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INSIDE

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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.
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WHERE THE POWER SHOULD BE

he's a plethora of information disseminated and endless gossip bandied about during the Golf Industry Show and its related conferences. As an editor, attending and covering such an event can be overwhelming. During the show, you absorb and process a ton of stuff. Your noggin works overtime. Some things you’ve heard before, some material is technical and difficult to understand, a few announcements are newsworthy, and some gossip is juicy. Afterwards, you’re physically and mentally exhausted.

Reflecting on the show each year – amid all the conversations, interviews, speeches and presentations – there’s usually one comment from somebody that sticks out in your mind and strikes you as more thought-provoking than anything you heard during the show. This year, that comment came from a shark – Greg Norman.

Speaking to a group of editors and reporters before the general session, Norman spent a considerable amount of time discussing golf and the environment and the bad rap the general public gives golf when it comes to environmental stewardship. As a trustee of the Environmental Institute for Golf, he emphasized the course maintenance data being collected at golf facilities throughout the country that eventually will be put into a “bible” that can be presented to legislators to help debunk the myth that golf course maintenance is harmful to the environment.

But listening to Norman’s comments about intertwining the environment with course conditioning, this stuck out like a patch of zoysia in the middle of a bentgrass green: “We need to start backwards,” he said. “Superintendents should be going to the members to tell them how the course should be, not the members going to the superintendent to determine conditions. We need to put the power where the power should be. Superintendents should be allowed to control how golf courses should be set up.”

Wow! Imagine if that were true. What a difference it would make with your jobs. Think of how many superintendents would be working with different attitudes. If this were true, we’d see more brown grass during certain times of the year. Ask Norman or some of his European counterparts – there’s nothing wrong with the brown look. Here in the States, Norman cited ChampionsGate Golf Club in Florida as an example of a course that’s not wall-to-wall green all the time and values healthy turf and great playing conditions more than aesthetics.

We all know that because members pay dues – and, in many cases, own the club – what they want, they get. It’s a simple concept to understand. But how about the concept of members paying for the expertise of a superintendent who dictates course conditions because he has the in-depth knowledge to make those types of decisions. If that were the case, superintendents would garner a deeper respect from members because they would trust you more than they do now.

If you work at a private club where you think you have more control over course conditions than what’s considered the norm, let me know. I’d love to hear about it. It’s definitely worth a story (or 12).

Superintendents should act on Norman’s proposition. Think about how you can gently tip the balance of power for controlling course conditions in your favor more. For some, it’s out of the question, especially in the hotly contested arena of club politics. But for others, it might be possible, so why not try? It would be good for the environment, your budget and your sanity. In a larger scope, it would be good environmental public relations for the industry. The trick, though, is explaining convincingly to members why it’s good for them, too. Just tell them Greg Norman says that’s the way it should be. What golfer can argue with a legendary pro golfer who’s an ambassador for the game worldwide? SCI
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How will you vote?
As I opened the March issue of Golf Course Industry, I thought, “Wow, look at this impressive list of relevant articles!” Then I read John Walsh’s editorial (“The lesser of two evils,” page 6) and felt deflated. All I can say to him and my fellow superintendents is when voting for the president of the United States, use the same logic, common sense and analytical skills you use when doing your job. Don’t vote based on party loyalty or a general, historical core value system.

Look at your own golf course’s economic health, the performance of your 401(k) or IRA, the value of your home, the prices of consumer goods, taxes other than income tax rates, your safety and security, and then tell me things are better than when we had a Democrat in the White House. If you want to generalize, answer this question: Who will more likely do a better job of running government – someone who hates and mistrusts it, or someone who believes in its necessity for serving and protecting all Americans?

Our checks-and-balances system can create workable compromises if both parties have adequate representation, unlike during the many years of unchallenged Republican rule. Capitalism and democracy aren’t one and the same.

As a registered Independent, I’ve voted for a Republican president, and I’m not pushing a Democratic agenda. I’m only asking my colleagues to think long and hard about the coming election and vote for the candidate you believe will best serve your own interests, your golf course’s interests and the interests of the USA. They should be one and the same.

Mark Jarrell, CGCS
Palm Beach National Golf and Country Club
Lake Worth, Fla.

Visit Augusta
Jim McLoughlin wrote a nice column (“Golf’s absolute standard,” page 14, March). I had the opportunity to visit Augusta National for a week during the 2005 Masters. It’s a nice place. But what you see on TV isn’t comparable to what you see in person. I have two superintendent friends who are going this year for a one-day visit. I told them one day isn’t enough. I highly recommend visiting Augusta National to all other fellow superintendents.

Willie Lopez
Golf course superintendent
SilverRock Resort
La Quinta, Calif.

Ethics standards
Your March article “Follow the Golden Rule” (page 30) compels me to suggest what’s considered unethical behavior by an “independent” superintendent is considered good ole marketing and sales by some management companies. I’ll bet every working superintendent has heard of or knows someone who has lost his job to a management company. Were any of these now unemployed individuals notified in advance of the management company’s intent to visit their golf course and pitch their replacement to their employer by the aforementioned (often GCSAA member) management company as required by the GCSAA Code of Ethics and Professional Conduct Guidelines?

When I hear an affirmative response to that question, it will be the first.

The GCSAA Code of Ethics and Professional Conduct Guidelines make clear what’s proper and ethical behavior, and members are encouraged to practice peer reinforcement of the standards. I’m a big fan of the standards, but I harbor no illusions. There’s no effort to enforce these standards on the national or chapter level. I’ve heard this policy (or lack thereof) results from fear of being sued for restraint of trade or some such legal blather. Whether that’s true or not, until it changes, let’s call the standards what they are – voluntary.

Mind your fences and watch your back because there’s no cavalry coming over the hill for the independent superintendent. You’re on your own.

Fred Behnke, CGCS
Mount Prospect (Ill.) Municipal Golf Course

Correction
Jim McLoughlin’s column, “Golf’s absolute standard” (page 14, March), stated specific classes of CMAA, GCSAA and PGA members enjoy free access to the Masters. CMAA members no longer have this privilege.
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John Ekstrom is an assistant golf course superintendent at Hinsdale Golf Club in Clarendon Hills, Ill. He can be reached at snapp79@aol.com or 815-922-0587.

A CALL FOR PROTOCOL

During a recent interview, I was asked how I would maintain a tight budget while still creating idyllic course conditions. I've been fortunate to learn what it takes to make these decisions from one of the best. My superintendent, Robert Maibusch, CGCS, has taught me about the higher expectations placed on superintendents these days. Gone are the days of worrying about maintaining only the golf course. Along with this responsibility comes the task of building and maintaining relationships with golfers, members and staff. To many clubs, polished business competence is just as important as maintaining an exceptional golf course.

One aspect of good business policy is to have a protocol for staff professional development. Almost every business has some form of this. For example, my wife is a teacher, and every five years she’s expected to acquire more than 60 hours of professional development. This is in addition to the rigorous staff development her principal provides each teacher’s institute.

Much like a school principal, superintendents and assistants are charged with developing their crews professionally. Without a well-managed and trained staff, courses might be preventing themselves from reaching their full potential. A manager who appreciates proper training and communication will help staff members understand the vision and purpose of their workplace.

In my last column (January, page 10), I wrote about the visual improvement program created by the facility at which I work, the Hinsdale Golf Club. As that column indicated, the VIP program is designed to enhance quality control by providing base standards and criteria for various routine golf course tasks. Every week, we rate our standards to measure our progress. The final outcome - we hope, at least - is to have a staff that takes ownership and shows pride in their golf course just as much as the members do.

With our VIP standards outlined in detail, the Hinsdale grounds department thought of ideas to help train our staff more. We did a good job of posting our expectations and measurements but didn’t take time to sit down with each staff member individually to share club needs and ideas. So, using our written standards from the VIP, we changed the format and created a booklet, hoping to improve employee relations at Hinsdale in several ways. The publication shows our employees we care and want to know more about them. It also provides a means to convey the department’s requirements about safety and job expectations: when it comes to ensuring employees’ health and safety, no dollar amount is too high.

The training booklet contains job-specific expectations for:

- Fairway care.
- Greens care.
- Cup and tee set up.
- Bunker care.
- Tee and collar care.
- Practice range care.
- Bank and surrounds care.
- Tree care and chainsaw operation.

Specifically, each job section lists:

- Who the trainer is.
- The tools and protective equipment necessary for each job.
- What to check before the task.
- How to perform the job at the site.
- What to do after the task.

As a result of the program, Hinsdale has benefited in a number of ways. We’ve reduced our turnover. This year, we anticipate retaining all crew members. Staff retraining has been kept to a minimum, which allows for more time spent on maintaining course conditions. Our budget for staff salaries has been allocated more toward golf maintenance than staff training. We’re able to remind staff about proper safety precautions regularly, which has kept our workplace injuries to a minimum and keeps us compliant with Occupational Safety and Health Administration standards.

Higher expectations require superintendents and assistants to wear many hats. Maintaining idyllic course conditions is no longer our sole duty. We’re now expected to be business leaders, as well. Staff development and training is one aspect of being an exceptional business leader.

So, it’s important to have a training protocol in place. By doing so, you’ll be able to decrease staff turnover, and allocate more resources to course maintenance.

... it’s important to have a training protocol in place. By doing so, you’ll be able to decrease staff turnover, and allocate more resources to course maintenance ...

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When clubs start their master plans, they focus on design issues. But it's the phasing plan suggested by most master plans that often turns out to be one of the most critical decisions clubs face. It can determine a project's success and whether it goes forward.

Historically, course renovations were executed in annual increments, except when required by disasters such as floods. These long-term plans kept a course open, kept revenue flowing in the pro shop and dining facilities, and avoided debt. During the past decade, lower interest rates and the impatience of baby boomers has accelerated the frequency of renovations. However, the current credit crunch has spawned a counter-trend toward long-term plans despite reasonable rates.

When I study each case separately, I usually recommend a complete renovation if a course's owner has the borrowing ability. There are advantages to single-year renovations. Architecturally, they achieve consistency in:

• **Design.** An architect's style changes, just as some clubs change architects.
• **Construction.** Different contractors have different shaping and construction techniques, allowing all holes to have a consistent look.
• **Play.** Older USGA greens play differently than newer ones. When suppliers go out of business or are unable to provide consistent products from year to year, clubs are forced to use different greens mix or bunker sand.
• **Maintenance.** The aforementioned differences avoid separate maintenance regimens for every hole. Imagewise, short-term programs minimize or even avoid problems of:
  • **Resentment.** Golf course disruption will be temporary, not continual.
  • **Direction changes.** (See design bullet, above.)
  • **Lost momentum.** Politics, costs and hassle can stop a project, leaving several long-standing problems and some new, out-of-place architectural features.
• **Safety.** Golfers won’t have to play around safety barriers, bare dirt and construction machinery.

The financial advantages of complete renovation include:

• **Construction value.** One new USGA green complex costs $70,000, while several might cost $45,000 each—a 36 percent savings—because the contractor's mobilization and supervision expenses are similar whether building one green or 18, creating economies of scale.

• **Architectural value.** Architects charge the same for site visits, whether reviewing one or many holes, and usually charge a smaller percentage fee for a larger project. Fees can be 15 percent of a small project, but are more typically 6 to 8 percent of construction cost for larger ones. Additionally, larger projects attract better architects.
• **Operational savings.** Closing the course reduces, but not eliminates, maintenance and clubhouse operation costs rather than staying staffed to accommodate reduced play and revenue.
• **Reduced revenue loss.** An open facility should maintain cash flow, but partially open courses often experience significant revenue decline because golfers dislike playing through construction. Clubs that close for renovations have arranged alternate play venues, often making the "lost year" a unique experience for members.

When counting lost revenue and cost economies in a low-interest-rate environment, the cost of complete renovation is often similar to paying for projects individually, while resulting in a better product. The annual payment is obligatory, rather than optional, but "biggie sizing" construction projects makes a lot of sense in an ongoing business.

The caveat is this: These projects require extensive preplanning to ensure their benefits by finishing quickly. With a $3-million remodel in which the course is taken out of play for 18 months, lost revenue might be 33 to 50 percent of the total project cost. Reduce that to six to nine months, and the numbers are better. To accomplish this, project design usually must:

- Provide compensatory flood storage, avoid wetlands and minimize tree clearing to avoid environmental permitting restrictions.
- Use as many existing routing and features as possible.
- Use larger contractors and/or crews.
- Consider paying a premium or incentives for an accelerated schedule.
- Have strict schedule requirements and penalties in the specs.
- Have time to hit optimum grassing dates, but allow for weather delays.
- Use a lot of sod.
- Develop a fast-track, grow-in program.

The world changes from generation to generation. Our parents and grandparents prudently paid for things as they went, and that served them well. But with current low-interest rates, high-quality contractors that can accelerate construction, and the importance of being competitive in the marketplace, it might be prudent to consider closing the course for a complete renovation.

Our parents and grandparents taught us to be financially conservative and to avoid excessive debt. However, they also told us, "If it's worth doing, it's worth doing right the first time!" and "Better to do it today than tomorrow." That advice might not have been meant for golf course renovations specifically, but it applies.
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THE WALKABLE WALK

(The following commentary relates directly to private club employment, somewhat to daily-fee employment, but not to municipal employment.)

In my 25-plus-year career, I haven't seen a situation where so little has been done to address a serious ill that affects so many. Enough! It's time to drive the "lack of written contracts" demon from the ranks of golf course superintendents. It's time to walk the walkable walk.

DEFINING THE PROBLEM

To understand this issue, the following question must first be asked and answered: Why are so many golf course superintendents being denied written contracts when virtually every one else in golf is granted this privilege? The answer is simply one of risk management on the part of club employers. Search committee duty is looked at as a short-term, plum assignment that provides the visible opportunity for members to serve their clubs and enhance their peer status throughout the membership, provided there will be no bad hires to embarrass search-committee members.

The fear level of a bad hire is what drives the decision process relative to who gets a written contract or not. For example, because there's little risk of a bad hire when engaging a qualified golf professional, the profession enjoys the benefits of written contracts.

The risk element begins to surface somewhat when hiring a general manager because bad food and staffing can bring down a general manager. But because problems of this kind can be rectified rather quickly, i.e., replace the chef or pool manager, etc., engaging a general manager generally is looked at as a low-risk hire that can justify a written contract.

On the other hand, hiring a golf course superintendent is looked at as the highest employment risk possible throughout operational golf because search committees and members throughout golf because these same people enjoy the privilege of a written employment agreement themselves or they grant such people they employ. Therefore, while this battle appears to be winnable, victory can't be presumed and will be realized only after the issue is debated effectively on the following three fronts:

The superintendent front. Once offered a job and told a written contract wouldn't be available, a superintendent should continue to negotiate with search committees in a nonconfrontational manner. Suggest that after the completion of a satisfactory first year of employment the club would guarantee four months of severance pay through the second year of employment. Then, repeat this procedure for each of the next two years of successful employment, advancing the severance guarantee in steps each year from four to eight to a cap of 12 months going into the fourth year of employment where the superintendent then would be granted a multiyear, written contract. Clearly, the superintendent will have to sell this approach early and effectively to succeed, but once this is done, success should follow because the risk has been taken out of hiring.

The chapter front. Because the GCSA chapters interact with the country's golf clubs more than any other outside entity, they should take advantage of this relationship to advance the opportunity for their members to seek and obtain written contracts. The key elements to developing this support would be that chapters (1) establish an employment relations committee to educate club search committees about the written contract issue and (2) hire a mature, business savvy, golf-experienced individual to serve as executive director and become the face of the chapter when interacting with club administrations. My next column (June) will expand on this concept in complete detail, including presenting a job description for a chapter executive director.

The GCSAA front. The GCSA's role would be to use its magazine, Web site, marketing funds and access to national television spots to educate the national golf community to the inequities surrounding the written contract issue. A key factor would be noting that the one-year element is as damaging as the nonwritten element because this combination makes it difficult for otherwise eligible superintendents to establish credit.

Working in concert, golf course superintendents, their regional chapters and the GCSAA effectively can defuse this written contract issue within a few years.

Jim McLoughlin is the founder of TMG Golf (www.TMGgolfcounsel.com), a golf course development and consulting firm, and is a former executive director of the GCSA. He can be reached at golfguide@roadrunner.com or 760-804-7339. His previous columns can be found on www.golfcourseindustry.com.
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INCREASE INFORMAL FEEDBACK

No matter your golf facility's location, now's the time for you to increase the quantity and quality of informal feedback and coaching you give your crew members.

One terrific benefit of the multisession Webinars I'm teaching is I hear managers discuss their successes and challenges, as they implement supervision and coaching principles and ideas. I've built on insights from these discussions to provide six suggestions for you to use to increase the productivity and job satisfaction of your maintenance staff.

**People want to succeed**

Managing people, especially when your real love is turf, can be challenging and frustrating. In the midst of management, it's easy to forget the fundamental reality that your crew members want to succeed. We all want to be part of a winning team, whether through sports, family, work or a social network. Few employees head to work at 4:30 or 5:30 or 7:30 thinking, "How can I screw up at work today?"

As I listened to the discussion of successes and challenges faced when implementing the activities in the Webinar sessions, I was reminded of this reality. The stories of crew members responding to feedback and training and coaching are examples of the idea that everyone wants to succeed. I shared this observation in one of the Webinar sessions, and every manager agreed.

**Positive feedback**

One of my assignments after a session is to increase the quality of positive feedback (specific actions participants want repeated) for the 21 days following. I've been amazed by the impact the implementation of this assignment has had. Here's what some have said:

- Numerous managers said the atmosphere, the culture of their business, changed. It's a more positive, pleasant place for everyone to work.
  - One manager said he was satisfied most when hearing from the spouses of his employees. They told him how much the employees appreciated the positive feedback. This example underscores the reality that most employees appreciate positive feedback even more than their immediate outward reaction indicates. Most of us aren't good at receiving positive feedback, but that doesn't mean we don't want it or appreciate it.
  - Several managers said employees become more focused on doing a good job and even ask for additional tasks or responsibilities as a consequence of more and better positive feedback.

**Explain why**

In the past, I've discussed providing greater clarity about acceptable behaviors and expected performance. During those discussions, I've emphasized the importance of explaining "what" and "why" when it comes to policies, tasks and performance expectations.

The Webinar discussions contained numerous instances of employees completing their tasks better and more enthusiastically when the training and coaching included explaining why. One business reported a considerable increase of product quality as a result of explaining why each step in a critical protocol is important.

**Redirect feedback**

You're probably thinking this sounds great, but what about when behaviors or performances are below expectations? Our tendency as human beings is to blame others when they fail to meet expectations. Research confirms this. In reality, the failure might be caused by a) their effort, motivation or concentration, or b) the situation, as a result of circumstances beyond their control. Knowing our tendency (bias) to blame the employee's effort, always think about what you can do first — encouragement, training, assistance — to enable the employee to meet the expectation. This is referred to as redirection feedback.

**Work environment**

I've often written about the changing role of the supervisor. Just as golf course superintendents better turf performance by using continually improving technologies, managers provide the supervision employees require to excel by continually improving their understanding. Great supervisors provide a work environment where their employees can succeed. They provide direction, encouragement, coaching and support to enable success, and don't simply expect compliance.

The power of creating a success-oriented work environment was evident in these Webinar discussions. Increased training and coaching (including explaining why) and greater positive feedback and trust created opportunities for managers and employees to increase performance and gain greater satisfaction from the job.

**Informal coaching**

My final suggestion is a bit more proactive but informal. I've had great success learning what employees are thinking and feeling asking the following two questions:

1. What's going great?
2. What could be better?

In combination, and when asked informally and genuinely, these two questions can elicit successes, ideas, concerns and insights you can use to develop an improved supervisory relationship and improved course performance.

The two-question coaching sessions can be individual or with your staff. They also serve as a great component of performance management (see my March column, page 16), performance appraisals and staff meetings.

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HIRING A GOOD TECHNICIAN

In our industry, it's common hear that it's difficult to find a good technician. Well, what makes a good technician? How do you know if you're interviewing one? How do you keep them? Answers to these questions might help you find the technician you've been looking for.

So what makes a good technician? The answer to the question depends on your operation. You want to look for someone who's well rounded and has skills in many areas, from fabrication and electrical to reel set-up and hydraulics. While many technicians are better in some areas than others, one common trait among good technicians is their desire to learn. A good technician isn't one who thinks he knows it all. Rather, he's the one attending seminars or classes to refine what he already might know. He's also the guy who doesn't have to prove how good he is because everyone knows it.

Good technicians won't always come from colleges or trade schools and won't always be the guy from one of the top 100 clubs. Top technicians come from everywhere, but they all have one thing in common: a passion for what they do. They love the job, and you can tell.

How do you know if you're interviewing a good technician? You can tell by his appearance and attitude during the interview. Many want to know about the budget, equipment, hours of operation, expectations, salary and benefits. Technicians want to know about these things because when they come in for the interview, they look at the facility, figure out what changes need to be made, how much time it would take, what equipment is there and how old it is, if the tools to do the job are there and how the golf course looks.

The rest of their questions will determine whether they're interested. These individuals know what it takes to manage a facility and need to make sure the operation has what it needs to make the changes and implement the systems they use to manage the operation effectively and be successful. Every technician manages a different way so thinking you need a huge budget, while it helps, doesn't push technicians away. More times than not, personality is the deciding factor for a technician. If someone doesn't feel he could get along with you in an interview, he'll rarely make the decision to join you.

Technicians, like everyone else, spend at least 45 hours a week at work. When you figure the time individuals sleep and spend driving to work, you realize they spend about 16 hours a week at home with their family. So getting a job where you're going to be happy is crucial and needs to be a well-thought-out decision no matter what your profession.

How do you keep them? Technicians have a difficult time leaving a place where they feel valued. When you feel valued and a position opens, you eventually question yourself and ask, "Will I work more hours," "Will they be flexible with my time off," "Will I get the same perks," and "Will it really benefit me to go." Normally, the answer is it's better to stay. There are some cases in which it won't matter how good of a boss you are and what perks someone has. There always will be places that pay more money and offer more things. There always will be those technicians who want to move up in the industry and move on to a bigger course.

When it comes to your relationship with your technician, the biggest thing is communication. Encourage technicians to attend seminars and more training. Ask their opinion about subjects instead of telling them. Call them occasionally, and tell them how good the greens and fairways look. Discuss topics that don't involve equipment, such as turf, diseases, fishing, etc. Try to plan cultural practices the week before to give them time to prepare. Finally, go out in the facility and learn something. Let them teach you about what they're doing and how they do it. Not only does this help you understand how good the technician is, but it helps them learn how to teach others to do what they're doing.

One of the biggest factors in finding a qualified technician for Nick von Hofen, golf course superintendent at The Ritz-Carlton Members Golf Club in Bradenton, Fla., is word of mouth.

“Our industry has been using this for years, and if there’s one thing you can normally count on, it’s a good recommendation,” von Hofen says. “When interviewing people, I try to get a sense of how they present themselves from personal appearance to professional attitude. After all, they’ll be communicating with members and guests. An environment in which individuals can do what they do best every day is a recipe for success. Hiring a technician is by no means an easy task. At different levels of my career, I’ve seen the frustration a technician goes through when there’s a breakdown in communication. Asking for feedback and suggestions from my technician has proven to be successful.”

While finding and retaining an equipment technician is no easy task, the biggest factor in all of this is communication with them, from the time they interview until they leave. If you can do that, you might be surprised how long a technician stays with you and the line at the door the next time you're looking to fill the position.
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Hooked golfers play and spend three to four times more than nonhooked golfers – all the more reason to try to get them hooked.

The 6.8 million golfers who say they’re not hooked are far more likely to say they’re intimidated or embarrassed at the golf course. So, efforts to make these players feel more comfortable could have a substantial return on investment. GCI

Source: National Golf Foundation

INTERESTING FACTS about golfers not hooked on golf

- 44% are intimidated by other players
- 20% are intimidated by the environment in general
- 13% are embarrassed by facility staff
- 16% are embarrassed by their lack of knowledge of etiquette
- 51% are embarrassed by their lack of skill
- 15% are embarrassed by their lack of knowledge of the rules

GOLFER PROFILES

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<thead>
<tr>
<th></th>
<th>Hooked now</th>
<th>Not hooked now but likely to be in the future</th>
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<tr>
<td>Number of adult golfers</td>
<td>17.2 million</td>
<td>2.9 million</td>
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<tr>
<td>% female</td>
<td>21%</td>
<td>33%</td>
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<tr>
<td>Average age</td>
<td>56</td>
<td>48</td>
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<tr>
<td>Average score</td>
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<td>Average equipment spending 2006*</td>
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<td>$89</td>
</tr>
<tr>
<td>Intimidated by players/staff/environment</td>
<td>34%</td>
<td>58%</td>
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<tr>
<td>Embarrassed by lack of skill/knowledge</td>
<td>33%</td>
<td>57%</td>
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After 35 years on the job, Wisconsin's Monroe Miller plans to move on

By Pat Jones

I have a confession to make: Monroe Miller pisses me off. It's irritating the guy can write circles around me, a so-called professional journalist. But he also can grow grass with the best of them, has stayed in the same job for almost 40 years, is a stalwart supporter of his university and has provided mentorship and wisdom to hundreds of young people and peers throughout his career. And he's a great guy.

It's just not fair. Miller is a thorn in the side of full-time golf/turf writers like me. That's why we've all banded together to petition to force him into retirement at the end of this year.
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But seriously, folks, for as long as I've been in this business, I've looked forward to receiving The Grass Roots, the official publication of the Wisconsin GCSA. That's because Miller, the magazine's tireless, unpaid editor for 24 years, put together a great product and interjected his own candid thoughts and editorial spin in an amazingly high-quality way that defied the term "volunteer." There are many unsung chapter editors out there, but, along with my fabulous friend Joel Jackson in Florida, Miller helped to redefine what an "amateur" could do in this critical but often overlooked position.

Miller is a consummate Wisconsin guy – cut him, and he’d bleed cheddar. Born in 1946 in the Madison area, he was – like many superintendents of his generation – a farm kid with a hankering for something more.

"A lot of what I am today, I learned on a 250-acre dairy farm in southwest Wisconsin," Miller says. "I'm now just an urban farmer."

During his undergraduate years at University of Wisconsin-Madison, the legendary professor James R. Love arranged a summer job for him at Nakoma Golf Club, and he was hooked.

"Of all the things I enjoyed about farm life, the thing that wore me out was milking cows," he says. "I didn't want to spend the rest of my life doing that. By noon on my first day on the golf course, I knew that's what I wanted to do. And best of all, I didn't have to milk Holsteins."

After graduation and two years in the Army as an MP in Vietnam, he returned to school for graduate studies and then landed the job at Blackhawk Country Club in Madison and never left. He's been the superintendent there since 1973. A few years later, he volunteered for what he thought would be a short commitment to serve as the chapter editor for the Wisconsin GCSA's publication. That short stint evolved into 24 years of churning out one of the best magazines in the industry without ever receiving a dime for his trouble. It was truly a labor of love that was rewarded with a zillion GCSAA Chapter Editors Contest awards, the Wisconsin GCSA Distinguished Service Award and the 2004 USGA Green Section Award.

Now, Miller has relinquished the reins of The Grass Roots to Dave Brandenburg, CGCS, golf course manager at Rolling Meadows Golf Course in Fond du Lac, and is standing on the precipice of retirement from Blackhawk. He's confident his successor, longtime assistant superintendent, Chad Grimm, will take...
good care of his baby. He's looking forward to traveling with his wife, Cheryl, and not sweating about article and ad deadlines every day.

**Do you ever wonder if you could have gone into journalism full-time?**
I thought about it when I was in high school. I enjoyed English, took forensics and made the state championship in play reading. I loved speaking and writing. But I didn’t like the idea of someone telling me what to write. I couldn’t get into the idea of being assigned a story, so I probably wouldn’t have been a good reporter. I wanted to jump right to being a columnist. A column is great because you don’t have to worry about it. If readers like it, they like it. If they don’t, they don’t.

**For you, what's the most difficult thing about writing?**
I love to write long. The difficult part is to write short. Mark Twain once said, in a letter to a friend, “I'm sorry this letter is so long. I didn't have time to write a short one.”

**What article are you most proud of?**
That's an interesting question because you forget so much of what you write. The one I probably remember best was “A Super Girl.” It was a tribute to my wife written on my 25th wedding anniversary. It evoked a reaction from so many people. You have to be a special person to be married to any of us in golf, because we're not around much. She never complained about me being gone, the fact the lawn wasn’t mowed, etc. Cheryl and I are two hearts beating in one line. We both love the same things.

**How difficult is it to get other superintendents to write articles?**
I quit asking a long time ago because I was afraid I would actually get one. Often they weren't the best, and I'd spend more time rewriting them than I would if I just wrote it myself in the first place. So, I'd pretty much just ask the guys I knew who could write. And don’t get me started on president’s messages. Back in the days of fax machines, I’d get these six-page-long faxed messages from the president that I was supposed to boil down to one page. It's a failure of our education system. I sometimes wonder if good writing is going to be a thing of the past in 20 years.

**How do you encourage others, particularly younger guys, to get involved in chapter leadership?**
The only ones I can influence are the guys who are close to me, and I can only do it by example. I talk constantly about how the guys who influenced me did those things. The young guys just need to get started. The chapter presidency is an eight-year commitment. It's just shitwork mostly - paperwork, meeting notices and such.

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It’s not difficult. You have to have the sense of service and commitment. I haven’t noticed it’s much different than two decades ago. Some understand the obligation, some don’t. My only advice is to just do something.

**What have you tried to teach the UW-Madison students who have worked for you throughout the years?**

We’re lucky to be in a university town with a turf program. But we have strict rules. If you’re late three times, you’re out. It’s a bit of a shock for them, but it’s the best thing to do for them. I’ve taken advantage of my proximity to the school. About 100 former employees of mine are in the business or are superintendents.

Monroe Miller was the unpaid editor of The Grass Roots, official publication of the Wisconsin GCSA, for 24 years. Photo: Chad Kemp

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In terms of mentoring, I try to spend time with the students every Thursday. Primarily, I look for pride in their work, neatness and whether they’re enjoying themselves. I challenge them with “story problems” to see how good they are at problem solving. They don’t teach those skills much in school these days, and I don’t want any kid who leaves here to not have those skills. Most of them do, some don’t.

**What’s the current state of golf in Wisconsin?**

I see the same thing here as everywhere else. There are more golf holes than golfers. We’re overbuilt. We need more players and members across the board. Some storied old clubs now have initiation fees of $1,000. Even I could afford to join. There was a lot of extravagance in golf, and that’s part of what got us in trouble. Why were we mowing fairways seven days a week? We did it because we could, when things were fat and happy.

**What part of your career has been most rewarding?**

My wife says, “He never missed a paycheck.” I say I never got fired or had to scramble to support my family. That’s part of my farm background. If you talk in terms of the industry, I’m proud of my contributions to my alma mater. I owed it a lot and tried to give back. Many of our members are on the faculty, so that sort of participation was well received. The Wisconsin GCSA and the Wisconsin Turfgrass Foundation are helping pay salaries and benefits for university positions that wouldn’t exist otherwise. The O.J. Noer Turfgrass Research and Education Facility has one of the best research laboratories in the country. I’m proud to be one of the strongest advocates for the golf course superintendent in Wisconsin.

**What’s the secret to staying at one club for so long?**

Here’s the short list:

- Use common sense. Some people don’t.
- Work hard all the time, every day. People notice it and respect it.
- Set your ego aside. Everyone has a boss, and you’re an employee. Do what you’re told.
- Be honest to the extreme with your employers, employees, regulators, etc. Don’t blow smoke.
- Set high goals. If you aim high and don’t quite make it, you’re still good.
- Listen. Understand what people are complaining about.
- Do no harm. It’s like being a doctor and following the Hippocratic Oath.
- Remember nothing great was ever accomplished without enthusiasm. When I was growing up, my dad made sure the grass was always trimmed around the barn, the tractors were waxed, and things were neat. He wanted to create a good first impression.
- Look forward, not backward. If you try to live on what you did last year, you’re screwed.
- Fix stuff now. Don’t wait.
- Cultivate a good relationship with the pro and general manager. It’s easy to tell them to go fly a kite, but don’t succumb to that temptation.
- If you’re going to last, you have to keep up with education. I’ve been to 36 national conferences in a row, and that has helped me tremendously.

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What do you think about the current state of the GCSAA?

In my career, I've always been a Wisconsin chapter guy. That's where my focus and energy has always been. The only thing that bothered me was the mandate for changes to chapter affiliation a few years back. I hated it. It's like the federal government bullying states around. That said, the GCSAA offers great education and a great show. We made great strides under Steve Mona. He was a great guy. I met Mark Woodward once, and he seems OK.

What's your advice for students or young folks interested in a career in the profession these days?

No superintendent has ever had enough education. Get some experience on the course first before committing to the career – and I mean more than a season or two. Understand the impact the job is going to have on your family. It's not an easy job, but anything that's worthwhile isn't easy. It's all about turning out a tremendous product. You get instant feedback and instant rewards. It's a great career, but it will sap a lot of your energy.

What happens come Jan. 1, 2009, when you suddenly wake up unemployed?

Blackhawk will be in the good hands of Chad Grimm. He's been with me 12 years and has been my assistant for the past nine. His successor as assistant is already here as well. They're both Wisconsin kids with farm backgrounds and solid university education, so that makes me feel great about handing things off.

As far as retirement, I have a notebook of things I'm going to do. It's my "bucket list." There are a bunch of places I want to go wall-eye fishing. I'm definitely going to St. Andrews to see and enjoy the Old Course. Cheryl and I will travel around and make up for some of the lost time.

Final thoughts?

After 40 years, I can say with authority golf course management is the most continuously interesting work in the world. And it definitely beats the hell out of milking cows! GCI
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At 34, Jon Lobenstine has climbed the career ladder more quickly than most. As director of agronomy for the Montgomery County Revenue Authority in Maryland, he’s refining the image of the public golf course. Lobenstine, who has about three years of experience as a golf course superintendent, oversees nine municipal golf courses and is making his mark in the golf course management profession.

MOVIN’ ON UP
After starting his career as a grounds crew member and then second assistant at the Chevy Chase Club in Maryland for four years—under the tutelage of Dean Graves, CGCS—Lobenstine was hired as an assistant at Falls Road Golf Course in Potomac, Md., in 2003. When he arrived at Falls Road, a course renovation project was half complete. Lobenstine learned a lot from superintendent Bryan Bupp, who oversaw the renovation, which included rebuilding and tripling the number of bunkers, tripling the square footage of tees and rerouting five holes. Lobenstine was getting the construction experience he wanted.

The MCRA, which operated five golf courses, invested more than a million dollars into the clubhouse before the course renovation, which was funded through a multimillion dollar bond. The MCRA is self-supporting and receives no funding from the country government.

In the spring of 2006, the MCRA was approached by another agency, the Maryland-National Capital Park and Planning Commission, which used to operate four muni golf courses in the county. The M-NCPCC was losing money—close to a million dollars a year on the golf courses—and went to the board of the MCRA to ask for help. The MCRA’s staff took over the management of M-NCPCC courses, still owned by the M-NCPCC, in April 2006 and finalized a long-term agreement in November 2006.

Lobenstine was promoted to superintendent after two years at Falls Road, when Bryan Bupp left for Bretton Woods in Germantown, Md. Then, in October 2006, Lobenstine was promoted to become the first director of agronomy for the MCRA. In addition to his superintendent responsibilities at Falls Road, Lobenstine oversees all superintendents at the other eight facilities.

When Lobenstine was hired at Falls Road, he had no idea the director of agronomy position was in his future. The position was created by Keith Miller, the executive director of the MCRA who came from Arnold Palmer Golf shortly after it began to lease the four park golf courses.

"Keith came to visit Falls Road, which generates almost 60,000 rounds a year, and saw the condition of the greens," Lobenstine says. "He was very impressed and opened the director of agronomy opportunity to all MCRA golf course superintendents as part of his focus to improve course conditions at all nine of our properties. Ultimately, three of us were interested, and I was chosen."

Miller says it was impossible to have all the superintendents and golf pros reporting to him. The superintendents needed another support position. He considered looking outside the operation but felt it was important and possible for someone within the organization to step up.

"He was aggressive with his agronomic practices, such as aerification and topdressing," Miller says about Lobenstine. "I liked the way his employees acted. His property was the busiest and the best conditioned of all our courses. His focus on safety was impeccable. These are items all superintendents intend to do, but he had a..."
focus on safety and was still getting everything done. It all added up to his ability to manage."

**TRANSITION TIME**

It's rare for someone to move from a job at a high-end private club to a job at a public golf course, and it even can be looked down upon, Lobenstine says. But he saw an opportunity to implement new ideas. He also wants to defy the stereotypical image of public courses: inefficient processes and mediocre conditions. He wants to change that perception.

"I felt I could bring a lot of that refinement from the private club to the public golf course," he says. "We've done that. My crew wears collared shirts. I'm trying to make them feel like professionals and show them new ways to do jobs. Private club experience prepared me to raise the bar at a public golf course fairly easily."

Adding director of agronomy to his title required Lobenstine to put the right support team in place at Falls Road.

"The support of good assistants and a good mechanic can give you great peace of mind," he says. "I continued to give him more responsibilities, and he was happy no matter what move," he says. "When I was at Chevy Chase, I was promoted to second assistant from the grounds crew. All of a sudden one day, I was their boss. Some people were bitter about it because they felt they should've gotten the job. In the case of the superintendents, it was much easier because I had a group of professionals who were happy for me. I've had the complete support of all these guys as we work together to put new programs in place to improve our golf courses."

"Another challenge for Lobenstine has been time management. "There are only so many hours of daylight, and I've got to manage one golf course and oversee the other courses' operations," he says. "That's something I'm still working on."

Delegation is part of Lobenstine's difficulty with time management. He's delegating much more now to his assistants, who are always willing to help.

"But I still feel like there are times when I have to do certain things myself," he says.

As director of agronomy, Lobenstine oversees the operations of nine courses, developing purchasing programs that will save money by reducing the number of vendors he deals with. He also makes sure the cultural, equipment maintenance and safety programs are in line, and is responsible for signing off on the hiring and firing of all of the employees that work for the golf courses.

"I'm making sure we're set up for success," he says. "I'm trying to get the tools that provide the support we need to do the job properly."

Lobenstine created an equipment program director position - one mechanic who oversees all other mechanics at the courses. Stanley Kapolka, the mechanic at Falls Road, is responsible for overseeing a new preventive maintenance program he developed. He works with the other mechanics to lengthen equipment life and maintain equipment records.

Lobenstine also oversees capital projects, approves and monitors golf course budgets and assists development of the MCRA's long-term planning strategies.

So far, Miller has been more than happy with Lobenstine's job performance.

"I just can't say enough about his progression," he says. "It's beyond my expectations. His vision is getting through to all our courses. He's an incredible manager. His prioritizing, communication and organization skills are incredible."
BIG SAVINGS
Each MCRA course has its own operating budget: The nine-hole facility has an operating budget just less than $350,000; the 18-hole course budgets range from $550,000 to $900,000; and the two 27-hole courses operate in the $750,000 to $850,000 range.

Because of the purchasing power of nine golf courses, Lobenstine is saving a considerable amount of money on chemicals and fertilizer. His plan was to pick three or four vendors and seek aggressive price cuts. When he received chemical bids from 10 vendors, pricing of a gallon of herbicide ranged from $335 to $550. Looking at the low bids on a sheet of about 200 products, he found as much as a 30-percent variable in pricing.

Lobenstine chose four vendors that had the lowest bids on the bid sheet as his primary vendors, and he's conducting all of his chemical business with them. He did the same thing for fertilizer in 2007. But he chose to do a separate fertilizer bid this year because some vendors were much more competitive with fertilizers than with chemicals.

"I'm getting some of those basic products for half the price I had been getting," he says. "With some of our common chemicals, such as chlorothalonil, we just chose four products we saved the most on and went from brand names to generics, and we're still getting the same control. After an analysis of these few products, we saved more than $100,000 in one year as a company. Instead of spending all the money we save on fertilizer, I can spend more on my topdressing program to get smoother, faster greens, for example, as well as help offset some of the crazy price increases we've seen in fuel and utilities."

One of Lobenstine's goals is to have the best greens in Montgomery County - public or private.

"It's a lofty goal," he says. "I don't know if we can compete with the guys who have a $3-million dollar budget, but we're going to try."

A BETTER OPERATION
On the equipment side of the operation, Lobenstine created a five-year equipment replacement program and has committed to getting better topdressers, rollers and aeration equipment to help meet the MCRA's goal of bettering the golf experience. He's also trying to replace much of the aging, run-down fleet of mowers, utility carts and sprayers so operational efficiency can be maximized, reducing downtime and equipment maintenance costs. Lobenstine is also seeing more price competition among preferred equipment vendors.

But to improve the success of the MCRA's municipal facilities, Lobenstine's top priority is improving course conditions, focusing on greens, fairways and tees.

"If I can get my greens, fairways and tees perfect, golfers will return because that's what they'll remember," he says. "They aren't going to remember their ball was in a thin area of the rough or if there were a few dandelions out there, but they're going to remember how the greens were. I've got guys coming to Falls Road from local private clubs, saying how nice our golf course is. It's a good feeling."

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location, which is in the middle of an affluent neighborhood surrounded by private clubs, Lobenstine says.

"For these residents, an affordable, $65 or $70 round of golf at a place that offers a good golf experience is better than going to a private club sometimes," he says.

The courses struggling most, based on revenue, are Rattlewood Golf Course and Poolesville Golf Course. Location is part of the reason for the struggle. Poolesville is in a remote location in the far west part of the county where population density is low.

"There’s a lot of farmland around there, and typically, anyone who wants to play there has to drive 20 miles," he says. "Because of that, our rate is around $30 at peak."

Rattlewood is located in the far north part of the county, but one of its additional challenges is water – it doesn’t have access to well or city water, just a small irrigation pond.

"Almost every summer, Rattlewood loses its fairways," Lobenstine says. "That’s a challenge we’re trying to find a solution to. We just upgraded the pump station with submersible pumps that allow access to more water in the pond. We’ll also be investigating additional locations to drill wells this year."

The MCRA also is adjusting pricing to increase revenue.

"Instead of having one fixed green fee for each golf course, we’ve completely taken away our pricing board and are basically operating on supply-and-demand pricing," Lobenstine says. "You might call up for a tee time at 7:30 in the morning on the weekend and it’s $65. That same round at 10 o’clock might be $49, and at three in the afternoon it might be $29. Ultimately, because we’re trying to fill our tee sheet, if we can’t fill a 3 o’clock time slot at $65 and can’t fill it at $45, then the golf pro is going to put $35 out there and have a better chance to fill it."

The supply-and-demand pricing has been successful, Lobenstine says. The average rate has declined, but revenues have increased about 3.5 percent from 2006 to 2007, well ahead of national and regional averages. The MCRA also managed to increase rounds overall in their system by more than 8 percent last year.

The MCRA e-mails golf specials every week to its list of 20,000 golfers to attract them to the different golf courses, and the golf pros choose their pricing every week.

"The tee sheet can be described like an airplane," he says. "The airline doesn’t fill all those seats for the same price. Depending on where you buy your ticket, you’re getting it for $250 or $125, or you’re getting the $49 special, but they’ll fill that airplane. We look at our golf courses the same way."

**BEING FLEXIBLE**

Lobenstine tries to visit each MCRA golf course...
every two weeks or so. He says there’s a very competent superintendent at each course, and because of that, he has a comfort level that allows him to take care of his home course and get to the other courses a couple times a month.

"I have a golf course to manage, too," he says about Falls Road. "The goal is to visit everybody every two weeks or so throughout the growing season. If issues arise, superintendents give me a shout."

With a few years under his belt, Lobenstine believes he will be in the role for another 10 years if he’s fortunate.

"I love what I do and feel like I do a good job," he says. "It never gets boring. Every day, there’s something new. Every day, I try to give my crew at Falls Road a different job if possible. I help prioritize different jobs for my crew and identify training needs. I’m helping my assistants get focused before I move on to things that need to be addressed at the other courses."

The director of agronomy has to be able to devote a lot of time to the job, as well as be flexible and change gears rapidly, Lobenstine says.

"You have to love being busy and have a lot of energy for change, while keeping your staff and superintendents motivated and feeling good about what they’re doing," he says. "It’s easy to be a nit-picker every time you visit a golf course, so it’s important for me to have highly positive visits. Just like with your grounds crew, you can’t keep giving people a difficult time for not doing what’s expected of them. You have to motivate them, make them feel good and give them the confidence to keep going."

There are days where Lobenstine wishes he was only working on one golf course, but he’s a self-described adrenaline junkie, so the crazier things get, the faster he moves.

"I’m always shuffling my priorities," he says. "Throughout the day, you might have 10 different No. 1 priorities that need to be addressed. You keep changing gears and address everything you can in a timely manner."

Lobenstine also wishes he could spend more time with his supportive family, yet he says they understand he’s in a new role and it’s important to them that he’s successful.

"I’m fortunate to have the right support team in place that allows me to have many weekends off," he says. Having a full day or two with my wife and two girls helps me recharge for the next week.

"That’s why I’m up at 3:00 in the morning, so I can still get home reasonably close to dinner," he adds. "I’ve got so many things going on that if I don’t get up that early then I’m going to be coming home at 8 or 9 o’clock at night. I much rather make the sacrifice first thing in the morning when everybody at home is still sleeping."

Lobenstine has a great balance between work and family, Graves says.

"Jon knows what’s important in life," he says. GCI

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A BALANCING ACT
Owners wrestle with operational wants and needs. By Doug Saunders

We all know prioritizing wants and needs can be difficult. Every business owner strives to meet the wants and needs of his customers while meeting the wants and needs of his operations. But as many golf course owners know, this balancing act can be tricky.

It has been said getting what you want makes you happy but getting what you need will help you get what you want. Defining what you truly need is the hardest part of the equation.

While all golf course operators might agree the easiest answer to this operational dilemma is to increase rounds at higher green fees while reducing expenditures, they also know that such a simplistic approach to an operation can be foolish. The best operators in the golf industry have learned how to define their wants and needs and use them as guidelines in their operational strategies.

CONDITIONING FIRST
John Shields, owner and operator of Glenn Dale (Md.) Golf Course, an 18-hole public facility, believes the first step of determining his wants and needs is to define his facility.

"I want to place myself as best as I can within my immediate market," Shields says. "I would call my course a 'gray-collar facility' with $55 greens fees. I'm a notch above the lower-end courses, and I'm below the private courses and newer daily-fee courses that have opened in our region. I've put a lot of effort into understanding who comes to play at my course and why they come. By constantly monitoring my market, it's easier to determine where I need to direct my resources."

Shields' primary concern is the condition of the golf course. Maintenance expenditures take top priority because he believes the golf course conditions will be more memorable to his customers than anything else.

"I know what it takes to keep my course in good condition, and that need is always funded," he says. "I don't make long-term budget plans because our budget is determined by what kind of year we have. If I have a good year, then I can fund things on my want list. This year, we've been able to address one of those wants: We're making improvements around our bunkers by cleaning up the collars and improving the sand quality."

Defining who you are and how you fit in your market is a concept that has guided Lane Lewis, owner and operator of Old Brockway Golf Course in Lake Tahoe, Calif. Lewis's nine-hole course was built in 1927 and now competes with eight 18-hole championship courses within a 30-minute drive.

"We have a seven-month season, and in this a resort area, golf is just one choice of activity for vacationers," Lewis says. "I want to make my course known as a quality golf experience that can be enjoyed in two and a half hours. Addressing the time crunch people feel these days opens a door of opportunity for me as a nine-hole course."

To achieve that, Lewis sees course conditions as a priority. Located in a pristine alpine environment, Lewis has made a long-term commitment to an organic course maintenance approach and has seen the added benefit of golfers returning to his course because they appreciate his "green" methods.
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"I make all of my decisions based on long-term goals," he says. "My primary want is to make my operation sustainable. To do this, I need to commit to our organic programs. I also need to focus on proper staff who know how to make our players feel welcome."

MAKING TOUGH CHOICES
The definition of wants and needs for long-term planning is important, but it also must be addressed for the short term as well. Uncontrollable factors such as weather still affect a tee sheet and can bring short-term goals into focus.

Joe Hills, co-owner of Waverly Woods Country Club in Marriottsville, Md., and Blue Mash Golf Course in Gaithersburg, Md., says the two daily-fee courses have been well received in the local competitive market. Hills knows that course conditions are his primary priority. During the summer months, he wants players to be able to use the carts on the fairways. But a serious drought and severely high temperatures this past summer forced him to make a difficult choice.

"The weather had taken such a toll we felt we needed to protect the turf, so we made it mandatory to keep the carts on the paths during our busy month," he says. "Our rounds declined because of this decision, but we felt this was the right choice in the long run. Our wants and needs changed places."

Another variable that can drive the direction of wants and needs is liability. For Garry Setting, owner of Sea Pines Golf Resort on the central California coast near Morro Bay, property upkeep is an important concern because the eight-building facility consists of a nine-hole course as well as a 43-room hotel and restaurant.

"Our lodging income is my main focus," he says. "I would like to replace the roof and add a new entry to our conference room. But recently, my insurance carrier brought to my attention some potential liability problems that drove other projects from the wants category, such as fixing walkways and sealing our parking area, into projects that needed to be addressed. We try to look at our needs three times a year, and this gives us the flexibility to deal with issues like this more easily."

Jeff Hogue, owner of Scott Lake Country Club, a 27-hole public facility near Grand Rapids, Mich., also knows the importance of being flexible.

"We spend a fair amount of time establishing long-term plans for Scott Lake, but reality is a big factor when determining what we can or can't do," Hogue says.

One of Hogue's long-term goals has been to find ways to balance his tee sheet with 75 percent of his play during the week and 25 percent of play on the weekends. This want has directed him to find ways to use his layout to bring in mid-week golf league play and create ways to make it easy for players to fit golf into their busy schedules.

"There has been a shift in the golfing public," he says. "Ten years ago, the regular golfer worked all week, and the Saturday or Sunday round was played in the morning. The regulars had to call by Thursday to guarantee a time. Today, the new regulars have more time constraints because they attend family programs, such as soccer and tee ball, on weekends. Now I have more play in the afternoons and more players interested in just playing nine holes. Today, 60 percent of our rounds are nine-hole rounds. I've seen this trend and have taken it as a signal to make adjustments in my operation."

Hogue had wanted to improve his driving range for several years, and after seeing how time constraints were changing golfers' habits, he embarked on an ambitious expansion of his range, which required moving three golf holes that played around the existing range.

"We put together a plan to do the work without closing the range or the course," he says. "I opened the range this spring and have seen
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Lodging income is the main focus for Gary Setting, owner of Sea Pines Golf Resort, an eight-building, nine-hole facility in Los Osos, Calif. Photo: Sea Pines Golf Resort

KNOW YOURSELF

It’s clear one of the most important steps in determining a golf facility’s wants and needs is to define the facility’s identity. An honest assessment of how one's course fits into a specific market can help determine where to spend. Whether an owner has just one course or several, the bottom line is that in a competitive environment, there’s little room for budget mistakes.

"There was a rather misdirected effort during the past decade as courses bought into the concept of the ‘country club for a day’ approach," Hills says. "Increased spending on pro shop upgrades, expansive clubhouses, increased staffing and improved entrances went from the want list as more operators saw them as a true need. This has led to some misdirected expenditures that have gotten some courses into financial trouble.”

Shields concurs.

"The most important thing is to determine who you are, and then do what you can to be the best you can," he says. “If you want to jump your facility to the next level, make sure you have the resources to make that jump a success.”

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Define your niche

Facilities should determine what they do best, set themselves apart from the competition and market themselves for success.

The owners of what would become Bloomingdale Golfer's Club in Tampa, Fla., knew they needed to differentiate their fledgling facility from the dozens of golf courses in the Tampa area in the early 1980s. Simply put, they needed to find their niche the marketplace.

"We needed to position ourselves apart from the other clubs in the area," says John Reeger, owner of golf consulting firm Briefcasegolf and a Class A PGA pro who became the director of golf at Bloomingdale. "Bobby Stricklin, who was one of the partners in the project after it was taken over from the initial developer, determined it was going to be a golfer's club. There were a lot of good, young players in the Tampa area at the time, and we wanted to be the place where they all played."
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The owners of Bloomingdale, which has since been sold several times, structured their membership fees in creative ways to accommodate skilled golfers who had to travel significant distances to play the course.

They also offered special memberships to young players, such as future PGA Tour member Brian Kamm, allowing accomplished players and pros to pay $200 a month, play all they wanted and hit balls on the practice range until their hands hurt.

"We had 200 players with single digit handicaps, 100 players who were a 5 and under and 50 players who were scratch," Reeger says. "Lee Janzen and Colleen Walker were members. We had a plethora of good golfers, whether they were milkmen or c.e.o.s of companies. We catered to the better players. That was our niche, and it worked."

TARGET CUSTOMERS

This "golfer's club" concept has been attempted in other areas of the country with mixed results, Reeger says. It all comes down to knowing who you are, who your customers are and, most importantly, knowing what your customers want and what you can provide. Sometimes those variables are area specific.

"The golf business is so fragmented and decentralized," Reeger says. "Some golf companies try to employ the same concept everywhere. The problem with that is once you've seen one club, you've seen them all. Where's that unique quality that sets you apart?"

The trick is to find out what 2,500 people in your market want and then give it to them, Reeger says. Sounds easy, right?

"You have to know who you are before you can create your business plan and marketing program," says Allan Irwin, c.o.o. of Empire Golf Management. "It's imperative you know who your customers or members are to be able to develop membership and golf marketing plans properly."

And just how does a developer or owner reach out to those 2,500 potential customers Reeger mentions?

"You have to do your market research on other courses in the market that are comparable to yours," says Jack Brennan, president of Plant City, Fla.-based Paladin Golf Marketing. "When I'm called in to look at a golf course, the owner usually wants me to play the course first. I play the other courses in the area first and see what my client is up against, and then we determine a game plan."

An Arthur Hills and Ed Shearon designed golf course was the final piece in the Renault Winery's overall development plan. The course is approaching 25,000 rounds a year. Photo: Renault Winery
PLACE IN THE MARKET

Brennan believes being a leader in a marketplace is essential to running a profitable golf facility.

"I say there are 22 immutable laws of marketing, and the first law is leadership," he says. "You have to put yourself in a position of leadership in your marketplace because the leader always wins. It's like Coca-Cola versus Pepsi."

A facility can be a leader in a number of categories, such as course conditions, slope rating, staff friendliness, the ability to host quality outings, and partnerships with other businesses in the area, such as hotels and restaurants.

"You have to find a category in which you excel — it can be more than one — and market that to the public," Brennan says. "What you're doing is positioning yourself in the marketplace, as opposed to branding, which is something a Pebble Beach or an Augusta National does well."

There are many tools with which developers and owners can ascertain their club's place in the market.

"I've used Pellucid, a consulting firm, to research golf demand in my target market area," Irwin says. "This, combined with the facility survey, usually makes it clear what type of facility should be developed and how to position an existing facility."

But distinguishing a facility in a crowd can be challenging, says John Johnson, owner of J2 Golf Marketing.

"We talk about golf courses, but within the industry, there are municipal, daily-fee, upscale daily-fee, private and resort facilities," he says. "All of these are golf courses, but they appeal to different people."

Johnson provides an example in Ponte Vedra, Fla., where he worked with two clubs, Sawgrass Country Club and Marsh Landing Country Club.

"Both had country club as the last two words in their names and were a few miles from one another, but they were polar opposites," he says. "Sawgrass was a place for retired individuals, and Marsh Landing was a club where many of the members were young with families. We had to develop a new niche for each club for them to retain existing members but also develop a new clientele base to ensure their futures."

BUILD YOUR BRAND

Johnson agrees that determining what a course or club does best and then aggressively marketing those aspects is vital to strengthening the bottom line of existing facilities and allowing new facilities to establish themselves.

"You must develop a look and feel for your club, whether you're a high-end private club or a lower-end, daily-fee course," he says. "You do that by developing a visual theme for your course that positions you apart from the competition. You build your brand in the minds of your members through collateral materials, Web sites and e-mails. You need to reach out on a continual basis to your current and potential members."

Checklists and comment cards, sent via mail or e-mail to members, asking what they would like to see added to a course, can help position a facility as one that strives to meet the needs of paying customers. Staging social events for members, such as wine-and-cheese parties and equipment demo days, also can help define a club as member and player friendly and set it apart from other facilities that don't go the extra mile.

"Think outside of the box a little with some of your marketing efforts," Johnson says. "Everyone who visits a club, whether or not he or she is a member, wants to feel special."

One of the pitfalls course developers and owners need to avoid is trying to be all things to all people, Irwin says. Yet it's possible to be good in a number of categories as long as you don't overdo one aspect of the club's operation to the detriment of others.

"I worked with a wonderful semiprivate club in Chicago that was good at three or four aspects, which were all running smoothly," Irwin says. "The club has a Pete Dye-designed course, a 25,000-square-foot clubhouse and a 300-seat banquet facility. They were doing 30,000 rounds a year, about 10,000 each by members, the general public and outings. It was one of the best run golf businesses I've seen."

But while it's possible for a facility to be good at more than one thing, it's prudent to create an identity the market can readily understand, Irwin says.

"For example, it might be difficult to convey the idea you're a great family facility when your course has a slope rating of 149 or if you cater to corporations," he says. "Do your market study, and build your identity around a single concept at which you can be the best."

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ONE OF A KIND
The owners of the historic Renault Winery in Galloway, N.J., knew exactly what their property needed to complete plans for an all-inclusive resort: a world-class golf course. So the owners commissioned Arthur Hills and Ed Shearon to design and build a course that ambles easily through the winery’s vineyard. The course was the final piece in the property’s overall development plan that includes the winery, a hotel and several gourmet restaurants.

After three years, the course is approaching 25,000 rounds a year and is having the desired spillover effect on the hotel and restaurants, says Dennis Delvecchio, general manager for the Renault resort.

“Our niche in this market is that we’re a one-of-a-kind destination,” he says. “There’s nothing like it anywhere on the East Coast, where you combine a winery, a hotel, fine dining and a championship golf course. We have set ourselves apart from the competition.”

Building the golf course took some foresight and nerve. The area around Atlantic City is saturated with daily-fee courses, and adding another track to the mix was risky.

“We knew it would work because we created an oasis here,” Delvecchio says. “The owners live on the property, and they wanted to create a family feel and atmosphere. You can drive 30 minutes to the Atlantic City casinos and boardwalk, then return here and enjoy everything we have to offer in a country setting, whether that’s playing golf on a great new course, enjoying a glass of wine, swimming in our pools or sampling a gourmet meal.”

FLEXIBILITY AND QUALITY PEOPLE
Course developers and owners must not only understand existing conditions of their marketplace, they must also conduct long-range market analysis to forecast how changing conditions will affect their facilities, says Scott Beasley, vice president of operations for Meadowbrook Golf, based in ChampionsGate, Fla.

“You've got to know the direction you’ll be heading in the future,” he says. “Market conditions might change. You have to be flexible enough to be able to change what you’re doing to accommodate different needs of the market and your members.”

For example, if you don’t already have a fitness center at your club, babysitting on Friday nights and kids’ tees on your golf course, you’re behind the curve, Reeger says.

“All these little things that made blue-tee, 5-handicappers cringe a few years ago are what sets courses apart from the competition today,” he says.

Finding and hiring quality people to staff your facility also is crucial in building and sustaining a brand, says Mike Diffenderffer, a former national director of marketing and membership for the Tournament Players Club network and now a part-time consultant.

“That was one of the things I did for 21 years — hire and train professional salespeople who could tell the whole story of the club and why it's different,” he says. “And you have to be totally honest about what you are. It's not like you're selling a car. You have to see your members every day of the year.”

The Renault Winery's niche in the market is that it's a one-of-a-kind destination on the East Coast, combining a winery, hotel, fine dining and a championship golf course. Photo: Renault Winery
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Billy bunkers and hybrid bluegrass highlight the refurbishment of the old California course.

BY PETER BLAIS

Great comedic actors such as Jim Carrey occasionally leave their comfort zone and try a love story. Best-selling authors such as John Grisham sometimes venture from the mystery novel to pen a work of nonfiction. The same can be said for golf course architects. So one shouldn’t be surprised when an East Coast architect such as Brian Silva spreads his wings and flies west.

Architect Brian Silva recreated the distinct edging on the Billy bunkers, saying it was an important step to complete the traditional look and play characteristics of the course. Photo: Tommy Naccarato
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The New Hampshire-based renovator of classic designs such as Donald Ross's Seminole Golf Club in North Palm Beach, Fla., and Seth Raynor's Country Club of Charleston (S.C.), recently completed his first West Coast project, a $7.9-million refurbishment of Annandale Golf Club in Pasadena, Calif.

"For about seven months during 2007, I was here every week," Silva says. "But the Annandale project was special because it was my first job on the West Coast. My 'one visit per week' mantra was all the more appropriate."

Founded in 1906, Annandale, one of the oldest clubs on the West Coast, is a Willie Watson design where George Thomas collaborator Billy Bell served as caddymaster before putting his own stamp on the course in the 1920s. Bell's role at Annandale illustrates the extent of his influence in West Coast design circles for 50 years. In 1918, Colorado Boulevard (where the Rose Parade begins) was extended, splitting the original Annandale routing in two. Eventually, the club moved its course entirely to the north side of Colorado.

It was then, in the mid-1920s, Bell redesigned the bunkers and built the "canyon holes"—14, 15 and 16—to account for holes lost in the move. Forty years later, erection of a nearby freeway crowded some holes and shortened others, dam-
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Annandale is the first course in Southern California to use a four-way Scotts blend consisting of Thermal Blue, Thermal Blue Blaze, Dura Blue and Solar Green, says golf course superintendent Ed Kutt. Photo: Tommy Naccarato

claimer, sort of a giant rototiller, sprayed Roundup all over the course and rototilled everything. It was a little unsettling not knowing exactly what we would come up with 12 to 14 inches down, but there were no major surprises.”

Some areas are steep, such as the tees on No. 16 that sit atop a hill, but there were no environmental constraints. Although homes are nearby, most sit far back in the hills. There are only a few houses close to the course, which meant the team couldn’t start construction before 7 a.m. But that didn’t present any considerable problems, Christie says.

To address the five par-3 configuration, Silva transformed one par-3, the 17th, into a drivable par-4 and converted the 470-yard sixth hole from a short par-5 to a demanding par-4. His alterations were well received.

“That's my favorite, No. 6, where the new green complex has no bunkering at all,” says Mark Sarkisian, a longtime member of the grounds committee at Annandale. "It’s surrounded by tight chipping areas a la Pinehurst and Augusta National.”

BILLY BUNKERS

Architecturally, one of Silva’s major themes was evoking the Billy Bell feel with the bunkering without any specific restorative goals on the greens.

“The reason behind this was simple: We had period photography showing the distinct bunker style,” Silva says. “That's what was restored in the existing bunkering and mimicked on the new bunkers.”

Recreating the distinct edging on the Bell bunkers was an important final step to complete the traditional look and play characteristics. Being on site once a week was critical to the finished product.

“I got two or three cracks at every single bunker with the paint gun, when they were initially roughed in, then again in the dirt before they sodded the edges, then one last time – a touch here and there – before the sodding took hold,” Silva says.

While Silva dove into the Bell tradition, Kutt and Christie immersed themselves in the technical aspects of bunker construction. The hazards were a style known as Billy Bunkers, not named after Bell but after former Augusta National superintendent Billy Fuller. The bunkers consisted of drainage, topped with a 2-inch gravel layer and a layer of geotextile with sand over the top.
All the bunkers were done that way. "It helps reduce washouts," Kutt says. "We're in a canyon and get a little more rain than surrounding areas during the rainy season. That led to occasional problems with washouts and contamination. Billy Bunkers might be overkill in a normally dry area like this, but they work well."

HYBRID BLUEGRASS
Silva and Kutt also worked closely on another of the project's key creative aspects - the sodding of a hybrid bluegrass in 47 acres of rough area. This turf choice was an unusual one for the West Coast, but this particular strain was bred to survive hot summers, and its visual contrast with Bermudagrass provides definition of the fairways and greenside features.

"People are drawn to the bunker work and the angles Brian created coming into these new greens, but it's amazing how the definition helps you see the line of play," Sarkisian says. "People ask me, 'What were your expectations?' I have a pretty good imagination, but I'm amazed by the difference that grassing decision has made and what Brian accomplished here overall."

Annandale is the first course in Southern California to use a four-way Scotts blend consisting of Thermal Blue, Thermal Blue Blaze, Dura Blue and Solar Green, Kutt says.

"Most courses don't sod roughs, but we were really up against it with our soil conditions and topography," he says. "And we needed some sod anyway for the green and bunker surrounds. With the slow germination of bluegrass, it made sense to bite the bullet and sod 100 percent of the roughs, too."

Sod installation started around April 1 and finished in the middle of July.

With the help of turf consultant Andrew Curtis, Kutt contrived a preplant fertilizer to ensure the early establishment of the bluegrass sod and stolonized fairways. It consisted of a stabilized nitrogen source (Nutralene), pasteurized poultry manure (Bio Basics 4-2-3 composted chicken manure), Mycorrhiza fungi and seaweed extract. The goal of the blend was to give short-, mid- and long-term release of nutrition to increase rooting significantly and aid the development and promotion of strong soil microbial populations.

EXCEEDING EXPECTATIONS
Annandale's greens were constructed using an
improved USGA root-zone material, although they still met all the specifications for a USGA green. Peat moss was omitted and replaced with high-quality chicken manure because of its nutritional content and ability to provide adequate water holding for the grow-in.

The final mix consisted of 80 percent locally mined sand, 17 percent Rhyolite—a product imported from Las Vegas that improves the air porosity and infiltration rate of the mix while holding nutrients with its high cation exchange capacity—and 3 percent pasteurized poultry manure.

The bentgrass on the greens is Dominant Xtreme, a Seed Research of Oregon blend combining the cold-weather performance and disease resistance of Providence SR1019, the fast-establishing and putting quality of SR1119 and the darker color of SR1120 bentgrass.

“The grass performed extremely well during grow-in and, as it matures, it appears to be exceeding all expectations,” Kutt says.

A MORE NATURAL STATE
The construction team removed numerous trees and planted others during construction, encouraging areas of formerly manicured turf to return to a more natural state. Stress on the golf course increased infestation of numerous Canary Island Pines by an insect called an ips beetle, a type of engraver beetle. Workers removed many of those trees and planted more native trees such as oaks, sycamores and California buckeyes, as well as low-growing ground cover.

Kutt is overseeing the return of about 15 acres to a more natural state. The contractor planted an eight-way seed blend—four varieties of warm-season grass and four varieties of cool-season grass—on the inside natural areas, and a chaparral mix of shrubbier plants lending...
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a more desert-like appearance on the outside natural areas.

"We expect to see a maintenance and water savings there over the long haul," Kutt says. "Trying to get those areas to look consistent will be a challenge. You often get contamination from the true native grasses and Bermudagrass."

Christie estimated the course part of the renovation cost about $6 million, which he says is pretty typical for that part of the country.

**CONSIDERABLE SAVINGS**

Adapting to the bluegrass rough will be one of Kutt's primary challenges in the future.

"The grass selection certainly has caused discussion and is providing challenges, but there were no realistic alternatives that anyone could sell me on," he says. "The issue was some rust we spotted heading into last fall. I didn't feel it was appropriate to spray. With the help of some added fertilizer and micronutrients, the grass bounced back rapidly.

"We're trying to balance our soils the best we can to prevent that again. In this instance, they might have been low on copper, and that likely had something to do with the occurrence of rust. But the rapid recovery has shown me that the turf selection has some merit, especially with its contribution to the aesthetic value of the course."

The new irrigation system coupled with encouraging more natural areas should increase watering efficiency. It's too early to tell exactly how much water will be saved because additional water still is needed to grow in the native areas to the desired look and consistency. Ultimately, Kutt expects to reduce his water use by at least 10 percent compared to prerenovation levels. Labor also should decline with fewer manicured acres to maintain.

Water and labor are Annandale's two largest budget items, with less than $300,000 projected annually for water and more than $1 million annually for labor. Considerable savings in those two areas would be significant to the club's financial health.

**A SILVA LINING**

Even though Silva is new to the West Coast, he made friends and supporters during the project.

"I give the committee a ton of credit," he says. "It took them several years to get this project approved, and when we wanted to do a little more once the project was under way, they went for the changes with enthusiasm. As a result, the good folks at Annandale ended up with a course they're intensely and justifiably proud of."

The feeling is mutual.

"We interviewed several architects whose names you could say were more prominent, but Brian overwhelmed us with his ideas and enthusiasm," Sarkisian says. "He's so hands on. He was here once a week for 25 to 30 straight weeks. No one else does that - maybe an assistant, but not the architect himself. Brian handcrafted our course."
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Aerification improves root zones, stress tolerance and firms greens  

BY DAVID WOLFF

No one has to convince golf course superintendent Mark Burchfield about the effectiveness of an aggressive aerification program. When he arrived at The Victoria Club in Riverside, Calif., five years ago, his first task was to revive the Poa annua greens, which were built in 1903.

"The greens didn’t drain very well and the subsurface was old, so we couldn’t be aggressive with our cultural practices," Burchfield says.

The superintendent had to combat an arid climate and lack of rainfall, which inhibit downward water movement and allow sodium to migrate back up to the root system and crown of the plant.

"Leaching the greens has been key to our survival," Burchfield says. "Poa annua is very susceptible to salt. When mowing at one-eighth inch or lower, the root system is shallow, and the plant is sensitive to any outside influence, which throws it into stress and makes it prone to rapid blight. The sodium-based disease comes in over a short period of time. It can hit in late evening, and within 12 to 16 hours, the greens can be almost engulfed and losing turf."

Once that situation was diagnosed and controlled, the maintenance staff pursued an aggressive aerification program. Greens are deep-tined twice a year, simultaneously core aerified to 3 inches with half-inch tines. The staff also verticuts and hydrojects throughout the year.

"We’re trying to keep the greens open," Burchfield says. "With our older greens and subsurface, aerification is the most important thing we do."

The Victoria Club members support the aerification program, largely because of a disastrous episode in 2003.

"Instead of pulling cores, we just sliced, so we didn’t disrupt a special event," Burchfield says. "The result was a catastrophic loss of turf that hurt us. Aerification is no longer a four-letter word at this club, and the results speak for themselves. Our greens are the best they’ve ever been."

MORE OXYGEN, LESS HEAT

Good agronomic practices necessitate aerification of the soil profile to maintain a high level of macropores in the root zone. A well-aerated soil is cooler during summer because air is a better insulator from heat than water. In contrast, water is an excellent conductor of heat where root zones with excessive water hold more heat and less oxygen.

The aerification process:
1. Extracts excessive accumulation of organic matter.
2. Reduces compaction.
3. Improves soil/gas exchange.
4. Stimulates new root development.

Aerification doesn’t have to include extracting cores. It also can be accomplished by using solid tines to create vertical shafts in the root-zone profile. Photo: David Wolff
5. Stimulates microbial activity.
6. Improves the plant's ability to withstand biotic and abiotic stresses.

But for all its benefits, aerification is one of the most despised cultural practices for golfers because it disrupts the playing surface. Aerification usually is done during the prime playing seasons, and according to most golfers, has no redeeming features other than to decrease green performance and raise one's golf score, says M.C. Engelke, Ph.D., professor and faculty fellow at the Texas AgriLife Research Center in Dallas, which is an agency of Texas A&M University.

"On the other hand, aerification is likely the most important cultural practice a golf course superintendent can perform," Engelke says. "Why? Simply put: It maintains a root system under the target plant. The plant's response is to maintain density, enabling it to tolerate traffic and resist ball marking; maintain a deep, effective root system to withstand limitations on water quantity and quality; and maintain healthy plant growth to tolerate biotic and abiotic stresses."

**REMOVE ORGANIC MATTER**

As plants grow, roots, stolons and rhizomes will develop, increasing the level of organic material in the upper soil profile. The more plant growth, the healthier the plant is, resulting in a superior playing surface.

The down side of plant growth is organic accumulation. Left unchecked, the level of organic matter can create a high organic layer, which, by itself, can change the dynamics of the root zone. Periodic monitoring of the root zone is proactive when maintaining a uniform balance in the amount of organic matter, sand, silt and clay throughout the soil profile.

"If an organic layer accumulates near the surface, it can restrict water and air flow into the root zone," Engelke says. "During periods of high abiotic stress, the plant demands much more plant-available moisture and soil oxygen. Restrict either, and the root also will be restricted."

Organic matter will seal the soil surface from water and air infiltration and accumulate salts from evaporotranspiration, suffocating the root zone.

"Ever wonder why roots are shorter in the heat of summer?" Engelke asks. "In short, they suffocate. The organic material restricts the availability of soil oxygen, which, under high soil and air temperatures, is quickly depleted because of a rapid level of root respiration. A simple solution to this problem is to recognize aerification isn't an annual event. It's an event that should occur frequently and with a purpose."

**AERIFY DURING HIGH GROWTH**

Root growth and maintenance require a lot of soil oxygen. One of the best ways to deliver this is to aerify, especially during periods of high growth. Aerification for the purpose of organic...
The Victoria Club’s 100-year-old *Poa annua* greens were revived with an aggressive aerification program. Photo: David Wolff

Material extraction should be done during the period of time the plant is most active, Engelke says. This ensures the physical hole created by removing organic material will heal rapidly.

“The USGA suggested 20 percent of the upper root-zone cavity should be extracted annually,” he says. “If we take this as a given, machines on the market equipped with a modified quad tine holder and half-inch tines on 1-inch centers will remove 11 to 12 percent in a single pass, thus requiring only two aerifications per year.”

A single aerification during the most active growth period of the year will help extract organic material. Timing is species dependent. Bermudagrass, zoysiagrass and paspalums have their most active period during summer, whereas bentgrasses and even *Poa annua* are most active in early spring or late fall.

“Periodic monitoring of the organic layer will help determine how frequently core aerification is required,” Engelke says. “Maintaining an organic material layer of three-eighths inch to one-half inch is acceptable and will provide good plant response. Depth greater than one-half inch could cause problems during the heat of the summer.”

**VENTING**

Aerification doesn’t always have to include extracting cores. It also can be accomplished by using solid tines to create vertical shafts or air space deep into the root zone profile. These vertical shafts are vents. The term “venting” is used instead of aerification frequently.

“These vent shafts are macropores, the site of gas exchange, excessive moisture evaporation, and points of moisture and soil gas infiltration,”

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Engelke says. “Using solid tines throughout the growing period creates new macropores, which are essential to supply adequate soil gases to developing roots and microorganisms.”

This cultural practice goes hand-in-hand with aeration, but it’s not a substitute for core aerification. Venting greens through the summer months generates and maintains active macropores. Because the macropores of aging greens tend to close quickly, it’s equally important venting is done frequently.

Along with providing excellent moisture and gas exchange, the improvement in soil gas exchange also supports and stimulates microbial activity, enhancing the rate of organic material decomposition.

“Combined with light, frequent topdressing, core removal and supportive microbial activity, the root zone will be supportive of a deeper, more effective root and healthier turfgrass plant,” Engelke says.

FIRM UP THE GREENS

Golf course superintendent Ron Pusateri had an experience similar to that of Burchfield. When he arrived at St. Clair Country Club in Upper St. Clair, Pa., three years ago, turf conditions needed considerable improvement. The 40-year-old, push-up Poa annua greens have native soil and no internal drainage.

There were other considerations, too. St. Clair is a private club with a large membership whose handicap ratings represent a wide range of golfing abilities. Pusateri’s greatest challenge was to find a happy medium for course conditions and playability.

“The club wants championship conditions, but, during my first year, I learned taking that approach didn’t please everyone,” Pusateri says. “If there was too much roll in the fairways, the course played too short for some golfers. And the greens might have been too slick for a membership that averages a 20 handicap.”

Pusateri’s first task was to firm up the greens with an aggressive topdressing program. Heading into his first winter, he covered greens with sand. By the time the staff was ready to aerify in the spring, the sand was almost gone. The staff aereified with three-eighths-inch tines on a 1.5-inch-by-1.5-inch spacing. Later a Dryject process punched sand directly into the surface in two directions on a 3-inch-by-3-inch spacing. A drill-and-fill process was executed twice in the fall using three-fourths-inch drill bits at a 12-inch depth.

The staff applied two heavy topdressings in the winter. The following spring the staff completed a deep-tine aerification and performed another Dryject process, as well as core aerification.

“We’ve amended the soil profile on the greens with sand to firm them up,” Pusateri says. “The membership is pleased with what we’ve done.”

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Because of the high variability and artificiality of the test set-up regarding penetrometer resistance, a revised version of this study, first printed in the March '08 issue of 
CGI, is presented regarding physical analysis of sands. In light of new methods recently introduced to test surface penetration (Brame, B. 2008. Affirming firmness. USGA Green Section Record 46(2):17-20), it was decided the data regarding penetrometer resistance determined from the use of the pocket penetrometer test wasn't sufficiently robust.

Most golf hole architectural designs incorporate sand bunkers to add dramatic visual contrast and enhance aesthetic beauty while also adding challenge and strategy for golfers. Technically, golf course bunkers are considered hazards. However, for many of the courses in the United States, the demand for manicured perfection throughout the entire golf course has resulted in unrealistic player expectations for perfect lies, even in areas defined as hazards. For golf course managers, this results in the pursuit of consistently firm, smooth bunker surfaces.

Many recently constructed courses contain a few smaller well-positioned bunkers and vast bunker expanses. At many golf facilities, the amount of maintenance resources spent on bunker management rivals that spent caring for putting greens. Where sand is installed on steep slopes, regular erosion repair costs can be substantial and are compounded when improperly selected, highly erodable bunker sands are chosen.

Numerous sand-sized materials are available commercially and marketed for use in golf course sand bunkers. Often a particular sand might be chosen based on subjective characteristics, such as aesthetic appearance (many golf course architects prefer bright white sands), or subjective functional characteristics such as how a particular golfer perceives the playability of the sand. Generally, firm sand is preferred because it allows the golf ball to sit on top of the sand surface, resulting in an easier play from the hazard.

Sometimes the long-term consequences of these decisions based on subjective criteria, such as color, might not be realized immediately. A sand that’s the desired color but is too coarse or has a predominance of round particles might necessitate additional labor to maintain playability. From a golf course manager’s perspective, an appropriate sand for golf course bunkers is one that maintains firmness, drains quickly and doesn’t easily erode from slopes after moderate rainfall or irrigation. It’s similar in size to that used for sand-based root zones, so when it’s splashed onto putting surfaces, it does minimal damage to equipment when picked up during mowing and doesn’t impact the composition of the sand-based root zone negatively over time.

Currently, there are no clear specifications for golf course bunker sands, and the information that exists serves primarily as a guideline based mostly on sand particle size distribution and a measurement of surface firmness. In general, bunker sands particles should be mostly in the 0.25 to 1.0 millimeter range. In terms of sand mineralogy, silica sand is often preferred because silica resists weathering and retains its original shape longer. Other materials also might be suitable. Limestone sands, however, are more prone to weathering over time and might result in significant fine particles that can affect drainage and playability.

In terms of sand particle size distribution, previous research has documented that particle size distribution greatly influences sand strength and, specifically, that the quantity and ratio of fine textured particles can have a strong influence on strength. The authors suggest, when evaluating a particle size distribution based on its coefficient of uniformity, higher coefficient of uniformity values for sands are
preferred, and the coefficient of uniformity could be adjusted by adding a small percentage of finer textured particles, such as native sandy-loam soil. In their studies, increasing the coefficient of uniformity value from 1.8 to 3.0 resulted in a doubling of the sand's bearing capacity – in essence, a much firmer sand root-zone surface. For bunker sands that need to infiltrate and drain rapidly, the addition of significant fines is risky, as it might result in excess water retention and make the sand more prone to erosion when installed on slopes.

In addition to particle size distribution, sand particle shape has a strong influence on playing quality and maintenance. Particle shape is classified by examining the relative sharpness of particle edges and the overall particle shape, referred to as angularity and sphericity (roundness). These characteristics can have a strong influence on surface firmness and resistance to erosion. For example, a low-sphericity, very angular sand generally has a high surface strength and likely will stay in place on bunker faces. By contrast, a high-sphericity, rounded sand is more likely to be soft and prone to erosion during regular maintenance, or following irrigation and rainfall events.

Complicating the bunker sand selection process is that subjective qualitative characteristics, such as color or immediate cost, often strongly influence the final decision with little thought on the possible implications regarding long-term maintenance needs or costs.

The objectives of this laboratory study were to:

1. Characterize the physical properties of a wide variety of commercially available sand-sized materials being used in golf course sand bunkers.
2. Determine if certain physical properties can be used as reliable predictors for sand surface hardness or resistance to golf ball penetration as measured using a modified pocket penetrometer.

MATERIALS AND METHODS
Twenty-six sand materials were collected from a variety of sand suppliers throughout the United States (Table 1). About one gallon of each sample was obtained, air-dried and well mixed before analysis. Subsamples (60 grams) from the center of each sand were removed and oven dried to determine particle size distribution using the pipette method and dry sieving on three replicate samples. The remaining sand was used to determine sand firmness, measured by resistance to penetration with a modified pocket penetrometer.

Each sample was placed into the standard measurement vessel (a rigid wooden box with interior dimensions of 11.4 centimeters by 12.7 centimeters) and compacted to a 7.6-centimeter depth. The modified penetrometer was inserted...
using even and steady pressure until half the depth of a USGA-approved golf ball was buried. The value was recorded and the device reset. This procedure was replicated five times, and between measurements the sand surface was resmoothed and repacked.

To determine angle of repose, 20-gram samples of oven-dried sand were placed in a 26-millimeter-diameter plastic centrifuge tube with a 5-millimeter-diameter opening at the bottom, mounted perpendicular to a standard microscope stage. On the microscope stage, a circular pad marked with a measurement scale (marked in millimeters) radiated out from a central point. The tube was placed flush in the center of the measurement scale, and the sand was installed. The tube was raised slowly and steadily until all sand exited. The distance from the center of the scale to the edge of the resultant sand cone was recorded at eight locations and the height of the sand cone measured using calipers to the nearest millimeter. This process was repeated three times, and the average radius and cone height were used to calculate angle of repose.

Additionally, each sand was evaluated visually for overall particle shape and color using angularity/sphericity and Munsell color charts, respectively (data not presented).

The particle size distribution of each sand was used to calculate geometric mean diameter, coefficient of uniformity and gradation index. In addition to the bunker sand materials, three materials were included for general comparison; these

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<th>TABLE 1. Particle size distribution and calculated physical properties of commercially available sand materials from various regions in the United States.</th>
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<td>USGA Bunker</td>
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<td>White Bunker</td>
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</tbody>
</table>

† Geometric mean particle diameter (GMD) = calculated from the sand particle size distribution.
‡ Cu (Coefficient of uniformity) = where D60/D10; "acceptable value" = 2 to 4, higher value = less uniformity, optimum value = 2 to 3, a value < 2 less likely to pack tightly.
§ Gl (Gradation index) = where D90/D10; lower values indicate a higher potential for surface instability, acceptable range 3 to 6, preferred range 4 to 5.
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“standards” included a medium-coarse putting green root-zone sand, a medium-fine topdressing sand and rounded laboratory glass beads.

WHAT WE DISCOVERED

During this laboratory study, we evaluated a variety of commercially available sand products from several regions of the United States. The sands included naturally mined sands, screened and washed sands, as well as some manufactured sands generated by a rock-crushing process. In addition to the bunker sand products, three sand-sized materials were included for general comparison. These “standards” included a putting green root-zone sand, a fine sand topdressing and laboratory glass beads. All sands were evaluated for visual characteristics, such as particle shape and color, and also for their general physical properties (Table 1).

As expected, sand color varied widely, ranging from white to cream, tan and brown (data not presented). Of all selection characteristics, color appears to be the most subjective criteria and should be one of the last factors considered when selecting a sand for bunker use. Probably one of the more routine measurements conducted on sands is determining the sand’s particle size distribution. Once the particle size distribution is determined, this data can sometimes be used to infer physical performance characteristics. Three properties – geometric mean diameter, the coefficient of uniformity and gradation index – were calculated from the particle size distribution. As expected, there was a wide range in particle size distribution which resulted in quite a bit of variation in the associated calculated values.

For geometric mean diameter, which is one method for distilling a particle size distribution down into a single value and provides an overall sense for the relative coarseness or fineness of the sand, values ranged from 0.35 millimeter to 0.95 millimeter (Table 1). Although this is a convenient method for reducing a particle size distribution down into a single manageable value, it also can be somewhat misleading. For example, the laboratory glass beads had a very narrow particle size distribution with 100 percent of the particles in the 0.5-millimeter and 0.25-millimeter size classes, and a geometric mean diameter of 0.71. This value was similar to five other sand materials including the standard putting green sand (GMD equals 0.70), which contained a much wider range of particle size classes.

Based on the very narrow particle size distribution of the glass beads, it’s predicted this material would be rather unstable or soft, simply because of the lack of bigger or smaller size classes necessary to fill in voids around the existing two size classes and increase surface stability. In general, however, for a bunker sand, a minimum value greater than 0.5 millimeter is desirable. Below this value the sand might drain too slowly when installed in low lying bunker bottoms, resulting in wet or soft playing conditions.

For the coefficient of uniformity, which is a numerical expression of how uniform the particle sizes are and another value that could be used to predict how likely sand particles are to pack, the values ranged from 1.47 to 5.28. Some

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<td>0.66</td>
<td>1.82</td>
<td>3.32</td>
<td>32.5</td>
</tr>
<tr>
<td>Crushed Limestone</td>
<td>Medium</td>
<td>Angular</td>
<td>0.95</td>
<td>1.86</td>
<td>3.53</td>
<td>34.9</td>
</tr>
<tr>
<td>Extra Firm Bunker</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.59</td>
<td>2.85</td>
<td>6.23</td>
<td>31.6</td>
</tr>
<tr>
<td>Fine Topdressing</td>
<td>Medium</td>
<td>Subrounded</td>
<td>0.35</td>
<td>3.60</td>
<td>2.40</td>
<td>30.4</td>
</tr>
<tr>
<td>Glass beads</td>
<td>High</td>
<td>Rounded</td>
<td>0.71</td>
<td>1.61</td>
<td>2.57</td>
<td>21.8</td>
</tr>
<tr>
<td>Gray Double Wash</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.63</td>
<td>2.22</td>
<td>3.83</td>
<td>34.4</td>
</tr>
<tr>
<td>Green Plus</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.71</td>
<td>2.38</td>
<td>5.24</td>
<td>33.1</td>
</tr>
<tr>
<td>Holliday (Banner Springs)</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.63</td>
<td>3.94</td>
<td>2.24</td>
<td>32.0</td>
</tr>
<tr>
<td>Holliday (Miss. River)</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.70</td>
<td>3.70</td>
<td>1.91</td>
<td>31.4</td>
</tr>
<tr>
<td>Klassic White</td>
<td>Low</td>
<td>Angular</td>
<td>0.67</td>
<td>2.11</td>
<td>4.74</td>
<td>34.8</td>
</tr>
<tr>
<td>Kosse White</td>
<td>Medium</td>
<td>Rounded</td>
<td>0.54</td>
<td>1.47</td>
<td>2.41</td>
<td>30.8</td>
</tr>
<tr>
<td>Orlando White</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.55</td>
<td>2.20</td>
<td>3.87</td>
<td>31.6</td>
</tr>
<tr>
<td>Pro/Angle</td>
<td>Medium</td>
<td>Very angular</td>
<td>0.72</td>
<td>3.33</td>
<td>7.78</td>
<td>33.1</td>
</tr>
<tr>
<td>Pro White Bunker</td>
<td>Low</td>
<td>Very angular</td>
<td>0.60</td>
<td>2.50</td>
<td>4.69</td>
<td>33.4</td>
</tr>
<tr>
<td>Putting Green</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.70</td>
<td>5.28</td>
<td>2.56</td>
<td>32.2</td>
</tr>
<tr>
<td>Shelby Bunker</td>
<td>Medium</td>
<td>Subrounded</td>
<td>0.71</td>
<td>2.00</td>
<td>3.79</td>
<td>31.6</td>
</tr>
<tr>
<td>Sidley 1600</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.56</td>
<td>2.25</td>
<td>4.17</td>
<td>32.4</td>
</tr>
<tr>
<td>Stone White</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.50</td>
<td>1.53</td>
<td>2.53</td>
<td>32.9</td>
</tr>
<tr>
<td>Tan Bunker</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.71</td>
<td>2.43</td>
<td>3.96</td>
<td>34.2</td>
</tr>
<tr>
<td>Tour Grade 50/50</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.68</td>
<td>2.72</td>
<td>8.89</td>
<td>35.4</td>
</tr>
<tr>
<td>Tour Grade 535</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.57</td>
<td>1.82</td>
<td>2.76</td>
<td>30.7</td>
</tr>
<tr>
<td>Tour Grade Signature</td>
<td>Low</td>
<td>Angular</td>
<td>0.71</td>
<td>3.06</td>
<td>8.89</td>
<td>33.9</td>
</tr>
<tr>
<td>White Bunker</td>
<td>Medium</td>
<td>Subangular</td>
<td>0.63</td>
<td>4.76</td>
<td>2.65</td>
<td>34.6</td>
</tr>
</tbody>
</table>

† Geometric mean particle diameter (GMD) = calculated from the sand particle size distribution.
‡ Cu (Coefficient of uniformity) = where D60/D10; “acceptable value” = 2 to 3, higher value = less uniformity, optimum value = 2 to 3, a value < 2 less likely to pack tightly.
§ Gl (Gradation index) = where D90/D10; lower values indicate a higher potential for surface instability, acceptable range 3 to 6, preferred range 4 to 5.
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references suggest that "acceptable" coefficient of uniformity values are between 2 and 4. In general, a higher value suggests less uniformity and a greater range of particle sizes. Coefficient of uniformity values below 2 suggest a tendency for the particles to pack less tightly. Of the sands evaluated, 19 of the 26 sands fell within the "acceptable" range.

A similar calculated property is the gradation index, for which values ranged from 1.91 to 8.89. For gradation index values, lower values indicate a higher potential for surface instability with a suggested "acceptable range" of 3 to 6, and a preferred range of 4 to 5. For these sands, 11 of the 26 fell in the "acceptable" range, and only three were in the "preferred" range: Green Plus, Pro White and Sidley 1600.

In addition to analysis of data associated with the particle size distribution, visual inspection of the sand particles resulted in a substantial variation. For sphericity or roundness, the sands ranged from low to high, with most sands possessing a medium sphericity. The laboratory glass beads were highly spherical. For angularity, the sands ranged from subangular to very angular, with the majority of sands possessing a subangular shape. In general, a more angular and less rounded sand tends to pack tightly and result in a desirable firm sand characteristic.

One additional measurement that might help laboratories predict sand firmness is the angle of repose (Table 2). This calculation, expressed in degrees, is derived from measuring the mean diameter of the base and apex height of a dry sand cone. As one would expect, coarser textured, more angular sands with wider particle size distributions are more likely to stack higher, resulting in a narrower base and taller cone apex and ultimately a greater angle of repose. For the sands evaluated in this study, the angle of repose values ranged from 21.8 degrees to 35.4 degrees. The lowest values occurred for the rounded laboratory glass beads and the highest value was associated with Tour Grade 50/50. Most sands had an angle of repose between 31 and 32 degrees.

The data most helpful for determining surface hardness is the modified pocket penetrometer test.

PHYSICAL PROPERTIES AND SAND FIRMNESS

Besides the highly subjective characteristic, color, an important bunker sand property is firmness manifested as resistance to golf ball penetration. The values for the modified pocket penetrometer ranged from 1.22 to 3.31 kilograms per square centimeter, with values of 1.66 kilograms per square centimeter and 1.59 kilograms per square centimeter for the mean and median penetrometer values, respectively (data not presented).

In data interpretation, the scale most often used is presented in Table 3. This scale indicates that a lower threshold of 1.8 kilograms per square centimeter and below is the value most prone to producing a buried or plugged golf ball lie. Of the sands evaluated, 10 sands had a penetrometer value greater than 1.8 kilograms per square centimeter, but the majority of the sands were between 1.2 kilograms per square centimeter and 2.2 kilograms per square centimeter. As expected, the rounded laboratory glass beads with a narrow particle size distribution and spherical shape had the lowest penetrometer value of 0.1 kilograms per square centimeter and would be considered "softest." Generally, values greater than 2.2 kilograms per square centimeter are desirable because above this value the sand will most likely only have a slight or no tendency to produce a buried golf ball lie (Table 3).

CONCLUSION

When evaluating all the physical data for these bunker sands, no single measured or calculated property (e.g., the coefficient of uniformity
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or angle of repose) was a strong indicator or predictor for penetrometer values. Although 10 sands had penetrometer values greater than 1.8 kilograms per square centimeter, which is the suggested threshold for an “acceptable” dry sand firmness value, only five sands were greater than 2.2 kilograms per square centimeter. In an attempt to relate these physical property data to penetrometer values, linear regression was conducted with the gradation index, coefficient of uniformity and angle of repose data. The results of these analyses resulted in R2 values of 0.0715, 0.0051 and 0.2566, for the gradation index, coefficient of uniformity and angle of repose data, respectively. In other words, because of the high degree of variability, there was little to no relationship between these properties and sand surface firmness.

As an example of the variability present in these sand properties, one of the crushed sand products had the highest penetrometer value, 3.31, but also possessed a coefficient of uniformity and gradient index value of 1.86 and 3.53, respectively. If one were to characterize this sand based solely on the coefficient of uniformity or gradation index data, they would predict this sand is less likely to pack because the coefficient of uniformity is less than 2.0 and that its surface instability is barely “acceptable” because of the gradation index value falling barely inside the 3 to 6 “suggested” range. Based on this information, it’s apparent many properties likely influence sand surface hardness. These properties include particle size distribution, particle shape and other less quantifiable characteristics such as particle surface roughness.

Mechanically crushing minerals into sand-sized products certainly affects surface roughness. This rough particle surface architecture might allow particles to bridge or link with adjacent particles better than smoother naturally occurring materials. By contrast, however, the use of rough or highly angular particles also might have negative effects on turf health, as there might be a higher chance for mechanical damage from turf abrasion when these sands are splashed onto putting greens and collars in locations where mowers turn sharply and often.

In summary, it’s highly recommended to enlist the assistance of an accredited testing laboratory when evaluating sands for golf course bunker use. These laboratories can run a variety of physical analysis tests and be extremely helpful during the selection process. Besides the tests conducted in this study, these laboratories also can assess other properties like crusting potential, water retention and infiltration rate. Additionally, these laboratories probably are familiar with many of the existing commercially available sands, which might have been characterized already.

To date, the procedure most used for evaluating surface hardness is the modified pocket penetrometer test. But this test has met with some criticism because of considerable variability in measurements among users. One important point to make regarding this measurement is that it’s conducted using dry sand in a nonflexible box, conditions not normally exhibited in the field. In reality, sand is installed on slopes of various slope angles, with or without subsurface drainage, and at depths often exceeding three inches. All of these factors affect sand moisture content and ultimately, performance.

Additionally, sand in a typical bunker would rarely be subject to the lateral confinement that exists in the test box. Thus, if an individual were to take an in situ penetrometer measurement in a real bunker, the observed value would likely be softer than what was obtained under laboratory conditions. In response to this concern, alternative, more quantitative methods currently are under evaluation at several research laboratories. These methods include using various impact hammers, such as the Clegg impact tester, to test for sand firmness. It’s the authors’ hope a more reliable test will be developed and correlated with other sand physical properties.

The sands analyzed in the study were variable in terms of all properties measured: particle size distribution, angularity, angle of repose, color and particle shape.

### TABLE 3

Interpretation of modified penetrometer test values and their influence on performance characteristics for bunker sands (Thomas Turf Services), as well as the number of sands falling into the various firmness categories.

<table>
<thead>
<tr>
<th>Penetrometer value (kg/cm²)</th>
<th>Potential for golf ball burying</th>
<th>Number of sands in each category</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 2.4</td>
<td>Very low tendency to bury</td>
<td>2</td>
</tr>
<tr>
<td>2.2 - 2.4</td>
<td>Slight tendency to bury</td>
<td>2</td>
</tr>
<tr>
<td>1.8 - 2.2</td>
<td>Moderate tendency to bury</td>
<td>6</td>
</tr>
<tr>
<td>&lt; 1.8</td>
<td>High tendency to bury</td>
<td>15</td>
</tr>
</tbody>
</table>

Cale Bigelow, Ph.D., is an assistant professor of agronomy at Purdue University in West Lafayette, Ind., and Douglas Smith, Ph.D., is an associate professor at USDA-ARS, National Soil Erosion Research Laboratory in West Lafayette, Ind.

Courtesy of USGA Turfgrass and Environmental Research Online (ISSN 1541-0277). Literature cited can be found on www.golfcourseindustry.com.
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Most superintendents are able to breathe a sigh of relief after a big renovation. But Tony Girardi, CGCS, at the 18-hole Rockrimmon Country Club in Stamford, Conn., has been overseeing construction projects since he arrived there 14 years ago.

“We’ve been in every phase of golf course construction, whether it’s building greens, tees or carpaths, reshaping fairways or expanding ponds,” he says. “We’ve installed an irrigation system and pumping station. We’ve done it all.”

Built in 1949 on an old family farm plot, members of the private facility hired Robert Trent Jones to design the first nine holes for $7,500. The second nine holes were added in 1954, and a considerable renovation and addition took place in 1996.

With so much construction activity, Girardi no doubt would own a small fleet of equipment if he executed every project in-house. To maximize his $1.3-million maintenance budget, he outsources large construction projects.

“Certain jobs – such as major greens construction, pond and creek restoration work, and reestablishing wetlands – are just overwhelming in regard to the construction equipment and manpower we would need,” he says. “We’ve brought in just about every piece of equipment out there.”

Hiring construction companies allows Girardi and his 19-man, in-season staff to focus on daily course maintenance, which still involves plenty of construction. Three years ago, Girardi decided to alleviate the stress on his John Deere front-end backhoe – 19 years old at the time – with a Bobcat 435 compact excavator. During the purchase process, he came across the Bobcat A300 skid steer and considered replacing both of his construction machines simultaneously.
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“Our Caterpillar skid steer had fixed front and rear wheels,” Girardi says. “To steer it, you had to skid – that’s why they call it a skid steer – and it really dug up our turf. The A300 options were far superior. It’s steerable, which means the tires rotate, versus a typical skid steer in which the tires are locked in one position.”

Girardi decided to purchase the Bobcat skid steer and mini excavator, which were funded by the club’s $200,000 capital expenditure budget. Bobcat of Connecticut sold Girardi the A300 and the 435 for a bundle price and allowed him to trade in his Caterpillar skid steer for an additional discount. The dealer did a wonderful job of working with Rockrimmon to come up with a competitive price, Girardi says. He couldn’t be happier about the return value of his investments.

“The A300 and 435 have been wonderful machines and operate flawlessly for us,” he says. “Because we’re a golf course upgrading our property constantly, these pieces of equipment are used daily. They’re used every time we do construction, literally. It’s taken so much of the burden off one John Deere 210 backhoe. We hardly even use the backhoe now.”

Girardi plans to replace his backhoe in the coming year, but his two Bobcat machines have bought him time.

“We have just the right amount of equipment,” he says. “I use my Bobcat machines for general golf course construction, mainly little projects. We’re not doing heavy-duty, earth-moving stuff with it. We use it for drainage work, to haul material and load trucks and for attachment work – stump grinding, trench work and carpath maintenance repair.”

Construction at Rockrimmon hasn’t taken a major toll on play in years past. Girardi has tried to minimize course disturbance by beginning renovations as late as possible in the fall and completing them by early spring.

“We’ve been fortunate to have an acquiescent membership,” he says. “They know their patience is worth the payoff.”

While Girardi is pleased with the success of his past construction projects, he’s not one to rest on his laurels. In three of the past four years, the club has been rebuilding its greens slowly to USGA specs. At his next membership meeting, Girardi plans to propose to regrass the remainder of his Poa annua/bentgrass greens in one fell swoop, commencing mid-September 2009. He hopes to complete the job by late May 2010 and will reciprocate membership in the early season with six to eight clubs in the area.

And that’s not the only buildathon Girardi has up his sleeve. He’s also planning a complete renovation of Rockrimmon’s creeks and ponds, including banks, bridges and culverts – a multimillion-dollar renovation that will be contracted out.

For Girardi and Rockrimmon, the quest for perfection, it seems, will continue for years to come. GCI
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MOwING-PATTERN APPEAL

Q I watched February’s Pebble Beach event on television and noticed the fairway mowing appeared to produce a diamond-cutting pattern pointing to the putting surface. Is this done by request? Is this the regular pattern? How does the superintendent plan for this practice?

A The PGA Tour doesn’t require fairways to be mowed in a certain way. However, it prefers no mower stripes be aligned with a player’s shot. The resulting light and dark stripes can produce a “grain” issue of a favorable or detrimental golf shot in the minds of players. Chris Dalhamer, CGCS, and long-time assistant Jack Holt check the television camera angles from the television towers to prevent mower stripes from running into a television shot, including the overhead blimp camera shots. This eliminates any aesthetic issues regarding quality of cut, height of cut, scalping, mower-pass overlap and wheel tracks.

For ball-roll consistency, Dalhamer prefers his first cut to begin in the middle of the fairway – which is perennial ryegrass – angling from 4 o’clock to 10 o’clock and the second cut angling from 8 o’clock to 2 o’clock, which will produce the diamond image desired.

The most difficult mower pass is the first pass on a sharp dogleg. In this case, Holt will stand at the back of the putting green and guide the mower stripes based on the design of the golf hole. However, a sharp dogleg can produce a silly stripe with an unusual bend to it.

Beginning three weeks before the event, to enhance the stripe patterns, Dalhamer will monitor fertility to peak the week of the event, use brushes on the back of the mower reels to highlight the stripe, set his height of cut, apply Primo, double-cut daily and monitor mower overlap to produce a full stripe for each pass.

Q I’ve always mowed my square teeing grounds front to back, or 6 o’clock to 12 o’clock, to set the line of cut to the middle of the fairway. However, watching the recent professional event at Riviera Country Club in Pacific Palisades, Calif., teeing grounds were cut left to right. Why?

A Riviera, which is a George Thomas design, has a classic, subtle look. Golf course superintendent Matt Morton would prefer to accentuate Riviera’s design qualities rather than overstripe the golf course with a more modern look. He mows the tees left to right, matching the cut in the fairways. When a player looks down the hole from the teeing ground, the side-to-side cut ensures he won’t see a distracting, busy-looking golf hole.

Like it or not, a great first impression ... stems from intricate mowing designs ...

Being an older course, Rivera’s many teeing grounds aren’t lined up perfectly to the middle of the fairway and don’t match up as far as back-to-front alignment to the golf hole. This off-line, varying tee-shot option has a 6-o’clock-to-12-o’clock stripe pointing the player toward the proposed landing zone; the stripe is off-center to prevent the course from looking crooked.

Professionals are always checking with their caddies or each other during practice rounds to confirm they’re aligning with their target. Consider this issue when cutting your teeing grounds. To test the best, you might wish to cut side to side, as Morton does, to get the competitors thinking about something other than their next shot.

Q While attending the LPGA’s match play event at Hamilton Farm Golf Club in Long Valley, N.J., I was curious. Are there different set-up requirements for women compared to their male counterparts?

A Not for this championship. Golf course superintendent Paul Ramina met with LPGA staff and outlined a plan acceptable to the organization for this format. Addressing mowing patterns, Ramina reviewed each hole to decide what mowing pattern would best highlight the course’s architecture. He considered how his mowing pattern would be seen through the eyes of competitors and wanted to highlight the design by pursuing the less-is-better option and reducing the busy look.

When it came to mowing, Ramina implemented two practices. First, a 3-o’clock-to-9 o’clock, cross-cut pattern eliminated the “grain” issues affecting the players’ shots and eased the pressure on the volunteer fairway mowers when it came to scalping the edges in the intermediate rough cut. Also, two triplex clean-up passes around the perimeter of the fairways allowed his volunteers room to maneuver. This helped avoid any miss cuttings in the intermediate cut, decreased the time required to mow and reduced tire tracks on the turfgrass within the primary rough.

Q Our big club invitational is approaching, and I want to give our golf course a tournament look for our members and guests. When deciding whether to stripe or not, what options should be considered?

A Follow the advice of Bob DiRico, golf course superintendent at Brae Burn Country Club in West Newton, Mass. Though Brae Burn is a Donald Ross classic, DiRico believes the great design is best shown off with no striping. But during a big event, DiRico realizes members want to impress their guests. The “wow” factor becomes important to give a great first impression of the golf course to those who haven’t been to Brae Burn before.

Like it or not, a great first impression usually stems from intricate mowing designs, stripes and diamond cuts. In many instances, the “wow” factor can aid a club in retaining current members while attracting new ones, especially during an invitational.
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Snug as a bug

John Deere trailers are used commonly for transporting one or two John Deere walk-behind greensmowers at a time. Norman A. Furtado, golf course superintendent at The Mid Ocean Club in Hamilton, Bermuda, replaced the hard, plastic interior sides of the trailers after they wore out. The interior sides, along with 8-inch-by-8-inch wood beams that run the full length of the trailer’s interior, hold the mowers in place. A 1/4-inch-diameter wood bit was used to make four 1/4-inch-deep notches into the wood beams so the transport wheel shafts could be placed into the notches on both sides. Each wooden beam is held in place with two 1/2-inch-diameter lag bolts. The end of each wooden beam closest to the tailgate is cut at a 45-degree angle to help guide the outside edge of the transport drive roller into place.

For added traction for the mower’s large, smooth transport drive rollers, a 1/4-inch-thick piece of rubber matting about 18 inches wide was placed down the center of the trailer and tailgate. The matting is held in place with 1/4-inch-diameter pop rivets spaced 12 inches apart on both sides.

The wood beams cost about $35, and each rubber mat and set of pop rivets costs about $15. The labor involved was less than three hours.

Lift and cut

Norman A. Furtado, golf course superintendent at The Mid Ocean Club in Hamilton, Bermuda, uses John Deere Model 220A, walk-behind greensmowers on the greens and collars. John Cabral, head mechanic, installed small brushes from a Toro 3100 greensmower behind the solid front rollers, right in front of the reel and bedknife. The small brushes do a great job of lifting any surface runners on the TifEagle Bermudagrass greens cut off by the cutting unit, Furtado says. The small brushes are bolted to the solid front roller shafts by drilling 1/16-inch-diameter holes on both ends.

The small brushes and hardware cost about $100 each, and it took about one hour to install them.

Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He’s a 38-year, life member of the GCSAA. He can be reached at terrybuchen@earthlink.net.
I purchased the 7316 Verti-Drain about 3 years ago to replace an older model which had provided good results and reliability for over 10 years. As I write this, the 7316 is out on the course aerating greens and tees as part of the course preparations for the 2008 British Open Championship.

Chris Whittle, Course Manager
Royal Birkdale Golf Club

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Steve Cook, CGCS
Oakland Hills CC

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Mark Wilson, CGCS
Valhalla Country Club

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A TALE OF TWO C.E.O.S

It was with much pomp and fanfare the GCSAA announced the selection of a new c.e.o. – Mark Woodward – a few weeks ago. And, on almost the same day – in a few terse sentences – it announced the passing of one of Woodward’s predecessors. Both of these occurrences merit further discussion, and neither is as simple as it seems. Let’s start with the present before we delve into the past.

Woodward is a great guy. He’s done it all professionally and is about to host the U.S. Open before he completely assumes the reins of the GCSAA. As a top-flight municipal golf manager, he brings a different perspective to the historically club-centric association. He also might help stir more interest in West Coast issues within a staff that’s always had a bit of an East Coast/Midwest bias. He knows the politics of the board and chapter delegate system intimately. Unlike previous executives, he doesn’t face a steep learning curve about agronomy and the business of golf. He has the potential to be a very effective lobbyist because he can speak credibly and realistically about practices and products. He’s an excellent choice for many reasons.

But (and you knew there was a “but” coming, didn’t you?), as uniquely qualified as he might be for the job, he’s also uniquely challenged. Here’s a mix of my concerns and those of superintendents I’ve talked with:

• From volunteer leader to chief executive, he’s now a staff member serving at the pleasure of a board that still has several members over whom he once presided. Everyone who presides over a board will have personal baggage with other board members, chapter delegates, influential members and maybe even key staff. Will that political baggage hinder his effectiveness for the next four or five years?

• You don’t advance to the top of the political pyramid without having strong opinions about what’s right and wrong for the association. However, the role of the c.e.o. is to manage the process and gently guide the board. Woodward won’t be a member anymore. Now, he’ll work for the members. Will he be able to resist the temptation to say, “I used to be your president, and here’s what we should do”?

• Steve Mona came in as a golf administrator already known and admired by other national golf association executives. Woodward comes in as a … well, as a superintendent. I have to wonder if other allied leaders are shaking their heads in puzzlement at this choice. Mona’s biggest contribution to the association was the credibility he gave the greenkeepers in the larger golf industry. Some members I’ve talked with believe this is a step backwards.

John ... died unmourned and unappreciated by the very group he was instrumental in building.

Honestly, I wish Mark the best. His biggest assets are a first-rate staff, a highly profitable trade show and a good policy infrastructure with plenty of standard operating procedures. But (there’s that word again), the GCSAA needs a strong administrator if it wants to progress to a new level within the industry. Can any former superintendent and past president do that? We shall see.

Now, let us turn to John M. Schilling. There are probably younger readers who’ve never heard his name before. But even among older readers, Schilling and his time running the association largely have been forgotten – and intentionally redacted by the association. Read the association’s official history. There’s a big, gray, decade-long hole before Mona arrived to save the day. So I guess I’m writing this for posterity because the GCSAA sure as hell won’t.

John was a passionate, funny, intense man who worked his ass off for the association. He started as a photographer (back when cameras had film, and film had to be developed) in the ’70s. He worked his way up through public relations and magazine roles (at a time when there were only 15 or 20 people on staff). When he assumed the "executive director” title in 1983, the association was bankrupt almost, faced a chaotic legal situation and was on the verge of collapse.

In 10 years, Schilling and a relatively small group of staff built the trade show into one of the nation’s largest; established an education program that’s the envy of associations everywhere; developed programs in PR, lobbying, scholarship and research; and grew overall revenue and membership by percentages that would boggle your mind.

I worked for John from 1987 to 1993, so I’m not unbiased. Let me just say this: His biggest strength was personal loyalty to people who were loyal to him. But that was also his biggest weakness. He remained too loyal to a few individuals among the staff, and it was his downfall.

It was an insular culture of hard work and hard play. We drank, smoked and played politics. It was a cowboy era, and, like the Old West, the rules were different. After a decade of fun, fighting, late nights and risky business, Schilling left because he felt his friends were being mistreated. It was a difficult exit for a good man.

I bumped into him a few times after that. He kept busy in various businesses and enjoyed his semiretirement and family. He honestly held no rancor toward the association for the way he’d been treated at the end. He was at peace with himself and his time at the GCSAA.

I’d always hoped the GCSAA leadership would thaw its frosty stance toward him and officially recognize that his contributions vastly outweighed the speed bumps at the end of his tenure. Unfortunately, John didn’t live to see that day and he died unmourned and unappreciated by the very group he was instrumental in building. What a pity – and a cautionary tale for our new c.e.o.
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