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STAYING AFLOAT

With nearly 15 percent of private clubs at risk,
demographic and economic concerns challenge
the segment to evolve or go under. **p. 30**



Goose dogs **p. 52** Recession strategies **p. 58** Pesticide purchasing **p. 66** A conversation with Ron Dodson **p. 20**



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Did You Know?

The size of the golf economy is estimated to be **\$75.9 billion** – that's more than newspaper publishing (\$50.1 billion), performing arts and spectator sports (\$64.7 billion) and the motion picture and video industries (\$73.9 billion).

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ON THE WEB – GOLFCOURSEINDUSTRY.COM

Items you can find online and in our weekly e-newsletter.

SHARE YOUR LESSONS

We're running a series of "Lessons Learned" articles from superintendents past and present who have life lessons or golf course maintenance-related stories to share. Read them online or e-mail yours to mpalmieri@gie.net.

LIST AN EVENT

Does your chapter association have an event to publicize? Get it listed at golfcourseindustry.com for maximum exposure. E-mail details to mpalmieri@gie.net.

CHECK THE LABEL

GCI's Web site features a number of useful tools and information – including a database of Material Safety Data Sheets (MSDS). To search for a label, visit golfcourseindustry.com/msds.

WEEKLY READER

The GCI weekly e-newsletter is the place to catch breaking news, industry updates and product information. To subscribe, visit golfcourseindustry.com/newsletter.

EDITORIAL MISSION STATEMENT:

Golf Course Industry reports on and analyzes the business of maintaining golf courses, as well as the broader business of golf course management. This includes three main areas: agronomy, business management and career development as it relates to golf course superintendents and those professionals responsible for maintaining a golf course as an important asset.



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REFUTING "GOLF = BAD"

I recently heard a story on NPR recounting the activities of Bear Stearns' former CEO Jimmy Cayne, who's responsible, in part, for the investment bank's downfall. The author of a new book, "House of Cards: A Tale of Hubris and Wretched Excess on Wall Street," gave listeners a glimpse at the indulgences of an archetypical Wall Street exec like Cayne. In addition to his \$28 million apartment and three-week-long jaunts to play in bridge tournaments, Cayne was a golfer. Every Thursday afternoon, he left the office by helicopter to play a round.

"Damn," I thought, because that's not the first time in the last few months I've heard golf used as an example of corporate excess. Chalk it up as another mark in the public's tally of "golf = bad" examples. Other recent additions to the list:

- Sen. Tom Coburn introduced an amendment to the American Recovery and Reinvestment Act (aka the \$790 billion stimulus bill) expressly excluding funding for golf courses.

- House Financial Services Committee Chairman Barney Frank scolded Northern Trust Corp. (which received \$1.6 billion in federal Troubled Asset Relief Program funding) for sponsoring the Northern Trust Open at the Riviera Country Club in Pacific Palisades, Calif.

- Sen. John Kerry introduced a bill preventing any TARP-fund recipient from hosting or sponsoring conferences, parties and entertainment events. The bill would allow waivers for events "directly related to the operation of the business or at the discretion of the Treasury Secretary" (who presumably has nothing better to do besides yay or nay corporate outings).

That last bullet is the most troubling to me. And it's not because I don't think companies benefitting from taxpayer dollars shouldn't be held to a set of standards. What bothers me is Kerry completely missed the point when he justified the bill in a press release, saying, "Americans who play by the rules are losing their jobs and struggling to pay their mortgages... some companies clearly need a reality check to get their priorities straight..."

Kerry and the other politicians grandstanding against golf are the ones who need the reality check. They owe it to Americans

to consider the deeper implications of their surface-level attacks on a given industry. When corporate sponsors pull back out of fear they'll be fingered for being fulsome, it's not the sponsors that take a hit. It's the industries who support these events that feel the effects – like ours, which generates a total economic impact of \$195 billion annually and supports 2 million jobs with wage income of \$61 billion.

Though it's easy to portray golf as elitist, the golf course industry is about as far from elitist as you can get. Just look at the faces of the wait staff at Any Club, the maintenance crew at Your Course Muni or the many vendors who make their livings servicing golf facilities.

It's not just jobs. The amount of annual charitable giving attributed to golf is estimated at \$3.5 billion. When politicians shun golf, the stigma trickles down to local golf fund-raising efforts. Again, it's not corporate sponsors who are penalized. It's the neighborhood charity that won't meet its goal this year because it fears appearing elitist if it hosts a golf event.

Over the last decade, golf's leaders have begun to gather the data the industry needs to tell its story through the Golf 20/20 economic impact

reports. Sharing this information needs to happen at all levels of the golf course industry – not just among association leaders. They're doing a good job; they'll go to the Hill for the second annual National Golf Day on May 13. It's important the entire industry forces politicians and the public to see the real faces of the golf course industry – the cooks, servers, maintenance crew members and others – before they become part of the group Kerry referred to – the ones who lose their jobs and struggle to pay their mortgages. If golf continues to get a bad rap, facilities will continue to lose revenue, which quickly translates to layoffs. By the time your employees and coworkers join the unemployment line, it'll be too late to send the message that the golf course industry is about more than Thursday afternoon helicopter rides and greedy execs like Jimmy Cayne. GCI



Marisa Palmieri Senior editor

Marisa Palmieri

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FEEDBACK

We'd like to hear from you.

E-mail us at gci@gie.net with your thoughts and opinions.

Crass column?

In my opinion, Pat Jones' column in your February 2009 issue ("Here's your sign," page 74) did a disservice to your publication. I felt his crass attempt at humor was more appropriate to a barroom discussion with the eight or nine guys who can always be found at the hotel bar during educational sessions at the GCSAA Conference. Pat may still be able to find these guys at the bar, and if he does, they will have a great conversation. As for the rest of us, we professionals have long since surpassed Pat Jones and his lame attempts at humor.

Dennis Lyon, CGCS
Manager of golf
City of Aurora, Colo.

A round of thanks

Thanks to Marisa Palmieri for mentioning Rounds4Research.com in an article in the February issue of GCI ("Taking research for granted?" page 6). The positive message

regarding our program was well received and actually helped increase Web traffic. Many thanks.

Tim Kreger
Director of programs
Carolinas Golf Course
Superintendents Association
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Well done

Saw your article on Barona Creek Golf Club and their admirable work in water and energy savings, and other environmental benefits ("Scaling back," page 30, March issue). Very well composed story. You really do have superior layout, photography and writing than other comparable magazines. Keep up the good work!

Todd Eckenrode
Principal
Origins Golf Design
Irvine, Calif.



CALENDAR

April 22
NGF'S GOLF BUSINESS SYMPOSIUM
THE PENINSULA HOTEL
Chicago
www.ngf.org/cgi/symposium.asp or call 561-744-6006

May 1 - 5
ASGCA ANNUAL MEETING
Grand Hyatt
Seattle
www.asgca.org or call 262-786-5960

May 4 - 5
63RD ANNUAL SOUTHEASTERN TURF-GRASS CONFERENCE
University of Georgia Tifton
Campus Conference Center
www.ugatiftonconference.org
or call 229-386-3416

May 4 - 5
GOLF BUSINESS FORUM 2009
The Celtic Manor Resort Wales
www.golfbusinessforum.com or call + 36 (1) 887 73 71

May 30 - 31
GEORGIA GCSA SUMMER CONFERENCE & GOLF CHAMPIONSHIP
Jekyll Island Club, Jekyll Island, Ga.
www.ggsca.com or call 706-376-3585

Aug. 10 - 16
GCBAA SUMMER MEETING
Hazeltine National
Golf Club, Chaska, Minn.
www.gcbaa.org or call 402-476-4444

For a complete calendar listing, visit golfcourseindustry.com/events/

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Jeff Wichman is an assistant superintendent at Patty Jewett Golf Course in Colorado Springs, Colo. He can be reached at jwichman@springsgov.com or 719-385-6942.

LEAVE YOUR OPTIONS OPEN

I've had the privilege of working on each of the "big three" types of courses: a resort, a country club and a municipality. The experiences and knowledge I gained have proven to be invaluable. I often hear recent turf school graduates say they only would consider working on a resort course, country club or tournament course. This narrow-mindedness closes doors before they even open. Each type of course offers a wealth of benefits. By considering all options, they could find themselves in a beloved position.

I started my golf career at The Broadmoor Hotel and Golf Club in Colorado Springs, Colo., in 1995. It was host to the 1995 U.S. Women's Open, under the direction of Tommy Anderson, CGCS.

I was a fish out of water running the East Course and Broadmoor grounds irrigation. There was more than enough work to go around and I never had a dull day. Because it's the lifeblood of a course, irrigation is a great place to start a golf course maintenance career. I spent only a year at the resort, but what I learned in that short amount of time made my other golf positions a piece of cake. I still reminisce about my days at the Broadmoor whenever I'm installing, troubleshooting and digging up those nasty leaks that cover you in mud from head to toe.

The Woodmoor Pines Country Club in Monument, Colo., was the next rung on my career ladder. There I worked directly with Scott Kresenbach, CGCS, and again irrigation was my main focus.

Woodmoor's irrigation was unique. The front nine was a block system and the back nine was a normal open hydraulic system. The normal open hydraulic system kept us all very busy. The other great challenge was dealing with the board of directors and the newly appointed greens committee chairman. It seemed every new greens committee chair had his or her own agenda. Some ideas would benefit the course, but many served special interests. Dealing with the different personalities within a country club is demanding. I'm sure there's not a country club superintendent alive that's pleased with the entire membership.

For the past seven years, I've happily been at Patty Jewett Golf Course, which is owned by the city of Colorado Springs. It's a 27-hole facility established in 1898, located in the heart of the city. When I accepted

the job I realized the course probably never would host a major event. However, it was the city's entire package that helped me recognize that it was the right decision for my family and me.

This position has been rewarding because working on a high-quality, city-owned course has many pluses. There are, of course, many challenges at a public course. Joe Public is at the top the list. There are all types of patrons that come through the door.

The gates open at 6 a.m. in the summer, and they're teeing each nine at 6:07 a.m. By 10 a.m., all three nines are packed. Like so many golf courses, the mornings are extremely busy for the maintenance staff. If one employee calls in sick, or if a unit has mechanical trouble, we play catch-up all day. The public waits for no one. Additionally, the irrigation system is the top priority. No matter how hard you try – that's one thing you can't escape.

Because it's the lifeblood of a course, irrigation is a **great place to start a golf course maintenance career.**

I've failed to mention that the pump station is the best way to learn a lot in a short time.

When the pump station technician shows up, watch him and ask a lot of questions. He'll usually share valuable information with you. Most of the time, he'll provide basic troubleshooting techniques that you can perform before he makes a trip to your course. In my area, the pump station technicians are spread pretty thin, and the pump usually likes to fail in the heat of the summer when no rain is in the forecast. Having some pump station knowledge helps you out in these circumstances.

Based on my experiences, I'd recommend college students take internships at different types of courses and assistants be open-minded about different types of facilities. Your opinions of the different types of facilities may change, but even if they don't, at least you've experienced all sides of the golf course industry.

Keep your options open and you'll be surprised about what you'll learn. **GCI**

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DEBATING FAIRWAY WIDTHS

Superintendents strive to reduce maintained areas, and it makes environmental and economical sense to reduce fairway acreage. However, the impact on golf must be considered before undertaking such measures, since the course exists for golfers' pleasure. At most courses, narrow fairways decrease revenues by slowing play and reducing enjoyment. Players go elsewhere, offsetting much of the cost savings.

Fairway widths range from 25 to 65 yards, with medium widths of 35 to 45 yards. Widths vary for a variety of reasons, including course theme, hole design, natural conditions and the effective throw of the irrigation system.

For example, dense trees often suggest narrow fairways, while prairie sites and public courses may feature wider fairways to fill space and account for windy conditions and poorer players. Many older and formally open courses have planted trees without considering their full growth potential, and end up narrowing fairways as the trees matured. Club members see tournament courses on TV with narrow fairways and often follow suit. However, fairways are often narrowed specifically for tournament play, so clubs that maintain these widths year round create conditions that may play too difficult for the average member.

Everyday golfers prefer hitting drivers on long holes, leaving layups to basketball, so most fairways should accommodate full drives. The USGA Slope Rating Charts say that scratch players need 32 yards and 20 handicappers need 40-yard widths to regularly hit fairways, making that range a good "standard" width. Fairways can narrow gradually from 300 to 300 yards off the tee to make them tougher for long hitters than for average players, generally accommodating all levels of player.

Every player, though, achieves success through different combinations of driving length, driving and approach accuracy

and putting and chipping skills. Standard fairway widths favor one type of player (wide fairways favor the "bomber" and narrow fairways favor accuracy), while varying fairway widths – from 25 to 55 yards at the prime landing zone with all widths in between – favor different players on different holes and provide more competitive golf and enjoyment.

Standard fairway widths favor one type of player ... varying widths – from 25 to 55 yards at the prime landing zone – favor different players on different holes and provide more competitive golf.

Width variation shouldn't be arbitrary. Longer par-4 holes should generally get wider fairways since golfers need to hit big drives to get home in regulation. While longer hitters probably want short par-5 holes to have wide fairways to let them really rip a tee shot to get home in two, shorter hitters see this as an unfair advantage. Architects normally, but not always, make par-5 fairways narrower than par-4 holes to add to risk to getting home in two.

Shorter holes can have precision or layup tee shots strongly suggested – but not demanded – by hazards and narrower landing areas.

Layups work best where they create a two- to three-club approach difference with a maximum length of 175 yards, because few lay to create substantially long approach shots.

If all long par 4s have wide fairways, while short ones get narrow fairways, they may get too similar. Some long holes

should have narrow fairways and vice versa, just for variety.

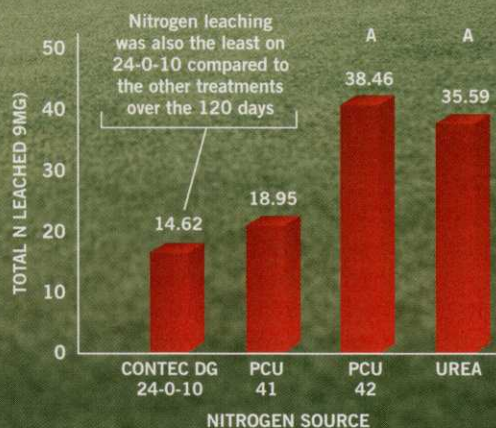
Individual fairway widths also should consider natural conditions and play factors like:

- Hole spacing – Where holes are close together, narrower fairways keep them better separated;
- Hazards – Tough and/or numerous hazards usually demand a little more room to operate, as do landing areas with hazards on both sides of the fairway instead of just one;
- Prevailing winds – Strong cross or head winds necessitate wider fairways;
- Fairway slopes – Landing areas with either steady cross and/or down slopes cause more roll and wider fairways to hold more shots, especially on reverse-slope doglegs (i.e. the outside of the dogleg being lower than the inside);
- Round position – Most golfers prefer the opening holes be wider, especially if you have no practice range or they haven't allowed time for warm-up. It also speeds play;
- Approach and putting difficulty – In most cases, shot difficulty should probably be averaged out on a hole. Holes with hard tee and approach shots plus difficult putting should be rare, because there is too little reward for a well played shot (and they are not much fun).

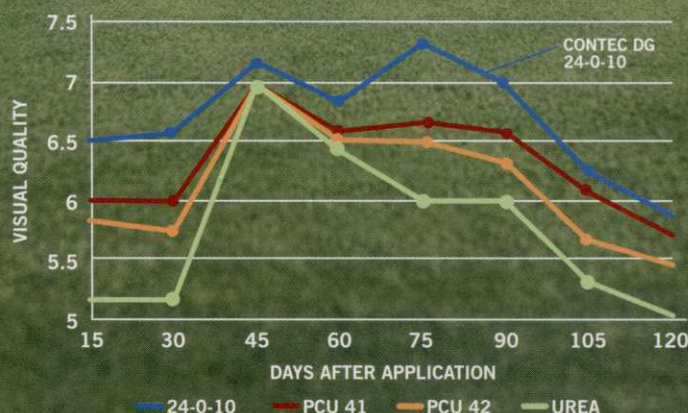
It can be a better option to reduce fairway acreage by starting fairways further from the tee, if you limit forward tee carries to 70 to 90 yards, middle tee carries to 100 to 120 yards and back tee carries to about 180 to 200 yards. With longer carries, golfers may not be able to reach the fairways in stiff headwinds. So, it's better to be somewhat conservative, especially for the forward tees.

A little design thought goes a long way in creating enjoyable golf, and fairways are too important to be designed, cut, or maintained without thinking through play considerations first – even if there is some mowing to be saved. **GCI**

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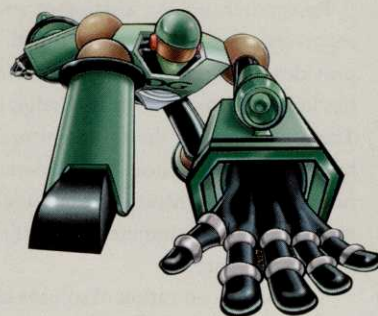
New University Research Concludes Contec DG Provides Superior N Uptake While Minimizing Leaching

The University of Florida, along with seven other well respected universities, recently released 2008 Contec DG test results.* The purpose of the testing was to determine the effects of Contec DG on turfgrass quality, growth and N uptake as well as potential N leaching losses. The charts above provide telling data of how Contec DG performed on Fairways vs. competitive materials. The Research Summary states Contec DG:

- "...produced a higher quality turfgrass..."
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Erik Christiansen is a licensed irrigator and president of EC Design Group, an irrigation consulting and water management firm based in West Des Moines, Iowa. A board member for the American Society of Irrigation Consultants, Christiansen can be contacted at erik@ecdesigngroup.com.

ANSWERS FOR EFFLUENT WATER CHALLENGES

There's no question that high-quality water is becoming limited and turf professionals throughout the country are seeking alternative sources.

Experts say sewage effluent – the wastewater from sewage treatment facilities – is probably the most available alternate source of irrigation water for turf. This trend began more than 30 years ago in the arid regions of the Southwest. In recent years it's become increasingly popular in humid regions as well, as older treatment facilities have been upgraded and now produce a very high-quality effluent.

When looking for alternative water sources, our main challenges are water-quality problems caused by soluble salts, which – by the way – can occur in nearly any region of the world. Increasing numbers of golf courses and commercial sites are being encouraged to use alternate water sources potentially high in saline, like recycled municipal water, for irrigation. Through this span of use, we're seeing the effects of excess soluble salts on turfgrass plantings in a wide range of climates.

Water analysis and periodic monitoring have become necessary parameters for sound irrigation management. *Before a superintendent commits to using any alternative water source for irrigating turf, he should conduct a sodium adsorption ratio (SAR) test to estimate the source's sodium hazard.*

Researchers believe a standard water report for commercial applications provides numerous data, some of which has little bearing for turfgrass irrigation. Therefore, any test should be performed by a qualified laboratory that understands turf applications. Most experts agree the most important parameters for turfgrass management are:

- Total concentration of soluble salts (salinity);
- Sodium (Na) content;
- Relative proportion of sodium to calcium (Ca) and magnesium (Mg) (Sodium

Adsorption Ratio or SAR);

- Chloride (Cl), boron (B), bicarbonate (HCO_3), and carbonate (CO_3) content;
- And pH.

Other parameters you're likely to find and should review in a water test report are nutrient content – nitrogen (N), phosphorus (P) and potassium (K) – chlorine content and suspended solids.

Once you know the results, you can develop a plan of action. I highly recommend every golf facility use the talents of a professional agronomist to interpret the alternative water source's effects on soils. A proper agronomic program renders most water sources adaptable for turfgrass irrigation.

After a comprehensive plan is in place with your agronomist, potential remedies for poor irrigation water quality are many and may include any of the following:

- **Sulfuric acid** is commonly used to reduce carbonates and bicarbonates by converting them to a gas and literally "fizzing" them away. The remaining sulfur then converts the sodium to sodium sulfate, similar to gypsum. Sulfuric acid, however, is expensive and can be dangerous to handle. It also may deteriorate any metal or cement that it contacts within the irrigation distribution system. There is a risk of property damage and personal injury.
- **Sulfur burners** are an alternative to sulfuric acid. Sulfur burners heat soil sulfur to create sulfurous acid, which "fizzes off" bicarbonates, similar to what sulfuric acid does. Sulfur burners are safer to operate, but still can harm metal and cement piping. The crudeness of the equipment can lead to over acidification of the irrigation source. They also can be unsightly out on the golf course, require manual storage and reloading of bagged sulfur and may emit a burnt sulfur smell when operating.
- **Urea-sulfuric acid** is an alternative to sulfuric acid that uses urea as a buffer,

making it easier to handle. Urea-sulfuric acid will contain high amounts of nitrogen in addition to sulfuric acid. This ratio can result in the over application of nitrogen while trying to supply the needed acidity.

- **Liquid calcium** is another option. The two most common forms are calcium polysulfide and calcium chloride. Liquid calcium is very expensive when comparing the cost-per-unit of calcium to solution-grade gypsum. With "liquid calcium," you must pay for a prepared liquid solution comprised mostly of water. Calcium polysulfide also emits a strong sulfur odor and can add a yellow tint to the irrigation water. Calcium chloride adds additional chloride to the effluent water, which is typically already high in chloride and does not create all the benefits that calcium sulfate does.

- **Nutrient injectors** can be used to add solution-grade gypsum, as well as other water management tools, such as wetting agents and micro and macro nutrients.

- **Non-corrosive sprayable acids** have been developed to allow targeted applications of acidity. This technology enables the user to treat potential trouble areas, such as greens, individually without any concern for nitrogen or sulfur excesses. One company has developed the technology even further by incorporating the safe acid onto a dry particle.

With such a wide variety of tools available, it's crucial that the turfgrass manager learn and understand the pros and cons of each. In addition, the superintendent may need to review all cultural practices to ensure a cohesive soil/water management plan is in place. Water reports are the equivalent of getting blood work from your physician; it's an important component to the overall health of your site. Remember, however, that water treatment is only a part of a solid, comprehensive water management plan. **GCI**

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Monroe Miller is a retired golf course superintendent.

He spent 36 years as superintendent at Blackhawk Country Club in Madison, Wis. Miller can be reached at groots@charter.net.

A GOLF TRIP SANS GOLF CLUBS

Two good friends of mine – Rod Johnson and the late Wayne Otto – were famous in these parts for their golf trips. They played golf all over the country, taking full advantage of golf privileges extended to them by their colleagues in golf. Everywhere they went, their clubs were in the trunk.

I have taken many golf trips myself; the difference is that I never take clubs with me. I have a dearth of ability, and the enjoyment of playing isn't there for me like it is for millions of others. The beautiful thing about golf is there are so many aspects to the game that can be enjoyed without playing. There's the rich history. There are the great players, past and present. We have the fields of play – no two alike. The opportunities to immerse yourself in the game are almost endless.

I was in Raleigh, N.C., this winter to welcome our granddaughter Ella into the world. While there I drove the short trip to Wake Forest, N.C., the former home of Wake Forest University (then called Wake Forest College). The campus moved to Winston-Salem in the mid 1950s, but Arnold Palmer was a student on the old campus starting in 1947. Mr. Palmer is well remembered there yet today, as I found out on my trip.

The Wake Forest College Birthplace Museum has a sports collection that bears Palmer's name. He came back to Wake in 2003 for its dedication. The pro shop staff at the Paschal Golf Club told me how he stopped there, too, in 2003, to reminisce about games he played on the course in the 1940s and early 1950s. We had lunch at Shorty's as Palmer did many times when he was a student and again in 2003. He wrote a thank-you note to them and they displayed it proudly.

The half-day spent in Wake Forest was the culmination of my nearly lifelong interest in Mr. Palmer.

We left Raleigh and headed for Providence, R.I., to attend the New England Regional Turfgrass Conference, and

stopped in Far Hills, N.J., at Golf House – the USGA headquarters and museum – to see the museum addition, not coincidentally named the Arnold Palmer Center for Golf History.

It's been described as the world's premier collection of golf memorabilia. To me, that's an understatement. The collection is so well presented that you're drawn in and focused the entire way through. We maxed out the experience on a cold Saturday, nearly by ourselves. The self-guided tour begins in the Arnold Palmer Room, a room filled with items and information about his career.

A Palmer portrait greets you as you enter the room. Artist Jim Chase created it, using quotes from Arnold's career to form the lines and shades that make up the portrait. It took him 14 years to complete, working at the rate of eight words per hour. He also had to research the quotes to verify them. What a piece of artwork he created. Palmer himself was overwhelmed by Chase's interest in him and the work itself.

You move from room to room, each dedicated to a period of golf that's easily identifiable. The "Golden Age" is followed by the "Depression and World War II," followed, in turn, by a room of displays and collections called the "Come-back Age." The "Age of Superpowers" becomes very familiar to people my age; it was dominated by many players alive yet today. The "Global Game" focuses on Tiger Woods and players we currently watch. We finished our visit with walkthroughs of the Ben Hogan Room and the Bob Jones Room.

We left Far Hills impressed with the great gift the USGA has given golf, and we headed north.

I usually have a chance to visit one of golf's great treasures each year – Geoffrey Cornish.

Mr. Cornish lives in an area of Amherst, Mass., called Fiddlers Green. We arrived there on a cool Sunday and, in

true New England fashion, Geoffrey was cutting wood in his backyard, a bit of the four cords he burns each winter. He invited us into his cozy home and we visited in comfort and warmth, surrounded by lots of books.

Best known for the hundreds of golf courses he's designed, Geoffrey also has been a premier author of books related to the endlessly interesting subject of golf courses, their design and maintenance. We had a grand time talking about golf – not players or tournaments, but rather superintendents and architects and academics and authors. There isn't anyone I know who's more interesting to visit with or easier to talk to. It was a highlight of our trip without clubs.

I attended the New England Regional Turfgrass Conference, a truly outstanding regional meeting that has grown under the leadership of Gary Sykes, a former golf course superintendent in Rhode Island. We headed home with one more stop in mind.

We returned on Interstate 80, a route that takes you through Youngstown, Ohio. Youngstown was the home of the first GCSAA (NAGA back then) president and one of its founders – Col. John Morley. He is also the namesake of the GCSAA Distinguished Service Award.

I called Margo Szabo, one of the excellent staff members at GCSAA, to see if she knew where Col. Morley was pillowed. She didn't, but an hour later she called with detailed directions to the Tod Homestead Cemetery on the eastern edge of Youngstown.

John Morley rests with his wife and two other Morleys in the Acacia section of the cemetery, an area reserved for Masons. His headstone indicates he was a 32nd degree Mason. I was proud to pay quiet tribute to the man who did so much to get our profession rolling.

With that we headed home, well satisfied with another golf trip that didn't see us hit even a range ball. **GCI**

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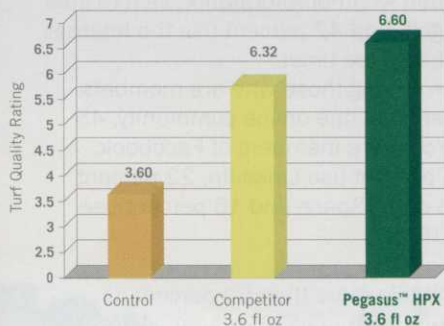
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WOMEN'S WATCH

The independent Women's Golf Market Study details a range of attitudes of serious women golfers about the game, equipment and apparel they wear. Golf Datatech, an independent research firm, conducted the study.

More than 1,000 female serious golfers (those playing a minimum of 12 rounds per year) participated in the survey, which was conducted in November 2008. A majority of female respondents live active lifestyles and have an average household income of six figures. Key findings are:

GOLFING HABITS

- Respondents were asked what they enjoy about playing the game – 91 percent said they like being outdoors, 82 percent enjoy the time with friends, 80 percent are always trying to improve, and 79 percent enjoy the game's challenge.

- When asked to identify the factor they enjoy best about playing the game, 32 percent chose the game's challenge as their primary motivation, and 18 percent said being with friends is most important.

- One in three say playing the game costs too much, and almost half said they'd be likely to play more golf if it cost less.

- 21 percent disliked that a round of golf takes too long to play; 40 percent are constrained by limited leisure time; and 31 percent work too much to play as much as they'd like.

SPENDING ON GOLF

- The average respondent estimates she spent slightly less than \$700 during the past year on golf equipment, and 18 percent said they spent more than \$1,000. Respondents estimate they spend an additional \$515 on golf apparel; 14 percent spend above \$1,000; and 74 percent believe technology in club designs can improve their play significantly.

MEDIA HABITS

- 55 percent said they watch golf or golf-related programming on TV at least once a week; 14 percent watch golf three to four times a month. Of those who watch golf or golf-related programming on TV, 94 percent said they frequently watch the PGA Tour, and 80 percent watch the LPGA.

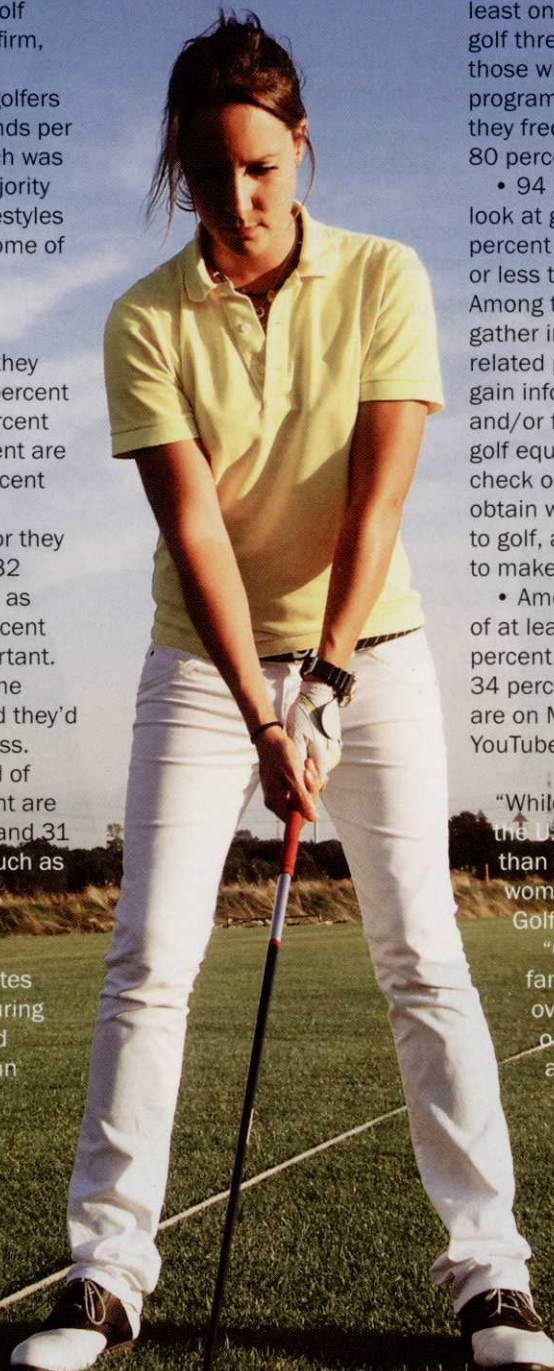
- 94 percent use the Internet to look at golf-related Web sites, and 80 percent use it 25 percent of the time or less to look for golf-related content. Among those who use the Internet to gather information about golf and golf-related products, 58 percent use it to gain information about golf courses and/or for directions, 55 percent get golf equipment pricing, 50 percent check on equipment specs, 49 percent obtain weather information as it relates to golf, and 42 percent use the Internet to make tee times.

- Among those who are members of at least one online community, 45 percent are members of Facebook, 34 percent use LinkedIn, 22 percent are on MySpace and 15 percent use YouTube.

"While more than 50 percent of the U.S. population is female, less than 25 percent of total golfers are women," says Tom Stine, partner of Golf Datatech.

"Combine the cost, time and family pressures with their overall perception of the male orientation at the golf course, and it's not surprising women leave the game as often as they enter. This is the basis for the women's golf population to be at a near standstill."

Source: Golf Datatech





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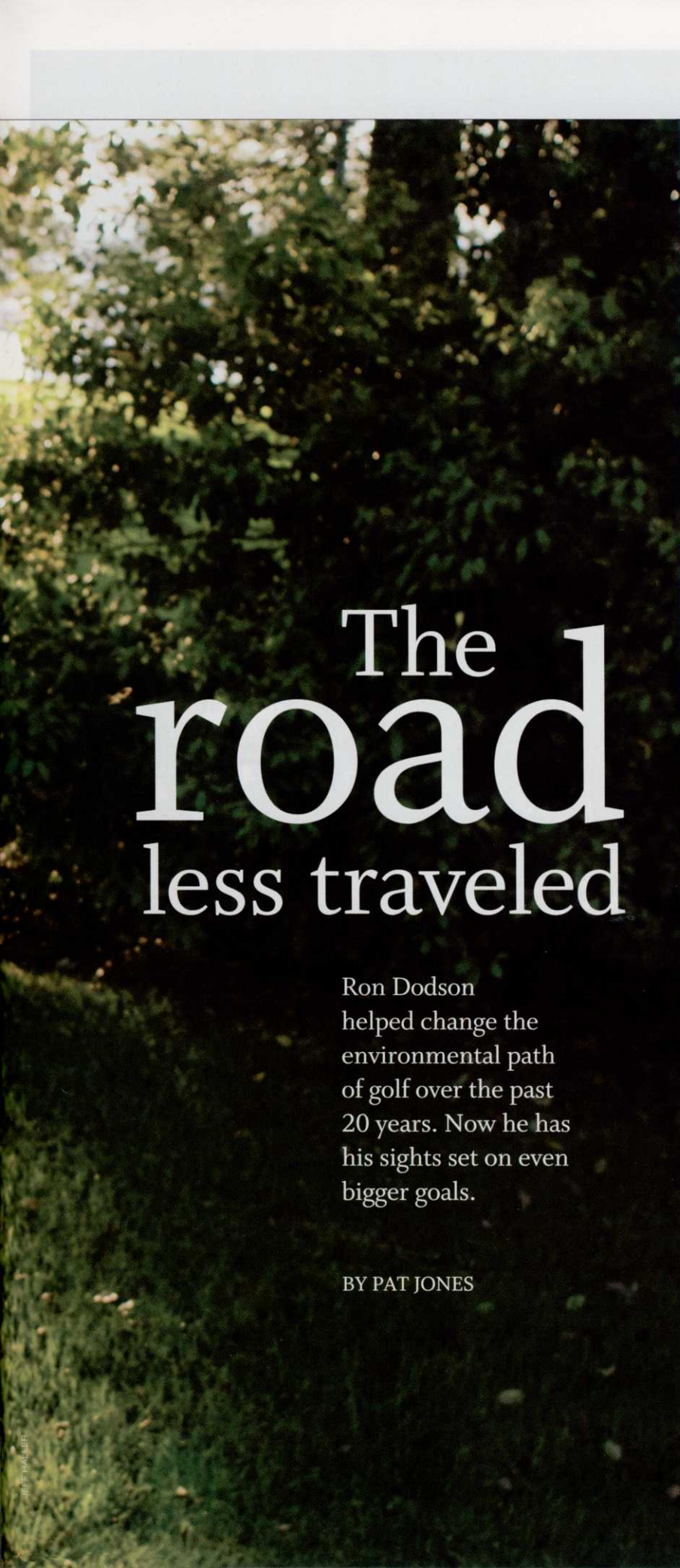
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Ron Dodson, founder of Audubon International and the Cooperative Sanctuary Program for Golf Courses, is working on several new endeavors that are more global in scope.





The road less traveled

Ron Dodson helped change the environmental path of golf over the past 20 years. Now he has his sights set on even bigger goals.

BY PAT JONES

What in the heck does poet Robert Frost have to do with golf? Well, just read the best-known passage from Frost's famous poem, "The Road Not Taken," and you'll gain an important insight about someone who's had a huge impact on our business:

*Two roads diverged in a wood, and I –
I took the one less traveled by,
And that has made all the difference.*

Ron Dodson not only took the road less traveled, but those he has traversed have made all the difference for golf. And now, Dodson is blazing a new trail that may ultimately mean even more to our industry.

Dodson is, of course, best known for creating Audubon International and the Cooperative Sanctuary Program for Golf Courses. The program has arguably had as much influence as any single effort in educating those inside and outside the industry about how courses can coexist harmoniously with Mother Nature.

He's an Indiana native who combined a passion for golf – he played at Oakland City University – with a degree in wildlife biology. An educator at heart, Dodson manned a classroom for several years after graduation before moving on to a corporate position in aluminum manufacturing in Henderson, Ky., a little town best known for the fact that famed naturalist John James Audubon called it home for many years. His love of the outdoors drew him into volunteering at nearby Audubon State Park and he became increasingly involved with the local Audubon Society and other environmental groups.

He made his way up the convoluted ladder of Audubon's volunteer organization and eventually was hired as a regional vice president for the National Audubon Society.

In 1987, after five years of lobbying, politics and fundraising for NAS, Dodson found himself out of a job – corporations aren't the only organizations that downsize when budgets get cut – and looking for a new challenge. That's when he was approached by a group that wanted to revitalize the moribund Audubon Society of New York State (which, because of a byzantine political structure, is completely separate from the National Audubon Society). He jumped in with both feet and espoused a revolutionary philosophy: Maybe, just maybe, if environmental groups reached out to and worked with industry instead of picketing and suing, they might solve



native that creates conditions of government, industry, communities, non-profits and universities to launch localized sustainability programs. And he believes golf can be a big part of it – if the business comes to grips with the notion that courses can be much more than just isolated playing fields.

What was the genesis of what's now Audubon International?

Believe it or not, it was skunks. A golf course up in Glens Falls, N.Y., had big problems with grubs and the skunks were digging up the course to get to them. They were looking for a solution and I went up there as a wildlife biologist and figured out they needed to have a "baiting factor" – some modification of habitat that would change the skunks' behavior. The skunks were living in stone walls around the course so we plugged up the holes in the walls. They went away. After that, the superintendent introduced me to some other guys in the area and that turned me on to the USGA. I wrote them about my ideas and even finally got a letter back inviting me to speak at the USGA section at the GC2000 show in Orlando in 1999. I figured it was just some little event and, of course, when I showed up there were 50 billion people walking around. I was shocked, but I made my presentation and that got things started.

Are you satisfied with how much of your original vision for golf has been accomplished?

I feel pretty satisfied. Since then, there has been a lot of change in the general perception about the golf industry. It's not just about the game, it's about the environment. I think the general feeling is that golf is a great way to spend time and we're all working to make it a better place. I think the industry is doing a lot better than it was a few years ago. I think the industry is doing a lot better than it was a few years ago. I think the industry is doing a lot better than it was a few years ago.



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some problems and make real progress.

Dodson's father was the person who pointed him toward golf, suggesting that courses had lots of land, lots of potential wildlife areas and plenty of incentive to change given the intense criticism golf was taking from the media and government in the late 1980s. Thus, the ASNY Cooperative Sanctuary Program for Golf Courses was born. Though the

organization evolved quickly into Audubon International, the concept remained the same: promote wildlife conservation, water conservation and stewardship where people live, work and play.

Nearly two decades later, Dodson is spreading his wings and, to some extent, flying away from AI to build the International Sustainability Council, an even more ambitious ini-

tiative that creates coalitions of governments, industry, communities, non-profits and universities to launch localized sustainability programs. And he believes golf can be a big part of it – if the business comes to grip with the notion that courses can be much more than just isolated playing fields.

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Believe it or not, it was skunks. A golf course up in Glens Falls, N.Y., had big problems with grubs and the skunks were ripping up the course to get to them. They were looking for a better way to fix the problem and got in touch with ASNY. I went up there as a wildlife biologist and figured out they needed to find a "limiting factor" – some modification of habitat that would change the critters' behavior. The skunks were living in stone walls around the course so we plugged up the holes in the walls. They went away. After that, the superintendent introduced me to some other guys in the area and that turned me on to the USGA. I wrote them about my ideas and eventually got a letter back inviting me to speak at the USGA session at the GCSAA show in Orlando in 1989. I figured it was just some little event and, of course, when I showed up there were 50 billion people walking around! I was shocked, but I made my presentation and that got things started.

Are you satisfied with how much of your original vision for golf has been accomplished?

I feel pretty satisfied. Since then, there has been major change in the general perception about the positive role that properly sited, designed and maintained courses can play in the community. I think the general feeling is more positive. We were kind of the first soldiers on the field with the approach that it was good to work with industry – and we took a lot of shots about that from traditional environmental groups. Today that's becoming the norm. It's literally become standard operating procedure for a lot of those groups that beat up on us in the past. I feel pretty good about that.

What's most frustrating about what hasn't happened?

I don't feel like the idea of using courses as a catalyst for change beyond golf has been embraced by golfers. I've never met a superintendent who wanted to use more or spend more. Most of them are intuitive

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conservationists and very frugal. On the other hand, golfers and members have completely unrealistic expectations and, of course, know more than superintendents (laughs). That's been very frustrating since players need to embrace what's going on because it's good for the game in the long run.

How about AI membership?

On a percent basis, it's still fairly small. For years, we had around 2,300 courses (in the program). Today, it's less. It's holding steady or going down. The good news is that we haven't seen any drastic drops because of the economy. It's only \$200 a year. The real "expense" is what they invest in their program. But, much of that investment ultimately saves them money in terms of water, inputs, electricity, etc.

Whenever I say stuff like this, people think I'm trying to sell memberships. But, it has less to do with selling than the fact that it really is good for the environment and good for golf. I want superintendents and courses and architects to become proactively involved in stewardship. All our program does is to create a framework they can gather around. It's not meant to cause economic pain or change the vision of the course design. It's really an education program. The certification program – which was kind of an afterthought – isn't as important as the process of learning about stewardship and how it can be applied to that particular property.

Do most facilities really understand what AI is about?

Other than superintendents, the vast majority of people directly associated with courses – pros, owners, members – don't have a clue. Sure, there are good examples of facilities where everyone gets active, but not nearly enough. That said, golfers are a perfect group to engage in this stuff. It's amazing how many times I'd been riding around a course with the super and word would get out that I was there and golfers would stop me and ask me bird questions. I used to do a lot of talks about birds, do bird walks, etc., for members. Every time we did those they had more people show up than almost any other event they'd had (at the club). I know there's a huge interest – most clubs just don't have a way to connect the interest in golf with the interest in nature among members.

Has AI's mission changed?

I've become a little bit frustrated over the last 10 years. We used to be an environmental education organization. Then we developed a

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Though Rod Dodson is proud of what Audubon International has accomplished, he regrets it's strayed somewhat from its mission as an education program in favor of a certification vehicle.

certification program. It seems like it's flip-flopped a bit now. Sometimes, the processes and the paperwork we created for certification have become more important than the reasons we created them for. We should be thinking more about the topics – energy, water, resource stewardship, biodiversity, etc. It's not about the bird boxes, it's about the reason we put them up. Putting up bird boxes is not the goal. The goal is to get people to understand why cavity-nesting birds are important and what that represents.

So, I'm trying to help the organization get refocused on the real mission, the real reason we were created – which really wasn't testing and certification – it's about spreading the word. That's our traditional mission.

That collective spirit needs to stay there and the (new) board will really guide that. Also, it needs to be a good business model, not just a philanthropic group that's engrossed in fundraising.

Your role has changed. Tell us about what you're doing now.

I have interests that are pretty broad in terms of sustainability and how it impacts everything in life. It's partly my fault that AI has lost focus on its core mission, but it's pushed me to go all over the place. I'm working in far-flung places like Alaska, Italy, China and even little old Fairhope, Ala. I'm now doing stuff that has nothing to do with golf or AI and I love it.

What I'm doing now just doesn't fit AI's mission, so we've started the International

Sustainability Council. It's big-picture stuff. In my mind, AI has the preeminent stewardship program focusing on landscapes, particularly water and wildlife in those landscapes. At ISC, we're talking about larger issues like economic sustainability, social betterment and affordable housing based on a sound environmental approach. It's more of a world view.

Is there room for your old buddies in golf in this world view?

Absolutely. Golf can and should be front and center. What can courses do? Join. Sure, it's a vehicle for things like CSP, but it goes beyond that. It's a chance for golf to really show that golf is a model for what others can do. Golf has done a lot, but it's time to reach beyond the course itself into the community and demonstrate what can be done environmentally. Obviously, that helps the community but it will do tremendous things for golf as well.

ISC is a not-for-profit. I don't get paid through it and we're not looking for donations. ISC doesn't have any money and we don't want any. It's a collection of governments, non-profits, companies, universities – and hopefully golf courses – that adopt a set of guidelines, adopt an ISC charter and create a guiding set of principles. We simply help to facilitate that process.

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them and for me. I'm also doing sustainability advising through another organization my son, Eric, created called Audubon Lifestyles. I get to walk a mile in the shoes of a lot of other people – just like I did with superintendents 20 years ago. It's great!

So what's the difference between Audubon Lifestyles and ISC?

Audubon Lifestyles is like personal training – I work directly with all the parties involved to write sustainable business plans. I do these projects as a contractor through Audubon Lifestyles. I sit down directly with them to help them understand why a sustainable approach is important to their non-profit or community or company. Sometimes it's a contentious situation and I say, "You all should take a breath and see how you can work together." From there, they can reach out through ISC and form other partnerships with universities, consulting firms, etc. The ISC is kind of the thread that binds pieces of cloth together into a quilt. We connect the dots.

How can golf be a part of that?

There's a chance right now for golf to become far more proactive in communitywide environmental stewardship. It takes a leap of faith to think beyond the borders of the course, but enlightened facilities can use this to become models for their cities or states or regions. Don't you think something like that would help courses solve some of their perception problems? Don't you think it would be rewarding for the facility and make them a shining star locally? It's enlightened self-interest. It's good for the community, good for the course and good for golf. For once, others will be following golf's lead instead of criticizing them and the industry will no longer be on the defensive.

Okay, so you're reinventing yourself – again. Are you having any fun, playing any golf?

I still love golf but I don't shoot any better scores. I'm probably worse at the damn game, but I enjoy it more. I'm relaxed – my whole attitude is better because I just don't

care anymore. I also still do photography and I'm really interested in genealogy and family history. I still like to fish but just don't have the time.

A superintendent once told me that touring his course with you changed his whole vision of his job. How does that make you feel?

That's the ultimate satisfaction – on a personal level – when that light bulb suddenly goes on for a superintendent, or a businessman or a community leader or anyone else.

For me, as a teacher, that's the ultimate. It's even better when I can help them take the next step and prod them to bring that inspiration out to a larger community. ISC and things like it need to be "viral." If we can help others articulate the vision, get excited about it and communicate it to others, you can change an entire community's attitude. But, it has to happen one person at a time. That's what I love about the road I'm on now. I get to help create a better future one person at a time. GCI



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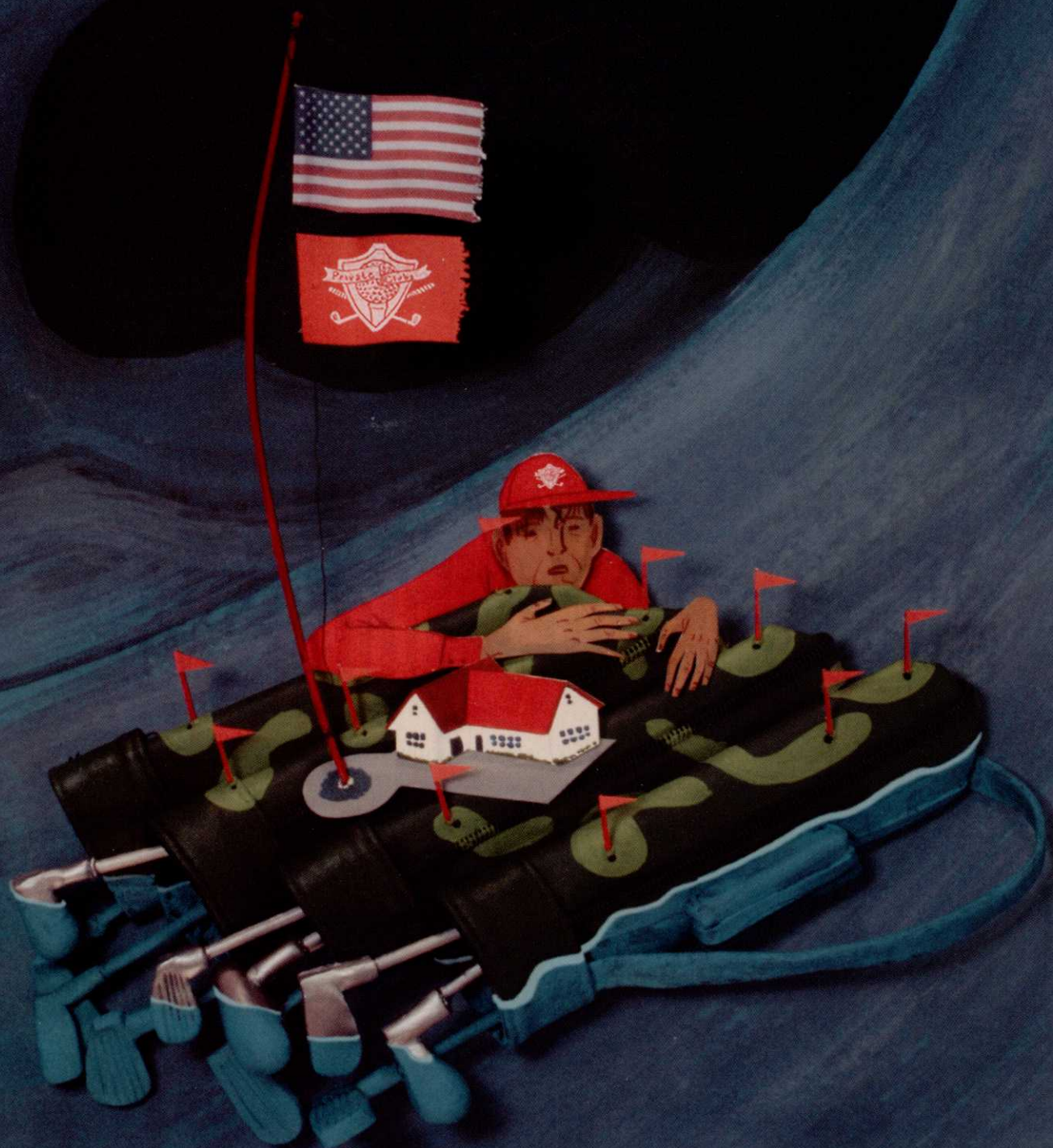


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THE FUTURE OF **PRIVATE CLUBS**



Staying afloat

With nearly 15 percent of private clubs at risk, demographic and economic concerns challenge the segment to evolve or go under.

With the greater golf industry in a downturn, some private clubs have found themselves caught in the undertow of rough, uninviting economic waters. For them, it's time to either sink or swim.

There are tales of reverse waiting lists, clubs running out of cash and examples of storied private clubs – like Ravisloe Country Club in Homewood, Ill. – converting to semi-private or public facilities.

In addition to the anecdotes, several reports released over the last year point to serious challenges for the private club industry. Specifically, a National Golf Foundation report on “The Future of Private Golf Clubs in America” that states about 10 to 15 percent of private clubs identify themselves as at risk.

The same study indicates about 20 percent of members are “on the fence” about keeping their memberships and 10 to 15 percent are at risk of giving them up.

These statistics mean there are as many as 500 clubs nationwide who are just trying to

stay afloat and about a quarter of a million members who aren't sure about their club memberships.

Since the first private golf club in the United States was established in 1888, the segment has endured a number of hardships – including the Great Depression, several wars, the savings and loan crisis, the dot.com bust and 9/11. Those who operate in the space say it's not a matter of whether private clubs will survive – it's just a matter of which ones will survive and how much they'll need to change to do so.

A CHANGING NATION

Recognizing America's changing face is one of the biggest challenges for clubs. The country's population hit 300 million in late 2006, and may top 400 million by 2040, according to the U.S. Census Bureau. Consider the following:

- Minorities, now roughly one-third of the U.S. population, are expected to become the majority in 2042, with the nation projected

By Marisa Palmieri

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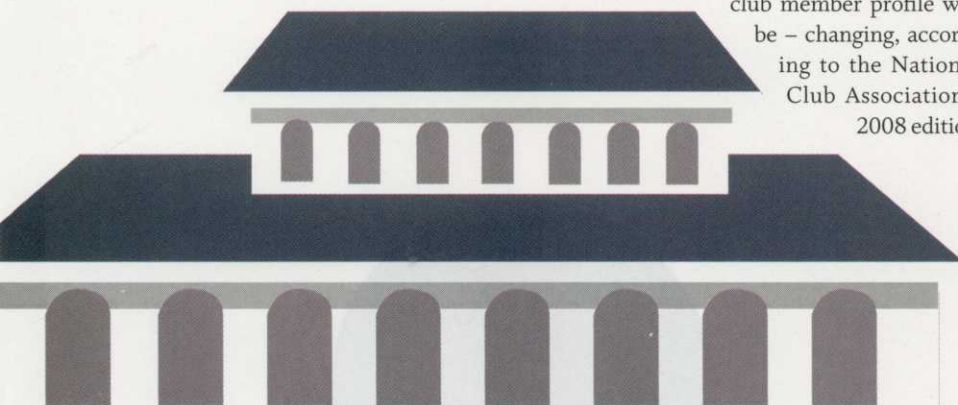
to be 54 percent minority in 2050.

- The non-Hispanic, single-race white population is projected to be only slightly larger in 2050 (203.3 million) than in 2008 (199.8 million). In fact, this group is projected to lose population in the 2030s and 2040s and comprise 46 percent of the total population in 2050, down from 66 percent in 2008. The Hispanic population's share of the nation's total population is projected to double – from 15 percent to 30 percent.

“The aura of exclusivity is going away.” – Jeff Rivard

- In 2030, when all baby boomers are age 65 and older, nearly 20 percent of U.S. residents are expected to be in that age group. The percentage of the population in the “working ages” of 18 to 64 is projected to decline from 63 percent in 2008 to 57 percent in 2050.

These figures are just a snapshot of how the American demographic is – and the American club member profile will be – changing, according to the National Club Association's 2008 edition



Converting rather than closing

Considering the less than ideal state of the private club industry, one would think many have closed their doors recently or will close soon. However, that hasn't been the case. Rather than closing, clubs commonly become public or semiprivate. Conversions outnumber closures 10 to 1, according to the National Golf Foundation report.

In most cases, clubs convert to public facilities after memberships and revenues drop and they can't meet operating costs or debt service. Aging memberships, underutilization, competition and/or poor local economies are other reasons clubs may convert. Some clubs become semiprivate, retaining members under alternate dues structures.

Conversely, public facilities sometimes go private. In most cases, it's when courses tied to real estate become private after the community reaches a membership or home-sale threshold, often between 300 and 700 members.

PRIVATE CLUB CONVERSION FLOW 1999-2008

1999	Courses added	Courses lost	2008
4,188 private golf clubs	343 openings	39 closings	4,393 private golf clubs
	288 public to private conversions	387 converted private to public	

Source: NGF's "The Future of Private Golf Clubs in America"

of "Future Trends & Issues: A Private Club Perspective."

The nuclear family is no longer the only family type. More than half of households are headed by a blend of single parents, gay couples and unmarried couples.

"Quite simply, it's no longer a 'Leave It to Beaver' nation," the report says.

Don't expect dad to golf five days a week and mom to come on the weekends with kids in tow. That's just not how families spend their time anymore, says Jeff Rivard, executive director of the Western Pennsylvania Golf Association. Commonly, both parents are expected to be at all of their children's events – and children today participate in more organized activities than ever. The percentage of children participating in lessons, such as music, dance, language, computers or religion, went up for 6- to 11-year olds, from 24 percent in 1994 to 33 percent in 2004, according to the Census Bureau.

"There's almost a parental peer pressure today that you have to be at every activity," Rivard says. That shift in parents' expectations affects how families spend time at clubs.

People's priorities are shifting, too, the NCA report says. "All groups are defined not just by their careers but by their pursuits, their love of family, their addiction to technology and their desire to have a new path."

The data and anecdotal evidence combine to suggest the reason people join private clubs is changing and will be different than it has been in the past.

Exclusivity, for example, used to be a No. 1 priority for club members.

"Club memberships used to be viewed as an indicator of social status and were often used as a business amenity," says Jim Singerling, CEO of the Club Managers Association of America. "There only used to be a few opportunities for a successful person to join."

That's changing, partly because many clubs are generating revenue by allowing outside rounds (see "Converting rather than closing," at left), but some say it's also because the culture has changed to make exclusivity less important.

"The aura of exclusivity is going away," Rivard says, adding that some club members don't want others to know they're members – and go as far as to request their names not be printed in the club directory.

"Depending on the business you're in, you might not want people to know you belong to a club," he says. "There's somewhat of a stigma."

An ongoing battle

A superintendent in New Mexico experiments with wetting agents to combat localized dry spots

For Steve Campbell, wetting agents aren't a miracle product; they're just another gun in the arsenal of turfgrass management.

"If you know how to use them and what they're supposed to do, they work," says Campbell, director of agronomy at Las Campanas, a 36-hole facility that sits on 5,000 acres of high desert in Santa Fe, N.M. "If you don't know what they do, you won't get good results. There's no 'follow A, B, C and D,' and you'll be successful. Find out what your problems are and figure out how to fix them. If wetting agents work for me, I believe they'll work for everyone if they apply them to their individual needs and situations. Each golf course is different. You don't treat them all the same."

Campbell manages 100 employees and runs the golf course, landscape, public works and revegetation divisions at Las Campanas, a Lyle Anderson development. Budgets are confidential, but Campbell's is more than \$1 million.

Campbell, who's been at Las Campanas for 12 years, is a big believer of wetting agents and has used them his entire career. He injects wetting agents into the irrigation system, using $\frac{1}{16}$ to $\frac{1}{4}$ of an ounce per thousand square feet of turf per day.

Las Campanas receives just 12 inches of rainfall a year, so water is king.

"I need to make water wetter to conserve and use every drop," Campbell says. "Wetting agents break the surface tension of the water droplet and force it to go into the soil."

Under water conservation mandates, the most water Campbell can use per golf course per day is 600,000 gallons, even though he says he can use less than that during less stressful months of the year. Determining how much water he uses is a complicated system, he says. He checks water use every morning via a computerized monitoring system and reports

it monthly. Other parties, namely municipalities, can check his water use daily if desired.

The water is high in salts and bicarbonates, which makes it difficult for Campbell to flush the soil. He can flush salts down into the soil profile with the annual 12 inches of rainfall and the wetting agents he uses.

The bentgrass Campbell grows isn't native to the area. He says there has been ongoing talk about changing the turf, but the native grasses (buffalograss, for example) would never be used because they wouldn't survive if cut at turf heights.

"I have bentgrass on greens, tees and fairways," he says. "The temperature will go down to zero degrees Fahrenheit in the winter, and if I don't have snow cover, I irrigate the turf once a week because the plant will freeze dry if I don't because of the high winds and very low humidity. The crown needs to stay wet or it desiccates. We're at 7,000-foot elevation. The Rocky Mountains begin here in Santa Fe."

To treat localized dry spots, Campbell uses eight ounces of wetting agent per thousand square feet every two weeks. No matter how uniform a green is, there will be inconsistencies and localized dry spots, which is compounded with salts, he says.

Campbell says he has tried every wetting agent on the market and started using them in Philadelphia where it was hot and humid with an entirely different set of weather, soil and agronomic conditions.

"Surfside is the best wetting agent I've used," he says. "I use it exclusively."

Campbell uses wetting agents throughout the year and is always looking for a deal. He

buys the 55-gallon drums even though the shipping is expensive.

"I spend a minimum of \$12,000 on wetting agents a year," he says. "There has been no year where I spent less than \$10,000 on wetting agents. The drier the year, sometimes as little as four inches of rainfall a year, the more I need to supplement my irrigation."

Campbell acknowledges there's an uncertainty about wetting agents

in the industry, but he says a superintendent has to know his soils, drainage, irrigation and turf problem areas.

"You need to spend the time to experiment," he says. "One size doesn't fit all. What I used in Philly is different than what I use out here. It's no different than any other business. Attention to detail is the key, and versatility is key to success.

You need to make adjustments. You don't just dump a wetting agent in the tank and go."

When Campbell sees a water-related problem, he applies a wetting agent, which alleviates the problem but doesn't eliminate it.

"It will be different for me every year," he says. "It's frustrating, but just because it worked last year, doesn't mean it will work exactly the same way this year. It's an ongoing thing."

Superintendents will always deal with localized dry spots and wetting-agent use, Campbell says.

"Every superintendent should have a wetting agent as part of his arsenal," he says. "They've been around a while, but they must be doing something for someone because they've last a long time. That's somewhat of a testimonial." GCI



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Since 9/11, Singerling says there's been an uptick in the number of people who join clubs primarily to have a safe place for their families to spend their time.

"All of the anxiety that's been added to the life of a successful individual allows the club to become a refuge," he says. "I see that becoming the single most important reason for people to not only retain their memberships, but as the reason to join in the first place."

Clubs will no longer be defined by the speed of greens or by any single amenity, but by their ability to satisfy a person's needs and wants during their five stages of membership. Singerling identifies these stages as:

- Young professional, either married or unmarried
- Young family
- Family with children who are involved in a variety of activities
- Empty-nest stage, pre-retirement
- Retirement

Additionally, just as Google, Yahoo and other tech firms have redefined what it means to be "corporate," some clubs are redefining the status quo when it comes to club culture and dress code.

Consider The Bridge in Southampton, N.Y., which The New York Times called "the untucked country club" in 2006. Despite its reported \$600,000 initiation fee, it's not uncommon to see members with backward baseball caps, jeans, tattoos and piercings. The club's owner, Robert Rubin, identifies the ideal member as an adventurous, young-at-heart, self-made man.

PRIVATE GOLF CLUB RISK PROFILE

Stated financial health	Clubs not at risk	Clubs at risk
Memberships		
Current golf memberships (average)	373	241
Current members as % of peak	91%	71%
Rounds		
Current rounds (average)	21,289	19,760
Current rounds as % of peak	84%	78%
Financial		
% with operating loss	24%	57%
% with debt	68%	92%

Source: NGF's "The Future of Private Golf Clubs in America"

Private club industry members and research reports say the answer is to research members and prospects, and give them the individualized experiences they're looking for.

"There's an overused phrase – 'You need to have your finger on the pulse of your membership,'" Singerling says. "Just like doctors taking a patient's pulse, you can't take it once and figure you have it nailed."

Rivard agrees. "Clubs have an indifferent history of sending out bills and collecting money," he says. "I think the most important thing for a private club is to know its members. They have to get the solid research on the demographics of their own members and then they can figure out the people they can recruit. A lot of clubs don't know where they are."

The NGF report's recommendations take



"People want more from leisure time than a chilled martini and a round of golf." – NCA report

HOW SHOULD CLUBS RESPOND?

The NCA report says clubs need to reassess their policies and programs to meet members' needs.

"A younger, more tech-savvy demographic, coupled with trendy baby boomer needs, means in the coming year clubs will be forced to reevaluate dress codes, offer new technology service and appeal to younger families – and single-parented families at that," the NCA report says.

"Nowadays, people want more from leisure time than a chilled martini and a round of golf. America's ever-changing population is looking for family-centered activities, opportunities to learn, virtual connectivity, outdoor adventures, organic and sustainable foods and interaction with diverse groups."

Singerling's and Rivard's comments a step further, encouraging clubs to honestly assess their business situation with competitive analyses, demand analyses and financial forecasts.

It also points out that too many clubs operate without a strategic plan – which should be an imperative – including a forecast that accounts for member attraction/retention goals, capital improvements, projected initiation and dues levels and beyond.

Ultimately, the report says, clubs should leave all options on the table, including raising membership caps, converting to semi-private status, introducing new membership categories and even bringing in third-party management.



CLUBS RESPOND

While some clubs are suffering, many are adapting by tending to their members' needs with creative programming and recruiting prospects with marketing. Some are changing membership and fee structures (see "Membership math," page 38).

Becoming more family friendly is a drum-beat many industry members have been pushing for some time.

"The shift is totally family-oriented," says David Gourlay, CGCS, CCM, chief operating officer for Colbert Hills Country Club, a semi-private facility in Manhattan, Kan. "Clubs are evolving and they have to be an extension of the home."

The Territory, a 4-year-old private club in Duncan, Okla., has taken note.

"On their time off, mom and dad are spending time at their kids' games, tournaments and

people still look to private clubs for their social activities, but because competition is tough, they need to be as creative as ever.

"The people we sell to still want a place to congregate where there's something to do and people to enjoy it with," says Greg Wetzel, general manager of Gateway Golf & Country Club in Fort Myers, Fla. About 75 percent of Gateway's members are retirees. "But they want some diversity – it's not just golf and a cocktail anymore."

To meet their members' changing needs, Gateway officials have instituted new programs, like yoga, watercolor painting and computer classes.

Other favorites include table games like organized gin rummy, dominoes and bridge. CPR training sessions also sell out and ballroom dancing is becoming popular.

"Specifically, we're targeting programs that aren't cost prohibitive and promote a diversity

Indiana-based instructor Bob Prange, PGA.

"It's gotten a lot of play among our membership and has really helped our golf professional staff," Schoellner says. "They're doing more lessons and seeing more activity."

Gourlay points out that one of the biggest changes that's taken place in the private club industry over the last decade is the advent of a full-time membership recruiter, typically called a membership director.

"The courses that struggle don't have a dedicated person to do this all-important function," he says.

WHAT THE FUTURE HOLDS

Considering there are as many private golf clubs today as there were just before the Depression – about 4,400 – despite a more than 150-percent jump in U.S. population over those 80 years, it's not off base to question what the future holds. Many in the

"It's very infrequent I see an entire family all together anymore just playing golf." –Tim Johnson

activities, where they used to just recreate," says Tim Johnson, director of golf/director of operations for The Territory. "It has a lot to do with many families having two working parents and the time consumption of their kids. It's very infrequent I see an entire family all together anymore just playing golf."

To address that issue, The Territory is hosting events that promote family togetherness. The idea is to get them to use their club memberships and place a higher value on those memberships because they see the club as a family place.

Some of the events The Territory, which still allows outside play because it hasn't yet reached its membership threshold, has introduced include Wii bowling tournaments, fishing trips and family golf events.

"We're working at it," Johnson says. "We're trying to get families used to recreating together again."

The Territory also is considering other ideas to further expand its offerings. The club, which is located on 640 acres in Southwest Oklahoma, is toying with the idea of adding a paintball gun area.

"It's another way to get kids to participate," Johnson says. "We're just trying to think outside the box and not limit ourselves. We're trying to make our members focus on getting out there."

In retiree markets, operators know many

of offerings," he says. "Programs like that don't take a lot of time or money."

John Schoellner, CGCS, CCE, general manager and chief operating officer of Estero Country Club in Fort Myers, Fla., says it's all about creativity and good management.

"The clubs I see that are having problems are the ones that are micromanaged by boards and don't have a good governance in place," he says.

Part of being creative and well managed includes marketing, and Estero tries to fill its roster a number of ways. One is through "The Estero Experience," which starts with members identifying candidates at their home clubs who may be interested in buying retirement homes in Florida. After qualifying prospects, the club invites them to a November golf tournament where it entertains them and introduces them to the community. Estero also takes advantage of being near the Minnesota Twins and Boston Red Sox spring training facilities. In addition to marketing in Boston and Minneapolis, it advertises in the Twins spring training program and distributes a flier at the Red Sox spring training gift shop.

Finally, Estero recognized that many of its members and prospects have never played golf until they retired, so this winter it started a golf academy for members and guests with

private club industry, though acknowledging some clubs will probably close and some will continue to struggle, agree that the market's foundation is strong.

"Looking at the long, hard road, I think you'll always have your upper-echelon private clubs – the Congressionals, Southern Hills and Oklahoma City Golf & Country Clubs," Johnson says. "Those clubs will thrive because there will always be high wage earners in those markets and there's a prestige associated with belonging. The clubs that will struggle are the mid-levels – people will continue to be transient within that spectrum and they'll battle with the high-end daily fees."

Wetzel says the country's model for urban development creates a need for what private clubs offer.

"Whether or not people are playing golf, with urban sprawl and community planning, there's no hub for your recreational outlets compared to European cities where there are places you can go, run into people, say hi, be recognized and maybe have dinner," he says. "Unless our urban planning changes where we have locations for engagement with social and recreational opportunities, there will always be a need for a place like the club to see and be seen by others."

As Gourlay says, "There's a great opportunity for those who are very creative." **GC**



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Membership

MATH

People are doing the math, and it's a big problem for private clubs struggling to attract and retain members.

Jeff Rivard, the executive director of the Western Pennsylvania Golf Association, offers himself up as an example. "I just did the math. I went from a membership at a private club to a season pass at an upscale public course – and I was at an affordable private club. If people are playing 20 to 30 rounds a year at the club and eating a few meals, that's more than \$200 a round."

With the evolving needs of members and prospects and the current economic squeeze, many private clubs' membership rosters are feeling a lot of pressure.

Private golf clubs work to attract and retain members while balancing market forces.

By Marisa Palmieri

Only 34 percent of golf clubs who are members of the Club Managers Association of America are at full membership capacity, according to the CMAA's 2008 Club Operations and Financial Data Survey.

In addition, a 2008 National Golf Foundation study shows that 66 percent of club members are highly likely to still be members of a private club in five years, but that leaves 20 percent who are "on the fence" and 14 percent who are at risk of giving up their memberships. Why? The top reasons are financial. Members who are likely to leave cite pricey dues, personal income, interest in playing high-end public courses or difficulty justifying the cost per round (see Table 3 on page 40). Of former members surveyed, the top reason for leaving was relocation (which is considered to be an involuntary reason), but half cited financial reasons as a factor for leaving.

On the plus side, the same study shows there are 2 million qualified candidates for golf club memberships nationwide – that's about one for every existing private club member today. These prospects are golfers who are "highly attracted" to membership, are age 30 to 60 and have incomes of \$100,000 or more.

Even so, the market for club members is tight, considering the demands on people's time, the competition for their discretionary



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Wetzel

dollars and the number of high-end daily-fee facilities that can fulfill their golf needs.

So how are clubs responding to these pressures? Creative programming, attempting to increase value and better marketing are a few solutions. Others include decreasing prices, offering numerous membership options and allowing members to pay initiation fees over a longer period of time or with no interest.

Though many club officials say reducing fees isn't ideal – and club industry associations don't advocate the practice – it's happening at many facilities.

"Dropping initiation fees is something we're seeing, but not endorsing," says Cindy Vizza, director of communications and knowledge management at the National

Club Association. "That's really not sustainable. You can't do it forever. Clubs are dependent on initiation fees – they're a real commitment to the community and lifestyle. If you're doing away with those, you're going to have more transient members."

MARKET FORCES

When push comes to shove, how a club handles membership options depends on its local market, Vizza says. The age-old arguments against lowering fees – devaluing the membership, upsetting the existing members who paid full price and attracting folks with less of a commitment to the club – are still concerns, but some clubs believe they have no choice.

"A lot of clubs in our area have dropped their initiation fees," says Greg Wetzel, general manager of Gateway Golf & Country Club in Fort Myers, Fla. "We haven't yet, but we might. There's a pressure to mirror the market."

In Florida, many private clubs are tied to master-planned communities, many of which have a glut of for-sale houses. "If there are too few people living in the community, the club has to compete for members in the general marketplace, and that can be difficult because there are so many options," Wetzel says.

Gateway is a 3,000-acre master-planned community, including a clubhouse, a members-only 18-hole golf course, fitness center, tennis facility, park, bike and fitness trails and swimming pools. It has seen about 3 percent attrition over the last year, but Wetzel says the club benefits from competing in the retiree market. About 75 percent of the club's full members are retirees.

"We've been anticipatory; we're trying to keep operating dues flat and not increase our usage fees," he says. "Nobody's ignoring the fact that the market is different."

If it comes down to reducing initiation fees, Wetzel isn't worried about backlash from existing members.

"They can comprehend the ebbs and flows of the market," he says. "It's a lot like real estate. It's not unreasonable to think the value of a club membership could go down."

David Gourlay, CGCS, CCM, agrees that members understand the market forces that make fees fluctuate. His facility, the semiprivate Colbert Hills Country Club in

TABLE 1.
MEMBERS' REASONS FOR JOINING

	Full-service country club	Golf & clubhouse only
For the high-quality golf course	70%	53%
Less crowded	67%	60%
Convenience/proximity to home	60%	69%
For the social aspects	51%	29%
To stay physically active	42%	39%
For the other amenities	40%	5%
To provide family with amenities	39%	16%
For business/networking	22%	9%
Corporate membership	8%	8%

Source: NGF's "The Future of Private Golf Clubs in America"

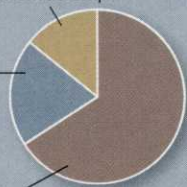
EXISTING MEMBERS SAY...

TABLE 2. Membership stability

14% are at risk of giving up their club membership

20% are "on the fence"

66% are highly likely to be members of a private golf club in five years



Source: NGF's "The Future of Private Golf Clubs in America"

TABLE 3. Reasons at-risk members may give up membership (not counting relocation)

2/3 cite at least one financial reason, including:

- 46% Club's annual dues are getting too expensive
- 38% I might not be able to afford it
- 36% I may choose to play high-quality public courses
- 33% My cost per round is hard to justify
- 65% Any of the above

1/3 cite health reasons; 42% of at-risk members are age 65 or older



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an efficient green granule.**

By working better and longer, POLYON® Controlled-Release Fertilizers can help you get a grip on your budget. Our patented coatings enable POLYON to feed your turfgrass gradually and consistently, all season long, with just one application.

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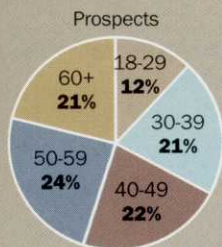
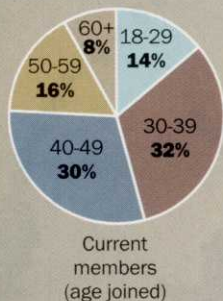


TABLE 4.
Ages of qualified prospects vs. current members (age joined)

Source: NGF's "The Future of Private Golf Clubs in America." Figures were rounded.



Gourlay

Manhattan, Kan., is offering new terms for "junior executives;" younger people can join at a reduced rate until age 50. Does that bother existing members? Not really, he says.

"We have an astute group of members who recognize times are changing," Gourlay says. "You can get 0 percent financing on some automobiles for up to 10 years right now. If you bought your car three years ago, you couldn't have done that. We have to adapt to the market."

Market conditions affect how The Territory in Duncan, Okla., operates, too. The Territory's located in the Southwest part of the state – 80 miles from Oklahoma City and 160 miles from Dallas. It's a 4-year-old private club that plans to allow outside play until it reaches 450 members. Its biggest challenge in attracting members is price.

"The facilities in this area have never been successful with initiation fees or dues structures," says Tim Johnson, director of operations, who points to the area's blue-collar-dominated job market as one reason. "Ours is one of the nicest facilities within 100 miles. Where we don't compete with other clubs on price, we compete with perception. Everything around here is undervalued or underpriced. You can get into a lot of clubs for a \$100 administration fee."

Instead of lowering its \$8,000 initiation fee, The Territory is offering interest-free financing. Until January, the club required \$4,000 down and allowed financing at 1 percent above prime. Now the club's offering a flexible payment plan. Members can take up to eight years to pay their initiation fees

Improve Playability

FIELDSCOUT
TDR 300 Soil Moisture Meter

When precision irrigation decisions count, the FieldScout TDR 300 offers the tools to eliminate the guesswork. Based on proven time-domain measurement technology, these portable units accurately measure soil moisture across the full range of soil moisture conditions.



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Underhill™

GOLF WATERING PRODUCTS 2009 CATALOG



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water hand pumps page 15



An industry leader in innovative watering products for golf courses all over the world, Underhill brings 30 years of know-how in developing our inventory of "Products that work...smart.™"

golf sprinkler nozzles

Profile™

SOLID METAL GOLF SPRINKLER NOZZLES

Upgrade your Toro® or Rain Bird® sprinklers with our perfect-fit Profile™ nozzles and you will see improved results immediately. Water distribution so uniform that you can cut back watering times to **save millions** of gallons of water **every year**. Over time, since Profile solid metal nozzles resist wear and clogging, you'll enjoy these superior results for the life of your sprinkler...never needing to change out nozzles again.

Call us to request our **free video** on Profile solid metal golf sprinkler nozzles! Or watch it online at www.underhill.us



- Cut watering times significantly
- No more worn out / clogged plastic nozzles
- Eliminate wet and dry spots
- Improve course playability
- **Stop wasting water**

Test your sprinkler uniformity with CatchCan Pro™. Easy-to-use and highly accurate measuring system.

See Page 4

"We've had Profile nozzles in for about two years now with outstanding results and excellent water savings. We're way past break-even on ROI."

"...consistently uniform distribution. The nozzles perform the same today as when we first installed them."

Profile nozzles for **Toro®****730 SERIES**

Part #	Nozzle Color # range / spreader	Toro Nozzle #s
T730-3313	Brown 33 / Gray 13	33
T730-3413	Blue 34 / Gray 13	34
T730-3515	Violet 35 / Red 15	---
T730-3515L (50 psi)	Green 35 / Red 15*	35
T730-3615	Red 36 / Red 15*	36
T730-3617	Red 36 / Lavender 17	



* For square spacing,
specify #17 (lavender)
nozzle with the #35
and #36 range nozzles

760 and 860 SERIES

Part Circle: Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange / close-in
T760-GY	Gray / Yellow
T860-Gy	Gray / Yellow

830 and 834S SERIES

Full Circle: Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange / close-in	Toro Series
T830-GY	Gray / Yellow	830
T834-GY	Gray / Yellow	834S

835S SERIES

Full Circle: Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange / close-in
T835S-WP	White / Plug

630 SERIES CALL FOR AVAILABILITY**670 SERIES** Full Circle: Rear Nozzles

Part #	Nozzle Color: midrange / close-in
T670-BY	Black / Yellow

690 SERIES Full Circle: Rear Nozzle

Part #	Nozzle Color: spreader
T690-G	Gray

750 SERIES Full Circle: Front/Rear Nozzle Set

Part #	Nozzle Color # range / spreader	Toro Nozzle #s
T750-5617	Red 56 / Lavender 17	56
T750-5717	Gray 57 / Lavender 17	57

780 and 854S SERIES Midrange/Close-in Nozzle Set

Part Circle (780) and Full Circle (854S)

Part #	Nozzle Color: midrange / close-in	Toro Series
T780-BY	Black / Yellow	780
T854-BY	Black / Yellow	854S

855S SERIES Full Circle: Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange / close-in
T855S-PP	Pink / Plug

650 SERIES CALL FOR AVAILABILITYProfile nozzles for **Rain Bird®****EAGLE 700 SERIES**

Full Circle: Midrange/Close-in Nozzles

Part #	Nozzle Color midrange / close-in	Rain Bird Nozzle #s
R70028-RG	Blue / Gray	28
R70032-RG	Red / Gray	32
R7003640-GG	Blue / Gray	36/40 and larger

Our NEW low-angle 12° wind-fighting spreader nozzle
delivers exceptional close-in uniformity for all Eagle 700
series sprinklers on either triangular or square spacing.

900 EAGLE SERIES

Full Circle: Close-in Nozzle

Part #	Nozzle Color
R900-M	Maroon

91 SERIES BRASS IMPACTS

Full Circle: Close-in Nozzle

Part #	Nozzle Color
R91-G	Gray

51 SERIES BRASS IMPACTS

Full Circle: Front/Rear Nozzles

Part #	Nozzle Color # range / spreader	Rain Bird Nozzle #s
R51-1411.5	White 14 / Gray 11.5	14 / 11.5
R51-1611.5	Blue 16 / Gray 11.5	16 / 11.5
R51-1811.5	Yellow 18 / Gray 11.5	18 / 11.5
R51-2011.5	Red 20 / Gray 11.5	20 / 11.5
R51-2213	Green 22 / Black 13	22 / 13
R51-2413	Black 24 / Black 13	24 / 13

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CatchCan Pro™

SPRINKLER PERFORMANCE TESTING SYSTEM

Stop overwatering and save! Poorly performing sprinklers often go unnoticed as watering times are gradually increased to compensate. Catch them in the act - accurately measure sprinkler application rates with the Underhill™ CatchCan Pro™ system.

features

- Self standing, easily anchors into turf
- Tripod design works on slopes
- Measures sprinkler application in inches, centimeters and milliliters
- Unique design allows for shorter duration test
- Made of durable polypropylene engineered plastic
- Can be stacked for easy storage
- Each 10 pack kit comes with instructions.

ordering

Part # CCPK-10 CatchCan-Pro™ 10-pack
(includes directions)

HeadChecker™

NOZZLE DISCHARGE PRESSURE GAUGE

HeadChecker™ combines a solid brass Pitot tube and a liquid-filled 160 psi gauge to create a handy tool for measuring nozzle discharge pressure. Assuring correct pressures is essential to maintaining highly uniform irrigation systems. The 160 psi gauge can also be used separately to measure pipeline pressure.

ordering

Part # A-HCGPK HeadChecker™ 160 psi gauge and Pitot tube
Part # A-PG160L Pressure gauge only
Part # A-HCP Pitot tube only



TurfSpy™

EARLY STRESS DETECTION GLASSES

Disease, drought and weed invasion are plant and turf killers. But by the time you see them it can be too late. TurfSpy™ glasses, with stress detection technology developed by NASA, lets you “see into the future” to identify problems 2-10 days before they are visible to your naked eye. Keep your turf and vegetation healthy BEFORE serious problems arise.

features

- Shatterproof/polycarbonate stress detection lens (ANSI approved safety lens)
- Wrap-around lens limits ambient light for optimal detection
- Sports frame with adjustable ear piece
- Lightweight case included



fusarium patch

pythium blight

**yellow patch
(rhizoctonia)**

brown patch

anthracnose

**get a jump on broken
or poor-performing
sprinklers**

**highly efficient spot
watering saves time
and labor costs**

**poa grass invasion
identified BEFORE
it takes over**

**superior weed location
and spraying saves
time and money**



HOW IT WORKS

Dying vegetation absorbs and reflects sunlight differently than when it's healthy. The earliest signals occur at the outer limits of the human visual spectrum, and are rendered invisible compared to the predominant middle wavelengths. TurfSpy™ filters the light in the center so that fringe spectra, which show early plant stress, become visible.



ordering

Part # NG655-01 TurfSpy™ Glasses and Deluxe Case

Magnum™

SOLID METAL HOSE NOZZLE

Underhill™ Magnum™ contains no plastic internal parts to break, stick or wear out. Our unique ratchet mechanism easily adjusts from gentle fan to powerful jet stream and prevents over-tightening damage. Precision-machined, incredibly smooth operation and outstanding distribution patterns make it ideal for high-demand areas like greens and tees. Magnum™ is also an excellent equipment wash-down nozzle.

features

- Built for 1" and 3/4" flow rates
- Fire hose quality nozzle feels great in your hands
- Ultra-durable construction withstands any abuse
- Solid metal internal - no plastic parts to break or wear out
- Beautiful, consistent spray patterns for life
- Ratchet mechanism prevents over-tightening damage
- Multi-pattern sprays - effortless control with hydraulic assist on/off



Magnum™ nozzle pictured with 1" brass adapter (sold separately on Page 7)



**solid metal
internal body**

Won't stick...won't break

specifications

Materials: stainless steel, aluminum, TPR rubber

Flow: 37 GPM at 80 psi

Inlet: 3/4" hose thread (1" brass adapter available, see Page 7)



fan

jet

soak

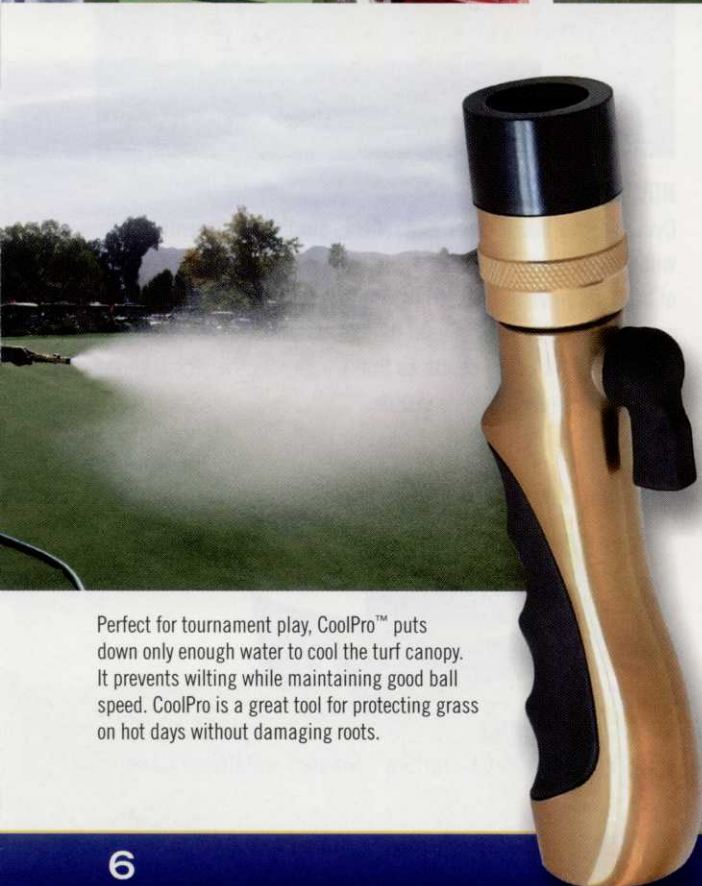
CoolPro™

Cool Without Over Watering - No Root Damage

A hot summer day can be murder on your greens. Use too much water and you risk damage to the roots. CoolPro™ is the first nozzle specifically designed for the single purpose of lightly misting the turf canopy to cool without over watering. And its 25 foot fogging pattern gets the job done quickly.

features

- 3/4" inlet (1" brass adapter available, see Page 7)
- Ergonomic handle/valve provides easy grip and variable on/off control.
- Durable solid metal design: zinc, aircraft aluminum and stainless steel.
- Patented Precision™ nozzle fogs at 70 psi to deliver a 25 ft. pattern with only 4-6 GPM



Perfect for tournament play, CoolPro™ puts down only enough water to cool the turf canopy. It prevents wilting while maintaining good ball speed. CoolPro is a great tool for protecting grass on hot days without damaging roots.

ordering

Part # NG450

Part # HNC075

MAGNUM™ Hose Nozzle

CoolPro™ Hose Nozzle

Precision™

PATTERNS SO REMARKABLE, NOZZLES SO GOOD... THEY'RE PATENTED.

It's hard to beat MAGNUM™ for all around versatility...When you have more precise watering needs, you simply cannot buy a better nozzle than the Underhill Precision™ series. These solid metal, fixed spray hose nozzles deliver millions of soft, uniform droplets to provide rapid yet surprisingly gentle water application over a huge range of flow rates. From watering fragile seed beds to drenching dry spots, Precision spray patterns are designed with ideal flow rates and droplet sizes to offer you the ultimate solution for every hand watering application.



Rainbow™

LOW FLOW RATE

LANDSCAPING, LIGHT WATERING

Ideal for watering greens, tees and seed beds. Excels at lower pressure flows. **15 GPM @ 80 psi.**



Rainmaker™

LOW TO MEDIUM FLOW

SYRINGE AND SPOT WATERING

Perfect for syringing and gentle watering of turf and landscape at lower pressures. **23 GPM @ 80 psi.**



Cloudburst™

MEDIUM TO HIGH FLOW

DRY SPOT SPECIALIST

High volume drenching, syringing, and application of wetting agent. Ideal flow rate for 3/4" and 1" hoses. **48 GPM @ 80 psi.**



Cyclone™

HIGH FLOW RATE

HEAVY WATERING, SOAKING

Powerful fan-shaped spray covers a HUGE area, and gets heavy watering jobs done quickly. Ideal flow rate for 1" hoses. **50+GPM @ 80 psi.**

GPM will vary with pressure at nozzle.

high-flow valves



**HIGHEST
FLOW VALVES
AVAILABLE**

COMPOSITE / STAINLESS STEEL

- 3/4" hose thread inlet/outlet
- oversized handle
- up to 55 GPM

SOLID BRASS

- 3/4" hose thread inlet/outlet
- up to 50 GPM

hose adapters / quick-connectors



ordering

Part # HN1500	Precision™ Rainbow™ Hose Nozzle
Part # HN2300	Precision™ Rainmaker™ Hose Nozzle
Part # HN4800	Precision™ Cloudburst™ Hose Nozzle
Part # HN5000	Precision™ Cyclone™ Hose Nozzle
Part # CV075H	High-Flow 3/4" Valve - Brass
Part # A-BV77FM	High-Flow 3/4" Valve - Composite/Steel
Part # A-BA107FM	1" FHT x 3/4" MHT Brass Hose Adapter
Part # A-BA107MF	1" MHT x 3/4" FHT Brass Hose Adapter
Part # A-BQ7M	3/4" Quick-Connect, male end
Part # A-BQ7F	3/4" Quick-Connect, female end
Part # HN075W	replacement washer, 3/4" hose

PelletPro™

APPLICATOR GUN FOR SOLID WETTING AGENT TABLETS

We outfitted our heavy-duty surfactant applicator with a high-flow composite/stainless steel valve and a Precision™ Cloudburst™ nozzle to produce the finest wetting agent gun available. The PelletPro™ accepts all wetting agent tablets and is designed to provide powerful, yet ultra-soft spray when watering or applying surfactants to tight, hydrophobic soils.

features

- 48 GPM capability gets the job done faster!
- Ultra Heavy-Duty - brass fittings, aircraft aluminum, stainless steel, and precision engineered glass-filled materials
- Patented Precision™ Cloudburst™ nozzle delivers large droplets in an outstanding fan pattern
- Pellet rotation (1 RPS) evenly dissolves/applies tablets



With the included 1" FHT x 3/4" MHT brass adapter, PelletPro™ works with both 3/4" and 1" hoses.

PelletPro™ rotates pellets at 1 revolution per second (RPS) to evenly dissolve/apply wetting agent

2 products in 1!

Remove the PelletPro™ bowl and you have a superb syringe nozzle combo: the patented, 48 GPM Precision™ Cloudburst™ with our high-flow, oversized handle valve.



PelletPro's bowl, also sold individually, works perfectly as a replacement in-line filter bowl for most spray rigs. Heavy-duty, transparent plastic shows fluids. (No more cracked bowls during winter storage!)

ordering

Part # A-PPWA50K	PelletPro™ Applicator Gun
Part # A-PPB	In-line Filter Bowl
Part # A-PPBG	Gasket

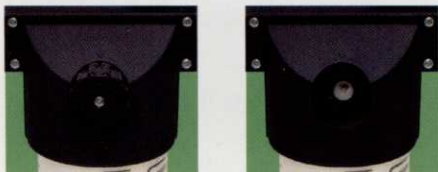
LiquidPro™

APPLICATOR GUN FOR LIQUID WETTING AGENT

This popular "liquid" version of the PelletPro™ features the proven combination of our Precision™ Cloudburst™ nozzle and the high-flow composite/stainless steel valve. Adding a chemical-resistant, UV-protected, lightweight siphon/mixing system produces an applicator gun which can cover 1000 square feet in less than a minute. Now, with unmatched speed and uniformity, you can virtually "paint" your turf with liquid wetting agent, fertilizers, and micronutrients. And like the PelletPro, LiquidPro disassembles easily to create the Cloudburst™ High-Flow Valve syringe nozzle.

features

- Patented Precision™ Cloudburst™ nozzle evenly distributes wetting agent ensuring uniform coverage. Made of aircraft aluminum and stainless steel.
- Lightweight, durable nylon construction weighs only 3 lbs., UV-protected and chemical resistant.
- High-density polybottle has full quart capacity with easy-to-read measurements in fluid ounces and milliliters.
- Needle Valve Metering Chamber: Engineered venturi siphon mixes proper amount of wetting agent into the water flow.
- Pistol grip design with textured handle provides sure grip surface and reduces operator fatigue.
- Adjustable metering dial offers 10 additive settings including "Water Only."
- Metering dial can be removed to prevent tampering with a predetermined setting.



With the included 1" FHT x 3/4" MHT brass adapter, LiquidPro™ works with both 3/4" and 1" hoses.

2 products in 1!

The Precision™ Cloudburst™ nozzle and high-flow valve can be quickly assembled to create a powerful, 48 GPM syringe nozzle.

a real time saver!

Bring plenty of wetting agent, fertilizers, and micronutrients to the field all at once with our 6-pack of polybottles.



ordering

Part # A-LPWA50K - LiquidPro™ Applicator Gun

Part # A-LPWAB-6 - 6-Pack of 32 oz. Polybottles and Carrier

RollerPro™

PORTABLE SPRINKLER BASE

The 22" wide stainless steel roller of RollerPro™ provides a stable field position for supplemental watering. Designed for years of hard use, it is ideal for watering dry spots and newly seeded areas.

features

- 22" wide stainless steel roller is weighted to prevent movement during use.
- Standard 1" FHT inlet x 1" female NPT outlet.
- 3/4" inlet and outlet adapters included.

RollerPro™ works with both 1" and 3/4" hoses and sprinklers using the included adapters. Sprinklers sold separately on page 12-13.



ordering

Part # A-RP221

RollerPro™

Order with
brass swivel
for extra
savings!

HoseTap™

SOLID METAL HOSE ADAPTER

HoseTap™ gives you a hose connection anywhere you have a Toro® or Rain Bird® electric, valve-in-head sprinkler...ideal for fast connections when quick-couplers or hose bibs are not available. Aircraft aluminum body won't break or wear out like plastic, and is anodized with color for easy sprinkler manufacturer identification. Each HoseTap™ includes the precision metal disc, o-ring, and riser. Brass swivels sold separately (see Page 12).

ordering

Part # HN-T100 - HoseTap™ for Toro® 1" inlet golf sprinklers

Part # HN-T150 - HoseTap™ for Toro® 1-1/2" inlet golf sprinklers

Part # HN-R125 - HoseTap™ for Rain Bird® Eagle 700 Series golf sprinklers

Add "B" to part numbers to specify BSP thread.

Add "S" to part numbers to include 1" brass swivel for combination savings.

REPLACEMENT O-RINGS

Part # OR-100 Fits Toro® 1" inlet and Rain Bird® Eagle 700 Series golf sprinklers / HoseTap

Part # OR-T150 Fits Toro® 1-1/2" inlet golf sprinklers / HoseTap

Tracker™

PORTABLE IRRIGATION MACHINE

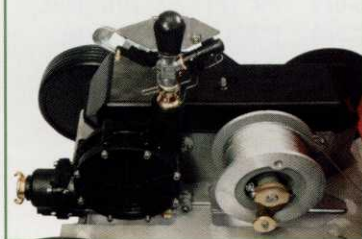
The Tracker™ offers a very economical solution for supplementing seasonal watering needs of 1/4 acre to 2 acre areas. Ideal for irrigation of roughs, fairways, driving ranges and other areas where underground irrigation is unavailable. Built to last with precision German engineering and high quality materials, this portable powerhouse can irrigate an area the size of a football field in just two passes.

Tracker™ requires minimal labor to operate. Powered by water, it pulls itself along a nylon cable, dragging up to 360 ft. of 1" reinforced heavy-duty hose (sold separately). Each pass irrigates about 2/3 acre per 8 hours of operations.

specifications

- Weight: 58 lbs.
- Size: Length 33", Width 22", Height 22"
- Materials: Aluminum, Brass, ABS
- Hose Required: 1"
- Minimum Water Pressure: 50 psi

Precision German engineering, high quality components...built to last!



ordering

Part # T-400 Tracker™ Portable Irrigation Machine

features

- Adjustable Speed Control: 20-70 ft./hr.
- 360 ft. nylon cable provides maximum irrigated length of 400 ft.
- Standard full or part circle sprinkler (8-15 GPM)
- 70-85 ft. pass width
- Automatic shut-off at end of pass
- Galvanized anchor stake
- Water turbine drive and gear box
- Includes 1" brass quick-connect adapter



Use Tracker™ to help areas where an irrigation system is not available. Tracker's maximum 400 ft. irrigation path makes it practical for large areas and its compact size allows it to operate in narrow spaces such as in between trees.



Solid brass one-piece quick coupler valves and valve keys can help you get your Tracker™ set up quickly.

Quick Coupler Valves & Keys

SOLID BRASS, SINGLE SLOT/LUG ESSENTIALS

Built to last, Underhill valves and keys are constructed of solid red brass and stainless steel. Valves incorporate rugged one-piece design.



Valve: Part # QV-075R
(3/4" FPT inlet)

Key: Part # QK-075
(3/4" MPT x 1/2" FPT outlet)

Valve: Part # QV-100R
(1" FPT inlet)

Key: Part # QK-100
(1" MPT x 3/4" FPT outlet)

Valve: Part # QV-150R
(1-1/2" FPT inlet)

Key: Part # QK-150
(1-1/2" MPT x 1-1/4" FPT outlet)



hose swivels

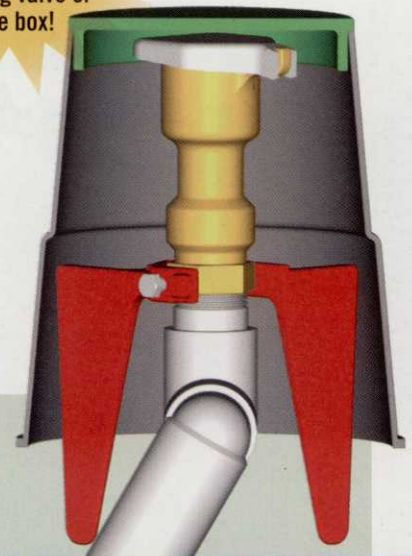
Part # HS-075 3/4" FPT x 3/4" MHT outlet
Part # HS-100 1" FPT x 3/4" MHT outlet
Part # HS-101 1" FPT x 1" MHT outlet
Part # HS-151 1-1/2" FPT x 1" MHT outlet

The Claw™

QUICK COUPLER MOTION RESTRAINT

When quick coupler valves become unscrewed from swing joints, it's more than just a hassle - it can be dangerous. The Claw™, new from Underhill, offers a simple solution. Embedded in the soil below the quick coupler, and then securely attached to its base, The Claw provides significant resistance to rotational, vertical and horizontal motion, preventing the valve from moving. Made from high strength ductile iron, this compact anchor attaches easily with a single steel bolt.

EASY RETROFIT
Installs without
removing valve or
valve box!



The Claw™ pictured
with 1" quick coupler,
key and hose swivel.

ordering

Part # QCA-075100 The Claw™ for 3/4" and 1" valves
Part # QCA-150 The Claw™ for 1-1/2" valves

Impact Sprinklers

SOLID BRASS, ULTRA-RELIABLE WORKHORSES

For reliable, trouble-free, high-performance year after year, you just can't beat our brass impact sprinklers. Available in full circle and full/part circle, in inlet sizes of 3/4", 1" and 1-1/4".

features

- Solid brass construction
- Stainless steel drive spring
- Bearing assembly hood for longer wear life
- Chemical resistant bearing seals
- Solid brass nozzle

Underhill's SI100F 1" inlet brass impact atop the portable base RollerPro™ (see page 10) puts a powerful sprinkler anywhere you can run a hose.



3/4"

Flow: 5-15 GPM
Spacing: 40-60 ft.



1"

Flow: 15-45 GPM
Spacing: 50-80 ft.



1-1/4"

Flow: 25-120 GPM
Spacing: 75-110 ft.

ordering

		GPM	Radius (ft.)
Part # SI075F	3/4" MPT Full Circle Sprinkler	13	57
Part # SI075P	3/4" MPT Part/Full Circle Sprinkler	11	48
Part # SI100F	1" MPT Full Circle Sprinkler	23	71
Part # SI100P	1" MPT Part/Full Circle Sprinkler	23	71
Part # SI125F	1-1/4" MPT Full Circle Sprinkler	51	96
Part # SI125P	1-1/4" MPT Part/Full Circle Sprinkler	54	78

Performance data shown at 80 psi. GPM and radius will vary with pressure at sprinkler



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features

- Stepped locking system
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- Fits all 6"-7" round boxes
- Interchangeable, easy to install
- Greater top-load strength and more UV-resistant than structural foam lids

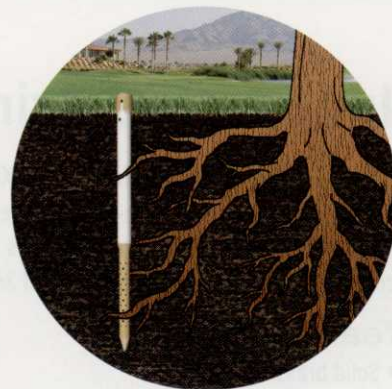
ordering

Part # VL-6 VersaLid™ 6"-7" valve box lid

DeepDrip™

TREE WATERING STAKES

DeepDrip™ stakes allow you to water and fertilize your trees at the roots, encouraging deeper roots and healthier trees. Water gets underground fast, so you can water for shorter periods and enjoy considerable water conservation. They also help to aerate the soil with oxygen, and you can add fertilizer into the shaft to direct nutrients to the root zone.



THREE LENGTHS FOR USE WITH ALL TREE SIZES

DeepDrip comes in three sizes, each designed for use with automatic landscape drip systems or a hose. The 14.5" unit is ideal for small trees and shrubs with shallow roots, like rose bushes and ornamental trees (or in commercial use for boxed trees). The 24.5" stake is best for most other tree varieties except for palms and similarly deeper rooted trees, which will benefit from the longer 36" stakes.

BUILT SMART - AND EASY TO USE

The DeepDrip's reinforced tip and cap are made from ABS and the upper shaft is made from Schedule 40 PVC. Multiple holes in the bottom half of the spike, internally covered by a mesh filter, allow water to flow out but keep dirt from getting in and clogging the tube. The UV-protected cap acts as a reinforced cover when pounding the stake into the ground, keeps debris from entering the shaft and holds a 1/4" drip line/emitter securely in place. By inserting a screwdriver through the two holes at the top of the upper shaft, stakes can be easily pulled up to remove/reposition or rotated to deter root invasion.

DeepDrip™ watering stakes can be installed during or after tree planting. Once in, you have instant access to the root system for fertilizer delivery or to set up deep automatic drip watering.

ordering

Part # A-DD14	DeepDrip™ 14.5" watering stake
Part # A-DD24	DeepDrip™ 24.5" watering stake
Part # A-DD36	DeepDrip™ 36" watering stake

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MICRO-IRRIGATION KITS

Convert your current, inefficient irrigation into a highly effective, low-maintenance, water-saving drip system. MicroEase™ kits can connect to a water faucet, existing sprinkler system or 1/2" riser, providing efficient, low volume irrigation ideal for clubhouse surrounds and other landscaping, shrubbery and planter areas.

ordering

Part # ME-SS-PK	MicroEase™ Pro Kit: spray spikes (25)
Part # ME-8SS-PK	MicroEase™ Pro Kit: 8-stream spikes (25)
Part # ME-SS-SCK	MicroEase™ Conversion Kit: spray spikes (9)
Part # ME-8SS-SCK	MicroEase™ Conversion Kit: 8-stream spikes (9)



PRO KIT
(faucet connection)



CONVERSION KIT
(sprinkler/riser connection)

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WATER REMOVAL SUCTION PUMPS

Whether you need to remove water from sprinklers and valve boxes or displace gallons of standing water in the field, the Underhill Gulp™ series of water removal hand pumps has the right tool for the job. Constructed from heavy-duty, corrosion-proof materials, these pumps are self-priming and easy to clean. The Gulp Syringe™ and Gulp™ are ideal for carrying on maintenance carts for small, routine needs. For larger water removal jobs, BigGulp™ pumps a gallon of water in only four strokes and SuperGulp™ can move 16 gallons of water in one minute.



SUPER GULP

- 16 GPM pumping capability
- 4" dia. x 2 ft. pump chamber
- 3" dia. x 3 ft. outlet hose
- 3" dia. x 7 ft. outlet hose



BIG GULP

- 35 oz./stroke
- 3 ft. pump chamber
- 36" or 72" outlet hose



GULP

- 8 oz./stroke
- 1 ft. pump chamber
- 10" outlet pipe



GULP SYRINGE

- 8 oz./stroke
- 1 ft. pump chamber
- 11" outlet tube



Use the BigGulp™ Riser Attachment to help prevent mud and rocks from entering the pump chamber.

ordering

Part # A-G12	Gulp™
Part # A-G12S	Gulp™ Syringe
Part # A-G3636K	BigGulp™ with 36" outlet hose
Part # A-G3672K	BigGulp™ with 72" outlet hose
Part # A-G2484	SuperGulp™ with 84" outlet hose
Part # A-G01	BigGulp™ Riser Attachment



SuperGulp™



BigGulp™



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TABLE 5.
Demographics of members vs. qualified prospects

	Existing members	Qualified prospects*
Average age	55	45
Average household income	\$124,000	\$142,000
Average rounds	53	27
% with children who play golf	14%	19%
% with spouse/partner who plays golf	53%	46%
% who spouse whose very interested in golf	37%	26%

*Those who express a high interest in joining, have incomes greater than \$100,000 and are between ages 30 and 60.
Source: NGF's "The Future of Private Golf Clubs in America"

– the only requirement is they pay \$1,000 per year.

"It hasn't been a problem with the existing members, which is surprising," says Johnson who understands some members' concerns about new initiation fee structures because he's been a member at an equity-owned club. "But we haven't had one issue or complaint. Because we're in a rural area and we don't have the luxury of having a half-million people to draw from, members understand."

OTHER MEMBERSHIP OPTIONS

When markets get competitive, it's common for a variety of membership categories to sprout up – junior, senior, social and/or dining memberships are common options.

Short-term trial memberships, sometimes billed as "summer memberships," allow prospects to use the facilities and interact with fellow members before making a full commitment, according to the NCA's new book, "Membership Marketing: Best Practices for Private Clubs."

Trial memberships are a way to get prospects in the door, Vizza says. Typically, trial members pay only monthly dues until their terms are up, at which time they're responsible for the initiation fees.

"NCA recommends that trial members should still be vetted as would regular members to ensure that they are compatible with the club's existing membership," the book says.

Junior memberships – discounts or special offers for those in their 20s, 30s and sometimes 40s – aren't new, but some facilities are reviving or retooling them, as clubs try to focus on the future. Seeing young professionals and families as the future of a club is a natural instinct; however, the NGF research shows that today's qualified prospects are more spread out among age groups than current members were when they joined clubs (see Table 4 on page 42). Sixty-four percent of current members joined in their 30s or 40s, while prospects are well divided between the 30s, 40s, 50s and 60-plus age group.

At some clubs, new discounts, membership options and financing offers make junior memberships a moot point. For example, The Territory has an option for twentysomethings to put half of the initiation fee down and pay off the rest by age 30. It's still available, but the eight-year, interest-free financing option for full membership is just as attractive – if not more so – so not many people are opting for junior memberships.

One reason some clubs hesitate to offer too good of a deal to younger members is the fear they'll create a class of members with little commitment to the club.

John Schoellner, CGCS, CCM, is one of them. The general manager for Estero Country Club in Fort Myers, Fla., doesn't advocate junior memberships – especially for facilities with steady rounds.

"Why should somebody come in, pay less money and take a tee time?" he says. "I've always been amazed at clubs that give a senior discount without having the senior give up any benefits. They play more golf than anyone."



Schoellner

Schoellner recalls the experience of another club in his area that attracted a number of members through a junior campaign.

"The first time they had to dip into their pockets and come up with some money for repairs, they left," says Schoellner, adding that about 85 percent of Estero Country Club's 325 golf members are retired. "There's no commitment. There's a better deal down the street, so off they go."

Rather than simply lowering fees, Schoellner prefers to have members who enter under different terms give up a benefit. For example, the club's initiation fee is \$47,000, and typically members get back 20 percent when they leave. He's experimenting with an option of a \$25,000 initiation fee – all of which is nonrefundable.

"That way the club doesn't have that debt to pay members," Schoellner says, noting some clubs have run out of cash and have had to suspend their refunds anyway. "If that happens, you end up with unhappy people. It's better to tell them up front." GCI

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ARE UPPER-CRUST CLUBS IMMUNE?

Although some high-end facilities remain insulated, even the most upscale private clubs are finding they aren't immune to economic hardships.

BY HEATHER
WOOD TAYLOR



Some of the upper-crust golf clubs around the country are beginning to discover that their members are not immune to these tough economic times.

The Country Club at Castle Pines planned to renovate its driving range, but the project was put on hold. Marshall Fearing, superintendent of the scenic, upscale private club in Castle Rock, Colo., says the club trimmed its overall budget as a precaution and the renovation project was a casualty.

Castle Pines attracts members from throughout the country – in fact, two-thirds of its members hail from out of state. The club doesn't open until the end of this month, so in the meantime Fearing monitors other clubs to gain an inkling of what might transpire through this year. "What we're seeing with some of the other clubs is a drop in revenue of anywhere from 10 to 15 percent," he says. "The general manager and the president made a decision that we'd make a 10-percent, across-the-board cut with everything to be a little more preemptive."

As some clubs with wealthy memberships are finding out – though talking about money problems might be passé – even these individuals aren't immune to the tough economic times. In fact, 74 percent of people worth \$1 million to \$10 million say they're concerned about the downturn, according to a study by Elite Traveler/Prince & Associates. While families around the nation fret about stretching their dollars, the wealthy are cutting back on their expenses, too. This act of fiscal restraint sometimes includes private golf club memberships. And while some clubs will continue to enjoy financial stability and a steady membership, others will discover that, like their members, they're not immune to the economic crisis.



"High-end clubs do tend to be more isolated from the ups and downs of economic cycles, but even they can't keep themselves totally out of the cycles," says Jim Riscigno, founder of consulting firm Club Specialists Intl. and former ClubCorp executive vice president.

Why else would the Golf Club of Cape Cod in Massachusetts, which opened two years ago with an \$85,000 initiation fee, begin accepting "affiliated" members who don't have to pay the fee for three years, as The New York Times reported last month?

Not only are individual members contributing to a decline, but cash-strapped corporations are having an impact, as well. "During downturns, companies restructure the business and the membership is one of the first things to go – it's among the luxury items that they don't need," Riscigno says.

VIEW FROM THE TOP

While some upscale club members feel the pinch, it's a different story at the very top. Of those worth more than \$30 million, only 13 percent harbor worries about the economic climate, according to the Elite Traveler/Prince & Associates survey.

One exception might be those who were defrauded by disgraced New York financier Bernard Madoff's massive Ponzi scheme,

says Jim Koppenhaver, president of Pellucid Corp., a Buffalo Grove, Ill.-based golf-industry research and marketing firm. "We know that certain clubs have been affected by incidents such as the Madoff scandal – higher ends, more Jewish-based clubs in New York, Boston and Maine – but, overall, we're not seeing any meltdown at the top end of the food chain relative to the overall hit the private club sector is taking in membership losses," he says. "While they're insulated, they're not exempt from the current belt-tightening and repricing of American goods and services."

Club membership tracking is a research area the industry lacks, partly because of the sensitive nature of the information, Koppenhaver adds.

One affected club is the Palm Beach (Fla.) Country Club, which Madoff joined in 1996, according to a story in The New York Times in December. At least a third of the 300 or so club members had invested with Madoff, the Times said; typically, investors needed at least \$1 million to approach him.

The several high-end clubs touched by the scandal are the exceptions, says Lewis Goodkin, real-estate and financial advisor from Goodkin Consulting. "Those clubs can't help but be affected," he said. "Most of the desirable clubs will remain insulated for the most part."

One reason the wealthiest club members might not be gung-ho about club membership is because it could be perceived as unfashionable in this climate to flaunt your good fortune. Companies are becoming more aware of public perception, says Tim Moraghan, consultant with Long Valley, N.J.-based Aspire Golf. "You don't want to see financial people playing golf when they should be looking after a portfolio," he says.

THE WAY DOWN

After the stock market tumble of 1929, the number of private clubs in the U.S. diminished by about one-third, according to "The Future of Private Golf Clubs in America" report conducted by the National Golf Foundation last year. But, by many accounts, the current recession has not reached Great Depression status. Still, some clubs struggle for one reason or another; Moraghan has received more notices of clubs closing than normal. While some are due to the economy, some are closing because of poor management and the inability to adapt to a changing market. (See "Staying afloat," page 30).

GOLF COURSE COMMUNITIES ADJUST

Golf courses built as part of a housing development also are experiencing a decline, but they're a different animal compared to other golf clubs, says Lewis Goodkin, real-estate and financial advisor from Goodkin Consulting.

"Golf course properties are a little different because of the rapid increase in property values, so they're more out of whack," Goodkin says. "We see adjustments in pricing downward."

Still, those prices will be pretty high compared to the average home price because they were so inflated to begin with and the market is not yet to the point of desperation, he adds.

"If they had been a half or a third of the price of what they were, they're still impressive," he says.

Some club communities are seeing decreasing membership because their members are aging. They're dealing with decreasing funds by making membership at the club mandatory. A board must vote on the move, and while it doesn't always pass unanimously, the idea has been approved in many communities, Goodkin says.

The golf course communities that might have some trouble are the ones that are being built now, he says.

"It's a tough time to be coming into the market with a new community," he says. "Depending on when they bought the land and what the numbers are going to be, it's not likely you're going to see any momentum in the market."

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DEALING WITH THE DOWNTURN

The Club Managers Association of America has an online resource page with several articles and other information about ways to deal with a down economy. The articles outline trends during past economic rough patches and the information helps clubs set up a master plan to make sure they're on the right track financially. To learn more, visit <http://www.cmaa.org/template.aspx?id=23588>.

Riscigno predicts the recession will force some clubs to close, but not at such a dramatic rate as seen the 1930s. Instead, it's plausible that some clubs will go from private to semi-private status, from semiprivate to semipublic and semipublic to all out public, he says.

Some high-end courses will attempt different cost-cutting measures to stay afloat during these tough times, but if they cut prices and services too deep, they'll inadvertently lower their status in the community, Riscigno warns. The key is striking a balance between reducing operating costs and retaining the high-end persona.

Clubs also may fail to protect talented staff, Riscigno says, adding it's a dangerous move, especially if some clubs opt to cut the general manager position. "Who would think it's a good idea to have a club that's run without someone who knows the business?" he asks. "Having a part-time board run the club probably isn't a good idea. Running a club is extremely labor-intensive and it focuses on high-end, intangible services. When you put all those together, you've got to know what you're doing. It's a fairly sophisticated job."

The club is like a second home to members, and letting them control the financial decisions puts them too close to the situation and leads to emotional decisions, Riscigno adds.

Aside from people, a club's most valuable asset is its golf course. And it makes no sense to cut investment to the feature that generates revenue, Moraghan says. Clubs looking to eliminate something out of the budget should find other areas to cut before setting their sights on their golf courses, he says.

It can be difficult to cut from other areas because members have come to expect the finer items and services. "All the excesses that have come into our industry, such as maintenance practices, design philosophies and extravagant clubhouses, which seemed to be in excess in the late 1990s, all of a sudden have become the norm," Moraghan says. "Now it's one of those where if it's the norm for people, how do you ask people to cut back?"

You shouldn't, Riscigno says. "Make certain you don't compromise the membership offering," he says. "You can tweak pricing, but make sure when times get better this isn't going to hurt the club."

Clubs left with no other options but to cut from their courses need to make smart decisions. "One thing I learned from championship golf when I worked with the USGA is that

you're going to be remembered for your putting greens," Moraghan says. "Fifty percent of the game is played on the putting surface."

RECESSION PROTECTION

Clubs keeping their budgets in check and maintaining a reserve fund are poised to deal with a downturn. Take Oak Hill Country Club in Rochester, N.Y., as an example. The club has always operated in a fiscally conservative manner, says Eric Rule, who has been general manager at the club for 24 years. "We would be in good position to weather an economic storm," he says.

The club, which has hosted all of the major men's championships over the past 25 years, has a waiting list of hopeful members and hasn't experienced a decline in light of the current economy.

"Oak Hill is affordable for an upscale club," Rule says. "I think our membership appreciates that and we haven't seen any attrition at all."

It helps that Rochester is more insulated from the recession than other regions.

"Housing has been very affordable for many years," Rule says. "We have seen some hardship in the area, but it hasn't been on par with the rest of the country."

Whatever the circumstances of the region, the clubs who planned ahead stand to come out of the chaos in the best condition.

"The clubs that set out and wrote a strategic plan two to three years ago, put the right governance plan in place and have the right manager, are going to do well and beat the odds," Riscigno says. "They're still going to have a downturn, though. Those who sat fat, dumb and happy thinking everything is wonderful, not thinking about deficiencies, not worrying about the board being involved in day-to-day operations – those are the clubs that will be in extreme jeopardy."

Customer service is another tool to overcome the forces hurting club membership.

"In any type of business, it's all about service," Fearing says. "We try to do as good of a job as we can down here. I think the entire staff does an excellent job. With us being a national club, why would someone come in from out of state to our golf course? It's got to be service. You've got to make it a special place to come." GCI

Heather Wood Taylor is a freelance writer based in Lakewood, Ohio.

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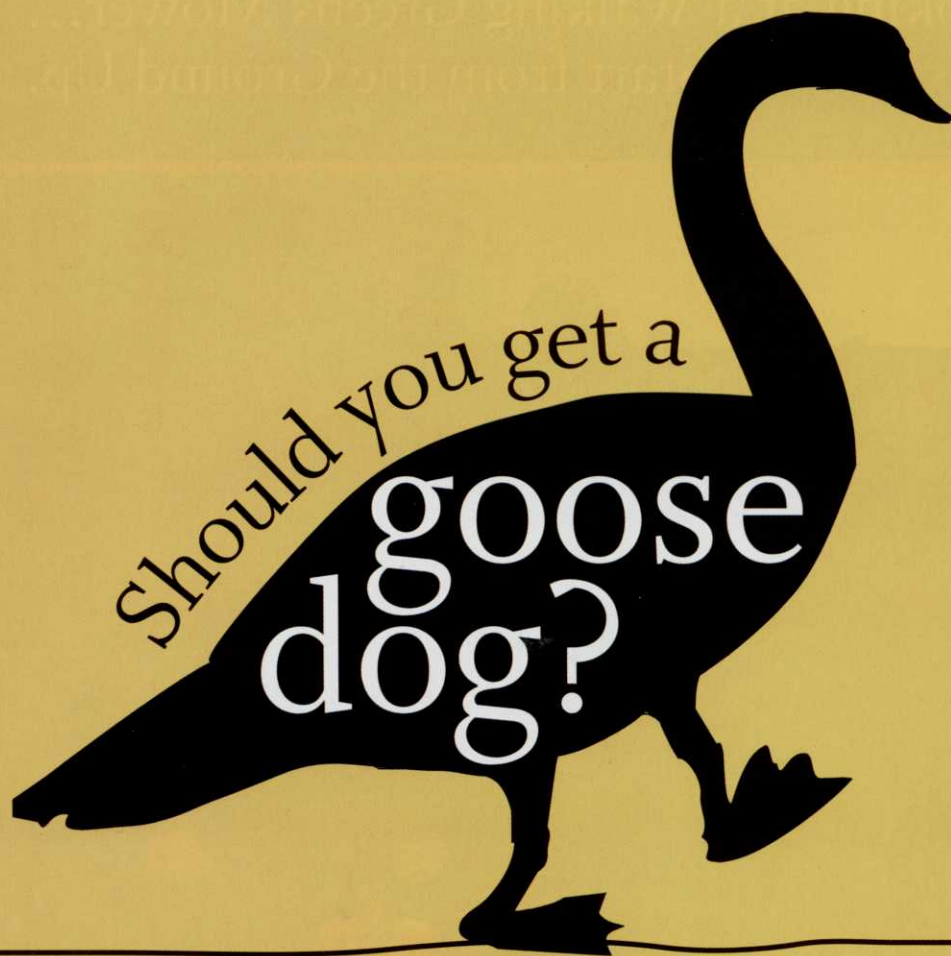
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A border collie is an effective, humane way to rid your course of Canada geese. Here's what you need to know before taking on the responsibility.

BY MARISA PALMIERI

The tales of goose-chasing heroics overheard at chapter meetings, seminars and conferences are enough to at least pique the average superintendent's curiosity about getting a golf course dog.

But with that prospect comes a slew of questions. How much would it cost? Do I have to be a dog person? Would the dog bother golfers?

Rick Evelo, golf course superintendent and general manager at Gleneagle Golf Club in Colorado Springs, Colo., is one person who believes the benefits far outweigh the costs. In the past, there were times when the course's Canada geese population was close to a thousand, Evelo says.

"There were droppings everywhere," he says. "When that stuff dries it's like concrete. You can mow them on the greens, but it'll smear, and there will be black and white spots everywhere."

In addition to unsightliness, geese can damage turf.

"Their favorite spot is where the cup is, and

they start nipping away at the greens," Evelo says. "It's like an open wound. When it gets to the point where it affects the quality and health of the turf, you have to do something about it."

At Gleneagle, an 18-hole semiprivate facility, the problem came to a head just before Evelo was hired in 2005. The general manager at the time had been a member before he started working for the club. With the geese problem worsening, he researched the issue and talked to the owners about getting a dog. Then he began searching for farms that raise and train goose dogs.

The general manager discovered what many facilities with goose problems have before — border collies' wolf-like gazes are frightening to geese and effective for keeping them out of areas where they're a nuisance and cause damage. Because border collies are herders not hunters, they never harm the geese. Canine harassment is considered a humane method of goose control by the Coalition to Prevent the Destruction of Canada Geese.



And you know it?
Your dog's right?
I mean, as I said,
life isn't a picnic
of your dog and
we'll look it in the
web site.



Rick Evelo, golf course superintendent and general manager of Gleneagle Golf Club in Colorado Springs, Colo., poses with Bett the goose dog.

"One of the questions I was asked during my interview was, 'Do you like dogs?'" Evelo says. "Then they said we've got a goose dog on order. She's flying out next week."

Luckily, it wasn't a problem for Evelo who calls himself an outdoors guy. He grew up on a farm in northern Wyoming, lived in Montana, and has always loved dogs and had pets.

Since Gleneagle's border collie, Bett, arrived, the geese problem is no more. During the winter months there may be a handful of geese around from time to time, but other than that, geese are no longer an issue. The course a mile down the road, however, had geese all last summer, Evelo says.

WILL ANY DOG DO?

Some people use other breeds for canine harassment, but border collies are the breed of choice because of their intense predatory gaze, says Mary Felegy, president of Fair Game Goose Control in Congers, N.Y.

"It's known as 'the eye,'" she says. "Their gaze is so intimidating and frightening to geese – they immediately read the dog as a threat."

Additionally, border collies bred from working lines are relentless.

"If something is offering them attention vs. work – whether it's food, affection or play – they're going to choose working every time," Felegy says.

In fact, their work ethic is the reason they need to be trained. As working dogs are trained to do just that, one concern is they don't know when to quit. That's why a goose dog needs to know commands and respond to a handler. Goose dogs can't run free for fear of drowning or working themselves to exhaustion.

"There are times in the winter when we'll have to chase the geese from one side of the course to the other," Evelo says. "At times, Bett gets so tired we have to give her some rest. She doesn't know that on her own."

At Farmington Country Club in Charlottesville, Va., Tweed, a border collie, is in his 11th year of duty. During the past few years the club has introduced remote-control boats to provide back-up on the water, so the senior dog doesn't exhaust himself, says golf course superintendent Scott Kinnan.

"He's getting old and he's slowed down a bit," he says. "It can be a lot for him, so we attack it from a few different angles."

Though some golf courses take on other types of dogs or untrained border collies that aren't trained, Evelo recommends superintendents only use professionally trained goose dogs.

"There's no way we could do it if she were wild or untrained," he says. "We would have so many handling issues."

Felegy agrees that taking on an untrained dog or a rescue dog can be a gamble. Untrained golf course dogs may bark, chase golf balls and become a nuisance to golfers.

"Some dogs may have ended up in rescue for reasons that render them unsuitable for a golf course situation," she says. "It may work out, but you have to be sure your trainer is willing and qualified to help you assess the dog's potential."

WHERE DO YOU GET A GOOSE DOG?

Bett came to Gleneagle at age 2 from Kuykendall Working Border Collies, a Franklinville, N.C.-based farm that trains goose, sheep and cattle dogs. The club had to go through a lengthy application process, including a phone interview, when purchasing Bett.

"They don't just send you out a dog or sell to anyone," Evelo says. "They really check out your problem to make sure you need a goose dog. They really care for their dogs."

Bett arrived fully trained. The trainers supplied videos for Evelo and taught him some basic commands. Plus, they're always available by phone for any questions that arise, and they still call occasionally to check in, Evelo says.

Kinnan, who's been at Farmington for seven years, can't recall where Tweed came from, but he says he arrived professionally trained. Long-time maintenance employee Hank Hyde was appointed Tweed's handler, and he spent some time with the trainers learning commands.

As an alternative to owning a goose dog, there are canine harassment services for hire. Handlers and their border collies provide their services to golf courses and other properties that may be havens for geese, like parks and campuses. Handlers release their specially trained dogs, and they chase the geese, who respond by sounding their distress calls and flying away.

The cost for these services ranges widely, Felegy says. Prices depends on location, property size, accessibility, number of water hazards, etc. Her company has serviced properties from as low as \$150 per week up to \$3,000 per week.

HOW MUCH ARE WE TALKING?

Anyone who has a pet knows dogs aren't cheap. Gleneagle, which has a maintenance budget of \$400,000 – a quarter of which goes to water costs – originally paid about \$4,000 for Bett. Initially, there was some skepticism about spending that much money for a dog when the maintenance department has so many equipment needs, Evelo says.

"At first, for a low-budget course you think, 'We're paying \$4,000 for a dog – she better poop gold,'" he says.

But Bett, who's expected to put in at least a decade of service, has more than paid for herself. Her expenses are an \$850-per-year line item in the maintenance budget. That includes food, grooming and vet bills.

Kinnan, who says Farmington paid several thousand dollars for its dog, budgets between \$800 and \$1,000 annually for Tweed, who last

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fall was presented his commemorative 10-year pin for a decade of loyal service.

"We're fortunate to have one of our long-time employees take the dog home with him at night," Kinnan says of Tweed's handler Hyde. "It's more the norm – if the dog isn't actually the superintendent's pet – to house the dog at the shop."

Though Bett is a working dog and was never intended to be a pet, Evelo takes her home about three nights a week. She's a big hit with Evelo's three children, ages 6, 9 and 12. And the members, too.

"Everybody always asks about her," Evelo says.

When Bett stays at the club she's housed in either the maintenance break room or an 8- by 6-foot outdoor pen, which is gated and locked.

"In the summer she's excited about going out there," Evelo says, "But she's skittish about lightening storms, so she'll stay in our break room. At times, when she's done eating her dinner she'll lay down and in the morn-

ing she'll be in the exact same spot. She's a good dog. She's trained to work and sleep," Evelo says. "She's probably a better employee than I am."

Who's going to care for the dog and where he or she will live should be the top considerations for anyone thinking about getting a goose dog, Kinnan says. It's vital to consider how the dog is going to be cared for because, if the dog is effective at controlling geese in the early years, he'll eventually have little work to do.

"It's not like a piece of equipment that you can just put up on a shelf when you don't need it," says Kinnan. "You have to understand the costs and commitment associated. It's not something to be taken lightly."

Thanks to Hyde, the staff at Farmington knows Tweed's in good hands now and when his time at the golf course is done.

"Hank has been a staff member here for 40 years," Kinnan says. "The day he chooses to retire, if Tweed's still around, he'll go with him." GCI

CHECKLIST FOR BUYING A GOOSE DOG



Not all border collies are created equal, and not all breeders adhere to the same ethical sales practices, says Mary Felegy, president of Fair Game Goose Control of Congers, N.Y.

It's easy for a good handler to dazzle a prospective buyer with a mediocre dog or worse, so consider these important questions, courtesy of Felegy. A poor response to any single question need not be a deal-breaker. Just beware of patterns of negative responses.

- Did you breed this dog?
- If not, where did you get it?
- Has the dog ever been abused?
- Was this dog a "rescue" dog from a rescue society? If so, why was the dog sent to rescue in the first place? How long was it there? (Sometimes it works and it's a heartwarming story, other times it's a problem for you ...)
- How many previous owners has this dog had before you got it?
- Has this dog ever done goose control before, besides in training? Where? When? Why is it no longer there?
- How long have you personally had the dog in for training?
- How have you trained the dog? On sheep? Ducks?
- Will the dog swim after geese? Can you demonstrate this?
- How many other goose dogs have you placed into service? May I contact them for references?
- Will the dog come when called? Will the dog come when called when it's working? (Big difference!)
- What bad habits does this dog have? (Assume they all have some.)
- Is this dog "ball crazy"?
- What "holes" does the dog have that make it unsuitable for you to keep for yourself? In other words, why are you trying to sell me this dog?
- Does the dog display any aggressive tendencies? Either dog aggression or fear aggression?
- Is this dog thunder-phobic or afraid of any other loud noises that may affect its working ability and safe handling?
- Can we take the dog on a trial basis? (One month is customary.)
- Will you train us on how to handle the dog in the field on our site?
- What will you do for us if the dog doesn't work out? Replace it with a suitable animal? Retrain it?
- Has your dog ever competed successfully in any other dog sport? (Sheepherding, agility, etc.) If so, why are you selling it now for goose work?

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Recession?



What Recession?

Golf facilities defeat the economic downturn by giving people what they want – more value, better service and playing opportunities.

BY MARK LESLIE

A tight economy means tough times for the golf industry.

"Pshaw!" would be the immediate response from the late Joe Jemsek, Mr. Chicago Golf and famed golf course owner. "Joe would say, 'If you can't make money in a recession, you're not much of a golf course operator,'" says Vince Alfonso, former NGCOA president, about the man who owned and operated Cog Hill and its four golf courses in Chicago for half a century.

Jemsek shrewdly started building his fortune at the tail end of the Great Depression, leveraging \$21,000 in golf balls into all sorts of deals with professionals and customers. But his reasoning was diverse.

During recessionary times, golfers have more time to play, says Jemsek's son Frank Jemsek, who operates the family's five courses. "When business is going well, people don't have the spare time," he says. "Now, if you're not working as much, you have more extra time. That's an advantage for golf."

During the Depression, while many people left private clubs, they did not stop playing golf and they played more than 18 holes, Jemsek says. "You'd have them for a longer time," he says. "You could sell them lunch. Cog Hill was the only course that didn't get into the green-fee deals, and they did the best of anybody."

During a recession, people will cut back on big-ticket items, such as cars, refrigerators and air conditioning, says Alfonso, who owned The Rail Golf Club in Springfield, Ill.,

and Kimberley (Tenn.) Golf Course before joining a youth ministry in Memphis.

"They may not take the annual vacation trip, but the one thing they will do is play golf," he says.

Sticking with a club's normal green fee is one standard many operators agree on when discussing survival in recessionary times.

"I'm never in favor of cutting green fees," Alfonso says. "It's not like you're jacking people around in the first place. If you're charging a \$100 green fee and you're a \$50 golf course, you should have been a \$50 golf course in the first place. Take advantage of demand."

Jemsek prices his courses so he doesn't have to run specials.

And a bad economy doesn't signal defeat.

"You defeat the economy by giving people what they want and need," Alfonso says. "They're golfers; they like your service."

Alfonso suggests bringing golfers to your facility by inviting them in a special way, not by advertisements on TV or in newspapers, but by personal letters addressed to their homes.

"Invite them to bring somebody," he says. "Kill them with kindness, service and the thought they're getting all kinds of deals, bonuses, whatever."


Jeff Porter, club manager and PGA professional at ArborLinks Golf Course in Nebraska City, Neb., looks forward to a tight economy. Businesses and individuals alike will scrutinize more closely how they're spending



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Judy Hutt, manager of Shadow Valley Golf Course says golf facilities should identify what they're best at – whether it's leagues, instruction, pace of play, junior programs, etc. – and strive to excel in that area. Doing so will drive word-of-mouth, she says.

their dollars.

"People will not spend money on a whim," Porter says.

Tom Everett, director of operations for Landscapes Unlimited's Landscapes Golf Group, which operates 13 golf courses throughout the country, says the company is making sure its customers won't want to leave its courses.

Another Joe Jemsek colleague, Judy Hutt, manager of the Shadow Valley Golf Course in Boise, Idaho, says when things are tight operators must go back to the basics, which often means thinking like a customer.

"Separate yourself from the competition," Hutt says. "If you're the same as everybody else, the only differentiation is price. And when you get into that price and discounting game, you'll die."

ADDING VALUE

Operators believe the following are crucial to success:

- Hiring customer- and service-oriented people;
 - Producing and retaining new golfers;
 - Filling dead times creatively;
 - Focusing on what the club does best; and
 - Adding value.
- "What owners don't understand is if they

give people a 20-percent discount, then so what?" Alfonso says. "Find a way to give an extraordinary gift to someone who will be motivated to use it. Don't run the risk of slashing your green fees. Send out a thousand invitations to bring guests. When they get there, say: 'Sam, today we have a special promotion. With a cart rental you get a free sandwich.' The next thing you know, they'll spend \$8 to \$10 they might not have spent."

Once golfers are in the clubhouse, Alfonso suggests pointing out that you're taking a certain percent off anything in the golf shop, not cutting prices.

"You've created a way for that person to be motivated to come to your shop first," he says. "Once they get there, you make it almost impossible not to spend money."

Hutt advises not to discount rates. "If you have to do something, add something to the existing rates," she says. "We don't charge for tees, repair tools or ball markers. We don't put 'free' on them because if you do, there's no value to them. Our repair tools cost \$1. But when people get them, we just say, 'Don't worry about it.' People are always surprised."

Everett is an advocate of the free-prize concept. "If you're coming to one of our facilities, you experience something you wouldn't get at a comparable facility down the street," he

says. "We offer free Hot Tamales on the tables, complimentary shoe-cleaning on prime weekend mornings. We're making sure our existing customers don't want to leave."

Everett doesn't discount rounds, but a \$30 green fee may include a \$10 lunch, a sleeve of balls or hat. He offers an all-day play rate for specific times and days. If it's \$30 for 18 holes, golfers can play 27 holes for \$30 or 36 holes for \$30.

Normally Illinois in November is cool and people don't ride carts. So Alfonso developed the Ride The Rail promotion: rent a cart and get a free barbecue sandwich and slice of pumpkin pie with whipped cream. "They got a sandwich that cost me \$1 to make, but I got their cart fee," he says.

Another time Alfonso rewarded golfers who arrived a half-hour early for their tee times with a small bucket of balls for the range. Many ended up buying midsize or large buckets instead of settling for the small bucket.

"As a daily-fee golf course owner, I'll create a reason for you to come to the golf course," he says.

Pacific Springs Golf Club in Omaha, Neb., hosts 9,000 event rounds each year and distributes a bounce-back for each of those.

"Each outing participant – whether they're brought by an association, business or char-

ity – gets a chance to come back and play for an off-peak discount,” Everett says. “And we have loyalty programs at each facility. When someone pays a dollar, they get a point and can redeem those points for green fees, merchandise, range balls, etc.”

TREAT THEM RIGHT

When it comes to employees, Hutt recommends hiring people with the right attitude and then train them.

Everett agrees, pointing to the fish philosophy of customer service the Landscapes Golf Group rolled out in 2008. “Of all our goals, service is our No. 1 focus,” he says. “Hiring is huge. It’s finding the right people, the right fit for the position instead of just hiring a warm body. We treat them right, compensate them fairly and retain them.”

The fish program, the tenets of which are “reeling in customers” by treating them superbly, costs nothing and sets courses apart from their competition. Training drives home the importance of treating customers extraordinarily well.

For Jemsek, whose father Joe said there’s no such thing as a bad customer, it’s crucial to treat existing customers well and with a smile to retain their play.

“Sometimes our worst teacher of the golf swing was our best at getting people to play golf because he thought golf was fun,” he says.

Hutt has latched on to this notion, as well. “We’re in the entertainment business,” she says. “Golfers pay us to have a good time.”

Hutt asks her employees three questions every year: What do we sell? Who’s the boss? What is the No.1 opportunity to create a raving fan? First answer: Fun and entertainment. Second answer: The customer.

“If a customer asks, ‘When do you open?’ then I say, ‘An hour before you want to arrive.’ If they ask when I close, then I say a half hour after they leave,” Hutt says.

And the third question’s answer: The complaint and how you handle it. “If we did something wrong, I want to make it right,” Hutt says. “I’d much rather have someone come in and talk to me about it. Once they drive out of that parking lot, it’s probably too late.”

What golf course using rangers does not encounter conflict?

At Shadow Valley, which operates a Pace of Play program, Hutt softens the ranger-golfer relationship so rangers are “ambassadors not marshals.”

“Our standard policy is if it’s below 70 degrees out, then we send out hot coffee and brandy,” she says. “If it’s above 90 degrees, then we send out cold water.” The servers? Rangers.

“We want something to do every day for every player,” Hutt says. “I’ve adopted some things from the hotel industry. I remember checking into a Doubletree Hotel and getting a big warm chocolate chip cookie. So every day we bake fresh oatmeal, walnut-cranberry cookies and the only way you get one is to play golf.

“Our player assistants [rangers] make sure everyone gets a cookie,” she adds. “It softens their effect. People look forward to seeing them. It also gives them an easy way to approach a group if they do need to talk about slow play.”

Tournaments and other outings are the times for a golf facility staff to prove its worth.

“Corporate outings, charity events, whatever it is, we treat them so well they don’t want to go anywhere else,” Everett says. “We try to make it as easy as possible on our event coordinators. Without doing their recruitment for them, we take care of most everything else.”

Pacific Springs, which generates 44,000 total rounds a year, almost has its entire annual rounds booked by April 1, accounting for 9,000 outing rounds and 11,000 league rounds.

“All our club managers stay in touch with

past outings, are involved in local chambers of commerce and go to our vendors,” Everett says. “We want to make sure the people we’re doing business with are doing business with us.”

Anything Hutt can do to take pressure off the tournament chairmen, she does. “We even have someone on site to give massages,” she says. “We get the signs ready, take them out and bring them in and store them for next year. I want to hold onto those signs because it gives them a reason to come back. When they show up in the morning we have the register table, we’ll do registration; everything’s alphabetized. The carts are ready. Certificates are done. We take care of everything. All they have to do is get the players and the sponsors. Once they e-mail that to us, their job is done and ours is just beginning.

“We love doing that,” she adds. “To me, if an outing is played at our facility, I want to have control of the outing so people will know it is done right and our reputation is kept intact.”

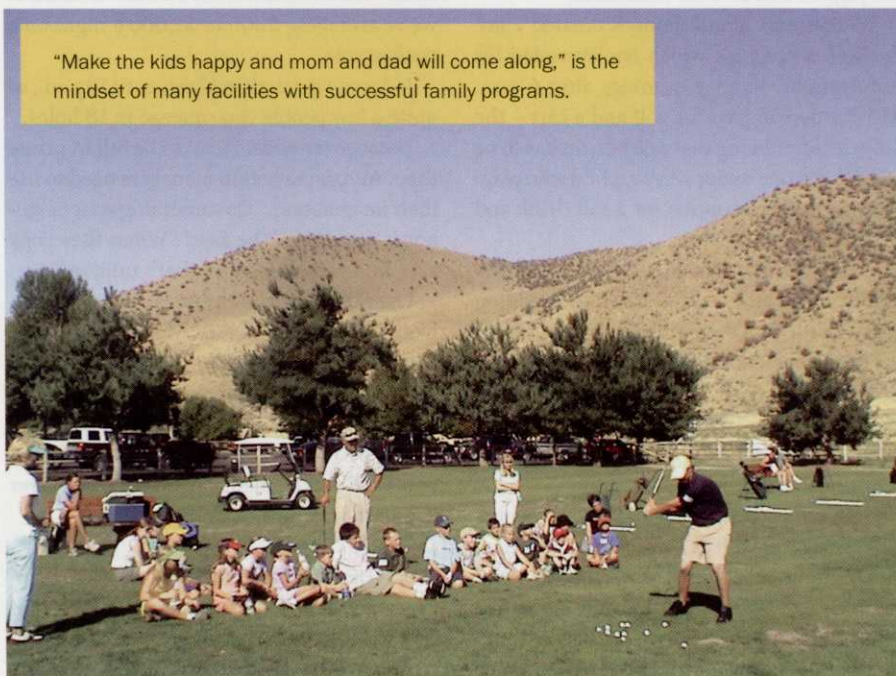
In Chicago it appears the number of outings will remain about the same, Jemsek says, although he predicts he will see fewer homebuilder and auto-dealer events.

Regardless, Alfonso adds, “If you continue to offer exemplary service and better value, then everything will be just fine.”

COMMUNICATION

Solid customer communication improves service and the bottom line.

“Make the kids happy and mom and dad will come along,” is the mindset of many facilities with successful family programs.



"We try to stay in touch on a frequent basis, but not too frequent – seven- to 14-day intervals," Everett says. "We don't want to irritate them but we want to keep our names in front of them. We use our e-mail marketing system very efficiently to promote tee times, course-sponsored events, banquets and the like."

Hutt mails Christmas cards every year with a coupon for a free bucket of balls to people who have played Shadow Valley. And every second year Hutt e-mails surveys asking what people want at the course.

"Sometimes it's as little as water coolers, or fixing an uneven tee box," she says. "We let people know we've responded to the surveys."

E-mail, Hutt says, is an effective way to market.

"These are our customers," she says. "If I'm going to mark down my merchandise I want to go to my customers. If club managers aren't into e-mail they're missing the boat."

PRODUCING GOLFERS

"So many times we say golf is stagnant. Well, who is going to create players if we don't – at the grass-roots level?" Hutt says. "People need to embrace that it's not just dad going out on Saturday and Sunday mornings any more. To grow your business you have to embrace the whole family – dad, mom and all the kids. We learned a long time ago to keep the kids happy. There is not a lot of money in the junior programs. Make the kids happy and mom and dad will come along. So we focus a lot on the juniors and do a lot with them."

To that end, Frank Jemsek created Family Golf, a program which has exceeded his expectations. Sunday evenings after 6 p.m. \$10 per person pays for golf and a cart – the only qualifier being that one person has to be over 21 and one under 12. Any child who plays four holes gets a coupon for a soft drink and a treat at the clubhouse.

"The kids come in for the treat and the family comes in to eat," Jemsek says, adding research shows if the entire family plays from the same tees, children are much more likely to continue playing. "The longest hole is 120 yards," he adds. "When a kid gets lucky on a 40-yard hole and ties or beats mom or dad, they're hooked."

Hutt also operates successful Family Nights on Sundays, as well as a number of activities for children throughout the summer. Youths can play any day of the week after 3 p.m. for \$5. They get a free bucket of balls every time. In addition, clinics throughout the summer

regularly draw 350 youths. "Do the math. That means 700 adults," she says.

Meanwhile, Friday night scrambles are a weekly highlight, and Saturday nights focus on a couple's league strictly for fun, with golf and dinner packaged for a good time out.

Women are an untapped market, Hutt says. Golf historically has done a passable job attracting women, but a poor job at retaining them. "We have to realize that we can't have the same programs for women that we have for men," she says. "Boys at 6 are competitive. Men like competition. With girls it's all about having a good time, not competition."

While the ladies league tees off at 6:15 p.m. the newly formed Swingers – women who don't want to compete but still share the social environment – tee off afterward.

"All of a sudden there are more women in the Swingers than our league," Hutt says. "What can we do for women who just want to have a good time?"

FILLING DEAD TIMES

These programs serve three purposes – attracting golfers and filling the tee sheet while filling the coffers. However, men's, women's, juniors' and seniors' leagues operate on weekdays, but "dead time" means "zero-revenue time."

After those weekday leagues tee off, it's too late to set tee times because people can't finish 18 holes. However, golfers could play a few holes, Hutt says, which inspired the "buck-a-hole" concept. "It has become unreal," she adds. "We never advertised a buck-a-hole but we're averaging \$800 to \$1,000 a night on a buck-a-hole."

It doesn't get dark in Idaho until 10 p.m., so quite a few people can squeeze in 18 holes.

Because tee sheets tend to be full in prime time, Alfonso says club managers need to use their imagination. "Do something your neighbor is not doing," he says. "When they copy you, find something else that's unique."

Later this year Hutt intends to start Million Dollar Mondays. "Every Monday someone will be stationed on a par-3, the longest putt will be identified and we'll give out a gift certificate," she says. "We'll narrow the field with a 'putt-off' each month. At the end of the year we'll get the media involved. One player will putt for a million dollars."

WHAT THE CLUB DOES BEST

Every golf course owner should ask, "What do I do better than anybody else. What am I known for?" Hutt suggests, adding if the

answer is "nothing," then immediate changes are necessary. "We're known for pace of play, strong juniors, our men's association and corporate outings," she says. "We make sure we do a good job with everything we do and depend on positive word of mouth. You take care of the customers and I think the customers will take care of you."

Every course can afford to improve its aesthetics and landscape, such as the entry road, the first tee and 18th green, around the clubhouse and parking lot. These areas are ripe for facelifts at many privately-owned public facilities.

Should course-maintenance expenses be cut?

No, is the unanimous answer. Everett even has a rule of thumb to determine the dollar figure.

"In course maintenance we're not looking to cut a bunch of dollars, but we are looking to make sure that if we are only getting a \$30 green yield we're only providing that experience to the golfer," he says. "We can't provide a \$50 course as it relates to conditions if we only get a \$30 green fee. Make sure the balance is correct."

"This is not scientific, but I've always believed you can spend \$100,000 in maintenance for every \$10 worth of green fees you're getting. If you're getting \$30 you can spend \$300,000."

Everett warns against overspending "but not under-spending, either," he says.

Hutt's advice: do things that will blow someone's socks off. "We ask ourselves, 'What can we do to blow anybody's socks off. How would we blow our socks off?'"

THE FUTURE

No one's predicting the future, but Jemsek offered a perspective.

"Yes, I'm concerned," he says. "You just don't know what's coming. I hope it doesn't become 1929 again. I don't think that will happen. That was much more severe than now. A huge number of cities and counties have postponed infrastructure work ... and the guys who work on those projects are our customers. The NGF [National Golf Foundation] says more kids are playing golf than ever now: two and a half to three times more than the 1950s and 1960s. Eventually those kids will be a market."

Joe Jemsek would be proud. **GC**

Mark Leslie is a freelance writer based in Monmouth, Maine.



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Golf facilities operated by management companies, like Billy Casper Golf-run Ka'anapali Golf Resort in Hawaii, may benefit from group pesticide-purchasing discounts.

Realistic expectations

Difficult economic times force superintendents to rethink pesticide use.

Golf course superintendents are an imaginative lot, adept at squeezing every last penny out of their annual operating budgets, whether that means coaxing an old mower through one more season or timing chemical applications to weather conditions to maximize efficacy.

Stung by last year's high fuel prices, superintendents and course managers have been in a savings mode for at least 12 months, if not longer. With the onset of a deepening recession and anticipation of less revenue because of a possible decrease in rounds in 2009, turf managers will be looking even closer for ways to save money.

Brian Long, superintendent at Doublegate Country Club in Albany, Ga., has a mandate from ownership to cut his maintenance budget by \$100,000 this year. He plans a \$20,000 reduction in the fertilizer and pesticide line items.

"I feel I can have this reduction without really changing my pesticide program," he says. "I just plan to watch my spending."

The economy will affect Paul Brandenburg's operation dramatically.

"We'll definitely purchase less control products this year," says the certified golf course superintendent at Furman University Golf Course in Greenville,

BY JOHN TORSIELLO

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Long

One of the cost-saving measures Brandenburg instituted this year was to take advantage of early order programs that allow him to receive discounts on pesticide purchases. He's already stocked for the entire year. Others, such as Brian Powell, CGCS, at Old Chatham Golf Club in Durham, N.C., purchased pesticides early but will delay their delivery until he needs to use them.

ACCEPTING HIGHER THRESHOLDS

Because of the questionable state of the economy and a resulting tighter budget, Gari Scherting, superintendent at Palm Valley Golf Club in Goodyear, Ariz., plans to accept higher thresholds when it comes to pests on the course. He'll cut down on pesticides, and that relates to his IPM program.

"From what I hear from other superinten-

dents, some are cutting way down on applications and say they'll basically worry about the outcome rather than using preemergent chemicals. Others say they'll continue with applications but will be more efficient with what they use," Scherting says.

Jeffrey Connell, superintendent at Columbia Country Club in Blythewood, S.C., agrees acceptance of higher thresholds for pest incursions will have to be tolerated in light of the current state of the industry.

"These times will allow for higher thresholds," he says. "These levels will be tested, and the lines of communication between golfers, management and superintendents will be tested as well. You'll have to address the issue before it becomes a visual problem for the course."

Informing paying customers what's happening on the course and why, as well as what they can expect regarding daily conditions will be key to establishing a realistic set of expectations among golfers.

Targeting specific areas of the course that have had pest problems previously will help superintendents spot treat more effectively and avoid widespread damage.

"The use of mapping and GPS hot spots, or target areas, on the course and treating just those high priority areas, while letting others tolerate higher disease and pests, is something we may have to do," Connell says.

CUTTING BACK CAREFULLY

While economic realities call for a bit of tough love for their courses, superintendents and managers are hesitant to alter their IPM programs significantly.

"If you view turf quality as an infrastructure component, it would be shortsighted to take such a risk there," says Bryan Bielecki, vice president of agronomy for Billy Casper Golf.

BCG is looking to save small percentages of money on several line items, so, in aggregate, the company isn't compromising or risking large-scale impacts.

"The cost to recover is just too high from a material and client perception standpoint," Bielecki says.

The superintendents who report to Dan



Scherting



Above: Judd Newsome, superintendent at The Ranch Golf Club in Southwick, Mass., says the downturn may help lower golfers' inflated expectations. Right: Billy Casper Golf-managed facilities, like Wintonbury Hills Golf Course in Bloomfield, Conn., are looking to save small percentages from several line items that won't have large-scale impacts.



Evers, regional director of agronomy for Casper's Mid-Atlantic region, monitor turf-grass conditions vigorously, observe the weather and time pesticide applications to help reduce the number of plant protectant applications, thus saving money.



Bielecki

Dave Wasenda, owner of Appliedgolf, a management and consulting firm that operates eight facilities in New Jersey, Maryland, South Carolina and Indiana, also is hesitant to tinker with IPM programs and pesticide purchases.

"The economy has made us rethink our strategy with our overall operation of the golf course; however, pesticides are something we really don't want to fool with in the big scheme of things," he says.

Because companies like Billy Casper Golf and Appliedgolf oversee, own or manage numerous courses, they benefit by having superintendents order pesticides as a group to obtain discounts on large purchases.

A CATCH-22

There can be a Catch-22 logic when looking for ways to reduce operating budgets. For example, if Jedd Newsome's labor budget was reduced, he'd have to look at changing how he cares for The Ranch Golf Club in Southwick, Mass., where he's superintendent.

"That would probably bring more pesticides into use," he says. "This is what many people don't understand. If we have thatch and we're limited in labor, we have no way to remove thatch effectively without disrupting play. So what's the situation if I can't remove thatch and it breeds disease? Spray, of course. One fairway application can cost between \$7,000 and \$8,000, and that costs more than half of what I pay a laborer for the season."

Newsome believes it's vital for superintendents to communicate such concerns to ownership to avoid having to use more pesticides in the long run.

Ben Ratzlaff will continue to spray pesticides preventively on the greens at River Oaks Golf Course in Cottage Grove, Minn., four or five times this season but spot treat as needed in the fairways and elsewhere.

"You have to be careful before you make any big changes in your pesticide program," Ratzlaff says.

The last thing Scott Ledet wants to do is curtail his preemergent pesticide program.

"I'm going to keep doing what I've been doing since the course opened 10 years ago," says the superintendent at Gray Plantation Golf Course in Lake Charles, La. "You cut back on your preemergents, and it ends up costing you more in the long run to fix the problem. While I may tolerate a few more pests on our driving range, I won't on our greens, tees and fairways."

SPENDING LESS

Ledet plans to keep it old school, which means using less expensive products whenever possible, putting up with a few more problem areas away from the main playing surface and cleaning up eyesores when they occur.

Powell believes spending less on chemicals is simply a matter of good business.



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"The majority of superintendents I speak with are always looking for ways to spend less money and be more efficient in their operations," he says. "That alone dictates using pesticides only where needed and only when no other effective alternative exists."



Evers

One way to reduce the amount of pesticides used preventively or curatively is to reduce the amount of area that's highly maintained.

"We just won't be managing the rough areas farther out from the fairway," Ledet says. "You tolerate a few more problems out there than you used to."

Superintendents will use generic pesticides as another way to save money.

"I'm not 100-percent sold on generics, but I'll research the companies," Long says. "I've used generics in the past, and they're a good way to cut costs, but you have to be careful because some may not be worth the savings."

Superintendents at Appliedgolf-managed properties have used generics but that doesn't mean all products used are generic.

"We always ask our superintendents to talk to their peers and compare notes," Wasenda says. "If a good report on a new or generic product is made, it's usually tried."

But some superintendents are hesitant to opt for widespread use of generic pesticides, even in the face of budget restraints.

"I'll consider buying generics but probably won't," Brandenburg says. "I feel a brand loyalty to the companies that did the original research and development."

Powell agrees, citing the larger chemical manufacturers still do a lion's share of the research or research funding.

"It's important our industry supports them, so that advancements that lead to more efficient products continue to come to market," he says.

REALISTIC EXPECTATIONS

The harsh realities of a deep and long-term

economic recession and fears about what that might mean to the golf industry worry managers. Communication and collaboration at all levels of management and staff will be important to a golf course's physical health and fiscal viability during the next several years.

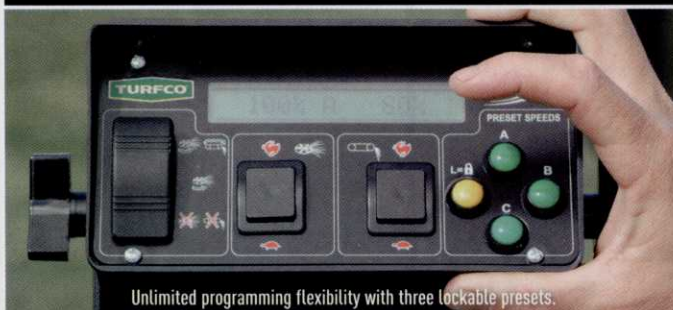
"Almost everyone I talk to has had their budgets reduced," Newsome says. "They all do their best to educate boards and owners about the ramifications of doing so. It is a tough time, no doubt."

But the situation may be a blessing in disguise.

"Expectations (for course conditions) have gone through the roof," Newsome says. "We have 20 handicappers complaining because the bunkers aren't consistent. We're all going to be forced to cut somewhere, which may not be a bad thing. Maybe some of the lofty expectations will come back down a bit. Greens will always be a priority, but some other areas may fall to the wayside a bit."

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Superintendent at Leading Saucon Valley Country Club Course Reports Exceptional Control of Annual Bluegrass Weevil and White Grubs with ALOFT® Insecticide



Saucon Valley Country Club, host of the 1992 and 2000 Senior Opens and 2009 U.S. Women's Open

In an attempt to control the Annual Bluegrass Weevil, Jim Roney, course superintendent at the 850 acre, 60-hole Saucon Valley Country Club in Bethlehem, Penn. has tried multiple products and received lackluster results. Saucon Valley was the site for the 1992 and 2000 U.S. Senior Opens, as well as the host of the 2009 U.S. Women's Open.



Jim Roney

Roney's main concern lately has been the Annual Bluegrass Weevil. A tough bug to control, Roney anticipated that a treatment that controlled the weevil would take care of the other insects as well.

Previous Annual Bluegrass Weevil products results mediocre

Roney reports that he had tried everything on the market in the past to control the weevils with other products, but determined that the results were mediocre at best. **"My goal has been to take advantage of the early application, to prevent the adults from laying eggs,** since the larvae are what cause the most damage," says Roney. "But when I used those products that claimed adult control, I just wasn't seeing that happen."

With the 2009 U.S. Women's Open looming, Roney contacted Dr. Harry Niemczyk, turfgrass entomologist, to determine his options. Dr. Niemczyk engaged Roney in a comprehensive field trial of seven different products at varied rates.



Annual Bluegrass Weevil

Outstanding performance on Annual Bluegrass Weevils achieved with ALOFT

"In my experience, courses either have a really bad problem or a minor weevil problem. But on courses where you have a really bad problem, like at Saucon Valley, you need to find something that provides the best control for the greatest length of time," states Roney. "Keeping this in mind, **I was completely blown away by the control I saw on the ALOFT holes. I'd say we experienced close to 95% control.**"

Season-long white grub control reported

Roney experienced season-long control of white grubs in addition to the Bluegrass Weevil with the full application of ALOFT. "The full application of ALOFT provided season-long control of all white grubs. We actually experienced some white grub damage in areas where we used other products, but **zero damage in the ALOFT plots,**" according to Roney. "I was so impressed with the results that **I've decided to put all my eggs in one basket, and will be using ALOFT on the entire 60 holes.**"



White Grub

Extensive university field trials verify similar results

Dr. Doug Houseworth, technical service manager at Arysta LifeScience, has worked with university researchers in extensive field trials over the last two years, confirming the results Jim Roney found – that ALOFT, applied preventively, offers season-long systemic and contact control of multiple insect pests. Houseworth reported, "The more experience we have with ALOFT on early season insects, surface-feeding insect pests, and all white grubs, the more evidence we see that the unique activity of ALOFT increasingly delivers exceptional insect control throughout the season."

More information

To watch a video interview with Jim Roney about his successful experience with ALOFT at Saucon Valley Country Club, view the latest ALOFT field trial data, and learn where to buy ALOFT, please go to www.arystalifescience.us/alofttestimony.

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Operators at Appliedgolf-managed facilities like Knob Hill Golf Club in Manalpan, N.J., are hesitant to tinker with pesticide programs, even in tough times.

sics: good greens, good playing surfaces and customer service,” Brandenburg says, adding that mantra will go a long way toward smoothing any irritation or concern golfers feel when encountering less-than-perfect course conditions.

Yet Wasenda cautions course owners and managers not to cut too deeply into maintenance budgets. He acknowledges the reality of difficult economic times and that many businesses are anticipating declining revenues, which means adjustments in expenses.

“Adjust the improvements budget before the operating budget,” he says. “Nothing

is worse to a superintendent than making improvements with not enough money to maintain the standards of the core playing surfaces.

“My best advice for owners and managers is to be realistic with your superintendent from the start, or as soon as you know things need to change. If there’s a financial crunch, manage the entire number of the budget and not the details like pesticide purchases.” **GCI**

John Torsiello is a freelance writer based in Torrington, Conn.



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BY ADAM VAN DYKE, M.S., PAUL G. JOHNSON, PH.D. AND PAUL R. GROSSL, PH.D.

Honing in on humic substances

Researchers in the Intermountain West find that humic substances may provide other benefits, but they may not improve turf quality or reduce water or P fertilizer on putting greens.

Creeping bentgrass (*Agrostis stolonifera* L.) is the predominant cool-season grass grown and managed on putting greens in the Intermountain West region of the United States. While adapted to golf course conditions, both the climate and calcareous soils of the region can impose difficult growing conditions for this and other turfgrass species. The large transpiration gradient created by warm temperatures and low humidity during the summer can create stressful conditions for bentgrass growth. Plus, sand root zones have low water-holding capacity that requires frequent irrigation. The calcareous sand commonly used in the Intermountain West has a relatively high pH (~ 7.5-8.5), making phosphorus and some micronutrients less available to the turf. In addition to these challenges, many golf course superintendents are expected to reduce water use, especially during droughts, and minimize fertilizer use while still maintaining high-quality turf. Thus, they're always seeking ways to be more efficient with their management practices while improving turf health.

To meet these demands, one management practice that's often implemented is the use of natural organic products, such as those containing humic substances. However, many questions exist regarding their effectiveness and what exactly these products can do for putting green turf (8).

Humic substances are a component of soil humus, which can be divided into fractions of fulvic acid, humic acid and humin, depending on their solubility as a function of

pH (literature cited 13). Humic substances have been studied and used on a variety of agricultural crops for years, but only in the last 20 years have they been studied on turfgrass systems. Of the humic substances that have been studied, humic acid is the most common, but results with creeping bentgrass have been highly variable (4).

Humic substances increased photosynthesis in creeping bentgrass (9, 17) and root mass (9) and length (4) in controlled studies. However, similar responses have not been observed in the field (7).

The lack of responses on turf when using humic substances in the field may be attributed to the difficulty in isolating the effects of nutrients and other ingredients often included in humic substance products, and the confounding effects of the

variability and uncontrolled nature of field conditions.

Regardless of the inconsistencies that have been reported, products containing humic substances are common in the turf industry, with claimed benefits including the ability to increase soil moisture and nutrient availability.

While the positive growth effects of humic substances on creeping bentgrass have been well documented, scientific literature on improved moisture retention in putting greens has not. Our study tested organic acids, including a pure humic acid, and commercial humic substance products on established putting greens to test their effects on 1) water retention, and 2) uptake of nutrients by creeping bentgrass in sand.

Table 1. Effect of organic acid and humic substance products on volumetric water content of soil and chlorophyll content (color) of creeping bentgrass at golf course locations in 2006.

Treatment	Volumetric Water Content ^y	Chlorophyll Content ^z
	(%)	(color index)
Control	17.6 a ^x	226 ab
Citric acid	17.4 ab	230 a
H-85	17.1 ab	226 ab
Focus	17.0 ab	226 ab
Fulvic acid	16.9 ab	226 ab
Tannic acid	16.8 ab	227 ab
Launch	16.8 ab	223 b
Humic acid	16.0 b	228 a

x Means within same column with same letter are not different significantly P=0.05.

y Volumetric water content measured with a TDR probe.

z Chlorophyll content measured with a CM-1000 chlorophyll meter.

PUTTING GREEN EXPERIMENTS

Two experiments were conducted with humic substances. One involved three golf courses in Utah, and the other took place at a research putting green at Utah State University. Organic acids, including a pure humic acid, and commercial humic substance products were applied to established creeping bentgrass putting greens. Evaluations were done during the summer growing season (June, July and August) of 2006 and 2007 at the research putting green at Utah State University and in 2006 at the three golf courses in Utah.

The research sites for this experiment were the Utah State University Greenville Research Farm in North Logan, Birch Creek Golf Course in Smithfield, The Country Club in Salt Lake City and Talons Cove Golf Course in Saratoga Springs. At the golf courses, plots were laid out on practice putting greens. The root zones consisted of primarily calcareous sands. None of the putting greens were built to USGA recommendations, with the research putting green being the closest of all the sites. At the research putting green, the sand mix contained higher percentages of fine (14 percent) and very fine (9 percent) sand particles. The Talons Cove putting green was built to California-style specifications. The Country Club and Birch Creek greens were native soil push-up greens with sand top-dressing applied. In all locations, the putting green turf was predominantly creeping bentgrass (*Agrostis palustris* L.) with varying percentages of annual bluegrass (*Poa annua* L.). Cultural practices at all of the locations were considered typical for the Intermountain West region of the United States, but were different at each. At the three golf courses, the putting greens were used extensively by golfers, but no traffic was applied on the research putting green at Utah State University.

EXPERIMENT DESIGN AND DETAILS

Individual organic treatment plots measured 5 feet by 5 feet with three replications. At the research putting green only, each block of organic treatments was centered in a 35 feet by 35 feet irrigation block where different irrigation levels were applied. Irrigation treatments consisted of 80 percent,



SUMMARY

Humic substances are often used as an amendment in putting greens to improve turf health, but little is known about their effects on soil moisture retention. Commercial humic substance products and pure organic acids were applied to three golf course putting greens in Utah in 2006 and the Utah State University research putting green in 2006 and 2007. These treatments were evaluated for effects on soil volumetric water content, phosphorus (P) uptake and chlorophyll content of creeping bentgrass. Three irrigation levels, 80 percent, 70 percent and 60 percent of reference evapotranspiration (ET_0) were imposed on the turf at the research putting green.

RESULTS INDICATE:

- Humic substances did not increase moisture retention in putting green soils as pure humic acid significantly decreased soil volumetric water content compared to the control. Both humic acid- and fulvic acid-treated plots had lower soil moisture content readings than the control at a depth of 10 to 15 centimeters during the growing season.
- Uptake of P by creeping bentgrass was significantly decreased with the application of humic acid.
- No differences were observed for chlorophyll content of the turf with any humic substance treatment, suggesting turf color is not enhanced when using humic substances.

70 percent and 60 percent of reference evapotranspiration (ET_0) replaced (1). The ET percentages imposed on the turf corresponded to watering approximately every two to three days for 80 percent, every three to four days for 70 percent and every four to five days for 60 percent, depending on the weather conditions. Evapotranspiration replacement percentages were determined by a Weather Reach controller. The irrigation blocks and individual treatment plots were not re-randomized in 2007 at the research putting green to reduce any confounding factors of possible residual effects from these products occurring in the soil over time. The experimental design, except for irrigation levels, was the same at each golf course. Irrigation treatments were not possible at the golf courses, but irrigation was reduced to stress the turf at the superintendents' discretion.

TREATMENTS AND APPLICATION TECHNIQUES

The plots were treated with reagent grade organic acids, four commercial humic substance products and evaluated against a water-only control. These treatments included the organic acids citric acid (4 ounces per 1,000 square feet), tannic acid (3.2 ounces per 1,000 square feet), and leonardite humic acid (2.8 ounces per 1,000

square feet). The commercial products included three humic acid products, H-85 (6 ounces per 1,000 square feet), Focus (7.5 ounces per 1,000 square feet) and Launch (15 ounces per 1,000 square feet), and a fulvic acid (40 ounces per 1,000 square feet). The commercial humic substance products were selected because of humic substance content, particularly humic acid and availability to turf managers in the Intermountain West.

Applications were made at recommended label rates for the commercial products, the rates of application for the fulvic acid and organic acid treatments were normalized to equal carbon rates between these products. Three separate applications were done approximately 30 days apart, according to the label, on June 7, July 5 and Aug. 3, 2006, at Birch Creek golf course, and June 1, July 6 and Aug. 2, 2006, at the Salt Lake Country Club and Talons Cove golf courses. Applications at the research putting green were done on June 5, July 5 and Aug. 4, 2006, and June 1, July 2 and Aug. 1, 2007. All treatments were applied with approximately 605 GPA of water and made using a CO₂ backpack sprayer at 40 psi.

EVALUATION OF TREATMENTS

Moisture content of the root zones was

monitored weekly throughout the summer growing period using a handheld time-domain reflectometry (TDR) probe. The Campbell Scientific TDR 100 device was connected to a Campbell Scientific CR10X datalogger and a power supply that was assembled to be portable in the field. The TDR probe was assembled and calibrated for determining volumetric water content for this application using Win TDR software, and the water content measurement was averaged over the length of the probe. A 6-inch probe was used at the research putting green and Talons Cove golf course, but a 4-inch probe was needed at the Birch Creek and Salt Lake Country Club golf courses because of a shallow sand layer. At the research putting green only, measurements were taken daily for two weeks at the end of July and again in August in both years. This was done to track soil water content more accurately when the different irrigation levels were being applied. Turf color also was measured using a CM1000 chlorophyll meter (Spectrum Technologies) at approximately 3 feet off the ground on the same days soil volumetric water content was measured. The chlorophyll index measured by this meter has been highly correlated with visual color ratings (10). Chlorophyll measurements were taken at three random locations within in each plot and averaged to get the plot mean. Measurements were

taken between 11 a.m. and 1 p.m.

Leaf tissue was collected in 2006 and 2007 to evaluate nutrient uptake effects of the treatments. This was only possible at the research putting green site due to greater control over the management practices. Leaf tissue was collected with a walking greensmower at the end of August and analyzed for elemental content, most notably for phosphorus. Due to cost constraints, only tissue from the pure humic acid-treated plots and the control were collected. Leaf tissue also was collected prior to the experiment in each year to provide a baseline of tissue elemental concentrations.

EFFECTS ON SOIL MOISTURE RETENTION

Overall, no differences in soil volumetric water content were observed for any treatment in either experiment. Even though the organic treatment effect was not significant in the golf course experiment or the research putting green experiment in 2006, when means were compared, water content readings indicated some differences. The soil volumetric water content for the humic acid-treated plots was significantly lower than the control plots at the golf courses (see Table 1 on page 74). At the research putting green in 2006, the soil volumetric water content for plots treated with humic acid and fulvic acid were significantly lower than the Launch-treated plots, and the fulvic

acid-treated plots were significantly lower than the control plots (see Table 2, below). Throughout the experiments, the control plots had one of the highest volumetric water content means, while the humic acid- and fulvic acid-treated plots usually had one of the lowest. We also observed a decrease in soil moisture retention in a greenhouse experiment where humic acid was applied to simulated USGA putting greens, as turf irrigated with humic acid resulted in faster drying of the soil and more frequent irrigations than the control treatment (15). Previous research has shown that humic substances may have the potential to reduce soil moisture by adsorbing to, and enhancing, the water repellency of surface soil layers (16).

EFFECT ON TURF CHLOROPHYLL CONTENT AND NUTRIENT UPTAKE

Little or no differences in the color of the turf as measured by the chlorophyll meter were observed for any treatment in either experiment. Even though the organic treatment effect was not significant in the golf course experiment or research putting green experiment in 2006, mean separation of chlorophyll meter readings indicated some differences. The citric acid- and humic acid-treated plots were significantly higher than the Launch-treated plots at the golf courses (Table 1). At the research putting green, chlorophyll meter readings for the control and tannic acid-treated plots were significantly higher than the H-85-treated plots in 2006 (Table 2).

Phosphorus uptake as measured by leaf tissue concentration was significantly influenced by the treatments in 2006, but not in 2007 (see Table 3 at right). In 2006, tissue levels of P were significantly higher for the control plots, compared to the humic acid-treated plots; this result was contrary to previous research (5). There was no increase in tissue concentration reported in creeping bentgrass when grown in sand (9, 15) or solution (4) when humic acid was foliarly applied, but tissue levels were increased when humic acid was incorporated into sand (4). Turfgrass plants, including creeping bentgrass, are efficient at the uptake of P, and capable of obtaining adequate amounts of P at soil levels above 3 mg P kg⁻¹ (6).

Table 2. Effect of organic acid and humic substance products on volumetric water content of soil and chlorophyll content (color) of creeping bentgrass at the USU research putting green in 2006 and 2007.

Treatment	Volumetric Water Content ^a		Chlorophyll Content ^b	
	2006	2007	2006	2007
	(%)		(color index)	
Launch	12.2 a ^x	11.8 a	173 ab	179 a
Control	12.1 ab	11.8 a	177 a	178 a
Citric acid	11.9 abc	11.6 a	174 ab	175 a
H-85	11.9 abc	11.4 a	172 b	177 a
Focus	11.9 abc	11.5 a	176 ab	178 a
Tannic acid	11.8 abc	11.5 a	172 b	177 a
Humic acid	11.7 bc	11.2 a	174 ab	178 a
Fulvic acid	11.6 c	11.2 a	173 ab	177 a

x Means within same column with same letter are not different significantly P=0.05.

y Volumetric water content measured with a TDR probe.

z Chlorophyll content measured with a CM-1000 chlorophyll meter.

Table 3. Effect of humic acid application on tissue nutrient concentration of creeping bentgrass at the USU research green in 2006 and 2007.

	P		K		Ca		Mg		S		Fe		Cu	Zn	Mn	Na
Treatment	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2007			
	-----%-----										-----mg/kg-----					
Control	0.43 a [†]	0.43 a	1.4 a	1.2 a	0.74 a	0.75 a	0.26 a	0.29 a	0.32 a	0.31 a	234 a	523 a	9.6 a	30 a	31 a	55 a
Humic acid	0.41 b	0.42 a	1.5 a	1.1 a	0.69 a	0.68 a	0.26 a	0.28 a	0.29 b	0.29 a	214 a	421 a	9.5 a	27 a	27 a	51 a

†Means within same column with same letter are not different significantly P=0.05.

Few differences of other nutrient levels in plant tissue were affected by the application of humic acid in our study. Sulfur (S) was significantly lower for the humic acid treatment compared to the control in 2006, but all other nutrient concentrations were not significantly influenced (Table 3). Although not an essential nutrient, sodium (Na) levels present in humic substance products after the sodium hydroxide extraction process can be a concern for turf managers by contributing to poor soil structure and reduced water infiltration. No differences in tissue concentration of Na were observed in our study, and high Na may not be present in all humic substances applied to turf, but other research has found increased levels in some commercial products (12).

The differences in P uptake observed here may have been influenced by the distribution of roots in the soil. Based on results from a controlled greenhouse experiment (15), possible hydrophobic properties of the humic substances present near the soil surface (11, 14), may have contributed to preferential flow, or fingering, in the root zone (3, 2), and facilitated the movement of water into the subsurface. Consequently root growth may have followed water distribution. Fewer roots in the upper rootzone would not have accessed available P when

fertilizers were surface applied.

CONCLUSION

Overall, the humic substances used in our experiments did not have any substantial effect on the water holding capacity in sand putting greens. The humic substances contributed to lower soil moisture retention than the control, as the volumetric water content for humic acid treated plots were approximately 1 percent lower than the control. Perhaps, the adsorption of humic substances to sand particle surfaces in putting greens contributed to increased water repellency, thus lowering the water-holding capacity of the humic acid- and fulvic acid-treated plots. This effect may be important if soil water is frequently allowed to approach the wilting point or if there are cumulative effects over time. Humic acid-treated turf had lower levels of tissue P than the control, and while these differences were statistically significant, in practical application the effects on water-holding capacity and P nutrition may not warrant a change in management practices.

We used the chlorophyll meter in the place of quality ratings in the plots for this study and no differences were observed for any of the humic substances used in our experiments. It was interesting to note that

one significant finding of this study was the potential to irrigate creeping bentgrass at 60 percent ETo during the summer months (June through August) in the Intermountain West with no reduction in turf quality. From the results of our study, it appears that irrigating every four to five days may be a way to reduce water without sacrificing turf quality on Intermountain West putting greens. However, this result was obtained on a putting green that did not receive the level of traffic that would be experienced at a typical golf course. While they may provide other benefits, humic substances may not provide superintendents with benefits of improved turf quality, or reducing water or P fertilizer on putting greens. **GCI**

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Commercial humic substance products were applied to three course greens in Utah in 2006 and the USU research green in 2006 and 2007.

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IMPACT ON THE BUSINESS

Using humic acid to improve microbial activity

SUPERINTENDENT CHRIS TRITABAUGH USES HUMIC ACID IN ADDITION TO OTHER ORGANIC SUBSTANCES.

BY MARISA PALMIERI

Chris Tritabaugh is one golf course superintendent that's taking a partially organic approach to golf course maintenance. Part of his strategy includes humic acid applications.

"Like a lot of the organic stuff, with humic acid, you're not going to spray it, come back the next day and say 'I really see a difference,'" says the superintendent at Northland Country Club in Duluth, Minn. "It's part of an organic program that, over time, is going to bring about a change in our soil structure and microbial population."

The focus on improving microbial activity is the crux of many of Tritabaugh's organic methods.

"The microbes in your soil feed on organic matter," he says. "What they're really after are the humates. We have a lot of organic matter in our fairways, for example, but a lot of it is thatch, which doesn't have a very high concentration of humates. The microbes are not after what's in the thatch without the humates."

Similarly, Tritabaugh uses compost tea, which he brews in a compost brewer with compost from the Western Lake Superior Sanitary District in Duluth, to increase the soil microbiological activity, and in turn improve water-holding capacity and the plant's natural defenses, which may reduce the incidence of disease and amount of fertilizer necessary.

In addition to humic acid and compost tea, Tritabaugh uses other organic substances to improve microbial activity, including hydrolyzed fish, seaweed concentrate, yucca extract, molasses and soy protein.

"I'm new to this whole organic thing, so I'm bringing in bits and pieces from those who have done it before me," he says, noting it's not his goal to go entirely organic, just to reduce inputs and

improve the turf. Tritabaugh consults with other superintendents and reads up on organic practices both inside and outside the golf maintenance realm – including organic farming.

How's it working?

"The results are going to come over time," Tritabaugh says. "But even now, our turf is far and away better than two years ago."

Halfway through the 2007 season, when Tritabaugh joined Northland, is when the facility began using humic acid and other organic substances. Northland was on the program for all of last season, and this year makes the third year.

That first season was dry, and the turf didn't handle it well.

"We even lost some areas where there was weak Poa," he says. "Going into last year, our weather was more favorable, but even when it did start to dry out, we didn't see that drastic effect. The turf was more willing and able to handle it."

"Even now, in the spring as the snow starts to melt, I see turf that looks really good coming out of the winter. I think that's all a part of the program we've been on for the last year and a half."

Though he's aware of a number of commercial products on the market that include humic substances, Tritabaugh prefers to use humic acid, which he purchases for about \$22 per gallon.

"It's cheap and it allows us all sorts of flexibility to change rates whether we're spraying greens, tees or fairways and to add it or take it away depending on what we're going for," he says.

Because of the rates Tritabaugh's using – ½ ounce to 1 ounce per 1,000 square feet – the costs remain low. On greens for example, he's currently using 1 ounce per 1,000 square feet ever two weeks, which equals about a gallon per application.

"At about \$22 every two weeks, that's a manageable cost." GCI

BY DAVID M. KOPEC, PH.D.

Poa annua in review

The first in a two-part series looking at annual bluegrass. This month: its origins, ability to self pollinate and behavior as a perennial.

Next month:
CONTROL METHODS

Poa annua, or annual bluegrass, is the most prevalent winter/spring grassy weed in golf course and sports turf management. It's been around for a long time. If you wrote down every research project title that was ever conducted in turfgrass science and management in the last 100 years, *Poa annua* would most likely win the contest as the most "research prone" topic to date. There are a couple of reasons for this.

On an evolutionary scale, *Poa* is a unique plant genus, with grass plants growing in all kinds of environments from alpine climates to deserts. Some *Poas* are perennials, while others are annuals. *Poa* "chromosomes" often reside in related complexes, that is, they often share certain chromosomes. Therefore, chance groupings of chromosomes may either come together (converge), or split away from each other (diverge), allowing for bridging (chromosome swapping or passing), and or new species of *Poa* to form. *Poa annua* most likely came from a chance cross of *Poa infirma* with *Poa supina*, producing a 14 chromosome mule that could not reproduce by seed. This mule no doubt went through a spontaneous doubling of its chromosomes, to produce our modern day 28 chromosome *Poa annua*. These

plants can be true annuals, perennials or something in between.

SO WHY IS IT PESKY?

Poa annua is a problem because it's found almost anywhere there is moisture in some part of a "cool season" climate. Thus, it's essentially everywhere, listed by the USDA in all 50 states, including Hawaii, where it's found at higher elevations. There's even *Poa annua* in Death Valley, Calif. Areas that receive 20 to 40 inches of rain (or more) a year and have a real fall, winter and spring often have *Poa annua* germination flashes that occur in late summer/early fall and then again in lesser amounts in the late winter/early spring. In arid areas that have a brief rainy season in the fall, annual bluegrass has the largest germination period in the fall.

In any case, *Poa annua* seedlings emerge and have tremendous seedling vigor. After germination and establishment, they build up food reserves, they flower (often) profusely, and then die, leaving an ample amount of seed to survive under harsh soil temperatures until just the right time next year when the next generation germinates. This is the case of the annual type or *Poa annua*, as it's referred to.

To make things worse (better for



Poa annua, pictured here in test plots, is listed by the USDA in all 50 states, including Hawaii, where it's found at higher elevations. Areas that receive 20 to 40 inches or more of rain per year and have a real fall, winter and spring often have *Poa* germination flashes that occur in late summer/early fall, and then again in lesser amounts in the late winter/early spring. Arid areas with a brief rainy season in the fall see their largest *Poa* germinations in the fall.



Poa), *Poa annua* seed heads can adapt to mowing heights readily. Flowering plants often flare-out and send their flower stalks out in a circle pattern, hugging the ground just lower than the mowing height. *Poa annua* will flower at 1/8-inch mowing height on greens, and it will flower profusely at heights of 3/8 inch to 1.5 inches. At taller heights, it flowers somewhat less when it has competition from other turfgrasses in maintained turf.

WAIT, THERE'S MORE

Poa annua plants can exhibit a unique habit of having some of the individual flowers shed pollen before the seed head even opens up. Thus, the seed stalk can have viable seeds produced in heads that have been mowed down before the seed head ever opens up.

There's more to the story. *Poa annua* is self pollinating. It doesn't need another plant to get different pollen to make seed. So, theoretically, you can get one seed from one plant on your course, and it produces dozens, hundreds and thousands of plants in just three years. In year four, hundreds of thousands, and in year five, millions.

The process of self pollination has some real-life genetic consequences, which also make *Poa annua* the problem that it is. When a plant pollinates itself, it locks in gene sequences in a state that promotes genetic uniformity by 50 percent each time it self pollinates for the next generation. Thus, self pollination quickly sets in generational plants that have a relatively urgent selection pressure for survival in any given environment. The results are near immediate. A significant group of plants can be poorly adapted and die out. At the same time, a small group of plants can have the right combination of genetic traits that give it a strong local adaptation (called fitness). These plants quickly dominate the weaker ones and then pre-dominate the population of plants after that.

In each subsequent flowering generation, the desirable genes become "highly fixed," in combinations that are in a quick-acting state in response to the type of environment it has become adapted to. The result is lots of plants in a relatively short period of time that can reproduce and make more like

plants from seed and thrive in that environment, year after year. The downside is that on a long-term evolutionary scale, if a major change in environment occurs, the selection pressure is quick to get rid of the now existing population of fixed plants.

So, if you're counting on global warming to get rid of your *Poa annua*, don't count on it. Why? Because *Poa annua* keeps its options open by occasionally cross pollinating with a neighboring plant. The result of this out-crossing or cross pollination event results in immediate genetic diversity. Different combinations of gene arrangements arise from cross pollinating, and these forms are more environmentally flexible. They can adapt to changes in the environment rather quickly, since these plants have more subtle but important options in their physiological pathways to respond to new and different environments. There are many new gene combinations for this to occur on, so, the long-term survival of the species is maintained, simply by out-crossing.

After these new diverse plants arise after the first cross pollination, these plants can divert back to self pollination, which causes rapid selection pressure for highly adapted plants that are the predominate in each subsequent generation.

POA AS A PERENNIAL

The *Poa annua* we've described is more or less the annual type of annual bluegrass, which comes year after year from seed, and often it seeds, it flowers and dies.

As smart as these plants are from the genetic adaptation strategies we talked about, do you think there's another survival mechanism?

The answer is yes. In the right environment, *Poa annua* can maintain itself as a year-round perennial. This occurs in areas that have seven to 10 months of cool, moist conditions or other continental and/or maritime climates that have adequate rainfall and a short period of stress (hot and/or humid period) for three to four months at most.

In this general case, *Poa annua* can live in a somewhat less stressful environment and switch its thinking from seed production to vegetative persistence for survival. Thus, perennial *Poa annua* diverts most of its food reserves into vegetative growth (more

"These plants are mutts that have flexible survival skills, and look as different as you do from your brothers and sisters. Muts make the toughest dogs, don't they?"



Poa annua has a diverse portfolio of survival schemes and genetic adaptation mechanisms, either creating its own diversity, or becoming many types of breeds.

leaves and shoots), rather than a terminal devotion to heavy flowering. Therefore, perennial *Poa annua* plants form and persist in environments where it can compete with

other grasses that usually undergo the same stresses as its neighboring plants, surviving the plant community's trials and tribulations just like the next guy, year after year.

Since most perennial *Poa annua* types are believed to originate as beneficial plants from cross pollinations, you often see many diverse-looking plants of perennial type in a given area (even on a single golf course green). These plants are mutts that have flexible survival skills, and look as different as you do from your brothers and sisters. Mutts make the toughest dogs, don't they? Their innate diversity keeps them flexible to handle life's challenges. If they need to ramp up the genetic amplification, there's always self pollination, even in "perennial" *Poa annua* plants. Perennials develop on greens and fairways within five years of a new turf establishment.

As you can see, *Poa annua* is an incredible plant. It has a diverse portfolio of survival schemes and genetic adaptation mechanisms, either creating its own diversity, or becoming many types of pure breeds on its own. It makes its own stocks, bonds and treasury bills and never needs a bail-out. GCI

David M. Kopec, Ph.D., is a specialist in the department of plant science at the University of Arizona.

IMPACT ON THE BUSINESS

Making it work

AT POLE CREEK GOLF CLUB IT MAKES SENSE TO MANAGE POA RATHER THAN GET RID OF IT.
BY MARISA PALMIERI

Most golf course superintendents are tasked with eradicating *Poa annua*.

But that's not always economically feasible, and it's not always necessary, either, says golf course superintendent Craig Cahalane at Pole Creek Golf Club in Tabernash, Colo.

The municipal course's greens, once all-bentgrass, are now 90 percent *Poa*. That may seem like a nightmare to some, but, Cahalane says that in the three years he's been at Pole Creek, he's only had several complaints from golfers.

"No one complains as long as you manage it well," he says. "With the Proxy/Primo program we use, we control the seedheads well, so the golfers don't mind."

While the ideal situation would be to shrink or completely eliminate the *Poa* population, it's just too costly for Pole Creek, which is a 27-hole municipal course owned by the Frazier Valley Metropolitan Recreation District.

"At this point, it would probably have to come out of a capital budget, and we're spending capital on equipment, we just built some restrooms and we just redid our irrigation system for \$1.7 million."

In short, the golfers don't mind, so it's not a priority.

As far as getting rid of *Poa* goes, "We aren't going to go there right now," Cahalane says.

He estimates it would cost hundreds of thousands of dollars to eradicate *Poa* from the facility's 27 greens (plus two putting and chipping holes). The last cost estimate Cahalane received was between \$10,000 to \$15,000 per green.

So instead, Cahalane manages the *Poa* with plant growth regulators – five to six applications of Primo at the beginning of the summer (about two or three per month) and three Proxy applications (one per month).

Cahalane spends about \$1,600 on PGRs for the whole year. His maintenance budget is about \$720,000, which Cahalane considers to be low- to mid-range.

In addition to the dollars it would take to eradicate *Poa*, such an undertaking would cause lost revenue for Pole Creek, because the facility would have to close 9 holes at a time.

"We're only open for five months a year, so we'd be losing too much revenue by doing that," Cahalane says. GCI



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TRIPLE PLAY Q&A

Jay Ervine, the director of golf and grounds for The Ritz-Carlton Golf Club, Dove Mountain in Marana, Ariz., recently accomplished the golf course maintenance triple play – the construction, grow-in and preparation for a major golf event: The Accenture Match Play Championship. Not only were his schedules tight, Tiger Woods decided to return to competitive golf during the week of his event. No pressure, right Jay?

Q What was your timetable for completion as you undertook this project?

Construction began on the first non-tournament holes in the fall of 2006 so the builders, equipment and staff were already in place and work was progressing. The Ritz-Carlton's goal was to be open for resort play by Jan. 16, 2009, and present mature course conditions at that time.

Our pre-event issues were grass selections and planting the playing features with sufficient time for the turf to be established and appear mature. Once the primary turf species were selected, our next effort was focused on the perennial ryegrass overseeding of teeing grounds, fairways and roughs, again with the January opening date looming. The seeding rate was 800 pounds to the acre.

The turf establishment went exceptionally well and the golf course presented itself as though it had always been there. From this point we focused on the off-course detail work, which included shoring up our native desert vegetation and perimeter landscaping.

One concern was the monsoon rain season, which affected us with 10 inches of rainfall washing out numerous areas within the golf course, along with the recently established native and desert areas. The rains impacted the golf course's drainage system, too. Dove Mountain installed 6,500 linear feet of tile to reduce wet spots and to move water away from primary playing surfaces.

To aid in drying, firming and smooth-

ing the playing features we began a sand topdressing process for the fairways and teeing grounds. This was completed before overseeding to assist in filling sod seams for smoothness and to eliminate any uneven fairway areas so not to affect the overseed distribution pattern.

For overseeding, our irrigation water pH needed to be between 5.5 and 6.0 to provide better water quality for ryegrass seed germination. We also helped germination with wetting agents applied through our fertigation system.

Q What concerns did the PGA Tour staff have with the golf course?

First, I had a great team of outside personnel assisting me. I give credit to Tom Brown of the PGA Tour's agronomy staff, as well as Jon Scott of Nicklaus Design. One issue was the humidity of the monsoon rains. The moisture caused some puffiness within the perimeter putting surface, resulting in turf scalping from mowing. This required an additional 7,000 square feet of sod replacement for the greens. To smooth this sod we sand topdressed regularly.

A few factors impacted my preparation agenda. My staff was "green." Only 24 of my 65 staff members had ever worked on a golf course. The remainder worked with us less than six months. Proper and concise training was vital to our success.

Putting green density was a concern. We placed a huge emphasis on rapidly establishing putting surface quality to highlight Mr. Nicklaus' design efforts.

The PGA Tour requested a green speed of 10.5. To highlight that request, surface firmness became a concern. Our irrigation team relied on moisture-sensing devices to ensure uniform moisture for the entire green surface, whether on a flat section or a sloped portion. From a fertility standpoint, we backed off on nutrient levels four weeks prior to the first day of the event. Jack wanted the putting surfaces to test the players and make them think their way around his design.

As always, sand bunker preparation was a high priority. The new sand presented an occasional fluffy ball lie. We intensified our surface work to accommodate the sand selected by our agronomic team.

Q Did the match play format create any unusual situations or dilemmas for your preparation efforts?

As you know, in match play there's the potential for an extra hole play-off situation. We were instructed not to begin any maintenance until all matches were concluded. For example if we started mowing fairways or greens and a match came to extra holes, there would be a problem if one player had cut turf to play from and his opponent did not.

The weekend schedule allowed us to recheck and rake bunkers between matches. Our green speed remained constant so there was no need to mow. With the moisture sensors we easily monitored irrigation needs and luckily, our greens held and no watering was necessary.

The growth regulator Primo was applied as indicated to control the clipping yields from fairways. Residual grass clippings lying on the fairways can adhere to the golf ball, possibly causing a Rules infraction.

And with the match play format, the staff must always know the position of each match so maintenance does not interfere with play until the match is completed.

Q What was it like having Tiger Woods come to Dove Mountain?

We had a blast. The whole world was watching our event and golf course. Tiger made the event – and more importantly Dove Mountain – the No. 1 news story of the week.

Despite our lagging economy, Tiger's return was the front page news story above all else. He certainly gave our sport and industry a huge boost. **GCI**



Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 38-year, life member of the GCSAA. He can be reached at terrybuchen@earthlink.net.

Travels With Terry

Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in hand. He will share helpful ideas relating to maintenance equipment from the golf course superintendents he visits – as well as a few ideas of his own – with timely photos and captions that explore the changing world of golf course management.

Two tasks in one pass

At the North Shore Country Club in Glenview, Ill., Dan Dinelli, CGCS, and foreman/mechanic Juan Villareal mounted a backpack sprayer to a Series IV Toro greensmower, so biological control chemicals could be applied immediately after mowing a green.

First, they discarded the gasoline tank from above and behind the engine and attached a used gas tank and bracket to the engine. Dinelli and Villareal acquired two battery-operated sprayers – one holding 1.32 gallons and one holding 4 gallons. They mounted one sprayer onto a plastic battery tray, which features a 1/8-inch-thick plywood floor for reinforcement. They bolted the tray onto the original gas tank bracket. They mounted an on-off toggle switch, positioned for fingertip control, near the mower handles. Next, they positioned the sprayer hose vertically with clamps and a 1-inch metal L bracket bolted to the frame.

The sprayer nozzle applies chemicals behind the mower's large drum roller in exactly the same width.

The plastic battery tray cost \$16; the 12-volt DC toggle switch cost \$9; the Flow Pro sprayer model 417 (1.32 gallon) cost \$70; model 421 (4 gallon) cost \$130. All the hardware was in stock at the club. It took about three hours to install.



Extend the bed

At the Prestwick Golf Club in Woodbury, Minn., equipment manager Chad Braun and Dave Kazmierczak, CGCS, added an extension to the front of a Toro Workman dump body to keep materials from spilling over the sides onto the mechanicals and radiator. Materials used to make the extension were:

- Eight feet of 1 1/2-inch-by-2-inch-by-1/8-inch steel tubing for the stake pocket mounts;
- 12 feet of 1 1/2-inch-by-1/8-inch angle iron for the frame (they used steel from an old dump bed frame);
- 67 inches of 1/8-inch sheet steel cut 11-inches wide; and
- Four 1/4-inch-by-1-inch bolts and locknuts to secure it to the dump box.

Installing the bolts and locknuts to the dump box is optional because it's already secured by the stake pockets.

The materials cost about \$130, and it took three hours to build. **GCI**



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ON A ROLL

Steve Van Natta has been preaching the gospel of rolling greens, and he's making true believers out of his colleagues in southern Minnesota.

BY MIKE ZAWACKI

At the end of the season, in late fall or early winter, superintendents from public and private courses around southern Minnesota get together to discuss the challenges and successes they experienced during the year.

This past fall, Steve Van Natta, CGCS, and his staff presented to their industry colleagues how successful their newly adopted greens rolling program has been, and how the benefits have exceeded all of their expectations.

Their presentation raised some eyebrows and some disbelief.

"The people attending could hardly believe their ears," says Van Natta, superintendent at the private 18-hole Owatonna Country Club in Owatonna, Minn., roughly 65 miles south of Minneapolis. "We're talking about maintaining putting surfaces that are 11, 12-plus with a green that's cut at 0.141. It's absolutely

unheard of because they were cutting at 0.100 or 0.120."

To put Van Natta's operation into perspective, his maintenance budget at Owatonna is \$550,000, and his staff consists of five full-time people and as many as 18 seasonal workers during the summer months. The club hosts between 40 and 45 events over the course of a season and three large tournaments, including The Joseph Shea Invitational, The Owatonna City Open and The Club Championship.

Unlike many of the courses in his market, Van Natta must overcome a unique turf challenge. Owatonna has three distinct types of greens throughout its 18 holes. The original golf course was built in 1919 and features five very old, push-up greens. These are topdressed with a 3.5- to 4-inch layer of sand

Owatonna Country Club adopted a greens rolling program and is now able to maintain putting surfaces that are 11, 12-plus and cut at 0.141.



OWATONNA COUNTRY CLUB



Owatonna has three distinct types of greens throughout its 18 holes, presenting a unique challenge to superintendent Steve Van Natta.



and are a high percentage of *Poa annua* with colonial bentgrass.

Seven are a modified USGA green built around 1972 and feature a higher percentage of bentgrass, like a pennncross with a little coarser bent.

The rest are USGA-spec greens built within the last five years and some Van Natta is currently building. These greens feature Dominant X-treme, which is a finer, more aggressive bentgrass.

"I'd say it's highly unusual," Van Natta says of Owatonna's green makeup. "It may be the norm to have two different types, but to have three, and have them so completely different from each other in all the physical ways – from the drainage aspects to how the grass can be mowed. Having a consistent putting surface of a consistent speed, that has been the problem."

It's a dilemma Van Natta began troubleshooting in the late 1990s. At that time his crew had rolled the greens in the spring and fall using older-style rollers on a triplex greensmower, and hand mowed the greens on a daily basis in the summer to provide consistency.

"That made a significant change because we were able to have the quality of cut from a walk-behind mower," he says. "That seemed to make a difference with the various types of green."

The solution, though, was time consuming and labor intensive. And even though the speeds of the various greens were now very similar, Owatonna members felt they could

tell the difference between the quality of cut and green speed.

"And that was the breaking point," Van Natta says.

FINDING A SOLUTION

Before the start of last season, Van Natta knew he wanted to explore rolling to remedy his problem, especially since he was budgeted to purchase new rollers to replace the old rollers that were mounted on triplexes.

So he appointed Nikk Dickerson, Owatonna's assistant superintendent, to investigate the impact a rolling program would have on maintaining consistent green speeds. Dickerson turned to "The Superintendent's Guide to Controlling Putting Green Speed," which was written by Thom Nikolai, a turfgrass academic specialist at Michigan State University. Nikolai lectures extensively on the benefits of greens rolling.

Dickerson also consulted Nikolai about the overall quality of a roll from the various types of machines on the market. They settled on a pair of Smithco Tournament rollers, which are dedicated electric-powered sidewinder rollers.

Another consideration in choosing rollers was the machine would need to be adaptable to Owatonna's three different styles of green complexes. For example, some greens are more elevated than others, so how a roller is driven and its traction capabilities were important considerations. All three of Smithco's rollers are powered, improving the machine's traction on a green, Van Natta says. Other

roller models feature only one or two powered rollers, he adds, making them less suitable to Owatonna's unique challenges.

"The last thing I wanted to deal with was people getting stuck halfway up a hill," he says. "It's something we didn't need to add to our already busy schedule."

Since no one on staff had extensive experience operating a sidewinder-style roller, Van Natta charged Dickerson with taking the equipment through its paces.

The roller was similar to other types of course equipment, Dickerson says, which helped in adjusting to its feel and function on a green.

"It's pretty basic," he says. "It's a seat, a steering wheel and two directional pedals. It's a very simplistic piece of machinery."

For the first three days, Dickerson went out by himself and rolled only a few select greens – one from each different vintage. He then asked some of the members if they noticed any differences in play on those greens.

"They all seemed to love it," he says.

Dickerson then trained a pair of the seasonal employees based on what he'd learned over the course of those first few days. Those individuals, in turn, were charged with training at least one other employee.

"Essentially, after me, we had about five people who could roll greens after six to seven days," Dickerson says. "We got to the point pretty quickly where they were comfortable rolling greens."

The learning curve with how to use the roller was very small and Dickerson encour-

PRODUCT FOCUS

GREENS ROLLERS

tered very few problems in training.

"We had one guy who fell into a bunker with one," he says. "But that's going to happen when you're getting to know a new piece of equipment."

For members playing the course, rolling made an immediate difference in play. Earlier in the season, Dickerson had queried members about what they felt was the ideal speed of Owatonna's greens. This input served as the target for Van Natta and Dickerson's rolling program.

"We were able to maintain speeds that were in excess of what our target was," he says. "We actually had to back off on stuff because we were creating greens that were like lightening. Some golfers at the club thought they'd died and gone to heaven, but some of the older members wanted to know what we were doing because they felt if you just touched the ball it'd roll halfway across the green."

Owatonna's greens are rolled every other day, unless there's a tournament scheduled. "We have three large tournaments during the year and we rolled two to three days leading up to the tournaments just to get them putting quick and rolling as true as possible," Dickerson says.

Rolling even has allowed Van Natta to skip days of mowing without affecting quality of play.

"You're not stressing the turf and you're giving it another day of top growth, which is going to give you a healthier plant," he says of rolling's benefit to the turf. "And you're still giving the members what they're looking for as far as the smoothest, most consistent putting surface."

In addition to green speeds, another of Van Natta's concerns was keeping the cut as high as possible.

"Normally, people cut as short as they can get with the hopes of getting a faster putting surface," he says. "But in the process of doing that you take away the benefits of a high cut and you have a plant that is much weaker. You're pretty much creating a time bomb."

Van Natta and Dickerson consulted Nikolai's data and learned that rolling could allow them to maintain a higher cut.

In addition to the new rollers, Owatonna purchased a new Jacobsen Eclipse walking greensmower with groomers, which allowed Van Natta's crew to mow Owatonna's greens at 0.141 inch.

"Rolling allowed us to mow at a higher height, and because of the groomers, we're able to keep the grass standing upright," Van Natta says. "This makes each green type not only visibly looking the same, but the quality consistent."

Rolling has provided Owatonna with

greens that are comparable in speed, but are healthy, too. These are important factors when maintaining greens in July and August, Van Natta says.

"I saw the quality of the color and overall look of the greens improve," Van Natta says. "We had an overall better root system, and a more extensive root system means the turf will be harder when it's dry."

PLUGGING IT IN

To date, Van Natta and Dickerson have encountered very few, if any, problems maintaining the rollers.

Because they're electric-powered, the units must be plugged in at the end of the day to ensure they're charged and ready to go come morning.

It takes about three to four hours to charge the roller's battery, and that ensures about five hours of operating time if the unit is set at its slow setting. While the roller comes with two speed settings – fast and slow – the faster setting drains the battery at a considerably faster rate.

"From my experience, the faster speed setting only allows you to go faster across the green and does not have much of an impact on the turf compared to the slow speed," Dickerson says. "If it does, then it's negligible." **GCI**

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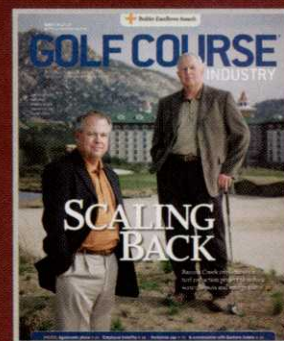
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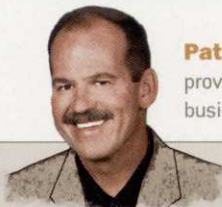
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Pat Jones is president of Flagstick LLC, a consulting firm that provides sales and marketing intelligence to green industry businesses. He can be reached at psjhawk@cox.net or 440-478-4763.

ALL IN THE FAMILY

Golf course maintenance always has been a family affair. I'd be stunned if almost everyone reading this doesn't know at least one second-generation superintendent. You can't swing a dead cat at a chapter meeting without hitting someone who grew up with cadmium or chlorothal-nil flowing through his veins.

Many sons – and even the occasional very special daughter – seem to be compelled to follow in their fathers' footsteps down that well-worn dew path into this crazy business. It's rarer these days, but it's still not unusual to find a guy who's followed a dad who'd followed his dad into the profession. There are even a few fourth-generation guys out there whose great-grandfathers were applying bovine biostimulants with pitchforks and mule-drawn carts when Teddy Roosevelt was yelling "Fore!" on the links.

I doubt medical experts would agree, but part of me honestly believes that there might be a gene for greens. Some sort of double-helix for double-cutting, perhaps. More likely, it's simply a matter of fate – when you grow up riding the course with dad, chasing geese from the time you could walk and mowing your first green at the ripe old age of 10, you're likely to be bitten by the short-grass bug. Just think about Paul Latshaw, Dan Dinelli, Jerry Dearie, Bruce Williams and hundreds of other professional "legacies" and you'll quickly get the picture.

Yet, the various superintendent dynasties around the country aren't the only families that populate our happy little industry.

Take turf distributors, for example. When it comes to the independent companies who sell turf products locally, family firms tend to rule. These often relatively modest businesses are the vital links that supply courses with the chemicals, seed, equipment and the other necessities that keep golf, sports fields and lawn care

growing. More importantly, they also supply ideas, insights, expertise, education, camaraderie, diagnoses, condolences and the occasional lead on a new job.

Few distributors get rich and fewer still grow to become big businesses. It's a labor of love...and they're typically most successful when they adore their customers and their customers return the favor.

I spent a week recently with one such family-driven distributorship. In this case, it was Kip Connelly and his sons Patrick and Kevin who collectively manage Land-

I doubt medical experts would agree, but part of me honestly believes there might be a gene for greens. Some sort of double-helix for double-cutting, perhaps.

scape Supply Inc. in Virginia. Like many distribution firms in our business, it's a multi-generational management structure and Kip is in the process of handing it off to his boys. They also have an extended "family" consisting of a couple of dozen wonderful key employees. Many that I met had been with the company for a decade or more.

But LSI is ultimately a Connelly thing. You, as a customer, always know that you can go right to the top and call a Connelly if there's a problem. I literally was around Kip, Pat and Kevin for five days and I don't think I ever finished a single conversation with one of them. These are guys I've known for years and we'd be chatting away when, suddenly, one of their cell phones would ring in mid sentence and they'd hold up their hand and say, "Sorry Jonesy, it's a customer...hold that thought." Sound familiar? Is there a distributor like

that in your area? Betcha a pallet of fertilizer there is.

And here's why that really, really matters. At a time when there are more places to buy products than ever before and there's more fiscal pressure than any of us can remember, it's too damned easy to forget family in favor of finance. So, let me refresh your memory as to why it's important to remember what these distributors mean to your success.

Remember the time you had a billing problem and the boss fixed it instantly?

Remember when a distributor rep showed up just to help out with an event at your place or drop off some doughnuts for the crew?

Remember that morning your salesperson came out to look at that freaky patch on your 6th green...and finally figured out that some hacker had spilled a Mountain Dew and it was nothing to worry about?

Remember how that company never failed to help out when your chapter needed some cash for the scholarship fund?

Remember that many of those distributors – like LSI – provide great education events that allow you to get your pesticide or GCSAA points without driving halfway across the state?

Remember how your rep gave you a heads up about a new product that actually solved a job-killer agronomic problem?

Do you take those things for granted? Probably not. I'm sure you're always appreciative and you always say thanks.

The question is whether you remember all the things those distributors and their sales reps do for you when it's time to make your buying decisions. Sure, you might be able to save a few bucks with some other dude who lowballs them on price, but what's he done to invest in you, your profession and your business?

Do you support those who support you?

You damn well should. It's only right. Those guys are family. **GCI**

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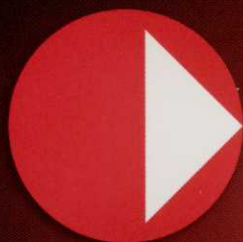
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