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LEARNING FROM OUR NEIGHBORS

You may have heard by now that Ontario banned the sale and use of pesticides for cosmetic purposes. Quebec has a similar law, and Alberta and Nova Scotia are eyeing their own. Ontario’s ban went into effect on April 22, which was, not coincidentally, Earth Day. Golf courses are exempt from the ban, providing they adhere to a slew of new regulations.

I celebrated Earth Day this year by researching this column, including putting in calls to experts in Canada to learn more about Ontario’s ban, how the golf industry views it and what golf course superintendents in the U.S. can do when the pesticide-banning bandwagon starts making its way south.

First, some background. Ontario’s Premier Dalton McGuinty promised in late 2007 during his reelection campaign that he’d replace the patchwork of more than 30 municipal pesticide restrictions with a single law. In June the Ontario Legislature passed the Cosmetic Pesticides Ban Act. By November, the Ministry of the Environment released a draft regulation with 45 days for public comment. Less than six months later the new regulations are law. It’s said to be the fastest a bill ever has been pushed through the system, says Mark Scenna, manager of business operations for Environmental Investigations Ltd., a Burlington, Ontario-based company that performs audits for the Ontario IPM Accreditation Program. Scenna is also the co-author of the Canadian Golf Superintendents Association’s Environmental Management Resource Manual.

The Canadian golf course industry is thankful for its exemption, though it’s not thrilled with all of the provisions, especially one requiring golf courses to conduct annual meetings informing the public about their pesticide use.

As the Ontario Allied Golf Associations said in a memo to the Ministry of the Environment, “The argument that public meetings provide an opportunity for golf course management to inform the public about their pesticide use is disingenuous. As any golfer who has ever sat in a local meeting about pesticide restrictions knows, that’s usually not the case.”

Golf course superintendents are not interested in hearing about the testing pesticide products undergo to become registered (which are even more rigorous in the Canada than in the U.S.), the efficacy of such products or the precision with which superintendents apply them. They don’t care about IPM or that it’s counter intuitive to assert that a superintendent who operates with a tight budget would use unnecessary amounts of very pricey products.

That’s why the golf industry fears anti-pesticide activists will use the mandatory public meetings to resuscitate the emotional side of the issue year after year, or that disgruntled neighbors who are annoyed for any given reason will take the meeting off topic.

The bill was written in the interest of providing transparency about when, where and the amount of pesticides used; most of the industry believes that the other provisions sufficiently achieve transparency.

So how long before New York, Wisconsin, Minnesota or other states head down this road? No one’s sure, but because of the emotional motivation behind the new regulations, Scenna believes such restrictions could be enacted anywhere.

“This is not based on science,” he says. “It’s political. Because of that, I’m sure it could happen anywhere if the right people are in power and are making good on a campaign promise.”

His advice to superintendents in the States? Self regulate and document everything.

The reason the golf industry escaped Ontario’s all-out ban was its solid IPM accreditation program, which had been voluntary. Scenna encourages associations at the state level to put such programs in place. The government likes when industries are proactive, and as was the case in Ontario — rewards them accordingly.

Additionally, even though Scenna knows most superintendents practice IPM to do their jobs well, they don’t chart their course.

“Documentation is lacking,” he says. “Implement a structured documentation routine for your IPM practices — it’s something you can always fall back on.”

Maria Palmieri

Maria Palmieri Senior editor
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Columnist kudos

Congratulations to GCI columnist Monroe Miller on celebrating a monumental retirement! He has been a superintendent for 35 years, but this is my sixth stop as a super. And kudos to him for saving everything! (“Moving out... and on,” page 16, March issue). I’ve saved a lot and given a lot away, but working at Merion and whiling away winter days in our archive room (which I believe is probably one of the best in golf), I realize the value of keeping everything. It’s people like Monroe who allow someone that possibly isn’t even born yet to realize what a great adventure it was to be a greenskeeper in the 1970s! I only hope his retirement is half as good as his working life, then he truly will have an adventurous retirement.

Matt Shaffer
Director of golf operations
Merion Golf Club
Ardmore, Pa.

I just caught Terry Buchen’s column in the March issue of Golf Course Industry magazine (Travels with Terry, page 87). Thanks for the great article.

Jeff Jamnik
Equipment manager
Great Southwest Golf Club
Grand Prairie, Texas

Food for thought’ fails

In your March issue, Jeff Higgins offered the “Agronomist’s view” on the meta-catalyst article (“A new approach,” page 76). We hear familiar objections to microbial products: questions about shelf life, how such microbes are overwhelmed in the “natural” environment, and how “bugs in a jug” serve only as food for the indigenous microbes in the environment.

This viewpoint is hardly new, and represents deeply entrenched opinions that seemingly ignore recent advances in applied biological science. The risk is, of course, that we miss the value of whole categories of discovery and learning, including:

- The positive effects of secondary metabolites – rich content of naturally-occurring biochemicals exuded by diverse communities of microorganisms;
- Groundbreaking science on elicitor and signaling molecules – pathways that may explain how microorganisms induce physiological changes in plants. To quote Dr. Joe Kleofer of Auburn University, “even a single species of microorganism can make a difference...if it is the right one” (a point well proven with many bio-control products);
- Discoveries about “extremophiles” – bacterial species that remain viable for eons under the harshest imaginable conditions.

There is a growing body of knowledge in soil microbial science – an area of which many experts agree we know less than 1 percent of what may ultimately be knowable. We urge the agronomist community to explore, for themselves, the fascinating results of work being done by credible researchers in hundreds of test applications. As the writer/philosopher Eric Hoffer once said, “It is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists.”

David Lanciault
President & CEO
Advanced Microbial Solutions
Pilot Point, Texas

Applauding April

I finally made it through the last few stories in the April issue. It took awhile because I found so many of the stories and columns so interesting and informative that skimming just wasn’t good enough – I had to read practically every word. In particular, the package on private clubs was well researched and told from several perspectives so readers got a well-rounded view of the issue.

It was the kind of in-depth reporting that is too often lacking these days. Congratulations on a great issue.

Bill Bryant
Bryant Marketing Communications
Atlanta

I enjoyed and agreed with Marisa Palmieri’s Teeing Off editorial in the April issue (“Refuting ‘golf=bad,’” page 6). Just because golf is a favorite of Wall Street, doesn’t mean the people on Main Street are
Everyone's done it. Hit the ball a little fat leaving a divot the size of a hubcap. Unfortunately, that's just part of the game. But what you should never have to worry about are unsightly white grubs and other destructive insects. That's why Syngenta makes Meridian® insecticide to work both curatively and preventively. Like you, we want to do all we can to prevent anything from spoiling the beauty and enjoyment of the golf experience. **We take conditions personally.**

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CHAPTER/ASSISTANT RELATIONSHIPS

"Rising tides raise all ships."

I’ve heard industry veterans recite this quote because they truly believe we all benefit from those individuals who are active in improving our industry.

During the three years I’ve contributed to this magazine, many of my columns have focused on association involvement opportunities for assistant superintendents. In giving your time to your association, you’re helping yourself and everyone else.

From personal experience, my 2007-08 tenure serving the GCSAA Assistant Superintendent Committee (ASC) was one of the greatest opportunities of my career. While this group had many goals, its main theme was to emphasize the benefits of membership and promote participation. Recognizing that chapter organizations are vital in increased involvement, we formulated a guide to walk chapters through the process of creating opportunities for assistant superintendents.

This brilliant committee did not have to think long and hard about what to include in the template. Most of the ASC members had prior experience engaging their local constituents from working on their respective chapter boards. It was the ASC’s goal to create a model for what an assistant superintendent advisory position on a chapter board would encompass.

Before getting overexcited about this idea, we needed to determine whether there was a need for it. With the good folks at GCSAA as our resource, we learned about 30 percent of GCSAA chapters had some assistant activity on their boards. We knew the template might help grow this number.

This template, which is available at gcsaa.org/chapters/chpmgmt/WorkingWithBOD.asp, contains eight parts in which our committee tried to answer possible questions that might arise.

It starts by explaining why chapter associations should consider incorporating assistant superintendent activity into their board structures. The job market is not what it was years ago; you’re seeing assistants with longer tenures before they’re able to ascend to the next level. So instead of hoping these future superintendents will want to become active in the chapter association when that time comes, take the time to develop that mindset now. That way, as assistants, the desire is there when they become superintendents.

While taking part in chapter activities benefits assistants in a variety of ways, there are noteworthy benefits for the associations and superintendents:

• Improved recruitment and retention of Class C members;
• A larger pool of volunteers for chapter events;
• Help generating new ideas and thoughts for seminars, events and meetings;
• An increase in meeting and event attendance from the Class C members;
• An increase in longevity of the association due to the development of future leaders;

The concept of assistant activity in GCSAA chapters may be foreign to some groups.

• Help preparing assistants for professional meetings they may attend with their superintendents or alone, such as board meetings and green committee meetings;
• An increase in assistant value to employers by furthering the industry;
• Bringing recognition to the superintendent and golf course of the participating assistant;
• Help with membership and seminar costs; and
• Exposing assistants to opportunities that may provide an extra benefit to their employment.

Golf is steeped in heritage and tradition and I’m proud to have experienced a very small part of it. However, most would agree the positions of superintendent and assistants have evolved over the years, as well. It’s time to embrace that change and include assistants in enhancing our profession.

The concept of assistant activity in GCSAA chapters may be foreign to some groups, but please accept this information with an open mind. To those chapters who’ve adopted this concept, thank you, and please continue to support this idea. To all chapter officers reading this today who have no assistant position at the board level, please know that by engaging your Class C members, you’ll ensure the perpetuity of your hard work and that of those before you. GCI
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DESIGN IN 2009 AND BEYOND

While the current economic difficulties combined with the resulting slowdown in golf course and residential development is troubling to all those in the business, it’s a good time to reflect on the state of the game, past trends, as well as successes and failures. As the economy rebounds, it will be important to formulate a strategy that will ensure the successful future growth in the game of golf and in the development of golf courses, golf course communities and golf resort developments.

Here are a few trends, suggestions and ways to capitalize on demographics that I see as important to keep in mind.

Here come the baby boomers. As the population of baby boomers continues to head towards retirement age, there’s no doubt that the demand for new golf courses, golf lifestyle communities and unique golf destinations will continue to grow, especially in markets that are undersupplied. As the financial markets and lending institutions rebound and confidence is restored, the resurgence in development of golf/lifestyle communities and resorts is inevitable. As these types of developments begin to flourish again, developers must carefully consider what’s important to their customers, in addition to applying what they’ve learned from past successes and failures.

Faster play, shorter courses = more players. Our fast-paced, demanding lifestyles have forced most of us to place a much greater emphasis on effective time management. The aspect of balancing time for business, recreation and family must become a primary consideration for all golf facilities, if golf is going to continue growing successfully into the future. The luxury of spending the entire day at the golf course on the weekend, during business outings or on family holidays is becoming a thing of the past as the demand for balancing time increases. Existing and future golf courses will no doubt have to consider reducing the length of time it takes to play a round of golf.

What does this mean for the design of future golf courses? I believe we’ll begin to see shorter, more compact, efficient and playable golf courses – golf courses that can be played in three to four hours, rather than five hours or more.

The impact of technology. Advances in the technology of golf clubs and balls has no doubt encouraged all golf course designers to design longer, more challenging layouts to defend par against the highly skilled players. As a result, golf courses have continued to increase in length and in the amount of acreage they consume. Not only has this trend added to the length of time it takes to play 18 holes on modern day golf courses, but it also has placed more demands on our natural resources and has added to the cost of building and maintaining them. Ultimately, it’s the golfers who pay for these increases in time and money.

Time to pull together as an industry. Perhaps at no other time in the game of golf’s long history has there been a greater need for all of golf’s stakeholders to come together to formulate a strategy for the future growth of golf. Golf course owners, developers, managers, superintendents, architects, ball and club manufacturers and the governing bodies of golf must work together to formulate a united strategy for attracting new golfers to the game, for retaining existing golfers and for making the game of golf more sustainable.

Golf courses no longer can afford to consume increasingly expansive tracts of land, use more water, maintain more turf or take longer to play. Perhaps the time is right to consider reducing the overall length of golf courses, the distance that golf balls travel, the amount of turf that’s maintained, the amount of water that’s consumed and the length of time it takes to play. Ultimately, it’s the quality of the game and the quality of the experience on the golf course that’s most important. Golf courses do not have to be excessively long to be challenging, interesting or inspiring to play.

Balancing time for business, recreation and family must become a primary consideration for all golf facilities... Golf courses do not have to be excessively long to be challenging, interesting or inspiring to play.
I'm not surprised by much. But I'm surprised by this fungicide.

—Bob McIntosh—
Tourney Believer
SHOW ME THE SAVINGS

The most common question our firm gets regarding irrigation renovations is, "Can you show the facility's true cost savings?" The answer is more detailed than most people expect, but we always start by stating that, in most cases, you can’t turn your irrigation system into a profit center...not directly anyway.

Anyone who claims an irrigation system renovation will show up in black ink on a spreadsheet atop the general manager's desk most likely is misleading you. That being said, a renovation will dramatically and very efficiently improve course conditions expected in today’s competitive market. Great conditions are what bring people back to your course, and an irrigation system is without question one of the most important tools for cultivating quality turf.

An irrigation system is not a panacea. But it is your primary and most effective tool for maintaining a quality playing condition on any course. So, we could argue it’s actually a revenue producer – it maintains members and attracts new players.

This argument is further supported by golf courses that don’t invest in their infrastructure and offer poor playing conditions, which ultimately hurts rounds and encourages golfers to shop out their experience.

Below are some efficiencies-of-scale as they relate to true savings realized from specific irrigation renovations:

• Central control upgrade with ET-based, on-site weather station(s).......................... 5-10%
• Open architecture pump station logic, VFD drives & water treatment .................... 10-15%
• Sprinkler & piping network (heads with 1.1 SC’s & DU’s of 80% or better) with proper spacing............. 15-20%
• Soil & turf GIS profile mapping with moisture sensors ............. 10-15%
  TOTAL................................ 40-60%*

*Depending on region, these efficiencies could represent from tens of thousands to hundreds of thousands of dollars in savings.

TDR & SOIL GIS MAPPING

The map above shows soil-moisture distribution across several fairways on an upper-Midwest course in mid-summer. Soil-moisture data were collected by TDR (time domain reflectometry) using an on-site mobile sampling system. Data analysis and mapping were done using GIS software.

The soil-moisture patterns reveal three important characteristics related to irrigation and water management. First is the significant variability in moisture across the six fairways shown, caused by soil and topography differences. Finer textured soils and flat or depressed areas collect and hold more soil moisture, while slopes, high points and coarser soils hold less moisture and are drier. The patterns indicate three distinct irrigation-management zones from wet to dry across the sample fairways.

The main irrigation objective is to achieve as uniform a distribution of soil moisture as possible. To this end, each of the three zones requires varying amounts of water. The maps allow specific heads in each zone to be controlled to match site conditions and create more soil-moisture uniformity. This zoned method of irrigation has shown that improved conditions and turf quality can be achieved using less water.

The second soil-moisture-data application is evaluating irrigation system performance. The map reveals a distinct relationship between specific sprinkler heads and wet and dry areas in the fairways. The map also identifies possible issues with individual head performance. Addressing these specific problems is essential for improving overall distribution uniformity and, ultimately, playing conditions.

The third useful site characteristic revealed in the map is the precise definition of areas that could benefit from subsurface drainage.

I can say definitively that facilities we’ve recently renovated have realized substantial net increases in newly generated rounds and memberships compared to the cost of improved irrigation performance.

I should note that irrigation upgrades are interrelated by nature, so to improve one component without the other will not maximize efficiency or course playability; irrigation system improvements are based on applying specific sprinkler and site data at a high level of accuracy. If one does not take advantage of system features and applications, savings will not be realized.

In the end, it’s a win-win for the facility and the golfing community – the club or golf course boosts revenues, and the community enjoys true cost savings and dramatically improved playing conditions.
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SUPERINTENDENT TURNED SALESMAN

It only took a few minutes into my first public appearance in my new part-time job for me to recognize that I’m now a salesman.

The Toro distributor in Wisconsin has a bang-up equipment show and turf conference, and the Wisconsin Turfgrass Association was given space for a tabletop display. It was a perfect introduction to my new world as the executive director of the WTA. Since I was involved with the formation of the organization many years ago, I’m pretty well versed on what the duties should be.

I really prefer the title of ambassador, but when I tell people that I get kind of an odd reaction – sort of a “What’s he talking about?” look.

What I really am, regardless of any title, is a salesman. And I’m really proud to officially work for the group that was so helpful to me during my long career as a golf course superintendent.

The turf sales profession changed a lot over the 40 years I spent observing and interacting with it ... Salespeople have become more professional. In many ways, their progress has matched that of golf course superintendents.

The turf sales profession changed a lot over the 40 years I spent observing and interacting with it. Salespeople have become more professional, more educated and more organized. In ways, their progress has matched that of golf course superintendents.

Companies selling to golf courses always have recognized that it doesn’t matter how great an item is if it doesn’t move off the shelf.

What they have increasingly recognized is that success is more likely if the sales staff is educated in turf and extremely well versed in their products.

Nearly all of the salespeople I dealt with later in my career were university-trained in turf and had work experience on a golf course. Several had graduate degrees from our best land grant universities, enhancing their competence and credibility with customers like me. A career in sales has become an option for undergrads as they map out their paths in the golf course business.

Changes in attitudes toward salesmen have been so great that many like myself looked forward to visits from them.

A good salesman is like a university extension agent in many ways – an excellent source of information from around the state or region he serves.

They are usually keen observers of the golf course scene and can share information about what’s working and what isn’t, what problems are surfacing around the state, and generally what kind of season superintendents are having. Their extensive travel and their connections put them in a position to keep us well informed. And yet, despite the opportunity, they never share someone else’s business when inappropriate; they know gossip isn’t appealing.

Sales professionals have assumed an important role in our professional organizations. The Wisconsin Turfgrass Association would suffer greatly without salespeople on our board, in our officer roster and on our committees. The leadership and legwork they give to our field days and conferences are essential, and their input makes these events significantly better.

As I consider the new circumstances I find myself in, facing new and somewhat unfamiliar responsibilities, I think about the qualities of the best salespeople who called on me – honesty, courtesy, enthusiasm, sincerity, knowledge, competitiveness and a good product.

In a way, I have the best product anybody could have to sell – turfgrass research at our land grant university. That notwithstanding, the economy we find ourselves in these days may put more emphasis on stewardship responsibilities and relationship building, but aren’t these the things that good manufacturer or distributor representatives do also? Often, considerable effort is spent by sales staff to lay the groundwork for an actual sale that may come somewhere down the road.

I suspect that the most difficult thing for me to learn will be dealing with disappointment. It’s inevitable that I’ll catch someone at the wrong time or that I’ll meet somebody who will be less than polite. I’ll have to learn how to handle a certain amount of rejection and have to be patient when I am turned down. These are things that really good salespeople handle with aplomb, and they’re some of the things about them I admire the most.

Role models for me abound – Hilliard, Abler, Neary, Werth and Wentz, to name a few from my most recent experience. They are all great salesmen, and they have set a high bar for me to clear.

Springtime often comes to Wisconsin in fits and starts, and superintendents (and golf players!) are all waiting for opening day. Me? I can hardly wait to make my first membership sale. GCI
One less thing you’ll have to worry about.
BUILDING A STRONG ASSOCIATION

Over the last few years in my involvement with the launch of the International Golf Course Equipment Managers Association, I’ve gained a lot of experience regarding association work. When founding the IGCEMA I sought the advice of peers, manufacturers and other associations to set up a strong foundation that could be built upon. Much of what I learned about leadership and brand building I gained from my current employer. Let’s face it, no one is going to join an association they’ve never heard of, so it must be advertised and promoted. Associations need to be built strong to weather the tough times. The economy is not helping, as is people’s unwillingness and/or ability to donate their time. So how do you combat these issues?

Almost everyone reading this column belongs to some sort of association, whether they’re superintendents, technicians or the editors looking over this article.

I’ve learned some people want to be involved in organizations, but most of them would rather be a member without responsibility or commitment. This is fine, but what’s going to make them attend a meeting or pay their dues next year?

Associations have to be creative in their offerings to the membership to keep their interest, and they have to be willing to change from the norm while remaining focused on the core objectives.

If you want your members to be active within the association, you have to keep them engaged and the only way to do that is to provide something appealing to them. It’s easy to go out and find a speaker, but find someone no one has heard before so it’s not the same presentation everyone heard last year. Look for topics that are relevant to today’s tasks. Look for ways to “wow” members and you’ll keep them coming back.

It’s great to have all the insurance programs, shirts and bumper stickers, but many members just want to be kept up to date on the industry, whether it’s with the Web site, newsletter or just simple e-mails.

Good leaders with vision and the diligence to see projects through make an association succeed.

They want to know what’s happening with their association, other associations, manufacturers, suppliers and members; they want industry news (and gossip maybe), and they want forums where they can air opinions, exchange ideas and chat about problems. Communication is the key; if someone sends you an e-mail regarding an idea or a question, make it a standard practice to reply right away.

It’s challenging to keep an association going much less continue to add programs. However, managing those programs and not letting the programs manage you is how to stay ahead.

Create focus groups and committees to help remove some of the workload, be trusting and delegate where you can; you’ll find there are individuals out there who are leaders and want to take on projects, but you have to be willing to give them the chance.

Where else will you find other association leaders if there are no opportunities for newcomers to serve or gain experience?

If you’re having a tough time getting people involved, then you need to explain the benefits to the industry as well as the personal benefits of stepping up and getting involved. Post the success stories of where leaders were before they got involved and where they are now.

Many associations struggle from either the lack of or too much leadership. If you make the decision to lead an association you’re making the commitment not only for yourself, but also for those hundreds or thousands of members who are depending on you for their professional growth.

There are many personalities involved in association work and adapting to each one will make you more successful in leading your team and membership. Many people who get involved in the administration of associations are leaders themselves, so it’s important that you work together as a team.

Good leaders with vision and the diligence to see projects through make an association succeed. Remember, members are looking for a place to network with their industry peers and stay educated on issues. Don’t lose focus of these objectives.

The brand you build with your association — the dependability, vision, financial responsibility and dedication that you provide to your membership — will improve the marketability of your association and encourage companies to advertise, members to join and your board members to remain open to future direction.

No one said it’s easy to step up as a leader of an association and put your head above the parapet, but the satisfaction you get from your service reaches way beyond the time you spend in office. GCI
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A glimpse of how golfers' behavior affects the business of facility maintenance and management.

GOLF JET SETTERS

The National Golf Foundation released its "Golf Travel in the U.S." report earlier this year. It focused on travel between 1989 and 2007.

One of the key findings is that golf travel recovered somewhat as of 2007 following a post-9/11 slump, but NGF acknowledges further research is necessary to assess the impact of the current recession on golf travel.

The report is based on an NGF survey of 1,993 golfers. The survey was conducted by Synovate, a market research company. Respondents were randomly chosen from the company's online panel of more than 2 million Americans. Data was statistically weighted on key U.S. Census variables, such as age and income, to be nationally representative of all U.S. golfers.

Other findings include:
- In 2007, 44 percent of adult golfers, or 11.4 million people, played golf while traveling on business or vacation.
- One in 10 golfers played golf while on a business trip in 2007, while four in 10 played golf on vacation.
- Golfers played 67.8 million rounds of golf while traveling for business or pleasure in 2007, which represents approximately 14 percent of total rounds played that year.
- The incidence of golf travel increases with age and income.
- Two-thirds of travel rounds are played by golfers age 50 and older.

Other findings include:
- The more avid golfer in terms of play frequency, the more likely they are to be a golf traveler, and the more rounds they play while traveling.
- One-third of frequent golf travelers (those playing five or more rounds a year while traveling) are private club members.

Next month: More from this study, including media habits of golf travelers.

Source: National Golf Foundation

Golf travelers as a percent of adult golfers

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Golf travelers as a percent of adult golfers</td>
<td>35%</td>
<td>46.6%</td>
<td>48.6%</td>
<td>44.6%</td>
<td>42%</td>
<td>43.6%</td>
</tr>
<tr>
<td>Estimated number of golf travelers (millions)</td>
<td>7.6</td>
<td>10.1</td>
<td>11.2</td>
<td>11.8</td>
<td>10.9</td>
<td>11.4</td>
</tr>
<tr>
<td>% Male</td>
<td>82.6%</td>
<td>79.4%</td>
<td>77.1%</td>
<td>77.4%</td>
<td>77.3%</td>
<td>80.7%</td>
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<tr>
<td>% Female</td>
<td>17.4%</td>
<td>20.6%</td>
<td>22.9%</td>
<td>22.6%</td>
<td>22.7%</td>
<td>19.3%</td>
</tr>
<tr>
<td>Number of non-traveling golfers (millions)</td>
<td>14.2</td>
<td>11.5</td>
<td>11.9</td>
<td>14.6</td>
<td>15.1</td>
<td>14.7</td>
</tr>
<tr>
<td>Total golfer population (18 and over) (millions)</td>
<td>21.8</td>
<td>21.6</td>
<td>23.1</td>
<td>26.4</td>
<td>26</td>
<td>26.1</td>
</tr>
</tbody>
</table>

Historical summary

Golf traveler profile

<table>
<thead>
<tr>
<th></th>
<th>All U.S. golfers</th>
<th>U.S. golf travelers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average household income</td>
<td>$82,540</td>
<td>$104,000</td>
</tr>
<tr>
<td>Average age</td>
<td>44.7</td>
<td>48.5</td>
</tr>
<tr>
<td>Average # of rounds/year</td>
<td>7.7</td>
<td>25.7</td>
</tr>
</tbody>
</table>

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SPRAYS
2002 Jacobsen sprayer fifth wheel model very clean $3,500
2003 Toro 1250 Sprayer nice unit $10,500
2005 Smithco 1600 sprayer/ Clean unit $6,000
2004 Cushman DS 175 basic sprayer with flood jet and booms $7,000

AERATORS
2005 Jacobsen/Ryan renovaire tow behind w/ hydraulics Like NEW $4,500
2002 Ryan GA 24 unit (2 avail) choice of tines $3,800
2004 Ryan GA 24 greensaire nice $5,000
John Deere 800 aercore with window attachment $4,850

TRIM MOWERS
2001 2/3 Jacobsen 1900 D trim mower from $4,500
John Deere 2653A nice units $3,500
2003 Toro 3100 72 inch trim mower 72 inch cut 1,080 hours $6,000
2002 Toro sidewinder reel mower $5,500

GREENSMOWERS
2008 John Deere 220c with trailer (3)
2005 Jacobsen 522A wgm hardly used $7,000 ea.
2003 Toro 3100 $7,000 ea.
2005 Toro Flex 21 WGM with trans pro 80 trailer $7,000 ea.
2005 Jacobsen GKV4 nice unit $7,000 ea.
2004 Jacobsen GKV4 with verticuts 18 hp gas $7,000 ea.
2004 Jacobsen GKV4 plus 18 hp gas nice (8) $7,000 ea.
2004 Jacobsen G Plek III 18 hp gas nice (2) $7,000 ea.
2003 Jacobsen 522A very nice (10) $7,000 ea.
2006 Jacobsen 52G walking greensmower great condition almost new reel $7,000 ea.
2002 Jacobsen GKV4 gas 2,000 hrs sharpened $7,000 ea.
2003 Jacobsen GKV1 diesels 3 wheel drive mowers with groomers A STEAL $7,000 ea.
Toro 1600 wgm just sharpened nice $7,000 ea.
John Deere 323SB with verticuts $7,000 ea.
Jacobsen Floating head greensmowers (4) REDUCED $7,000 ea.
Fairway Mowers
2004 Toro 6500 fairway mower $8,500
2003 Toro 6500 $8,000
2003 Jacobsen 3800 with canopy sharpened 1,750 hrs $8,500
2005 Jacobsen LF 3800 1,300 hrs very nice condition sharpened $13,500
2005 Toro 5 gang hydraulic lift reel mower nice unit sharpened new bed knives $8,000
2004 Jacobsen LF 1880 2 wheel drive (3) $7,000
John Deere 323SB with verticuts $8,500
2002 Jacobsen 3400 with brand new reels $9,200

ROUGHTY MOWERS
2005 Jacobsen Z mower 62 inch deck 151 hrs $5,500
2003 Jacobsen HR511 1,700 hrs nice $19,900
2006 Toro 72 inch Z mower 587 CHERRY unit 1,180 hours $6,500
2001 Toro S80D 16 ft rotary 4 wheel drive recent engine overhaul $23,500
1999 Jacobsen HR5111 SPECIAL! $6,500
Proflex 120 $4,500

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As one of the undisputed stars in the small, weird world of plant pathology, Dr. Bruce Clarke preaches common sense to superintendents.

For a quiet sort who admittedly spends far too much time pondering the submolecular intricacies of microscopic fungal pathogens, Dr. Bruce Clarke is essentially a rock star among the happy few who study the art and science of greenkeeping.

Like it or not, the reputation of most golf course superintendents comes down to their ability to effectively battle nasty, unpredictable and often job-killing pathogens. The seemingly mystical skill of understanding, anticipating and controlling these evil distant cousins of supermarket mushrooms is where the rubber meets the road at many high-end facilities. And Clarke has made it his life's work to do just that at Rutgers University.

He's a lifelong Jersey guy, born and bred in Englewood. Clarke thanks his dad's frustrated fixation with his less-than-perfect lawn for his eventual career path.

"My father became an amateur agronomist because he always had problems with his lawn – particularly with insects – and his curiosity rubbed off on me. I was always trying to find insects and diseases on the lawn."

After high school, Clarke headed off to nearby Rutgers with a vague idea of studying urban agriculture and ended up getting his bachelor's degree in forest management before deciding that turf was more interesting (he'd caddied some when he was a kid). He went on to earn his master's and doctorate in plant pathology under the legendary Dr. Reed Funk and joined the faculty, splitting his time between diagnostics for both turf and ornamentals.

"It opened my eyes to all types of diseases."

In 1990, he became entirely focused on turf and by 1993 he became director of the Center for Turfgrass Science. He also was named a Ralph Geiger Endowed Chair in Turfgrass Science. That puzzled me, so I asked him about Geiger. Clarke became animated: "He wasn't a turf guy at all! He was an avid golfer and businessman with a real desire to help students who wanted to be superintendents. I'd met him 20 years ago and he took a liking to the program and contributed significant money to turf scholarships. He died in 1991 and donated a million dollars in his will and gave us about two million dollars total over the years. So, we endowed the chair and named our education center after him. Pretty amazing guy... and the rare golfer who really understands..."
Like Geiger, Clarke is also a rare breed: a turf researcher with a pragmatic streak a mile wide and a commitment to still getting his hands dirty and helping superintendents solve everyday problems. We got in touch to find out more about his views on the industry, the state of turf education and what advice he doles out to students and superintendents after decades of helping turfheads in New Jersey and around the world successfully manage diseases.

I always seem to bump into you at conferences, meetings and airports. Describe your typical month (travel, speaking, teaching and research).

It's an exciting job and there is no "typical." In the winter, I do a lot of travel. I probably give 80 talks a year with about half around New Jersey and half national and international. There just aren't that many turf pathologists, so there's a tremendous opportunity to go out and spread the word.
Okay, so maybe it doesn’t work in the middle of the Atlantic Ocean. Or the Gobi Desert. But thanks to our exclusive StressGard™ formulation technology, new Chipco Triton® FLO fungicide can be used just about everywhere else. On roughs, greens, tees, and fairways. In most disease situations, including anthracnose, brown patch, and dollar spot. It even works under stressful summer conditions when other fungicides simply don’t. And since it plays well with others by mixing easily with existing fungicides, it gives you the flexibility to use it in the way that works best for you.

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I actually really enjoy traveling, meeting new people and listening to golf course superintendents and learning about their problems. I also teach in the two-year golf management program and do a lot of my writing in the off-season. In the spring, the research program gears up; plus, I teach undergrad turf pathology/pest science with Dr. Albrecht Koppenhoffer (a Rutgers' turf insect specialist). I do quite a bit of extension and diagnostics work with (Rutgers' turf management instructor) Rich Buckley in our lab. I answer lots of calls and e-mails from superintendents all over the nation. They tend to associate you with the last article they read or the last talk I've given. I probably get 10 queries a month from all over the world. I just had one today from Newfoundland - I think it was take-all patch.

**What research needs to be done to support golf/turf managers?**

The way that the business has evolved over 30 years, what's needed is more study of the influence of management practices on disease and, specifically, how they interact. Too much early work was observational. There was lots of conjecture instead of factorial research studies looking at multiple factors. The most recent example is anthracnose. Prior to our work, there were lots of misconceptions. A lot of what was being reported was observational and anecdotal and not based on real research. There was also a lot of extrapolation from similar diseases which wasn't accurate. I started working with Jim Murphy in 2002 looking at disease from the rest of what you're doing.

**What practices/tools have really changed the face of golf course maintenance during your time?**

That's almost a better question for our agronomist, Jim Murphy, but I have a few ideas. Lightweight mowing - or anything mechanical that reduces stress - and improved aerification are probably near the top of the list. Mainly it's been an overall evolution. Sprayer technology, nozzle types, tank-mixing practices...our whole approach to application is so much better. And, of course, the fungicides we have now are much better materials than we had before. They're safer for the environment, the applicator and the turf itself. There's a much higher margin of safety. Mercury and cadmium worked, but they were pretty tough on the environment. They were sledgehammer treatments. Today, it takes more finesse.

**How have your views on disease changed, if at all, over the years?**

Basically, the more I learn the more I realize I didn't know. My training was really in ornamentals and it took me a few years to get comfortable giving recommendations to superintendents. The diseases are the same, but they express themselves very differently. Dr. C. Reed Funk and (Rutgers' extension specialist) Dr. Jim Murphy really helped. Having a situation where a pathologist like me can work directly with an agronomist like Murphy is just tremendous.

Golf turf is the most specialized crop I've ever worked on - maybe one of the most specialized there is. So, over the years, the main way my view has changed is that I've learned how much isn't known.

Also, I hopefully now know far more practical information on the broad scope of turfgrass management and cultural practices. When it comes to disease, the big picture is really what it's about - the entire mix of management practices. You can't separate the disease from the rest of what you're doing.

**Is funding tough to get these days?**

We've been fortunate to get funding for most of what we wanted to do, like developing best management practices. When I first started, summer patch was the big deal. Then it was grey leaf spot. Now it's been anthracnose. To a large extent, the research agenda is driven by trying to jump on a problem before it gets completely out of hand. Luckily, we get great support from the local superintendents' associations, the university and the government.

**Some think that chemical companies drive research at the university level and may have undue influence on the results that get released. True or false?**

That's really not true at all. In fact, the fungicide evaluation programs that many of us do around the country are critical to the recommendations they eventually make, but they get no input into the process. Besides, those product evaluation programs are really peripheral to our nuts-and-bolts research. Actually, there's no fungicide manufacturer money in our anthracnose study. We're mainly looking at management-related issues and breeding resistant grasses.

The fungicide money really doesn't drive our research. It allows us to evaluate the products and gives us some additional monies to pay graduate students and things like that, which don't have anything to do with the evaluations.

**So there's no "pay-for-play" going on?**

The minute a pathologist is perceived as being

**The minute a pathologist is perceived as being influenced by the chemical companies, he or she has lost their credibility. They've had it. It really behooves them to make it very clear that they're unbiased.**
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influenced by the chemical companies, he or she has lost their credibility. They’ve had it. It really behooves them to make it very clear that they’re unbiased. I certainly keep track of the products that are out there, but I don’t pay attention to price, brand—any of it. All I care about is whether it works and how we can make it work best.

It seemed like there was a little bit of a revolving door for a while with researchers jumping to private industry. What did you think about that?

Private industry was raiding the brain trust of the universities for a decade or so and they got very well-qualified people out of the process. It probably improved their competence. I don’t have a problem with that. Now a university researcher who works on retainer from a company—that would clearly be a conflict of interest.

Some pathologists are known for going after certain active ingredients they don’t like. What’s your take?

Look, I would never say anything that I don’t believe in, but I take great care not to trash a product. I’ve seen others do that and I don’t see the virtue in that. I tell superintendents if it works or not and then I move on.

How do students today compare to those of a decade (or more) ago?

The undergrads and two-year students are every bit as good and just as motivated, but they’re wired differently. They’ve grown up with video games and computers and they’re more visual. You have to be more entertaining to catch their imaginations and keep their interest. You have to reflect that in your teaching style. Straight lectures don’t cut it. It’s a challenge. I’m not setting off fireworks at the podium or anything like that, but you have to grab their attention.

Some schools say their enrollment numbers in undergrad programs are dropping. How are things at Rutgers?

The undergrad group here has always been pretty small and it’s difficult to get in, so it’s not a huge problem for us. Our philosophy always has been to train quality over quantity. We have seen a change over the last decade in that it used to be primarily kids studying for a career in golf. Now that’s only about 30 percent. There’s been growing interest in sports field management, landscaping, sod farming and private industry. It’s definitely changed as the word has gotten out that golf employment is tougher and there are good options elsewhere.

OK, what’s the one piece of agronomic advice you always offer to superintendents?

It probably boils down to reducing stress on the grass. Hey, I’m a realist — there’s going to be stress. But I also believe most of the disease pressure we deal with is stress-related. It sounds cliché, but it’s true. Fungicides are great, but they’re like make-up that covers over a lot of imperfections and pimples on the skin. Big-picture management and overall turf health is where it’s at.

Final thoughts?

I feel really lucky. I love coming too work — my wife thinks I’m nuts to get so excited about grass — but it’s a real thrill to work with great superintendents and a great staff here at Rutgers. The greatest joy is the partnership we have with the turf industry here in New Jersey and around the country. I’m always amazed at the way superintendents really want to help each other and our program. They can’t seem to do enough to help Rutgers — money, volunteer time, feedback — whatever it takes. The least we can do is try our best to help them do a better job.
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FOR LOVE OF THE FIELD
Is social media right for your career?
It's fair to say there won't be a deluge of superintendent jobs opening up any time soon. Considering the dismal state of the U.S. economy and the fact that 2008 was the third year in a row with zero or negative net growth in the number of golf courses in the U.S., few would dispute the job market for golf course superintendents is a tough one.

In tight job markets, experts talk about the importance of personal branding, thought leadership and networking. Now more than ever, getting a job is as much about who you know as what you know.

At the same time, thanks to the Web, now more than ever we have a number of free, easy-to-use tools at our disposal to maintain relationships, demonstrate our expertise and project our best selves to the industry — and the entire world.

Social media platforms like Facebook, LinkedIn and various blogging applications are examples of tools superintendents are using to brand themselves and stay connected online.

You've probably heard of these applications — about 17 percent of you have even joined (see "How social are supers?" on pages 36 & 37). As for the rest of you, there's a good chance you're unsure of exactly how these programs can power your career. Read on for advice from some of your perceptive, well-connected peers.

**BLOGGER, WORDPRESS & OTHER BLOG SITES**

These free or inexpensive Web platforms allow anyone to publish a blog. A blog — short for Web log — is like an online journal, with entries appearing in reverse chronological order.

**Golf industry applications include:**

- Communicating with the golfing public or club members.
- Demonstrating to golfers or peers what you’re working on by posting photos and project descriptions.
- Offering commentary on any niche in which you’d like to be perceived as a subject-matter expert.

**Someone who makes it work**

Sean McCue  
Golf course superintendent  
The Country Club at Castle Pines  
Castle Rock, Colo.  
www.cccpgcm.blogspot.com

McCue founded his blog in early 2008 as a tool to show members what takes place behind the scenes in the maintenance department. "It's given me an opportunity, through pictures and text, to describe what we do every day to create the end product," he says.
Today, superintendents need both quality and value. And that's exactly what Quali-Pro has been delivering since day one. Proven plant protection products featuring the newest formulation technologies at an unprecedented value. **Unsurpassed Quality. Outstanding Value. Get to know Quali-Pro.**

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Tom Leahy, Superintendent
Sleepy Hollow Country Club
Scarborough, New York
HOW SOCIAL ARE SUPERS?

SUPERINTENDENT USE OF SOCIAL MEDIA (FACEBOOK, BLOGS, LINKEDIN, ETC.) FOR PROFESSIONAL PURPOSES?

17% I use at least one of these tools.

59% I don't use any of these tools at all.

24% I may use these tools, but only for personal purposes.

SOCIAL MEDIA USE CROSSED WITH RESPONDENTS' AGES

<table>
<thead>
<tr>
<th>Age</th>
<th>Yes; I use at least one of these tools.</th>
<th>No; I may use these tools, but only for personal purposes.</th>
<th>No; I don’t use any of these tools at all.</th>
<th>Response Totals</th>
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</thead>
<tbody>
<tr>
<td>18-25</td>
<td>5%</td>
<td>8%</td>
<td>1%</td>
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</tr>
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<td>56+</td>
<td>5%</td>
<td>11%</td>
<td>18%</td>
<td>14%</td>
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</tbody>
</table>

WHAT SOCIAL MEDIA TOOLS DO YOU USE?

Asked only of the 17 percent who indicated “I use at least one of these tools.”

77% Facebook

Blogs 32%
LinkedIn 10%
Twitter 12%
MySpace 13%
Other Responses for other indicated “email” 3%

McCue’s blog started as a basic means of member communication, but it’s evolved to much more. It became a valuable tool to sell the need for a new irrigation system by documenting the numerous problems the maintenance staff had with the old system.

“Once there was a document trail that showed the struggles, it really helped bring things to life and help the members understand the reasons we needed a new irrigation system,” he says.

Once McCue sold the need for the new system, the blog chronicled its installation on a near daily basis. It can be difficult for members to understand what they’re getting for their money – especially with an underground investment like an irrigation system. The blog helped them see all of the components and details. It also serves as a historical tool for McCue. If there’s ever a problem, he has the photographic evidence organized in one place.

Those reasons alone justify the blog’s success for McCue, but he’s also pleased with the traffic and – most importantly – the response he receives from members. Though he can’t track exactly which members view the site, he does know it averages 300 to 400 hits per week. The club has 450 members, and McCue markets his blog’s URL to them via the club newsletter.

“The only way I know which members are reading it is when I get specific comments from them, and I often hear ‘I enjoy reading the blog,’ or ‘It’s been helpful,’” he says. “The people who do frequent it appreciate the information.”

Several regular readers spread the news to other members, McCue says.

“A couple of guys in particular are frequent visitors and act as an information conduit to the other guys in their foursomes,” he says. Also, the blog has boosted McCue’s capacity for networking. Via the blog, he’s interacted with industry members from as far away as Scotland and Australia.

From a career standpoint, McCue sees the blog as another resource he has above and beyond a resume. If he were searching for job, he’d have an accessible list of his accomplishments at the ready – something he believes would give him an advantage against other candidates with just a black-and-white resume.

McCue commits about 15 to 30 minutes a day to his blog. His posts are more frequent during the season – six or seven times a week. He scaled back to several per week during the off season. Relevance and timeliness are
imperative, he says, so his initial goal was to post something every day.

"I didn't want to just do something every couple weeks," he says. "I knew when I started that I would have to be committed."

He typically starts the week with three or four topics in mind, but many of his ideas pop up on the job. He often starts a post in the morning before the crew arrives—jotting down ideas or a sentence or two. He'll add some more at lunch and finish it by the end of the day.

Some superintendents might fear the commitment or exposure of blogging, McCue says, but he encourages them to overcome those obstacles to help golfers better comprehend maintenance practices.

"You can talk to people about maintenance every day and they may have some understanding," he says. "But if you can document it in writing and pictures, then it really helps."

LINKEDIN

Unlike Facebook or MySpace, LinkedIn is a social networking site designed specifically for professionals. It's been described as "a resume for the 2.0 world" or "a virtual Rolodex." It's both.

Golf industry applications include:

- Networking with peers, researchers, vendors and other industry members.
- Creating an online presence for your work history and resume, including recommendations from employers, peers or customers.
- Searching for jobs, either through the site's job postings or through people you know in your network.

Hillyard learned about LinkedIn several years ago from his sister, who's a human resources executive. She encouraged him to create a profile, which he did, and since then he's been exploring the social network's benefits.

Among the most important ones for Hillyard, an assistant superintendent who's ready to take the next step in his career, is getting his name out there.

"For a long time all I had were some family and friends who make it work

Scott Hillyard
Assistant superintendent
Lake Shore Country Club
Glencoe, Ill.

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CAREER MANAGEMENT

on there, but slowly but surely there have been more people in the industry pop up," he says.

Hillyard describes LinkedIn as a way to make a "mental note" of who he's met at golf industry functions. After an event, he might type in the names of people he's met and invite them to connect.

LinkedIn is also the way Hillyard found the designer who created his professional Web site, nicholasscotthillyard.com. It's also one way he promotes his site, which he calls the best thing he's ever done for his career. In addition to the basic resume-type information, Hillyard's site features project-management experience (with photos) and his professional philosophy in an attractive, appealing format.

"I think of the site as an extension of my resume," he says. "People absorb information in different ways, and the Web site is just another way to draw attention to it."

"LinkedIn is just another way to get the site out there," Hillyard says. "If people come across my page on LinkedIn and see my site, that's great."

Hillyard estimates he visits LinkedIn several times a week for about 15 minutes at a time. He says he could probably use it to his advantage more than he does, and that will probably get easier and be more worthwhile as more members of the golf industry join the network.

"I mostly see it as another networking tool - a potential 'in' to extend my network as much as possible," he says, noting the ability to see your connections' networks may be useful down the road during a job search or during the interview process.

Though Hillyard hasn't gone there yet, knowing who has a relationship with whom may one day be helpful.

"You never know what people may be able to help you out down the road," he says.

He's right. As everyone says, "It's all about who you know."

FACEBOOK

A social networking site originally designed for college students, Facebook is now open to everyone. Participants use Facebook to keep in touch with friends and share information like photos, links and videos. Though some perceive Facebook to be used only by young people, more than two-thirds of the site's users are outside of college and the fastest-growing demographic is 35 years and older.

Golf industry applications include:

- Staying in contact with people you meet throughout your career.
- Networking with peers, researchers, vendors and other industry members.
- Sharing media - photos, videos, etc.

For Batsisky Facebook is somewhat of a reunion.

"The biggest use for me, from a professional standpoint, is connect-
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"By the time it gets printed, a lot has happened," he says. "The blog keeps the membership updated in a more timely fashion."

Batisky acknowledges that some people consider Facebook to be a social medium only, and they may be concerned about mixing their personal and professional lives. For example, he sometimes banters back-and-forth with his brother - something all of his Facebook friends can see.

"I know people get freaked out - they're worried that photos or things they post can be misconstrued, but I'm not hiding anything from anybody," he says.

For people with these personal vs. professional concerns, one option may be to use LinkedIn only for professional networking.

Another option is to explore Facebook's privacy settings, which allow you to create separate friend lists with different levels of privacy (see "Facebook tutorial," below).

Batisky offers a good rule of thumb: "If you wouldn't let your mother see it, then you probably shouldn't be putting it online." GCI

**FACEBOOK TUTORIAL:**
Separate the personal from the professional

Many people, especially those who were high school- or college-age when they created their Facebook profiles, don't want to give up the social medium they've been using for years, but they'd like to be able to network professionally, too.

Facebook's Friend Lists are the perfect way to restrict specific content from a group of people, such as co-workers, peers, vendors or prospective employers. Here's how to create a Friend List to restrict what a designated group of friends can or cannot see.

1. Select the Friends tab from the top of the page.
2. Click on the "Make a new list" button and name your list. (You also can send messages to Friend Lists and invite them to groups and events.)
3. Add friends to your list.
4. Go to the "Privacy Settings" page and click on "Profile."
6. Click the drop-down menu next to the setting that controls the content you want to restrict and select "Customize."
7. A pop-up box will appear with the section "Except These People." Add the name of a Friend List or individual friends and click "Okay." The people on this Friend list now aren't able to view the restricted content.
8. To check how any person can view your profile, type their name into the tool at the top of the "Privacy Settings>Profile" page that says "See how a friend sees your profile."
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Incredible Shrinking Greens

Careful monitoring and maintenance practices mitigate decreasing green sizes.

By David McPherson

Just like golf, moving putting greens is a game of inches. For good operators, the edges of putting greens and the collar definitions should stay relatively consistent. But for even the most seasoned superintendents, maintaining the size of greens is a challenge.

An inch isn’t much, but over the course of a golf season, an inch here and an inch there add up to an incredible shrinking green. Often, shrinking occurs because of mower operator inexperience or fear of getting too close to the collar. Superintendents are sometimes afraid to scalp the edges, and over the years it just starts inching its way into the middle.

How do superintendents keep their greens from shrinking over time? Most cut back the encroachment in the spring or fall and hold onto the green sizes. With new greens it’s done easily by probing the green’s mix or sometimes using tracer wire.
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The Superintendent's Guide to Controlling Putting Green Speed
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Thomas Nikolai
It is critical for golf course superintendents to know the factors that impact green speed. This book covers every aspect of green speed maintenance including playability, environmental considerations, mowing and pest management. It also provides practical decision-making advice relative to financial and budgeting issues.

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Every aspect of golf course management is covered. Learn how to improve your planning abilities, build leadership and communication skills, maximize employee performance, select and train new employees, and conduct employee performance evaluations. Using the principle and principles in this book will help you effectively manage any golf facility.
For Sam Samuelson, CGCS at Haggin Oaks in Sacramento, Calif. (where Ben Hogan won his first professional check in the 1938 Sacramento Open), maintaining the size of his greens is a process that starts each spring.

"I go out with a spray gun and re-paint the edges white where I remember them to be and then have the mowers cut out to these lines," he says. "The edges of the greens look scalped for a couple of weeks, but heal in eventually and all is fine. If I were going to be more exact I would measure the edges from irrigation heads and record the measurements, then re-line from those measurements every spring."

Dave Schlagetter, CGCS at Indian Hill Club in Winnetka, Ill., also uses a spray gun, but he developed a unique way to keep the edges of his greens from shrinking.

"I took a standard turf paint gun, drilled a hole in the bottom, and then inserted a 36-inch dowel rod in the hole," he says. "Then, I walk the collar edge with the end of the rod at the bluegrass edge. This puts the paint gun directly over the putting green edge with a 36-inch collar. Every 10 feet or so, I’ll paint a dot to remind the mower operators where their edge should be."

While he has not adopted the practice, Dustin Riley, CGCS at Oconomowoc Golf Club in Oconomowoc, Wis., says some superintendents bury an irrigation wire under new greens to outline the original green. This wire can be connected to a wire tracer to locate and redefine the original green.

Riley prefers to conduct regular checks to maintain the size of his greens.

"I attempt to check green edges and collar widths every month," he says. "I have a 24-inch T-stick I use to measure and position the collar. I locate and place the T-stick across the desired width and location of the collar and paint a dot on either edge of the T-stick. The greensmowers will then connect the inside dots when they mow their cleanup pass along the edge of the green, while collar mowers will connect the outside dots."

It’s much easier to sustain the correct green edges with walking greensmowers than with riding ones, Riley adds.

To keep her "ring" around the collar in check, Nancy Pierce, accredited golf course superintendent at the Links at Crowbush Cove in Prince Edward Island, Canada, says...
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she relies on Mother Nature.

"We cut our collars with a 21-inch machine," she explains. "This is the same machine we cut our greens with, but only at a different height as the collars themselves are about 18 inches wide. Before cutting the green, the person puts the mower on the collar, making sure the reels are not engaged so they are not going to cut the collar, and he makes a pattern with the mower on the dew that's on the collar.

"Once they've gone around the entire green, they engage the mower's reels and then immediately do the cleanup pass around the green following the pattern in the dew. They can then cut the remainder of the green."

This method works well for Pierce because, as she says, "On PEI, there is almost always dew."

Schlagetter drilled a hole in the bottom of a standard turf paint gun and secured a 36-inch dowel rod in the hole to create his guide for marking greens' edges.

For superintendents with limited budgets and no pressure to immediately restore greens, they slowly reduce the height of cut in the areas of the green that have shrunked over time until the turf returns back to green height in a healthy condition.

"If it's a matter of the green just being six inches from its original edge, superintendents may try to slowly work it out by mowing and scalping a quarter of an inch a week for the first eight weeks of the season, cutting what has become the collar/fringe of the green back down to green height," says Rick Phelps, golf course architect with Phelps-Atkinson Golf Course Design based in Colorado. "The problem with this practice, and why many superintendents don't like to do that, is it looks pretty ugly at first."

"In a way, that's how it happened in the first place," he adds. "You get young kids operating greensmowers and they are trained
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from day one not to scalp ... by the time you get to the edge of the green, you better be lifting your wheels off the ground because if you don't you'll scalp that collar down to the height of the green and it'll turn yellow and look ugly. So, what they do is be careful and cheat in an eighth of an inch. You can imagine if this eighth of an inch is done every day for the entire growing season, the green could shrink eight inches to a foot by the end of the season. That multiplied by 20, 40, 60 years of growth ... absolutely greens are going to change shape and size.”

RESTORING GREENS
While all these maintenance practices help prevent greens from shrinking, the reality is even the most skilled superintendents watch their greens get smaller over time, and they often want a faster way to recapture their lost greens.

Enter an architect. Working with the superintendent, an architect can help restore greens to their former widths. The first thing is to pinpoint when the original greens were built; this determines the best way to recapture them, Phelps says.

There are three main eras of golf course construction: pre-USGA greens (generally anytime before 1970), 1970 to 1990 (major era of USGA greens known for their sand-base) and post-1990 construction. "If you look at a course built in 1928, the only definitive indicator an architect has to find the old green is to study the contours," Phelps says. “You examine what the grade looks like on and around the green as well as the designer's strategy to try to figure out if there were any hole locations back in a particular corner at some point in time. You can also look at old photographs and drawings if there are any. You’re like an investigator, trying to figure out what the intent of the original designer was.”

On USGA greens, Phelps says you can probe to see where the sand base stops and topsoil starts; doing so will give you a good indication of where the original green ended. From the 1990s on, many architects began using a plastic membrane under the greens.

"The intent wasn't to have an indicator where the green was, it was to keep moisture in, but effectively it gives a marker of where the original edge of the green was, so you can dig down and find that old plastic barrier,” Phelps says.

CONTEMPLATING SOLUTIONS
Depending on how far the green has crept in and how it was constructed, it may be possible to enlarge it by scalping the grass back out and overseeding it, Phelps says.

"For pre-1970 greens, you can often use top-dressing and overseeding to expand the green back out because the soil under the collar is the
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same as under the green," he says. "But when dealing with USGA greens, you have to be careful as you don’t want to mix soil types, which would cause superintendents nightmares."

Georgetown, Ky.-based architect Kevin Hargrave says the more expensive option, rather than these piecemeal solutions, is to recore the whole green after surveying the surface, and then bring back the sub grade to USGA specifications.

“What a lot of clubs elect to do is to push the green out, core those pad areas where it’s evident the green has inched in and then create a modified soil profile mix that best as possible matches the characteristics of the existing green.

This process was the solution members chose at Southern Hills Country Club in Tulsa, Okla.

“When we dug into those greens they had clay tile, so we pulled that all out, re-did the sub grade, surveyed the sub grade and then brought it back up from there,” Hargrave says. “When I first started doing these jobs it was messy; the contractors would disturb more. Now, they can go out in a day, do all the work and have it cleaned up by the next morning. You can get a green expansion done in two to three days and a lot of members don’t even know they were out there.”

Whether your greens have shrunk an inch or a foot, there are many ways to restore them to their original size. It all depends on when the greens were built and your budget.

“We’ve had a lot of superintendents, even at high-end clubs, who have pushed their greens back out and then a year later they are already starting to encroach back into the center of the green,” Hargrave says. “It’s something there is no way to totally cure; it’s going to happen, the superintendent just needs to be leery of it over the year, check and monitor those areas, and re-pin now and then to get them back to where they are.” 6CI

David McPherson is a freelance writer based in Toronto.
Outsourcing some maintenance tasks may be the way to go.

BY MARISA PALMIERI

As a function of good management, golf course superintendents should examine every task performed on the golf course and ask themselves a series of questions, says Ted Horton, CGCS, senior consulting superintendent for ValleyCrest Golf Course Maintenance and owner of Ted Horton Consulting.

These questions should include, but aren’t limited to:

- Can the task be accomplished at less of an expense if outsourced?
- Can the task be performed better by someone with more knowledge or better equipment if outsourced?
- Can the task be performed faster or at a more appropriate time with less golfer interference if outsourced?

These questions aren’t always easy to answer. Some answers amount to educated guesses or gut feelings; others rely on trial and error.

"Often, outsourcing will provide a positive solution to one or more of the questions," Horton says. "However, and this is the clincher, savings can only be truly affected if the superintendent is willing or able to reconcile his labor pool, for example, reducing the equivalent man-hours that he or she is outsourcing and/or reducing the equivalent equipment inventory."

There are a variety of critical functions that can be outsourced, Horton says, including routine activities like fertilizer applications or core aerification or specialty services like pond maintenance or wildlife control. Some facilities opt to outsource their entire maintenance operation.

In any case, a successful outsourcing setup can be a solid business decision – resulting in reduced equipment costs, reduced labor costs and less interference to golf, which can improve customer satisfaction and revenue. Superintendents weigh in on how they make these decisions.

EVALUATING EQUIPMENT MAINTENANCE

Three years into a five-year contract for out-
sourcing equipment maintenance needs, Ron Dahlin, CGCS, at The Meadows Golf Club at Grand Valley State University in Allendale, Mich., hasn’t looked back at the days when he had an in-house technician. “It’s been a very good arrangement for us,” says Dahlin, who estimates he’s reduced his costs by one-third thanks to dropping a full-time salary and benefits package. “It really was a good business decision. I kept waiting for the shoe to drop, and it just hasn’t.”

Three years ago Dahlin, whose maintenance budget is just under $500,000, struck a deal with his local John Deere distributor, Wein-gartz, an outdoor power equipment dealership with four locations in southern Michigan. While brainstorming ways to outsource equipment management, something he had heard was common on the West Coast, Dahlin was approached by an independent technician who offered his services one day a week. “We walk-mow all greens and tees, and there’s so much equipment that goes out of here every day,” Dahlin says. “I knew we needed someone more than once a week.”

So he approached Ron Weingartz, his local John Deere distributor. “He was very open to the idea because it would allow him to balance out the technicians’ work in his shop,” Dahlin says. “He did a lot of legwork, I did a lot of legwork and we came to a very good agreement.”

Under the agreement, at least one technician (sometimes more, depending on workload) comes to the golf course every Tuesday and Friday. The techs are well versed on the preventive maintenance that needs to take place regularly, and Dahlin briefs them via e-mail about any “surprises” or special instructions the night before they come in.

All John Deere equipment is included in the price of the agreement; the technicians repair non-“green” equipment at a reduced shop rate that’s outside of the deal. Dahlin estimates his equipment inventory is about 70 percent Deere.

The agreement has created another cost reduction that Dahlin didn’t initially account for – his total repair budget has dropped from about $25,000 to $8,000. Some of that may be due to equipment changes, Dahlin says, but he believes most of it can be attributed to the knowledge and experience of the factory-trained technicians.

Additionally, Dahlin doesn’t have to stock spare John Deere parts. Weingartz does that for him. He does, on occasion, have to place orders for non-Deere parts himself.

The agreement also has prevented the golf course from having to purchase some shop equipment – like a reel grinder and bedknife grinder. The deal includes mid- and end-of-season grinding, which takes place at Weingartz.

If there’s anything that can’t be repaired at the golf course, the techs will take the equipment back to their shop and supply Dahlin with a replacement in the meantime. There’s only been one instance when Dahlin has had an “emergency” and a tech has had to come out to the course on an unscheduled day.

Setting up an agreement like this is something Dahlin believes any course should consider. In fact, he’s had about eight phone calls from his peers over the last six months inquiring about how to do so.

Ron Dahlin, CGCS, manages The Meadows Golf Club at Grand Valley State University (pictured). Rather than keep a full-time technician on staff, he contracts with his local John Deere distributor to manage his equipment.
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"They’re trying to find ways to save a bit of money, like me," says Dahlin, acknowledging that facilities with more than 18 holes might have to consider more extensive arrangements, such as having the technician on site more than twice a week. "But I really think this is something any course could do."

OPENING UP AERIFICATION

Tom Tuttle, CGCS, has contracted out aerification activities for as long as he’s been at Trenton Country Club in West Trenton, N.J., or about 12 years. These include Dryject, drill-and-fill and core aerification.

The decision to outsource Dryject and drill-and-fill aerification is due to lack of proper equipment, something most superintendents run into because the cost of the machinery (tens of thousands of dollars) is prohibitive for a maintenance activity the golf course conducts usually once per year.

For drill-and-fill aerification, Tuttle says the contractor, AerCore, based in Pottstown, Pa., typically arrives with three machines and aerifies 19 greens in one day. He estimates the cost is $1,500 to $2,000.

For Dryject aerification, which Tuttle hires the manufacturer’s franchise to do, he estimates he spends about $3,000.

Paul Galligan, director of golf courses and ground maintenance at the Grand Traverse Resort in Acme, Mich., also outsources a specialty aerification function, deep-tine aerification.

For about the last seven years he’s contracted out this service to a sports field management company. Like Tuttle, Galligan can’t do this service in-house because the machine itself costs about $50,000 and he only needs it done once a year. He declined to share the cost, but says the contractor charges him a square foot price. Though he manages 54 holes, he only does deep-tine aerification on greens at two of the golf courses.

“If I had the equipment and manpower, I’d probably do the greens and tees on all three golf courses plus a couple of fairway spots,” he says.

For Tuttle, the decision to outsource core aerification is based on timing.

“It just allows us to concentrate on other parts of maintaining the golf course,” he says.

Trenton Country Club core aerifies everything twice a year, and usually outsources the activity once a year – in the late summer – to a company called, ProAer, located in Hopewell, N.J.

At that time of year, there are other routine maintenance activities Tuttle wants his staff to focus on. He estimates he spends $6,000 to $7,000 on core aerification.

Tuttle, whose maintenance budget is just over $1 million, says his agronomic goals and budget drive whether or not he contracts out these services each year.

For example, with the Dryject and drill-and-fill services, the original purpose for using these services was to modify the soil structure and incorporate more porous material into the soil because the course’s greens don’t have subsurface drainage.

“Over time, as those conditions have improved, our need for that type of work has decreased,” he says.

In addition, this year’s budget cutbacks have affected his decisions.

“Outsourcing aerification is one of those things that’s nice, but in a pinch we can probably live without it for a year or two,” he says. “With the Dryject, we may cut back to every two or three years. With the drill-and-fill, budget issues have disallowed us to do it this year.”

Overall, though, Tuttle is confident those services will come back when the economy rebounds.

“We had to cut back on some things and we’re going to be required to do more in-house, but the club and the membership see the value and don’t want us to move away from those permanently.”

Chris Lecour, superintendent at Raven Golf Club at Lora Bay (pictured) considered working with an outside company to prevent algae build up in the course’s three ponds.
BEING PROACTIVE

Chris Lecour, superintendent at Raven Golf Club at Lora Bay in Thornbury, Ontario, says he tries to keep most of the regular maintenance in-house, but he considers outsourcing from time to time. When he's weighing what to outsource, he considers expertise, costs and time.

For example, he contracts out the irrigation pump house shut-down and start-up to the pump distributor every fall and spring. "After watching them and taking good notes, I'm sure we could handle 90 percent of the checklist," Lecour says. "But they only charge us $200 twice a year. On a $500,000 system, I have no problem paying them that."

Lecour also recently shopped around for pond management services, but he decided not to contract that out at this time. The work he inquired about doesn't need to be done right away; Lora Bay has only been open for four years, and its three ponds don't have a lot of algae yet.

"We just wanted to get a plan in place to head off any problems, so we asked a gentleman in our area to come in and help us eliminate any costly expenses down the road," says Lecour, who has a maintenance budget between $800,000 and $850,000 (Canadian), which he trimmed 10 percent from last year.

The pond maintenance company Lecour shopped suggested several options for Lora Bay, which is part of the Audubon Cooperative Sanctuary program. They included aeration systems, floating island products and an incubation tank that flushes bacteria into the pond, designed to help with anaerobic conditions. The installation would have cost about $6,200 (USD) and about $800 a month for maintenance services.

In the end, Lecour opted not to outsource pond maintenance yet.

"We aren't going to do anything differently than what we've done it the past," he says. "Having someone come in and evaluate was more of a proactive step. We're going to look at other inexpensive, environmentally friendly options, like installing windmills by the pond, which is something farmers have been doing for years. We'll build that into the capital budget."

When it comes to outsourcing, so much goes into a superintendent's decision, Lecour says. Sometimes, like with an upcoming project to rebuild tee boxes, going with the experts vs. doing it in-house is the way to go, he says.

Galligan agrees that construction and renovation projects are often good candidates for contracted work. For him, evaluating whether to outsource this type of work is all about the tolerance you have for a mess.

"A contractor can put all of their efforts and manpower into a project for two days," Galligan says. "It's going to take you a lot longer. So what's your tolerance level - how long can you let it go on?"

Good question. "When it involves large pieces of equipment or we need a quick turnaround, I prefer to outsource," Lecour says. "We have a short season and a short window. Sometimes it's more expensive, but you get more bang for your buck." GCI
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The Middle East is a growth area for golf, and finding qualified maintenance staff members has been a problem, says Mike Knudsen, golf project manager of Muscat Hills Golf and Country Club.

Hands-on learning

Managers at Oman's Muscat Hills hope an in-house turf maintenance academy will help foster a golf course work force in the Middle East.

BY MICHAEL J. HEALY, PH.D.
In September 2008 I travelled to Oman and met with Mike Knudsen, manager of Southern Golf Oman and golf project manager of Muscat Hills Golf and Country Club. Knudsen is developing a turf academy to train young Omanis in turf maintenance. The Muscat Hills Golf Course Maintenance Academy, believed to be the first of its kind in the Middle East, will deliver curriculum in three- to five-week segments to small batches of students. The vision is to have experienced professionals from around the world travel to Muscat Hills to teach them.

The demand for maintenance workers at Middle Eastern golf courses is expected to initially outpace the number of academy graduates.

Q. Give us an overview of your golf maintenance academy concept.
A. The Middle East in general, and Oman specifically, is experiencing a dramatic growth in golf course construction. To date, no facility exists to train the local population in the practices required to properly maintain these facilities. It’s our aim to provide such a facility so that the level of maintenance is commensurate with the standards enjoyed in other parts of the world.

Q. Why do you believe the golf maintenance academy concept’s time has come?
A. It has been brought on by the existence of these new facilities. For the longest time there was only a handful of top-level, professionally built and managed golf courses in this region with a majority of them in the United Arab Emirates. This number is expected to, at the very least, double, with a large portion of that growth expected to come from other countries. Oman itself has at least five to six top-level golf courses in various planning stages.
"We could not even contemplate this operation without Craig's support," Mike Knudsen (right) says of Craig Hanney, Muscat Hills' superintendent. "He has been instrumental not only in helping develop the program, but also in training most of the Omanis we presently have on staff and hope to use as translators, peer tutors or mentors in the program."

Q. What do you believe will be the mix of instructional techniques used?
A. Using Muscat Hills as essentially an 18-hole classroom, it's our intent to provide as much practical experience as possible.

The most sought-after skill for new or under-construction golf courses will be that of an experienced golf course equipment operator. The curriculum is still a work in progress, but we expect the preliminary modules to include:

- An introduction to golf with explanations of basic terminology related to the business of golf course maintenance and instruction on the basics of the game. The ancillary benefit of this is the creation of a local and region-wide golfing population. Students will be encouraged to practice on the driving range and academy hole.
- Equipment operations, including instruction in proper, safe operations of all equipment (mowers, utility vehicles, handheld equipment, cultivation and topdressing equipment, aeration and compaction equipment and manual maintenance activities), as well as daily safety and maintenance checks.
- Irrigation repair, primarily focused on the sprinklers and the myriad issues that can arise with a new installation (most students will work for a new facility or a proposed facility). Items include: leveling of sprinklers and valve boxes in the field, basic operation of a gear-driven sprinkler, component replacement, electric solenoid valves, manual valve operation, electrical connection, PVC and poly pipe connection, swing joints and more.

The intermediate modules will likely include:

- Cultural practices/equipment operation, addressing mowing, topdressing, fertilization and aeration.
- Irrigation hydraulics and components, examining the basic principles of irrigation design as they relate to golf courses, including spacing, configurations, water velocities, types of pipe, thrust blocks and pumping systems.
- Irrigation control packages, including a hands-on opportunity to work directly with a controller.

Q. Won't there be a language barrier problem, particularly between instructors and students?
A. English is quite commonly spoken in the Middle East, especially among the younger population. However, we will be using the existing Omani staff members at Muscat Hills as mentors to provide translation into Arabic if required.

Q. Who pays the academy per-student tuition charge? Do you have an idea of what tuition cost will be?
A. At this point, we're planning to significantly subsidize Omanis who are graduating from high school and are interested in a career in the golf industry. The estimate for the cost of each module will be in the $500 to $700 range. For students of other facilities and countries it's anticipated that the costs will be borne by their respective employers and/or countries. Their tuition will likely be $1,000 to $1,200 per module.

Based on initial feedback, we're expecting anywhere from 12 to 15 students for our first intake with the preliminary module being the only one offered in the first season.

Q. Do you believe this training concept would work in the U.K. or the U.S.?
A. The possibility of this sort of training can work in any market that's new to the golf course industry. Every country is struggling to find a way to find employment for its population. China and India are just some of the growth areas for golf that might be able to utilize this sort of training. I have spoken to a lot of Western golf superintendents who are active in these areas and they bemoan the lack of local golf maintenance talent.

Q. About prospective students, what qualifications must they have and how will they be recruited?
A. Because this is a new field of study we hope that most, if not all, students will have graduated from high school at a minimum. Judging by our experience in building Muscat Hills we are assuming that most, if not all, of the new facilities will be faced with the same lack of trained individuals as we did. Our feedback from developers and others in the industry in the Middle East has been positive and we do not expect that recruiting will be a problem.
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We'll also prefer basic English, but that said, it's incumbent upon us to find a way to train all students who wish to advance their futures.

How about prospective instructors – do you expect to have trouble recruiting them? We have definitely not had any difficulty in recruiting instructors. In fact, selecting from a list of interested candidates has been our issue. It seems that the possibility of visiting a new country, imparting their knowledge for a few weeks and getting paid to do so is a popular concept. We've had contact with golf course superintendents and industry professionals from Australia, the southern United States, Europe and the Far East. As of yet we have not concluded any arrangements with anyone, but finding expertise does not appear to be a problem. It will be a matter of who we disappoint.

Q. When do you hope to have the academy up and running?
A. We are hoping for our first intake of students to be in September 2009 and we're working towards that date. We have met with some leading industry suppliers regarding partnership and/or sponsorship of various components of the curriculum.

Q. How will you manage job placement?
A. We expect that a large portion of our students will be from new or underconstruction facilities and therefore will be returning to their respective sponsors or employers.

We hope to use this network of facilities in the region to place the other students who are new to the workplace. We anticipate their training will be an asset to any development looking for qualified individuals. In fact, we see the demand for our graduates outstripping the supply and therefore job placement will not be an issue.

Q. Any final thoughts on your golf maintenance academy concept?
A. Golf course construction, anywhere in the world, represents a huge investment of capital, time and effort. In many cases, we have no control over the standards to which the finished product is maintained. Muscat Hills is the first golf course of many in Oman and always will be one of the more high-profile courses not only in Oman, but in all of the Middle East.

We have a unique opportunity, and obligation, to get it right and set the standard for maintenance regardless of who builds the golf course. Many follow up maintenance operations in new golf markets are very well intentioned, but they lack the human resources to adhere to the standards you would find in other parts of the world. We see the maintenance academy as a positive step in addressing this issue. Our hope is that one day every golf course in this region can say it has a "graduate" of Muscat Hills on their staff.

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Lohmann Golf Designs and senior designer Todd Quitno have been working with Westmoor's superintendent Jerry Kershasky since the 1990s, when the club decided to restore William Langford's work.

LONG TIME COMING

Westmoor Country Club's renovation – including green, tee and bunker upgrades – preserves the spirit of William Langford.
BY HAL PHILLIPS

When Westmoor Country Club reopens late this month, the innovations implemented by Lohmann Golf Designs, contractor TDI International and Westmoor superintendent Jerry Kershasky may well change the way upper Midwestern golf courses are renovated and maintained.

At Westmoor, which is located in Brookfield, Wis., Lohmann Golf Designs directed significant green, tee and bunker upgrades. The bunkers are dramatic, sporting the deep, flat-bottomed, steep-faced style reminiscent of William Langford, who worked at Westmoor during the late 1950s.

Marengo, Ill.-based Lohmann Golf Designs also re-grassed all 18 putting surfaces with something relatively new to a climate this far north - A1 bentgrass, a premium turf that's extreme density helps it resist Poa annua encroachment. The greens' drainage was enhanced before the fumigation and seeding process.

Only four greens were rebuilt from scratch. Soil profiles were prepared on the new putting surfaces to replicate the other 14 greens, allowing consistent maintenance practices coursewide. Lohmann's redesign also included removing about 500 trees, which increased the course's slope rating.

"This was an extraordinary project on so many levels," says Bob Lohmann, founder and principal of Lohmann Golf Designs. "There were so many interesting technical factors involved below the playing surface, in terms of agronomy and construction, it's easy to gloss over the work we did above ground, where we transformed an OK golf course into a spectacular golf course."

LGD was lucky to be reminded of what's important by the members, Lohmann says.

"We've had members who opposed the renovation acknowledge the project's success," he says. "It has been a long winter of anticipation for them - waiting to play the new Westmoor."

IN THE MAKING

A new and thoroughly improved course at Westmoor has been a long time coming. The members laid out the course in 1926, and several architects have left their marks on the course since. In 1957, William Langford completely redesigned five holes along the new interstate at the time, and they're the best holes, says Kershasky, who added that shortly after Langford finished, the club softened the bold features.

Langford is one of golf's great practitioners from the golden age of course design, widely known in the Midwest for his work at places such as Lawsonia Links in Green Hill, Wis.; the Wakonda Club in Des Moines, Iowa; Skokie Golf Course in Chicago and neighboring Ridgemoor Country Club, where Lohmann Golf Designs authored a comprehensive, sympathetic renovation in 2003.

Lohmann and senior designer Todd Quitno have been working at Westmoor with Kershasky since the early 1990s, when the club resolved to restore Langford's work and carry it throughout the course. LGD managed to restore the bunkering on several of the original Langford holes, but its plans for the remaining holes stalled for various reasons.

At A Glance:
Westmoor Country Club

| Location: Brookfield, Wis. |
| Web site: westmoor.org |
| Type of project: Renovation (greens, tees and bunkers) |
| Golf course superintendent: Jerry Kershasky |
| Architect: Lohmann Golf Designs |
| Builder: TDI International |
| Course closed: Aug. 1, 2008 |
| Course reopening: Late May 2009 |
| Turfgrass on greens: A1 bentgrass |
| Course length: 6,800 yards |
| Greens: SR1119 bentgrass |
| Tees and fairways: SR1119 and Providence bentgrass |
| Immediate rough: a blend of bluegrass, ryegrass and fescue |
| Far rough: a straight mix of fescue |
Fast forward to 2007 and the decision to regrass. *Poa annua* infestations made Westmoor's putting surfaces inconsistent, difficult to maintain in the summer and susceptible to winter kill. The decision to go with A1 -- based on success stories from clubs in nearby Chicago and recommendations by the USGA Green Section -- convinced the club to finish the remaining green, tee, bunker and tree work.

Because of the climate in the Midwest, the fumigation and regrassing process requires an August 1 course closing. With that sort of scheduling mandate, Lohmann and the club resolved to equip the greens with enhanced drainage capability before August 1 and renovate the remaining holes before the snow fell -- in a fashion consistent with Langford's steep-'n-deep bunkering and strategic angles at greenside and along fairways.

"Renovating around existing greens is an exciting challenge," Quitno says. "Of course, it would've been easier to blow up every hole and start from scratch, but that's not what the members were looking for. They like their golf course. So we worked hard to preserve Westmoor's character and still evoke the Langford spirit on those holes that were lacking."

As part of the project, Lohmann rebuilt a couple of putting surfaces that lost pin locations because of extreme slopes.

"Westmoor's greens have always run fast, and some were downright unfair," Quitno says. "The new greens will still be fast, but the A1 will make them consistent, and the Langford style we used will make them dramatic, but fair."

Quitno singled out the pond and putting-surface scheme planned for the 10th and 14th holes as examples of this balance. The project team recontoured the surface of the 10th green and raised the 14th putting surface about 3 feet and connected it with the 10th, creating a double green with a deep, Biarritz-like swale in between.

The team also expanded the ponds in front of each green and decorated the greenside banks with boulder walls, similar to those found elsewhere on the course.

"It's a dramatic change and an interesting look," Quitno says.

LGD's master plan lengthened the course from 6,846 to more than 7,050 yards from the tips. It also includes a combination of practical objectives and creative flourishes. It will restore, for example, much of the 1st hole yardage Westmoor lost when it built a new clubhouse in the 1990s. LGD also created a series of attractive chipping areas that surround the greens and occasionally sweep up to form tees on the following holes, adding a subtle flare to the routing's transition areas.

DOWN THE DRAIN

The drainage plan is creative, too. Last spring, Stuart, Fla.-based XGD Drainage -- a subsidiary of contractor TDI International -- removed 2-inch strips of sod on each green before digging 15-inch drainage trenches spaced every 6 feet in a modified herringbone design. XGD then laid down 2-inch drain tile and refilled the trenches with a 7:2:1 mix of sand, soil and peat -- an attempt to match the greens' existing push-up soil profile. The sod then was relaid and members played the greens until Aug. 1.

When the course closed, the existing putting surfaces were killed via fumigation. Samples of the soil profiles underlying these greens were sent to a testing lab to determine their characteristics.

"This was an extremely important phase, because when this course reopens, we want all 18 greens -- the four we rebuilt and the 14 that weren't rebuilt but were regrassed -- to be cared for in a reasonably identical manner," Quitno says.
The lab recommended a 7:2:1 construction mix of topsoil, sand and peat, the same mix used for the XGD drainage backfill. It’s a dirty mix, not a USGA mix, but it matched the existing profile closely, and that’s what LGD used on the four new greens.

“We had to go this extra mile because it made no sense to put the same grass on 18 greens that didn’t have the same soil profiles,” Quitno says. “Of course, we could have rebuilt all 18 greens, but that was a considerable expense. Maybe the most important new information the Westmoor project will demonstrate is that clubs in this climate, and of this age, have viable alternatives to rebuilding their greens.”

**AMONG THE TREES**

The tree situation at Westmoor typified the complicated anxieties attached to removal. Most acknowledge courses this old were built on land that was treeless originally or sparsely forested. And most agree tree encroachment hinders play and steals sunlight/soil nutrients from turf. But removing those trees after 80 years remains touchy, politically. At Westmoor, all those anxieties were joined by another: Members thought removing so many trees would make their slope rating decline — the secret fear of club members everywhere.

However, John Warren of the Wisconsin State Golf Association walked the course this past fall, and his findings surprised and delighted the Westmoor faithful. Warren explained WSGA raters look at 10 different obstacles when rating a golf course — trees are just one of them. In his opinion, and based on a few measurements, he says the rating and slope at Westmoor will stay the same at minimum and likely increase.

“Part of this is because we’ve added considerable distance to the course, especially from the back tees,” Lohmann says. “But also because we have added considerable challenge in the landing areas and around greens with the new bunkering, and we have removed trees that, by majority, didn’t affect the immediate strategy of the golf course previously.”

Still, the course is surrounded by more than 2,000 mature trees, and the ones LCD removed weren’t key trees.

“The WSGA feels the course has actually been toughened for most players,” Lohmann says. “I guess time will tell.”

Hal Phillips is a freelance writer based in New Gloucester, Maine.

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GAINING CONTROL

In the second of a two-part series on Poa annua, David M. Kopec, Ph.D., presents several control strategies.

In last month's article, we saw that Poa annua, also known as annual bluegrass, can be a cosmopolitan weed in almost all turfgrass situations. In warmer climates, the vast majority of the annual bluegrass is the true winter annual (Poa annua var. annua) that germinates in the fall, grows throughout the winter season, flowers profusely in the spring during March and April and then dies as the summer temperatures rise. The seed will remain in the soil all summer long and will germinate again early during the next fall. The annual form of Poa annua produces stemmy seed heads that often grow in a circular pattern around the leaves, especially when the turf is mowed regularly. We also saw that Poa annua produces plants that are perennial in nature. These tend to “end up” on cool season bentgrass greens in warm climate regions, as well as on turfs of all different types (tees, fairways and roughs) in colder climates.

In southern climates where bermudagrass is the mainstay, the bermudagrass greens will squeeze out most of the Poa, both annual and perennial forms. The hot weather stress is not conducive for Poa growth.

Weed control programs in turfgrasses generally are targeted against the annual form of Poa, (prevention and/or seed head control or growth suppression). For the perennial forms, the mainstay programs center on growth regulation and seed head suppression.

Situations for considering different Poa control strategies are:
- Type of Poa present;
- Background host turf competitive effects; and
- Herbicide tolerance of the host turf.

POA ANNUA IN BERMUDAGRASS TURF
This situation includes the often mandated 

Research to control Poa includes evaluating products for control at germination, ability to seed into treated areas, elimination of emerged plants, plant growth regulation to favor the host species and seed head control.

### TABLE 1: PREEMERGENCE CONTROL OF POA ANNUA FROM SEED WHEN BERMUDAGRASS WILL NOT BE OVERSEEDED:

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturer</th>
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</thead>
<tbody>
<tr>
<td>Benfurin (Balanto*)</td>
<td></td>
</tr>
<tr>
<td>Bensulide (Betasan*)</td>
<td></td>
</tr>
<tr>
<td>Dithiopyr (Dimension*)</td>
<td></td>
</tr>
<tr>
<td>Oryzalin (Surflan*)</td>
<td></td>
</tr>
<tr>
<td>Pendimethalin (Pendulum*, Pre-M*)</td>
<td></td>
</tr>
<tr>
<td>Prodiamine (Barricade*)</td>
<td></td>
</tr>
<tr>
<td>Trifluralin (Treflan*)</td>
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</tbody>
</table>

*The (* *) indicates proprietary product names.
Poa is capable of growing at all mowing heights and soil conditions. Note the light-colored Poa in the surrounds, the collar and on the clean-up pass around the green.

**TABLE 2: PRODUCTS FOR PREEMERGENCE CONTROL OF POA ANNUA IN OVERSEeded BERMUDAGrass**

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><em><em>Fenarimol (Rubigan</em>)</em>*</td>
<td>Rubigan is a fungicide that has activity against Poa, but not on ryegrass, and has only slight activity against Poa trivialis. Rubigan should be applied in a two- or three-application program for a total of 12 ounces of product per 1,000 square feet in the fall season. If only ryegrass is used for the overseed turf, use two applications of 6 ounces of product per 1,000 square feet. Rubigan can be applied up to two weeks before overseeding. If Poa trivialis is used for the overseed turf, use three applications, with the last application being made 30 days before overseeding. For both two- or three-application programs, the treatment intervals are 14 days apart. Because Rubigan is an expensive molecule to make, it's usually used on high-profile turfs, such as greens and tees. It has a very good margin of safety, when applied at label rates and label timings.</td>
</tr>
<tr>
<td><em><em>Prodiamine (Barricade</em>)</em>*</td>
<td>Barricade, when applied six to eight weeks before overseeding, will stop 95 percent of the Poa from germinating and let the ryegrass come through. The ryegrass roots will be stunted for a while. Irrigation is critical and the ryegrass should not be allowed to dry and become stressed. Barricade is labeled for use on golf course turf (not greens), lawns and sod farms. The label states that rates for this special use of Barricade are 12 to 21 ounces of product per acre. Make sure your product application overlaps are right on target or you will double the applied rate and risk slow emergence and stunted turf afterwards.</td>
</tr>
<tr>
<td><em><em>Rimsulfuron (Tranxit</em>)</em>*</td>
<td>Tranxit can be applied five days before seeding (or overseeding) at 2.0 ounces of product per acre. It's labeled for many turf sites including sod farms, seed farms, golf courses, professionally managed college and professional stadium turf and industrial and commercial sites. Remember that Tranxit is also used to kill ryegrass in the spring to help the bermudagrass come back. Now we have a special use of this product for overseeding. When using Tranxit, the Poa annua must be visible at the surface (already germinated). The application of Tranxit will kill the Poa. Five days after Tranxit is applied, you can overseed with ryegrass. Therefore, Tranxit can be used in a &quot;late&quot; overseed situation - after the Poa has germinated, but before overseeding.</td>
</tr>
</tbody>
</table>

**PREEMERGENCE CONTROL OF POA ANNUA**

There are many options available if a winter turfgrass is not overseeded into the bermudagrass. Several preemergence grass herbicides will easily control Poa by preventing seedling emergence (Table 1). As you can see, these are standard preemergence herbicides that control grassy weeds with a cool-season grass in the late summer/early fall. In this case, the germination of the cool-season overseed (ryegrass or perennial ryegrass) is a critical issue. If the bermudagrass is not going to be overseeded, it's much easier to control your Poa in a bermudagrass turf program.

Control Poa at the time of germination and prevent emergence by using a preemergence herbicide, or wait until after most of the Poa infestation is emerged and visible then use a postemergence herbicide.

Control Poa in overseeded winter turfgrasses, perennial ryegrass or roughstalk bluegrass (Poa trivialis) or in non-overseeded dormant bermudagrass by safely using preemergence or postemergence herbicides.

Prevent Poa from maturing and inhibit seed head growth without affecting ryegrass emergence.
at label rates. In this case, it's usually easy. The products in Table 1 are applied in late September. If these herbicides were applied in the previous spring for summer annual grass weed control (crabgrass, etc.), these chemicals will not last long enough in the soil to be effective against Poa in the fall season.

When bermudagrass will be overseeded with a winter turf (ryegrass), the selection of an herbicide is limited and timing of application of a preemergence herbicide is very critical (Table 2, page 85). In this case, ryegrass must be able to emerge safely after overseeding and at the same time try to prevent Poa establishment. Most preemergence herbicides also will prevent the ryegrass from emerging. However, a properly timed and a very early application of a preemergence herbicide is one option. Another option is to use selective chemicals that control the Poa while being safe on the emerging winter turf.

**POSTEMERGENCE CONTROL OF POA ANNUA - WARM SEASON TURF**

Here, the Poa has emerged and exists as either a seedling or as an established plant. The size and age of the weed and the background turfgrass are important considerations when applying postemergence herbicides for a Poa-control program.

When ryegrass is overseeded and established as a winter turfgrass, the safety to ryegrass and the underlying dormant bermudagrass is critical.

For postemergence control of Poa annua in bermudagrass overseeded with ryegrass, ethofumesate (Prograss*) is an option. Prograss is applied to the overseeded turf after the ryegrass has emerged and the bermudagrass is dormant. It's safe on ryegrass, but the bermudagrass must be totally dormant or injury will appear during spring green-up. It works best when the Poa is young and is in the two to four tiller stage. Prograss has both preemergence and postemergence activity on Poa. It's safe on ryegrass, Kentucky

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**IMPACT ON THE BUSINESS**

**Troubled greens**

**WIDGI CREEK IS REPLACING SEVEN OF ITS 18 BENTGRASS PUTTING SURFACES THAT WERE OVERTAKEN BY POA ANNUA. BY ZACK HALL**

Widgi Creek Golf Club has had enough of its annual fight against Poa annua on its greens.

The Bend, Ore., course, which opened 18 years ago with plush bentgrass greens, is like nearly every golf course in the Pacific Northwest that was originally seeded with bentgrass.

Slowly, the greens have been overtaken by Poa annua, which is annual bluegrass that runs wild in the region and gives superintendents in Central Oregon headaches year after year.

Poa annua is a particular problem in Central Oregon because it's susceptible to the region's harsh winters, leaving many of Widgi's greens with brown, dead patches every spring.

Instead of patching up the greens, as Widgi has done for years, this year the golf course has decided to replace seven of its greens at the cost of about $10,000 apiece.

Dan Ostrin, director of golf at Widgi Creek, says the replacement project has been discussed for the last few years.

"At some point in time we were going to have to do something," Ostrin says. "Pretty much year after year as the Poa annua had slowly taken over more of the greens, the health of the grass was slowly deteriorating."

Widgi Creek's maintenance staff, along with Beaverton-based Bernhardt Golf, which Widgi hired for the green replacement, have torn out the old greens on the fourth, seventh, ninth, 11th, 13th, 14th and 16th holes.

On April 7, the golf course staff and Bernhardt began laying down A4 bentgrass sod, grown specifically for Widgi Creek by Canadian grower BOS sod. The sod, which took several days to install, is grown under United States Golf Association standards and delivered at the exact grass height (0.2 inches) as Widgi's other greens.

At a cost of about $10,000 per green, the transfusion is a major investment even in roaring economic times.

But even in a down economy, Widgi Creek thought now would make a good time to replace the greens.

A relatively mild late winter and spring has helped spur the process.

Because Widgi was free of snow by the middle of March, the work started earlier than initially expected. And Ostrin expects the renovated greens to be ready for play by mid-May.

"We'd better take advantage of the opportunity even though, financially, it might not be the greatest time right now," Ostrin says. "But it is something that improves the course, and it is putting the money back into the business."

Larry Gilhuly, who oversees turf quality for the Western Region of the USGA, says that while Poa annua can work well for golf courses west of the Cascade Range, it has trouble in harsher high-desert climates.

Bentgrass uses less water and withstands temperature extremes better than Poa annua, he says.

Gilhuly, who lives in Gig Harbor, Wash., should know. His job is to help golf courses in Oregon, Washington, Hawaii and British Columbia, find the best grasses for their respective climates.

He has consulted with Central Oregon golf courses such as Bend Golf and Country Club and those at Sunriver Resort.

And he says it's inevitable that a bentgrass golf course in the Northwest will be overtaken by Poa annua, because the annual bluegrass has the ability to dominate whatever grass was originally planted by being a prolific seed producer and by withstanding shade and foot traffic.

"I haven't seen a course yet really over 10 years old that is pure bentgrass," Gilhuly says. "Because the way you get rid of Poa annua in bentgrass is to hand weed it. You better have a lot of staff to pull
bluegrass, tall fescue, St. Augustine, and dormant bermudagrass. It's not to be used on golf greens. Prograss is applied at 0.65 to 0.75 gallons of product per acre. Two applications near the dates of December 20 and by mid-January are effective and safest when the bermudagrass should be dormant. The label states February 1 or “four weeks before bermudagrass breaks dormancy” serve as the last date for application or spring green-up will be delayed.

In situations when the bermudagrass is not overseeded with a winter turf, there are many options available (Table 3, page 90). Many of the herbicides are non-selective and so it’s critical to be sure that the underlying bermudagrass is dormant before making applications. The Poa will begin to flower from late January to mid-April with profuse flowering in March. It’s better to eliminate the Poa before flowering.

**POSTEMERGENCE CONTROL OF POA ANNUA – COOL-SEASON TURF**

Prograss is still used on fairways of Kentucky bluegrass and higher cut turfs. A relatively new product called Tenacity* (active ingredient is mesotrione) has shown good postemergence activity and preemerge activity when applied twice in the fall. There will be more information on this product as more tests are done around the country. Mesotrione is not safe on bermudagrass turf.

On greens and fairways, there are labeled products of Cutless*(flurprimidol) and TGR* (paclobutrazole). These products are turfgrass growth regulators that, when applied at label rates, will have a greater effect on Poa than the surrounding creeping bentgrass. Read the labels carefully to make sure you choose an application program that deals with the amount of Poa annua that’s present in the green and the risks of application in low (cold) and high summer stress conditions (heat/humidity).

Velocity* (bis-pyrobac sodium) has been in play as an experimental compound that
Research

has received registrations in many states. It works well in certain places (northern climates that have long, consistent cold winters and short springs). In other places that have milder winters, with a lot of up-and-down temperatures, it has mixed results to date. It makes the Poa, as well as some cultivars of Kentucky bluegrass, bright yellow. It makes ryegrass a bit yellow for a while, as well.

Another product called Legacy* is a commercial mixture of two turfgrass plant growth regulators: Primo (trinexepac ethyl) and Cutless (flurprimidol). This combination packs a one-two punch of slowing down a hormone that makes cells elongate. You would use this product where Poa has invaded another turf, where the Poa becomes stunted more so than the host background turf. The label includes application programs for northern and southern turf applications, and it’s also labeled for bentgrass greens (not for bermudagrass greens).

POA ANNUA CONTROL ON GREENS
Bermudagrass greens overseeded with ryegrass or Poa trivialis and bentgrass greens require special attention. Many plant growth regulators can be used safely to suppress Poa (Tables 4A/4B, page 90). Read the labels in their entirety, as particular protocols exist when using these products on greens.

Note the amount of Poa that will invade golf turf if there is no chemical control. Here, the absence of using a pre-emergence herbicide shows large amounts of Poa.

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Rarely will you find the perennial form of *Poa* on these greens. If you missed the opportunity to use a preemergence herbicide during fall overseeding, then you probably will have some of the true winter annual *Poa*.

Since you have winter ryegrass on the green, it's safest to stop the seed heads from emerging in the spring and then let the annual *Poa* die from heat in late June. In this case, starting in the beginning of January, apply a tank mix of Proxy at 5 ounces of product per 1,000 square feet and Primo at 0.25 ounces of product per 1,000 square feet every 24 days (Table 4B). Apply this combination regularly through May or until the *Poa* is eliminated by the high temperatures.

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**TABLE 4B: OVERSEEDED BERMUDAGRASS (RYEGRASS AND/OR *POA TRIVIALIS* PRESENT)**

Proxy at 5 ounces of product per 1,000 square feet and Primo at 0.25 ounces of product per 1,000 square feet every 24 days. (Follow label instructions as there is a limit to the number of applications or amount of product that can be applied.)

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Whitemarsh Valley CC just celebrated its 100th anniversary, and the greens are the same age - some just 3000 sq. ft. oldies with restored original bunkers. Bent grass and PoA share the scene. The bulk of the soil profiles have never been renovated to modern particle size construction.

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Lee Terry turned to solar-powered, waterless restroom facilities to troubleshoot a pressing problem at Denver's Pinehurst Country Club.

BY MIKE ZAWACKI

It's a fact of life. People need to use the bathroom and golfers are no exception when it comes to "taking five" at the ninth hole.

But how do you provide ample restroom facilities for a 27-hole golf course?

It's a problem Lee Terry needed to fix.

Terry is the superintendent at Pinehurst Country Club, a private, member-owned club in Denver that features 27 holes - the par-70 Maxwell 18 and the par-36 Pfluger 9. Terry operates with an annual maintenance budget of about $1.5 million.

In the middle of its Maxwell course, Pinehurst features a ninth-hole diner with a full-service restroom, but it wasn't enough capacity to meet club members' needs.

To some people, this problem has an obvious solution: strategically place a few plastic silo-style portable restrooms around the course. Terry says the club's membership expected better accommodations.

Then why not build a few, full-service restroom facilities around the course? This solution wasn't practical, either, Terry says, because no utilities run through the course, which was built in 1958.

"In one scenario we would have had to run a half-mile of sewer lines through the golf course and it would have crossed five different holes," Terry says. "It would have cost us more than $300,000 to bring in the utilities - sewer, water and power - through the golf course and to any new restroom facilities. It could have been done, but the expense and the disruption would have been there."

Instead, Terry turned to Fort Collins, Colo.-based Biological Mediation Systems, which provides prefabricated, custom restroom facilities. To meet its needs, Pinehurst settled on a pair of waterless, solar-powered restrooms.

Operationally, each unit is fairly simple. A bacterial and enzyme solution breaks down the waste in a cement basin underneath the building, and a solar-powered ventilation fan minimizes odor. Other than periodic cleanings, they require very little maintenance.

From the outside, the restrooms look like nondescript buildings. They're sided, painted and feature a rock frontage as well as landscaping. Each building has separate men's and women's facilities.

The addition of solar-powered, waterless bathrooms allowed Pinehurst Country Club to address the restroom needs across its 27-hole golf course.

"We had to dig the holes and put the cement basins in underneath each unit," Terry explains. "Since each building is a kit, we contracted (with a third party) to stick frame the building and add the siding and the roof. The whole thing, from start to finish, took less than a week."

Following construction, Terry installed foam hand washers and added carpet to the floors of the two buildings.

The first unit went up on the Maxwell course about three years ago and is located between two lakes. The club added a restroom unit to the Pfluger about a year ago.

"From where each is located they can service more than one hole," Terry says. "You should be able to go no more than three holes without finding a bathroom."

With everything included, each unit has a price tag of about $60,000. But compared to the cost of running utility lines through the two courses, the waterless restroom facilities were a substantial savings in time, money and course disruption for the club.

"They're environmentally friendly and require very little service," Terry says. "They've worked out very nicely for us, especially when you consider the cost factors of what we would have had to do to place them in the middle of the courses."
Bonnie Briar Country Club’s superintendent quenched his course’s thirst for costly Big Apple water with wetting agents. BY MIKE ZAWACKI

Dependent on water from nearby New York City, the private, 18-hole Bonnie Briar Country Club, located in Larchmont, N.Y., in southern Westchester County, needed to find a way to curb its water costs, which have increased 25 percent the last three years. In 2005, for example, the club used more than 23.6 million gallons of water to irrigate its course at a cost of $93,000.

When superintendent Nick Lerner came on board in 2003, his first order of business was to address water consumption. He started by fine tuning the course’s irrigation system, then he sought other ways to use less water.

“I knew whatever I could cut back on would make a huge difference,” he says. “Also, with the financial crisis my budget has been cut. I don’t have any legroom to make mistakes. Water is an area that, if I can use less of, then I may develop a surplus and can use that money elsewhere on the course. Also, I knew I could save on electricity because if I could reduce the amount of water that I use, then my electric bill will be lower.”
Lerner operates with an annual maintenance budget of between $1.35 million and $1.4 million, and he oversees two assistants, a mechanic and 13 grounds employees. Bonnie Briar’s tees are primarily all bentgrass, the fairways and the greens are a mix of several varieties of bentgrass and Poa annua.

To troubleshoot the amount he spent on water, one thing Lerner did was turn to wetting agents, which he first used in the 1990s as a college intern. In total, Lerner uses five different Aquatrols wetting agents. The wetting agents work through the soil and allow water to become more available to plant roots.

Built in 1921, Bonnie Briar’s course features a number of beautiful rock and ledge formations. Many of these formations remain under the fairways and areas of turf, creating a challenging scenario. “There are a number of areas that are basically rock with soil overtop,” Lerner says. “As the soil warms those rocks get warmer, making it difficult for the turf to thrive. A lot of time the turf will go dormant due to these conditions and the areas will brown out, which is not what we want to see.”

Lerner uses the soil surfactant Aqueduct to overcome this challenge. “I used to spend a lot of time hand watering these trouble spots,” he says, adding the product is applied every two to three weeks. “I go out now and apply this product, which allows the soil and plant roots to utilize water better and helps the turf get through those tough times. I used it last year for the first time and it made a big difference.”

In addition to improving the effectiveness of watering on the course, it also improves pesticide absorption. For example, Lerner applies Dispatch with a spray rig – at a rate of about 24 to 26 ounces per acre – to get better performance out of his crabgrass and grub treatments. “Not only am I using it to get effective watering, but I’m also using it to increase the effectiveness of products that need to be watered into the soil,” he says.

And wetting agents are effective off the course, as well. “I use an absorbant called SuperSorb, which you use in flower beds,” Lerner says. “You add it to the soil and it allows the soil to hold more water. It cuts down on watering and does wonders for annuals, which require a lot of watering.”

While Lerner is fond of using the Aquatrols family of wetting agents, he advises other superintendents to try any number of similar products on the market. “Every site is different and every golf course is different,” he says. “It’s important to consider trying a number of these products because until you try them on your site you really don’t know what to expect.”

Lerner spends between $7,000 and $8,000 annually on wetting agents. The water savings gained from using wetting agents more than justifies the expenditure, he says.

And while it’s difficult to attribute an exact cost saving in reduced water use due to using wetting agents in 2006, 2007 and 2008, the course only used 11.7 million gallons of water last year, at a cost of $66,000. “It’s very difficult to quantify a savings and usage reduction over my tenures,” he says. “The timing of rain events as well as the overall weather are reasons for not being able to provide an accurate cost savings. I would say that wetting agents are great tools for superintendents and using these products would definitely help in using less irrigation water, as well as improve the effectiveness of rainfall and irrigation water going into the soil.”

The result is better looking turf, Lerner says. “I’m doing what I can to prevent us from spending more,” he says. “These products help the overall soil conditions and help prevent wilting and stress, which occurs from May through mid September. You can see the difference.”

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TOURNEY PREP AT SAUCON VALLEY

Jim Roney, superintendent for Saucon Valley Country Club in Bethlehem, Pa., is four years into a master-planned renovation of three golf courses. Just for “fun,” he and Saucon Valley’s Old Course will host the 2009 U.S. Women’s Open Championship in July. I asked Jim what his concerns and goals are as he prepares for his first major championship.

Q: When you arrived at Saucon Valley four years ago what was your impression and what did you address first?

A: After reviewing our 850-acre facility my first goal was to immediately improve the environmental growing conditions of our turfgrass. Our property is heavily treed; many are evergreen species that limit air movement and sunlight penetration. The club is located in the lowest point of the valley, which decreases air movement, morning sunlight penetration and surface water drainage. The tree population needed to be reduced.

The club reviewed all the options of scientific, non-partisan tree removal evaluations, including my proposal for clearing by our staff at a lesser cost. The committee allowed me to proceed with the in-house removal plan. I hired a qualified arborist and proceeded.

The second concern was drainage. We are the lowest point in the valley with the Saucon Creek running through the middle of property. Drainage is severely limited and with an event approaching, moving water off site quickly is vital. In addition, located close by are the now defunct New Jersey zinc mines, which when active used an incredible amount of water, leaving our property dry. This is no longer the case. We have increased our budget for specialty drainage projects and creek work throughout the property to quickly move the excess water away from high-play areas.

Our club is 87 years old and we have traditional soil green profiles that are pitched for surface drainage only and did not drain. My plan was to increase the downward movement of water through vigorous coring, deep drilling, regular sand topdressing and the inclusion of the internal drainage systems provided by the TDI and XGD drain-lines in all our greens. During the first four years we used the drill-and-fill method two times per season with regular coring to remove and replace the soil with sand topdressing. Each drill-and-fill, followed by standard coring, allowed us to incorporate 160 tons of sand into the profile.

Finally, with the internal soil profile improved we decided to regrass to the current species of bentgrass, which is a combination of Penn A1/4. However, before the regrassing process was to begin, the USGA elected to award Saucon Valley with the 2009 U.S. Women’s Open Championship.

Q: What was your reaction when you learned of the upcoming major championship to be played on the Old Course at Saucon Valley Country Club?

A: I was ecstatic and a little nervous. However, this is the goal to which many of us in the industry aspire. The event also gave the club an opportunity to review many of the issues that affected play, such as the need to regrass putting surfaces. We reviewed the design features so they would become relevant to today’s equipment, player strengths and overall game improvements.

With the notice of the championship, it gave me the needed push to organize a priority list for the upcoming golf course review. Working with the committee, we established the following agenda:

- Organize, execute and complete the proposed regrassing of the Old Course putting greens to bentgrass. This began in 2005.
- Have the course stand up to the best women players’ efforts, while playing fair and making par a good score.
- Establish a multiple variety nursery with samples of each putting green turf species variety under consideration.
- Establish a 10-year master plan for all golf course renovation projects.
- Determine a course closing period, which would allow us ample time to properly complete the projects, review all design enhancements needed, establish a proper stand of turf to provide the best possible putting surfaces for the championship without impacting the event. The Old Course closed in 2007 for the renovation.
- Hire a golf course architect with classic golf course renovation experience. The club chose Fazio Design.
- Begin the process of educating and communicating to our members. Many were new members who did not know or fully understand Saucon Valley’s golf history and tradition.

The event also brought attention to the need to upgrade the overall golf course beyond the greens to meet the expectations of the membership. This included an architectural review of teeing grounds, bunkers, fairway contours and infrastructure items such as cart paths/service roads, irrigation needs, additional drainage and more tree removal for turf health, gallery and tenting needs.

One vital addition to this project was hiring an archivist to organize the massive collection of club history, including numerous pictures, diagrams and original architectural notes. Organizing our history really assisted the club, our architect and the USGA in the completion of this renovation project. Our goal was to follow the original design intent of Herbert Strong.
**Travels With Terry**

Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in hand. He shares 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.

**Economical greens roller**

Eric Kulaas, equipment manager, at the Renaissance Vinoy Resort & Golf Club in St. Petersburg, Fla., mounted an EastHof Roller (with an angle iron roller scraper mounted on hinges) on the back of a Toro Sand Pro. EastHof Rollers are manufactured by Liquid Ed Inc. The roller is mounted where the cultivator bar or spiker is normally attached with four bolts and one pin for the hydraulic cylinder, which produces down pressure as needed while still keeping the tires on the ground. Since the roller is used primarily on greens to increase the speed and to smooth them out, Kulaas mounted 12-inch diameter wheels and turf tires from a Club Car Carryall so the turfgrass surface would not be adversely disturbed. The roller also features a separately installed brush attachment, including two 5-foot-long brushes, one coarse bristle brush that floats for working in topdressing and a fine bristle brush for overseeding with adjustable hydraulic down-pressure. Kulaas, who recently received the 2008 Edwin Budding Award from the International Golf Course Equipment Managers Association (IGCEMA) during BIGGA’s Harrogate Week 2009, can add up to 300 pounds of additional “tractor-type weights” to the roller framework for additional down-pressure if needed. The roller costs $2,790; the separate brush unit costs about $595 and the labor to attach the roller and to mount the wheels and tires was less than an hour and a half.

**Alternative greens roller**

The TurfAce Alloy with its Giliberti Roller/Brush Lifting System is normally mounted on an electric Club Car Carryall Turf 1. Eric Kulaas, equipment manager, at the Renaissance Vinoy Resort & Golf Club in St. Petersburg, Fla., removed the entire roller assembly and mounted it on a gasoline engine version of the same model turf vehicle after the engine exhaust and hydraulic hitch mount were modified. This roller has a friction drive system where the rear roller is lowered by flipping a switch to activate the 12-volt electric linear actuator, incrementally, and then the turf vehicles drive wheels are raised off of the ground to move the vehicle forward with the tires rubbing against the roller. The rear roller is made of a hard HDPE-type plastic and strips of a non-slip adhesive tape were added to control slippage against the turf tires. By raising the rear wheels off the ground, additional weight can be placed in the turf vehicle’s bed for more down-pressure as needed. A dual topdressing brush assembly with a unique brush-lifting system is included. It took Kulaas about eight hours to remove and remount the roller/brush attachment and to make the modifications. A new roller/brush assembly mounted on the electric turf vehicle by the manufacturer cost about $13,500. A new bolt-on roller/brush attachment for an existing turf vehicle costs about $8,000. GCI
FEEDBACK  
(continued from page 10)

opposed. It’s the “weekend warrior” that keeps golf alive, not the guys who take helicopters to the course.

How many other sports give you one-on-one time with your son or daughter when life’s lessons like self-reliance, creativity, discipline and honor can be taught in the same afternoon? The politicians should be telling people to get off the couch and take a walk on a golf course and enjoy the sunshine and fresh air.

Thank you again for a great editorial. I fear you’re preaching to the choir, but that doesn’t mean that those of us in the robes don’t enjoy the words.

Scott C. Sweeney  
President  
Seago International  
Hickory, N.C.

“All in the family” in the April issue is a great article (Parting Shots, page 90).

I’ve known the Connellys for many years and they are the best! Kip has always had the best for the industry in mind and pushed ideas that have helped the industry. You’ve just got to love this guy!

Family-owned companies like the Connellys’ really do provide a superior value to their customers and many times are taken for granted. Your column was a timely reminder of the great service they offer and how important they are to this industry.

Thanks again for giving this wonderful family a little limelight.

Bill Vogel  
CEO  
Spring Valley  
Jackson, Wis.

Thanks to Pat Jones for the great article about independent distributors (April, Parting Shots, page 90). He couldn’t have picked a better bunch of people to write about than the Connellys. They are as passionate about this business as anybody around. Pat’s written or spoken highly about us independents for years. It’s greatly appreciated.

Roger Ogalla  
President  
BTSI  
Frankfort, Ill.
**PARTING SHOTS**

By oh boy, has my phone been ringing. Everyone from superintendents to owners to distributorship presidents to CEOs is asking me pretty much the same questions:

"Will my facility be OK?" "How many courses will close?" "Is the golf market as bad as we think?" "When will things rebound?" "Who will win 'American Idol'?"

Well, I can't answer the last one since I lost track of "Idol" as soon as the new season of "Deadliest Catch" started. (Hm. . . Simon Cowell and Paula Abdul vs. crab fishing in Alaska? No contest.)

But you probably won't be shocked to hear that I'm willing to take a crack at guessing — and I mean guessing — about the other questions people are asking.

I've been doling out more free consulting advice than an urologist at a bachelor party to those folks who've been calling me lately, so it only seems fair to share it with all of you. Thus, allow me to shine up my crystal ball and give you my semi-educated prediction about the next three years.

**2009, THE YEAR OF LIVING DANGEROUSLY**

There were about 15,800 courses in the U.S. as of the end of 2008. I think we'll end up with a tad fewer than 15,000 in three years.

That purchased substantial amounts of chemicals, soft goods, food, liquor, etc., under early-order programs in late 2008 may have a difficult time making their deferred payment this summer.

**DON'T EVEN THINK ABOUT 2010**

Next year could be a painful but necessary bloodbath with 400 or so courses closing as banks call the notes on stupid loans made to idiotic developers to build lavish clubhouses or to underwrite ownership liens for other failed businesses.

The financial institutions simply won't have the time or inclination to try to rescue bankrupt golf courses that have lousy business plans, lousy locations and lousy prospects. You'll see a lot of fallow courses and a bunch of folks desperately trying to overcome real-estate covenants to rezone the land for some other usage. Suddenly, all those promises the original owners made to get the permits for the course will come back to haunt them. . . or whomever else now holds the note.

Also, kiss those beautiful early-order programs and great credit terms goodbye as both manufacturers and distributors tighten up on purchasing options.

2010 will also be a shopping extravaganza for a few management companies, the tiny handful of healthy real-estate developers and even individuals who recognize low-hanging fruit in the market.

**2011 – THE NEW MARKET EMERGES**

Three years from now, the whole industry will be smarter, leaner and attractive in several ways. A few hundred more courses will die in 2011, but many will survive by being renovated, renewed and reinvented. Investors will have figured out that despite the hype, the core golf industry is healthy. The demographics of who plays, when they play and why they play will be much better understood, as will marketing and membership sales. The strong will have survived and we'll have learned from them.

By 2011, the golf world will be very different in many ways. It will be less stupid, because stupidity is gradually being rooted out by evolution. It will continue to grow its reputation as an environmentally positive business activity, because it will die if it doesn't.

If you perform well, people seeking exercise and a taste of the outdoors will realize that walking a round of golf is more fun than jogging or running on a treadmill. Beyond golf junkies and the dwindling number of club aficionados, that's your new customer base in 2009 and beyond. That's not a guess. . . that's the way it's going to be.

That's the reality show you're on now. And, like "Idol," you have to get enough votes every week to survive. Will you make the cut? Only you know for sure.

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