yardage indications

The First Tee: directional signage, starter pavilion, tee signage, hole diagrammatic, waste receptacle, course conditions information, tee markers, positive course policies. ▶

NGF conference

Continued from page 35

The institute offers three seminar programs that run concurrently. There's one for those registrants attending for the first time and another for those returning for their second year. The third is for individuals who've completed the first two. This program is open also to those who, although they may be attending for the first time, meet certain requirements by virtue of their current professional standing and work experience.

All attendees receive five continuing education units (CEUs) from North Carolina State University. In addition, PGA of America members earn three recertification credits for each seminar. Golf Course Superintendents Association of America members receive 1.9 CEUs toward recertification.

Presenters include speakers from the USGA, PGA of America, American Golf Corporation, and the NGF as well as course owners and operators, developers, and golf product manufacturers.

The \$460 registration fee includes instructional materials.

For further information, visit the NGF web site at www.ngf.org, or contact the Department of Continuing Education at Oglebay Resort and Conference Center at 800-624-6988, ext. 4019. ▶

GOLF COURSE NEWS

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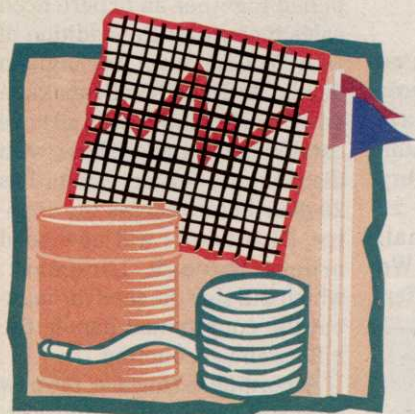


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BRIEFS



SIMONINI JOINS SYNCROFLO

NORCROSS, Ga.— James A. Simonini has taken on the role of market development manager for SyncroFlo's Golf & Irrigation Division.

Simonini will be responsible for developing national and international sales and for expanding SyncroFlo's existing sales and service networks.

Simonini has extensive experience in consumer goods and business-to-business sales and marketing management.



James Simonini

RAIN BIRD ADDS LAMBERT

AZUSA, Calif. — Rain Bird's Golf Division has announced the addition of Tim Lambert to the sales department as a regional sales manager. Overseeing Rain Bird's golf business in the Northwestern region, Lambert will focus on building relationships with distributors and seeking opportunities in new course construction and renovation.

HUNTER NAMES FRANCO, CARTER

SAN MARCOS, Calif. — Legacy by Hunter, the golf irrigation division of Hunter Industries, has named two new Western regional sales managers. Tom Franco, based in Fresno, is district sales manager for the western states and Steve Carter, based in Lakewood, Colo., is district sales manager for the Rocky Mountain/Central areas.



Tom Franco

As part of their responsibilities, Carter and Franco will work with golf course irrigation specifiers, including golf course architects, irrigation consultants, management companies and installation contractors.

PRECISION SELECTS PHIPPS

NORTHBROOK, Ill. — Precision Laboratories, Inc. has announced that Mark Phipps has joined its Turf, Ornamental and Aquatics Team as a district manager. Phipps has sales responsibilities with distributors in two U.S. districts. For the past 17 years, he has been in sales for Moyer and Son of Souderton, Penn.

AgriBioTech launches new wholesale business unit

By ANDREW OVERBECK

SALEM, Ore.— AgriBioTech's integration efforts continue to take shape with the formation of Independent Seeds as the company's new turf, forage and international wholesale business unit.

Allied Seed Co., Burlingham Seeds, Clark Seeds, Olsen-Fennell Seeds, Oseco, Inc., Peterson Seed, Seed Resource, Van Dyke Seed, W-D Growers Idaho, Wilber's Seed, Willamette Seed Co., W-L Research and Zajac Performance Seeds have been combined to form Independent Seeds.

"This business unit will have a separate and distinct product line that will be marketed through existing wholesale distribution channels," said John Zajac, director of Independent Seeds. "We will fully represent all the warm- and cool-season turf varieties in one location and through one sales representative."

By combining these 13 companies, Independent Seeds now offers a broad line of high-performance turfgrass varieties. "If you take the companies that used to exist and replace them with the Independent Seeds name, we are very well repre-



John Zajac

sented in the top grouping of many of the current turfgrass trials," said Zajac.

The new company will also benefit from increased marketing and ordering efficiencies.

"We have invested in more sophisticated warehouse tracking, which will make it easier to work with distributors; and we are working to simplify and trim down operations integrating our Oregon people into one location," said Zajac. "As we integrate we will take these new efficiencies and reinvest into research and development and new products."

Improving research and development efforts is at the top of Independent Seeds' list. "We want to continue to play a leadership role in both warm- and cool-season grasses as far as the end user is concerned," said Zajac.

A larger research program will also allow Independent Seeds to delve into more diverse projects. "We will spend more time looking at the less-important and more-obscure grasses that could be developed to serve niche markets that are now not being invested in," said Zajac.

Another facet of Independent Seeds' business will be handling the international activities for ABT. "We will be making a more concerted effort to serve the

Continued on page 40

NEW PRODUCT OF THE MONTH



TEXTRON ROLLS OUT NEW RANSOMES E-PLEX II ELECTRIC GREENS MOWER

Textron Turf Care and Specialty Products offers the Ransomes E-Plex II electric greens mower. Designed to boost mowing productivity and performance, the E-Plex II's quiet, pollution-free operation makes it ideal for courses that are near residential developments. Equipped with a 48-volt electric motor, the E-Plex II draws its energy from eight 6-volt batteries and can operate up to three hours on one full charge. Since it has no hydraulic system, oil, air filters, spark plugs, radiator or ignition components maintenance is kept to a minimum. Total cutting width of the Ransomes E-Plex II is 62 inches. To optimize mower performance, a programmable hand-held service tool provides convenient diagnostic checks of the electrical system.

Landmark to handle Scotts distribution

By ANDREW OVERBECK

MARYSVILLE, Ohio — In a move to increase its seed business, the Scotts Co. has reached an exclusive distribution agreement with Spokane, Wash.-based Landmark Seed Co. Scotts, which has sold seed direct for the last 35 years, will now be utilizing an extensive distribution network to move its seed products. Under the new arrangement, Scotts will grow, supply and market seed, and Landmark will be responsible for sales, invoicing and distribution. The financial terms of the agreement were not disclosed.

According to Wayne Horman, director of national accounts and the marketing manager for seed, the distribution changes are the first step in making Scotts more of a seed company.

"We have really been a fertilizer company that sold seed. We did not operate as a seed company," said Horman. Citing technologically advanced varieties like Round-Up-ready bentgrass and bluegrass, Horman said it was time that Scotts seed stood on its own and gained an

Continued on page 40

Flowtronex PSI acquires Mikotech

DALLAS — Flowtronex PSI has strengthened its direct service capabilities to courses in the Southern California and Nevada markets by acquiring Riverside, Calif.-based Mikotech.

Mikotech's seven service technicians stationed in southern California and Las Vegas will remain with Flowtronex PSI as its Western Service Group, with plans to increase the total service staff to 12. The acquisition includes a 10,000-square-foot office complex-warehouse located in Riverside to serve Flowtronex PSI customers in the Los Angeles-Orange County, Palm Springs and Las Vegas areas. Mikotech has been a certified Flownet service provider since 1993.

"The acquisition is very much a part of PSI's ongoing effort to devote more technicians and resources to offering local factory direct service to customers," said Flowtronex PSI General Manager Tom Male.

Mikotech's founder, Mike Skidgel, will continue to manage day-to-day operations and maintain responsibility for his existing service territories. "I envision better, more efficient and more timely customer service with the additional resources at our disposal," said Skidgel.

Mikotech is the second such acquisition in a year. Last August, Flowtronex upped its presence Kentucky, Tennessee and the Carolinas by acquiring the Richard Embry Co.



ACQUISITIONS

Golf Course News STOCK REPORT (9/15)

Company	Symbol	Stock Price	%Change 1/1/99	%Change 7/15/99	P/E	52-week Range	Proj.5-yr Earn. Growth
Astrazeneca	AZN	39.25	-12.53	6.26	31.15	31-48.94	9.20%
Deere & Co.	DE	40.25	21.28	-4.45	21.47	28.38-45.94	9.50%
Dow Chemical Co.	DOW	115.37	26.87	-10.26	21.28	78.69-138	8.00%
Family Golf Centers	FGCI	2.87	-85.44	142.11	9.48	.72-24.5	N/A
Golf Trust of Amer.	GTA	18.87	-31.98	-14.20	14.18	18.5-31.88	11.70%
Ingersoll-Rand	IR	60.06	27.12	-4.76	17.8	34-73.82	11.50%
Lesco Inc.	LSCO	15.25	18.45	-8.27	17.73	9-19.5	17.50%
Nat'l Golf Prop.	TEE	20.44	-29.37	-10.90	19.09	20.87-30	9.80%
Toro Co.	TTC	37.56	31.80	-1.15	21.68	16.5-39.5	13.00%
Textron Inc.	TXT	77.06	1.48	-6.87	5.47	52.06-98	14.10%

* — DATA PROVIDED BY THE VALUE TREND LINKS

Toro announces strong third - quarter earnings

BLOOMINGTON, Minn. — The Toro Company reported a strong third quarter ended July 30, due to growth in its professional businesses and improved results from last year's profit improvement initiatives.

Net sales for the quarter were \$325.3 million compared to \$291.0 million for the third quarter last year, an increase of 11.8 percent. Year-to-date net sales were \$1.01 billion compared to

\$880.7 million for the same period last year, an increase of 14.6 percent.

"We are realizing the benefits of our profit-improvement program and our intensified focus on asset management. Moreover, our improved performance also allows us to pursue a greater number of strategic investments for a stronger future earnings capability," said Kendrick B. Melrose, chairman and CEO of Toro.

Scotts/Landmark

Continued from page 39

identity.

"We asked ourselves: 'Can we continue to do business the same way?' Probably, we could have kept things the same and continued to grow incrementally every year," said Horman. "But we work in times where small growth is not good enough. We had to change and go in a differ-

ent direction."

Scotts and Landmark have pulled together an experienced sales team, with the addition of Don Woodall from Burlingham Seeds/ABT and Ray Brubakken and Orlin Reinhold, who all have established relationships with distributors. So far, Scotts has 20 distributors across the country. Distributors will now send orders through Landmark, which will ship the seed throughout the country and handle the billing and accounting.

According to Horman, the new operation will be smoother, eliminating many of the headaches that plagued his territory managers and distribution system in the past.

"What we did in the past was store seed at seven different locations around the country," said Horman. "But we would put things in the wrong warehouse and have delivery or back-order problems. This agreement helps us get away from that. There will now be a distributor in the area that has the seed that the customers need."

Landmark's expertise in handling complex distribution systems will allow Scotts to improve delivery timeliness, offer more services to its customers and better serve regional demands.

"With regional distributors, we will have a better idea of what the customer wants. If there is a greater demand for a product in Michigan, we can do that now. We can gear up and meet demands in a specific state or region very well," said Horman.

The company's 30 territory managers will continue to promote Scotts seed as before, but they will be promoting the regional distributor and the services they offer. "It allows them to push seed, but not have to deal with getting it there," said Horman.

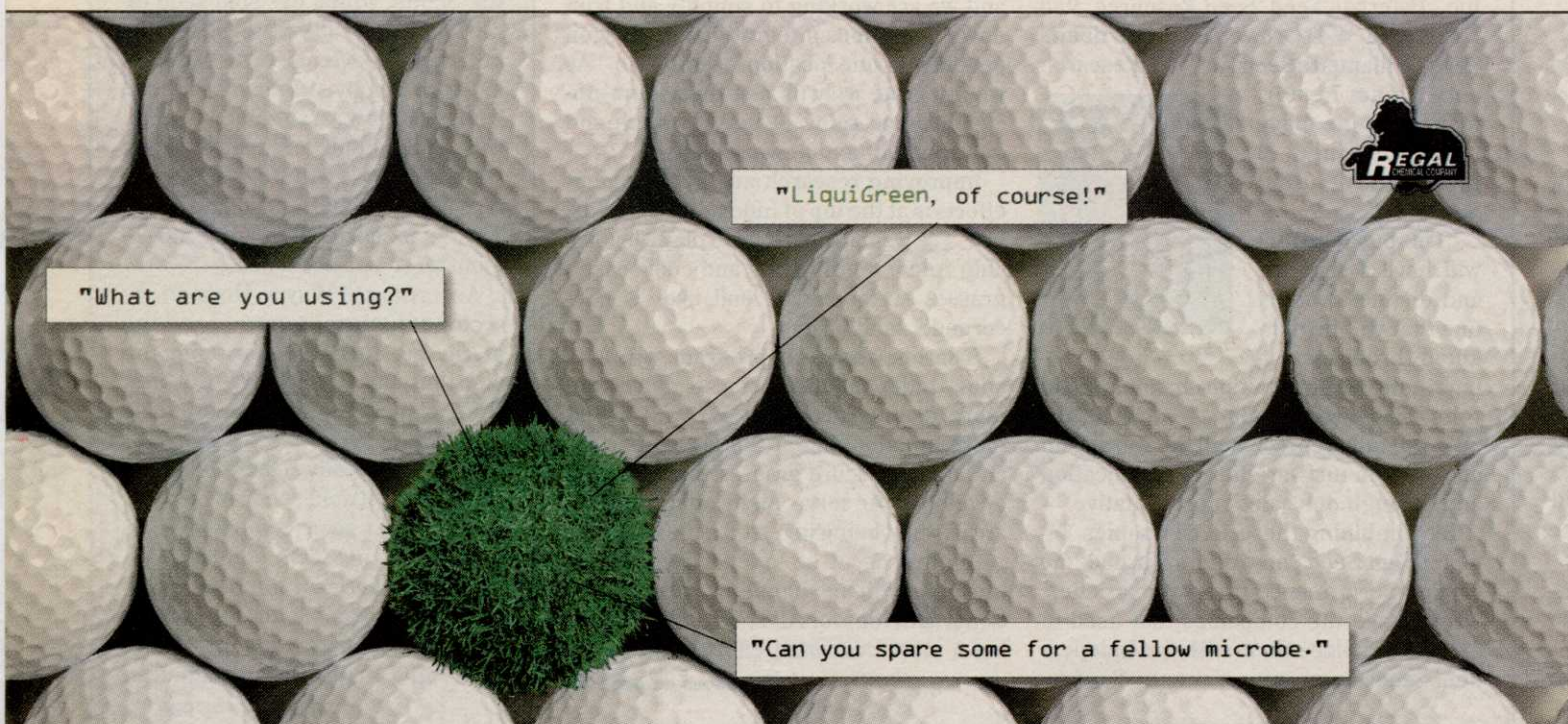
Independent

Continued from page 39

global marketplaces," said Zajac. "With more proprietary and common varieties at our disposal, we will have a more defined international program."

Independent Seeds will be involved in contract production and production licensing agreements internationally as well as research and development internationally at existing facilities in Europe, South America, Asia and Eastern Europe.

Zajac is still working to integrate the 13 companies, a process that began in July. "We are now in a difficult period of trying to cope with the late harvest and make some of these changes," said Zajac. "It will take the majority of the fall to get going smoothly, but we will be in tune by spring."



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The Ariens Sno-Brush

Arien's Sno-Brush ready for winter

The Ariens Company introduces the newest innovation in snow-removal equipment, the Sno-Brush.

The Ariens Sno-Brush is designed to handle everything from clearing away several inches of snow to brushing off fluffy snow-falls or light snow dustings. The Sno-Brush has been specially designed for use on many different type of surfaces including cobblestone or bumpy paths and brick sidewalks. The flexible bristles conform to the surface and rotate to clear three-foot-wide paths. The three-way brush allows snow to be swept straight ahead, or to a 20-degree angle to the right or left.

A reliable 9-hp Tecumseh OHV Snow King engine provides the power behind the Sno-Brush, and differential lock-out wheels offer dual-wheel drive in heavy snow or single-wheel drive for easy maneuverability.

CIRCLE # 207

New formulations from Nature Safe

Nature Safe natural and organic fertilizers introduce two new formulations, 20-1-5 and 13-0-11 with Polyon, designed to bring Nature Safe's nutritional and environmental benefits to every part of the golf course. The new blends combine organic nutrition and fertility efficiency of Nature Safe with the 100-percent controlled release and sustained slow-release nitrogen of Polyon's patented, reactive layer coating process.

The 20-1-5 emphasizes cost-effective fairway, tees and rough application opportunities, while the 13-0-11 formulation also provides a quality 1:1 ratio product ideal for markets that restrict phosphate applications. Additionally, they are available in course and fine grades, allowing them to respond to fairways with reduced mowing heights and tighter turf canopies.

CIRCLE # 208

Curlex offers erosion protection

For long-term protection against erosion when erosion control blankets and vegetation alone are not sufficient, the American Excelsior Co. introduces its Curlex Enforcer bio-composite reinforcement matting.

American Excelsior's En-

forcer combines the permanence of two layers of heavy-duty synthetic netting with the company's unique Curlex aspen excelsior fiber to form a three-dimensional matrix. This stitched composite provides the benefits of long-term erosion protection, in addition to providing the ideal micro-climate for seed germination and the establishment of vegetation.

CIRCLE # 209

Jacklin introduces hardy Triplet fescue

Triplet, a new turf-type tall fescue blend from Jacklin Seed/Simplot Turf & Horticulture, has genetic characteristics that make it ideal for high-traffic areas. A semi-open canopy helps Triplet stand up to drought, heat and close mowing. Additionally, it helps improve its resistance to such diseases as brown patch and net blotch. Dense and medium-textured, each variety in the Triplet blend has been selected for its improved genetic characteristics and has met standards higher than certified seed.

CIRCLE # 210



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Your golfers and grounds crew deserve the very best. And that's exactly what they'll get with the Jacobsen® LF family of fairway mowers. Whether you're preparing for a major tournament or daily golf, Jacobsen fairway mowers deliver a carpet-like finish for your golfers with the most advanced cutting reels in the industry. And your crew will love the smooth ride, advanced controls, easy servicing and reliable performance that put other mowers to shame. With a patented turf conditioner and our exclusive FlashAttach® mounting system, Jacobsen is the only name you need to know.

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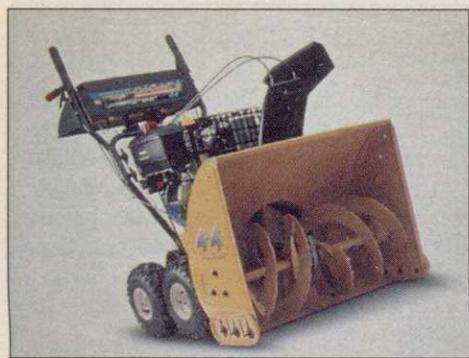
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The Cub Cadet 4x4 Snow Thrower

Cub Cadet's 4x4 eases snow removal

Cub Cadet introduces the new 4x4 Snow Thrower with an exclusive 4-wheel drive system. The Cub Cadet 4x4 features a Regency OHV engine and includes fingertip-controlled power steering, heated hand grips and single-handed operation that frees the left hand to operate the 4x4's electric chute rotation.

CIRCLE # 211

Terrators from Terracare

Terracare Products Co. introduces the terrators, T60 and T-36 aerators. Both models are equipped with 12 tines per-disc. T-36 has ten discs and T-60 has 16, allowing for deeper penetration with less weight and reduced maintenance cost. The aerating width of T-36 is 36 inches and the aerating width of T-60 is 60 inches.

CIRCLE # 212

Shred it and forget it with Royer's 120

Royer Industries' shred-der-mixer Model 120 turns otherwise useless debris fill material into valuable top dressing while accumulating unwanted rubble into a separately controlled trash pile.

When the shredders are used in conjunction with the Royer Model 42 power screener, the final product is a super fine, trash-free top soil which is ideal for most turfgrass growing and maintenance applications. All models are easily transportable and can handle almost any soil type.

CIRCLE # 213

Gravely's new Z-machines

Gravely announces two new Z-machines, the 250Z and the 270Z, to its zero-turn product line. The 250Z is a zero-maintenance machine with features such as maintenance-free XL spindles that are guaranteed not to need greasing or replacement for two years and stay-sharp tungsten-carbide-coated blades that are designed to stay sharp longer.

The Gravely Air-Flo 5-inch deck has been designed to allow maximum airflow through an innovative cutting chamber and 21-inch-wide discharge tunnel. A hydraulic deck height control changes the deck height between one and five inches while 360-degree pivoting anti-scalp rollers prevent turf scalping in any direction.

The Gravely 250Z features a 20-hp Briggs and Stratton Vanguard engine and will mow at speeds up to 9 mph. The top of the line Z-machine, the 270Z, features a 20-hp Yanmar liquid-cooled diesel engine and 50-, 60- or 72-inch Air-Flo deck.

CIRCLE # 214

GREEN-RELEAF®

By Sybron

YOU KNEW GREEN-RELEAF® as pioneers in the use of beneficial microbes to improve the health and stress resistance of turf grasses.

DID YOU KNOW that GREEN-RELEAF products are now backed by Sybron Biochemicals, a world leader in the development of microbial solutions for environmental applications for over 30 years?

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CIRCLE # 215

Golf Course Classifieds

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Williamsburg Environmental Group, Inc. provides specialized golf course consulting services in the areas of ecology, environmental planning, regulatory support, landscape architecture and civil engineering. We currently have openings in our Williamsburg and suburban Washington D.C. offices for landscape architects, civil engineers, and environmental planners with experience in golf related projects. Requirements include 2-5 years of design experience using AutoCAD R14, experience with conceptual design through final site plan development, and coordination with clients and golf course architects. Must have excellent written and verbal communication skills. E-mail resume to Jennifer West at jwest@wegnet.com or fax to 757-229-4507.

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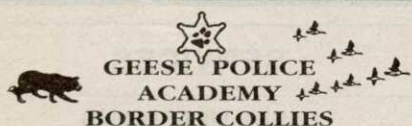
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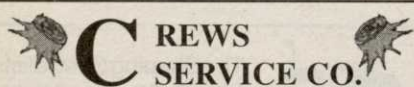
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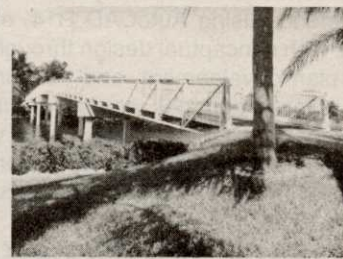


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10th anniversary
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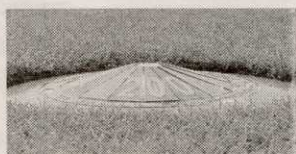
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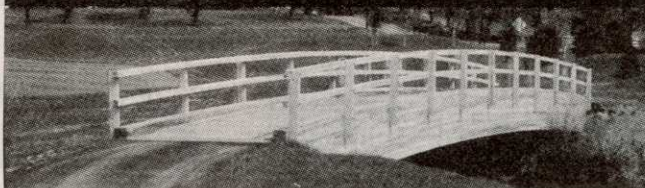
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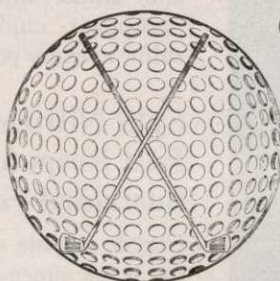
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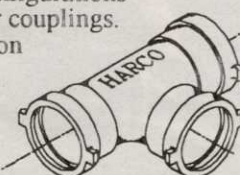
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- 4 — GCSAA Seminar on Protecting Natural Resources on the Golf Course in Syracuse, N.Y. *
- 7 — GCSAA Seminar on Bentgrass Management and Rootzone Maintenance in Billings, Mont. *
- 13 — GCSAA Seminar on Bentgrass Management and Rootzone Maintenance in Hauppauge, N.Y. *
- 13 — GCSAA Seminar on Sus-

- tainable Golf Course Landscape Design: Enhancing Aesthetics, Function and Maintenance in Jackson Hole, Wyo. *
- 18 — GCSAA Seminar on Advanced Weed Management in Little Rock, Ark. *
- 19 — GCSAA Seminar on Lake and Aquatic Plant Management in Little Rock, Ark. *
- 19 — GCSAA Seminar on Protecting Natural Resources on the Golf Course in Grand Rapids, Mich. *

- 25 — GCSAA Seminar on Wildlife Management and Habitat Conservation in Manchester, N.H. *
- 26 — GCSAA Seminar on Management Strategies for the Turfgrass System in Lexington, Ky. *
- 26 — GCSAA Seminar on Bentgrass Management and Rootzone Maintenance in Rockford, Ill. *
- 26-27 — GCSAA Seminar on Physical Problems of Turfgrass Soils: Identification and Correction in Brewster, Mass. *

- 27 — GCSAA Seminar on Bentgrass Summer Stress Management for Cool/Humid Regions in West Orange, N.J. *

November

- 1 — GCSAA Seminar on Maximizing Turfgrass Disease Control in San Marcos, Calif. *
- 4 — GCSAA Seminar on Employee Safety Training in Providence, R.I. *
- 4 — GCSAA Seminar on Integrated Disease Management for

- Bermudagrass Golf Courses in Jacksonville, Fla. *
- 5 — GCSAA Seminar on The Microbiology of Turfgrass Soils in Providence, R.I. *
- 8 — GCSAA Seminar on Lake and Aquatic Plant Management in South Center, Wash. *
- 8-9 — GCSAA Seminar on The Assistant Superintendent: Managing People and Jobs in Arvada, Colo. *
- 9 — GCSAA Seminar on Employee Safety Training in Novi, Mich. *
- 9-10 — GCSAA Seminar on Managerial Productivity in Andover, Kan. *
- 9-12 — New York State Turf Association Turf & Grounds Expo in Syracuse, N.Y. Contact 518-783-1229.

- 10 — GCSAA Seminar on Turfgrass Ecology in St. Louis. *
- 13-16 — Professional Grounds Management Society Annual Conference and Green Industry Expo in Baltimore. Contact 410-584-9754.
- 15 — GCSAA Seminar on Bentgrass Management and Rootzone Maintenance in Robinsonville, Miss. *
- 15-16 — GCSAA Seminar on Golf Greens: History, Theory, Construction and Maintenance in Myrtle Beach, S.C. *
- 16 — GCSAA Seminar on Human Resource Management in Bolton, Mass. *
- 16 — GCSAA Seminar on Financial Essentials for the Superintendent in Myrtle Beach, S.C. *
- 16 — GCSAA Seminar on Wildlife Management and Habitat Conservation in Coeur d'Alene, Idaho. *
- 16 — GCSAA Seminar on Turfgrass Stress Management in Ames, Iowa. *
- 17 — GCSAA Seminar on Budgeting and Forecasting in Bolton, Mass. *
- 17 — GCSAA Seminar on Maximizing Job Satisfaction in Tarryton, N.Y. *
- 18 — GCSAA Seminar on Sustainable Golf Course Landscape Design: Enhancing Aesthetics, Function and Maintenance in Hudson, Ohio. *
- 18 — GCSAA Seminar on Human Resource Management in White Haven, Pa. *
- 18 — GCSAA Seminar on Bentgrass Summer Stress Management for Cool/Humid Regions in Centerville, Ohio. *
- 18-20 — Oklahoma Turfgrass Conference & Trade Show in Oklahoma City. Contact 918-251-4868.

December

- 1 — GCSAA Seminar on Golf Course Construction Management and Grow-In in Dallas. *
- 1 — GCSAA Seminar on Bentgrass Summer Stress Management for Cool/Humid Regions in Berlin, Conn. *
- 2 — GCSAA Seminar on Bentgrass Management and Rootzone Maintenance in Dallas. *
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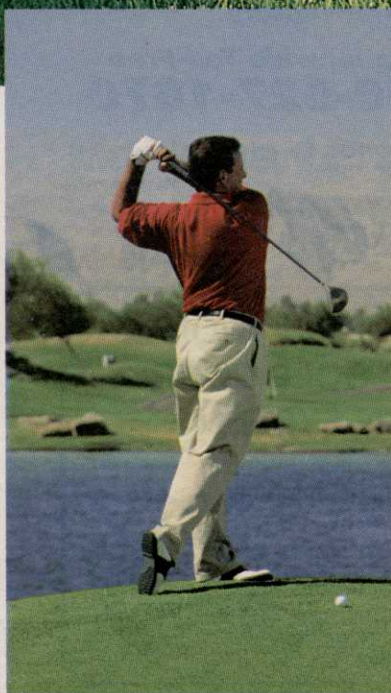
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