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Look for these articles on our home page and in our e-newsletter this month.

SELLING ACCEPTANCE
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THE GREENSMOWER OF THE FUTURE – NOW
The day has come where machines are available to replace golf course maintenance staff.

TOOLS FOR TALLING
The Golf Course Builders Association of America's new guide to cost estimating can help to keep those building or renovating a course on budget.

PODCAST: GET SCHOOLED ABOUT SOIL
Soil testing can be a useful tool for planning a course's pesticide program. Learn how to get the most out of it.

GIS COVERAGE
In the run up to the Golf Industry Show, which takes place Feb 5-7 in New Orleans, we feature several articles about the industry's biggest event. After the show, don't forget to view our video interviews from the show floor and read our coverage of the educational sessions.
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PRIVATE PROBLEMS

“H”e’s not a member, grandma. He’s a caddy.” Ah, yes … the whiny voice of the pubescent Spaulding Smails character in the movie Caddyshack. It brings a smile to the many golf/comedy enthusiasts who are familiar with the movie.

Spaulding reminds me that, during the next few years, there might be fewer places in America for the bratty rich kids to speak so eloquently of nonmembers and guests who play golf at private country clubs. That’s because 10 to 15 percent of private clubs – equating to about 500 facilities – are in danger of extinction, according to the National Golf Foundation. An increasing number of private clubs are dealing with declining membership – 13 percent on average, according to NGF – and allowing outside play from nonmembers.

Furthermore, among at-risk clubs – defined as those reporting financial difficulties – the average membership decline is 29 percent, and 57 percent of them say they’re operating at a loss, according to NGF. Reasons for declining membership include the financial downturn, job relocation, a desire for course variety, and work and family obligations. Private clubs are responding to membership decline by offering special membership arrangements, making capital improvements (if they have access to enough capital), expanding health-conscious offerings and targeting women and children.

But even implementing those revenue-generating ideas isn’t going to save all the financially troubled private clubs. A more drastic change will take place for some: going public. But this is nothing new. It’s been happening for years. Conversions have outnumbered closures 10 to one during the past 10 years, according to NGF. Between 1999 and 2008, 387 private clubs converted to public facilities, and 39 closed. However, it’s likely the number of conversions will increase significantly during the next several years, propelled by the sagging economy and the need for a broader customer base. There will be closures, but the numbers won’t be as significant as conversions.

To put the private club market into perspective, there are about 4,400 private golf clubs in America – about the same number as there was in 1929 – that support an estimated 2.1 million golfers, according to NGF. The number of private clubs peaked at 4,898 in 1998.

So, will the private golf club at which you work become public in the near future? Has it been discussed? Is it unsettling to some? To you? A number of clubs won’t be able to keep their doors closed to the public much longer. But it’s not necessarily a bad thing for the industry as long as those facilities remain golf oriented and meet demand for rounds, lessons, apparel, etc.

It’s more likely the older, more storied clubs (many with old money) will remain private, and the newer clubs that lack distinct history or reputation – and obviously financial stability and planning – will be the ones to convert to public facilities.

Conversions could be a double-edged sword for superintendents. They probably won’t have as easy a time maintaining a public course compared to a private one because of the increase of the number of tee times and outings and the variety of golfers. However, they’ll probably have fewer headaches caused by those power-wielding members nagging them about every little detail on the course. Instead, it’ll be all about the bottom line. Salaries could fluctuate, too, and budgets will be managed even tighter. All considered, they’re different problems resulting in the same headaches.

Superintendents facing pending conversions should use their network to talk to peers who’ve been in similar situations. After learning more about the transition, some superintendents might decide to spruce up their resume and seek a job change.

When the private-to-public conversion happens at vulnerable facilities, superintendents will have to adapt and manage the operation differently. Be prepared for that. Also recognize you may be better off as a result of public money’s potential, albeit with fewer laughs caused by the Spaulding Smails of the world.

As for club members, they won’t have to worry about the Al Czerviks of the world razing their beloved courses to build condos, office buildings or homes. They just might be booking tees times with the Danny Noonans and Tony D’Annunzios of the world. It might be that or shelling out a lot more dough to join the upper echelon of exclusive private clubs.
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There's no more important relationship that contributes to the success of a facility than the one between a pro and superintendent. I've learned an incredible amount of information during the past five years from our superintendent about what he does, why and the challenges he faces. He spent a few years on my side of the business and has an appreciation of what my challenges are. I'm a better professional because of this understanding, and he's a better superintendent through his experience on the other side of the counter. I'd have a difficult time believing there's a pro and superintendent who work together better than we do. Our owners recognize that and give us more freedom to do our jobs.

Pat Jones' column that quotes Ben Franklin ("Different, yet the same," November issue, page 66) -- "we must hang together, gentlemen, or surely we will hang separately," -- applies to the different factions of the green industry, and on a grassroots level, to professionals and superintendents. The way things are now, if pros and superintendents can't work together for the betterment of the course and their jobs, owners will use that as another reason to let one or the other go and find a cheaper alternative.

Todd Kueppers
PGA Professional
General manager
Chisago Lakes Golf Course
Lindstrom, Minn.

Multiple designations
"Changing roles" (November issue, page 30) is a great article. I have a question, though: How about those certified from the GCSAA and CMAA? I may be the only one. A goal of mine was to become certified with all three organizations (GCSAA, CMAA, PGA of America). Only one to go.

David Gourlay CGCS, CCM
Chief operating officer
Colbert Hills Golf Course
Manhattan, Kan.

Editor's note: We checked with the GCSAA about how many certified golf course superintendents are also certified club managers -- and Gourlay is the only active CGCS/CCM the association

(continued on page 89)
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USING WINTER WISELY

One of my favorite questions this time of year is, “What do golf course guys do in the winter?” I guarantee those of you employed at courses that close during the winter have been asked this before. After a poor attempt at being funny, I tell people what really happens. And after my answer the winter have been asked this before. After your answer, many would ask, “Really?”

A wise man once said the off season is for improving and formulating your plans for the coming year. Meanwhile, the growing season is for implementing plans and programs you created during the off season. Others have said the off season is when we should look to improve ourselves professionally and personally, finding a balance between the two.

In November, I pondered how I could improve myself and the facility heading into 2009. I always need to improve and learn more about golf course maintenance, but on what should I concentrate? Worthwhile areas all professionals can delve into include:

- Taking or teaching classes;
- Working with a technician to maintain an equipment fleet;
- Discussing your future with the facility and beyond with your superintendent in your annual review; and
- Participating in the national and chapter associations.

SHOP SCHOOL

There are times when I think I know more about maintaining an equipment fleet than I do. Admittedly, I don’t know much about diagnosing significant problems. My skills consist of these basic maintenance tasks:

- Fluid, spark plug and rim/tire changes;
- Grinding reels/bedknives; and
- Bearing/seat changes on cutting units.

These basic tasks are necessary to help technicians if maintaining a large fleet with no other support. But by no means do my skills take the place of our technician. Consequently, I spend much of the winter with the technician, learning how to improve my skills in diagnosing these types of problems.

While talking to a group of technicians at a conference last year, we discussed how some new assistants who graduated recently lack basic skills. Among turf techs, the biggest concern was the lack of mechanical knowledge. Some turf programs offer technical courses, but practical experience is superior. We need to roll up our sleeves, get our hands dirty and learn from technicians.

I spend much of the winter with the technician, learning how to improve my skills in diagnosing these types of problems...

... We need to roll up our sleeves, get our hands dirty and learn from technicians.

GIS

This year will be my third opportunity to attend the Golf Industry Show. I’m fortunate I’m afforded the chance, particularly considering economic hardships. Having been an assistant for eight years, there have been years in which I haven’t been able to attend, so I understand and appreciate the opportunity. Take every chance you get to attend conferences and continuing education. It doesn’t matter if it’s locally or nationally, the experience is worthwhile. If you don’t know what’s available, ask your superintendent or others in your area what you can do and how much the club will be able to support your professional development.

I heard a disturbing story last year from a local superintendent who asked his assistant if he wanted to attend the GIS, and his response was, “Let me check to see if my friends are going.” Assistants shouldn’t hesitate to take every chance they get to help themselves and their employer. The potential connections and meetings can be extremely valuable to your future.

ASSOCIATION INVOLVEMENT

Networking and relationships will always be the best asset of belonging to a professional organization. This off-season, talk to your superintendent or call your chapter office to find out about becoming involved. Association committees always need able bodies and minds – volunteer to join. Similar to attending GIS, serving on a chapter committee helps you build relationships with other professionals. In serving my chapter, the Midwest Association of Golf Course Superintendents, I’ve met superintendents who’ve become mentors to me just as much as the people for whom I’ve worked. Opportunities for involvement are endless.

If you asked a group of moderately involved superintendents, they’d probably say that just by participating, they’ve benefited. Either through continuing education offerings, golf events, community service projects, article writing, public speaking/moderating and networking, association involvement gives you the tools for success in a competitive market.

For example, there was a position open at high-profile club being built in the Chicago area last year. Out of more than 200 applicants, the three finalists were highly engaged assistant superintendents who served on the MAGCS’s assistant superintendent committee. That means the assistant committee is doing its job: preparing assistants to become superintendents.

What will this New Year bring for you? Hopefully, it will include a renewed understanding that opportunities to grow are all around you. Use your downtime to relax and become a better professional. Sometimes growth and change are difficult, but if you think about it and try, you might surprise yourself.
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The renovation projects I see now are irritating because the reality for 2009 is that most renovations will focus on fixing specific techniques. However, the notion that besides attitude, equipment choice is a key to working clean. During bunker renovation, he avoids using any type of bulldozer. Instead, he uses lightweight Cat 310.5 minihoes, which have rubber cleat tracks that can move along cart paths without damaging them. He changes buckets for different tasks within the bunker to minimize damage, and like the others, relies on a qualified hoe operator and a lot of hand labor inside the bunker. He adds sand to bunkers using a Tycrop dump trailer towed by turf utility vehicles rather than tractors that can go anywhere with minimal damage.

Jeff Cordes, regional manager for Lincoln, Neb.-based Landscapes Unlimited jokes, "We keep the plywood industry in business by covering all haul routes." The company also uses plastic covers on exposed areas during rain events and uses central stockpiles, planning optimal haul roads, hauling material in small amounts, working its way out of corners and cleaning up as they go.

So, what does all this mean for your targeted renovation? Even more so than for bigger projects, you should consider:

• Choosing contractors based on references for similar projects.
• Accepting a higher bid because a low bid may cost you more in the long run to clean up behind the contractor.
• Clearly specifying the methodology, equipment, haul routes and cleanup in the construction agreement because each is integral to your project's success.
• Asking for the company's most experienced small-projects operators.

Even for small "surgical" procedures, it makes sense to do all you can to improve the course. Thus, while many clubs feel using a golf course architect for smaller renovations because it's difficult to budget for cleaning up after a messy contractor. Don Henderson, president of Land Constructors in Southlake, Texas, seconds the notion that besides attitude, equipment choice is a key to working clean. During bunker renovation, he avoids using any type of bulldozer. Instead, he uses lightweight Cat 310.5 minihoes, which have rubber cleat tracks that can move along cart paths without damaging them. He changes buckets for different tasks within the bunker to minimize damage, and like the others, relies on a qualified hoe operator and a lot of hand labor inside the bunker. He adds sand to bunkers using a Tycrop dump trailer towed by turf utility vehicles rather than tractors that can go anywhere with minimal damage.

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Our industry has made great gains in irrigation system efficiency and application methods, most notably because of the need to conserve one of our most precious resources—water.

Superintendents always have been stewards of conscientious irrigation applications. Golf course irrigation systems have a direct impact on turf playability; therefore, no superintendent benefits by poorly watering a property. That said, there’s always room for improvement. And, as water becomes more scarce and expensive and lessens in quality, the need for effective delivery becomes more attractive—to golf course managers and all parties involved, from pump manufacturers to sprinkler technicians.

Irrigation consultants tend to spend most of their time evaluating the muscle of every irrigation system—the sprinklers. Proper head spacing, application and nozzle selection can supply any golf course with years of efficient and effective water delivery. Without proper sprinkler selection and installation, system management limitations will plague a course forever with compromised turf conditions that are costly to care for. Moreover, a facility will incur unnecessary expenses in the short-term and higher operating costs, in utilities and water, in the long-term.

It’s critical we communicate to those writing the checks that monies spent upfront will deliver significant dividends, such as decreased costs and increased course playability and improved turf health, throughout time. It takes powerful communication skills to persuade ownership (public and private) a poorly designed system, although costing fewer dollars upfront, isn’t in the best interest of the course’s long-term health and viability.

Again, our focus is on the element that performs the work—the sprinklers. Their spacing needs and application performance need to be presented in a fashion that educates decision-makers. Such information may be boring to a layman, but it’s crucial for a 25- or 30-year investment on a renovated or new irrigation system.

The golf industry in the U.S. consumes an estimated 476 billion gallons, or 1.5 million acre feet, of water annually. Each golf course will use an average of 28.5 million gallons, or 88.2 acre feet, in a given year. It’s a matter of time before every course will be “encouraged” to use water more efficiently, while finding new ways to conserve.

Irrigation product manufacturers are committed to providing more efficient sprinklers, helping golf courses reduce their dependency on water without sacrificing course conditions. More effective water use results in improved turf quality. This is a win-win situation: The clubs enjoy much higher-quality playing conditions, while reducing water and power use, as well as potential chemical applications.

There are various methods used to measure irrigation design quality and sprinkler efficiency—the most common being a percentage of distribution uniformity, which measures how evenly a sprinkler distributes water over a given area.

To calculate distribution uniformity, a series of collection cups is spaced evenly around the sprinkler head, typically in a triangular or rectangular pattern. After watering for a set time, the amount of water in each cup is measured. The average volume of water caught in the cups in the least watered area, usually the lower quantities, is divided by the average volume of all cups.

Another common measurement of sprinkler efficiency is the scheduling coefficient. The scheduling coefficient is a runtime multiplier calculated by dividing the average water application rate by the application rate in the critical dry areas (the driest usually being 5 percent). Ideally, the calculated scheduling coefficient value will fall below 1.5, with 1.1 being considered excellent efficiency. A perfectly even application of water, though virtually impossible, would result in a scheduling coefficient value of 1.0.

The take-away in both of these examples is that a higher distribution uniformity and/or a lower scheduling coefficient shows the greatest amount of efficiency and, therefore, uses less water and resources. Furthermore, we have technologies that project irrigation efficiencies when sprinklers are moved or changed out altogether.

With all of the facts in hand, most facilities could realize a 20–30 percent increase in irrigation system efficiency. By simply paying attention to design and product-application details, improved efficiency will conserve water and utilities while providing better playing conditions for golfers.

It’s essential owners and regulators have a basic understanding of the above concepts to grasp why and how they need to make fundamental improvements to their facilities’ irrigation systems.
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ASSISTANTS' KEYS TO SUCCESS

The following suggestions are geared to help assistant golf course superintendents succeed in the world of golf course management:

1. Learn as much as you can about the operation and repair of the irrigation system. It's important to learn when and how much to water. Many times, good water management is the most important factor of having a successful season.

2. The assistant's No. 1 job is operational efficiency. It often can be the difference between mediocre, good or excellent conditions. Have people work smarter, not necessarily harder. Get jobs going in a progression that avoids having people standing around waiting for someone else to finish an operation before they can start. When people are standing around, red flags should sprout over your entire body.

3. Keep a list of jobs that need to be done. List priority jobs based on time (half-hour jobs, one-hour jobs, plus longer jobs) and projects you think need to be done as time allows. Always carry pencil and paper or a tape recorder and make note of jobs that need to be done as you travel the course. Always be aware of what's going on around you, both right and wrong.

4. Take a course in small-engine repair (through adult education or some other source). Know how engines operate. Take care of small repairs in the field yourself rather than calling the mechanic to come all the way out on the course to fix it. Remember, it's all about efficiency.

5. Learn how to adjust mowers and grind reels. This is important. If you apply for an assistant's job and have that knowledge, you have an advantage over someone who doesn't. If you're an assistant and someone else is responsible for mowers, make sure you learn.

6. Offer ideas and suggestions. Don't be offended if the superintendent decides not to do it your way. It's your job to offer ideas and suggestions, but it's the superintendent's job to figure out the best way to get it done. Don't ever take it personally if it's not done your way and never let it deter you from offering other ideas and suggestions.

7. Play golf even if you're not good at it right now. Playing golf is important to your ability to see problems on the course and relate to golfers.

8. Take pictures. Before-and-after photos of projects are great resources.

9. Go to work early, and be prepared to stay late.

10. When you tell employees what to do, make sure you get your message across. You should explain the job to them and then ask if they understand and if they have any questions. After they go out on the job, you should check to see if they're doing what you want. You should make sure they actually see you so, if they have any questions, they can ask.

11. If someone isn't doing what you told him to do, don't immediately criticize him. First, look at yourself. Did you explain the job correctly? Did you enunciate clearly? Were there any interruptions when you were talking? The vast majority of people want to do the right thing. I can't ever remember someone coming to work thinking, "I'm really going to mess this job up!" Most people want to do the job right. It's up to you to communicate it correctly. This takes practice.

12. Learn how long it takes to do each morning job. An assistant should be able to tell if things aren't going well by noting if someone's out of place at a certain time. If it takes 30 minutes to mow a green and it's been two hours and the person is only half done with his third green, something's wrong. The same is true of fairway mowers, tee mowers, cup changers, bunker rakers, collar mowers, etc. Efficiency should be at a peak in the morning because there are no golfers. Practice checking where people should be at a certain time.

13. Get a pesticide license before you leave school. If you're out of school, get one as soon as possible. It shows you have a commitment to your chosen career field, and it's another advantage over your competition when obtaining a job.

14. Never demean a simple job. On the contrary, talk about the importance of less-skilled jobs such as weed-eating, trimming, bunker-raking, divot repair, etc.

15. As an assistant, be upbeat, particularly in the morning. Your mood often carries over to the crew. Try to bring a little levity to the operation. Humor is often an excellent way to get a serious point across.
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THE TECH’S VIEW OF THE GIS

The GIS experience, as I like to call attending the Golf Industry Show, happens during one of the most exciting times of the year. It’s when you have the opportunity to take a look at all the product innovations, meet with industry colleagues, build relationships and expand your knowledge base.

There are always positives and negatives to attending trade shows, but having the opportunity to attend one can be a blessing for an equipment technician. It seems managers don’t always have a clear picture of what technicians could gain from attending a national event versus an equipment field day or state trade show. While the GIS isn't designed for technicians, it can be beneficial.

For technicians, the GIS is an opportunity to discuss equipment with individuals on your level who understand what you’re talking about. When you ask about the rake angle of a reel, someone there will be able to answer that question. Many times ideas are born on the show floor, whether it’s a technician seeing a piece of equipment that could be useful at the facility or identifying something he could build on his own to save the club money.

The education offered at the GIS is another benefit for equipment technicians. While the content doesn’t exactly meet technicians’ needs and could certainly be improved, there’s always something that pertains to our jobs.

Believe it or not, technicians should have some knowledge of agronomy, environmental awareness, tournament setup, computers and many other offerings that are geared for superintendents. Many times in these classes, you learn what pertains to your position and how your superintendent comes to conclusions when making decisions. The more trained your eyes are on the golf course, the better your operation will run. Think about having another person who can see disease when it pops up or someone else who can see when a hot spot needs water. The benefits of trained technicians are endless.

The GCSAA is dedicated to educating superintendents, which should be its focus; however, there are many superintendents who also serve as technicians, and they need more technical education so they too can learn the correct ways of maintaining equipment. One of the most worthwhile programs the GCSAA provides is one about superintendent/technician relationships. This program should be a prerequisite to certification. The relationship between these two people at a facility is pertinent when managing a successful operation. The GCSAA is expanding its opportunities in this arena, and I hope to see more of them in the future.

The International Golf Course Equipment Management Association continues to support technicians in this educational effort along with sponsoring equipment manufacturers. During the past two years, manufacturers have managed to send six technicians to the GIS, which has allowed those individuals to write about their experiences. Every one of the technicians stated how overwhelming the conference was and what a huge benefit it was to finally see it firsthand. Many of them didn’t realize all the different equipment options that were available, and each of them took back something that benefited his facility. The manufacturers realize the important role equipment technicians play, and sponsoring them to attend the conference is just one of the many ways they recognize that.

Finally, consider how sending a technician to the GIS can build the superintendent/technician relationship, benefit your facility and motivate your technician. While travel expenses aren’t becoming any cheaper and budgets continue to decline, sending a technician to the GIS may be unrealistic. But if you get a quote on a new fairway mower or greens triplex, you’ll notice those prices aren’t declining either. Because of the size of the investment, making the right decisions about purchasing and maintaining equipment is more important than ever.

So, the next time your equipment package is up for renewal, think about sending your equipment technician to the GIS to find what you need equipmentwise for your operation. I assure you, it won’t be disappointing. GCi

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CONSUMER RESEARCH

A VIEW OF CHINA

Clearly, there's a lot of potential for the game of golf to grow in China. If only 0.1 percent of China's population plays golf by 2030 — which is equivalent to one-tenth of the European and one hundredth of the North American participation rates — China would have 1.3 million golfers.

The existing demographic of Chinese golfers is male-dominated — men comprise 87 percent of golf club members.

Average membership at a Chinese golf course is 570, considering courses of all sizes, and about 400 in the case of 18-hole golf courses, which is below the average membership size of most surveyed regions of Europe, the Middle East and Africa. The lower membership reflects the elitists and exclusive image of golf in China and also is a consequence of the extremely high membership fees. Larger facilities tend to have a higher membership base. It's not uncommon for clubs having 45 or more holes to have more than 2,000 members.

Golf courses in economically dominant cities and provinces attract more members than less developed areas. Courses in Shanghai have the highest average membership base with more than 1,000 members per courses on average, followed by the economically prominent Guangdong province (822). Courses in the rest of the country only reported 300 to 400 members on average.

Source: Golf Benchmark Survey 2008

AVERAGE NUMBER OF CLUB MEMBERS AT 18-HOLE COURSES IN CHINA VS. SELECTED REGIONS

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1,292</td>
</tr>
<tr>
<td>South Africa</td>
<td>1,094</td>
</tr>
<tr>
<td>GB &amp; Ireland</td>
<td>703</td>
</tr>
<tr>
<td>Western Europe*</td>
<td>694</td>
</tr>
<tr>
<td>Middle East</td>
<td>608</td>
</tr>
<tr>
<td>China</td>
<td>403</td>
</tr>
<tr>
<td>Eastern China</td>
<td>350</td>
</tr>
</tbody>
</table>

Average Number of Club Members in China by Region (All Courses)

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai</td>
<td>1,015</td>
</tr>
<tr>
<td>Guangdong</td>
<td>822</td>
</tr>
<tr>
<td>Rest of China</td>
<td>354</td>
</tr>
<tr>
<td>Average China</td>
<td>570</td>
</tr>
</tbody>
</table>

Average Number of Club Members in China by Size of Golf Course

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Number of Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-hole</td>
<td>403</td>
</tr>
<tr>
<td>27-hole+</td>
<td>776</td>
</tr>
<tr>
<td>Average China (all courses)</td>
<td>570</td>
</tr>
</tbody>
</table>

*Western Europe includes Spain, Portugal, France and Italy in this context.
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“Our goal is to improve the character of what was there already instead of reinventing the design. Clubs seem to appreciate that and seek us out.”

– RON FORSE
A Forse to Be Reckoned With

Ron Forse and Jim Nagle have become synonymous with restoration projects that retain the flavor of great old facilities.

How's business?
Forse: We're fortunate because we've mostly been in restoration and doing new stuff at old courses, and that trend hasn't slowed down much. Our goal is to improve the character of what was there already instead of reinventing the design because each course has a genius of place. Clubs seem to appreciate that and seek us out.

How much do you have to market your services?
Forse: We've received a number of calls in which ownership is already convinced we're the right firm. The Broadmoor in Colorado Springs is a good example in which we were already hired before we even knew about it. That's cool.

On the other hand, we have situations in which it takes a few years, and we have to visit, study and build a relationship. That's the core of our business — studying the course and the work of other architects, then appropriately applying what we know. Our biggest professional asset is that we've become, to some, experts on William Langford, Ross, Tillie, William Flynn and even lesser known guys such as Alex Findlay.

Is the economy cramping your style?
Forse: We've slowed down a little, but things are still good. We're lucky to have great relationships with well-heeled clubs where money is less of an object. Also, we work for clubs that don't necessarily have a lot of money but have interesting courses with great holes. It's funny because we'll go into a meeting with owners, and they somehow think we wouldn't be interested in them because they're not rich and famous. We'll surprise them by sincerely saying, "We think your course is really cool," in the interview. We don't mind doing "lesser" name courses if they have great holes or other interesting features.

Which jobs are you most proud of?
Forse: That's always a difficult question, but Newport, Rolling Green, Philly, Penobscot and Peninsula (in San Mateo, Calif.) Country Clubs come to mind, also Indian Creek in Miami. I guess our defining project, which isn't a new course or a true remodel, is Bedford Springs in Pennsylvania. It was a big project — the budget was more than $6 million — and had many facets. It's a resort that was almost comatose. The hotel was shut down, and the course was just limping along. Spencer Oldham designed it in 1895, then Tillinghast remodeled it, and Ross expanded and remodeled it in 1923. We did a total rebuild in the image of the old styles and feature footprints.

The goal was to achieve a "new-old" look — a retro redo. We leveled out the greens, raised them up and added new bunkers and new mounds while keeping the extent 1895 design. All of it was done in the image of Tillie, Ross and Oldham while making it play well with today's clubs and balls. It's a living museum for classic architecture, so we had a special challenge to make it cohesive.

What trends do you see in the design market?
Forse: Ironically, the so-called classic architectural style has become mainstream during the
(Sing along.)

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You say you want a real solution
Well, you know
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past few years. The modern era – the 1960s and such – is recognized as largely boring, at least until Pete Dye came along. Then there was the pseudo-Scottish look in the 1980s. Then there was the rankings-driven, over-the-top design of the 1980s and 1990s. Now, there’s an increasing appreciation for classic, timeless design. Crenshaw, Coore, Doak and guys like that have given a lot of momentum to naturalized, lay-of-the-land courses. That’s good for us, because people now seem to appreciate what we’ve been doing for 20 years, with new course designs as well. It tends to validate our philosophy that courses from the golden age have a tremendous amount to offer if they’re restored properly.

Nagle: Ron and I will meet with potential clients, and one comment we hear is that we’re adept at preserving the identity and uniqueness of a facility, no matter the budget. We try not to impose our own will on the design. You have to appreciate the golf course for what’s there and make subtle changes rather than redoing it wholesale. We’ve become known for that.

Forse: We like to find what the unique character traits of the course are and then build on them and enhance them. At Preakness Hills, for example, there are these ditches all over the place. They’re meant to be functional, but we put more of them in and pulled them into the design in as part of the theme. It’s cheaper to design based on what’s inspired by the land … and it actually drains.

It seems every architect is now in the redo business. How does that feel?

Forse: In-house or out-of-house, designers who don’t know what they’re doing drive much of our business. Many things that were done to these courses throughout the years don’t function or fit. We’re correcting those mistakes. We love places where they’ve been “frugal” and considerable work hasn’t been done, and we’re just updating bunkers or whatever.

One new trend we see are square tee boxes, which almost have become a cliche and older courses think they have to have them. They don’t have to always be square. They should fit the ground – period. They are functional, but the trend of square tees has almost worn itself out.

Nagle: At Bedford Springs and other places where we’ve done greens reconstruction, the existing green contours are excessive to modern green speeds and, often times, flattening them makes them boring. The challenge is to keep the character and interest and push the outside of the envelope on slopes and what’s cuppable. You’d be surprised at what people will live with in terms of cupping area slopes. You don’t have to have flat putting surfaces just because of speed.

What are good rules for superintendents when working with an architect?

Forse: The only thing that matters is the archi-
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tect's ego! But seriously, trust is important. There are some superintendents and pros who get it and trust us as much as we need to trust them. Superintendents usually are good to work with because they're smart and have common sense.

Our position is to work with what they have, not buck the system. However, as part of the team, we also recommend proper changes.

Nagle: Early on, when we're walking the course with them, we see the same things they do that maybe the members don't. We understand the opinion of a third-party matters so much to the club. I always try to let them know that when we're done, we're done. We have long-standing relationships, but we understand the superintendent has to live with what’s been created. That’s important in terms of materials selection (sand, soil, etc.). They should have input on that stuff. We don’t have a prescription or a set of standards they have to use – it’s never “my way or the highway.”

Forse: It’s important that a superintendent doesn’t let the pressure for absolutely perfect turf conditions override the equally important factors such as interesting bunker and hollow slopes. As designers, we must take a holistic slant and see the big picture, not leaving any aspect of the course behind. Design and maintainability must be balanced.

Nagle: A lot of design work, in the end, seems to be meant to serve less than 5 percent of the membership – the single digit handicappers. We often have to arbitrate and represent the interests of the other 95 percent. We want to stretch tees both directions. You can’t fight the need to move tees back for the great players, but you have to be realistic about the business of golf courses and what sells memberships and rounds to the vast majority of players.

What’s your dream project?
Forse: Bedford Springs was a dream. It was nearby, interesting and fulfilling. We were accountable, but they trusted us. It was gratifying. I relish a bunkerless course project that relies only on the subtleties of the topography and the ground game.

Nagle: I'd love to do a new course where the owner has a deep appreciation for the history of the game from a playability and architecture standpoint, where we could take what we've learned from all these old architects and put that into a new design on a good piece of land.

Final thoughts?
Forse: People at these older clubs are starting to appreciate what they have. We work at so many clubs where the members head south for the winter and miss the nuances of those Northern classic courses and how the course plays differently every day. The old Northern (or Southern) classics never get boring. Members never get tired of playing them. They just want them fixed up. It’s like an old sweater. It just feels right when you put it on. GCI
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Golf course superintendents always have been a lean bunch. The job lends itself to operating as efficiently as possible considering its demands: achieving a specific level of conditioning with a fixed budget and a set of expenses that are going anywhere but down.

One example is a process improvement implemented at Northland Country Club in Duluth, Minn., that saved the maintenance department $18,000 in each of the past two seasons. Superintendent Chris Tritabaugh changed the mowing pattern from diagonal stripes to a light/dark pattern. Based on man-hour and fuel savings, the cost to mow fairways for one season decreased from $30,000 to $12,000. Those savings have allowed Tritabaugh to reassign seasonal labor to other tasks that make a significant difference for members, such as walk-mowing and topdressing approaches and hand-raking bunkers.

Creating efficiencies is second nature for Tritabaugh and most superintendents. Lately, however, some golf course managers are taking their knack for improving productivity one step further - they're formally pursuing lean management in the mold of the Toyota Production System.

How is that different from what Tritabaugh or any superintendent does daily? Those who practice lean management say it's mainly a cultural difference. Lean requires a commitment to a culture that encourages improvement to come incrementally and continuously over time and from anywhere, including line-level employees and those outside the department. Lean is a mindset that permeates the entire organization, so everyone is always identifying and banishing wasteful practices.

**LEAN PRINCIPLES**

The term lean can be a misnomer, says Jim Paluch, president of JP Horizons, a green industry consulting firm that created a lean-based program called the Working Smarter Training Challenge. When people hear “lean” they think of cutting costs or doing more with less, Paluch says. With lean management, those aren't the goals.

“It’s about increasing our capacity to serve,” he says. “It’s doing more with what
we have, not doing more with less.”

To achieve that, an organization needs to focus on operating the least waste way, by first understanding lean principles derived from the Toyota Production System, the basis of which is identifying waste and eradicating all nonvalue-adding steps in a process.

The Toyota model says processes only add value when they're producing goods or providing services customers will pay for. In these terms, golf course maintenance crews are only providing value when they're mowing, applying pesticides and performing other tasks that directly improve the quality of the playing surface. Standing around and on-course travel time are examples of wasteful activities.

To eliminate nonvalue-adding steps, lean organizations conduct kaizen events, which are five-step sessions for analyzing processes. (See “Understanding kaizen,” below.)

It's also important to understand that change doesn't come overnight, Paluch says, noting it can be difficult for results-oriented managers and superintendents to overcome this aspect of lean management.

"The toughest thing to learn is patience," he says.

BIG SAVINGS

Lexington Country Club in Fort Myers, Fla., is one golf facility on a lean journey. In late 2006, chief operating officer Al Kinkle enrolled the club in the 52-week-long WSTC, which he learned about when he was education chair of the Club Managers Association of America.

When Kinkle first heard about lean management, he believed his facility was already operating efficiently, but he signed up for the training program anyway. He says he thought the club would gain something from the weekly team meetings.

"Then the money started to come along, and of course we enjoyed that," Kinkle says.

Any golf course manager would. After all departments at the club participated for one year, the Lexington staff presented the board with a check for more than $800,000 to reflect the savings created during its lean transformation. Operating costs shrank by about $200,000, and another $600,000 was deferred to other years.

Savings came from analyzing processes throughout all departments. In maintenance, for example, an analysis of an off-site storage area revealed disorganization, which was wasteful because it consumed more space than needed and took employees longer than necessary to locate stored items. After conducting a kaizen event, the club improved organization and reduced storage units from four to three, saving $1,100 a year. (See “How they did it” on page 35 for more examples of how maintenance budgets benefit from lean.)

Additionally, departments are able to overlap in a way they never knew was possible. For exam-
pie, golf course superintendent Laurie Frutchey, who also oversees grounds maintenance around residential areas, didn’t know that the homeowners’ association department regularly sent an employee out to identify which homes’ roofs needed to be pressure washed.

"I’m out there every day anyway," Frutchey says. "I never knew that was part of the HOA department manager’s job description, but now I know, and I can look for that while I’m out there."

Such realizations come naturally now.

"It’s hard to explain, but it’s just instilled in your mind that you’re always going to be looking for things like that," Frutchey says. "We can say to each other, ‘Work smarter,’ and it’s just a mindset."

THINKING DIFFERENTLY
Former golf course superintendent Charlie Fultz, now a technical representative with Grigg Bros., also embraced lean management when he was at Shenvalee Golf Resort in New Market, Va., in 2007. But he, too, was skeptical when he signed up for the program.

"I thought I was already running a lean ship at that point," says Fultz, noting he didn’t have much of a choice. He managed Shenvalee’s 27 holes with nine crew members and a $550,000 budget. "But we were able to attack some of our operations and daily routines and save man-hours. You figure out you can save a half hour here and there, and at the end of the week, that becomes eight hours, which is more than an hour a day. For a course with a crew and budget my size, we couldn’t afford to throw away an hour a day."

All told, Fultz’s maintenance department saved about $10,000 in man-hours that year. Fultz was able to improve course conditions by dedicating the saved hours to the detail and touch-up work that typically goes by the way-side at a facility with such a small maintenance budget.

"It began to change the way I thought about how an operation was run," Fultz says.

IN PROGRESS
Ozaukee Country Club in Mequon, Wis., is another facility pursuing lean management, also through the WSTC. Superintendent Colin Seaberg says the maintenance department hasn’t seen any drastic changes yet, but he believes lean is a good concept.

"Has it been an epiphany? No," he says. "But it makes us talk about being lean and think about it all the time. But as far as changing drastically, it hasn’t happened because we had always been efficient before."

At press time, Seaberg says his department hasn’t yet completed a full year of the program or conducted any kaizen events. Once it does, Seaberg says he may begin to realize more quan-

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tifiable results in the program. But he foresees a challenge: His department will arrive at this point in the program in the off season, so recreating a maintenance process indoors to analyze it for a kaizen event won’t reflect a real-world situation and may not yield optimum results.

“But I’m the kind of person that has to see concrete evidence of progress – that’s why I’m in the business I’m in,” he says. “We’re going to do a kaizen event at some point, but we haven’t decided on which process we’ll look at yet.”

Even if Seaberg doesn’t see the monetary results his general manager, who asked him to participate in the program, is hoping for, he believes participating has been beneficial. Seaberg says the general manager hopes to recoup at least the program fee, which is $3,750.

“Some of the best time I spend as a manager each week is when I have the time to talk to everyone on my team and those above me about what’s going on around here,” he says. “The communications have been much better as far as what’s going on clubwide.”

GETTING THERE
Lean management isn’t a new concept – it’s prevalent in manufacturing, there have been volumes written about the topic and seminars on lean strategies abound – but the golf industry hasn’t widely pursued lean in the formal sense. About 20 golf facilities have participated in the WSTC; Golf Course Industry editors couldn’t identify any other facilities formally pursuing a lean management strategy based on Toyota principles.

Paluch says those who are interested in pursuing lean management shouldn’t think of it as a buzzword or the management concept du jour.

“Lean isn’t something you learn one time in a book or at a seminar,” he says. “It’s a transformation that begins with the people in an organization.”

Kinkle agrees, emphasizing that the journey itself and the cultural changes that take place are more important than any immediate results.

Organizations may not realize long-term success if staff members haven’t been trained properly in lean concepts, which emphasize identifying waste, continuous improvement and the role staff members play in the complete operation, Kinkle says.

For Lexington Country Club, the WSTC program was the key to seeing results.

“It gives us the structure we need to continue on,” says Janice Beckett, Lexington’s human resources director serving as the coordinator for the club’s WSTC efforts.

The program requires participants to download weekly training modules. One employee serves as the presenter each week, learning the material and then presenting it to the rest of the team. It’s supposed to take an hour or less per week.
“There’s always an excuse not to have a weekly meeting,” Beckett says. “But this gives us the structure to continue on and be consistent.”

The structure wasn’t enough for another golf club in Florida. It wasn’t able to maintain its participation in the WSTC program once the busy season began.

“For us, at an ultraprivate club in Florida, our season starts Nov. 1,” says the director of golf course maintenance operations who asked that his and the club’s name not be disclosed. “We do all our rounds November to April. It’s really tough when you’re preparing welcome back dinners and events, so the GM said let’s get up on this program until the beginning of next summer.”

The director of golf says there was some benefit to the short-lived participation in the program, which was never reinstated.

“We had large meetings with all the department heads and assistants – about 30 people in a room together for an hour and a half,” he says, adding that those meetings were beneficial. “The maintenance department participated, but it was all common sense stuff we do anyway. I can see where in a clubhouse operation with more employees it might apply a little more than down in our area. We like to think we already do this stuff.”

THE TIME IS NOW

Though committing to a lean management program may not be for everyone, considering the state of the economy and the golf market, it can’t hurt to consider pursuing any strategy that makes an operation more efficient, Kinkle says.

“Things aren’t easy,” he says. “We have to be quick on our feet and constantly think about how we can better serve our members, the service we provide and how we can keep our costs down.”

In December, Lexington Country Club began a new phase involving more line-level staff into the lean process.

Additionally, the club’s board has added a clause about continuing lean into Kinkle’s review process.

“They’re so happy with the results,” he says. GCI

How they did it

After completing a 52-week lean training program, Shenvalee Golf Resort realized a $10,000 man-hour savings. Lexington Country Club was able to cut or defer costs totaling more than $800,000. Here are a few examples of how they did it:

Shenvalee Golf Resort, New Market, Va.

CORE AERIFICATION
Before: 76 man-hours.
After: 65 man-hours.
Savings: 11 man-hours.
How’d they do it? By dissecting the process and putting it back together during a kaizen event, former superintendent Charlie Fultz, now a technical representative with Grigg Bros., realized there was a lot of wasted time while one crew member waited for another to finish his task. The maintenance staff created a process in which one person began his job and the person behind him didn’t catch up, so the process would always be progressing. One example was eliminating the step of pulling out flag sticks and cups the day before aerifying. Instead, the crew members aerifying removed the equipment while they were already out there.

MORNING START-UP
Before: 15 minutes per man (nine crew members) per morning, equaling 11.25 man-hours per week.
After: 5 minutes per man per morning, equaling 3.75 man-hours per week.
Savings: At least 7.5 man-hours per week.
How’d they do it? During a kaizen event, the staff rearranged the shop in an orderly fashion by putting the items they use most frequently up front.

EQUIPMENT PRESTART CHECKLIST
Before: Though Fultz didn’t measure the number of incidents prior to pursuing lean management, he says operators often ran out of fuel or experienced other equipment-related issues that resulted in downtime.
After: Zero cases of equipment running out of fuel mid-day.
Savings: About one man-hour per incident (the time it takes the operator to take the equipment back to the shop and interrupt the mechanic for his assistance).
How’d they do it? The staff members conceived the idea to affix an orange index card checklist to each piece of equipment outlining each step to take before removing the equipment from the shop (check fuel, fluids, tires, etc.).

Lexington Country Club, Fort Myers, Fla.

SCHEDULE CHANGE
Before: The maintenance staff worked a half-day on Fridays and every other weekend, resulting in an average of 15 overtime hours per week.
After: Managers moved the half-day to Thursday and made Friday a full day, which eliminated overtime.
Savings: At least two minutes per hole, which translates to more than a four-hour savings each week.
How’d they do it? By learning how to do process mapping, which entails writing down all the steps in a process, having a group of people analyze them and finding ways to cut out some of those steps to make it more efficient. The crew learned how to do process mapping based on the steps it takes to make a peanut butter and jelly sandwich, and has been able to translate it to maintenance tasks.

LAND CLEARING
Before: Superintendent Laurie Frutchey estimates clearing a plot of land infested with invasive plants would have cost $50,000 had the club hired a contractor to do the work.
After: By electing to do the work in-house, it cost the club about $10,000.
Savings: About $40,000.
How’d they do it? Savings from lean management freed up the time of a number of maintenance crew members, so they were able to do the work in-house rather than contract it out. It resulted in some overtime, but Frutchey says giving staff the extra hours is a good morale booster. “We’d rather pay our employees than a contractor,” she says. GCI
AROUND THE GLOBE

FORWARD MANAGEMENT GROUP EXPANDS GOLF IN CHINA

By John Walsh

The future of golf in the Orient will be influenced heavily by the Forward Management Group. That is if the company executes its plans.

Two people helping with that execution are Morgan Meng and Kun Li, Ph.D., who are trying to expand and professionalize golf course development in China. Li is the chief representative of Forward Management Group, formerly CITIC Forward Management Co., which was founded in 2000, and Meng is vice general manager.

FMG's mission is to promote golf in China and become a leader of the Chinese golf industry. Its scope of work covers all golf-related businesses: construction, design, management, event organization and marketing.
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The company, which manages seven golf clubs, has constructed more than 13 golf courses in China, including Jade Dragon Mountain Golf Club in Yunnan and Shenzhen Yunhai Valley Golf Club. In 2006, FMG became the first Chinese company to be an international member of the Golf Course Builders Association of America. In 2008, the company signed a long-term cooperation agreement with Lincoln, Neb.-based Landscapes Unlimited.


Kun Li says Forward Management Group wants to combine some aspects of U.S. golf courses with the Chinese culture.
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"He got to know golf, and started to play," Meng says. "He was one of the first big executives in China to play golf. He's a big name in golf in China. He has influenced the whole country because of his position in the central government and the industry. He has many connections with politicians and industries, which is why FMG has eight golf course construction projects going on."

The eight golf course development projects FMG is working on are located in:
- the Hainan Islands (two);
- the city of Tianjin;
- the Yunnan province;
- the Sichuan province;
- the Guandong province (two); and
- the Xinjiang province.

Based in Carmel, Ind., Li, who has been in the U.S. for 11 years, develops the company's business through contacts with the GCBAA, the American Society of Golf Course Architects, and other organizations.
Use Less
A catalyzed fertilizer increases nutrient uptake so you can use 25%+ less.

<table>
<thead>
<tr>
<th>Total N Uptake (mg)</th>
<th>Control</th>
<th>NutriLife 3 oz</th>
<th>NutriLife 6 oz</th>
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<tr>
<td>0</td>
<td>2552</td>
<td>2207</td>
<td>2413</td>
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University of Florida Perennial Ryegrass in Hybrid Bermuda Golf Green

Spend Less
Fertilizer costs going way up? Control your expense by catalyzing your fertilizer with NutriLife. NutriLife Fertilizer Meta-Catalyst allows you to lower your nutrient blend by 25% or more.

<table>
<thead>
<tr>
<th>Fertilizer Savings</th>
<th>Old Way</th>
<th>New Way with NutriLife</th>
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<tbody>
<tr>
<td>25%+ Reduction</td>
<td>30-0-10</td>
<td>22-0-8</td>
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<td>18-24-12</td>
<td>14-18-9</td>
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Catalyzed fertilizers promote better uptake into the plant. Call your fertilizer blender for a quote on a catalyzed fertilizer with NutriLife.

Leave Less
NetriLife Fertilizer Meta-Catalyst puts more nutrients in the plant leaving less to run-off or leach into surrounding sensitive areas.

<table>
<thead>
<tr>
<th>Reduced Leaching/Run-off Potential</th>
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<tbody>
<tr>
<td>Turf</td>
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<tr>
<td>Irrigation System</td>
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<tr>
<td>Lake or Stream</td>
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<tr>
<td>Fertilizers Applied</td>
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<tr>
<td>Phosphate Run-off: 37% decrease</td>
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<tr>
<td>Nitrate Leaching: 48% reduction at the 12&quot; depth</td>
</tr>
<tr>
<td>57% reduction at the 30&quot; depth</td>
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</table>

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contractors and suppliers.

"I try to bring together all the new techniques and all of the experts to build the best golf courses in China," says Li, who has a doctorate degree in turfgrass science from the University of Massachusetts.

FMG joined the GCBAA to learn about construction standards and gain support for the development portion of its business.

"We've asked them to help us set up golf course construction standards in China," Li says. "There's a big market out there, and if we can generate ideas from other builders and learn from their expertise, we can make the market bigger."

China is one of the most expensive places in the world to play golf, according to the Golf Benchmark Survey by KPMG's Golf Advisory Practice. While reliable statistics about the number of golfers aren't available, KPMG estimates there are about 300,000 people who are members of clubs or play golf regularly. The average initiation fee of a golf club is $53,000. Green fees in China are the highest of any country studied by KPMG. Chinese golfers pay on average $161 to play an 18-hole round during weekends.

Despite the expense, golf in China - which has a population of 1.3 billion, the largest in the world - has been growing quickly. The first golf course was built in 1984. Until 2003, there were only 100 golf courses built. But from 2003 to 2008, 300 more golf courses were constructed, Li says. Severe acute respiratory syndrome (SARS), of all things, contributed to the rapid golf course development. Some believe the near pandemic outbreak that began in late 2002 started in China's Guangdong Province.

"People were told it wasn't good to stay in office buildings, and they had to go outside because of the contaminated air," Meng says. "So people found golf courses because it's a good place to entertain."

In China, 99 percent of all golf courses are full-service operations with large staffs and five-star clubhouses, Li says.

"We try to learn from the expertise of those in the U.S., but we don't just take everything," he says. "We want to combine some aspects of U.S. golf courses with the Chinese culture, and because of the Chinese culture, there's not going to be many self-serve type golf courses."

Other findings about the Chinese golf market from KPMG's study reveal that:

- 86 percent of Chinese courses are full-service operations with large staffs and five-star clubhouses, Li says.
- "We try to learn from the expertise of those in the U.S., but we don't just take everything," he says. "We want to combine some aspects of U.S. golf courses with the Chinese culture, and because of the Chinese culture, there's not going to be many self-serve type golf courses."
- Other findings about the Chinese golf market from KPMG's study reveal that:
  - 86 percent of Chinese courses are rated by their operators as good quality or better.
  - Many golf complexes incorporate lavish hotels and property developments in addition to other leisure facilities, such as accommodations (46 percent), tennis courts (43 percent) and health clubs (43 percent).
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Membership numbers per course average 403 players per 18-hole course.

Staffing at Chinese courses is extremely high. An 18-hole course employs on average 258 full-time staff.

94 percent of courses are owner operated, and outsourcing activities is rare. Most courses run their own pro shop (86 percent), food- and-beverage operations (85 percent) and golf academies (95 percent).

KPMG's Golf Benchmark Survey, which surveyed 70 clubs throughout China, cites three main factors as reasons for the growth in golf: the rapidly expanding economy; the burgeoning leisure and tourism industry; and media exposure driven by professional tournaments like the World Cup of Golf, which will be staged in China every year until 2018.

Most of the clubs in China are private or semiprivate. Of the 300 to 400 golf courses in the country, only two are public, Li says.

“Our goal is to build as many public golf courses as we can to promote golf for the majority of the people in China and not just for the minority,” he says.

There are more than 100 golf course building contractors in China, but many companies can’t compete with FMG because they have limited resources, Li says. Usually, companies build golf courses one at a time.

“I try to bring together all the new techniques and all of the experts to build the best golf courses in China.” – Kun Li

Golf course development, however, could be hampered by the central government, which doesn’t support new course building. Despite that, some provinces have their own policies and plan to build golf courses on landfill areas, not agricultural areas.

“If golf becomes part of the Summer Olympics, then the central government will support golf course development,” Li says. “In 2020, we may have as many as 3,000 golf courses. That is the number Xiaoning Zhang, the secretary of the CGA, told the media last August.

“We have 12 years,” Li adds. “We need 2,600 golf courses. So, each year, we need to build 200 new golf courses on average. That tells us how big the potential market is.”

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Funding its future

Protect your golf course by looking at long-range financial plans

BY MICHAEL D. VOGT, CGCS, CGIA

When assembling a long-range plan for properly funding capital projects on a golf course, a club manager, superintendent and green committee should know when funds will be required. A sound plan must provide the appropriate amount of funds to meet the needs of each golf course component, feature or piece of equipment. A stable contribution to a fund that supports capital replacement will guard against diminishing the course’s long-term and short-term assets.

A funding plan shouldn’t vary much from year to year. It’s recommended that funding a capital replacement plan be done on a monthly allocated basis to avoid large, sudden expenditures that upset a club’s normal cash flow. A reserve study for golf asset replacement is smart business and makes sense. A golf reserve study consists of two parts:

• A physical analysis - a visual inspection by a course maintenance expert that results in a comprehensive inventory of design/equipment elements and a prioritized schedule of future replacement costs; and

• A financial analysis that recommends a minimum and stable level of funding into a reserve account during the next 15 to 20 years so a club has the money for capital projects when needed. A well-executed golf reserve study becomes the basis of a long-range financial...
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An inventory of all golf assets is developed with appropriate age and condition information, ranging from all golf facilities, buildings, irrigation systems, down to all maintenance equipment. The inventory and condition data should be digested into useful tables identifying dates of purchase/construction and original costs.

A reserve study is formulated in an easy-to-use, understandable narrative about property conditions, recommended cost-saving methods and normal replacement times. The reserve study is tailored specifically to a club's goals and objectives and becomes the centerpiece of a long-range golf strategic plan.

A reserve study clearly identifies long-term assets and near-term replacements, adequate and actual funding for future repairs and replacements, normal routine maintenance, life cycle capital replacements, etc. On-site visual inspection and historical analysis of each property/equipment component determines theoretical useful lives and measures remaining useful lives accurately. A narrative explains the best practice method for capital repairs, partial or phased replacement, and complete replacement.

The goal is to save money and help develop a realistic plan for future capital spending to maintain a consistent, stable, financial capital improvement plan, and to assure a good capital improvement environment for years.

FUNDING METHODS
To protect the appearance, value, playability and safety of a golf property, it's essential for management to create a financial plan that provides funding for the projected replacements. In years past, many public and private golf courses typically left the capital funding of assets to the
judgment of management, with private clubs funding capital projects from special assessments or initiation fees. In the public sector, taxpayers voted on bond issues from the municipality, and privately owned golf courses normally made due until funds could be allocated from revenue or, in some cases, institutional lending.

To short-circuit these knee-jerk reactions to capital replacement needs, management staffs began funding a special account for asset replacement. In conformance with American Institute of Certified Public Accountant guidelines, replacement reserve analysis evaluates the current funding of replacement reserves by two generally accepted accounting methods: the cash-flow and component methods. In effect, this look into the future smoothed the highs and lows of asset replacement and made for a better maintained business model and renewed worn assets, saving valuable cost of funds and increasing the quality of a product.

The cash-flow method calculates minimum annual funding of replacement reserves that will fund project replacements identified in the replacement reserve inventory from a common pool of replacement reserves and prevent replacement reserves from dropping below a minimum recommended balance.

In this method, minimum annual funding remains the same between peaks in cumulative expenditures called peak years. This is the preferred funding method for most asset reserve studies. This newer cash-flow funding method provides adequate reserves without the requirement of carrying a large unused balance, thus reducing the annual contributions to the reserve fund. Under the cash-flow funding method, the reserve fund is established as an aggregate pool of funds with no individual line item budgets. Funds set aside to adequately cover all reserve expenditures included in this pool are funded so the reserve pool never drops below zero.

The component method is a time-tested and conservative funding model developed by Housing and Urban Development in the early 1980s. The component method treats each projected replacement in the replacement inventory as a separate account, and deposits are made to

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each individual account, where funds are held for exclusive use by that item.

Over time, the component method reveals hidden drawbacks. Suppose an irrigation system, for example, is 10 years old and was allocated no funding in the past. Based on a useful life of 30 years and a cost to replace of $1 million, we have missed 10 years of funding at $33,333. To catch up, the business would need to fund the irrigation system $50,000 per year to establish funds before the target replacement date. This accelerated funding has a result of becoming financially burdensome and in most cases won’t be funded in full. This funding scenario will be especially pronounced at older clubs and golf courses that haven’t had a reserve funding plan in place.

Funding a special account for asset replacement makes for a better maintained business model and renewed worn assets — such as a controller, turf care center and pump station — saving valuable cost of funds and increasing the quality of a product.

THINK AHEAD
At golf and country clubs, the need for long-range golf course planning is paramount to each club’s success. While day-to-day golf course maintenance management is vital, the wise clubs have forward thinkers and have a plan for continuous improvement to the golf course and its associated buildings and equipment. GC

Michael D. Vogt, CGCS, CGIA, is a golf facilities consultant with the McMahon Group, a private club consulting firm. Vogt can be reached at 800-365-2498 or www.mcmahongroup.com.

Funding a special account for asset replacement makes for a better maintained business model and renewed worn assets — such as a controller, turf care center and pump station — saving valuable cost of funds and increasing the quality of a product.
FOLLOW THE MONEY

The industry relies on various sources to fund necessary agronomic research to protect turf

By David McPherson

As more regulations restrict pesticide use, the golf industry needs to continue to conduct research to combat various pests and diseases that threaten its most valuable commodity - turf.

Research - in the lab and in the field - conducted by plant pathologists, horticulturalists, turfgrass scientists and other academics, is possible only with proper funding. While there's not a debate about the need to study turfgrass, questions abound about who funds research projects. There are plenty of sources ready to fund agronomic research, says Frank Wong, Ph.D., an associate specialist in cooperative extension at the University of California-Riverside in the department of plant pathology and microbiology.

"Traditionally, golf has been a strong economic force, so there's always money available," Wong says. "As far as a traditional commodity, turf is goofy. With traditional crops, such as cotton or wheat, you have commodity boards that tax themselves, or there's a state tax to have money available for university or private research."

With turf groups, only a few states — New York, New Jersey and Wisconsin, to name a few — have turf associations encompassing the sod, sports turf and golf industries that have boards that raise money. Depending on the scale of the project, the number of scientists involved and the amount of overhead needed, it can cost more than $120,000 to operate a turf-related field and laboratory research project each year, researchers say.

FUNDING SOURCES

Traditionally, agronomic research funding came from a variety of sources such as turfgrass associations at the regional and state level, golf industry associations such as the GCSAA and the USGA.

Another source of regional funding is the O.J. Noer Research Foundation, established in Wisconsin in 1958 and dedicated to financially supporting turfgrass research. Other states have similar turfgrass research and educational foundations, which vary considerably from state to state depending on whether they were established with research and educational support as the primary purpose. North Carolina State University and Michigan State University foundations are models.

Besides these traditional sources, broader sources such as the USDA and the National Science Foundation also can help fund related projects.

"Quite often, they don't fund turf research per se, but they fund research where turf is used as model system to understand larger issues," says Bruce Clarke, Ph.D., a turfgrass pathologist and the director of the Center for Turfgrass Science at Rutgers in New Jersey.

The USDA recently announced $28.4 million in funding for specialty crop research, for which turf qualifies in some cases.

Chemical manufacturers also fund research, but researchers say because of consolidations and mergers, there aren't as many funds available from these sources as there once were.

Clarke says his program still receives a good deal of funding because turf disease is one of the key problems affecting golf courses. The program's 25 faculty members typically acquire more than $1 million a year from external sources to conduct turfgrass research. Sources include the USGA, GCSAA, O.J. Noer Research Foundation, Tri-State Turf Research Foundation, government agencies such as the USDA,
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NSF and NRI, as well as the New Jersey Turfgrass Foundation, the Golf Course Superintendents Association of New Jersey, the Cultivated Sod Association of New Jersey, the New Jersey Landscape Contractors Association and the Sports Field Managers Association of New Jersey.

"Diseases rank consistently as one of superintendents' major concerns," Clarke says. "From that standpoint, there seems to be quite a bit of funding to address significant issues that are affecting golf course superintendents in the United States and Canada."

Other popular topics in the turfgrass research field include discovering alternatives to current chemical pesticides and finding new ways to treat and prevent pests and diseases using an integrated pest management approach.

Clarke doesn't believe there's a shortage of funding sources but says researchers need to be creative and inventive to secure enough money to complete large multiyear projects.

Preliminary data generated by the Rutgers turf center's internal competitive grants program allowed faculty to develop the initial data to spearhead a large, multistate research project about the annual bluegrass weevil and anthracnose that was funded for five years (2005 through 2010) by the USDA Hatch Act program. This project includes entomologists, pathologists, breeders, management specialists and physiologists from 12 states and Canada. Most members of this multistate project also have been able to acquire additional funding to support their facet of the overall project from local, regional and national funding sources.

MULTISOURCE FUNDING
Partnerships and tapping multiple sources helps ensure adequate funding for a large-scale research project, especially in the current sluggish economy.

For example, Clarke is part of a multistate research team called NE-1025: Biology, Ecology and Management of Emergent Pests of Annual Bluegrass on Golf Courses. (Visit http://nimss.umd.edu for more details.) This group of academics, which includes Wong, is studying best management practices for anthracnose control.

"Anthracnose is a fungal disease, which has emerged from obscurity during the past 12 years to be one of the major issues on golf course greens," Clarke says.

Funding for this collaborative project came from the following: the USDA, the GCSAA, the USGA, the GCSA of New Jersey, the U.S. Environmental Protection Agency, The Land Institute, the Tri-State Turf Research Foundation and the Rutgers Center for Turfgrass Science.

"There's nothing to hide. We want to give credit to the organizations who support our research." – Bruce Clarke, Ph.D.
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TURFGRASS RESEARCH

“There’s always an acknowledgement section in the published research where we acknowledge our funding,” Clarke says. “There’s nothing to hide. We want to give credit to the organizations who support our research.”

USGA SUPPORT
The USGA, which helps fund more than 10 research projects a year, funds agronomic research through a competitive grants program. Each year, about $900,000 becomes available for a new three-year period, says Mike Kenna, Ph.D., director of the USGA Green Section Research. The funding cap for individual projects is $90,000 during the three-year period or $30,000 per year, Kenna says. Universities are allowed to take 16 percent overhead from USGA grant funds.

“It’s important to note USGA funding doesn’t pay university faculty salaries and many of the expenses associated with turfgrass or environmental research,” he says. “Generally, we’re only paying about 20 to 25 percent of the project costs.”

Since 1983, the USGA has funded more than 400 projects at land grant universities throughout the United States, at a cost of $37 million, to improve the playing conditions and enjoyment of the game. To see a list of current projects the USGA is funding, visit its Web site, www.usga.org.

The call for new proposals is available on the USGA Green Section Web site each January. The USGA generally receives 50 to 60 preproposals from which it selects 20 to 25 for development into comprehensive proposals. Only 10 to 12 of those are chosen in the selection process, which is conducted by the university volunteers and the USGA staff who make up the Turfgrass and Environmental Research Committee.

The USGA publishes an electronic technical journal called Turfgrass and Environmental Research Online that reports the results of research projects funded under USGA’s Turfgrass and Environmental Research Program. Visit http://usgatero.msu.edu/ for more information.

Annually, the USGA publishes a short one-page report for each project. All of the project reports are published in an annual research summary that has a total of 40 to 60 projects. The USGA also requires researchers to publish their findings in peer-reviewed, scientific journals for their respective disciplines. Short versions of TERO or scientific journal articles are published in the USGA Green Section Record.

Kenna says funding for research is generated primarily from the U.S. Open Championship through television rights, corporate tents, ticket sales, merchandise, etc. Additionally, the USGA receives about $250,000 per year in royalty income from the sale of turfgrass cultivars developed with USGA grant support at universities.

The USGA also contributes $100,000 a year to the National Fish and Wildlife Foundation, which is matched dollar for dollar. The NFWF-USGA Wildlife Links program funds projects studying how mammals, birds, amphibians and reptiles use golf courses for habitat.

RISING COSTS
Another significant challenge facing researchers is that universities are demanding more of a cut upfront, says
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professor Nick Christians, Ph.D., who’s in his 30th year in the department of horticulture at Iowa State University.

“The biggest factor affecting funding you would hear from almost anybody in the research field is a change in philosophy within universities to where they now want overhead, generally 46 to 48 percent,” he says. “For example, if it’s a grant for $100,000, they want $48,000. It makes it that much more difficult.

We’re seeing the availability of funds decrease while the university is taxing what comes in. It’s gotten down to where most of my day is spent trying to bring in enough money to run a program.”

Royalties from turfgrass germplasm releases are another funding source available to some schools, says Bob Carrow, Ph.D., professor of crop and soil science at the University of Georgia. These are funds a licensed grower for a turfgrass species pays. An initial licensing fee and then ongoing royalties based on sales might be included. Monies normally come back to the university, usually through the university’s research foundation, Carrow says.

Despite the increased overhead, the good news for Christians is that Iowa State has benefited from these royalties.

“We have a patent that’s $1.8 million at this point and will end up bringing in about $2 million in royalties on a natural pesticide,” he says, adding some of the money will go toward research. “Some of the bigger schools, such as Rutgers, have big breeding projects where work done 20 years ago is now bringing in royalties on the varieties. That’s a potential way of generating some funds, but not many institutions have that available to them.”

COOPERATION IS KEY

Looking down the turfgrass research road, Wong believes there needs to be even more cooperation among the various players in the golf industry.

“In the future, in lieu of not having federal or state support because golf isn’t considered a primary crop of importance, the industry really has to consider stepping up to the plate and having more partnerships,” he says.

Ultimately, superintendents are the ones researchers are trying to help out in many cases, but there’s often a disconnect between what the superintendent does and what the membership or management wants.

“Superintendents know the importance of some new and invasive pest, water quality act or restriction, but often the clientele or management doesn’t get it,” Wong says. “But it’s the clientele or management who hold the purse strings.”

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Trial, error and ingenuity take a front seat in superintendents’ PGR programs

BY MARISA PALMIERI

While superintendents are discovering plant growth regulators serve a number of purposes on the golf course – including clipping and fuel-cost reductions – some superintendents affirm the main reason they use PGRs is to maintain a quality product. That’s to say they’re bent on suppressing *Poa annua* as best as they can.

As two superintendents prove, that task might lead to pushing the envelope in terms of application rates and methods.

Troy Flanagan inherited a *Poa*-infested course when he became the superintendent at Anthem Country Club in Henderson, Nev. "When I got here two and a half years ago, one of the biggest concerns of the membership was the greens were becoming infested with *Poa*,” he says.

The situation was getting so bad, Flanagan wouldn’t have been surprised if the members began considering completely rebuilding the greens. Right away he started a Trimmit program, spraying every two weeks during the spring, summer and fall to slow the *Poa* and allow the bentgrass to overtake it.

"The *Poa* is getting better, but it’s not gone yet," Flanagan says. Luckily, the program has prevented any talk of a total greens rebuild.
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which Flanagan estimates would have cost the club about $1.45 million, not counting the revenue loss from closing for three to four months.

"The membership is happy the ball's rolling," he says. "I hope by the end of next summer the Poa on the greens will be mostly gone."

At the same time, the Poa population had become unwieldy in the fairways, rough and tees, too. The 18-hole course was sprigged with 419 bermudagrass when it was built in 1998, and it's overseeded with ryegrass every September. Flanagan estimates the Poa population was at 6 or 7 percent the year of the Trimmit program. "That might not sound like a lot, but part

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RAIN BIRD
of the problem with Poa is if you have it in the fairways and the rough, the seedheads will move around easier and infest the greens," he says.

To gain control, Flanagan instituted a PGR program on the rest of the course, too, including two postoverseeding applications of Primo Maxx, two fall applications of Trimmit, a Trimmit application in March, monthly applications only to the fairways from April to July and one final high-rate (0.75 ounce per 1,000 square feet) Primo application before overseeding, which takes place around Labor Day.

"It's been phenomenal," he says. "The Trimmit has taken the Poa population down to less than 1 percent."

An added bonus has been reducing fairway mowing.

"In the summer, our slower time for golf, we started mowing fairways two times a week instead of three," Flanagan says. "That saves me labor and fuel. Is it a lot? Well, it's not the main reason I use the growth regulators – that’s for quality of product – but it's important with the high cost of fuel."

Though Flanagan's made some strides with his aggressive PGR programs, he's experienced bumps along the way.

"We have to be careful about stunting the greens," he says. "It's happened before. We've been too aggressive, they've gone off color and essentially stopped growing."

Though such a situation can make golfers happy because of faster greens, it compromises the greens' ability to recover from any stress.

"When that happened, we knew we had to back off and make an extra fertilizer application to get them to grow out," Flanagan says.

He also learned a lesson after making Trimmit applications to the greens, fairways and rough during the winter months. In addition to going off color, it took most of the winter for the greens to regain their ability to grow.

"The first year we continued to make applications every other week during the whole winter on greens," Flanagan says. "They turned grey – the members asked a lot of questions. We knew we definitely shocked them."

Flanagan learned Mother Nature is a growth regulator herself, so there's no need to make ap-
applications during the coldest months in Nevada. Last winter, the second season of his aggressive PGR program, Flanagan only made Trimmitt applications on greens during weeks when the weather was warm, not every other week.

A DAB WILL DO YOU
Experimenting with PGRs to control Poa also has yielded good results at Merion Golf Club in Ardmore, Pa. There, director of golf course operations Matt Shaffer oversees 50 employees working on two courses – the championship East Course and the West Course. The championship course, which is preparing to host the 2009 Walker Cup and the 2013 U.S. Open, has hosted 16 USGA championships, more than any other golf course.

“We use PGRs for two primary reasons – Poa control and playability,” Shaffer says, noting the East Course’s 13-year-old bentgrass greens are about 5 percent Poa.

Combined, the courses have an annual maintenance budget of about $2.8 million. Less than 2 percent of that is spent on PGRs.

“But they have more than a 70-percent effect on our playability,” says Shaffer, who maintains Merion’s greens daily with Stimpmeter readings of 11 to 12.

Because the maintenance staff is so vigilant about the course’s playability, it has experimented with a unique PGR application method during the past few years.

“Starting in the very early spring, we dab the Poa with a 20x rate of Cutlass and Primo and then we continue to maintain our regular spray applications overtop,” Shaffer says. “It turns the Poa jet black, completely shutting it off. The Cutlass goes crazy on the bent, and it crawls across the void. It looks horrible, but it doesn’t affect putting.”

Shaffer credits Merion’s agronomist, Dave Petfield, with creating this strictly experimental application method.

“He came up with it four or five years ago, and we’ve been doing it ever since,” Shaffer says. “Dabbing is really common, but I don’t know anyone else who does it with a 20x rate of Cutlass and Primo. We’ve been doing it for a number of years, and that product was never commercially available. Now that product is called Legacy.”

Merion’s maintenance staff began using Legacy on its West course this season at 6 to 6.5 ounces per acre. Previously, it had been applying Trimmitt at 35 ounces per acre.

“It’s now a quarter of the cost and 100 percent more effective,” Shaffer says.

There are some potential drawbacks to this method, Shaffer acknowledges. One is bumpiness. Merion double-cuts and rolls greens daily, but courses with a higher height of cut might not create the smooth surface that makes this method work.

The second is color. Jet-black spots on the greens aren’t something members expect.

“You have to educate your members,” Shaffer says. “Sooner or later they understand, especially when it doesn’t affect play.”

But TV viewers are another story.

“We used this method this spring, but we probably won’t next year because of the Walker Cup,” Shaffer says. “Our members understand, but the general public might not.”

Other PGR strategies

While Poa control is one of the main reasons superintendents use PGRs, it’s not the only one. Here’s a look at three more PGR uses.

During championship years, the maintenance staff at Merion Golf Club in Ardmore, Pa., will use PGRs in the rough to keep it tighter and healthier, says director of golf course operations Matt Shaffer. Though Shaffer hasn’t historically used PGRs in the rough during nonchampionship seasons, he’s thinking about doing so considering the rising costs of fuel and labor associated with cutting 50 to 60 acres of rough on the championship course and 45 acres on the West course.

Though the cost to apply the growth regulator may be high in labor, Shaffer believes using PGRs on the rough would save in the end.

“I know some superintendents who are using it all the time in the rough,” he says. “It’s certainly something we’re going to consider. The cost offset would be close, and you’d have a stronger rough because the plant wouldn’t be using all that energy for topical growth.”

For the last six years, David Hay, CGCS, has incorporated Primo into Indian Wells Country Club’s overseeding program. The 36-hole facility in La Quinta, Calif., has common bermudagrass primarily and 328 bermudagrass in the summertime. The course is overseeded with perennial ryegrass in October.

“We started doing research with Primo – it was a joint venture between the Hi-Lo Desert Golf Course Superintendents Association and Syngenta – and after seeing the results, we started putting some of it into practice and it worked,” Hay says. “Before that we scalped real hard to get rid of the bermudagrass and return to ryegrass. We would hope it would cool down, and the bermuda wouldn’t come back.”

Now, instead of relying on hope, Hay and his crew apply Primo in the overseeding process after making the first cut in short turf areas like fairways, tees and approaches.

“It helps slow the bermuda down and gets the ryegrass to start pillowing so it matures a little quicker,” he says.

Though this method costs about $1,000 more per season than the old way of doing things, it’s worth it for Hay.

“We’re getting a better stand of turfgrass as early as we can so it will mature as fast as possible and handle wear and tear,” he says.

Ken Nice, superintendent at Bandon Dunes Golf Resort in Bandon, Ore., considers his approach to PGR use to be unique. He rarely uses them.

Bandon Dunes’ goal is to create a links-style tight, fast surface. As a result, the course’s primary turf type is fine fescue; plus, it has low nitrogen inputs.

“Fine fescue is a relatively slow-growing turfgrass,” Nice says. “It’s a slow metabolizing grass, and under normal circumstances it doesn’t grow a lot. The second part is we’re using about a quarter of the nitrogen than a conventional course would in the U.S.”

 Though Nice has used Proxy for Poa seedhead suppression on greens and green surrounds in the past, he doesn’t have a regular PGR program.

“We’re trying to create a surface that’s authentic to true links golf,” he says. “So if you were playing the old course at St. Andrews or Muirfield, then you could come to Bandon and say this is the same surface I saw in Scotland.”

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The demands placed on a golf course maintenance staff aren't unlike those required of workers at an amusement park. Versatility is crucial in both settings. Ideally, every amusement park worker should know how to operate the Ferris wheel, how to help nauseated people off the roller coaster and the best way to un wedge stuck bumper cars. On a golf course, each employee must know how to mow the green on 14, trim the fairway on 7 and run the string trimmer around the tricky tee perimeter on 11.

But that's where the parallel ends. Working on a golf course, one deals with the complexities of turfgrass and answers to an audience with high standards and expectations. Hiring people who can multitask with machinery and tools, yet be patient with an agenda that's at the mercy of unpredictable golfer behavior and weather, are just some of the staffing and training challenges golf course superintendents face.

Proper training pays off with improved and consistent playing conditions.

Look, listen and learn

By Tom Leland
Embrace change.

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VALUABLE KNOWLEDGE
At many courses, management shows new hires a number of instructional videos, sometimes including one that lays out the most basic understanding of golf – there are 18 holes, here’s how golf is played, this is what a putting green is, etc. Then there are safety videos, which are more about what not to do on a course.

“Basically, these videos say ‘Don’t do anything stupid,’” says Randy Allen, senior director for golfing grounds at Grand Dunes Golf Club in Myrtle Beach, S.C. “Like, don’t stand in front of a front-end loader, don’t climb trees, don’t even stand on something to reach something in a tree, etc.”

There also are videos that cover broader safety issues, such as lightning storms and heat stroke.

Individual pieces of equipment – utility vehicles, chain saws, rotary rough units, tractors, various mowers, etc. – often come with training videos. At The Club at Mediterra in Naples, Fla., new employees might watch as many as 30 videos – many supplied by the manufacturers.

Besides videos, some courses have hard-copy training materials covering all maintenance practices, safety issues, and core standards for set-up and guest service, as established by the superintendent or, at times, by a parent company that owns the course.

After the preliminary video and/or written training, employees usually are taken out on the course, probably by an assistant superintendent. A common practice is to have new employees watch the experienced workers in action. After initial introductions, the assistant superintendent will leave, and the new hires will shadow the old hands on their rounds the rest of the day.

Proper training at this early juncture will usually pay off with improved and consistent playing conditions, says Kevin Kienast, golf and ground superintendent at Four Seasons Resort Aviara near San Diego.

“After the initial training, follow-up training in the field should be practiced regularly,” Kienast says.

OLD HABITS DIE HARD
When hiring experienced golf course workers, inevitably there are adjustments to make.

“Sometimes you have to really hound people until they break bad habits they got into at their old job,” says Scott Whorall, director of golf course operations at The Club at Mediterra. “Within a few weeks, you know if they’re going to catch on. If not, we’ll try to find another role for them at the course.”

On the other hand, a person occasionally will bring a technique or way of thinking that improves the process at a new course.

STAFF TRAINING DO’S AND DONT’S

<table>
<thead>
<tr>
<th>Do</th>
<th>Don’t</th>
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</thead>
<tbody>
<tr>
<td>Create a well-defined organizational structure</td>
<td>Micromanage your staff</td>
</tr>
<tr>
<td>Convey the mission, vision and goals for your course</td>
<td>Forget what it’s like to be new</td>
</tr>
<tr>
<td>Foster a climate conducive to open communication</td>
<td>Be adverse to learning from new hires</td>
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<tr>
<td>Develop detailed job descriptions for applicants</td>
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<tr>
<td>Empower workers</td>
<td></td>
</tr>
<tr>
<td>Make safety a top priority and provide bilingual materials if necessary</td>
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<tr>
<td>Teach fundamentals of the first one or two tasks</td>
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"If someone has a smarter method, we'll implement it," Whorall says. "We're always looking for a better way."

Many superintendents believe it's important to observe people in their first weeks on the job. "Some guys are just naturally talented at certain things," Whorall says. "We take notice of what people's strengths are. If someone is particularly detail oriented, we'll give them jobs that require someone that's conscientious."

At the end of the day, it's the superintendent's job to see what's needed on the course. Some things are done daily, such as mowing greens, collars, approaches and fairways. Routines vary according to the season. During summer and spring, fairways might be mowed three times a week, down to twice a week during the fall. Routines also depend on how things are growing. For example, if there's been a warm spring, or during a tournament, fairways might be mowed four times in one week.

Throughout time, a superintendent learns what to look for and develops an intrinsic knowledge of the course's present needs and a sixth sense about future needs. But imparting that knowledge to new staff, some of which have never even mowed a lawn at home or driven a car, can be challenging.

While a supervisor knows the general basics of what's happening with, say, the practice of syringing greens, he can't oversee every spot where grass might be wilting. Workers have to learn where the hot spots, hydrophobic places, are. For example, it might be 120 degrees on the canopy of a turn, and the grass will burn out if it isn't misted. One green might be getting plenty of air movement, which evaporates the water on the grass. Another green might be surrounded by trees, which block air. When such conditions cause loss of water, grass gets hotter, causing disease or other problems. It takes a lot of time for a worker to learn how to discern the particular needs of each microenvironment, which has to be inspected three or four times daily in hot weather.

THE IMPORTANCE OF MORALE

In sharp contrast to the tranquil serenity of a golf course environment, there's constant pressure on the collective shoulders of a maintenance staff. Usually their mistakes are plainly visible and often not fixed easily. Staff must mow and conduct course set-up away from the golfers as much as possible, which slows down their work routine. Unless they've been on the job for years, they're often learning new groundskeeping techniques and equipment operation. The inconsistent and unpredictable progression of golfers over the course only exacerbates the struggle to tend to every hole, every day. So it's no surprise golf course superintendents seek ways to maintain their staff's morale.

Superintendents have to give workers basic knowledge of how to complete a given task and make them understand how important it is, but then let them go to it. "If a superintendent is constantly trying to step in and make every decision, the employee will feel he's just a piece of meat," Allen says. "But if you empower him to do the job, he'll take more pride in doing it, and in turn, he'll do a better job."

"You try to impart wisdom without micromanaging," he adds. "I try to allow people to make their own decisions. You can't tell a guy how to weed eat the grass, you have to give him a weed eater and let him figure it out. This shows them they're important, that you have confidence in them. If you give them a chance, more than likely they'll figure out a better way to do it. A front-line person who's dealing with it every day will figure out a faster way or a neater way or a more economical way of doing it than you will."

At some courses, green committees and club presidents think they're experts in golf course management, but they don't know as much as they think. When they try to tell a maintenance worker how to do his job, it usually ends up with some kind of disaster. "One way to get the best work out of your staff is to ensure they're aware of the big picture," says Mel Waldron, golf course superintendent at Horton Smith Golf Course in Springfield, Mo. "Let everyone know what the goals and expectations are – for a given day as well as throughout the coming weeks or months – and their work will be better and more consistent."

To help boost morale, The Club at Mediterra holds a cookout or pizza party every month. It also cross-trains workers so they don't become bored doing the same thing every day. Additionally, about every six weeks, it holds employee focus groups in which employees can candidly voice ideas or gripes with no repercussions.

PREVENTING A LANGUAGE HANDICAP

In markets where staff is likely to consist of Hispanic workers, Spanish language versions of all training videos and materials are available. It helps to have at least one supervisor, or even one worker or mechanic, fluent in Spanish and English. There are always instances in which someone has to be called in from a distant fairway to translate a conversation. The Club at Mediterra has a literacy council consisting of golf club members who volunteer to teach course workers English after working hours. These volunteers are acknowledged at the annual golf course maintenance open house. They might even ask one of the Hispanic employees to show off his new language skills by reading something in English.

But even for English-speaking staff members, there's a learning curve when it comes to communication.

"Assistant superintendents are usually kids just a few years out of school, and they have more to learn about communicating with their peers than they do about soil nutrients," Allen says. "They get hung up on little stuff and tend to make big things out of small things. We try to get them to understand that a mower that doesn't start isn't a crisis, but a green under 3 inches of water ... that's a crisis."
THE
PESTICIDE PIPELINE

A glimpse at the products chemical manufacturers have released recently and plan to bring to market during the next three years

With the economy in a full-blown recession, rounds down and budgets flat, golf course superintendents are under as much pressure as ever to keep spending in check. Their chemical budgets are no exception, and when expenses are a concern, it behooves a buyer to have as much information as possible about what products are coming down the pike.

The Golf Course Industry staff contacted the market’s major manufacturers of basic and generic pesticides to find out what they’re bringing to market the next several years. Though some of them were tight-lipped about specifics, here’s what they would share about recently released products and what’s to come. - Marisa Palmieri

Editor’s note: The following manufacturers were contacted for the article but declined to participate or didn’t respond to requests for information: Advan, AgraQuest, Amvac Environmental Products, Bell Labs, Biosafe Systems, Cheminova, FMC, Gowan, Regal Chemical, Petro Canada and SePro.

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<tr>
<th>Pesticide type</th>
<th>Manufacturer</th>
<th>Product name</th>
<th>Active Ingredient</th>
<th>Targeted pests</th>
<th>Released/expected release</th>
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<tbody>
<tr>
<td>HERBICIDES</td>
<td>Arysta LifeScience</td>
<td>TBA</td>
<td>Amicarbazone</td>
<td>Poa annua on bentgrass greens</td>
<td>Q4 2009 or Q1 2010</td>
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<td></td>
<td>Arysta LifeScience</td>
<td>TBA</td>
<td>Flucarbazone</td>
<td>Broadleaf weeds</td>
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<tr>
<td></td>
<td>Bayer Environmental Science</td>
<td>TBA</td>
<td>TBA</td>
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<td>TBA</td>
<td>TBA - broad spectrum</td>
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<td>PBI/Gordon</td>
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<td>TBA</td>
<td>Sedges</td>
<td>TBA by 2012</td>
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<td>HERBICIDES, AQUATIC</td>
<td>Phoenix Environmental Care</td>
<td>Avocet PLX</td>
<td>Glyphosate</td>
<td>Various emergent and floating aquatic plants, terrestrial and ditchbank woody brush, grasses and weeds on shorelines, landscapes and in turf or noncrop areas</td>
<td>Q1 2009</td>
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<tr>
<td></td>
<td>Valent</td>
<td>Clipper</td>
<td>Flumioxazin</td>
<td>Aquatic weeds including watermeal, cabomba, duckweed, water lettuce and others.</td>
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<td></td>
<td>Valent</td>
<td>Tradewind</td>
<td>Bispyribac</td>
<td>Aquatic weeds including hydrilla, milfoil, water hyacinth and water lettuce and others</td>
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<td>POSTEMERGENT</td>
<td>BASF Turf &amp; Ornamentals</td>
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<td>TBA</td>
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<td></td>
<td>Dow AgroScience</td>
<td>LockUp</td>
<td>Penoxsulam</td>
<td>Broadleaf weeds, including dollar weed, white clover, kyllinga and English lawn daisy</td>
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<td></td>
<td>Dow AgroScience</td>
<td>Sapphire</td>
<td>Penoxsulam</td>
<td>English lawn daisy in California, Washington and Oregon</td>
<td>Q4 2008</td>
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<tr>
<td></td>
<td>Monsanto</td>
<td>Roundup ProMax</td>
<td>Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt</td>
<td>Annual and perennial weeds, woody brush and trees</td>
<td>Q4 2008 (expt California)</td>
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<td></td>
<td>Quail-Pro</td>
<td>TBA</td>
<td>TBA (proprietary)</td>
<td>Postemergent weeds</td>
<td>TBA – approximately 2012</td>
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<td></td>
<td>Valent</td>
<td>TBA</td>
<td>Imazosulfuron</td>
<td>Sedges (annual and perennial) and some broadleaf weeds</td>
<td>1st Quarter 2010</td>
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TBA - to be announced
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<thead>
<tr>
<th>Pesticide type</th>
<th>Manufacturer</th>
<th>Product name</th>
<th>Active ingredient</th>
<th>Targeted pests</th>
<th>Released/expected release</th>
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</thead>
<tbody>
<tr>
<td>HERBICIDES PREEMERGENT</td>
<td>BASF Turf &amp; Ornamentals</td>
<td>Tower</td>
<td>Dimethenamid-P</td>
<td>More than 50 weeds, including yellow nutsedge, annual sedges, carpetweed, bittercress, purslane, crabgrass, goosegrass, barnyardgrass, doveweed and others.</td>
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<tr>
<td></td>
<td>Cleary Chemical</td>
<td>Agule 65 WDG</td>
<td>Prodiame</td>
<td>Preemergent grass and selected broadleaf weeds</td>
<td>Q3 2010</td>
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<tr>
<td></td>
<td>Phoenix Environmental Care</td>
<td>StarFighter</td>
<td>Oxidiazon</td>
<td>Most grasses and some broadleaf weeds</td>
<td>Q1 2009</td>
</tr>
<tr>
<td></td>
<td>BASF Turf &amp; Ornamentals</td>
<td>TBA</td>
<td>TBA (class of chemistry not widely used in the golf market)</td>
<td>Dollar spot, brown patch and others</td>
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<tr>
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<td>Bayer Environmental Science</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
<td>2009</td>
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<td>Bayer Environmental Science</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
<td>2009</td>
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<tr>
<td></td>
<td>Cleary Chemical</td>
<td>3336 70 EG</td>
<td>Thiopepanate-methyl</td>
<td>Anthracnose, dollar spot, brown patch and others</td>
<td>Q2 2009</td>
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<td>DuPont Professional Products</td>
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<td>PBI/Gordon</td>
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<td>TBA</td>
<td>TBA by 2012</td>
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<td></td>
<td>Phoenix Environmental Care</td>
<td>Pegasus HPX</td>
<td>Chloretanolil</td>
<td>Dollar spot, brown patch, anthracnose, red thread, gray snow mold and leaf spots</td>
<td>Q1 2009</td>
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<tr>
<td></td>
<td>Phoenix Environmental Care</td>
<td>Verio</td>
<td>Metalaxyl</td>
<td>Pythium and other root diseases</td>
<td>Q2 2009</td>
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<tr>
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<td>Syngenta Professional Products</td>
<td>TBA</td>
<td>TBA (class of chemistry: strobilurin)</td>
<td>TBA</td>
<td>TBA – registration pending</td>
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<tr>
<td>FUNGICIDES</td>
<td>Ainsel</td>
<td>ImidaPro 2F; Imida Pro 5</td>
<td>Imidacloprid</td>
<td>Aphids, grubs, beetles, borers, lacebugs, psyllids, thrips, scales, pine tip moths, black vine weevils, adelgids, billbugs, northern masked chafer, mole crickets and chinchbugs</td>
<td>Q4 2008</td>
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<tr>
<td></td>
<td>DuPont Professional Products</td>
<td>DuPont Acelepryn granular</td>
<td>DuPont Calflex</td>
<td>White grub species, annual bluegrass weevil, billbugs, caterpillars and others</td>
<td>Q4 2008</td>
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<tr>
<td></td>
<td>PBI/Gordon</td>
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<td>TBA (class of chemistry: anthranilic diamide)</td>
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<td>Quali-Pro</td>
<td>TBA</td>
<td>TBA (proprietary)</td>
<td>Nematodes</td>
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TBA - to be announced
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<tr>
<th>Pesticide type</th>
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<th>Active ingredient</th>
<th>Targeted pests</th>
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<tr>
<td><strong>FUNGICIDE COMBINATION PREMIXES</strong></td>
<td>Arysta LifeScience</td>
<td>Disarm T; Disarm M Premix</td>
<td>Fluoxastrobin + tebuconazole; fluoxastrobin + myclobutanil</td>
<td>All major patch, spot and snow mold diseases</td>
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<td>Cleary Chemical</td>
<td>Spectro 90 EG</td>
<td>Chlorothalonil + thiophanate-methyl</td>
<td>Anthracnose, bentgrass dead spot, bluegrass stem rust, brown patch, dichondra leaf spot, dollar spot, downy mildew, fusarium blight, fusarium patch, gray leaf spot, gray snow mold, pink snow mold, red thread, algae and others</td>
<td>Q1 2010</td>
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<td>Syngenta Professional Products</td>
<td>TBA</td>
<td>Azoxystrobin + chlorothalonil</td>
<td>Brown patch, gray leaf spot, dollar spot, large patch, leaf spot and anthracnose</td>
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<td><strong>HERBICIDE COMBINATIONS</strong></td>
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<td></td>
<td>Dow AgroScience</td>
<td>TBA, LockUp combinations</td>
<td>Penoxsulam + 2,4-D + dicamba</td>
<td>Broadleaf weeds</td>
<td>2009 or 2010</td>
</tr>
<tr>
<td></td>
<td>Nufarm</td>
<td>4-Speed; 4-Speed XT</td>
<td>2,4-D 2EHE + MCP + dicamba + pyraflufen; 2,4-D 2EHE + triclopyr + dicamba + pyraflufen</td>
<td>Broadleaf weeds, including white clover, buckhorn plantain and dandelion</td>
<td>Anticipated registration Q1 2009</td>
</tr>
<tr>
<td></td>
<td>PBI/Gordon</td>
<td>TBA</td>
<td>TBA</td>
<td>Broadleaf weeds, including wild violet</td>
<td>TBA by 2012</td>
</tr>
<tr>
<td><strong>INSECTICIDE COMBINATIONS</strong></td>
<td>DuPont Professional Products</td>
<td>Fertilizer with DuPont Acelepryn</td>
<td>DuPont Calteryx</td>
<td>White grub species, annual bluegrass weevil, billbugs, caterpillars and others</td>
<td>Q2 2009</td>
</tr>
</tbody>
</table>

TBA - to be announced
A joint greenhouse and field project is under way at the University of Massachusetts-Amherst to evaluate plant species for their effectiveness in removing pesticides and nutrients from turfgrass runoff waters that enter the rhizospheres of plants in vegetated filter strips acting as buffer zones. Initially, a greenhouse study screened plant species for their ability to remove pesticides from soil. The best arrangement of selected plants within vegetated filter strips to optimize their ability to remove pesticides is being evaluated.

Vegetated filter strips will be compared to turfgrass buffer strips to determine the relative effectiveness of each and will consider how these two systems would work in conjunction with each other. The fate of contaminants entering the vegetated filter strips will be evaluated by analyzing soil, plant tissue, soil water and runoff for parent pesticides and their major breakdown products.

**GREENHOUSE STUDY**
A greenhouse study was carried out to identify the most effective plant species for placement in a field run-on plot. A silt loam was amended with six pesticides (Table 1, below) at 5 percent of their application rates. While this is an overestimation of the amount of pesticides likely being lost, it will provide sufficient residues for screening plants for their ability to remove pesticides from soil at an amount that exceeds the detection limits for these pesticides.

The study objective was to screen 10 aesthetically acceptable plant species for their ability to remove four commonly used and degradable pesticides: chlorpyrifos, chlorothalonil, pendimethalin and propiconazole from soil in a greenhouse setting, thus providing invaluable information about the species composition that would be most effective for use in vegetated filter strips. Plant treatments examined were:

- Big blue stem (*Andropogon gerardii*);
- Black willow (*Salix nigra*);
- Eastern gama grass (*Tripsacum dactyloides*);
- Perennial ryegrass (*Lolium perenne*);
- Prairie cordgrass (*Spartina pectinata*);
- Tall fescue (*Festuca arundinacea*);
- Tufted sedge (*Carex stricta*);
- Woolgrass (*Scirpus cyperinus*); and
- an unvegetated control.

Many of these plant species have been effective in previous buffer strip studies or have some other quality (salt tolerance, dense growth, increase soil infiltration) that makes them good candidates.

Blue flag iris, big blue stem, eastern gama grass, prairie cord grass and woolgrass enhanced the loss of one or more pesticides from the greenhouse soil. Blue flag iris (76 percent chlorpyrifos, 94 percent chlorothalonil, 48 percent pendimethalin, 76 percent chlorothalonil) and black willow (67 percent chlorpyrifos, 76 percent chlorothalonil) also showed impressive results. These species could be used to increase the effectiveness of turfgrass buffer strips.

---

**Table 1. Characterization and Use of Pesticides of Interest**

<table>
<thead>
<tr>
<th>Pesticide Class</th>
<th>Pesticide Name</th>
<th>Pesticide Mode</th>
<th>Maximum Application Rate (23.5%)</th>
<th>Active Ingredient Lost from 60 ft² at 5% Loss</th>
<th>Concentration in Soil if All Lost in First Square Foot on VFS*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insecticides</td>
<td>Chlorpyrifos</td>
<td>Nonsystemic</td>
<td>1 lb/acre</td>
<td>0.03 grams</td>
<td>0.2 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Imidacloprid</td>
<td>Systemic</td>
<td>8.6 oz/acre (75% ai)</td>
<td>0.01 grams</td>
<td>0.15 mg/kg</td>
</tr>
<tr>
<td>Herbicides</td>
<td>Pendimethalin</td>
<td>Nonsystemic</td>
<td>3.6 oz/1,000 ft² (37.4%) or 5lbs/acre (60%)</td>
<td>0.11 grams</td>
<td>0.81 mg/kg</td>
</tr>
<tr>
<td></td>
<td>2,4-D</td>
<td>Systemic</td>
<td>1.1 oz/1,000 ft² (48.9%)</td>
<td>0.05 grams</td>
<td>0.37 mg/kg</td>
</tr>
<tr>
<td>Fungicides</td>
<td>Chlorothalonil</td>
<td>Nonsystemic</td>
<td>20 lbs/acre (82.5%) or 16 ⅖ pints/acre (54%)</td>
<td>0.52 grams</td>
<td>3.85 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Propiconazole</td>
<td>Systemic</td>
<td>176 oz/acre (14.3%)</td>
<td>0.05 grams</td>
<td>0.37 mg/kg</td>
</tr>
</tbody>
</table>

* Calculation based on a bulk density of 1.6 g/cm³.
thalin and 33 percent propiconazole were lost from soil after three months of plant growth), eastern gama grass (47 percent chlorpyrifos, 95 percent chlorothalonil, 17 percent pendimethalin and 22 percent propiconazole were lost from soil after three months of plant growth) and big blue stem (52 percent chlorpyrifos, 91 percent chlorothalonil, 19 percent pendimethalin, and 30 percent propiconazole were lost from soil after three months of plant growth) were excellent candidates for the optimization of vegetated filter strips (Figure 1 on page 77). Blue flag iris was most effective in removing selected pesticides from soil and had the highest aesthetic value of the plants.

These five species were selected for use in the establishment of one of the two plant treatments. In the mixture treatment, each species will be mixed evenly throughout the plot. In the succession treatment, species will be arranged in order of increasing height from the front of the vegetated filter strips (blue flag iris, woolgrass, prairie cord grass, big blue stem, and eastern gama grass).

FIELD STUDY
Twelve vegetated filter strips in a run-on plot will be used to evaluate the ability of four planting treatments (unvegetated, mixture of selected plant species, succession of selected plant species and succession of different heights of turfgrass, with each treatment replicated three times) to remove pesticides and nutrients from runoff water generated in two simulated rain events (one year and five year). The first year of the study was primarily for site establishment; the second year was for plant establishment. The third year of the study and any subsequent years will have application of one of the pesticide groups in June with the other group applied in July.

CONSTRUCTING THE STRIPS
A run-on plot for the field study was constructed at the University of Massachusetts Turfgrass Research Center in Deerfield during the summer of 2006. Native sandy loam was used as the subsoil, and a silt loam was brought in from another location to be used for the surface horizon (0 to 6 inches). The 12 vegetated filter strips in the run-on plot were 3 feet by 15 feet by 6 feet each, lined with an impermeable 36-mil polypropylene liner and graded to a 5-percent slope.

At the end (bottom) of each strip, an aluminum sheet was placed under 3 inches of soil for the last 12 inches of the strip to collect runoff. Beneath the lip of the collector, a 5-gallon bucket was inserted to hold a 1-gallon brown bottle used during the collection of runoff water from each vegetated filter strip in the run-on plot. On the front (top) end of each filter strip, an aluminum manifold with holes drilled at 2-inch intervals was placed to ensure water would flow evenly onto the strips.

Stainless steel lysimeters were placed 5 feet below the soil surface and about 14 feet from the top of the vegetated filter strips to sample the subsurface water flow at the bottom of each filter strip (Figure 2 on page 76).

STORM/RUN-ON SCENARIOS
Several storm/run-on scenarios on the bare (pre-planted) vegetated filter strips were evaluated. The volume of runoff water applied as run-on to each filter strips was based on a one-year rain event. The runoff water generated during a one-year rain event was calculated to be 25.4 gallons during 24 hours from a turfgrass area 3 feet by 20 feet with a 5 percent slope (obtained by calculating the amount of water loss with these rain events using the SCS Curve Number Method, Climate System Research Center, University of Massachusetts-Amherst).

This water volume is applied to the top of the filter strips as run-on water. A storm scenario was selected, which produced runoff that was measurable and manageable. Early storm event trials were spread over a 24-hour period. It was clear from these early trials the one-year rain event had to be condensed to six hours and the soil needed to be presaturated to produce measurable runoff.

Soil presaturation was achieved by adding artificial rain for 10 hours (0.4 inches per hour), followed by a 12-hour drying period (6 p.m. to 6
Research

a.m.) before the initiation of the storm event. The storm scenario selected for the one-year rain event and the initial bromide tracer studies were as follows: Artificial rain for six hours total (6 a.m. to noon, for 2 inches total rainfall) and run-on for two hours (11 a.m. to 1 p.m. at 12.7 gallons an hour).

BROMIDE TRACER STUDY
A bromide tracer study was conducted to determine hydraulic characteristics and runoff flows on the 12 vegetated filter strips before planting. This allowed us to evaluate the effects the plants have on the flow of water through each filter strip, and it will allow us to know any differences observed in runoff of the pesticides because of the plant treatments not the differences in the hydrology between the plots.

Artificial run-on containing the bromide tracer was applied to each vegetated filter strip by using a scaled-down version of previous run-on studies. A holding tank was used to mix the water and bromide together, and then run-on water was pumped to the manifold as previously described for a one-year rain event. Runoff water volume from the run-on event was measured by collecting in 1-gallon amber bottles at the bottom of the filter strips.

Grab samples were collected every two minutes in 2-ounce amber bottles for bromide analysis. Run-on was started at 11 a.m., and the first bromide grab sample was collected at 11 a.m. Grab samples were collected until the 2-ounce bottle was full so collection duration varied depending on the runoff flow rate. Between grab samples, the runoff was collected into the 1-gallon amber bottles to ensure the entire runoff volume was collected.

The results of the initial preplanting bromide tracer study are shown in Table 2 (below). Only the first six minutes of bromide tracer data is shown because the bromide tracer had reached the end of the vegetated filter strips by the six-minute grab sample for all 12 vegetated filter strips.

PLANT ESTABLISHMENT
Individual vegetated filter strips were planted in replicates of three (unvegetated, random mixture of plant species, succession of plant species and turfgrass rough mix). Greenhouse-reared plugs of blue flag iris, eastern gamma grass, prairie cord grass and woolgrass were planted at a density of 25 plants per 9 square feet. Big blue stem was seeded at a similar rate and was thinned in spring 2008. Three filter strips were planted with a golf course rough mixture (80 percent Kentucky bluegrass, 20 percent chewing fescue) at a rate of 4 pounds per 1,000 square feet. The rough mixture was maintained at three different heights (1, 1.5, and 2.0 inches, top to bottom) during the growing season.

The results of the bromide tracer study were used to block the plant-

| Table 2. Runoff rate, volume and bromide tracer concentrations |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Strip | Runoff rate prerun-on | Runoff rate with run-on | Rainfall | Total volume | Run-on stop* | Runoff stop | Bromide | Planting |
|  | (gal/hr) | (gal/hr) | (inches) | (liters) | at | (mg/L)** at | |
| 0 min | 2 min | 4 min | 6 min |
| 1 | 2.5 | 11.2 | 1.9 ± 0.60 | 58.4 | 1:16 | 1:25 | 0.27 | 580 | 2,060 | 1,900 | Turf |
| 2 | 0.9 | 7.6 | 2 ± 0.13 | 47.1 | 1:14 | 1:20 | 1.02 | 0.23 | 2,690 | 1,890 | Succession |
| 3 | 1 | 9.2 | 1.9 ± 0.19 | 49.2 | 1:18 | 1:42 | 0.7 | 95.1 | 1,450 | 1,890 | Bare |
| 4 | 1 | 9.2 | 2.2 ± 0.16 | 43.8 | 1:15 | 1:19 | BDL | 169 | 150 | 1,920 | Random |
| 5 | 3.8 | 10 | 2.5 ± 0.13 | 50 | 1:06 | 1:51 | BDL | 480 | 1,560 | 1,610 | Bare |
| 6 | 0.4 | 4.4 | 2.2 ± 0.10 | 22 | 1:09 | 1:31 | BDL | 660 | 1,820 | 1,620 | Random |
| 7 | 0.4 | 4.3 | 1.9 ± 0.10 | 19.7 | 1:14 | 1:21 | BDL | 169 | 150 | 1,920 | Random |
| 8 | 1.7 | 8.7 | 1.9 ± 0.10 | 40.5 | 1:11 | 1:49 | 0.75 | 70 | 1,500 | 1,680 | Turf |
| 9 | 2.5 | 13 | 2 ± 0 | 77.3 | 1:09 | 1:33 | 2 | 1,350 | 2,230 | 2,430 | Succession |
| 10 | 1.9 | 9 | 2.2 ± 0 | 42.4 | 1:06 | 1:29 | BDL | 230 | 1,560 | 1,620 | Turf |
| 11 | 2.3 | 10.5 | 2.3 ± 0.11 | 54.5 | 1:05 | 1:37 | BDL | 140 | 1,170 | 1,360 | Random |
| 12 | 1 | 6.2 | 2.2 ± 0.22 | 26.5 | 1:05 | 1:36 | 0.12 | 0.11 | 0.1 | 470 | Bare |

*Time run-on delivery tank was empty. ** Bromide added at 4,000 mg/l. BDL = below detection limit
ings in groups of three vegetated filter strips (fast, intermediate and slow flow rates). The individual vegetated filter strips were planted as shown in Table 2.

**FUTURE RESEARCH PLANS**
The six pesticides used in the greenhouse study, plus cyfluthrin, will be used in the vegetated filter strip run-on field trials. Pesticides will be applied with a water volume that would be generated for a one-year and five-year rain event. Bromide also will be added to the pesticide containing water at 4 grams per liter as a tracer.

Before applying the pesticide-containing water, the vegetated filter strips will receive a water volume that would occur in a one-year or five-year rain event (see storm scenario mentioned earlier). In the case of the five-year rain event, this would involve adding 3.8 inches of water as rain over 24 hours and 62.1 gallons of water as runoff over 24 hours. The expected runoff water coming from a vegetated filter strip is about 31 ounces for the one-year rain event and 36 gallons for the five-year rain event.

The mass of pesticide lost will be evaluated using the concentration of the pesticide and the volume of water collected during runoff. In addition to pesticides, runoff water will be monitored for losses of nitrogen and phosphorus from fertilizer inputs. Soil, soil water and plants within the vegetated filter strips also will be analyzed to determine if the pesticides lost from the runoff water are sorbing to the soil, being degraded in the soil, taken up by the plants or potentially lost to leaching or subsurface flow. These values will be compared against the bromide tracer, which will move freely with the run-on water.

Soil sampling will be conducted at three different depths at three locations within the vegetated filter strips (1 foot, 6 feet, and 11 feet from the top of each strip). The reason for sampling at multiple locations is half the pesticides of interest are water soluble. Also, many investigators have shown that even chemicals that sorb tightly to the soil can be found deeper in the soil profile than would be expected based on the physical and chemical properties of those chemicals because of preferential flow pathways established by earthworms and old root channels. Analysis will be conducted for parent compounds and expected metabolites based on existing literature.

Soil water will be collected with lysimeters and should include water that has passed through all the rhizospheres and soil in the upstream part

---

**Figure 1.** Fraction of applied pesticide lost from greenhouse soil for chlorpyrifos, chlorothalonil, pendimethalin and propiconazole. Horizontal lines represent unvegetated controls (bare soil).
of the vegetated filter strips and give an indication of whether or not pesticides that infiltrated the vegetated filter strips are being lost to leaching or subsurface flow.

J. Marshall Clark, Ph.D. is professor and director, MA Pesticide Analysis Laboratory in the department of veterinary and animal science at the University of Massachusetts in Amherst.


Acknowledgements: This work has been supported by the USGA Green Section, the Environmental Institute at the University of Massachusetts-Amherst, and by the MA Pesticide Analysis Laboratory, UMass-Amherst. Research design and implementation was carried out by K.E. Smith, Ph.D., R.A. Putnam, Ph.D., C. Phaneuf, Ph.D., J.J. Doherty, Ph.D., G.R. Lanza, Ph.D., and O.P. Dhankher, Ph.D. (all UMass-Amherst).

David Phipps cares about his neighbors. Want proof? He’s spent $65,000 throughout the past eight years testing the water that enters, runs through and exits the golf course he maintains – Stone Creek Golf Club in Oregon City, Ore.

There are two bodies of water that run through the golf course. Beaver Creek runs below the course, and Stone Creek, which is an unnamed tributary, runs through it.

Phipps started the water-testing program during the golf course’s infancy, as soon as the grass was planted during the course’s construction. When the golf course was being built, he knew some people in the area thought building a golf course was harmful to the environment. Phipps wanted to show them otherwise.

“I wanted all my ducks in a row,” he says about backing up the fact that a golf course is beneficial to the environment.

Clackamas County, which owns Stone Creek Golf Club, bought into the water testing from the beginning, Phipps says.

“We’re protecting the county’s image in that we’re looking to protect the neighboring properties,” he says.

Phipps uses EnviroLogic Resources to obtain the water samples. The samples are gathered at strategic points on the golf course where the water enters and exits the property. Steve Thun, laboratory director with Portland, Ore.-based Pacific Agriculture Laboratory, performs the actual water (continued on page 88)
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It’s in their hands

The maintenance staff at Great River Golf Club meets golfer expectations one piece of handheld equipment at a time

"You get what you pay for" is an all too familiar saying, especially in the golf world. Golfers at Great River Golf Club in Milford, Conn., can attest to that. According to golf course superintendent Sean Flynn, the semiprivate club, which opened in 2000, charges more per round than all but about two daily-fee courses in the state. Golfers’ high expectations go hand in hand with green fees, and because of that, the detail work done on Great River’s course using handheld equipment is important to meet them.

“When members come to play here, they expect perfect conditions,” Flynn says.

Flynn, who has been a superintendent for five years and at Great River that entire time, works with a $980,000 maintenance budget, which has remained relatively flat for the past eight years. The capital expenditure budget is as needed, but the club is averaging $30,000 annually on golf course projects. Equipment purchases, which have been tied in with the operating budget, average about $70,000 annually.

On a scale of one to 10, Flynn, who works with a staff of 18 to 20 in season and six during the winter, considers handheld equipment a 10 regarding its importance to maintain the course, which features tree-lined fairways on the front nine and a links style with water on all holes on the back nine. His fleet of handheld equipment, which he added to once he arrived at Great River, includes:

- A Stihl 036 chain saw
- A Stihl 029 chain saw
- A small RedMax chain saw
- HoverMowers
- Lawn-Boy push mowers

On the Tommy Fazio-designed course, which is ranked No. 5 in the state by Golf Digest, the staff uses HoverMowers to cut grass around the 101 bunkers, string trimmers to edge them and backpack blowers to clean them out – all done once a week. When mowing greens, tees, collars and approaches, the staff takes blowers with them each time they go out. They also edge along cart-path curbing once a week.

“It’s required to bring a blower on just about every task, even mowing greens,” Flynn says.

The breakdown of man-hours needed for each task using the handheld pieces of equipment is:

- Blowing debris on greens, tees, approaches – five minutes per area daily
- HoverMowers – five operators, eight hours weekly
- Bunker edging – two operators, eight hours weekly
- Blowing debris in bunkers – two operators, three hours weekly
- Blowing cart paths – four operators, four hours weekly
- Chain saws – five to 10 years
- HoverMowers – four to seven years
- Hedge trimmers – four to seven years.

Before making a purchase, Flynn gathers the input from everyone on the staff, including the equipment tech, who must work on the equipment and have the ability to get parts quickly, and the operators, who must be comfortable with the piece of equipment in their hands.

“If they’re not happy with a piece of equipment, or frustrated with it, it will reflect the quality of their work,” he says.

Several factors go into Flynn’s purchases.
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"For us, it is hardly ever about price," he says. "You get what you pay for. If operators continually return to the maintenance facility with a piece of equipment that's not functioning correctly, that wastes a lot of time. Then it must be fixed, and two people's time is wasted. If you choose to buy a piece of equipment for a considerable savings, chances are you'll spend that much money in the future paying for lost labor, quality of work or time and parts to repair."

Flynn buys the majority of the handheld equipment from Jacobsen distributor Steven Willand.

“Our equipment technician, Malcolm, has a great relationship with their service department,” he says. “In the five years I've been at Great River, there hasn’t been one issue they’ve not been able to help us with. Having a strong sales rep and dealer support is just one more tool in the shed.

“We are only as strong as the weakest link,” he adds. “Having all of the tools to get the job done efficiently and effectively makes things so much easier in the long run.” GCI

At Great River Golf Club in Milford, Conn., the rule of thumb regarding handheld equipment is if the repair is more than half of the replacement cost, the staff will purchase new equipment.
Handheld homework

Circling Raven Golf Club's equipment manager evaluates handheld equipment

With a background that includes four years working for an equipment dealership, Darak Bigler, equipment manager at Circling Raven Golf Club in Worley, Idaho, supports golf course superintendent Brian Woster in conducting a lot of research before making any purchasing decisions on handheld products.

"At most courses, the superintendent has the final say, but most superintendents will leave it up to the equipment manager to do research and give them a couple of options," Bigler says.

Bigler, who has been at Circling Raven for seven years (he was on staff for the grow-in before the course opened in 2003), may be in the market soon for an entire fleet of handheld equipment.

Aside from phasing out several John Deere string trimmers that came with an initial equipment package, Bigler hasn’t had to replace one piece of handheld equipment yet. And he’s only had to rebuild two – one backpack blower and one string trimmer. Sooner or later, though, he knows the time will come when repair costs offset replacement costs, and he’ll be in the market for a new fleet.

His ongoing research includes field testing equipment, shopping around equipment and parts prices, and interacting with manufacturers to learn about new technology.

Bigler and his full-time, year-round assistant do most of the handheld equipment testing themselves. They’ll attend dealers’ open houses or request demo products, which they put to use in actual conditions on Circling Raven’s 18 holes.

“When it comes to handheld equipment, I definitely like to run it and examine everything,” Bigler says. “There’s a lot involved – horsepower, weight, operator comfort. There’s a fine line between equipment that’s a bit cheaper, but not durable enough.”

When Bigler requests demo equipment, he’ll have the maintenance crew test the pieces and ask them if they like it or not.

Circling Raven currently operates a mix of product lines, including a Tanaka walk-behind edger and several backpack blowers; several RedMax backpack blowers, string trimmers and reciprocators; two Husqvarna chain saws; two Stihl pole pruners; and five Allen hover mowers.

“When they bring a piece of equipment in, we’ll ask, ‘Is there anything you don’t like about it?’” Bigler says.

Because Bigler doesn’t operate with a throw-away mentality – he rebuilds equipment whenever possible – parts prices weigh heavily on his decision.

“I’ll always shop around – it doesn’t matter if it’s equipment or nuts and bolts,” he says, noting he values dealer support but knows he often can get a better rate by buying direct from the manufacturer or through a niche distributor.

For example, Bigler prefers to buy bearings from a bearing house rather than a dealership. There’s no set rule for how Bigler makes repair-or-replace decisions. He considers each piece on a case-by-case basis. For example, rebuilding the backpack blower and string trimmer cost about $100 in parts and two man-hours each. That’s not bad for equipment that costs $300 to $400 to replace, he says.

“When you tear down a piece of equipment, you have to figure out if it’s going to be worth your time in labor and parts to rebuild it,” he says. “If it’s $200 in parts and four to five hours of labor, is that justifiable? It depends on the workload in the shop.”

During the past year, a new “tag-in/tag-out” policy has lessened the amount Bigler spends to repair equipment by an estimated $2,000. The course has a sectional maintenance program, where each crew member is designated assigning numbers to all pieces of equipment and requiring crew members to sign them out has reduced replacement costs due to damage by about $2,000.
two holes to take care of from tee to green with
the exception of some basic tasks that take
place first thing in the morning, like greens
and fairway mowing, bunker raking and cup
cutting. Because of this arrangement, most of
the handheld equipment is assigned to the crew
members, but some pieces are shared.

If equipment damage is a result of negligence,
employees pay half the cost of parts. Before
creating a sign-out program for equipment,
employees who didn’t want to be responsible
for damage would try to sneak items back into
the shop without reporting them. They can’t do
that now. Every piece of shared equipment has a
number that corresponds to a tag, which hangs
on a board in the shop. When an employee signs
out a piece of equipment, that item’s number is
moved to his name on the board.

“When they bring it back in, we physically
look at the equipment and make sure no damage
has been done, so we know it’s ready to go for
the next day,” Bigler says, noting that no damage
has been attributed to negligence – which he
defines as being careless and creating an unsafe
environment – since instituting the program.

“The ‘tag-in/tag-out’ system has helped out
quite a bit,” he says.

But there’s a downside: It’s created more work
for the managers, including Bigler, his assistant,
the superintendent and his two assistants.

“One person has to be free to check every-
thing in and out,” he says. “You have to put effort
into it to make it work.”

The final component of Bigler’s handheld
homework entails talking with manufacturers to
find out what new products and features they’ll
be releasing. He visits their trade show booths
at the Golf Industry Show each year.

“I’m fortunate enough to go to the national
show every year,” he says. “I always talk to the
manufacturers, see what’s new and what they’re
doing to better their products.”

A sign-out process for equipment prevents
Circling Raven's crew members from trying to
sneak damaged equipment back into the shop.

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Follow you, follow me

At the Sharon Golf Club in Sharon Center, Ohio, the maintenance crew tows grass trailers behind five-plex fairway mowers, even while they’re operating because of the circular mowing pattern. The operators stop mowing when the grass catchers are full and dump the contents into the grass trailer, then they resume mowing. The crew uses three fairway mowers at the same time, mowing nine holes (12 acres), which takes about three hours a day.

Each trailer is equipped with a broom to disperse the grass clippings that drop from the mower rollers, a roller scraper, divot mix containers and engineer flags to mark damaged sprinkler heads.

The grass trailers feature a 42-inch-by-48-inch trailer chassis, 16-inch-by-6.5-inch-by-8-inch turf tires, a leaf spring suspension, a ¾-inch-thick marine plywood floor (the crew painted the plywood with a latex enamel paint), 24-inch-high sides and a rear vertical sliding gate. The ¾-inch steel rear gate has a 1-inch channel along the edges to strengthen it. The crew made the trailer ball hitch, which is welded to the rear of each fairway mower, with 2-inch-square tubing bent in two places and a 1 7/8-inch ball bolted to it.

Frank Dobie, general manager and golf course superintendent, and David Willmott, senior assistant superintendent, and Gary Bogdanski, equipment manager, devised the grass trailer concept.

The materials cost less than $300, and it took about 20 hours to build each one.

Stay put

The golf course at the TPC Potomac (Md.) at Avenel Farm was reconstructed recently. Chad Adcock, golf course superintendent, worked with Dennis Ingram, a PGA Tour agronomist, and came up with a unique idea to keep metal stakes that hold bunker liners in place from moving upward, which is caused by freezing and thawing cycles. With the stakes glued to the bunker liner, they become one unit and can move together, instead of the metal stakes moving upward on their own.

First, the bunker liner is installed per the manufacturer’s recommendations with all of the seams glued or bonded together. The metal stakes then are inserted into the liner on 12-inch centers. Liberally applying Liquid Nails, or any high-quality marine adhesive, to the surface and on the top of the stakes holds the liner and stakes together. Once the glue dries, bunker sand can be installed.

Liquid Nails costs about $5.39 a tube, which is enough for two to three average size bunkers, totaling about 5,000 square feet.

Once the staff is trained properly, there’s no appreciable extra labor needed to apply the glue. This process can work in any climate.
SET YOURSELF APART

The off-season is upon us, and despite the current economic climate, maybe you’re getting a bailout from the daily routine of your job. Hopefully, you’re blessed with having a job or have been fortunate to find new employment.

One of the services my firm provides is assisting employers searching for new staff and assisting superintendents seeking employment. The market is tight, cost cutting is rampant, and an abundance of new people are entering the golf business. Those seeking to advance to the next level of employment are faced with stiff competition.

So, how does a golf course superintendent, a mature golf course manager, a senior assistant superintendent or equipment technician get the attention of a prospective employer? After reviewing hundreds of resumes last fall, here are observations and suggestions about how to — and how not to — formulate a professional, attention-grabbing resume.

THE COVER LETTER

Because the cover letter is the primary introduction to the search committee, consider the following:

• Be professional, neat and clean. Be organized and brief when stating your interest and desire of a position.

• If your current employer knows you’re looking for a new position, use club letterhead. It demonstrates you’re proud of your club and you work on its behalf.

• Be accurate about your interest and desire for employment. Don’t gush with enthusiasm and praise of what a privilege and golden opportunity it would be for you to accept employment.

• Don’t describe how much tournament experience you have and how many major championships you’ve worked. Unless you’ve been the golf course superintendent during a tournament, the search committee won’t be impressed that you’ve raked bunkers or filled divots.

• Don’t ramble on about the rich, glorious golf history and tradition of your club or how many major championships have been contested there, unless you were intimately involved with them. The club’s reputation will speak for itself.

• Make sure you have the correct name, address and spelling of the club, particularly the contact person’s name who’s receiving the resume. Don’t send your resume to Club A when applying to Club B and vice versa.

THE RESUME

In this age of technology, there are numerous ways to provide information to a prospective employer. Use these methods to your advantage:

• The traditional paper resume is acceptable. If this format is what you choose, use whatever shipping method will get the document to the club quickly and undamaged. If your resume arrives crumpled or folded in a standard envelope with postage due, it demonstrates a lack of preparation and is a red flag for the committee.

• Be brief with your personal history, background, education and qualifications summary. Focus on your career highlights and accomplishments.

• Use various Internet sources to post your information, including the GCSAA Web site, your local GCSAA chapter Web site, or even create your own Web site.

• Create a visual record that includes pictures of the golf course that can be sent easily, handled and stored easily by the search committee, and instantly provided to everyone. In many instances, the more paper sent, the less it’s read.

• Make sure you have the correct name, address and spelling of the club, particularly the contact person’s name who’s receiving the resume. Don’t send your resume to Club A when applying to Club B and vice versa.

• Don’t state you were employed some place or how many major championships have been contested there, unless you were intimately involved with them. The club’s reputation will speak for itself.

• Recently, a superintendent candidate provided a DVD including an interview featuring himself, a virtual tour of the golf course and maintenance facility, an overview of staff training and daily golf course preparations. It included on-course dealings with the green chairman and committee, who were reviewing an upcoming renovation project. This was imaginative and showed initiative, setting the superintendent apart from his competitors.

KEY POINTERS

• If the application time is fixed and resumes are expected by a certain date and time, don’t expect consideration if your information is received late.

• Include every possible way you can be reached, including addresses (personal or professional) and phone numbers. Don’t provide your employer’s number if he isn’t aware you’re looking for another position.

• Always provide a correct and current e-mail address. If I send an e-mail response and it’s returned stating “failed mail delivery,” the opportunity is missed.

• Realize the search committee may check every piece of information in your resume thoroughly for accuracy and integrity. Don’t state you were employed some place or worked a championship event if you didn’t.

• Do your homework about the club to which you’re applying. Knowing the history and design background of the club, as well as its championships, turf concerns, past superintendent profiles and philosophies, will set you apart from the competition.

• It’s fine to follow-up with an e-mail or phone call to verify your resume was received. Allow seven to 10 days before following up. Don’t be overbearing.

• If you don’t get an interview or the desired response, send a hand-written, thank-you note on club or personal stationery to the search committee. This indicates a thoroughness and respect for the position, your current club or employer and yourself. This simple gesture may keep you top-of-mind with those conducting future searches. GCI
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(testing. Each test, which includes a complete report from EnviroLogic Resources, costs as much as $5,000 and detects orthophosphates, nitrates and pesticides. Phipps determined what Thun’s tests detect based on the chemical products he uses to maintain the turfgrass.)

Overall, Phipps is following environmental stewardship guidelines published by the Oregon GC SA and his own integrated pest management program. When applying pesticides, Phipps considers using new products and whether he wants to introduce a new chemical class into his IPM program. If he did that, he would have to have the water tested for the new class of chemical, which would translate into additional costs.

“My IPM makes me think about what chemicals I use,” he says. “It’s a back-door way not to use additional pesticides because I might have to pay for the extra test.”

In the past, the water tests detected a minute amount of the insecticide Sevin (carbaryl). Phipps applied three pounds of granular carbaryl to an approach (1.7oz. Al/1,000 sq. ft.) one time but stopped using it four years ago because of its tendency to move into the soil. He says sandy soil might have been one reason why the product moved so quickly through the soil and was detected in the adjacent pond. It also could have come from nearby treated residential lawns, which run onto the property. Regardless, there was no direct runoff from the golf course.

Since the testing started, Phipps has ceased using three pesticides: Sevin, Rubigan (but for reasons other than pollution) and Confront, which contains clopyralid, which also had a small detection in the tests. He tries to steer clear of insecticides, but Stone Creek has a crane fly nuisance, so he’ll spot treat only the areas that have a history of infestation.

The county wants Phipps to reduce the amount spent on water testing because of the economy. Phipps and the county feel comfortable reducing the testing frequency to once a year because the tests have occurred twice a year for eight years and there haven’t been any detections, which are measured in parts per million, in the past two years.

Generally, golf courses are better than many other industries when it comes to pesticide use, Phipps says. He cites Christmas tree growers who spray insecticides on trees with bare soil below them. There’s nothing to filter the pesticide, unlike turf on golf courses.

“But nurserymen don’t get fingers pointed at them like golf courses do,” he says.

Phipps acknowledges many superintendents don’t have the budget to implement these water tests. He estimates there are 24 golf courses in Oregon that test water like he does. There are even more testing just for nitrates and orthophosphates. Phipps says this approach is cheaper and probably costs in the hundreds of dollars, not thousands.

“It’s a tough nut to crack,” he says. GCI
knows about. Peter Salinetti of Schenectady, N.Y., is a retired CGCS/CCM. However, the GCSAA only tracks members’ other designations if they volunteer that information, so there may be more. If you or someone you know is both a CGCS/CCM, we’d like to know. Contact Marisa Palmieri at mpalmieri@gie.net.

Bunker liner cost
It’s important to note the quoted cost of installing hard or soil-binder types of liners ($2.50 to $3.00) was inaccurately high in Jeff Bauer’s column (“Bunker liner low-down,” November issue, page 14). Speaking for Klingstone, the material cost about $1.25 per square foot. We don’t doubt some builders have quoted a labor factor as high as an additional $1.25 to $1.75 per square foot, often because of unfamiliarity with the product and/or its application.

Our product is sprayed into the bunker cavity through a rubber hose and isn’t more difficult or involved than “watering” the bunker cavity. There are no fabrics to cut, seams to match or staples to install.

While materials for fabric liners are less expensive to purchase, they’re more labor intensive and time consuming to install and repair. The installed costs of the different systems should be significantly closer than the article suggests.

Bob McCormick
General manager
Klingstone
Charlotte, N.C.
**PLAN C FOR THE GCSAA**

One of the highlights of the Golf Industry Show is the celebrity factor. Last year, many attendees were wowed by the appearance of Greg Norman to accept the prestigious and much coveted Old Tom Morris Award. (Many were far more impressed by having the amazing Chris Evert accompany the Shark. My only disappointment was she didn't wear one of those short tennis outfits from her halcyon days in the '70s, but I digress.)

Yet, here in 2009, just when a bruised and battered golf business needs something special to get the industry jazzed about a show in a beaten and broken city, the celebrity “accepting” the major award is neither alive nor famous.

As you've likely heard by now, the most important honor in the profession will be presented this year to Col. John Morley -- a guy most of you probably have never heard of -- who's been moldering in his grave for 60 years.

It's not that the Little Colonel, as he was nicknamed, doesn't deserve some props. He was an overachieving Ohio greenkeeper and club manager who pulled together a bunch of his buddies from throughout the region to form the first primitive unified association for golf course grass growers. He poked and prodded peers from top private clubs to come to Sylvania (Ohio) Country Club in 1926 to sign off on a charter for a national organization. He was the first president of the association and one of its key leaders for two decades. The grateful members back then gave him two distinguished service awards for his contributions before he floated up to the great maintenance facility in the sky in 1946.

I know this because, for a few years while I was on the GCSAA staff, I was involved vaguely in handing out a spurious piece of artwork called the Col. John Morley Award. This thing -- an often mediocre painting depicting the outgoing GCSAA past president's favorite hole at "his" golf course -- was presented to his employer (usually a half-drunk green chairman) in gratitude for allowing said past president to put in about 12 billion hours away from the facility over the span of seven or eight years on the national board. The idea was that the deeply appreciative club would display it proudly in its lobby or, more likely, stick it behind a pile of boxes in the assistant chef's office) in honor of their superintendent's national leadership role.

The only problem was that, during the past few decades, GCSAA presidents developed a nasty habit of changing jobs -- maybe several times -- during their tenure on the board. Obviously, this was a considerable downside of serving on the board, and it's been unpleasant for the individuals involved. However inconsequential it might seem in terms of the forced unemployment of several well-known leaders, this trend had one other ironic side effect when it came to the Col. John Morley Award. The uncomfortable question became: Which of the much-traveled past president's former employers should be featured in the painting? Should it be the course he was at for the first three years on the board? Or the one he was at for the next two years? Or the facility he desperately latched onto a couple of weeks before the national conference after he’d decided to “pursue other opportunities” for the third time?

My theory was the award should become the Col. John Morley Memorial Collage of all the past president's previous employers. You could give the poor sap a composite painting of the two or five or seven different courses he'd worked at while he'd move through the chairs, and he could deliver copies to all of his former bosses. Somehow, this notion didn't go over well with the elected leadership.

Anyway, back to the topic at hand -- the most coveted and incredibly prestigious Old Tom Morris Award, which was created in the early '80s to do two things:

1. Lend an air of credibility and celebrity to the event and the profession at large; and
2. Put butts in seats at the incredibly long and often excruciatingly boring annual “gala” that used to cap off conference week way back when.

Thankfully, they don't have the gala anymore, but many are still motivated to sit through the endless opening session to see a famous person accept the award. But, the original rationale still holds true. If a former U.S. president (Gerald Ford), a legendary entertainer (Bob Hope) or the most famous golfer in the universe (Arnold Palmer) was going to show up, the media would cover it, and attendees would skip a trip to the bar for a chance to say they'd been one of a couple thousand or so people who were there when the renowned so-and-so accepted the Old Tom Morris Award.

The problem is that many golf celebrity types usually have better things to do than show up to collect another award and allow their "brand" to be used for free ...

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