The NEXT generation

Young architects make names for themselves

Clockwise: Eric Wiltse, Brandon Johnson, Thad Layton and Logan Fazio

Inside:
• Canadian IPM
• Fertility programs
• Conservation efforts
Studies have shown that golf course superintendents rate fairways low on their priority list, but without fairways, you'd only have a par-3 course.

Fairways take up acreage and cost a lot to maintain. To lower your costs, try these award-winning, fairway-specific bentgrass varieties from Tee-2-Green.

Whether you are interseeding, renovating, or starting anew, Tee-2-Green has the varieties for your fairways.

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PennLinks II with improved density and better dollar spot resistance
Penneagle II provides early spring green-up and shows improved brown patch resistance
The new Crystal BlueLinks, with the highest fairway turf quality, excelled across all NTEP trials in 2006 and has shown strong resistance to dollar spot and brown patch.
Seaside II has shown salt water tolerance as high as 15,000 ppm, but also tolerates drought and resists dollar spot

The Perfect Fairway Grasses
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EDITORIAL MISSION STATEMENT:
Golf Course Industry reports on and analyzes the business of maintaining golf courses, as well as the broader business of golf course management. This includes three main areas: agronomy, business management and career development as it relates to golf course superintendents and those managers responsible for maintaining a golf course as an important asset. Golf Course Industry shows superintendents what’s possible, helps them understand why it’s important and tells them how to take the next step.
DIVERSITY REVISITED

When I arrived in Orlando for the GIS a few weeks ago, I didn’t expect to run into a buzz saw. That buzz saw consisted of a number of people – including several GCSAA board members – who vehemently took issue with my column last month ("The right kind of diversity," page 6, January). In that column, I tried to make the point that pushing for more ethnic and gender diversity within the superintendent’s profession just for the sake of diversity wasn’t as important as having the best-qualified people for the job. Apparently, I didn’t make that point as effectively as I wanted to because there are passionate people who felt I was opposed to opportunities for minorities and women.

First, let me state clearly that I agree the game of golf and the industry that serves it should be a big tent that’s open to anyone who wants to come in. No one can dispute that broad participation by all segments of society is great for the health of golf.

Second, I specifically tried to draw a distinction between diversity in golf in general and diversity within a professional association such as the GCSAA. There’s a difference between actively trying to diversify the segment of society that plays golf regularly (which is easier to accomplish) as opposed to diversifying a group of professionals in golf course management (which is more difficult to accomplish). One is playing a sport that can be started and stopped throughout one’s life. It’s a hobby. The other is making a lifelong commitment after following a certain educational track. It’s a profession. There’s a big difference in how people approach each of those. Nonetheless, people seemed to have overlooked this paragraph in my last column:

“Targeting blacks and women to play golf is a different issue, part of which is because of the stagnant number of golfers and rounds played nationally. Involving blacks and females in the game at a young age will increase the odds of them being more involved in the game, including the business side of it, later in life. There are several much needed programs addressing this.”

I don’t necessarily like or dislike the fact that the vast majority of superintendents are white males, but as long as the door is open to all and discrimination doesn’t exist, I’m not sure having and association that “looks like America” should be a top priority for the GCSAA. Having an association consisting of the best, most-qualified, most-committed professionals should be.

Another concern expressed to me was that I didn’t mention Hispanics. The reason I didn’t is because now-GCSAA president David Downing specifically mentioned blacks and women in his comments at the Carolinas GCSA conference this past November. He didn’t mention Hispanics as a group of people lacking representation in the association.

Additionally, some folks took issue with the fact that I didn’t call the GCSAA to ask it about its diversity initiatives before writing the column. Frankly, other than Downing’s general comments about the matter, I didn’t know the GCSAA had a diversity committee. Furthermore, I wasn’t taking issue with concept of diversity in general but rather the idea of not having “enough” of certain types of people in an organization. It suggests the question: How do you define “enough”?

The bottom line is that I, too, want everyone to feel comfortable in the game of golf, including the business side of it. Some people I talked with feel strongly that the industry should do a better job of opening its doors to those other than white males. Maybe I’m naive, but I never realized the doors were closed to anyone.

Perhaps, by expressing a different viewpoint and not choosing my words as carefully as I could have, an open dialogue can lead to new thinking about the concept of diversity in the industry. I’m open to learning more about what you think, so write me or post your thoughts on our Web message board. GCI
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Too far or funny?
I always look forward to Pat Jones' column, but with "Cut and paste" (September, page 85), he missed badly. When finished with each issue, I usually will share it with influential members at the club or leave it in the men's locker room. Good thing I caught this one before any members got a chance to see it, and I hope others did, too. Superintendents have been working for years to make gains in how our profession is viewed by others, especially our members, and to put into print a piece like this (even if in jest) sets us back. Name calling, near vulgarity (piehole), and questioning intelligence and skills are all usual talk at the maintenance facility or backrooms of the pro shop, but they have no place in print where members can get their hands on it.

Half my job is building communication with members about why we do things. Making fun of them severely hurts these efforts and isn’t worth the potential laugh by some. I hope Jones keeps these thoughts in mind for future work. I will continue to review the content of his writings and hope to be able to share upcoming issues with my members.

Russell Vandehey, CGCS
Oregon Golf Club
West Linn, Ore.

Occasionally, I glimpse at Pat Jones' column to see how low he can go. His columns don't represent our industry favorably. Schoolboy humor has its place but not in industry trade magazines. Referring to our clients as idiots, dimwits, schmucks, dog breath and fat shiftless turds is pitiful. Our standards have sunk so low. This was considered disgraceful once, but now it's described as humor and worthy of publishing. Sorry, but I can't subscribe to this trend.

Patrick O'Fee
Golf course superintendent,
Pasadera Country Club
Monterey, Calif.

After reading the November issue, I doubt I will open the magazine ever again. It was pumped full of good information, then I came to the end of the issue. I was dumbfounded Pat Jones' column "Cut and paste" was written by someone who's a green-industry consultant and insulted it was published in your magazine.

The column tells us nothing we don't know already – average golfers/club members don't appreciate the value they receive for their green-fee dollar, they don't know how to take care of bunkers, they know little about growing grass, and they don't understand the hours and finances required to maintain a golf course.

In the process of trying to convince us golfers don't respect what we do for them, he suggests they're idiots, boneheads, fools, morons, clowns, knuckleheads, whiners, schmucks, dog breath, fat shiftless turds, dopes, dimwits and doofuses. Jones even suggests we post this article in the men's club locker room if we dare. Well, I like my job. I like my members. I like the public golfers who play at my course. What I don't like is someone who thinks they know how I feel calling my members, guests and friends fat shiftless turds. I wouldn't even consider calling my members any of these names in private, let alone post this disgusting article on a public board for everyone to see.

Al Kueker
Golf Course Superintendent
Desert Willow Golf Course
Henderson, Nev.

I had to let Pat Jones know I loved his article "Cut and paste." It was tough to read because I had tears in my eyes, but I finished it. I've thought what he wrote many times. I liked reading my thoughts.

Thomas F. Dale, CGCS
The Links at Brigantine Beach
Brigantine, N.J.

I thoroughly enjoyed Pat Jones' "Cut and paste" column. He captured so much of what we hear every day. He must have a hidden tape recorder around somewhere. I received a customer comment card recently suggesting we conserve water and stop watering so much during the winter, yet we haven't watered in weeks. I heard one regular tell another player my job was to drive around and yell at them when they drove their golf cars too close to the greens. That sure makes those years in turf school look like a waste of money. It's too bad that in the politically correct world of municipal golf I can't post the column for our customers. It would go right over their heads anyway.

Gary K. Carls, CGCS
Golf Operations Supervisor
City of Sunnyvale, Calif.
Searching For A Cost-Effective Solution To Control Dollar Spot?

**Problem:**
Dollar Spot

Dollar Spot n. – The fungus Sclerotinia homoeocarpa (“Dollar Spot”) commonly attacks low-cut creeping bentgrass. It thrives in damp clippings or moist, cool soil.

**Symptoms:**

1. Many small, round dead patches
2. Hourglass-shaped lesions
3. Cobwebby white mold
4. Damaged putting greens

**Solution:**
Kestrel® MEX

Kestrel® MEX is a broad spectrum fungicide ideally suited for control of Dollar Spot and more than 20 other troublesome turf diseases. Based on a unique, value-added formulation of the proven ingredient propiconazole, Kestrel MEX is one of Phoenix’s new NexGen products, a line of enhanced, post-patent pesticides that comprises the highest-quality, top-performing formulations. Kestrel MEX can be tank mixed with a variety of other fungicides and insecticides and is also available in a BATPak®, Phoenix’s convenient, returnable packaging concept.

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A COMMITMENT TO MENTORING

Mentoring is a philosophy or a mindset in which the goal is to build and advance people personally and professionally. Mentors take an interest in what’s going on in the lives of their mentees, attempting to develop them appropriately. Mentoring combines learning with human interaction. In the past, mentoring was a simple process. An experienced manager or supervisor simply would pass down his expertise and knowledge to a young, up-and-coming employee. That’s not necessarily the case now as employees of all ages can benefit from mentoring. Experienced workers have expertise in the technical aspects of the job and managing people. Younger employees tend to have computer and software knowledge that can be passed along to senior colleagues.

The most common mentoring situation takes place when two individuals are paired, and one needs to acquire the skills held by the other. A mentee can improve the process by developing a group of people who are invested in their personal and professional development. This group can become a personal advisory board. If you’re in a position in which you don’t have a personal mentor, then the advisory board route becomes beneficial to you.

Warren G. Bennis wrote a great article, “The Seven Ages of the Leader,” about mentoring that addresses the fact that mentors don’t simply show up one day to impart advice needed to be successful. “While the popular view of mentors is that they seek out younger people to encourage and champion, the reverse is true more often. The best mentors usually are recruited, and one mark of a future leader is the ability to identify, woo and win the mentors who will change his or her life.”

Authors Robert Morison, Tamara Erickson and Ken Dychtwald address how mid-career employees can benefit from mentoring in their article, “Managing Middlescence.” After surveying 7,700 U.S. workers in June 2004, they found mid-career employees (those between the ages of 35 and 54) make up more than half of today’s work force.

“Mid-career employees are the least likely to say their work place is congenial and fun or that it offers ample opportunity to try new things,” they write. “Only one in three agrees top management displays integrity or commitment to employee development. A fifth are seeking opportunities in other organizations, and a similar percentage are looking for a major career change. But 85 percent believe career changes are difficult. Family and financial pressures outside work make them conservative in their career choices, and many can’t afford moves that would involve cuts in pay or benefits.”

Research shows mentoring programs can benefit an organization through increased retention rates ...

The article states how the opportunity to mentor a younger employee can be energizing and invigorating to midcareer employees: “For middlescents, serving as a mentor is a personally fulfilling way to share a lifetime of experience, give back to the organization and make a fresh set of social connections in the work place.”

Authors Thomas DeLong, John Gabarro and Robert Lees address what makes a mentor in their article, “Why Mentoring Matters in a Hypercompetitive World.” They say a good mentor is someone who is absolutely credible and whose integrity transcends the message, be it positive or negative. They tell you things you might not want to hear but leave you feeling you’ve been heard. They interact with you in a way that makes you want to become better. They support your attempts to set goals for yourself, and they present opportunities and highlight challenges you might not have seen on your own. Above all, great mentors value listening and a passion towards seeing others develop and succeed. They take interest in the kind of work mentees want to do, where their passions lie and what skills they want to develop.

Research shows mentoring programs can benefit an organization through increased retention rates, improved morale, increased job satisfaction, accelerated leadership development, reduced stress and stronger, more cohesive teams. Another benefit of mentoring is that it can be used to reduce generational conflict, most frequently stemming from differences in expectations regarding work hours, behaviors (i.e., cell phone usage) and respect for those of different generations.

Organizations need to commit to mentoring continually. As an organization, regularly ask: Have we set goals for mentoring? Are we monitoring progress and measuring results? How often do we conduct performance appraisals? How often do we listen and gather feedback? Raise the bar on mentoring practices in your organization by celebrating and showcasing mentoring excellence wherever and whenever feasible and appropriate.

Committing yourself to mentoring will reap lifelong rewards. Seeing those you’ve helped develop and train succeed personally and professionally is something for which all leaders should strive.
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THE VALUE OF EXPERTISE

Most-and-pop facilities have made course renovations without using golf course architects for budget and access reasons for a long time. That's more understandable than successful clubs spending a lot of money on projects, often on everything but a qualified golf course architect.

Some clubs seemingly look for anyone and everyone to take the place of a golf course architect, and I don’t know why. Perhaps green committee members – people who would never entrust the renovation of a commerical building they own to an amateur – think because their golf courses are natural instead of sticks and bricks, they don’t require professional help. Others relish their chance to play golf course architect, either by themselves or using a golf course architect only to draw their ideas or keep them from making mistakes. In such cases, a golf course architect usually is credited for all the unpopular new features, and a green chairman receives credit for all the favorite ones.

I’ve seen clubs choose to use retired golf pros; current golf directors; contractors or bulldozer operators; turf, irrigation or other suppliers with a vested interest; project facilitators (even though architects and contractors are usually self-facilitating); golf writers; and restoration experts or historians as pseudo or substitute architects. Each says he brings a unique perspective and the project can’t get built or renovated with only a golf course architect involved.

There can be merit to those unique perspectives, but in my view, it’s often the other way around. Most “consultants” could use the company name “Miracle Golf” and the advertising slogan “If it’s a good course, it’s a miracle.”

During a construction project, a golf course architect’s broad perspective and impartial, unbiased, fee-based advice and expertise in design and construction usually proves most valuable. The knowledge gap between golf course architects and the other experts mentioned above is often a vast chasm. Many of those consultants don’t even know what they don’t know. Ignorance isn’t bliss. If you don’t think so, ask yourself or other experts how many of the questions on this page you or they know the answers to.

Of course, the answers will vary from place to place, but the underlying knowledge to supply the correct answer won’t. Others might know some answers, but I doubt they (or to be fair, the golf course architect) will know all. You could spend months or years finding these answers, but an experienced golf course architect has done that for you already and has the talent to put those ideas into practice.

The “savings” from not hiring an architect usually turn out to be false, as demonstrated by most architects getting their remodeling business the second time around. And, even if your situation calls for other consultants, a golf course architect still is your best resource to lead a team to its goal of proper design and construction for your long-lasting enjoyment.

Jeffrey D. Brauer is a licensed golf course architect and president of GolfScapes, a golf course design firm in Arlington, Texas. Brauer, a past president of the American Society of Golf Course Architects, can be reached at jeff@jeffreymbrauer.com.

**Architect knowledge**

How many of these questions can you answer? These are questions that shed light on how much knowledge a golf course architect brings to the table during a construction project.

- What are the effects of soils, sun and wind on our design?
- How many parts per million of salt can our turf take in irrigation water?
- What’s the best length for the golf course and its typical players?
- What’s the typical spray pattern for golf shots that allows safe play?
- How close together can greens and tees be?
- How wide of a path allows easy two-way circulation and easy movement around the clubhouse?
- Are our tees and greens the right size for our play levels?
- Do our tees need mix and drainage?
- What method and materials should we use to rebuild our greens?
- At our green speeds, what’s the maximum slope in cupping areas?
- With our turf, climate and mowing, what’s the maximum green slope overall?
- Does our course need to meet ADA requirements?
- What other permits do we need to proceed?
- How do we meet new environmental regulations?
- Can we control drainage on the course and avoid floods better?
- Are our bunkers properly positioned to create strategy?
- How far from the green should our bunkers be?
- Do we have the right sand?
- What bunkers can we eliminate and still have a nice course?
- How wide should tree corridors be for comfortable play?
- What species are worth saving, and which should we avoid?
- Can we save our irrigation system when building improvements?
- Are our cart paths located properly? Are they safe?
- What grasses are best for our tees, greens and fairways?
- Who are the best contractors to bid this project?
- Should we accept the lowest bid automatically?
- What’s a reasonable schedule?
"I'm not surprised by much. But I'm surprised by this fungicide."

—Bob McIntosh—
Tourney Believer
READERS ARE LISTENING

This is the 35th consecutive column I've had the privilege of writing for this magazine, which suggests this is an appropriate time to summarize reader reactions to my columns.

PERSONAL CAREER WEB SITES (See November 2004, May 2007 and September 2007 columns)

Once this concept was introduced in November 2004, it triggered immediate interest throughout the GCSAA membership. But, few knew how to develop a Web site or where to find the necessary counseling. The initiative of several GCSAA members cured this problem when they produced model Web sites and were willing to share their methodology with interested parties. Sample evidence of the high level that Web sites can attain can be found at www.stevenrenzetti.com, www.michaelmumper.com and www.michaelmongon.com. Early history now is showing definitively that quality Web sites not only guarantee interviews but also are winning jobs against highly competitive candidate fields as well.

Despite this wide acceptance, several problems persist.

1. Many assistants and superintendents wait until job openings surface before committing to Web-site development. Because it takes as long as three months to produce a quality Web site under normal conditions, these job applicants miss the mark and quickly learn Web sites should be developed during the quiet times before jobs open.

2. Early in their careers, assistants and superintendents fear their job experience is insufficient to justify a Web site. This is a mistake because search committees always will respect a job applicant’s taking the initiative to develop a well-organized Web site no matter what a candidate’s depth of experience might be at the time.

3. Veteran superintendents dismiss the need for a personal Web site because they feel the major part of their careers are behind them. This is also a mistake because a personal Web site will serve as a safety net should a superintendent have to, or want to, look for another job late in a career.

4. Too few job applicants write for publication. Because search committees respond favorably to candidates’ writings, everyone is encouraged to get published early and often in their careers – initially for chapter newsletters, then for regional and national publications.

WRITTEN CONTRACTS (See October 2007 column)

No column I’ve written has generated a quicker response throughout the GCSAA membership than the issue of so few superintendents having access to written contracts when so many managers and golf professionals do. Association members also note disappointingly there has been no effort to address this pressing but addressable issue. The good news is that superintendents are learning how to earn job security, i.e., negotiate or earn three months of job security with pay for each year of satisfactory employment up to a maximum of 12 months. This approach negates employers’ primary concern about written contracts, i.e., the risk of a bad hire.

JOB SECURITY THROUGH THE RULES (See August 2007 column)

Once considered a necessary evil throughout the superintendents’ world, more GCSAA members are quickly learning the Rules of Golf can become an unexpected friend to all those who embrace them because job security can be enhanced, a commitment to the Rules provides unique career marketing opportunities and the Rules present an enjoyable opportunity to engage the game of golf at a high intellectual level.

GOVERNANCE POLICIES (See October and November 2005 columns, as well as January and February 2007 columns)

Without question, core GCSAA members prefer individual voting to block chapter voting, want input into the nominating process, wish the GCSAA board would function more transparently and are disappointed board members’ perks separate board culture from members’ culture. However, while the association’s chapter-oriented national power base acknowledges these membership priorities, it prefers to maintain the status quo, at least for the moment. Stay tuned.

SABBATICAL LEAVE (See July 2005 column)

Many might be surprised to learn the GCSAA members’ collective interest in the sabbatical leave concept has been as strong as the expressed interest in personal Web sites. However, the difference between the two is that the need for a sabbatical leave occurs less frequently and much later in one’s career. Consequently, live models of sabbatical-leave applications will evolve at a slower pace over the coming years. Accordingly, superintendents are advised to keep the sabbatical leave concept on their long-range radar screens. GCI

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MARKETING YOUR COURSE

CREATE OR UPDATE YOUR PLAN

During the holidays, I had a business experience that made my new year brighter. Maybe my experience will assist you when you create or update your next golf course marketing plan.

A recently hired general manager contacted me through my Web site and informed me he was assigned to create a marketing plan for his course by January 1. He wanted a few minutes of my time to help organize his thoughts for a plan. Although my wife and I were vacationing for the holidays, I gave him a call to see how I could help. After a few minutes, I could tell he was feeling pressure from the responsibility of generating a marketing plan. Once I got a feel for the type of course, general market information, rounds, rates, competition, etc. (he was informed about his new course, which helped me), I began to explain the different sections of a marketing plan he should write for it to be meaningful.

A few minutes turned into more than an hour. I could tell he was feverishly writing what I was telling him, so I suggested sending him a bullet-pointed outline of what he should include in his unique marketing plan and promised to review it with him.

I made some modifications to my table-of-contents template to address his unique market better based on what he told me and e-mailed it to him. When I called him, he not only sounded appreciative, but it was as if a light bulb had gone on in his innate marketing side of his brain.

The most important part of creating a marketing plan is gathering meaningful research. Without accurate research and the correct interpretation of the research, a marketing plan is just a hit-and-miss guide. It's better than no plan, but it will take a few seasons to pinpoint where the true, most profitable target audiences are.

Here's what I sent the general manager I hope it will help anybody who wants to write a marketing plan but doesn't know where to begin.

**Purpose statement.** Give the reasons you're preparing a marketing plan. For example, "I plan to increase my outing business by 3,000 rounds." Your tactics are what you'll actually do to increase that segment.

I called the general manager the next two days to check on his progress. He did a fine job writing the plan, but he will need to continue conducting market research before the plan will be reliable and viable.
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Straighten out the problem with the SMART-FIT™ Cup and Ferrule System.

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www.golfcourseindustry.com/readerservice #15
Purchasing habits

There's a distinct buyer profile among golfers. Buyers are different from golfers. Almost all golfers have to buy something at some point—a starter set, golf balls, a pull cart. But buyers are regularly in the market because they want to be or they have to be. Perhaps they have to have the latest technology or the newest models they believe will help improve scores. Perhaps they wear their equipment quickly.

For example, club buyers (defined as spending $200 or more on new clubs during the past year) play more frequently, are more skilled, have higher incomes, are more likely to take golf trips and are more tuned into golf media. Premium golf shirt buyers, almost half of whom are private-club members, also have a discrete profile. They play twice as many rounds as the average golfer, they're twice as likely to be retired, they have relatively high incomes ($152,300 on average), they're older (average 59), and they're keen on golf media.

Purchase incidence differs by player frequency and product category. Core golfers (those playing eight or more rounds a year) are more likely than occasional golfers (one to seven rounds a year) to purchase any given golf product throughout the year. But core golfer purchase incidence varies greatly by product. While 76 percent of core golfers bought golf balls during the past year, 26 percent bought a driver, 42 percent bought shoes, 4 percent bought thermal outerwear, and 22 percent bought a golf bag. Why did only three-quarters of core golfers buy golf balls during the past year? Possible reasons: Frequent golfers are likely to find and reuse a lot of golf balls while playing; they might have enough golf balls on hand and need to replace them only every few years; they might be skilled enough that they don't lose many balls; they might play on courses that lack many hazards where balls are lost; or they might be satisfied playing balls that aren't in the best condition.

The statistics and charts on this page are based on more than 2,000 U.S. golfers who completed an online survey in May 2007 from the National Golf Foundation. The sample was drawn from global market research firm Synovate's nationally representative panel of 2.6 million Americans.

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A keen understanding

Lori Russell works to make chapter associations more valuable

For the record, Lori Russell argued vehemently that she didn’t want me to write a profile about her. “Why don’t you write an article about one of our members,” she asks. “Nobody wants to know about me. I’m not very interesting. I’m afraid.” Obviously, I won that argument.

Russell runs three superintendent chapters in the Northwest and is one of a handful of paid local association managers in the country. She’s a veteran member of GCSAA’s Chapter Relations Committee. She’s constantly on the go, organizing meetings and events throughout six states for the Peaks & Prairies, Inland Empire and Idaho GCSAs. She’s a mom to three teen-aged kids, and she’s been married to a golf course superintendent for 25 years.

It’s fair to say Russell has a good perspective on the daily life of golf course managers and their families and that she has a keen understanding of the challenges and opportunities for chapters at a time when local and state associations are struggling to increase meeting attendance and keep revenue flowing.

Russell was in high school and working in a clothing store in her native Billings, Mont., when the owner told her about a guy her husband played softball with who might be fun to date. The guy was Tom Russell, an aspiring golf course superintendent. They met in June and were in love by July, but, as she recalls, “It took me four years to finally hook him.”
Thus Russell began life as a superintendent’s wife in tiny Shelby, Mont. Just before their second child was born, she left her job at a local bank to be a full-time mom. Shortly after, the person who’d managed the local Peaks & Prairies association for 20 years retired, and the chapter was advertising for an executive director. Another superintendent—a friend of her husband—called her and told her she’d be perfect.

“I was their second choice because I didn’t even have an office, but I got the job eventually.”

That was 15 years ago. She took on management of the Idaho GCSA eight years ago after a couple board members attended a Peaks event and were impressed with her abilities. She added the Inland Empire association about two years ago and solidified her reputation as the undisputed queen of the Northwest chapters.

She and Tom now live in Missoula, Mont., where he’s the superintendent at Missoula Country Club. Their oldest is in college, but they still have two at home. In fact, their 15-year-old daughter helps Lori with chapter business, making it truly a family affair.

What are the typical problems facing chapters and chapter managers? Lack of volunteer leaders—which is no surprise—but also competition from other groups in the turf industry that offer continuing education. Chapters aren’t the exclusive source for seminars and networking anymore. We’re extremely lucky (in our chapters) because neither of those is a big problem. We have a great volunteer base and, because we’re kind of isolated, we’re still pretty much the primary education source for superintendents.

Is it tougher financially than it used to be? Money is often an issue because industry support has pulled back. We need to find ways to be more creative with fund-raising. For us, it’s important we keep dues and fees as low as possible to allow everyone to participate regardless of budget.

What else are chapters dealing with? Trying to move ahead with technology. Peaks & Prairies just held its first webcast recently. We worked though the GCSAA for a fee, and it set up the webcast, but it was just for our members. We promoted it and arranged it with Roch Gaussoin of the University of Nebraska. It was a great chance to discuss last year’s agronomic challenges at a time when members had time to breathe. It was so successful we had to cut off the questions. The GCSAA said it was one of the most interactive webcasts it has ever seen.

So the digital age has arrived for chapters? We’re constantly trying to drive members to Web sites. It used to be difficult to get e-mail addresses. We’re also using e-blasts for announcements and newsletters. We’ll still have a hard copy newsletter, but other chapters (e.g., the California GCSA) have gone strictly electronic. When chapter managers meet, most of our conversation tends toward technology. It’s faster and cheaper, but we can’t do it overnight because not all members want it.

The first time the chapter relations group met in Lawrence (in the early 1990s) and said it was developing a Web site just for members, it was shocking. When I told the board, it thought I was nuts. Few of our members even had computers. We were just trying to get fax machines. We’ve come a long way since then.

What is the national doing to help chapter executives? The GCSAA hosts two meetings for us—one at the GIS and one in Kansas. It used to bring us in every other year. Now it’s a limited group coming in every year with one of its volunteer chapter leaders. It’s useful to spend a day and a half with volunteers to get to know them better and learn at the same time. The GCSAA also puts on webcasts and dedicates part of the site just to us. It offers a lot to help us continue our education. It’s a shame everyone isn’t taking advantage of it.

Why don’t other chapters participate? A lot of the ones isn’t on the national. It tries, and it has things in place, but many chapters don’t use the resources, don’t have paid staff, etc. The GCSAA needs to communicate the value of having any kind of paid staff person in place and to keep offering the education for them to grow. Some chapters are using GCSAA’s new field staff or asking about financial assistance to bring someone on as a paid manager.

I can’t believe any chapter can’t afford somebody. Why not start small and see how it goes? The position usually will pay for itself at the least. When I started with Idaho, it didn’t have the money in the bank to pay me for a full year. It was a gamble, but it paid off. Everyone benefits.

What else can chapters do to reach out? Chapters can vote into their bylaws another classification—a “facility membership” for the small-budget courses chapters haven’t been able to reach. A primary person at the facility is designated to receive the mailings. This classification has been defined by the GCSAA and, although it has been available for the past couple years, many chapters haven’t implemented it.

Some chapters seem to have an arm’s-length relationship with suppliers who sponsor a lot of stuff. Is that true for your groups? We have an outstanding relationship with commercial members. It’s not an “us and them” thing, it’s a “we” thing. They need us, and we need them. It’s a partnership. We don’t just put out our hand and take the money and walk away. They have input, and we value what they say. Some chapters even have commercial representatives as full board members.

We can’t depend on them to finance the association without giving them a chance to participate and have a voice in what we do. We also try to create different opportunities—big or small—to give them a chance to help. Not everyone can afford to be a major sponsor.

What else are you doing for funding, given the pressure on sponsors these days? We’ve been successful with an auction in Idaho the past few years at the Boise golf show. We have
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a booth, and we auction off golf rounds and host a silent auction. Even the general golfing public contributes. It’s a great fund-raiser for us. We’re trying to do the same thing for the Inland Empire GC&G at its consumer golf show. We’re also lucky to receive significant contributions from our local golf associations and PGA sections to help fund continuing education. It’s win-win.

We’re constantly looking for more funding and promotion ideas. It’s a challenge because we cover such a large geographical area.

**What legislative or regulatory issues specific to your region are you dealing with?**

We haven’t been as proactive as we should be on that front. Water issues are huge, and we’re trying to coordinate with other chapters in the area and the national. Fortunately, we haven’t had some of the intense political pressures that other areas of the country have faced.

Our biggest challenge is the same with all three chapters: facing the fact there’s no labor pool from which to draw. Montana, for example, has the second lowest unemployment rate in the U.S. Couple that with expanded playing seasons and superintendents are being called on to do more with less labor, higher demand for conditions, etc. One side effect of that is it’s forcing us to reevaluate the timing of the meetings. We’re changing the big meeting and trade show for Peaks to allow more people to attend. Because everyone’s so busy, attendance isn’t growing at the same rate as the membership and we need to do something about that.

That must make it difficult to schedule anything.

That’s not the half of it. We also have to deal with weather, hunting season, fishing trips—you name it. The guys love the outdoors. They entered the business because they love being outside, and their playtime is spent outdoors. We have to work around the various hunting seasons.

**Do the same people volunteer for everything?**

There’s been a lot of discussion about not “re-cycling” volunteers. Some chapters have serious problems with generational differences. We’re lucky we have a lot of young guys who want to be engaged, but I know other chapters struggle with it. For us, it’s mostly a matter of what stage of life they’re in and other things (family, etc.) they have going on. As a chapter, we’re competing against our member’s personal time and their professional time. We have to make sure we make it worth their while to participate. It’s not generational, it’s all about time. That’s where technology helps us be as inclusive as possible.

**What’s it like to be married to a golf course superintendent?**

If Tom was here, he’d be telling you how hard
it is to be married to a chapter executive. He’s passionate about his profession. We all know it requires a substantial amount of time. We lived right on the golf course for years in Shelby, so our family time didn’t suffer as much as most.

He loves his job. He takes it seriously. But what I admire about him is he leaves the job at the job. He doesn’t bring work home, but he wasn’t always that way. He was inspired about the story of the “worry tree” (a tale about a man who “hangs” his worries on a tree outside of his house before he comes home), and it made a big impact on him. We’ve been lucky because of that. He’s just as passionate about his family as he is the job.

Now, my job is demanding. I usually put in 50 hours a week plus travel. What’s important is that we both respect when we need to work. We’re not obsessive, so when he says, “I have to go back to the course,” I know he means it, and I don’t give him a hard time. It’s also been extremely helpful because there are times when there are things about the business I don’t understand. He’s my constant sounding board. He’s much better at dropping things on the “worry tree” than I am. When he’s home, he’s home. That’s not so true for me.

So you haven’t had some of the typical “superintendent’s wife” issues?
I receive that feedback from members’ wives. We were so fortunate our house was on the course and the kids were able to see dad at work. He came home for lunch, took the kids to work, etc. Ours wasn’t a typical scenario.

I know other superintendents and their families really struggle with this. My advice to those spouses would be to remember the time they spend at the course putting out a good product isn’t time they’re intentionally trying to be away from their families. The expectations and the pressures are probably higher than you understand. You have to help them make sure they have a balanced life. It boils down to the fact they have to understand they don’t want to not be with their family. It’s part of the job.

What message do you want to send to superintendents and others in the industry?
I want them to remember there’s tremendous value to having paid staff. I serve on the chapter relations committee. We’re focusing on chapter/national relationships and what the ideal model should be. I see what a huge difference having a paid staff person has made to the smallest association. They’re far more productive and proactive.

Final thoughts?
What I do, I don’t do alone. We have great boards, committees and support. I’m not a superwoman. It’s a team effort. That’s the only way small chapters can succeed. GCI
Names such as Fazio, Doak, Nicklaus and Palmer are instantly recognizable in golf course design. But what about Wiltse, Johnson and Layton – or Logan Fazio, for that matter. Not so much. These might be the next big names in golf course design sooner than you think.

Golf course architecture is an interesting profession that requires an artistic side, practical side and the ability to deal with people, says Erik Larsen, executive v.p. of Arnold Palmer Design Co.

"You're a problem solver and need to gather people together," he says. "You need people skills to deal with different groups along the way. Designers do their own thing, and architects solve problems. You have to be able to work with and in different projects and styles."

Larsen refers to three young projects architects at Arnold Palmer Design who will be influential in golf course architecture: Eric Wiltse, Brandon Johnson and Thad Layton. All three are working to become members of the American Society of Golf Course Architects.

"They have more experience than I did at that time in my career. They don't let the look of a golf course carry them away."

Wiltse, Johnson and Layton are students of architecture.

"Their passion has driven their education to learn more about each aspect of the golf course," Larsen says. "It makes them more exciting and reliable. They pay attention to how good a course can look and how fun it can be."

The three architects have the ability to look at the competition and see what's exciting, Larsen says.

"For example, the competition has a style Brandon and Thad wanted to learn about, so they went to play those courses," he says. "They take the time to look at other things and build an encyclopedia of knowledge. The passion is there. The industry hasn't seen their new work yet, but it's going to be something different from us. They will be known guys."

THE ORCHESTRATOR

Wiltse, who has worked at Arnold Palmer Design for more than 15 years, started right out of high school.

"I lived across the street from Harrison
Minchew, who worked for Palmer Design, and when I was 18 or 19 years old, I talked to him about golf course architecture. I learned to draw and draft, and they kept me around. I used mylar, pen and ink to help make topo maps.”

Wiltse, who doesn’t have a landscape architecture degree, learned his craft from Minchew, Vicki Martz, the late Ed Seay and Larsen.

“If I left Palmer Design for school, I would have lost my position,” he says. “From Vicki, Harrison and Erik, I learned more technical experience about drawing and graphic standards and how the company did plans. Ed was more conceptual, and taught how the game is played and how courses played. Ed let me problem-solve in the field. He wanted to see how I could tackle and solve problems. Ed would throw you to the wolves but bring you back in. Ed let people go at their own pace. He had so much experience.

“By John Walsh

If you really couldn’t solve a problem, he’d help you out in need.”

Wiltse worked as a CAD technician when drafting became electronic and soon became the IT guy (he’s the in-house computer whiz), then project coordinator and finally project architect.

“Eric’s mentality is more like ‘let’s get the job done,’” Larsen says. “He’s more of an orchestrator and less about the artistic side than Brandon and Thad. They complement each other. Eric just finished a golf course on the Gulf Coast of Texas that’s true links-like golf. It wasn’t an easy deal. It took Eric a lot of working with different people.”

Wiltse has always wanted to work for Arnold Palmer Design.

“I never entertained the idea of working for anyone else,” he says. “I saw no good reason to pick up and do golf course design for someone else. I figured I was at the best place, so why go anywhere else?”

Wiltse adheres to the design standards Arnold Palmer set, which don’t include target golf, but courses that blend in with their natural environments — more of a traditionalist style.

“Pine Valley is one of my favorites,” he says. “It’s not neat and tidy and wall-to-wall green. I would hope we can get people to understand brown is OK. I don’t think we’ll see the European look for at least another 10 years. Developers want to see lush green. But we’re selling less wall-to-wall green. We’re promoting smaller green sizes because greens have gotten to be huge and have made golf courses less intimate. Golf courses’ environmental impact should be smaller.”

Wiltse likes to design courses where golfers have several options and shots. He’s also keeping an eye on the competition.

“I’m watching what other design groups are doing because it helps me keep sharp,” he says. “I watch tournaments on TV and where the Tour is playing. I visit Web sites to see where other designers are working.”

Since Wiltse has been at Arnold Palmer Design, he has worked on 100 courses, 30 as a project coordinator and three which he designed. He needs two more golf course designs or four renovations to be eligible for ASGCA membership.

“I’ve been a bit laid back about getting into the ASGCA but would like to be in in two years,” he says. “Being an ASGCA member lends credibility to me and the firm. It’s a win-win for me and Arnold Palmer Design.”

Some of Wiltse’s more memorable projects include Star Pass in Tucson, Ariz., where he was the lead architect for the first time; The Bridges Golf Club at Hollywood Casino in Bay Saint Louis, Miss.; The Oasis Golf Club in Mesquite, Nev., where he learned the details of what Palmer likes; and the TPC Boston where he was
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"As a designer, you’re always trying to push the envelope and reinvent the wheel even though we don’t need to. We’re always looking for something different." - BRANDON JOHNSON

a project coordinator.

"I’m grateful and honored to work at Palmer Design, and hopefully, I’ve done enough good work to stick around," he says.

THE STUDENT

Before coming to Palmer Design in 2006, Johnson gained experience with the PGA Tour and The First Tee.

"I met Brandon years ago and was impressed with him, and when we had an opening, I went out and got him," Larsen says.

After earning a bachelor’s degree in landscape architecture from N.C. State University and a master’s degree in landscape architecture from Harvard University, Johnson started with the PGA Tour Design Services, completing two internships in 1995 and 1997.

"The graduate program is an investment that grows over time," he says. "It was great to be pushed by those who were in the field. I traveled a lot and worked on large projects in Italy and England that weren’t related to golf. There were diverse projects that made you think about a lot of different things at once."

When doing the second internship at the PGA Tour, Johnson met Layton, and they became buddies and kept in touch. Johnson also knew Wiltse because they went to the same church.

Through those relationships, Johnson met Minchew and Larsen.

Johnson was hired to be an architect at The First Tee and worked there from 1999 to 2006.

"I was to service all chapters and review all sites no matter if it was new construction or a renovation," he says. "I did oodles and oodles of plans."

The biggest difference between The First Tee and Palmer Design is the pieces of land Johnson had to work with.

"With the not-so-choice pieces of land for The First Tee, I was trying to fit in components such as gas lines, power lines and dealing with rock outcroppings and existing roads – things you couldn’t move to build the course," he says. "At Palmer, you get to work with choice pieces of property, and your decision is different. For example, you’re maximizing frontage next to lakes. At The First Tee, we were forced to be creative with no money. I’m freed up here at Palmer. It was dirt and grass at the First Tee – that’s all we could afford. You learned restraint and what’s interesting on site. At Palmer, we’re working with clients who have the means do it right."

Even with his experience, Johnson says there was a learning curve working at Palmer Design, and there still is.

"As a designer, you’re always trying to push the envelope and reinvent the wheel even though we don’t need to," he says. "We’re always looking for something different. As a company, we’re moving forward, but after 300 courses, it’s difficult to think outside the box."

Johnson likes traveling and learning about golf courses to improve and remain inspired.

"We’ve built up a pretty good photo file," he says. "We went to Scotland and played 36 holes a day and took tons of photos."

Learning what projects to accept was another growth opportunity for Johnson.

"When I first started, we were on site with a client, and Erik Larsen asked me if this was something we should do," he says. "It was comforting to have a say about the type of client, budget and project and how it might perform. You don’t want to take work that doesn’t fit your mode of operation."

"In the ’80s and ’90s, there were a lot of projects with houses right on both sides of the fairways and a lot of road crossings," he adds.

"This is an example of something we might pass on. We’re trying to work better to think through the land plans. Projects are case-by-case situations. Clients are more sophisticated and savvy. More developers want to do high-quality work and not just jam homes in near the golf course. Better master-planned communities are being more environmentally sensitive and are creating a community with a sense of place."

Two of Johnson’s memorable projects were the bunker renovations at the PGA National Resort and Seven Falls Golf and River Club in Etowah, N.C.

"We’re able to walk the property and find the routing right there," he says. "It turned out the way we envisioned."

Johnson would like to work on a project that’s on a choice site near the ocean with sandy soils and have a client willing to go the extra mile to create something special and give him the opportunities to do what he wants.

"As an architect, I want to be remembered as one who has done great work where people have come from far away to play a golf course I’ve designed," he says. "I want to create something that people don’t get bored with, that people want to play again and again. I also want to design tournament golf courses to test golfers’ abilities. The trick is to design courses for the best players in the world and for the 20 handicappers."

LESS IS MORE

While visiting his mother in Las Vegas years ago, Layton drove by a golf course that was part of a gated community and never forgot it.

"The waterfall, the beautiful green grass, the light sand bunkers – that image hooked me," he says.

Layton did research, talked to architects and figured out he needed a landscape architecture
degree to pursue the profession. While in junior college, he worked as a laborer during the construction of The Bridges Golf Club where he met Wilse and Minchew.

"I tagged along with Harrison and Eric and connected with Eric," he says. "He invited me to the office, and I drove 500 miles to see it. There, I met Erik Larsen and connected with him. From that point on, I always kept in contact with Erik."

Layton transferred from junior college to Mississippi State University to earn his landscape architecture degree. While at MSU, he worked on the construction of a mom-and-pop course and completed several internships at Palmer Design.

"I kept calling and calling," he says. "Any time I wasn't in school, I went to Ponte Vedra (where Palmer Design used to be located) to work."

After graduating, Layton went to work for Palmer Design full time. Once there, he worked on many different projects, visited many great sites and was exposed to many different styles. He learned from Ray Wilse, Eric's father, and Greg Stang, who both influenced him the most.

"They took the time to explain the thoughts behind the design and gave me some of the design to do," he says. "I blossomed under their direction."

Layton's style has evolved from moving a lot of dirt and creating a lot of splashy features in an effort to wow golfers to seeing more value in strategic design and doing away with things that aren't essential.

"I'm starting to believe in the 'less is more' philosophy more," he says. "Most of our clients can pay for whatever we can draw, so sometimes it's hard to have that restraint."

Like Johnson, Layton likes to get out and see other architects' work as much as possible. He likes the work of Tom Doak and Coore and Crenshaw in particular, as well as Alister MacKenzie and George Thomas.

"I combine others' styles and throw in my own flair," he says. "I keep an open mind. I'm an empty cup and work to get better every day."

Palmer Design is gravitating toward core golf, although new courses are still tied to development, but in a different way, where homes and road crossings aren't so close to or part of the course. Layton adds that more sophisticated home owners don't want to be right on top of a course but next to natural areas and lakes.

"If you do golf right, the rest will take care of itself," he says. "With core golf, you'll keep natural corridors for animals to go in and out."

Even though Layton has just one project under his belt in which he was the lead architect (Zhailjan Golf Resort in Kazakhstan) there are several other projects in which he's the lead architect that are on hold because of economic conditions and other snags.

"It's frustrating," he says.

**THE YOUNG FAZIO**

It looks like the future of Fazio Golf Course Designers will remain in the family, thanks to Tom's oldest son, Logan, 30.

Logan's interest in golf course design started when he was 15 and began working on projects with his dad. In high school, he studied mechanical engineering and liked to draw plans.

"Logan wanted to learn from the ground up, like me with my uncle, George Fazio," says Tom Fazio. "I sent him to work in the Arizona office. He worked in the field and under designer Dennis Wise."

It wasn't an issue when Logan came to work (continued on page 91)
AN EXEMPLARY PROGRAM?

IPM in Canada has become even more important recently because of new pesticide laws and regulations.

BY DAVID MCPHERSON
Golf courses are filled with pests: weeds, diseases and insects, many of which are unseen to the weekend duffer. These pests threaten the health of turf, and it's the superintendent's job to combat these intruders and keep turgrass green.

Enter Integrated Pest Management, a Canadian golf industry accreditation program that promotes minimized pesticide use and enhanced environmental stewardship. Many golf course superintendents have always practiced IPM, but Ken Cousineau, executive director of the Canadian Golf Superintendents Association, says it has become more important during the past five years because of the approach to pesticide bylaws enacted in a number of communities throughout Canada.

"IPM is now becoming a lot more formalized," Cousineau says. "Municipalities are asking for IPM certification in their bylaws, and we're encouraging municipalities to take that approach rather than adopt a ban on the use of products that are already approved for use on the golf course, but they've chosen to ban for whatever reason."

An IPM accreditation program is necessary because of the inconsistency among municipal bylaws, says Jeff Stauffer, superintendent at Credit Valley Golf and Country Club in Mississauga, Ontario.

"There are situations in Ontario where there's a golf course on one side of the street that has to follow one set of rules, and a course right across the road follows a completely different set of rules," he says. "We're just asking for the same rules to be followed or implemented for everybody.

"We developed the IPM accreditation program to verify there was a gap under provincial legislation to apply pesticides," Stauffer adds. "We were licensed to apply them, but how you got to the decision to apply them was missing. An accreditation program helps show the day-to-day decision that leads up to the reasoning to apply a pesticide product or not."

With the CGSA spearheading the IPM program, and with some of its members working behind-the-scenes to bolster government relations, the playing field is being levelled gradually, but there's still a ways to go.

Because the implementation of IPM in Canada is a provincial responsibility, some provinces have programs and others don't. Some of the programs are supported legislatively and others aren't. To date, IPM programs are available in British Columbia, Manitoba and Ontario. Quebec has a legislative program of pesticide use reporting and several provinces in Atlantic Canada recently started adopting...
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**Inside the IPM Accreditation Program**

The Integrated Pest Management Accreditation Program provides golf course superintendents with the structure and support required to adequately, professionally and responsibly protect their golf courses from pest infestations. Through the use of Ridgetown College at the University of Guelph in Ontario, third-party environmental auditors and universal record-keeping, the IPMAP creates rigid documentation that pesticides are responsibly used on an as-needed basis only.

"Presently, the IPMAP is voluntary for most golf courses in Ontario," says Jarrod Barakett, golf course superintendent at Deer Ridge Golf Club in Kitchener, Ontario, and director of government relations for the Ontario Golf Superintendents Association. "There are some municipalities across the province that have provided golf courses with an exemption within their adopted pesticide bylaws if the golf course attains IPM accreditation through the IPMAP. Within these municipalities, the IPMAP is mandatory."

The IPMAP is fully supported by the Ontario Allied Golf Association and recommended to city councils throughout Ontario as an alternative to pesticide bans on golf courses.

There are three phases to the IPM accreditation:

**Phase one** – During the first year, a golf course must designate an IPM agent, Barakett says. This person can be anybody on staff – superintendent, assistant superintendent, second assistant, etc. Before becoming an IPM agent, the designated individual must successfully complete an IPM accreditation exam administered by Ridgetown College. Upon successful completion, the individual then becomes an IPM agent, and the golf course becomes registered. The IPM agent then is required to achieve eight continuing educational credits every calendar year. Continuing education credits are offered through various industry seminars and their values are determined by the IPM council.

The IPM agent also is responsible for scouting golf courses for pests and recording any pest activity, Barakett says. The IPM agent then records any steps taken to relieve pest pressure up to and including pesticide application.

At the end of each year, the registered golf course is required to submit the IPM records to Ridgetown College for a desk review audit.

**Phase two: desk review audit** – This audit is performed by a third-party environmental auditor. Upon successful completion of the desk audit the golf course becomes level-one IPM accredited. After achieving level-one accreditation, the golf course must continue to submit records for annual audits, and the agent must continue his CEC developments.

**Phase three: on-site audit** – To achieve level-two accreditation, a golf course must have the environmental auditors visit the golf course, Barakett says. During the visit, the environmental auditors perform an on-site audit during which the auditor reviews the golf course’s IPM records, checks sprayer calibrations and visits any hot spots (areas of high pest pressure) on the course.

Upon successful completion of the on-site audit, the golf course becomes level-two accredited. On-site audits are conducted every three years.

There are more than 40 golf courses in Ontario with level-two accreditation. The program has been in place for four years, but because of the structure of the IPMAP, the golf industry is only in the third year of the level-two accreditation designation.

Visit www.ontarioipm.com for more information about the accreditation process.
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Phase three of Canada's IPM Accreditation Program includes a visit from environmental auditors to check sprayer calibrations, review IPM records and view hot spots. Photo: Mark Scenna who has written several books about keeping the greens.

"We've been practicing IPM long before it got a name tag," Witteveen says. "Unfortunately, Friends of the Earth, Sierra Club and other such organizations think what we are doing is only window-dressing. We have to recognize these groups aren't friends of golf.

"Pesticides are a very regional problem in Canada," he adds. "Bugs are most active where it's warm and humid like Windsor, Ontario, and at times the rest of Southern Ontario. To the best of my knowledge, dollar spot isn't a problem in Prince Edward Island and Saskatchewan, but it's a huge problem in Ontario."

Unlike the U.S., Canada doesn't have a federal preemption law that prohibits local entities from regulating pesticides. Currently, 135 municipalities throughout Canada have adopted varying degrees of pesticide bylaws for private property, including golf courses. Quebec (91 municipalities) and Ontario (27 municipalities) are the provinces with the highest number of pesticide bylaws.

Keith Bartlett, CGCS, of St. George's Golf and Country Club in Etobicoke, Ontario, isn't IPM accredited yet, but says he'll start the process shortly.

"Golf courses are way ahead of the lawn care industry, as we try not to apply pesticides," Bartlett says. "IPM consists of doing a lot of other things right such as treating fine turf areas before serious problems develop."

According to Bartlett, who has a master's designation from the CGSA, one of the main benefits of an IPM program is that it forces superintendents to keep detailed records. Unfortunately, he says the IPM issue has become political and doesn't recognize the skill and dedication golf course superintendents have
providing great conditions without endangering the health of people or the environment.

"You can’t kill every weed on the golf course," he says. "I’m always trying to find ways to tweak my fertility program or other maintenance programs to reduce pesticide use and its associated costs. IPM doesn’t save us a lot of money because we use it to fertilize more, test more (soil and tissue nutrient analysis), create a balanced soil profile and microorganism population, and introduce new turf species.

“The biggest stumbling block is the members’ tolerance to imperfection,” he adds. “I prioritize the key areas – greens, tees and fairways – but the rough and bunker mounds are important and require attention as well. We’re much more IPM orientated than our counterparts in the U.S. They have more products at their disposal, and in discussions with them, they’re still spraying by the label.”

A U.S. PERSPECTIVE ON IPM

Despite Bartlett’s view of pesticide use on golf courses in the U.S., pesticide restrictions in areas of California are even more severe than in Canada, says Brian Nettz, golf course superintendent at Presidio Golf Course in San Francisco.

“Our program was instituted at the urging of the National Park Service,” Nettz says. “It’s probably among the most stringent in the country. Its creation was a collaborative effort between the Presidio Trust (a quasi-public entity that actually manages the property) and Arnold Palmer Golf Management, as well as a number of consultants on both sides. The actual hands-on constructors were Christa Comfort, the Presidio Trust IPM coordinator, and former superintendent Kevin Hutchins.”

While Presidio isn’t a nonpesticide-use facility, the course is very much an IPM facility, Nettz says. Some of the biggest IPM practices the club has implemented include:
- No chemicals known to California to cause cancer and/or reproductive harm are used. Nettz says this means the majority of pesticides registered in California aren’t available.
- No pesticide applications are made within 24 hours of a rain forecast.
- Storm water is tested each year, which costs $9,000 for every pesticide used on the property.
- Fairway, tee and green clippings are used in a Presidio Trust regeneration program.
- New products must go through an extensive review process.
- Specific damage thresholds are observed before pesticide use is engaged.
- No-spray zones are established around sensitive areas.
- Compost tea is used as an alternative where possible.

In theory, Nettz likes the idea behind Cana-

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da’s IPM program, but he wonders what all the excitement surrounding it is all about. “IPM is now passé,” he says. “As an industry, we’ve moved beyond IPM into best management practices. I don’t know anyone who can afford to spray any more than they absolutely have to. The rub is that IPM to the $35 18-hole public course is different than to the 18-hole private course where a membership costs $250,000. I don’t think people understand that. Both are aerifying, watering, fertilizing, etc., but the guy at the private club is going to have a lot less of a threshold for pest/disease damage than the public club player. The media and public think IPM is a standardized system and some courses use it and others don’t, whereas the reality is everyone in the golf industry is functioning on a best management practices paradigm relative to their location and their consumer demands.”

What Nettz calls the “pain” of the system is that many golfers want Augusta National conditions for $49.95 a round. “They don’t want to be educated about IPM, the unique challenges you face, the limitations of your rescue chemistry, your nematode ails or anything else,” he says. “They want to be ‘green’ everywhere. Then, they’re only interested in ‘PGA Tour green speeds for my 36-handicap game,’ ‘playing golf in four hours so I can watch football or the TiVo shows from the night before,’ and ‘there better not be any blemishes on the greens even though I’m not fixing my own ball marks.’”

“IPM isn’t a model or a program,” he adds. “It’s about doing the right thing – doing everything you can to keep the plant healthy until a problem arises and then thinking: ‘I can do A, B, and C, and if it still doesn’t look better I can put out some rescue chemistry.’” The next big step forward in golf management should be a step back to more reasonable expectations, Nettz says. “That doesn’t mean we lose any of the beauty of the course or the game,” he says. “I don’t know where it should start – rolling back conditioning in some areas won’t be well received – but I have to put bread on the family table, too.”

Bartlett agrees that, in the future, having a formal process such as an IPM accreditation program still doesn’t simplify the superintendent’s job. There are no standard solutions to the unique pest management problems each superintendent faces daily. And, like Nettz alludes to, members at each club have different expectations. “There needs to be a monumental shift in attitude, not only for us about how to invest labor and testing, but also from our clubs to give us unscheduled time to complete tasks,” he says. Can it be done, Bartlett asks? “Only if our backs are against the wall with no other options,” he says.
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Any superintendent worth his sodium nitrate knows soil testing is a vital ingredient in a successful fertility program.

"Soil testing is the best way to determine what types and how fertilizer should be applied to greens, fairways and tees," says Clark Throssell, Ph.D., a turfgrass scientist and director of research for the GCSAA. "You certainly can overfertilize and underfertilize an area, although the latter is much more easy to overcome because you simply can add a little more fertilizer where needed."

Soil and water tests are important to a sound fertilizer program. And superintendents shouldn't hesitate to seek the help of a scientist or university researcher knowledgeable in the area, or they can become more educated themselves, says Bernd Leinauer, Ph.D., a turfgrass specialist and assistant professor at New Mexico State University.

Soil testing before fertility treatments also is a must to accurately determine the specific needs of turf in various areas of the country. A program and products that work in the Northeast might not be effective in the Southwest.

"For example, pH and micronutrient levels on golf courses in the Southwest are a big deal because if a fertilizer program isn't accurate it can lead to micronutrient deficiencies," Leinauer says. "On courses that are using treated effluent water, there's a much higher salinity than what's found in potable or drinking water. That can alter your approach to fertilization."

At Ozaukee Country Club in Wisconsin, Colin Seaberg generally sticks to applying granular, nonbiological fertilizers in the spring and fall on and around aerification dates. Photos: Ozaukee Country Club
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Soil testing before fertility treatments is a must to accurately
determine the specific needs of turf in various areas of the country.
Photo: Ozaukee Country Club

Even though fertilizer programs have changed considerably during the
past few decades, the proven staples of superintendents’ fertility arsenal
has remained the same: various combinations of nitrogen, phosphorus,
potassium, potash, sulfates and other chemicals. Organic materials have
become more popular recently as the industry continues to move toward
more ecofriendly turf management.

Some superintendents use water-insoluble fertilizers instead of water-
soluble ones. Water insoluble, also called slow release, means fertilizer
isn’t immediately available for plant use and is converted over time into
compounds for plant uptake. Water soluble, on the other hand, is already
in plant uptake form. Slow-release treatments are popular because they
have a lower salt index, a lower potential for burn, a lower potential for
leaching into groundwater and a more gradual supply of nutrients to the
plant from a single application.

Water-soluble sources have a higher salt index, a higher burn potential,
a higher leaching potential that could lead to groundwater contamina-
tion, and a potential for an undesirable flush of growth as the plant uses
the excess nutrient. The latter might lead to more frequent mowing and
more money spent on manpower and equipment to deal with increased
growth rates.

Increasingly, superintendents are pressured to produce optimum playing
conditions, especially on greens where players expect smooth and fast as
the norm, Throssell says.

“It’s always a balancing act for superintendents when they care for their
greens,” he says. “The expectations of golfers have gone up and up, and the
margin for error on putting surfaces, which have gotten faster and faster
and lower and lower, has gotten smaller and smaller. They always walk
a fine line when giving golfers the speed and smoothness they want and
getting enough nutrients to the grass so it will grow, handle traffic and
cope with possible diseases.”
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DIFFERENT WAYS TO DO IT

Superintendents generally plot their fertilizer applications correlating to weather conditions and the overall condition of the turf, which can be affected by the amount of play (foot and cart traffic) fairways, greens and tees receive. Fertilizer makes up a considerable portion of every superintendent’s budget and is vital to keeping a course green, lush and in peak playing condition.

“We have a $150,000 line item for chemicals for the course, and fertilizer is a big part of that number,” says Richard Swinhart, golf course superintendent at Old Ranch Country Club in Seal Beach, Calif.

“Generally, we soil test in the spring and fall to find out where the turf is and what it needs,” Swinhart adds. “We use a of slow-release products. It’s more expensive that way, but we believe it’s effective and safe. We apply ammonia sulfate and calcium nitrate and some potassium nitrate during the fall, winter and spring. We do quite a bit of spoon-feeding of fertilizer to the greens. Bermudagrass doesn’t take that much to keep it green, and you can do the tees every 40 days or so. We’ll put about a quarter to a third of a pound out, and the treatments don’t interrupt play at all.”

Dean Gump, golf course superintendent at Pasatiempo Golf Club in Santa Cruz, Calif., takes soil samples of his fairways twice a year and greens and tees three times a year, although he keeps a closer eye on tees and greens if the weather has been severe. Gump uses slow-release products on the fairways and spoon-feeds the tees and greens with an organic-based product.

“We have been using more organics as a base for our fertilizer program for a couple of years,” he says. “Certainly weather plays an important part in our fertility program because the plant uses nutrients differently during the course of a year. We’ll customize our fertilizer program to each specific season and set of weather circumstances. Soil tests are great tools to help you analyze your turf and put together a sound program.”

Colin Seaberg, golf course superintendent at Ozaukee Country Club in Mequon, Wis., likes to keep his fertility program as basic and simple as possible.

“Other than some slow-release liquid products, I generally keep to strictly granular, non-biological products in the spring and fall in and around my aerification dates,” he says. “I will spoon-feed the rest of the season (with the above mentioned products) alternating with sprayable ammonium sulfate at about a tenth of a pound of nitrogen per thousand square feet every other week.”

Seaberg introduced a foliar nutrition program on his greens last year.

At Ozaukee Country Club, Colin Seaberg pushes growth with adequate and timely fertilizer applications throughout the growing season. Photos: Ozaukee Country Club
"Here at Merion Golf Club, our members are passionate about golf and the condition of our course, so we have an active Poa annua management program. We rely on Cutless 50W because it is highly effective in reducing Poa annua infestations in bentgrass fairways. My experience with Cutless 50W is that it is less disruptive on the bentgrass, while being highly effective in reducing Poa annua populations. In addition to bentgrass conversion, Cutless 50W also provides labor savings by reducing our mowing requirement."

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"This is a foliar program that contains generous amounts of sea-plant extract plus a micronutrient package," he says. "At first, I was apprehensive about using the product, but after homework and talking to some other area superintendents who've had experience using it, I initiated the program. In conjunction with this product I was able to reduce the nitrogen level to about 1.5 pounds per thousand square feet for the season without sacrificing color or putting quality."

Seaberg creates plant growth from the top with Primo and pushes growth with adequate and timely fertilizer applications throughout the growing season. He manipulates one or both to get the desired results, such as color, density and ball roll.

"We base our fertility off of soil tests and feel," he says. "You need to have a feel for when your plants need a little bump in fertility to right the ship."

**FOLIAR FEEDING**

Fertigation, delivering chemicals through an irrigation system, has become a popular method of applying fertilizer. It's quick and relatively easy, reduces man-hours needed to apply fertilizer by machine or hand, and is highly effective. At Old Ranch, the majority of the fertilizer is applied on the course though fertigation, Swinhart says.

Using liquid fertilizer on greens is better than granular fertilizer, says Mike Crawford, golf course superintendent at TPC Sugarloaf in Duluth, Ga.

"If you have a fertigation capacity, spoon feeding the fertilizer in this manner is a great way for the keep plant health and growth more even and steady."

Yet superintendents debate whether granular or liquid fertilizers are more effective.

"If you're going out to apply a fertilizer at a light rate, a liquid might be a better option," Seaberg says. "It's easier to handle, apply evenly and won't get that prill pick up either."

Spoon-feeding liquid fertilizer isn't new in the business, Wendt says.

"Switching to a solely liquid program for the summer months (May through October) helps us dial in small amounts of nutrients when we want them, where we want them," he says. "We will foliar feed the greens, tees and fairways during this time of the year. Liquids enable us to spoon-feed one-tenth of a pound or less of nitrogen and other nutrients when the plant is under stress."

**ENVIRONMENTAL CONCERN**

Organic-based fertilizers have made inroads recently, although it's not clear whether organics can replace traditional fertilizers to any great degree. Nonetheless, superintendents keep an open mind.

"Organics are becoming popular as we continue to be more environmentally conscious," Crawford says.

"There's a strong green movement in our and other industries," Seaberg says. "For the most part, organics are ultrasafe and give dependable results."

Wendt believes organics can play a part in a fertility program and says building organics into a fertility program isn't only beneficial but sound environmental practice.

"Working to build sustainable soils through organic fertilizers will help build healthy turf for the long haul," he says.

Throssell believes pressure will continue to mount on golf courses to use more organics.

"Wisconsin and Minnesota - Great Lakes states - have taken steps to regulate the amount of phosphorus that can be applied to the land, and that affects golf courses," he says. "They're concerned about phosphorus getting into streams and lakes and promoting algae blooms and more aggressive growth of plants."

Because the last thing a superintendent wants is fertilizer leeching or running off into above ground or subterranean water sources, it's wise to monitor weather conditions carefully to avoid applying fertilizer before a heavy rain. A light rain helps chemicals reach their intended targets - plant roots - more efficiently. But heavy rain can flush fertilizer into nearby water sources and result in wasted time and money in the process.

**DISPERSEABLE GRANULE**

Superintendents always are looking at university research and new products for an edge. Wendt is looking at a quickly dispersible granule, which is beneficial to avoid burn. Seaberg says the biggest thing to come along recently has been dispersible granular technology, as well as the long, continuous slow-release products.
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In golf, like the rest of American society, green is worth more green than it used to be. Because of higher oil costs and a burgeoning environmental awareness, recycling programs and conservation have become more popular.

"We've been doing it for years," says Chris Gray, director of golf course operations at Marvel Golf Club in Benton, Ky., and the National Public and Overall winner of the 2007 GCSAA/Golf Digest Environmental Leaders in Golf Award. "I hate the perception that we're Darth Vader of the Evil Empire."

Gray, who also won the environmental award in 2003, goes beyond the standard separation of cans, plastic and paper. When he started at the club two and a half years ago, he began with an energy audit.

"Fluorescent bulbs were the easy part," he says.

Gray's maintenance building is relatively small, so he sought a way to heat it more efficiently during the winter. "Where's our used oil?" he asked staff. The answer was that it was in 55-gallon drums the course paid to have taken it away. Gray thought, "Why not get a drip burner and use the oil to heat our maintenance facility?"

"So we set up a little oil burner with a drip system, and it keeps everything heated," he says. "A blower fan pushes the heat through the duct system. The cost was minimal. It saves money, and we dealt with the problem on our own."

During Gray's first year at Marvel, he saved about $1,400 in heating costs and didn't have to pay to have the used oil hauled off.

Additionally, Gray returns all grass clippings to the canopy of the turf in his fairways and tees.

"When you take away the clippings, you take away the nitrogen," he says. "We saved 20 to 25 percent on nitrogen costs since we started. Also, returning clippings back to the tees and fairways saved manpower. It sped up the time to do the job. Those hours spent doing that went to the bottom line."

Also, Gray found out about using vegetable oil to run his diesel-powered equipment by watching a TV show called "Myth-Busters." The concept is that vegetable oil, properly heated to 160 to 170 degrees, atomizes just like diesel.

So Gray started with one piece of machinery (a mower) that was beyond its warranty period (changing the system can void the warranty) and installed a separate tank for the used vegetable oil from the clubhouse restaurant.

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injectors, it will run just like diesel," he says, adding that he filters the oil before using it. "You use a Y-connector between the tanks. It took some tinkering, but once the oil is heated, you use a separate line that goes into the diesel engine. You start it with regular petroleum diesel, let it heat up and switch over to the other oil tank. Then when you shut it off, you switch back to the petroleum fuel for about five minutes so it cleans all the impurities."

The used oil, a form of biodiesel, costs Gray 57 cents per gallon after filtration compared to $3.25 for diesel. He also can buy new vegetable oil in bulk for 67 cents per gallon. "It's a simplistic system," he says. "It can be hard to explain, though. All my equipment is older, well past any warranties. I know the system works."

Vegetable oil use has decreased Gray's diesel consumption 53 percent. "We've saved about $3,000 to $4,000 in our fuel budget by using this system in a little more than a year," he says. "The more I add, the more I save."

There's a lot of equipment for sale that can be retrofitted for vegetable oil use, Gray says. "There's really no down side, but there are things to be aware of," he says.

This type of creativity is much more important than doing things the standard way, Gray says. "Everyone is so concerned with keeping the grass green, they don't think about how things are done and how to make it better," he says. "Change just a little bit, and you'll do a world of good. It confuses me to no end that people don't do it."

Gray also harvests rain water to fill his irrigation pond rather than pumping it from the lake beside the course. 

"We have a system of PVC pipes that go to lift stations, which empty into my irrigation pond," he says. "Instead of pumping fresh water, which is much more of a precious commodity than it ever has been, we use rain water. This industry uses billions of gallons of fresh water. You're just waiting for an environmental group to go to the point of court of public opinion and say how much water we use."

Gray's conservation methods go farther than most, but he says it's going to be a necessity in the coming years. "When people think recycling, they think cans, but I'm talking about water and energy," he says. "We have to get ahead of the curve because if it catches up to us, it's going to be bad. Ask any superintendent in the Atlanta area how they're doing with water. There's a reckoning coming. There's not one hard-core environmental agency that wouldn't love to have our head as a trophy for nailing us for water consumption. We have to be proactive. Water is the big issue for the next 10 years, and no one is listening. Last year was a wake-up call. It literally takes you turning on the faucet and having no water come out to understand what's happening."

Gray's next plan is to install a windmill, which he estimates will cost between $5,000 and $6,000. He believes it will provide enough electricity to run the clubhouse and earn a credit for what he puts back into the local energy grid.

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"It's time to elevate our game," he says. "What problems will we be facing in 10 years?"

MORE THAN IT USED TO BE
At the city-owned Saddle Rock Golf Course in Aurora, Colo., Joe McCleary, who has been the superintendent since 1997 when the course opened, composts materials from the golf course and recycles as much as he can. The staff stores aluminum, plastic and glass in a single-stream Dumpster and collects paper and cardboard from office waste.

"It's surprising how much we generate," he says.

Other conservation efforts at Saddle Rock include:
- Recycling waste oil, antifreeze, hydraulic oil and tires;
- Using compost from the metro sewage treatment district to topdress fairways; and
- Using recycled asphalt from the city street department to build cart paths.

McCleary also has been investigating biodiesel alternatives with the course's mechanic.

"In the past, we haven't had a steady supplier," he says. "Using biodiesel might happen in 2008 and definitely in the years ahead."

Five years ago, Scott Pulaski, golf course superintendent at the Treetops Resort in Gaylord, Mich., came up with an idea to recycle pesticide containers, which since has grown into a large operation. Now, Turfgrass, a fertilizer and chemical company based in Michigan, runs the operation, which is managed by Karen O'Dell, a former superintendent at Treetops.

"Anything that leaves our door, we'll take back in," she says. "We make it as simple as possible for the end user. We even take our competitors' products."

Turfgrass stores the containers in a used semi truck until the state has a grind date. About mid-September each year, a company called Tritrans from St. Louis comes to Turfgrass' site to grind the 2.5-, 4- and 30-gallon containers. It also takes away 55-gallon plastic drums at no charge.

"There's no revenue, but from the environmental concern, we wanted to do it," O'Dell says.

In 2007, Turfgrass' program generated 6,550 pounds of ground material at one plant and 2,600 pounds at the other. In Michigan, a total of 50,475 pounds was generated.

GREEN DEVELOPMENT AND MAINTENANCE
Recycling is part of the overall sustainability concept many professionals embrace. Golf course architect Michael Hurdzan, Ph.D., an industry leader for environmental concerns, gives credit to environmentalists for the move toward recycling and conservation.

"If they hadn't have pointed this out, the golf course industry might not have moved at all, making us face the fact that we can do better,"
At Marvel Golf Club, Chris Gray harvests rain water to fill the irrigation pond rather than pumping from the lake beside the course. Photo: Marvel Golf Club

he says. "What got me as involved in the environmental movement was hearing how bad golf courses are for the environment, and I knew it wasn't right. That's what spurred me to be active in the community. I knew people weren't getting the correct picture, and no one from our industry was stepping forward to publicize our thoughts.

"We're down to a much more rational, cooperative situation with environmentalists, and they're an enormous help," he adds. "But we started with, 'If you want to argue with facts, we can do that.'"

A perfect example of that cooperation is Widow's Walk Golf Course in Scituate, Mass., where the town wanted to build a golf course, but there were too many environmental problems to build it. On the degraded site, sand and gravel had been quarried for almost 50 years. There was a garbage dump next to the site, too.

"Trying to get a course permitted on the land was almost impossible," Hurdzan says. "So I asked the town to bring environmentalists on our team instead of fighting them. Let's go through site assessment and how to reuse land and improve it. How could they help us?"

The course became an environmental demonstration project, which included six California greens, six USGA greens and six sand greens to see if one was better than the others.

"There were no significant differences," Hurdzan says. "Why build an exotic green when you can build them from topsoil and get the same performance?"

The stumps that had been dumped there were chipped into sawdust and mixed with the soil to make compost, which was used to topdress the playing area. Additionally, recycled asphalt was used for the cart paths, and old carpet from the dump next door was used to build a sod-wall bunker.

Jeff Carlson, who was the superintendent on the Widow's Walk project and is now the superintendent at The Vineyard Golf Club in Martha's Vineyard, Mass., thought the carpet idea was crazy.

"That was 1996, and I recently spoke to the current superintendent, and it's still intact," Carlson says. "That's a good thing. Apparently, it's well received, and no one seems to know the difference between that and a regular bunker. They're going to do more."

When he left Widow's Walk, Carlson brought some of his environmental practices with him. The local government requires The Vineyard to be completely organic, so he can't use synthetic pesticides and fertilizers.

"I recycle greens clippings and plugs and don't add any product to it," he says. "I just keep turning it over. We use six-year-old topsoil as divot mix. It takes two or three years for it to break down into topsoil. It's terrific."

Carlson has a six-yard surplus of topsoil he intends to give away.

"Here on the island, that kind of stuff is rare, hard to find and very expensive," he says.

Carlson, who is the 2008 GCSAA/Golf Digest Environmental Leaders in Golf Award winner, says it's difficult to be completely organic, but new products coming into the market will help.

"The turfgrass industry doesn't have a guideline or definition of what organic is," he says. "There doesn't seem to be a good classification for organic pesticides, but it's coming."

To run an all-organic system, one has to have a membership that understands course conditions aren't always perfect, Carlson says.

"During the past six years, we've found the playing conditions are good," he says. "We focus on playability, not visual perfection. Not every blade of grass on every corner of the golf course is perfectly green." GCI
less is more

A links-like course in Colorado embodies a minimalistic idea
One expects to see trees, cart paths, tee markers, ball washers and carts on a golf course – amenities to enhance golfers’ experiences and increase revenue – but not at Ballyneal Golf Club in Holyoke, Colo. The private club, which is trying to take golf back to its original roots, is different.

Rupert O’Neal’s family has farmed in Holyoke for generations. O’Neal, principal of Ballyneal, left the area years ago but came back recently to operate the family farm, part of which are sand hills.

“About 10 years ago, I started a private hunt club, and it became lucrative,” O’Neal says. “I thought I could add a nine-hole golf course as another amenity. Because my brother Jim is a golf pro, I called him to look at the site, and he said designer Tom Doak (of Renaissance Golf Design) was the guy for such a project because he’s a minimalist.”

Doak was working on projects in New Zealand and Australia when his office was first contacted about Ballyneal. Jim O’Neal, golf pro and principal of Ballyneal, met with Doak at the PGA Show and showed him pictures of the property. Soon after, Doak’s Denver-based associate, Jim Urbina, looked at the site.

“Jim said the dunes were rugged but there was enough land to work around that and it could be a spectacular golf course,” Doak says.

Doak visited the site three or four months after meeting Jim O’Neal and expressed interest. However, Doak admits he didn’t want to sign up for an extensive contract.

“I needed time to come up with the right routing plan,” he says. “I wouldn’t build the golf course until the routing plan was complete and everyone agreed it would be the best. That took 12 to 18 months. I’ve been around Sand Hills (Golf Club in Mullen, Neb.) since before it was built, and I didn’t want to do a project that was too much like it. At Ballyneal, there were dunes and bowls where most of the fairways and greens now are. The trick was to find a route where you would have visibility throughout the course.”

Renaissance Golf Design has been fielding a lot more calls about projects compared to five years ago, Doak says. The three factors that determine whether Doak agrees to work on a project are: the character of the site, its location and the client, who he has to have chemistry with and will give him enough room do what he wants.

Rupert O’Neal admits his brother Jim is more knowledgeable about golf than he is and knew they should build a links-style course with fescue.

Little earth was moved, and none was removed from the site, while building Ballyneal Golf Club. Photo: Dick Durrance
"With the sand and the way the site drains, links golf was the way to go, and Doak was the guy to give it to us," Rupert O'Neal says. "We got the right guy at the right time."

Rupert O'Neal also took a hard look at the turf industry before going ahead with the project. "I feel sorry for golf course superintendents because they lament about the way members want their course – members are more concerned about aesthetics than playability," he says. "I saw large line items for fertilizers and irrigation and the large amount of machinery needed to maintain a course. Then I saw the line item for growth retardants, and it didn't make sense. At Ballyneal, we're not going to overwater, overmow or overfertilize. Brown is OK."

SHAPING UP
The new construction project commenced September 2004.

"We started to push some sand and soil around and left it to see how it moved in the prevailing winds because I didn't want bunkers in areas where sand would be blowing across greens and fairways," Rupert O'Neal says. "It's hard to keep the edges of wild and native bunkers from moving. The biggest migration of bunkers is during the winter when it's dry and the wind blows all day, every day."

A 307 excavator plucked yucca out of the ground and filled the remaining holes with dirt. Doak's team did all the shaping and built on the go. Rupert O'Neal estimates between 30,000 and 50,000 cubic yards of dirt were moved, not removed, to build the course. There were no trucks used on site to haul dirt. The team didn't use soil amendments but put down four or five inches of natural compost.

"There were no blueprints because Tom built by the seat of his pants," Rupert O'Neal says. "Tom was here four days at a time every two weeks and spent more time on the dozer than some architects spend on site. It didn't make sense to hire a big construction company and have change orders for when Tom moved a bunker. The push-up greens were conceptual. Tom told a shaper what he had in mind, and the shaper would do it. When Tom came back a week later, some greens were correct and some needed small changes."

"We love to shape when we can," Doak says. "There are seven guys who work for me. We can't do the shaping when projects are bigger and more complicated, although we like to do the shaping of the greens and bunkers on all of our projects."

The minimalistic style that people associate...
with Doak is difficult to define, he says.

"It doesn’t necessarily mean were not mov-
ing more earth than necessary, rather it’s not
moving more earth in more places than we
need to. We want the course to look natural.
I try to get a golf course laid out so all we have
to do is shape the greens and tees."

The team completed nine holes during the
winter of 2004 and seeded the last holes in
7, 2006 even though people started playing
golf in August.

FIRST GROW-IN

Dave Hensley, golf course superintendent at
Ballyneal, first arrived on the project to help
with construction as an assistant for superin-
tendent Judd Fitzgerald, who quit two months
into the project. An assistant superintendent
at four or five clubs before coming to Bally-
neal, Hensley wanted to work with Doak and
become a superintendent.

"I like the idea of taking maintenance back
to an easier day, working with what Mother
Nature gives you," says Hensley, who man-
aged his first grow-in at Ballyneal.

The fact that everything was done in-house
taxed Hensley to the project.

"We put together about 60 guys," he says.
"One guy installed every irrigation head, one
guy did all the wiring, one team did the hy-
droseeding, and one team plucked out all the
yucca. It was a big task to make sure the right
crews were ahead of each other."

The maintenance staff consists of 20 people
including Hensley, his assistant and the me-
chanic, during the season.

WORKING WITH FESCUE

Choosing fescue as the main turfgrass for
the course was a big deal and an important
decision because there’s not much fescue
grown in Colorado and Hensley had no prior
experience working with it. The O’Neals and
Hensley leaned on California-based consult-
ing agronomist Dave Wilber, who had con-
sulted on several of Doak’s projects and grew
up in Colorado.

"He’s considered the guru of fescue," Ru-
pert O’Neal says about Wilber.

To learn more about fescue, Hensley talked
to superintendents who went through similar
experiences as well as superintendents at
Bandon Dunes.

"I did all my learning at big-name private
clubs, and I was used to keeping the grass
green," he says. "You really don’t understand
the fescue surface until you touch it, smell it
and play on it. The toughest thing for me was to
let it go dormant. I didn’t try to overmanage the
fescue. They say let the fescue do its thing."

Hensley says it was difficult for him in the
beginning to believe he could grow a mixture
of fine fescues, bluegrass and colonial bent-
grass in the wind, heat, dryness and chill of
Northeast Colorado.

"The only thing I knew about it was that
it made a fantastic golf surface in Europe and
Oregon," he says. "It still puckers me up to think about the climate differences of
Oregon and Europe versus that of Colorado.
I remember a time during construction when it
was 110 degrees outside and the surface heat
of the sand was 150 plus, and the wind was
blowing 20 miles per hour. I thought there
was no way a putting green with fine fescues
in the mix would survive in Colorado. Much to
my disbelief, it’s working, and when you see a
surface that contains a fescue mix, you’ll never
forget how cool it is."

When seeded originally, the greens were 30
percent Colonial bentgrass, and the tees and
fairways were 30 percent Colonial bentgrass
and Kentucky bluegrass.

"We’ve stopped overseeding with bluegrass
and bentgrass," Hensley says. "Right now,
we’re overseeding with 100 percent fescue,

AT A GLANCE

Ballyneal Golf Club

Location: Holyoke, Colo.
Web site: www.ballyneal.com
Type of project: New construction
Owners: Rupert and Jim O’Neal
Architect: Tom Doak
Golf course superintendent: Dave Hensley
Project start: September 2004
Golf course opening: September 2006
Cost: Between $2 million and $2.5 million,
including grow-in and some equipment
cost, but excluding land and water
Turfgrass: Majority is fescue with some
bentgrass and bluegrass

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However, it will take five years from the time of grow-in for the fescue to grow in to where Hensley and the O’Neals want the playing surface to be. Fescue requires less water and fertilizer to establish and maintain than other types of turfgrass, Hensley says.

“We grew in the golf course during one of the hottest summers in Colorado,” he says. “The sand sucked everything dry. We didn’t have snow that winter, and I kept the irrigation system charged up all winter so I could water a lot. It was a challenge figuring out how the young fescue was going to react to the temperatures and our style of management compared to the bluegrass and bentgrass. It took some experimenting and time to figure out that brown grass was good and brown grass turning to dust was almost good.”

In trying to reach his goals, Hensley got ahead of himself in the beginning and started his “links land” watering and fertilizer program a little too early on some of the younger grass.

“I quickly learned it’s a very fine line, and in finding that line, we learned what and what not to do,” he says. “We found out which species and varieties are most viable in our environmental conditions (we’re still finding out what varieties work) and found out what too little and too much fertilizer or water does to each of the species we used in our grassing specs. We can see areas on the course where we abused the fescue in the beginning and areas where we babied it. The areas we abused present the best playing surface. In the areas we gave too much attention to, we’re now trying to reduce the percentage of bluegrass and bentgrass in the mix. You can not only see it, but you can feel it underneath your feet. You can feel the difference between a think stand of fescue/bentgrass/bluegrass mix and stand of primarily bentgrass/bluegrass.”

Hensley is still experimenting with different approaches and techniques every day.

“I’m continually told not to overdo things and wait for the fescue to do its thing,” he says. “Approaching our third full year, I’m beginning to understand and see what they mean. At the end of the day, I’ve realized how important Mother Nature’s decisions are to the success of our playing surface.”

There are always naysayers about fescue,
Doak says. “They say, ‘Five years from now, it won’t be there,’” he says. “I know just enough about turf to be dangerous, but I know I’m a designer not an agronomist, so Dave Wilber was a big help. The problem with other cool-season grasses is that, in the windy and dry environment, you’d have to water more than fescue and the turf would become too thatchy. You would end up with a spongy surface that wouldn’t play fast and firm.”

COURSE MAINTENANCE
When it comes to turfgrass management, different environmental climates call for different action. And at Ballyneal, Hensley jumps outside the box before he jumps into the chemical room.

“For the most part, our members and owners could care less about how the course looks, which is different thinking from the average golfer,” he says. “Our members just want the
course to play great. I’m definitely not the most experienced or smartest superintendent, but I feel a lot of guys cause their own problems by trying to overdo things, and it isn’t necessarily their fault they’re overdoing it. I blame the mindset of the American golfer that ‘green is good.’ If golfers would ask, ‘How did the course play’ rather than ‘How did the course look,’ our jobs might be a lot easier.”

So far, Hensley’s pesticide inputs have been minimal because of the environment and his attitude toward turf management, the cultural practices he implements and the game of golf. Hensley is big on organic fertilizer. Nitrogen applications are less and less every year. The first year he used 4.5 pounds on the greens, and this year he’s down to 2.5 pounds, but that’s still higher than he wants, which is less than two pounds a year. Fairways will get two applications a year.

“We need that five-year period to see where we stand,” he says.

The greens were mowed at .300 to start, then they went down to .250, and this past year were as low as .220. They’re cut four or five times a week, plus rolled. Speeds are nine feet.

“Designwise, you don’t want more than nine or 9.5 because it takes away from the contours,” Hensley says.

Fairways are cut twice a week at .75, and tees are cut at .625.

The big thing with irrigation is not watering when it’s not needed.

“We know with our management approach, it does us no good to sprinkle our grass and that fine fescues don’t necessarily like wet feet,” Hensley says. “When we water, we let it pour though. We found out that we can’t baby this grass or else the playing surface becomes puffy and undesirable grasses thrive.

“We train our hand waterers to carry a small soil probe and water only dry areas, not brown grass,” he adds. “My assistants and I constantly monitor and manage for irrigation uniformity. We look at the subsurface before the surface and this helps us make better decisions on when and what not to water.”

UNDERSTANDING MEMBERSHIP

Though the course averages 30 to 40 rounds a day, the O’Neals aren’t advertising for more members, but they’re always looking for people who appreciate links golf. Last year, Ballyneal generated 4,000 rounds. The goal is 10,000 rounds, Hensley says. And the low number of rounds makes the maintenance crew’s jobs easier.

“It’s less expensive to keep and maintain your course with a true links golf course because you don’t have to cover up imperfections,” Hensley says. “From a superintendent’s standpoint, it’s one of the better jobs to have because you have an understanding owner and membership.”
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Shade versus turfgrass: a no-win situation?

When asked what your top five pest problems are, do you consistently put trees at the top of the list — ahead of the usual suspects such as Poa, white grubs, brown patch or dollar spot? If so, you're not alone. Trees, or more specifically, the shade that trees create, pose a significant management problem for golf courses almost everywhere throughout the world. The unfortunate truth is that turf plants require lots of light for optimum growth. Whether it’s shade from trees, buildings or overcast weather, there hasn’t been a turf variety developed that performs well when it’s deprived of light.

THE IMPORTANCE OF LIGHT
Plants use light the same way animals use food — to fuel the chemical reactions that keep them alive. But different types of plants require different levels of light. Think of the mosses and ground covers that grow on the forest floor or shade-loving house plants. These require little light for survival and would actually suffer and even die if exposed to harsh, direct sunlight.

In contrast, there are plants that require many hours of high intensity light per day, and will die if forced to grow in the shade. Plants that grow in desert environments, as well as agricultural crops such as corn and sugar cane,
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TABLE 1. Shade tolerance of key golf course turfgrasses

Turfgrasses with good to excellent shade tolerance generally produce good-quality turf, even when grown in partial shade. Unfortunately, there are no turfgrasses that grow well in full shade. Those with poor shade tolerance will produce poor-quality turf or won’t survive at all under shaded conditions. These ratings are based on the assumption that all other factors (fertility, irrigation, air temperature) are being optimized for that particular turf type.

<table>
<thead>
<tr>
<th>Shades Tolerance</th>
<th>Cool Season Radiation:</th>
<th>Warm Season Radiation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good to Excellent</td>
<td>Fine fescues (creeping red, Chewings, hard, sheep)</td>
<td>St. Augustine, Zoysia, Kikuyu</td>
</tr>
<tr>
<td>Fair to Good</td>
<td>Tall fescue, Velvet bent, Annual bluegrass</td>
<td>Bahia, Buffalo, Carpet, Centipede, Seashore paspalum, Bermuda</td>
</tr>
<tr>
<td>Poor to Fair</td>
<td>Colonial bent, Creeping bent</td>
<td>Annual ryegrass, Kentucky blue, Perennial ryegrass</td>
</tr>
<tr>
<td>Poor</td>
<td></td>
<td></td>
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</tbody>
</table>

IS THE SUN SHINING ON YOUR TURF?

Warm-season turfgrass varieties require two or more times the amount of light as cool-season varieties (Table 1). When reviewing the solar radiation data for locations throughout the U.S., the one interesting thing that stands out is that optimum sunlight for warm-season turfgrass is a rare commodity; only a few areas in the U.S. are really suitable. Even in areas where there is sufficient heat for warm-season turf, sunlight levels are too low because of frequent rainfall and cloud cover (as in the southeastern U.S.) or simply because of chronically overcast conditions (as in many coastal locations).
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Despite the lack of sufficient solar radiation, many golf courses manage warm-season turf for at least part of the year because of its ability to withstand higher heat than cool-season turf. Nevertheless, the lack of sufficient light is an important stress that weakens warm-season turf, making it more susceptible to attack by pests, traffic and other stressors.

THE PROBLEM WITH SHADE
Light can be reduced by any number of factors. Interference from trees and buildings and cloudy weather are most common. These factors can cause a reduction in the number of hours of light a plant receives each day and/or the intensity of the light received. Whatever the cause, when turf plants receive less than optimal light, they begin to change almost immediately at the biochemical and molecular levels, resulting in lower rates of respiration and photosynthesis and slower plant growth. These more or less invisible changes soon bring about some obvious changes in the anatomy and appearance of turf including:
- Plants become elongated (taller), but stems are thinner and weaker. Internodes are longer, and stolons are fewer. Turf thins as a result.
- Root growth is decreased significantly. Shoot growth, shoot density and tillering are reduced, too.
- Leaves become darker, fewer in number, narrower and more succulent (more moisture is retained).
- The leaf's waxy protective outer layer, the cuticle, becomes thinner.

The resulting plants are weakened considerably, and turf quality is reduced significantly (Figure 2 and photo on page 78). The succulent leaves with their thinner cuticle are more susceptible to damage from traffic, equipment

**FIGURE 2**
Effect of duration of sunlight on TifEagle Bermudagrass greens. Acceptable quality turf was produced with eight hours or more per day of full sunlight. Turf quality suffered dramatically when sunlight hours were reduced by shade to four per day. Data from Bunnell and McCarty, 2004. Similar trends are observed for cool-season turf.
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and disease. The depleted root system and lower energy reserves make it more difficult for the plant to recover from any type of injury from heat, cold, excessively dry or wet conditions, or disease. Weeds become more common because the turf plant is unable to compete effectively with them for moisture, light and nutrients.

And to complete this ugly picture, turf growing in shade is damaged frequently by overwatering and overfertilization with nitrogen. This occurs because plants grown in shade are growing more slowly and, therefore, require less of all nutrients for growth and survival. The quantities of water and nitrogen that are essential for growth of turf in sunny locations can be fatal to turf grown in shade.

THE BIG PICTURE
Shade affects turf management and golf course playability on a larger scale. Expect increased weed pressure and an increase in your fungicide budget because of the increased susceptibility of shade-grown turf to disease. Consider the cost/benefit of separate irrigation and fertilization programs for shady areas. Make golfers aware of the likelihood of increased pest and stress problems on shaded turf.

Additionally, shade produces some specific problems, depending on the turf type and turf height of cut:

Golf courses with warm-season turfgrass on fairways. Shady areas will suffer from competition with cool-season turf varieties in the forms of weeds such as Poa annua or from purposefully overseeded varieties that fail to die during the summer. This leads to bare spots, especially because of weakened warm-season turf. Additionally, spring/summer transitions won't be successful in shady areas because cool-season species likely will survive throughout the summer.

Greens in partial shade. Moss, algae, weeds and disease will increase in shady areas, and turf will be thinner and more susceptible to damage from traffic. Shady areas will be wetter unless it's possible to irrigate the green selectively with less frequent irrigation in shady areas.

MANAGING TURF IN SHADE
Tree pruning or removal are frequently the only solutions to shade problems. If, despite your best efforts, these aren't options at your golf course, it's inevitable turf quality will be compromised somewhat. However, there are some steps you can take to help minimize the damage:

Raise mowing heights to increase leaf area and photosynthesis. For example, Bunnell and McCarty (2004) have shown that a 50-percent increase of mowing height (from 1/8 inch to 3/16 inch) can increase the quality of TifEagle Bermudagrass greens significantly. Comparable...
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Results have been shown for cool-season turf as well. Even a 10-percent increase of mowing height can make a difference.

Minimize traffic in shady areas as a means of avoiding physical damage to this more delicate turf.

Be prepared to treat more frequently for weeds, disease, algae and moss.

Decrease irrigation in shady areas. Turf in these locations grows more slowly and, therefore, requires less water for survival. Separate irrigation systems for consistently shaded areas should be considered.

Avoid excessive nitrogen. Turf grown in the shade will use less nitrogen than turf grown in the sun. Keep soil total nitrogen levels between

When turf plants receive less than optimal light, they begin to change at the biochemical and molecular levels. Photo: PACE Turfgrass Research Institute

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   • 6-Building/Developer
   • 7-Research Professional
   • 8-Assistant Superintendent
   • 9-Golf Course Management Company Executive
   • 10-Others (please describe)

4. Number of Holes: (check one)
   • 1-9 holes
   • 2-18 holes
   • 3-27 holes
   • 4-36 holes
   • 5-Other

5. Total Annual Maintenance Budget: (check one)
   • 1-Less than $50,000
   • 2-$50,000-$99,999
   • 3-$100,000-$149,999
   • 4-$250,000-$499,999
   • 5-$500,000-$749,999
   • 6-$750,000-$1,000,000
   • 7-$1,000,000+

6. Course Renovation Plans for the Next 12 Months
   • 1-Full Reconstruction
   • 2-Partial Reconstruction
   • 3-None of the above
   • 4-Northeast
   • 5-Southwest
   • 6-Southeast
   • 7-West Coast
   • 8-Overseeded Rye/Bermuda
   • 9-Blended Grass Mix

7. What is the name of the architect who designed the course?

8. What year was the course built?

9. Is this course part of a resort chain?

10. What is the name of the resort chain, golf course management company, or municipal course system?

11. What turf do you maintain on fairways?

12. What turf do you maintain on greens?

13. What is the name of the golf course industry magazine?

14. What type of maintenance do you maintain on greens?

15. What is the best way to contact you for future renewals?
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3 and 20 ppm.

**Use growth regulators.** Consider using multiple applications of low rates of plant growth regulators such as trinexapac-ethyl (Primo) or flurprimidol (Cutless). These gibberellic acid inhibitors will counteract some of the negative effects of shade by increasing plant density and decreasing plant shoot elongation.

**Discontinue winter overseeding** programs for warm-season turf in shady areas to avoid bare spots because of summertime competition between overseeded varieties and warm-season turfgrass.

**Supplemental lighting** might be useful in cases where a small area (a green, for example) is in need of extra light. The most efficient and most frequently used lights are high pressure sodium lamps. These can be obtained from greenhouse suppliers or manufacturers.

**Switch to shade-tolerant turf** if possible. Some options are listed in Table 1.

**Document, document, document.** We’ve found that photographs and graphics are useful to document the extent of shade problems, as well as the increase in tree-generated shade throughout the years. Generally, graphic representations of the problem are the clearest way to communicate with golfers and managers about the impact of shade.

**Aerial photography** (see Figure 1) services are available in most locations. To obtain the most useful images, they need to be high resolution, so altitudes of 5,000 feet or less and specialized 9-inch-by-9-inch negatives should be requested (commercially available satellite images are not of sufficient resolution unfortunately – at least not yet). Photos should be taken at the time of day and time of year when you believe shade causes the worst problems. If you’re lucky, aerial photographs of your golf course from years past might exist in photobanks. If these photos are available, they can be useful when tracking the development of shade (and other problems such as irrigation distribution, reclaimed water) throughout time.

**Shade analysis.** After an extensive on-site visit, companies that perform these analyses can tell you how many hours of sunlight are occurring on problem areas, which trees are contributing to the problem the most, and the effect of pruning or removal of specific trees. The expense makes this approach feasible primarily for greens, but it might be worth it to you if this type of quantitative analysis appeals to the golfers that you deal with. While companies such as ArborCom deal primarily with tree shade, engineering companies such as RWDI can help predict the impact of a new building on turfgrass quality.

**When all else fails.** In areas of extreme shade where turf simply won’t grow, consider replacement with shade tolerant plants, ground covers, or even bark or wood chip mulches. SCI

Wendy Gelernter, Ph.D., and Larry J. Stowell, Ph.D., are research directors with the PACE Turfgrass Research Institute (www.paceturf.org).

**References**

This warm-season (kikuyugrass) fairway was performing adequately in sunny areas, even though solar radiation was 224 watts/m²—suboptimal because of the perennially overcast conditions. However, in the shaded areas, light intensity was only 17 watts/m². As a result, kikuyugrass and Poa annua couldn’t grow, and unsightly bare areas were the result. The only solution to this problem was a severe tree trimming and removal program. Photo: PACE Turfgrass Research Institute
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The little things count, too

An accessory upgrade is part of an overall course improvement project in Nebraska

Prairie Hills Golf Course in Pleasanton, Neb., had seen better days. The condition of the course has declined during the past few years, but Nick Erdman, co-superintendent at the public 18-hole course, and his family are changing that. They're improving the course in many ways, including upgrading accessories.

The course hadn't been run correctly, Erdman says, adding it had several owners during the past five years. Erdman and his in-laws, who live in the area, bought the course in June 2007 from the previous individual owner, who also managed the course.

"The course was in pretty bad shape," he says. "We're putting a lot of money into it. Although new sprinkler heads were installed by the previous owner, we put money into every aspect – equipment, fertilizer, irrigation, cups and the two-level, 5,000-square-foot clubhouse. We spent $5,000 on accessories, including flagsticks, tee markers, fairway markers and cup cutters."

All of the new accessories were purchased at the same time last year.

Going forward, Erdman budgeted $2,500 a year for accessories.

Nick Erdman spent $5,000 on accessories as part of an overall improvement project at Prairie Hills Golf Course. Photos: Nick Erdman
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**ACCESSORIES**

This spring, he’s looking to purchase and install granite hole markers as part of the course improvement.

Erdman and family chose to purchase their golf course accessories from Standard Golf, after they compared prices and products in several catalogs from different companies that offer accessories.

“We’re happy with the products,” he says. "We spent a little more, but we know they’ll last.”

Erdman likes Standard Golf’s local service, too. He works with the distributor Van Wall Turf & Irrigation in Omaha.

Accessories are important to Erdman because he wants Prairie Hills to look nice. He wants to provide a quality product for golfers through his high standards. For example, customers can tell the quality of a flagstick when they pull it out of the hole, he says.

Erdman plans to upgrade other accessories as part of the overall improvement of the course. He intends to purchase new ball washers in the next year or two and improve the water stations by building a platform on which the water container can sit. Erdman also plans to

---

At Prairie Hills Golf Course, Nick Erdman plans to upgrade the ball washers and water stations, as well as purchase more directional signs, hazard markers and out-of-bounds markers. Photos: Nick Erdman
ProDeuce saves you both.

buy a few more directional signs, hazard markers and out-of-bounds markers. There are some markers on the course, but he wants to upgrade them and purchase more.

Prairie Hills' customers comment on the quality of the accessories and link that to the overall improvement of the course. Word of mouth about the course improvement is spreading, Erdman says.

Currently, there are 75 members of the public course, a significant decline from the 400 who were members 10 year ago. Erdman's goal is to increase membership to between 250 and 300 people.

"We should attain that pretty easily in two years," he says.

Right now, Erdman and staff are planning for the 2008 season. They'll make purchases in late February and early March for all aspects of the course.

"We want everything in place before we head outside for the season," he says.

Erdman's father-in-law and mother-in-law, who had never lived in Pleasanton, moved there from Wyoming to help manage the course. Erdman and his family have no previous golf course maintenance experience, however, he says they all golf and grew up on a farm. Farming has similarities to golf course maintenance, he says. Erdman and his family rely on one of the course's young maintenance workers whose grandfather built the golf course in the early 1980s.

"We lean on him at times," Erdman says. "We also look at other golf courses. We know what looks nice."

It will take another year to get where Erdman and his family want the course to be conditionwise.

"It will never be perfect," he says.

Last year the course generated 6,000 rounds from June through December. The goal is to get to 15,000 rounds annually.

"We're trying to be realistic," Erdman says. 6CI
A small but important aspect

Quality accessories reflect the overall operation of a golf course in Minnesota

For Paul Diegnau, CGCS, it’s the little things that separate a golf operation from the competition. Little things such as accessories: flags, sticks, cups, tee markers, bunker rakes, ball-mark repair tools, yardage markers, hazard stakes, ball washers, etc.

Diegnau, superintendent at the public 18-hole Keller Golf Course in Maplewood, Minn., views accessories as an important aspect of a golf course.

“If you have poor-quality accessories, it’s a reflection on your operation, and golfers notice those things,” he says. “They say things like, ‘Oh, you got new flagsticks. They look nice.’”

The parkland-style Keller Golf Course, which opened in 1929, is county owned and was renovated last in 1990. Another large-scale renovation might occur in the near future.

During the season, Diegnau’s staff consists of about 15 workers, varying by a couple people each season. His assistant, the mechanic and two foremen are union employees for the county, but Diegnau, who isn’t a union employee, and the mechanic are the only full-time employees of the course. The two foremen and the assistant work at ice rinks during the winter.

Because the course is a municipality, the budget is somewhat different than other golf course operations. Diegnau, who has been at Keller for the past 12 years as superintendent, has a $540,000 maintenance budget, which has been flat the past several years except for wages. Diegnau has no specific line item for accessories, but spends between $1,500 and $2,000 on them annually. Accessories include: flags, sticks, cups, tee markers, bunker rakes, ball-mark repair tools, ball washers, yardage markers, traffic control signage/markers and hazard stakes.

“We always have fresh flags every year,” he says. “We also paint the flagsticks every year, unless they’re too beat up, in which case we replace them.”
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Accessories need to be durable to withstand the rigors of golfers' behavior. The paint on the Par Aide satellite tee markers, which are composed of plastic resin, are taking a beating because golfers at Keller are hitting them with their clubs, Diegnau says. Keller’s clientele is a blue-collar crowd with a large percentage of single-digit handicappers with high expectations. Diegnau refurbishes these markers every year, but within several months, they’re beat up.

Theft also plays a part into the type of accessories Diegnau purchases. He uses checkered flags on the course without the course’s logo on them.

“We’re in a suburban setting, and if we put a logo on things, they tend to disappear,” he says.

Diegnau purchases as many accessories as he can from Minnesota-based Par Aide partly because he believes the company has high-quality products. He has also purchased accessories from Standard Golf and other companies who send him various product catalogs.

“I used to purchase flagsticks and bunker rakes from Standard Golf but have now switched to Par Aide because I like supporting local companies,” he says.

Diegnau prefers bunker rakes with fiberglass handles. He used to have a difficult time keeping the rakes looking nice after they sat in the sun all summer, so he put heat-shrink plastic covers on all the rake handles.

“Throw some Armor All on the heads, and they look new,” he says.

Generally, Diegnau purchases all accessories in February or early March before the season starts and as needed during the season. When it comes to flags and flagsticks, he purchases enough to replace those that are stolen or broken. Sometimes golfers and/or vandals throw the tee markers into the woods and ponds, so he keeps extras on hand in case that happens.

Diegnau also uses HIO cup cutters, which are hammered into the ground, not twisted, so it’s easier for smaller, lighter people to push into the ground.

Yet, there’s one accessory that eludes Diegnau: the perfect ball-mark repair tool. Currently, he’s using a product called the Klaw from Eagle One Golf Products, but it wears out quickly and is expensive to rebuild.

“I’ve tried most versions on the market and have yet to find the perfect one,” he says. “Par Aide has a new one, but we haven’t bought it yet. I’m looking for something that lasts a bit longer and doesn’t need to be repaired as often. More importantly, it has to do a good job of repairing ball marks on the green. Some of them don’t even do a good job of that.”

One of the jobs of the cup cutters at Keller is to repair ball marks.

“If the repair tool is three- or four-feet long, they’re more likely to repair more ball marks because they don’t have to bend over,” Diegnau says. “I’m always trying to minimize ball marks.”

Accessories are an important aspect of a golf course and are a reflection of how one is operated, says Paul Diegnau, CGCS, at Keller Golf Course in Minnesota.
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VOLUNTEER SEARCH

Q How should I ask for volunteer assistance during the weeks leading up to and the week of a professional tournament I host?

A Begin with your local and state golf course superintendent chapter meetings years before the tournament. Take advantage of the talent to announce when the event is coming and present a detailed outline of what will occur and the volunteer requirements. Use your association’s Web site to place a want ad. Provide accessible response information, such as phone numbers and e-mail addresses for you, the club and the professional staff. Speak at universities in your state that have a turfgrass or PGM program where students are looking to add to their experience or serve as interns for longer periods of time. This is a great forum to promote the event and the educational aspects of serving as a volunteer.

Q What can be done to increase volunteer interest and response?

A A personal and succinct letter addressed to your fellow superintendents and golf enthusiasts outlining when, where, what and how they and their staff members can assist you is the first step to generate interest. Include what event is coming, who is conducting the championship, when it’s occurring, and reinforce that you and your staff are excited about hosting the event. State how many volunteers you wish to have to supplement the current staff, the work to be accomplished, the training required for an efficient operation and how long their volunteer commitment will be.

Q How do I organize responses so I can assign and schedule tasks and contact volunteers with necessary information?

A Enclose a volunteer application form with your invitation that includes space for the following information:

- Personal information such as name, address, home, work and cell phone numbers.
- Age of the volunteer.
- Copy of a valid driver’s license.
- Verify the physical ability to perform golf course maintenance functions.
- Areas of expertise, such as mowing greens, tees, fairways and collars; hand-raking bunkers; and syringing fairways, tees and greens.
- If a uniform is to be provided, request shirt and hat sizes for men or women.
- For longer assignments, determine if the volunteer requires housing or not.
- A signature of the applicant to acknowledge he understands the volunteer position isn’t guaranteed, or if it is, for what length of time.

Q What type of service other than turf maintenance is needed?

A The following are examples of nonturf-related items that need attention:

- Creating job descriptions, organizing contingency crews, and monitoring daily volunteer check-in and check-out procedures.
- Assistance with specific on-course job training and supervising of certain group tasks.
- Providing a security system to hold and protect the volunteer’s personal effects so they’re not lost during preparation work on the golf course.
- Operating the transportation system to shuttle volunteers to and from their hotels and designated parking areas, bringing in needed operational supplies, responding to mechanic’s requests and running miscellaneous chores throughout the day.
- Ensuring all radios are accounted for, charged and distributed to the proper individuals.

Q What items or information are important to make the volunteer effort safe, fun and memorable?

A When you’re putting together amenities for the volunteer package, consider the following:

- Catering for three meals a day plus fresh water and snacks at any time.
- Proper accommodations that allow the volunteer to rest and relax so they’re fresh for the next day’s early arrival to the golf course.
- On-site facilities so those who choose to stay have a quiet place to nap.
- Access to medical assistance for various reasons and emergencies.
- Volunteer uniforms for each day.
- Plenty of comfortable and air-conditioned transportation from hotels to the golf course, airport to hotel, dorm rooms to golf course, and back – at all hours of the day.
- On-site computer and cell-phone access so superintendents can catch up with their own staff and families.
- Punctual starting times for daily staff meetings. This will reduce confusion about arrival and start times.
- A well-supplied volunteer information package that includes items such as daily uniforms, maps to the golf course, hotel locations, restaurant locations, a map of club property, irrigation maps, on-course food vouchers, sunscreen, sunglasses, ear plugs, a water bottle, energy bars, a hat and an alarm clock with extra batteries.
- A personalized thank you letter on club stationary and a small appreciation gift.

All volunteers must realize it’s your golf course on which they’re working, not theirs, and should do what’s asked without question. They should know they might not have a glamorous job, but that’s part of volunteering. It should be a fun, educational and rewarding experience. GCI
Mix it up

Sprayer agitators have to operate consistently to keep chemical compounds thoroughly mixed in suspension during spraying operations. Pictured is a Toro Multi Pro 175 low-profile sprayer mounted to the back of a Toro Workman utility vehicle. The sprayer pump also is operated from the utility vehicle engine. When the utility vehicle is being driven at lower speeds, the sprayer pump agitation system doesn’t keep the chemicals mixed adequately.

Ray Nilsen, assistant superintendent at the Tucson (Ariz.) Country Club, came up with an idea to improve the sprayer agitation system. Nilsen designed and built a supplemental agitation system using a Honda model WX 15 1.5-horsepower pump with an adjustable throttle. The pump was mounted to a 1/4-inch-thick steel plate, which was mounted and welded to 2-inch square tubing, where the platform was bolted on the sprayer. All of these materials were in the club’s inventory.

The 10 agitator nozzles were replaced with larger venturi openings to increase water flow. The pump intake hose was hooked to the sprayer drain at the bottom of the tank. The pump discharge hose was hooked to the existing agitator hoses. The sprayer pump agitator discharge pipe was connected with a tee in the line to the bypass valve so the fluid has somewhere to go.

The pump fuel tank can mix and spray about three acres of greens before it needs refueling.

Nilsen purchased the pump from Northern Tool (www.northerntool.com) for about $500. He purchased the hoses, quick disconnects, venturi openings and fittings from A.D. Williams in Phoenix for about $120.

Spread it accurately

Applying fertilizer precisely is an art form for golf course managers. Steve Gruhn of Spirit Lake, Iowa-based GolfKnowledge/Precision Golf Course Management offers GPS-produced mapping, GPS guidance and computer controls that guide spreaders to apply fertilizer exactly where turf managers desire at differing application rates with no skipping or overlapping.

The Bobcat 5600 Toolcat 4 x 4’s forklift attachments move pallets of fertilizer bags or large totes as needed around the course and loads the fertilizer spreader hopper. The Simonsen fertilizer spreader’s dual side-spin, which is attached to a custom-made, fifth-wheel hitch connected to the tow vehicle, is hydraulically driven at variable rate speeds.

First, the golf course must be GPS mapped with all of the specific sizes of the greens, collars, tees, fairways, roughs, bunkers, lakes, etc., with between 40,000 and 50,000 GPS reference points recorded for a typical 18-hole course. Then a grid system of management zones – fairways divided into 5,000 to 21,000 square feet, for example – is designed. Then the on-board GPS application controller/computer (patent pending) can apply precisely only what’s needed, where it’s needed (at varying throw widths) at different application rates while keeping the operator on the correct track so there are no gaps or overlaps. The GPS guidance/computer controls also can be used similarly while using a tow-behind sprayer.

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for his dad directly, says Tom Fazio.

"Those projects out West (Bighorn Golf Club in Palm Desert, Calif., for example) tend to be the biggest, most multifaceted projects," he says. "It’s a Ph.D. crash course in golf course management, construction and design.

"I was always the youngest person in the room because my uncle gave me an opportunity at a young age," he adds. "Logan is in the same boat, but he can handle that because of his personality."

Logan worked on a few other courses out West before heading east. Then his dad put him in the fire with Donald Trump at Trump National Golf Club in Bedminster, N.J. Logan, a senior design associate, has worked all over the country on many different projects and is now handling projects in the Caribbean. He has experience that ranges from working for contractors to running crews to all details of construction programs.

As far as style, Tom Fazio gives designers freedom.

"We don’t fit any one style," he says. "All our projects are different and unique. It starts with attitude and personality."

And Logan has the ability to deal with all different people, Tom Fazio says.

"He can build a bunker, jump in a ditch to put pipe together, work with engineers and go to a meeting to explain projects," Tom Fazio says. "He’s a people person. You can be a good designer, but you need all the above and need to be a great salesman."

Tom Fazio says Logan is much more into the details than he was at that age.

"I tend to say get it done," he says. "Logan gets into the details with the engineers. I wasn’t as sophisticated when I was his age."

Tom Fazio says there’s no reason for his son to go elsewhere and that Logan wants to take over the company, but Tom Fazio isn’t ready to give up the reigns just yet.

"We work on a lot of projects together," he says. "I’m involved in all projects. It’s happening more and more where he wants to do more projects than I want to. He has the gift to convince me to do more projects than I want to. Logan has the total package. If I had anybody in the world to make a decision about a golf course or troubleshoot, he would be the guy I’d go to."
I've always admired Furrman Bisher, the legendary golf scribe for the Atlanta Journal-Constitution. He's covered more Masters tournaments than Jack Nicklaus and Tiger Woods have played in – combined. He's always had a great feel for the nuances and history of the game and a wonderful way with words.

With that said, he – and many other golf scribblers – blew it recently when reporting on the PGA Tour's new policy about drug testing. Like a pile of other writers and pundits, Bisher blithely dismissed the idea that any of the fine folks who get paid to play golf would ever use a performance enhancing substance. He wrote:

"The idea that golf should find itself lumped into the sweaty world of muscle sports goes against the grain. Players being lined up to pee in a cup to be tested like grunt athletes comes across as offensive. Golf is known as 'the gentleman's game,' in which cheating is the most deadly of sins, and the use of enhancing drugs would be cheating. Golfers police themselves, call penalties on themselves. Imagine, if you will, Bobby Jones, Arnold Palmer or Jack Nicklaus being called upon to prove themselves 'clean.'"

"But that's like saying that because Joe DiMaggio or Jim Brown didn't take steroids, there's no reason to believe that today's baseball or football players ever would.

"Been to a Nationwide Tour or college event recently? Have you seen these 'gentlemen'? Some of them have muscles that would make Schwarzenegger blush. Think about it. Championship courses routinely are longer than 7,000 yards, and these kids are constantly trying new drivers, balls and swing gurus just to gain a few yards. Distance equals dollars ... or maybe a Tour card and really big bucks and fame. If some mysterious substance could magically add 15 or 20 yards off the tee, don't you think they would consider it?

"Also, remember many of these young studs have grown up in a youth sports culture that embraces strength, speed and winning at any cost. Their contemporaries in high school and college sports were using performance enhancing drugs to bulk up, run faster, jump higher and recover from injuries quicker. I'm the parent of a pretty successful high school athlete and know steroids and other illegal supplements are readily available within his network of teammates and friends. Can you imagine that a few of today's aspiring golf superstars wouldn't try PEDs to get stronger and longer? I can't.

"This issue is real and our old friend Steve Mona will have to deal with it in his new role as head of the World Golf Foundation. Running the PED testing program is one part of his job description. Dealing with golf's doping issues won't be much fun for Steve, but I guess he'll be in the lime light sooner, rather than later, as pro golfers at different levels start returning positive tests. I wish him luck and fervently hope he doesn't have to watch Phil Mickelson pee in a cup. That's a frightful image.

"As I tried to think through the PED issue, something weird occurred to me. (Imagine that.) I think I've found a silver lining around this otherwise dark cloud looming over golf. Perhaps we could create a line of PEDs just for golf course superintendents. You're not covered under the old friend Steve Mona's PED testing program and so you'd have to come up with your own line of PEDs for golf course superintendents. You're not covered under the new rules and, theoretically, you're free to do whatever you need to do to succeed. So, I'm thinking about launching a new line of superintendent-friendly PEDs. The possibilities are endless, but here are a few products we might offer along with their potential side effects:

- **Nosleepatol** – A special anabolic compound that allows superintendents to avoid the temptation to go to bed. Why succumb to sleep when you could be worrying about the golf course 24/7? (Side effects: Divorce.)

- **Fungiroid** – With this new growth hormone, all you need to do is walk or ride around the course, and your body will emit a chemical that automatically kills all the disease pathogens within 100 yards. (Side effects: You'll need to get EPA registration for your sweat glands.)

- **Irrigra** – Struggling to deal with water restrictions or short-falls in your sprinkler patterns? There's no problem if you and your crew take Irrigra. The drug stimulates your bladder constantly, and you can literally whiz around the course and keep it wall-to-wall green using only nature's best watering technique. (Side effects: Course neighbors file a misdemeanor charge for indecent public exposure.)

- **Moodamone** – Having a hard time keeping your temper when golfers make stupid demands? The next time a 28-handicapper asks, "Why can't we cover the bunkers with tarps so the sand is nice and dry when I play in the morning?" you can simply smile and go on your way thanks to Moodamone. It builds your natural ability too ignore idiots and makes interactions with players much more palatable. (Side effects: Unemployment.)

- **Happyylan** – This water-soluble compound is a special tank-mix that allows you to keep all golfers happy all the time. It's a sprayable combination of Prozac and chlorothalonil. Just put it out as part of your spray rotation, and there'll be no disease and no complaints as golfers play happily (or at least groggily) throughout the course – an unbeatable combination. (Side effects: None. Enjoy!)
Only one variety of seashore paspalum can be seeded, and that’s Sea Spray. But why seed instead of sprig? That’s simple: so your golf course is ready for play sooner. Tests conducted by Pure-Seed Testing, Inc. showed that Sea Spray seeded seashore paspalum germinated and established faster than popular sprigged varieties of seashore paspalum. Find out for yourself; call Scotts Professional Seed at 1-800-247-6910 or go on line at turf-seed.com/seaspray for more information about Sea Spray and the location of your nearest Sea Spray seashore paspalum distributor.
Turf Action Plans from Floratine provide a convenient, economical and targeted solution for many common yet challenging turf issues. Our TAP Packs are pre-measured for easy use, each TAP Pack covers up to one full acre and protects against stress and disease, while promoting plant nutrition for the strongest turf. To learn more about a Turf Action Plan that's right for you, talk to your local Floratine distributor or visit www.floratine.com.