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it properly.



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2013 STATE OF THE INDUSTRY

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Cautious optimism prevails throughout the industry, but is it justified?

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THE VOCATION

In the crazy week after the holiday in which we all suddenly realized that the #@#%! GIS was coming in 30 days and we had a crapload of work to do to get this issue done, plan for the show and launch a new native app version of the magazine, it occurred to me that I hadn't followed the progress of our State of the Industry study as closely as I should have. So, I asked Mike Zawacki for a synopsis.

(Publisher's Note: I am not the editor of this magazine. I'm the editorial director, which means I get to steer the ship a little from time to time and play golf for free in nice events. Mike is the real editor. He does all the work and I get way too much credit. If you like GCI, thank Mike.)

Anyway, Mike is giving me the rundown of the results and he casually mentions something that just stops me dead in my tracks:

Despite the fact that 35 percent of you haven't had a raise in three or more years, nearly 80 percent of you would still become a golf course superintendent if you could magically take a career do-over.

Y'all are some glut-tions for punishment, aren't you?

I guess it proves my long-held belief that this profession is more of a lifestyle than a career. You're either all-in or you're gone. And nobody's in this to get rich (but an occasional raise

might be appropriate, for godsakes). It's like the priesthood...it's a vocation in the truest sense of the word.

There's far more intriguing data in this year's edition of the State of the Industry. Cautious optimism prevails, but I think it's largely a sense among you Mad Monks out there that you can manage under nearly any awful circumstances. The attitude reminds me of that Toby Keith song: "Is that all you got?"

I increasingly realize I suck at predictions, but I will predict that – by and large – those of you who are passionately committed to this business and who have your wits about you

when it comes to your situation will continue to survive and even thrive. Golf is played on grass and golf will prevail.

Speaking of passionately committed to our business, it took about 1.3 nanoseconds for our friends from Syngenta to step forward to sponsor this year's State of the Industry study. Not only did they see this as an important source of objective information for their customers, they jumped at the chance to join us in supporting the Wee One Foundation. They offered to match our \$5 contribution for every completed survey. As a result, we'll be doubling our contribution to our favorite charity this year.

And, thanks to the support from Syngenta and the dozens of other wonderful industry leaders who support GCI through their marketing budgets, you're about to get something very cool for free: our new, native app for iPhones and iPads. (Droid users can access our almost-as-cool new flipbook app. Blackberry users are screwed as always.) As I mentioned last month, this app thing sings, dances, mixes

cocktails and brushes your teeth. Well...almost. What it does do is bring the magazine to life in ways this ink-stained old wretch could have never imagined when I was banging away on my Olivetti typewriter in journalism school. It's great

to be a dumb old dog surrounding by smart young pups!

At this point, I would normally say "see you at the big show" or something related to the national, but the vast majority of you won't be there (see my "Parting Shots" column). So, instead, I'll remind you that we'll be doing daily show newsletters to keep attendees and non-attendees up to date on the GIS in San Diego.

If you're not going, open up those emails, read them and you'll be able to smell the salt air and feel the warm California sea breezes. It'll be just like being there without the long flight, the massive hotel bill or the daily hangover. GCI



Pat Jones

Editorial director and publisher

I guess it proves my long-held belief that this profession is more of a lifestyle than a career... It's like the priesthood... it's a vocation in the truest sense of the word.

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[REPORTER'S NOTEBOOK]

Asian Golf Show 2012



Bruce Williams, GCI's globetrotting editor, racked up the frequent flier miles for his trip to the Asia Golf Show in Shenzhen, China, which took place in late December. Here's Bruce's take on:

THE STATE OF THE LOCAL ECONOMY.

"China's GDP has been hovering at about the 7.7 percent rate for the last few years and is thought to reach 8.2 percent in 2013. That is pretty impressive compared to the USA these days. If you look at the cities I visited, there are hundreds of construction cranes in place and operating to construct high-rise housing units. Also, at several of the golf courses I visited there was a lot of home building going on around golf courses that had recently opened."



THE SHOW. "The shows in Asia are not just your typical GIS in a smaller format. The shows include both the turf side of the business as well as the development side including contractors, architects and some developers. This side of the show floor is separated by a wall from the other side which contained consumer goods predominantly. So you could do one stop shopping for not only your golf turf needs but also for golf balls, shoes, clubs, tourism, etc. With this type of a setup it is hard to gauge the total level of attendance as some people were there purely for the golf turf and others were there purely for the consumer side of the show."

THE OVERALL VIBE. "In speaking to a variety of exhibitors on the golf/turf side, the overall response was that they were pleased with the traffic that they saw at their booths. It was not about volume but quality of the people at the show. Alan Prickett, who leads the initiatives for Jacobsen in Asia, indicated that Shenzhen had been the best venue in China for trade shows thus far. He said: 'Our level of qualified buyers was excellent and we had a good volume of traffic showing interest in our product line for the entire show. The amount of interest in our product line was pleasing and our team felt that the interest was genuine.'"



Check out this month's digital addition for more images from AGS 2012.

The Asia Golf Show in Shenzhen, China, had more than just golf products – attendees could shop for turf and tourism supplies at the same time.

From THE FEED

Were you a part of the GCI Tweetup and Social Media awards at last year's Golf Course Industry show? We're making social media really social again this year – but inside, this time. Aquatrols has partnered up with our team to bring the event to the show floor and give Pat Jones another reason to wield his megaphone. Meet up at the Aquatrols booth (#2231) on Wednesday, Feb. 6, at 3:30 p.m. to join the conversation. We'll announce this year's recipients of the Social Media awards and talk about even more turf than we already do online, plus enjoy some cold beverages and music. Use the #GCITweetUp13 tag on Twitter to let us know you're joining in!

Join the conversation
on Twitter @GCIMagazine!



Michigan Turfgrass grows

The Michigan State University turf diagnostics lab will expand soon, thanks to a \$100,000 donation made by Michigan turfgrass alum, superintendent and former assistant national director for the USGA, Carl Schwartzkopf, along with the Michigan Turfgrass Foundation.

The new lab will make it easier to make more precise studies of turf with some brand new equipment at the Hancock Turfgrass Research Scenario, and will add a molecular biologist to the facility.

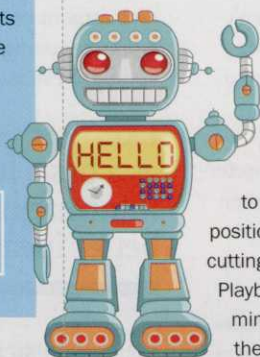
"It's just amazing to me that we're able to be at a facility that Carl had a part in building back in the 60s," says Gordie LaFontaine, executive director of the Michigan Turfgrass Foundation.

Schwartzkopf made the official donation December 7, when MTF and GCSAA members and faculty were there for a ribbon cutting and dedication of the new lab.

Watch Schwartzkopf donate \$100,000 to Michigan State University's turf diagnostics lab at bit.ly/GCI100k.

ROBOMOWER IS COMING

IF THERE'S an empty mower cutting its way through the fairway, don't assume it's a runaway. It could be a mower equipped with the Probotiq control system, turning an ordinary mower into a self-driving mowing machine.



The control system is just a few parts, including an armrest terminal, a GPS antenna for the rollbar and front and back safety sensors to make sure nothing can stop the mower – well, except anything it's not supposed to mow over. When a crew member rides a mower with Probotiq installed, he can use the Teach mode to train it to store information about the mower's position, driving speed, steering angle and lifting the cutting units. When the run is complete, using the Playback mode later will let the robo-enhanced mower mimic the mowing session from earlier after driving the mower to the starting position.

If the crew's still afraid the mower will go rogue, there's a wireless remote control, plus internal system and engine monitoring and obstacle detection sensors. If something does trip the sensors or it detects something unsafe, the mower will come to a stop and send a text to your cell phone.

We're still waiting for the build that comes equipped with lasers, ourselves.





Henry DeLozier, a principal in the Global Golf Advisors consultancy. DeLozier joined Global Golf Advisors in 2008 after nine years as the vice president of golf of Pulte Homes. He is a past president of the National Golf Course Owners Association's board of directors and serves on the PGA of America's Employers Advisory Council.

NEW YEAR RESOLUTIONS

There's nothing like a new year to regroup mentally, take a fresh look at how you've been doing things and consider new approaches. As 2013 gets underway, here are three suggestions.

HIT THE RESTART BUTTON. Many clubs have become stale and set in their ways. They use words like "tradition" and "time-honored" as code for "We're satisfied with being 20 years behind the curve." They haven't introduced a new program or major initiative since the Carter administration. Consider the following to invigorate your club and get ahead of competitors.

- **Use market data and information.** Identify social trends and patterns that are changing the preferences and priorities of prospective members. Women significantly influence membership choices; understand what they want. Don't rely on outdated assumptions.

- **Find ways to differentiate.** In a sea of sameness, the clubs, courses and facilities that stand out in favorable ways will be the most attractive and successful.

- **Return to zero-based budgeting.** Don't rely on prior-year statistics as a basis for budgeting. Do the required homework to collect past history and develop well-founded assumptions. The right information will liberate new and better ideas.

KNOW YOUR CUSTOMERS. Many facilities and club leaders have discovered during tough times that they don't know their customers and prospects as well as they should.

Market analysis at most clubs – if it is available at all – is anecdotal and incomplete. The paucity of thorough and deliberate market research is at the heart of the new membership struggle. How can you remedy that deficiency?

- **Mine membership and marketing committees for information.** Lead generation is obviously important, but clubs must abandon the historic practice of asking, "Who knows someone who might join the club?" New market conditions require thoughtful research and deliberate recruitment planning.

- **Collect and thoroughly analyze local market data and competitive information.** Most clubs lack useful market analysis to drive tactical decision-making. Study the clubs with which you compete; understand where and how they are better or more attractive than your own club. Understand your strengths and use them as a competitive advantage. Be honest about

weaknesses and develop a plan to minimize them.

- **Use market information to plan communications.** Focus on differentiating elements of the club. Collect, analyze and then act – deliberately, not blindly – on the best available market information.

- **Maintain a current database of member referrals.** The best source of new members is a club's current membership. Engage members in a continuous recruitment program and process. "Best Friend" programs encourage current members to recruit friends and business associates.

Don't rely on prior-year statistics as a basis for budgeting... The right information will liberate new and better ideas.

PLAN STRATEGICALLY. With no destination, one road is as good as the next. There is emerging proof that clubs actively using the corporate discipline of strategic planning are separating from the pack of competitors.

Most markets are significantly oversupplied, meaning there will be winners and losers in each. Deliberate planning is a competitive game-changer for the clubs that are best prepared.

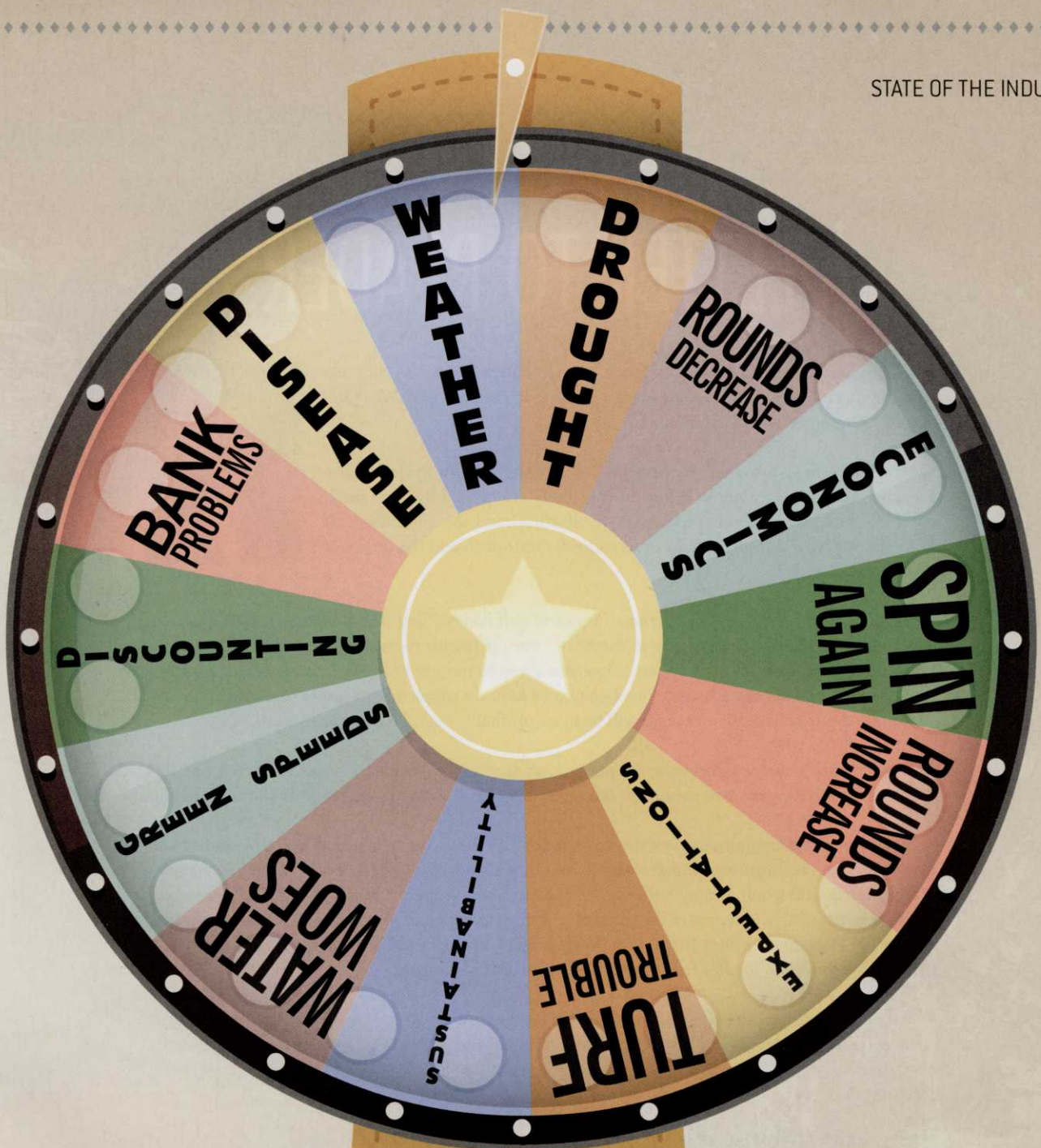
The most critical components of the strategic plan for a golf course facility are:

- **Strategic Vision.** How does the club view itself and how does it want to be viewed by members and its community? There should be broad – if not unanimous – agreement on this aspirational vision.

- **Goals and Objectives.** What does the club want to accomplish and what is the deadline for each goal and objective? The goals and objectives should be simply stated and easy to understand. This is the club's covenant with its members and stakeholders.

The strategic plan at your golf course facility must be supported by a comprehensive business plan. The business plan is tactical in nature and describes the actions that will help the facility achieve its goals and objectives and, in doing so, fulfill its long-term strategic vision.

Here's hoping that 2013 is a great year for everyone in the golf business. Now's the perfect time to refresh your strategic thinking, gain a better understanding of your customers and put the plans in place to increase our odds. **GCI**



Feeling Lucky?

Cautious optimism prevails throughout the industry,
but is it justified?

A LETTER TO READERS

AT SYNGENTA, we continually recognize, support and celebrate the vital role superintendents play in the ongoing improvement to the game of golf. We thank you for creating and maintaining these courses.



Schwenke

We are proud to sponsor the State of the Industry supplement in *Golf Course Industry*. The research you will find in this study completed by your peers parallels the upward trends reported by Golf 20/20 and the National Golf Foundation (NGF). It gives many of us cause for optimism and the future of this great industry.

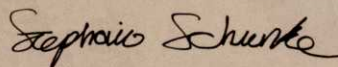
According to Golf 20/20¹, the economic impact of golf has reached \$68.8 billion in 2011 (up from \$62 Billion in 2000) and according to the NGF², even if rounds remained flat in the 4th quarter of 2012, the golf industry saw the largest single year jump in rounds since 2000, with a gain of over 30 million rounds. This explains why this *Golf Course Industry* supplement reports that roughly half of superintendents believe their courses will be more profitable over the next three years.

As the industry remains optimistic, we understand that superintendents have been stretched thin over the last three years. You have been extremely creative and resourceful to grow the game of golf.

At Syngenta, we are committed to working together, side-by-side with superintendents, GMs and owners to create a positive future for the game of golf. We are not only steadfast in developing game-changing products such as Daconil Action™, Briskway™, Secure™ and Appear™ fungicides, but the core of our business is to be active investors in the education of superintendents. That is why we created programs such as the Syngenta Business Institute at Wake Forest University and provide funding to ensure that the GCSAA continues to offer free educational webinars to members.

As we all look toward the future, Syngenta will continue to provide this industry with innovative products and technology, while engaging in the daily needs and professional growth of superintendents.

Sincerely,



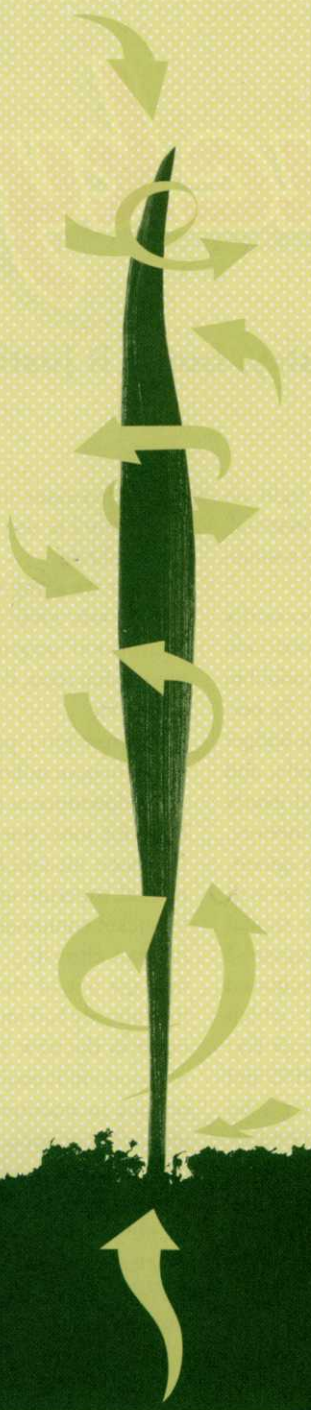
Stephanie Schwenke
Golf Market Manager
Syngenta



¹ The 2011 Golf Economy Report, Golf 20/20, October 2012.

² 2012 Rounds up Significantly. Who's benefiting, NGF, November 2012

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Feeling Lucky?

Cautious optimism prevails throughout the industry, but is it justified?

The Editors

What a difference a year makes. A slowly recovering economy coupled with a nearly non-existent winter and early spring was just enough to increase rounds played and put a silver lining on industry outlooks. GCI's 2013 State of the Industry research seems to indicate that superintendents are "cautiously optimistic" about not only the industry, but their own futures, as well.

Sure, the phrase "cautiously optimistic" has become almost cliché since we've begun the slow crawl out of the recent Great Recession. For the golf industry, though, this "caution" is emphasized through lean practices, tighter operations and more astute resource management.

No one expects a return to the industry's golden era of free spending and growth, but the funding that was cut isn't rushing back into budgets, either. This year as compared to last, budgets are basically flat. However, compared to last year's State of the Industry findings, more than two thirds (68 percent) of golf course facilities were in the black. The biggest rebound was seen at non-private courses, with 42 percent making money and 23 percent breaking even.

What superintendents anticipate, though, is that more focus will be placed

on playing conditions, tight resource management (financial, material, personnel) and sustainability.

While they aren't necessarily being asked to do more with less, they are certainly being asked to do the same with less – 72 percent have experienced a budget cut in the past three years, and those cuts have touched nearly every budget area. However, spending will not be stagnant. Overall, private facilities will be investing the most in capital projects this year (an average of \$60,000) with an anticipated boost in 2014 (\$72,000), which runs contrary to overall flat spending (\$50,000) for 2013 and 2014 for the industry as a whole.

Greater profitability is expected in the years to come, though. Around half of superintendents believe their courses will be more profitable in three years and 42 percent expect things to be the same, according to the data. Likewise, non-private courses were the most optimistic about profitability or at least breaking even. More than half projected prolonged economic viability, and only 4 percent anticipated continued financial losses, whereas 44 percent of private clubs anticipated the status quo and 9 percent projected continued losses.

There has to be some assumption in the anticipation of greater profitability that there will be an increase in play or membership and/or fees or dues. Unless

these increases are dramatic, cost control is also going to play a critical role.

Costs are going to be difficult to maintain given the need for equipment upgrade/replacement, labor costs, fluctuating fuel prices, etc.

Equipment, particularly, seems to have suffered as a result of the downturn as it is a primary focus for most this year. As the recession hit and budgets contracted, superintendents delayed big-ticket equipment purchases, instead choosing to get more mileage out of the equipment they already had on hand. Heading into the new year, though, replacement is essential to avoid setback in maintenance schedules and standards. At the top of their 2013 equipment wish lists, superintendents indicate they'll be purchasing utility vehicles (35 percent), greensmowers (31 percent) and rotary mowers (24 percent).

Amidst the turmoil, though, superintendents remain committed. For example, 79 percent would still become superintendents despite the fact that 35 percent have not received a raise in the last three years or longer.

Given the realities of everything outlined above, superintendents and their staffs are going to have to operate at unprecedented levels of efficiency and productivity. Likewise, the penetration of smart devices suggests they are pursuing avenues to be more effective resource managers.



Budgets: BY THE NUMBERS

Excluding water costs, what is your non-capital operations budget, including labor and overhead?

Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
\$622,500	\$797,000	\$483,500	\$300,000	\$850,000

Capital operations budget breakdown

Line Item	Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
Water	\$32,413	\$29,373	\$35,019	\$11,143	\$43,501
Fuel	\$28,000	\$35,000	\$23,500	\$17,000	\$35,000
Mowing/cultivating equipment	\$25,000	\$29,000	\$20,000	\$12,000	\$34,500
Handheld equipment	\$2,000	\$2,800	\$1,200	\$1,000	\$2,500
Course accessories	\$4,000	\$5,000	\$3,000	\$2,500	\$5,000
Electricity & natural gas	\$16,000	\$18,500	\$15,000	\$12,000	\$21,000
Shop tools	\$1,500	\$2,000	\$1,000	\$1,000	\$2,000
Irrigation parts, heads and maintenance	\$7,500	\$10,000	\$5,500	\$4,350	\$10,000
Fungicides	\$25,000	\$35,000	\$15,000	\$14,000	\$30,000
Herbicides pre-emergent	\$5,000	\$6,500	\$3,000	\$2,000	\$7,100
Herbicides post-emergent	\$2,500	\$3,000	\$2,200	\$1,500	\$3,648
Insecticides	\$3,000	\$4,500	\$2,500	\$2,000	\$4,500
Granular fertilizers	\$15,350	\$20,000	\$14,000	\$10,000	\$22,163
Liquid fertilizers/bioestimulants/foliars	\$6,250	\$8,000	\$5,000	\$3,500	\$10,000
Wetting agents	\$4,000	\$4,000	\$3,000	\$2,000	\$5,000
Plant Growth Regulators (PGRs)	\$3,500	\$4,000	\$2,500	\$1,500	\$4,500
Seed	\$2,500	\$2,700	\$2,500	\$1,500	\$3,061
Aquatic weed control/water quality issues	\$500	\$1,000	\$500	\$1,001	\$1,000

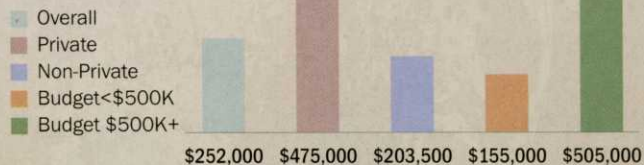
Compared to last year, how is your budget this year?

Line Item	Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
Down more than 20%	2%	1%	2%	3%	1%
Down 11% to 20%	7%	7%	6%	9%	5%
Down 1% to 10%	25%	21%	27%	26%	24%
Flat/Unchanged	37%	31%	41%	39%	35%
Up 1% to 10%	27%	36%	20%	20%	32%
Up 11% to 20%	2%	4%	1%	2%	3%
Up more than 20%	1%	0%	1%	1%	0%

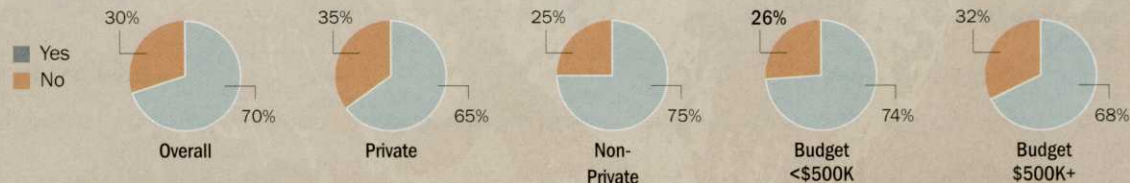
BUDGET REDUCTIONS

Nearly three quarters (70 percent) of all courses experienced budget setback at some point over the last three years. That hit was felt most often at non-private facilities with operating budgets of less than \$500,000. As a result, superintendents were forced to make cuts. Overall, seasonal laborers were the first slashed from budgets, followed by reductions in equipment spending. However, for the majority of courses, conditioning standards were a hands-off item when it came to budget cuts.

2012 Overhead Spending



Have you reduced your budget at any time during the past three years?



FINANCIAL CHALLENGES

Equipment replacement leaped ahead to become one of the top financial challenges superintendents anticipate in 2013. It followed close behind labor costs (34 percent) and far superseded fuel costs (12 percent). According to the 2012 GCI State of the Industry research, energy was the top budget concern (30 percent), followed by rising fuel costs (28 percent) and labor costs (25 percent). Equipment replacement (5 percent) was among the three least-pressing financial challenges, followed by chemical spending (3 percent) and regulatory compliance (1 percent). Energy ranked near the bottom of current financial worries for superintendents. Financing equipment replacement was most worrisome among superintendents at courses with less than a \$500,000 operational budget (40 percent).

What have been the cost-cutting measures?

Line Item	Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
Reduced equipment spending	68%	63%	71%	68%	68%
Seasonal labor reduction	78%	75%	80%	86%	73%
Reduced chemical spending	57%	58%	56%	59%	56%
Deferred capital spending	61%	55%	65%	63%	59%
Reduced fertilizer spending	64%	61%	66%	60%	67%
Full-time labor reduction	65%	64%	65%	57%	70%
Rolling back conditioning standards	32%	24%	37%	39%	27%
Other	6%	8%	5%	5%	7%

What is your greatest 2013 budget challenge?

Line Item	Overall	Private	Non-Private	Budget < \$500K	Budget \$500K+
Rising fuel costs	12%	12%	12%	11%	13%
Labor costs	34%	34%	34%	27%	38%
Chemical spending	7%	7%	7%	6%	7%
Equipment replacement	31%	32%	30%	40%	26%
Regulatory compliance	2%	2%	3%	2%	3%
Energy/electricity costs	4%	2%	5%	4%	3%
Other	10%	11%	9%	10%	10%

Capital spending

Equipment purchasing continues to be an emphasis of capital spending, according to State of the Industry data, and is in line with 2012 data. However, less focus seems to be on major irrigation upgrades (only between 1 percent and 2 percent of spending focus), whereas last year those figures were between 5 percent and 8 percent.

Overall, private facilities will be investing the most in capital projects this year (an average of \$60,000) with an anticipated boost in 2014 (\$72,000), which runs contrary to overall flat spending (\$50,000) for 2013 and 2014 for the industry as a whole.

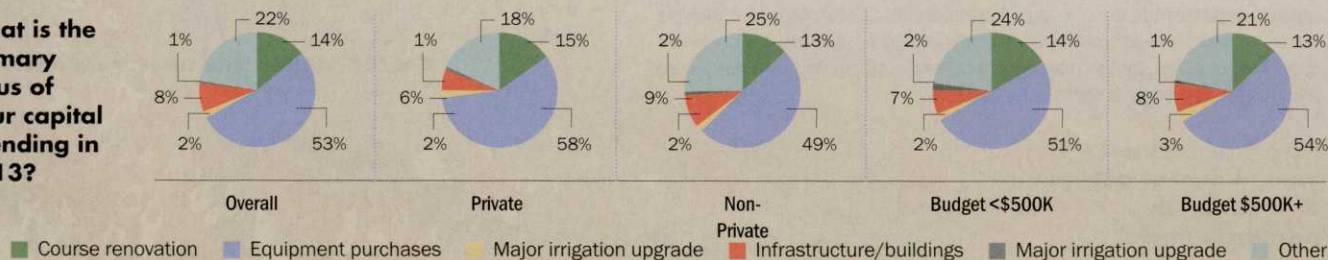
Planned 2013 capital projects/purchasing budget

Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
\$50,000	\$60,000	\$32,500	\$15,000	\$62,000

Projected 2014 capital projects/purchasing budget

Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
\$50,000	\$72,000	\$30,000	\$20,000	\$75,000

What is the primary focus of your capital spending in 2013?



Source: GCI Research



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Career

Despite all of the pressures and sacrifices that come with the job, superintendents say they wouldn't have it any other way. In fact, more than three quarters (78 percent) – knowing what they know now – would still choose to become a golf course superintendent. That's quite a testament to the turf-head profession, especially since around 35 percent of superintendents indicate it's been three years or longer since the last pay raise.

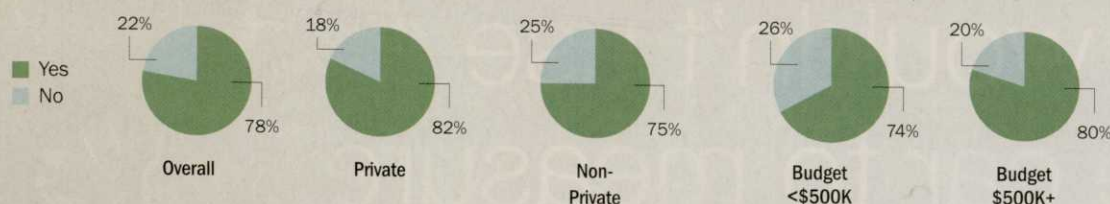
Total annual compensation, including salary, benefits and perks

Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
\$85,000	\$98,000	\$75,000	\$61,000	\$100,000

When was the last time you received a raise?

Line Item	Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
Less than a year ago	28%	31%	25%	20%	32%
1 year ago	25%	25%	25%	20%	27%
2 years ago	12%	10%	14%	14%	11%
3 years ago	10%	8%	11%	12%	9%
4 years ago	8%	12%	5%	6%	9%
5 years ago	7%	7%	7%	11%	6%
More than 5 years ago	10%	7%	13%	17%	6%

Knowing what you know now, would you have still become a golf course superintendent?



Course Health

BREAKING BETTER

More than two-thirds (68 percent) of golf course facilities were in the black last year, with a third (38 percent) indicating they made money in 2012, according to GCI's State of the Industry research. More than half anticipate this trend will continue for the next few years. This is a modest, yet encouraging, shift out of the red from last year's State of the Industry data, when 38 percent of courses reported that they lost money, and only 32 percent were profitable.

The biggest rebound was with non-private courses, with 42 percent making money and 23 percent breaking even. Likewise, non-private courses were the most optimistic about profitability or at least breaking even. More than half projected prolonged economic viability, and only 4 percent anticipated continued financial losses, whereas 44 percent of private clubs anticipated the status quo and 9 percent projected continued losses.

Economic viability in 2012

	Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
Made money	38%	34%	42%	36%	40%
Broke even	30%	40%	23%	27%	32%
Lost money	32%	26%	35%	37%	28%

Economic viability in three years

	Overall	Private	Non-Private	Budget <\$500K	Budget \$500K+
More economically viable	52%	47%	56%	53%	52%
The same	42%	44%	40%	39%	42%
Less economically viable	6%	9%	4%	8%	6%

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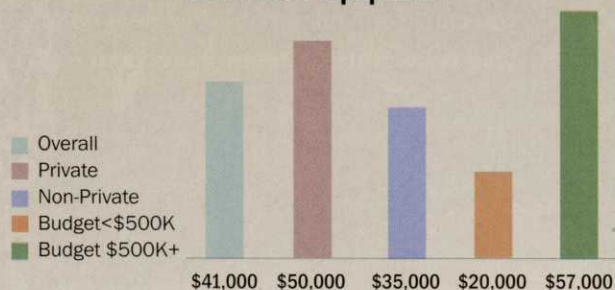
TM

Equipment

Utility vehicles appear to be at the top of superintendents' 2013 equipment purchasing lists, according to State of the Industry data. This trend is highest among superintendents at private clubs (42 percent), the group who also have the largest spending budget – on average around \$50,000. However, a little more than a third (35 percent) of superintendents indicated they had no equipment purchasing plans for 2013, with nearly half (46 percent) of superintendents at facilities with budgets of less than \$500,000 indicating they had no plans for equipment purchases.

Among mowers to be purchased or leased in 2013, greensmowers (31 percent) are at the top of the list, followed by rotary (24 percent) and fairway mowers (19 percent). Finally, only 12 percent of superintendents said their 2012 equipment purchases were made to avoid equipment price hikes due to Tier IV emission-compliant equipment regulations that go into effect this year.

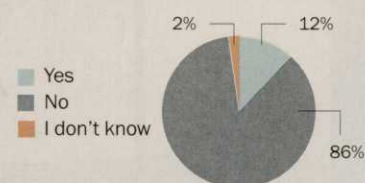
Average annual spend on mowing/cultivation equipment



What new equipment do you plan to purchase/lease in 2013?

Line Item	Overall	Private	Non-Private	Budget < \$500K	Budget \$500K+
Greensmower(s)	31%	36%	27%	26%	34%
Rotary mower(s)	24%	29%	20%	20%	27%
Fairway mower(s)	19%	22%	16%	13%	23%
Utility vehicle(s)	35%	42%	29%	21%	43%
Top Dresser(s)	10%	14%	7%	7%	13%
Vacuum/Blower(s)	10%	10%	11%	5%	14%
Other	27%	37%	19%	17%	33%
None	34%	26%	40%	46%	27%

Did you purchase equipment in 2012 specifically because of Tier IV regulations that go into effect in 2013?

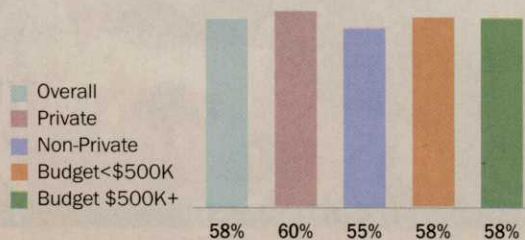


PEOPLE POWER

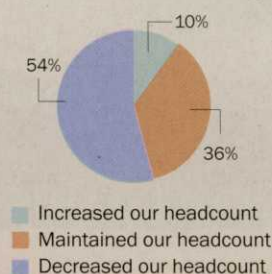
Labor costs eat away at nearly 60 percent of the average superintendent's budget. During the last five years, more than half of superintendents said they decreased their headcounts, with nearly 60 percent non-private club superintendents making personnel cuts. Only a slim margin – big budget (13 percent) and private facilities (15 percent) – reported taking on new crew members.

Labor

What percent of your operational budget is labor costs and non-turf overhead?



How has your headcount changed in the last five years?



What is the hourly rate for the following employees?

Line Item	Overall	Private	Non Private	Budget < \$500K	Budget \$500K+
Assistant superintendent	\$18	\$18	\$17	\$15	\$19
Mechanic	\$18	\$20	\$17	\$15	\$20
Crew member/Laborer	\$11	\$11	\$10	\$10	\$11
Seasonal employee	\$9	\$9	\$9	\$9	\$9

Source: GCI research



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WATER WORLD

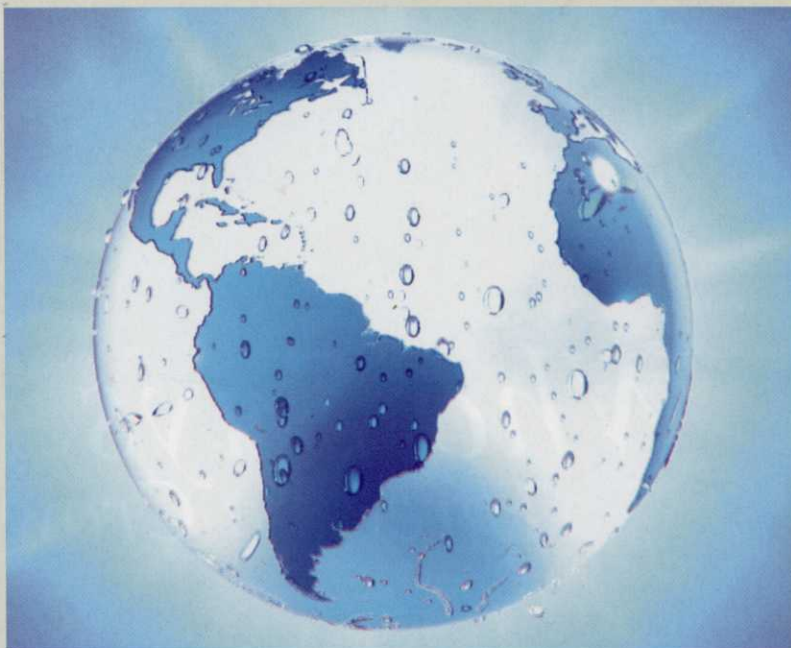
Smart minds have been saying for years that “water is the new oil,” and that water use—already a critical issue to the future of golf—is only going to grow in importance. In an attempt to address the issue, the USGA, with the support of the GCSAA, held a “Water Summit” last fall, billing it as a fact-finding and exploratory meeting and a chance for key stakeholders to meet and exchange ideas.

These organizations are hardly the first to worry about water. Peter McDonough, golf course superintendent at The Keswick Club in Charlottesville, Va., has been at the forefront of water management for years. Working closely with various stakeholders in his state, he led a successful effort to get Virginia to adopt break-through procedures and protocols. Working on behalf of his local superintendents association, McDonough and his committee were able to create best practices manual, communicate with constituents, and gain recognition from the Virginia legislature and influence Chesapeake Bay legislation.

That's a great start. But if the other local associations don't start showing the same sort of initiative, water legislation will be forced on the golf industry whether we like it or not.

Before we do anything else, those of us fighting for our piece of the water pie must realize that golf is only one faction relying on this valuable resource. And not only is golf not the most important game in town, most people are less interested in giving us more water than they are curious to know what golf can do to help preserve and extend the limited amount of water we have.

Who are we competing with? Any profession involved in growing turf is dependent on water (landscapers, other sports, nurseries, etc.).



Before we do anything else, those of us fighting for our **piece of the water pie** must realize that golf is only one faction relying on this valuable resource.

Now consider agriculture, livestock, utilities, vineyards, and other heavy water consumers, to say nothing of real estate, car washes, and all kinds of manufacturing. Everyone needs water.

All the more reason that McDonough is a good example for the rest of us to follow. I recently asked him for some tips in setting up water management strategies and best management practices. His suggestions started with one caution: Water management is not an overnight process but takes years to implement.

- Know and understand how those not in our business perceive golf and its use of water. Communication is vital to educating these parties about the conservation efforts already in place and that overwatering turf is

as harmful as no water at all. People need to know when green is good, and not good.

- The keys to success are marketing and selling these conservation messages in concert with other associations in your region (PGA, state, and regional golf associations).
- Setting up regular meetings with allied associations is critical to arriving at consensus and, eventually, mutually beneficial strategy.
- Use allied associations as conduits to their members, who will be key to building a base of advocates and supporters.
- Your efforts must have a single message that is put forth as part of a unified front in approaching other stakeholders. If you don't work

together, the government will make decisions for you.

- Align with others who have needs for water by identifying and joining agribusiness associations or councils (wine, farm bureau, produce and poultry) in your state and region. A representative of the superintendent's association needs to be present and participatory. Golf must be on the same page as others with similar needs and must be part of the bigger picture. Try going it alone and its likely state government will leave golf out of major decision making and make an example of it.

- Don't criticize other entities' needs for water. Be part of a team and act collectively so everyone gets a fair share of the allocation. Golf has to be a good citizen and consider the overall needs of other industries.

- Do your homework illustrating the value of golf to the local, state, and regional economies through tourism,

revenues, and real estate.

Farms and other agricultural entities are governed by stringent state and federal regulations. Golf usually doesn't answer to the same sort of strict guidelines. However, it's in golf's best interest to report water, pesticide, fertilizer, and chemical use to the proper authorities. Learn what these agencies want to know from you and work, carefully, to help them make educated and fair decisions.

But don't get involved with regulatory agencies unless you are armed with the most accurate information. States can and will estimate numbers if your facts aren't correct, and they'll make decisions not in your favor.

Success begins locally and moves up the line, eventually reaching the state and even the federal level. If you don't know how politics works in your area, hire someone who does know. In Virginia, McDonough's group works closely with a consultant who knows

the ropes, is a lobbyist and could coordinate efforts with other agencies.

"Before I started down this path I wasn't aware of the different needs of other entities that have a stake in the water game, from car washes to construction," McDonough said. "I also learned the art and protocol of governmental procedure, extent of the involvement of government regulators, who are very different from legislators. Know how legislators make policy, and regulators implement and monitor the results of the decisions."

McDonough stressed that because golf can't exist without water, the industry must make a commitment to the long haul. Be patient and know that progress, especially in politics, takes time. But stick with it. Your decisions and participation can have significant effect on golf now and into the future.

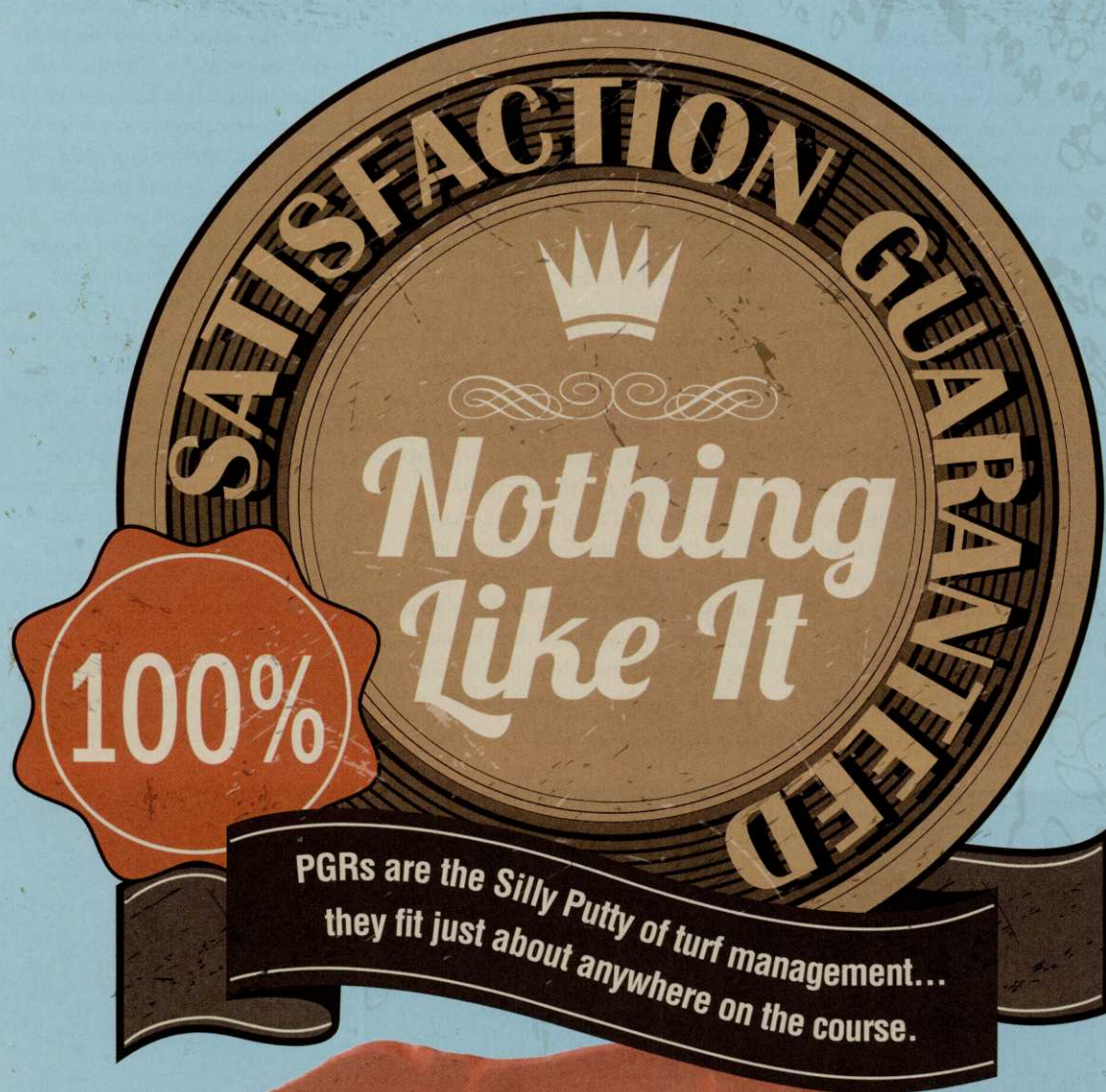
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With so many factors out of their control – weather and amount of play, to name a couple – superintendents are looking at plant growth regulators to take charge of their turf.

According to Laurence Mudge Manager of Bayer's Green Solutions Team, plant growth regulators – or PGRs, as they're commonly referred to – are simply an organic compound, natural or synthetic, which when present or applied in small amounts, alter plant growth and development.

"PGRs are tools that can help golf course superintendents manipulate plant growth to maximize desirable turf characteristics and playing conditions," Mudge says. "Some of the desired changes in turf growth and development would include: growth reduction, increased density, recuperative potential, fewer clippings, decreased mowing, deeper roots, increased

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green speed, fewer seedheads and improved turf color."

Mark Brotherton, SePRO Turf & Ornamental Product Manager, adds finer leaf texture, improved stress tolerance and *Poa annua* suppression, among other things, to reasons why plant growth regulators are popular.

"Consistent PGR applications made throughout the growing season help maintain a physiological balance in the plant, providing more predictable turf-grass growth and performance," Brotherton says.

Sean Remington, superintendent at Green Valley Country Club in Lafayette Hill, Pa., is a PGR proponent. "The biggest benefit overall is the manageability of the grass and improved playability for golfers," he says. "PGRs are one of the biggest im-

pacts on playability of the game of golf and maintenance in the last 20 years.

"In the 80s, if we had a stretch of 3-4 days of rain and couldn't get on the course to mow, we had to raise the height of cut and really work to get it back to where it was. Now, 3-4 days of rain doesn't scare you as much. You don't have as far to come back from," he adds. "It changed the whole game right there."

PGRs are used as part of an integrated disease management program to directly and indirect-

ly suppress turf diseases, Mudge says. For example, PGRs like Primo Maxx and Trimmit have been shown in university trials to control dollar spot.

"Other PGRs positively affect the turf plant, which results in improved plant health and greater tolerance to summer stress diseases like anthracnose," he says. "Annual bluegrass seed-head suppression with Proxy reduces the bumpiness on putting green surfaces, resulting in a truer ball roll, minimizes the presence of unsightly seedheads,

and improves long-term plant health by reducing the energy plants use when producing seed. Primo Maxx can suppress vegetative growth, reducing the need for frequent mowing, along with making plants more compact, increasing plant density, and resulting in better playing surfaces.

"Both of these PGRs have been shown to reduce the impact of anthracnose on annual bluegrass and creeping bentgrass," Mudge adds. "Simply put, suppressing seedheads allows the plants to use more energy on vegetative

"PGRs are one of the biggest impacts on playability of the game of golf and maintenance in the last 20 years."



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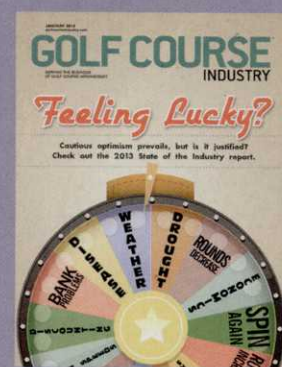
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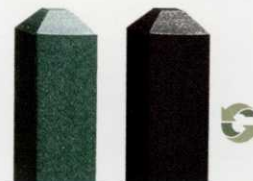
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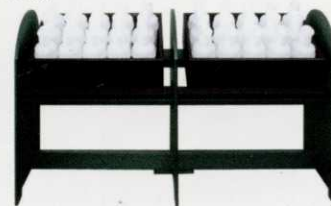
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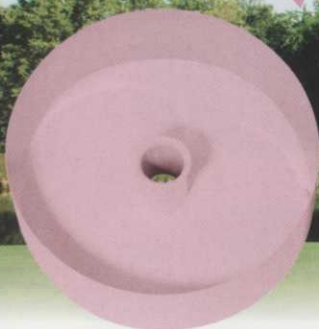
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<input type="checkbox"/> Yellow/Black-150	60150	—
<input type="checkbox"/> Yellow/Black-200	60200	—
<input type="checkbox"/> Yellow/Black-250	60250	—
<input type="checkbox"/> Red	—	60510
<input type="checkbox"/> White	—	60520
<input type="checkbox"/> Yellow	—	60530
<input type="checkbox"/> Orange	—	60540
<input type="checkbox"/> Medium Blue	—	60550
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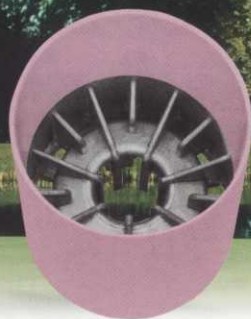
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growth, and vegetative growth reduction provides adequate turf quality without resorting to negative practices like ultra-low mowing heights or sub-optimal nitrogen fertility."

PGRs are applied as part of a superintendent's normal agronomic program, most often as part of a foliar spray program. The equal distribution and uptake by plants is critical in achieving uniform results, thus foliar sprays are generally recommended over granular applications, Mudge says.

The "best time" to apply is a moving target.

"It depends on the PGR used and the desired effect," Mudge says. "Seedhead suppression with Proxy should be performed prior to seedhead formation; for plants like annual bluegrass or creeping

bentgrass, it would be in late winter through spring, as cool-season turf begins to grow very actively. Many superintendents use growing-degree-day models from Michigan State University and Virginia Tech University to assist with proper timing.

"For warm-season turf such as Bermudagrass, seedheads can be suppressed during spring transition from dormancy," he added. "Growth-reducing PGRs can be used throughout the year on actively growing plants, but superintendents should be careful not to over-regulate growth during periods of stress or when growth is reduced by excess heat or cold temperatures."

Cale Bigelow, Ph. D., associate professor, agronomy – turfgrass science at Purdue University, admits nobody really knows what

is best when it comes to utilizing PGRs during periods of stress, and solid arguments can be made on both sides.

"My bias is that less mower injury is probably better for the turf during late-summer stress," he says. "In recovery mode you are lightly feeding soluble nutrients and these, in turn, hopefully are pushing growth."

If turf is still under regulation, Bigelow says superintendents can alternate daily mowing and lightweight rolling for surface smoothness. Because of the potential of rapid regrowth as the PGR wears off, he generally recommends staying the course for a few more applications until summer temperatures moderate, thinking the benefits outweigh the potential risk.

Brotherton noted that applica-

tion frequency is driven by type of playing surface it is applied to.

"Putting green applications are made as often as weekly and spread out to as long as monthly," he says. "The most common frequency is every 1-2 weeks. Tee and fairway applications are made every 2-6 weeks, with 3-4 weeks being the most common. Turf maintained at a high mowing height would require less frequent applications."

As for speed of activity, Brotherton says foliarly absorbed PGRs begin regulating within 1-2 days, while root-absorbed products begin working within 2-4 days. The speed at which a PGR can be absorbed and translocated through the plant depends on several environmental factors as well as how physiologically active it is.

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Griffin Golf Course – Griffin, GA

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-No-Till conversion from Bentgrass to CHAMPION

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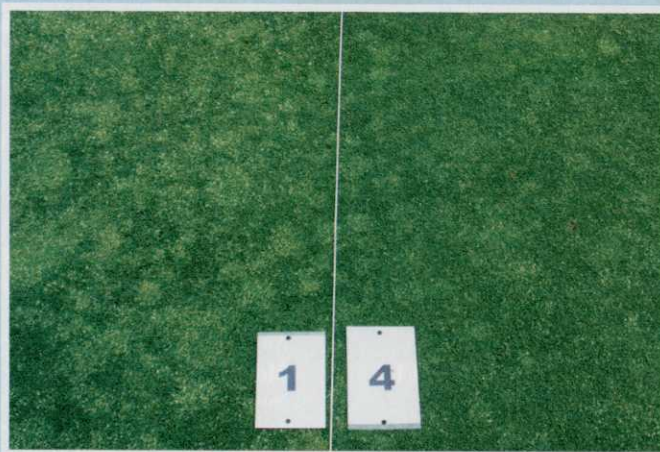
TURF MANAGEMENT

Frequency depends on the PGR used, Mudge says.

"Seedhead suppressors like Proxy and some others are typically applied 1-3 times in the winter-spring transition period during seedhead formation," he says. "Other growth-regulating PGRs can be applied monthly to weekly during the growing season. Typically, the more frequently these are applied, the lower the use rate to provide even, uniform plant growth regulation. Using high rates infrequently can result in more variable results.

We know the benefits, but what are the dangers?

"There is always the risk of over-regulation," Brotherton says. "Over-accelerating growth could cause the plant to literally grow itself to death, while over-retarding growth could lead to



Poa seedhead suppression reduces bumpiness on greens.

turfgrass injury or decline."

Mudge stressed caution.

"PGRs affect plant growth, so superintendents should be careful when using them on weakened or stressed turf. PGRs work best on turf that is healthy

and maintained with strong agronomic and IPM practices," he says. "I like to use the analogy that 'even the best medicine won't help a starving patient.' When used improperly, PGRs can weaken or damage turfgrass.

"In addition, caution should be taken when using PGRs in conjunction with DMI (demethylation inhibitor) fungicides, which are very similar chemically, especially during high temperatures," he adds. "If you tank-mix the two, or even apply a DMI fungicide on PGR-treated turf, you run the risk of over-regulating the turf, which can result in phytotoxicity. To reduce the risk of any issues, avoid applying to stressed turf or during high temperatures."

Jerry Corbett, technical service manager at Quali-Pro, warns that where you start in terms of turf health will have a lot to do with where you finish.

"The dangers would be jumping into a PGR program with a weak turfgrass base to begin with," Corbett says. "Promote the

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turf health with proper nutrients, fertility, water and oxygen first. Even though all superintendents want to save money and reduce mowing, don't over apply. And give the plants some time during the year to develop roots, like early fall or mid spring."

FUTURE. There aren't a lot of new compounds being introduced, Bigelow says. Instead, researchers are "playing around" with ways to use what's on the market. One of his objectives is helping turf tolerate summer stress – heat, humidity and dry conditions.

Brotherton sees a bright future for the use of plant growth regulators.

"As we continue to conduct more research, we are able to better understand how they work amongst the many scenarios and

settings in which they are used," he says. "Our research continues to lead us down a path where we are constantly developing new PGR products and unique applications for them."

Companies continue to conduct research to bring new, novel compounds to the market, Mudge says. In lieu of new products, companies are now selling premix combinations of two or three existing PGRs.

"As for the future, PGRs will continue to be an integral part of golf course management programs," Mudge adds. "PGRs are being used more and more for resource management and turf quality benefits. Golf course superintendents are very innovative [and] will continue to identify new uses for PGRs that allow them to do their job more

efficiently and provide quality playing surfaces."

ADVICE. "Low and slow, that is the tempo," Mudge says about introducing PGRs to a maintenance program. "Don't rush into using a new product because the wrong product, rate or timing can result in setting the turfgrass back during a critical growth period. It is better to use lower label rates and more frequent applications than high-rate applications until you are comfortable with how your turfgrass reacts to a new PGR."

"Since plant growth is affected by the environment and agronomic practices, adding a new PGR into the program may require some additional fine-tuning," he adds. "Review research findings from different universities and regions, and try a

few test areas or some small-scale applications before applying a new product across the entire golf course."

Corbett agrees with the university approach, but also urges additional research on the PGR, as well as the company from which you purchase the PGR.

"Never use a product without looking at the data to see how it performed in university research," he says. "Purchase products from manufacturers that support the industry and not from a company that you haven't seen before or don't know anything about. That way you will have someone to call on for support in the event there is an issue." **GCI**

Rob Thomas is a Cleveland-based freelance writer and a frequent GCI contributor.

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THE STATE OF SUSTAINABILITY AND GOLF

First things first: If you are reading this, the Mayans were wrong. Whew...we made it to the beginning of yet another year.

Now that we know that we have survived to face the upcoming months and years ahead, this is a great time to stop and look at how the world around us is really doing. And while we're at it, let's review what we personally and professionally have contributed.

So as not to totally come across in a negative way, let say there are individuals in the golf industry who have taken to heart their responsibilities to become better stewards of the environment. Their actions have changed the faces of many golf courses, as well as the way golf course maintenance facilities are being designed and managed. Those facilities serve as catalysts for improved water quality and increased wildlife habitat.

During the last few decades, golf organizations such as the USGA have invested millions of dollars toward research efforts, aimed not only at uncovering the facts connected with what golf may or may not be doing to or for the environment, but suggesting management changes, as well. These efforts serve as the foundation for the development of new products that deliver increased environmental and economic efficiency. To all of that I give a hardy "Bravo!"

Now here comes the other shoe. Sustainability is not a destination, a sign, an award, or, for that matter, environmental management by another name. Sustainability is an attitude and a combination of methods collectively aimed at fostering economic viability, environmental health and improved social wellbeing. To put it bluntly, from nearly every aspect, the economy is down, the health of the environment is down, and the social wellbeing of a growing number of human's

on Earth is down and continuing in a downward trend.

Over the past few years I have talked with the management at a number of facilities that I believe represent the leading edge of environmental stewardship efforts connected with golf course management. I asked each if they believed, or better yet,

To put it bluntly, from nearly every aspect, the economy is down, the **health of the environment** is down and the social wellbeing of a growing number of humans on Earth is down and continuing in a downward trend.

if they could prove that biological diversity had gone up, down or stayed the same. Likewise, I wanted to know if they could demonstrate that water quality had improved, or that they reduced their water use rates and so forth. Without exception the answers were all affirmative. Then I asked each if they believed the same could be said for the communities in which their facilities were located. And without exception the answer was "No!"

If the golf course industry is truly going to become engaged with the topic of sustainability, the industry must think beyond golf. Yes, golf must walk the walk at each golf course facility, but the industry – and to an extent individual courses – must carefully consider and take actions that are focused on topics of real importance that are well beyond golf.

For example, consider that 1.1 billion people lack adequate drinking water access; and 2.6 billion people lack basic water sanitation. Add to those the fact that the average American uses 30 times more water than a person who lacks adequate access to water. In other words, we simply take this vital resource for granted.

Think about the fact that every ecosystem on Earth is in decline. Nearly all of the major fish stocks in the world's oceans are over fished and in decline and the oceans' dead zones are growing, not shrinking.

I have been trying to capture the attention of the golf industry concerning these and other topics for more

than 25 years. My hope is that in the next few years the industry wakes up and makes the decision to truly become engaged in sustainability.

There seems to be a growing effort to use the terms "sustainability" and "sustainable golf." However, many of these efforts are, in my opinion, a mile wide and an inch deep.

They are simply the same-old-same-old... but with a new name. That simply will not get the job done. And further more, it will lull most people into a false sense of security that will not only be dangerous for the future of the golf industry, but it will add nothing to the efforts needed to help move society toward a more sustainable future.

It's sort of like rearranging the deck chairs on the Titanic and making certain the ship is at least heading in the right direction as it slowly slips beneath the icy waves.

So to those individuals in our industry who have given it their all over the past 25 years, I offer you a sincere "Thank you."

But to the vast majority of those in the golf industry who have done nothing, I say, "Wake the Hell up." **GCI**

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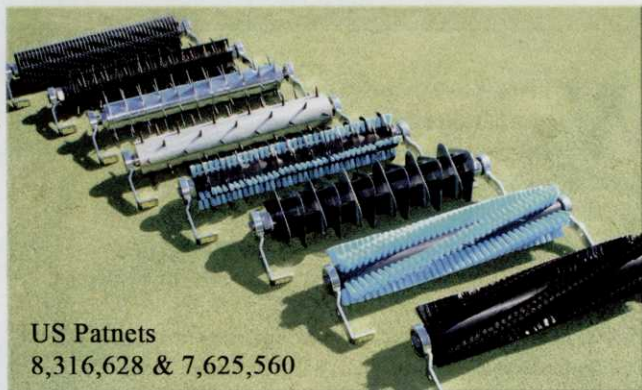
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By Trent Bouts

When Kevin Robinson's mother saw the Olympic Club on television during this year's U.S. Open, she was taken aback. Mottled fairways and greens bound by straggly rough had her shaking her head. Later, on the phone to her son, who will prepare Pinehurst No. 2 for the 2014 Open, she said of Olympic, "It's not such a pretty course." Robinson sucked in air: "Oh, mom. Wait until you see us."

Thanks to an overhaul, labeled a restoration as distinct from a renovation, Pinehurst No. 2 will bear little resemblance to the sea of green that spellbound the golf world for the Opens of 1999 and 2005. Depending on your tastes – and the weather leading up to the early summer date – the golf course will either look like heaven, or like hell. There will be no room for ambivalence. As Pinehurst Resort chief executive officer and owner Bob Dedman Jr.

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ALUMNI UPDATE

“Before going to Syngenta’s SBI conference, I had heard from a few of my close friends who had previously attended the conference about how great an experience it was for them. I left the SBI this past December truly changed as a superintendent. It wasn’t about learning how to grow grass in the harshest climates or what new products are out on the market today. It was about learning how to effectively lead and manage a group of individuals toward a desired goal and how to be a better leader for your operation.”



Randy Samoff
Superintendent
Redstone Golf Club
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PROFILE



The most striking change No. 2 is the absence of rough in the conventional sense. That turf is gone. Thirty five acres of it.

has said: “...it will probably be the smartest thing we’ve ever done, or the dumbest thing we’ve ever done.”

To date, expert consensus leans strongly toward the former. No. 2 is every bit the memorable experience the restoration sought to provide.

The most striking change is the absence of rough in the conventional sense. That turf is gone. Thirty-five acres of it, replaced largely by wire-grass and a lottery of low-growing natives across sandy waste areas that may be hard pan under one foot and beach soft beneath the other. What turf remains is mowed at two heights – greens, and everything else.

With the rough gone, those Super-model-thin fairways of '99 and '05 have put on some flesh – up 13 acres to 41 now – but they won’t necessarily play any wider. Architects Bill Coore and Ben Crenshaw ditched 650 of 1,100 irrigation heads in favor of an austere centerline system. If it’s hot and dry in the run up to the Open, the edges will be lightning fast and sepia-toned like some of those old photos Coore and Crenshaw based their work on.

After decades of American golf characterized by excess – wall-to-wall grassing, ornamental bunkering

and checkerboard mowing patterns – the 21st-century Pinehurst No. 2 stands as a 180-degree turnaround. Minimalist is the mantra. The golf course – that is, where you’re supposed to hit it – still gets all the care and attention it needs. But stray from that path and you’re subject to the elements. As Robinson says of the new “old” philosophy for No. 2, “We’re no longer picking up pine cones before they hit the ground.”

So, Mrs. Robinson may indeed be in for an eyebrow-raiser but you have to think that somewhere the spirit of Donald Ross is grinning from ear to ear. The golf course looks more like the one he designed, where strategy and skill counted for more than sheer strength in the rough. Others like USGA executive director, Mike Davis, are also smiling. No. 2 is now a showcase for the kind of sustainability the USGA says is vital for the future of a game that needs to be more economical to maintain and, consequently, more affordable to play.

Kevin Robinson grew up in Linville Falls in the mountains of western North Carolina before the family moved to the foothills in Morganton when he was a teenager. Ross



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courses were nearby at Linville Golf Club and then Mimosa Hills Golf and Country Club but while Robinson played some with his father and older brothers, his primary interests were baseball and wrestling. He loved the outdoors and was aimed at wildlife science when he went to North Carolina State University.

There, he met up with "some guys from the agronomy club" including Ron Kelly, now certified golf course superintendent at the

Country Club of North Carolina. Through Kelly, Robinson picked up some work and pocket money on the crew at North Ridge Country Club under the tutelage of Carolinas GCSA past-president, Butch Sheffield, CGCS. His career path was turning before he realized. But he caught on soon enough and graduated with a Bachelor of Science degree in Agronomy with a concentration in turfgrass in 1992.

Now, 20 years later, he is pre-

After decades of American golf characterized by excess – wall-to-wall grassing, ornamental bunkering and checkerboard mowing patterns – the 21st-century Pinehurst No. 2 stands as a 180-degree turnaround.

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Come June of 2014, all the focus will be on how the A1/A4 bentgrass greens on Pinehurst No. 2 are handling the heat in the lead up to back-to-back men's and women's U.S. Opens. But heat wasn't always the major concern. Indeed when the greens were being laid during the restoration, the biggest obstacle was the cold. "It was snowing sideways when we were laying some of the sod," Kevin Robinson, CGCS says.

Even getting to that point was a challenge.

Originally a grower north of Pittsburgh was to supply the sod but a brutal early start to winter set 18 inches of snow over the grass. The supplier did his best and managed to ship some product but his equipment was damaging more acreage than it was harvesting so in the end he had pull out of the deal. Alternative suppliers were found in New Jersey but the cold issues weren't over.

The new sod froze solid en route south. "We'd come in and let their trucks into the shop at midnight," Robinson says. "We would set up banks of space heaters to thaw it out so we could get it down the next day." He even secured thermal blankets from a local concreting contractor to help the process.

Grass for the final green came locally from Sandhill Turf. Robinson laughs now, and well he might. The end result is superb. But it took a lot of teeth chattering hours to get there.

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paring to pull off a feat that has never been attempted before, a feat that will be televised around the golfing world. Robinson will be the first golf superintendent to prepare a course for consecutive major championships. No.2 will host the U.S. Open Championship from June 12-15 in 2014 then the U.S. Women's Open Championship from June 19-22. Needless to say, Robinson and the entire women's field will be hoping there's no 18-hole play-off needed on the 16th.

Robinson was superintendent over Pinehurst's No. 6 and No. 7 courses when the USGA announced the double-date in 2009. He remembers thinking the concept was "pretty cool" but that making it happen would be a challenge. "Still, I thought, if any-

where could pull it off, Pinehurst could," he says. That was before he knew about the restoration project, or that he would be the superintendent in the hot seat. Robinson moved to No. 2 in 2010 when Paul Jett, CGCS left after hosting highly successful U.S. Opens in 1999 and 2005.

Is Robinson nervous? "Yeah, I am," he admits. But if preparation counts for anything, he is giving himself and Pinehurst every chance of success. He spent several days scouting at this year's PGA Championship at Kiawah Island Resort's Ocean Course. He did the same at Congressional Country Club during last year's U.S. Open and will spend time at Merion Golf Club this fall and again when the club hosts next year's U.S. Open in June.



The new sandy areas sometimes transition into bunkers with no delineation between the two.

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PROFILE



The new "old" No. 2 continues to mature and Robinson adjusts accordingly.

Editor's Note:
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Green*. It is reprinted
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His research is mostly logistical. Even this far out, Robinson and Pinehurst's director of golf course and grounds management, Bob Farren, CGCS, are well aware that manpower will be critical in 2014. "It's too much to ask any volunteer to work two weeks in a row," Robinson says. "So we are going to be careful not to burn anybody out and try and ration duties for our local volunteers as much as possible. You don't want tons of people not doing anything. But at the same time, we need to be sure we have enough people on hand if there is a big storm event."

Some decisions yet to be made will also influence just how much manpower is required. The new sandy areas sometimes transition into bunkers with no delineation between the two. Mindful of what happened to Dustin Johnson at the 2010 PGA Championship at Whistling Straits, the USGA has a call to make that could affect how bunkers are raked and whether Robinson needs to provide people to do so during a round, not just before and after play.

In the meantime, the new "old" No. 2 continues to mature and Robinson adjusts accordingly. "We got such good reviews when we reopened but we kept telling people it's still going to change," Farren says. "Kevin's done a remarkable job with it and at the same time he's had to learn as he goes."

So will golfers. As Robinson says, "The USGA wants to see some areas that are all footprinted up, some that are sparse and hardpan, some that have really loose sand and some with vegetation. There will be a lot of unknowns out there. It will be an adventure." **GCI**



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John E. Kaminski, Ph.D. is an associate professor, Turfgrass Science, and director of the Golf Course Turfgrass Management Program at Penn State University. You can reach him at kaminski@psu.edu.

TOP 10 EXCUSES (AND MY ANSWERS) FOR NOT CONTINUING YOUR EDUCATION

It's winter and conference season is in full swing. For me, this is a time where organization and schedules are important. Between Jan. 16 and Feb. 27 I will have traveled to six different conferences and presented over 30 hours of education to those in the turfgrass industry. All of this comes in a year where I have decided to cut back on travel.

As an educator, I often get on my soapbox about the importance of education. And although I am a part of the best turfgrass program in the world (haters gonna hate), I know education doesn't stop when you cross the stage at graduation. In fact, I look at a

degree or certificate as a starting point and a foundation for a successful career. This foundation education alone, however, doesn't really do much in terms of ensuring an individual's upward movement in this industry.

This is where continued interest and participation in conferences and seminars plays a much large role in an individual's success – or failure – in a tough industry.

With the upcoming conferences (Canadian, Golf Industry Show, BIGGA, etc.) and educational opportunities in mind, here are my Top 10 excuses for why you're not continuing your education and my to-the-point responses.

10 I CAN'T AFFORD IT. This is the lamest excuse and the one used most often. If you're not willing to invest in your career then it is likely a golf course isn't going to want to invest in you. Sometimes making a personal financial sacrifice is necessary to build a career.

9 I DON'T HAVE TIME. Another BS statement and one I use all the time when it comes to not going to the gym. The fact of the matter is you make time for things that are important. If you're career isn't on that list then perhaps you're on the wrong career path.

7 I ALREADY KNOW ABOUT THAT. Congratulations. You must be the smartest person around. The fact of the matter is new information is discovered about old topics all the time. If you don't keep up with this information, then you may be missing something important.

6 I DON'T SPEAK ENGLISH. This would have been a good excuse in the past, but with the growing golf market in Asia and many other countries, more and more talks are being offered in other languages. This year, GCSAA will present seminars in Korean, Mandarin, and Spanish.

5 I CAN'T GET OFF OF WORK. Another potential legitimate excuse for missing one of the big national shows, but there are plenty of local and regional shows that offer some of the same information. At a minimum you should get the opportunity to go to these and then make a good case with your employer to attend the national shows at least occasionally.

4 I'M PLANNING ON GOING NEXT YEAR. Unless you're delaying until the show comes closer so you can afford it (see my response to No. 10), then you shouldn't really put off education. There are so many learning opportunities that you could go every year and still not take every class offered.

3 THE TALKS ARE BORING. Well, I can't disagree with you in many cases. However, it's still no excuse. Sometimes you have to drink a can of Red Bull and power through it. While not all presenters are entertaining, it doesn't mean the information is not useful.

2 I CAN'T SIT THROUGH ANOTHER TALK ABOUT TURF. Then don't. In fact, I think many of the seminars on topics like business management, human resources, computers, technology

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and others are some of the most informative classes available. Remember, agronomics accounts for about 10-15 percent of what a superintendent does on a daily basis. Successful superintendents are successful in these non-turf-related subjects.

1 I'M ALREADY A SUPERINTENDENT.

I'm not sure how many people use this as an excuse, but there are always those few that use the national conference as a personal vacation and avoid education altogether. While I support having fun and socializing at the conference, it is important to know why you're there and that is at least in part to learn new things.

At every conference I attend, I typically pay attention to those in attendance and their "interest" in the materials being presented. While you may think that the demographics

As an educator, I often get on my soapbox about the importance of education and although I am a part of the **best turfgrass program in the world** (haters gonna hate), I know education doesn't stop when you cross the stage at graduation.

of those really interested in continued education would be those in the early stages of their career, I usually find those that already have a "successful" career to be the most interested. It is usually these superintendents in the front row taking notes and listening to every word for that one nugget of information that may help them do their job better.

MY OVERALL THOUGHTS. I recognize people have legitimate reasons for why they can't attend large conferences, but those that figure out a way to continue their education will likely be those who find success in this industry. With on-line education increasing and free seminars being offered throughout the year, there really isn't an excuse for not continuing to learn.

I've already stated many of you will think I'm a jerk and I don't understand the realities of the business. In some instances that may be the case, but I'm a "tough love" kind of educator. I don't have sympathy for those not putting in the time to establish, build and advance their career.

I don't see this industry through rose-colored glasses. I see it as tough and competitive, and those individuals who work hard and set themselves apart ultimately find success. Staying on top of your game through continued education will help you get there and likely help you stay there. **GCI**

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Why the prevailing myths and misconceptions surrounding *Poa annua* are just as stubborn to eradicate the plant itself.

by John Torsiello

Misconceptions abound about *Poa* control, including questionable practices that can lead to disastrous results.

Mention *Poa annua* to superintendents and you get vastly different opinions. For example, in the South and Mid-South, superintendents protecting their Bermudagrass fairways and greens despise it. Those in the transitional zones and northern tier of the United States with bentgrass greens learn to control and live with it. And some in the northwest corner of the country care lovingly for putting surfaces that are 100 percent *Poa annua*.

With any grass type that is so reviled – mostly because it is insidious, aggressive and can affect green roll – and, well, at least accepted, there have sprung up some mighty misconceptions about *Poa annua* and its management.

Dr. Alfred Turgeon, professor emeritus of turfgrass management at Penn State, says these “*Poa* myths” probably date back to the

early days of golf turf in the U.S. when golf course managers and players saw how difficult it was to maintain healthy turf grass in the varying climates, principally, warm temperate continental and subtropical humid, relative to the milder cool and warm temperate oceanic climates in the southeastern coastal Scotland and elsewhere in the United Kingdom and northwestern Europe. Turfgrasses, especially annual bluegrass, typically died under both summer and winter stresses. However, the contribution of diseases and insects to this phenomenon was not always recognized.

The myths surrounding *Poa annua* have been in circulation for years. “It wasn’t until the 1970’s that anthracnose was recognized as an important and controllable disease of annual bluegrass,” Turgeon says. “The discovery of black turfgrass atenius and the annual bluegrass weevil occurred at about that same time.”

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"I'm not sure how these misconceptions concerning *Poa annua* began, but it likely started with experienced superintendents who have either succeeded or failed at managing *Poa*," says Dr. John Kaminski, assistant professor of turfgrass science at Penn State. These superintendents passed information down to their employees and peers and it stuck.

Poa management programs are also regional in nature, Kaminski says. "For example, being at Penn State and in the state of Pennsylvania I have to know how to manage it and how to suppress it because depending on which side of the state your course is located the philosophy on *Poa* is completely opposite," he says.

Dr. Shawn Askew, assistant professor and extension turfgrass weed specialist at Virginia Tech University, suspects *Poa* misconceptions are passed down from one generation of superintendents to the next. Geography is an influential factor, as well.

"When it comes to *Poa*, myth or misconception often depends on where you live," he says. "What works in the South may lead to myth in the North. What works in the desert southwest may flop in the Mid-Atlantic. The reason is *Poa* control comprises more than just herbicide efficacy. Turfgrass competition, abiotic stress, and pestilence of *Poa* are all at play and interact with herbicides to ultimately bring the demise of a foe like *Poa*."

Because southern golf courses

experience extreme heat, especially hot nights, *Poa* will tank pretty readily if proper turf culture and an herbicide/plant-growth-regulator (PGR) program is administered.

Up north, however, *Poa* stressors are less common and plants are more difficult to kill. "Complicating things further is the broad genetic diversity of the species," Askew says. "The ecotypes found in one area will differ from those in another. Such genetic differences have been shown to influence control efforts with herbicides and PGRs. Given all this diversity over a broad geographic area, myth and misconception is bound to follow."

Brian Horgan, associate professor in the department of horticulture science at the University of Minnesota, believes the misconceptions concerning *Poa annua* are rooted in management and the diversity of *Poa* biotypes.

"*Poa*, like most grasses, can be conditioned to grow based on the management style," he says. "So, if you give *Poa* too much food or too much water, the *Poa* will soon require the input. Light and frequent irrigation programs will confine roots to shallow depths, when the water is turned off for a day, the *Poa* dies. Hence the myth, *Poa* needs light/frequent application of water."

And myths often compound other myths. For example, if you



Turgeon

believe the myth *Poa* requires more water, then you over water early in the growing season causing roots to be confined to shallow depths. "As summer temperatures increase, this management philosophy would dictate even more water because of a secondary myth '*Poa* dies in the summer heat,'" says Sam Bauer, a turfgrass extension educator at the University of Minnesota. "*Poa* does not die just because of heat. Heat tolerance is reduced

they create unfair expectations," says Carmen Magro, owner and chief agronomist of Agronomy Management Solutions.

"A member or guest plays a course and has an excellent experience playing on *Poa* greens only to come home to his or her home course and see failing *Poa* greens or fairways," he says. "The simple mistake of comparing two *Poas* with no regard for the *Poa* type, management program, resources to manage that *Poa*,



Poa myths and misconceptions are passed down from one generation of superintendents to the next.

by increasing hydration level. More simply, overwatering in the summer causes heat stress and *Poa* death more so than any other practice. All of this from the myth that *Poa* requires more water."

Dennis Petruzzelli, superintendent at the Country Club of Woodbridge in Connecticut knows all of the *Poa* myths, including the one that *Poa annua* is bad grass. "Sometimes we are forced to manage it as the primary grass type when environmental conditions cannot be improved any further to successfully promote and encourage heartier grass types," he says. "*Poa annua* can be a great playing surface, but effort, time, and budget resources to manage it consistently due to its vulnerabilities from various stresses which mostly result from its shallow root system."

Player comparisons are the bane of superintendents because

micro-climates within a particular property and a slew of other things [perpetuates misconceptions]."

Every aspect, from the *Poa* type and the way it is managed to its age, the water quality, the soil type, texture and qualities, shade patterns, direct sunlight patterns, traffic and micro-biological influences all affect how *Poa* performs as a playing surface.

"As superintendents, we understand we are managing a golf course and not an arboretum," Magro says. "In other words, we are preparing a property for the game of golf and that requires many unnatural things to occur. So when it comes to managing *Poa*, it is totally unfair to ever make a comparison between properties. These types of comparisons have led to many myths and given *Poa* a bad name."

Lumping all *Poa* together is

Extreme *Poa* Makeover

Penn State's John Kaminski says there are some extreme management programs in circulation that purport to magically make *Poa annua* disappear, while favoring bentgrass.

While there are chemical and cultural programs that can assist in this goal, there is no single way to completely eliminate *Poa*. Kaminski cautions that extreme *Poa* management programs usually look favorable for a year or two and then greens may ultimately decline or die and "the superintendent has to start looking for a new job." He advises to keep turf-management basics in mind and always ask to see the data. "If something looks too good to be true then it probably is," he says.

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a mistake, says Laurence Mudge, a Bayer turfgrass expert. "There is a lot of genetic diversity within the grass," he says. "There are varying opinions on the grass and the proper way to manage it in every region. Even Augusta National fights *Poa annua* all the time. Some courses in the North deal with it and manage it so that it can become part of their playing surface, even on putting greens. In

the Northwest, there are greens that are 100 percent *Poa*."

Poa myths lead to poor superintendent decisions, says Dean Modsell, technical field manager at Syngenta. "I've heard of superintendents trying to eradicate or manage *Poa* with products that may not be suitable for their turf or the hole's location," he says. "They become a little careless in their treat-

Perfect harmony

John Schreiner, superintendent Briardale Greens Golf Club in Euclid, Ohio, believes whether northern superintendents want to live in harmony with *Poa* or not they may have to do so to some extent on greens. "With the use of PGR's combined with proper cultural practices, such as frequent light topdressing, light verticutting, brushing, rolling, and double cutting there is no reason why any superintendent, north, south, east, or west, can't successfully live with *Poa* greens," he says.

In the end, after breaking down the myths and misconceptions about *Poa annua* that may be the best many superintendents can hope for.

Don't overlook the surrounding environment, says Dr. Cale Bigelow, assistant professor of agronomy and turfgrass science at Purdue University. "Consider why it is there and perhaps in many situations it is the best choice/species for that area, wet root zones, shaded areas (ABG is more photosynthetically efficient than bentgrass). Also, if you are on a program like a medication for a chronic problem, once you stop the problem is likely to return. So have a long-term plan."

ments and may over-treat their turf in the zealous urge to attack *Poa*."

"Most of the wild stuff I've heard has been about superintendents' attempts to control *Poa*," says Turgeon. "Lots of herbicides and acidifying materials have been used for this purpose, often with disastrous results. If you want to control it, you have to provide conditions that are highly favorable for the desired turfgrass. Herbicides can be helpful, but they can never substitute for a balanced and commonsensical cultural program. If you want to manage it, you have to provide conditions that are highly favorable for this turfgrass."

Askw asks superintendents to know the plant. Understanding when *Poa annua* goes to seed, when germination is likely going to occur, and what biotypes superintendents have at their facility gives them a better understanding of how to properly manage *Poa annua*. "*Poa* is about as diverse and as finicky a plant as there is, and management is going to come down to a micro level," he says. "What your neighbor does to keep the *Poa* alive (or to suppress it) is probably not going to be the best recipe for managing the *Poa* at your course."

On new greens, adopt a preventative program that uses the latest in PGR technology, and supplement that program with hand picking and foam dabbing. *Poa annua* germinates all year, but when the grass is germinating most in the fall, avoid compaction with lighter mowers, don't apply phosphorous fertilizer, and irrigate infrequently to prevent surface moisture that aids seedling survival. GCI

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CHANGES TO THE “OLD COURSE”

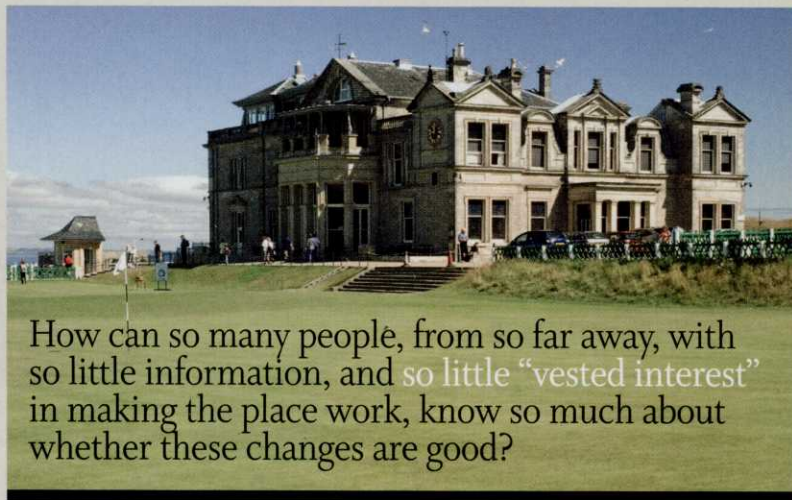
The recent uproar on changes to the Old Course at St. Andrews makes me want to weigh in from this “Bully Pulpit” with a stern, unequivocal: “I can see both sides.”

R&A chief executive Peter Dawson says there is “too much hysteria” surrounding the Old Course changes, and I tend to agree. Much of the outcry came quickly, and from sketchy information. Most were understandably against change on preservation principles alone. That is quite understandable, given that the Old Course is so special and unique.

Both change and fear of change have been constant at St. Andrews. In most cases, changes have obviously gained acceptance over time. Is it different now, just because we are more aware of them from the Internet? How can so many people, from so far away, with so little information, and so little “vested interest” in making the place work, know so much about whether these changes are good?

This sentiment factors in my love of St. Andrews dating to my first visit in 1980, so much so that I named my son “Andrew.” No doubt, St. Andrews is a “museum piece” and window into what golf was like in the beginning. However, as romantic as the idea of playing the same course Old Tom Morris did is, the reality is all golf courses – even historic ones – are constantly evolving and changing. Years ago, the St. Andrews superintendent told me they had filled in many bunkers over the years, often in the middle of the night. Even in an era generally less attuned to architectural preservation, he knew: There would be much complaining about changes if known in advance; and most would not notice the changes and/or would soon forget them if they did.

This year, the first point has occurred. We will have to see if the sec-



How can so many people, from so far away, with so little information, and so little “vested interest” in making the place work, know so much about whether these changes are good?

ond also occurs, but based on history, I think it will. I suspect the process and complaints regarding changing the Old Course were nearly similar, whether in 1612, 1812, or 2012.

Most books about St. Andrews document the many changes at the Old Course. There was uproar when “Old Tom” converted fairways from heather to turf. The course reversed its routing, which is perhaps the most radical change ever. When I first played there in 1980, locals were lamenting that the new irrigation system had ruined the course forever.

It’s always valid to question whether these changes will prove acceptable. Should any change mostly promote modern “tournament fairness” over tradition? Most importantly, will these changes “open the floodgates” for wholesale future design changes?

However, unlike some, I presume the brain trust there asked those questions before proceeding. While it’s easy to romanticize Old Tom Morris as infallible, while presuming current leaders can do little right, they do have responsible people in place. As is often said in politics, a difference in opinion is not a difference in principle. Even if we disagree with some

changes, we must presume those in charge have the best intent.

In my view, filling a large depression in the 7th fairway fixes perpetual maintenance problems, and is easily justified. (With all the divots, it probably looks worse now than when sheep huddled there against winter winds.) Removing rarely used fairway bunkers reduces maintenance, speeds play, and has occurred before many times.

Most of the design changes are also understandable; unless your perspective is against any change at all. Granted, a few made from the Tour Pro’s point of view risk turning the Old Course into “TPC St. Andrews.” For instance, I don’t favor lowering the fairway ridges formerly blocking the view of the 4th green to promote the modern concept of “full vision to the green” from the left. That takes away the traditional advantage of “playing far right as you dare.”

Change is inevitable, and even with many changes over the centuries, the Old Course still serves both a worldwide public and the occasional tournament. Most importantly, it would still be recognizable to Old Tom Morris, and that is a wonderful testament to the Old Course’s greatness. **GCI**



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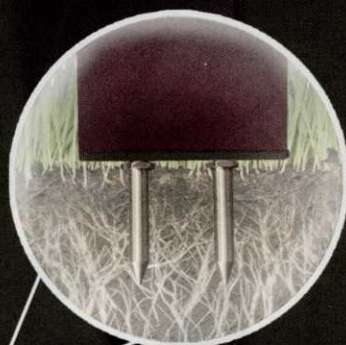
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Many superintendents are now topdressing with finer sand to save time and resources on managing sand left on top of greens. But can it negatively impact the soil over time?

A study published last fall in the USGA Green Section Record by Dr. James Murphy, extension turf specialist in the department of plant biology and pathology at Rutgers University, indicates many superintendents are using finer sand when topdressing to ease the burden of dealing with sand particles left on greens.

Murphy states many superintendents are selecting sand that contains no fine gravel (2 to 3.4 mm particle size diameter) or very coarse sand (1 to 2 mm) to improve incorporation of topdressing. The latest trend, he states, is to use sand that doesn't contain coarse sand (0.5 to 1 mm), which according to the report further improves incorporation, especially when this sand is dry.

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By Jason Stahl

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There is some thinking that sand size could negatively change the physical properties of the thatch layer of a green.



Getting Dirty

A trend Christian is seeing is superintendents “dirtying up” their sand more with organic material to prevent their greens from drying out too quickly – a more frequent occurrence with the extreme summers of late.

“One thing that was brought up to me not too long ago is that, when they do testing in labs, everything is based on 30 centimeters of suction, and that’s 12 inches of rootzone,” says Christian. “The problem, though, is that with everyone adding sand, their greens are 14 to 16 inches deep, but they’re still basing their measurements on a 12-inch rootzone. The greens are getting drier and drier as they add more and more sand to the top because that spent water below the surface is getting lower and lower and there’s less tension on the sand on the top. It’s getting pulled quicker to the bottom and therefore the top dries out more quickly.”

Superintendents are telling Christian, “I can’t keep my greens wet, I can’t keep them wet,” and his advice is to probe them to see how deep they are. Then, there are two options: dirty their sand up with organic material, or change the sand size, being aware that choosing too fine a sand can create a whole new set of problems.

think again. Murphy says there are potential issues with this strategy, mainly that this size of sand could negatively change the physical properties of the thatch layer of a green.

Steve Christian, account manager/consultant with Dakota Peat, has seen that negative impact firsthand, especially with superintendents who use finer

sand on Ultradwarf greens.

“With Ultradwarf, [superintendents] are trying to use finer sand all the time as tight as they are, but they have to be really careful,” says Christian. “If the greens were built out of USGA sand and then they topdress with this light sand for five or six years, it can create a perched water table on top of the USGA

sand. The salts will then stay on top and create a lot of issues.”

Christian tells a story about a course he analyzed a core sample for after it had trouble with its greens. The greens had been built with concrete sand, but then, after 15 years of topdressing, they had five to six inches of USGA material on top of coarse materials. An extremely wet summer came, and all of a sudden the greens wouldn’t drain.

“They were blaming the water being muddy and all these other issues, but the real issue was that they had a perched water table,” Christian says. “In that situation, you’re pretty much done. You have to aerate aggressively with 10-inch tines two to three times per year to get enough height on your column so you can get some drainage.”

To avoid trouble, Christian says many superintendents are opting for a “combo platter” of sand when topdressing and aerifying.

“A lot of guys are using this fine sand for light infrequent. Then, when they do their core aerification, they’re going in with

USGA sand because it has greater porosity and opens things up better and keeps it closer to spec.”

Murphy’s study confirms that superintendents are using this “combo platter,” but it doesn’t go so far as to say it’s effective.

“The concept is to manage any potentially negative effects by coring out the mat layer containing finer sand and replacing it with coarse sand backfill,” Murphy says. “It is not clear whether this ‘dual-sand’ concept will be sufficient to offset any negative effects of the finer sand, presuming the negative effects actually occur.”

Another potential issue with using “uniformly graded sand,” or sand with particles of a similar size after large particles have been taken out, is that there can be instability problems where the sand can shift under normal traffic conditions.

“The extent to which these concerns are actually a problem in the context of topdressing is not fully understood,” Murphy explained in his report. “For example, some finer sand, despite being uniformly graded,

can pack together and be more stable than coarser sand."

Christian agrees, adding that instability has not been an issue with customers he has dealt with. "The finer sand usually doesn't have that problem of instability and shifting because they have a lot more tension with the water," he says. "Where I see that more is when you go to dried sand. If guys use that for a long time, they'll start to have instability problems."

Still, some superintendents are erring on the side of caution when it comes to stability problems by switching to a less uniformly graded sand. Dan Koops of Findlay Country Club in Findlay, Ohio, made the switch earlier this year.

"When I came to Findlay Country Club, I changed sands immediately because, in my mind, the sand they were using was too fine and too uniform," says Koops. "I didn't want instability issues and the possibility of a wetter profile on top over time."

At a previous course Koops worked at, the



Superintendents who can't keep their greens wet can change the sand size, but be aware that choosing too fine a sand can create a whole new set of problems.

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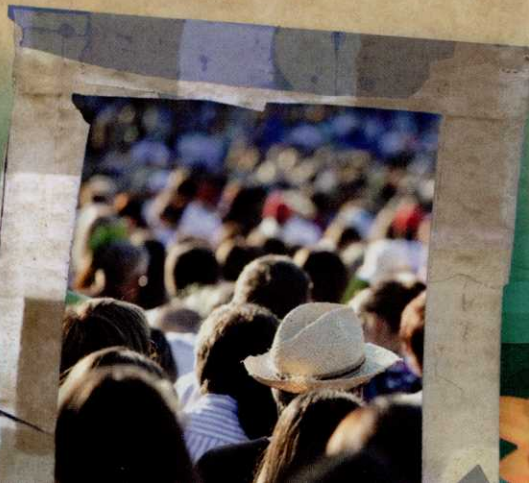
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wrong kind of sand was being used and, as a result, they had a perched water table where the top two to three inches of the soil profile was staying way too wet.

"That can definitely be a problem when guys are using too fine a sand," he says. "It comes down to doing your due diligence and taking tests to see what kind of sand is beneath and making sure your topdressing sand matches it."

Koops said he has never had a problem incorporating sand into the turf canopy. He is aware that superintendents use different sands for topdressing and aerating, but he uses the same sand all the time. His method is to apply the sand, let it dry, brush it in and then mow when it's dry.

Since Koops has switched to a less uniformly graded sand, he has noticed a little bit more staying on top of the greens. But it still hasn't proved to be an issue.

"There definitely are bigger particles that have to get worked in, but again, if you let the sand dry completely, then brush it in, it's not a problem," he says.

To put some science on whether topdressing with fine sand could ultimately be bad news for soil, two research trials were conducted at Rutgers to gauge the effect on turfgrass quality and surface firmness. According to Murphy, in the first trial, coarse-medium sand or medium-fine sand was applied on a Greenwich velvet bentgrass green every two weeks at 50 or 100 pounds per 1,000 square feet. Plots were mowed daily at 0.11 inch with a triplex mower, and irrigated only enough to relieve initial signs of stress. As expected, it took more time for the greens to become clear of sand after topdressing with medium-coarse sand.

"As the particle size of the sand was reduced, less sand was removed by mowing," said Murphy. "The critical issue that must be evaluated is, will the use of a finer topdressing sand applied over coarser-textured soils have any long-term ramifications? Will infiltration be affected negatively, and/or will free drainage within the profile be unaffected?"

A second trial using medium-coarse sand, medium sand and medium-fine sand was conducted on an annual bluegrass green. The plots that were topdressed had as good or better turfgrass quality than the non-topdressed plots. Also, more anthracnose disease was observed on the non-topdressed plots. **GCI**

Jason Stahl is a Cleveland-based freelance writer and frequent GCI contributor.



AN EQUIPMENT MANAGER'S VALUE

The golf course mechanic whom we all used to know and love is quietly fading away. The industry is replacing him with the modern-day equipment technician, or as I favor, the equipment manager. The role these individuals play within the golf course maintenance arena is often under appreciated, as they play an ever increasing role in the overall conditioning and management of the facility.

No single individual can take credit for the performance, presentation and conditioning of the golf course. It takes a team to make it happen. A successful team is made up of individuals who do their job, not because they have to, but because they want to. To say they take pride in their work is an understatement. They do whatever it takes to reach their goals and simply make it happen.

At the end of the day these individuals also recognize the importance of everyone's contributions, not only in their own success but to the overall success of the team and the facility.

The golf course superintendent plays a critical role developing the property into its full potential, but it's the equipment manager who leaves the team's signature on it when the day's work is done. This role factors into whether a member or customer returns to play again or makes it their last call.

Bearing the responsibility for more than \$1 million dollars in rolling stock is no small task. It takes every piece of that equipment that they are responsible for to fulfill the day's assignments. The various disciplines required to manage the modern golf course equipment fleet are quite varied and extremely technical in nature.

The equipment manager is the point man for everything from two-cycle, small engines, diesel, hydraulics, electrical, fuel systems, preventative maintenance schedules and most importantly, cutting units. And that's just the equipment.

Maintaining good preventative maintenance saves a golf course facility hundreds of thousands of dollars in purchases of new equipment, time lost to repairs, lost efficiencies from poor equipment performance and subpar conditioning and presentation on the course.

As the name implies, the equipment manager is much more than a skilled mechanic. They not only

maintain the fleet, but they play a critical role in the concept of Total Shop Management.

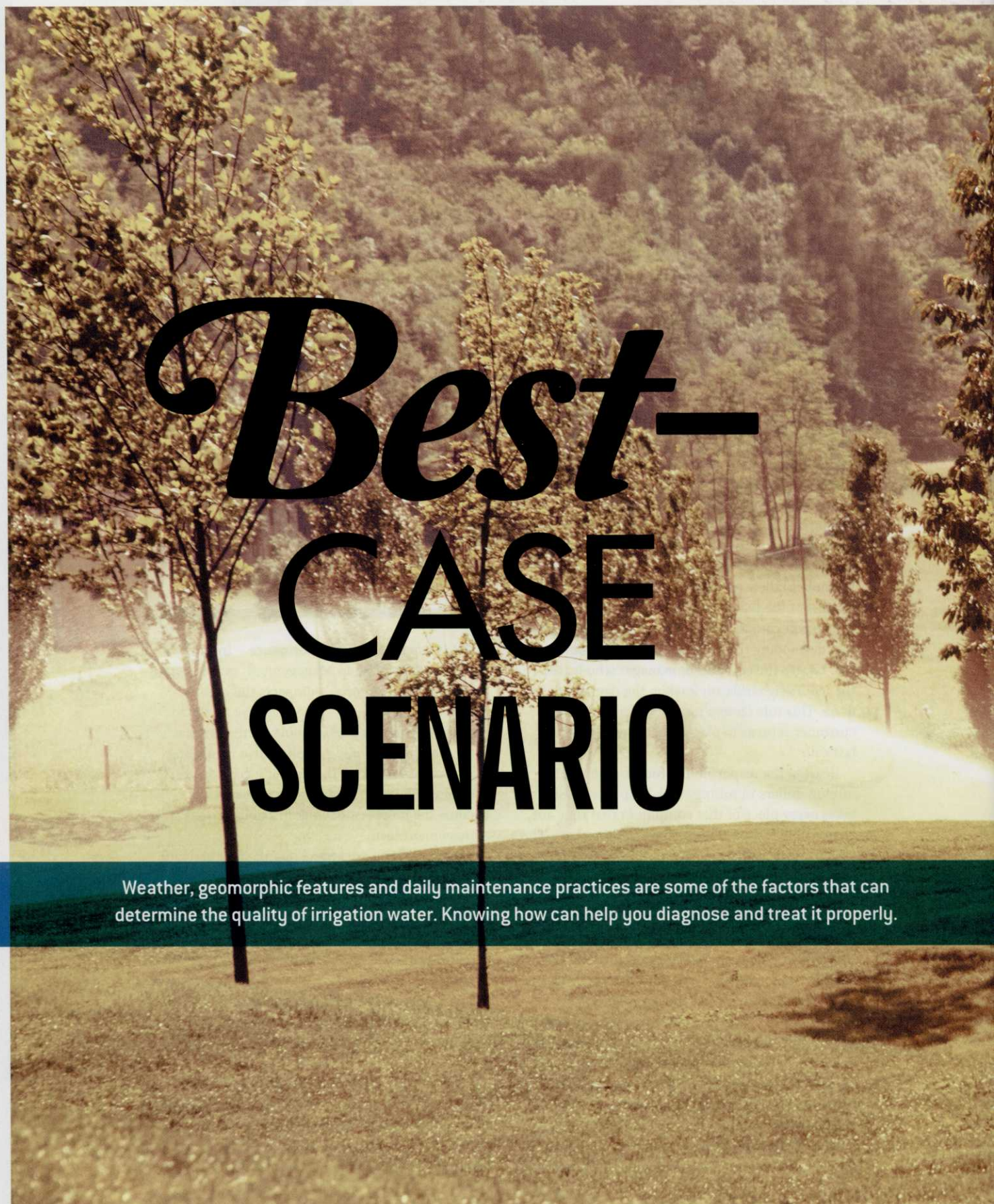
Total Shop Management encompasses everything from spatial development of the equipment warehouse, ordering and managing parts inventories, fuel reserves and managing staff within the shop proper. More times than not they will serve as the lead trainer for new equipment operators.

Maintaining good preventative maintenance can potentially save a facility hundreds of thousands of dollars in purchases of new equipment, time lost to repairs, lost efficiencies from poor equipment performance and subpar conditioning and presentation on the course.

Every aspect of their performance – from the equipment, Total Shop Management, training staff or managing inventories – impacts the bottom line. In the “new normal” that we have all found ourselves operating under, doing more with less is the standard. Running a golf course is running a business. More often than not it is big business. Without a doubt, the equipment manager has become the most critical link in a golf course's management team.

As many of you are aware, qualified technicians are in high demand within the industry. There are more jobs than there are qualified technicians to fill them. Many of the staff members on a golf course's maintenance team have alternates who can fulfill their duties in the event of an absence. This isn't always the case with equipment managers because they are the only individuals who have the full skillset to complete the tasks they are charged with. And with no equipment, no work will get done.

Equipment managers are critical to the operation of any modern golf course. No longer are they “just the mechanic.” Instead, they are the valuable, key members of the team. Equipment managers – we need you and we thank you for all you do. GCI



Best- CASE SCENARIO

Weather, geomorphic features and daily maintenance practices are some of the factors that can determine the quality of irrigation water. Knowing how can help you diagnose and treat it properly.

BY JASON STAHL

Whenever the topic of water quality comes up, Dr. Dara Park, a soil and water specialist with the Clemson University School of Agricultural, Forest and Environmental Sciences, likes to relate the story of a superintendent in Boston she worked with. He has tertiary-treated wastewater, which is one step better than secondary-treated wastewater, which can be applied to landscapes. Besides that, he has two wells. But the irony is that his treated wastewater is of better quality than his well water, which has salt and high bicarbonates.

"So he asked me what he should use, and I told him to definitely use his tertiary-treated wastewater over the well water," says Park.

The moral of this story? It all depends on what you have to work with.

The most common issue with irrigation water that Park sees is salinity. A close second she says is bicarbonates and carbonates, which come from groundwater as the result of the dissolution of rocks and minerals. She sees that problem frequently in South Carolina where she is located, but says it also occurs across the country.

"It's one of the things you always want to look at," says Park.

As far as salinity goes, Park says it isn't an issue that only coastal golf courses have to deal with.

"You can run into [salinity] issues inland, too, especially out west in the arid region," she says. "The reason is because you have all this evaporation and minerals, and they just end up accumulating in the soil because you don't have the rainfall to leach them out."

Demand for potable water is increasing, and thus pressure is being placed on superintendents to look at using non-potable alternatives, such as recycled water. This water presents its own challenges.

"Salts, chloride and particulate matter or organic material can be found in reclaimed water because it only has to meet certain standards," Park says. "It comes from bleach or sodium hypochlorite or chlorine

KEY POINTS

- ▶ Superintendents can no longer rely on potable water sources for irrigation.
- ▶ There is no single, magic solution to correct poor water quality.
- ▶ Pure water – sans minerals or positively charged ions – can compact soil and prohibit water from reaching roots.
- ▶ Hydrologically connected surface water can transport soil contaminants from areas far outside of your facility.
- ▶ When a drought conditions persists, salt buildings up in the soil and causes problems.

TESTING 1-2-3

As far as testing irrigation water quality, superintendents can initially do it themselves and then, depending on the results, they may want to turn to a land grant university or extension.

"Land grant universities tend to be cheaper in the cost of analysis, but a lot of private labs give discounts if you're going to use them over a certain number of years," says Park.

The most important thing is to take the sample correctly and get it to the lab on time.

The lab will offer detailed instructions on how to take the sample correctly. "Once [the superintendent] takes the initial sample and sees what they have to work with, it may be that they monitor the water themselves or need to keep taking samples and sending them in," Park says.

There are some components of water, such as pH, salinity and electrical conductivity, that can be monitored via a pocket meter. If superintendents suspect there is an issue with

any of these three things, they can monitor it easily themselves.

"What I always tell my superintendents is to monitor for more than a year because weather changes, water quality changes, etc.," Park says. "If you see you're going into a drought or you have a lot of rainfall, monitor right then just to see where you're at. Then once you have at least one year of data, you can determine what you need to do."

in, but Park tells them, "You know, you're taking everything out of the water, which isn't necessarily a good thing. As you can see, there's no perfect water source out there."

Turf care practices come into play, too. Park advises the spoon-feeding technique when it comes to fertilizers – less but more frequently. That goes for amendments, too. When it comes to pesticides, Park says superintendents need to know what they're applying and how to calibrate their spreader/sprayer.

"I'm always shocked by the number of turf managers who still can't do that properly," says Park. "That's not just big for the environment but their pocket-book as well. If they're putting out too much, that costs more. And if they don't put out enough, they'll have to go out again and reapply, which costs more."

There's usually not one magic thing to manage water quality when you have poor water, no matter what the problem is, Park concludes. **GCI**

Jason Stahl is a Cleveland-based freelance writer and frequent GCI contributor.

gas that most of our wastewater treatment plants use as a disinfectant, so those end up being found in high quantities in the final product. If that isn't managed over time, you can have a lot of organic buildup in soils and have 'black layer' occur."

Geomorphic or land features can have an impact on water quality, too. In South Carolina, as you move closer to the coast, the aquifers are closer to the surface. Between those aquifers are confining units or layers, which are also thinner near the coast. Those thinner layers can cause problems, as Park explains.

"You can have water being transferred from an underlying aquifer to an above aquifer if you draw too much water from the overlying one," she says. "If the below aquifer is saltier and the above aquifer is freshwater, obviously the above aquifer is going to all of a sudden have salts in it. That's not so much the case as you go further inland because usually those confining units are thicker."

Plant materials and soil type also influence water quality. For example, Piedmont, South Carolina has a lot of clay, which is high in iron. Thus, superintendents in that area can potentially have

a lot of iron in their water. Park is quick to point out, however, that iron can be found all over the country. The rocks that groundwater moves through can affect water quality, too.

Surface water in flat areas like South Florida is hydrologically connected. As a result, if someone puts too much fertilizer out upstream or somewhere in the landscape and it runs off into the surface water body or percolates through but then moves horizontally through the soil (because everything is hydrologically connected), you can have nitrogen or that fertilizer show up a mile or two down from the original source.

"So if you have very flat land and all your water sheds are hydrologically connected, you may be taking good care of your water and practicing good management but someone else not too far away may pollute it," says Park.

In areas like Aiken, South Carolina and Augusta, Georgia, and even Clemson, South Carolina, there is "pure" water that has nothing at all in it. This can also be a problem, says Park.

"Because there's nothing in the water, you could have soil structure issues in that your soil falls apart because there is nothing

to hold it together," she says.

Without any minerals such as calcium or magnesium, or positively charged ions, to hold the soil together, it can become compact and make it difficult for water to penetrate and get to turfgrass roots. Plus, air movement gets limited. That's why pursuing reverse osmosis isn't always the answer, says Park. A lot of courses on the coast that have really bad water can afford to put in a reverse osmosis system

Treatment Options: CHEMICAL VS. BIOLOGICAL

There are many different ways to chemically treat irrigation water before it's applied. Which one you should use depends on the problem. And cost ranges widely, too.

"It could be just using a UV light, or as expensive as the reverse osmosis system or as cheap as sand filtration," says Park.

But there are ecological treatments, too. For those superintendents who are concerned about the water leaving the course and polluting another area, like a pond, floating wetlands, or floating mats, can be used. According to Park, they consist of plants that are known to be better at accumulating or cycling out nutrients or even certain metals.

"[The floating mats] are really catching on," Park says. "They can be decorative, changed out seasonally, harvested and sold for decorative plants or food such as different kinds of lettuces, etc."

However, what is still the most common method, says Park, is planting these wetland plants around the edges of a pond.



2013 IRRIGATION OUTLOOK

As we start the new year it's time to look at what the potential for golf course irrigation systems will be in 2013. Will the market be flat, grow or contract? Will there be new products? As an owner, superintendent or manager is there anything happening that may alter your 2013 plans?

Water will continue to be a hot topic in 2013 as it will be till we all turn to dust. Various state and local regulations, new standards and codes and costs will affect how a golf course uses, manages and pays for water. Alternative water sources for irrigation will continue to be explored, mandated and used. Golf courses will need to continue to efficiently manage their water sources and budgets. Investing in new irrigation technology when budgets allow will reap benefits.

The golf irrigation market in 2013 will contract a bit when, but 2014 is already looking to be a good year. In the U.S. almost all of the new irrigation systems in 2013 will be on existing courses as new construction is still basically non-existent. Overseas new construction will provide some relief to manufacturers. As the golf economy continues to sputter many courses that need new irrigation systems but can't afford one will be doing improvements to their system piecemeal as budgets allow. As was the case in 2012, there will be considerable irrigation control and pump system upgrades.

Control system upgrades can consist of a number of alternatives. You'll want to upgrade the control system software to a newer version or one that provides you with more control. As part of the central upgrade you may or may not upgrade the field controllers depending on the requirements of the central control upgrade you are



Given the anticipated 2013 economy, planning for **new irrigation systems** and upgrades takes more time, more documentation and more planning.

purchasing or the desire to achieve independent sprinkler control. Along with the control upgrade, you may have to upgrade your grounding system to protect your investment. Power supplies and communication wiring will need to be checked, as well.

You can just simply upgrade your remote system. Radios are becoming outdated, being replaced with tablets and smart phones to precisely operate your system even when your out on the course or out of the country. These smart devices do more and provide more feedback than the conventional radio remotes and with a lot less key strokes. These smart devices allow you to perform almost all of the functions you can perform at the central. As such, many superintendents hardly use the central anymore for routine tasks and instead use the smart device.

Pump system upgrades can consist of new pump and motors, control

panel upgrades or just preventive maintenance. Control panel upgrades, while expensive, can give new life to an aging pump station. Adding variable frequency drive and better switching from pump to pump will extend the life of the existing pumps and motors as well as your pipe and fittings. Without a properly operating pump system the rest of the irrigation system is difficult to operate. So if you're light on funds the pump station should be the priority.

If it's been more than 10 years, the pumps should be broken down and parts checked for wear and the motors rewound. This is especially important with turbine pumps.

In 2013, Hunter Industries is going to reenter the U.S. golf irrigation market with a number of new products and revamped distribution. Hunter has been strong in overseas golf markets but weak in the U.S.

Rain Bird and Toro will have upgrades and updates to their existing products line, mostly along the lines of software.

You will continue to see all three companies provide increased sensor capabilities and integration. Likewise, expect to see more sophisticated communication protocols to interact with smart devices and other systems on the golf course, such as pump stations.

This year is not expected to be a great irrigation year. However, it will still be full of limited upgrades for those golf course facilities that have been saving and planning to take advantage of lower pricing.

As fewer systems are being bid in the market, both material pricing and labor pricing have a tendency to be driven lower by the amount of competition. So if you are in a position to make substantial improvements to your irrigation, make sure you shop around and get the best deal. **GCI**



By Mike Harrington

SPIN CITY

Disc golf doesn't have to be the nightmare most turf managers suspect. In fact, it could be a valuable revenue stream.

I have had

conversations with no less than a dozen people in the golf industry and every single one of them started with a response similar to "You want to do what on our golf course!?"

Having been in the golf course maintenance industry for nearly a decade I can appreciate why that is the initial reaction. However, I am here to tell you that adding disc golf onto an existing golf course does not have the negative impact everyone might initially think.

In fact, I am willing to say it has the potential to be another significant revenue stream for golf courses suffering from decreasing rounds played. It will only require a small investment in the disc golf equipment and even smaller investment in additional labor to maintain the course.

Consider the fact that you

already mow the grass, trim the trees, aerate your fairways, rake your bunkers, and keep the property very well groomed. Disc golfers are accustomed to a much lower maintenance regime and the high maintenance conditions on a golf course would be a welcome sight for many disc golfers. These are the conditions that would actually entice many disc golfers to spend money for the beautiful surroundings and the unique experience.

With proper design of the disc golf course and installation of the baskets and tees, the turf on the golf course will not suffer anymore from the traffic of the disc golfers than it does from the wear and tear a few thousand golf cart rentals do in a season. Proper design also includes ensuring that errant discs do not end up landing on fine turf areas. Putting the basket areas in the rough and along the edges of the golf holes will be necessary. Locating the tees away from fine turf areas will also ensure that the disc golfers do not put extra traffic on the highest maintenance turf on the golf course. Taking the time to design the disc golf course properly is an integral step in this process and the location of the tees and baskets is the first step.

Tees can be as simple as markers placed in the ground to indicate that day's location. Disc golfers do not need fine turf (golf tees). In fact, most disc golf courses receive even less maintenance than you would perform on your typical golf course rough. All we need is a level area in the rough. We could even use existing cart paths for tees if those made sense for the layout. The best solution for consistency and for the turf would be to use rubber mats and they are also easily movable. These are typically 8 feet long and 4 feet wide allowing people to gain momentum and throw from the rubber mat. That will prevent potential turf damage from spinning feet. The mats could be moved a few feet in any direction to keep from damaging the turf due to overheating or compaction.

Baskets could be setup as portable targets requiring no additional hardware as a bare minimum. Metal sleeves can also be mounted into the ground with concrete to keep them level and secure. Place a valve box in the concrete so that when the baskets are not in use, the valve box cover can go on just like any another irrigation valve box or drainage box.

Ideally, setting up a disc golf course on a completely temporary basis with portable bas-





Mike Harrington spent 10 years in the golf course maintenance industry with three and a half years as superintendent at Scenic View Country Club in Slinger, Wis. Since 2005 he has been vice president of Beautiful Blooms Landscape & Design in Wauwatosa, Wis., focusing on lawn and landscape design, installation, and maintenance. He recently started a new company called The Disc Golf Experience aimed at promoting the sport of disc golf through sustainable disc golf course design and running fun and unique disc golf events.



kets and portable mats – or just tee markers – makes the most sense initially. That will allow you and the golf course owner a chance to see the impact of the game and how much additional work there is to maintain the golf course. It will also allow them a chance to see just how much money can be brought in with the addition of disc golf. Start with one night of league per week in the spring when golfers have not come out of their winter hibernation. Perhaps a weekend tournament in the fall would work better when the golfers have had their fill of the game for the season and the decreasing temperatures keep them away from the golf course.

Consider that the golf course could bring in a lot of revenue if it was left open for disc golf through the winter. The best part about the third option is there would be absolutely nothing needed to maintain the disc golf course in winter. Disc golfers are a hearty bunch of people and are just happy to be able to play at all in winter. These are the three main ways that disc golf could be consolidated onto a golf course. The additional maintenance will be minimal but the potential revenue could be an outstanding addition to the bottom line of your golf course.

Not every golf course will be suitable for the addition of disc golf. There will be courses that simply do not have any time on the tee-sheet that is slow enough to accommodate disc golfers on top of their normal golf clientele. Some courses will not have enough challenge or interest for the disc golfer because there is no forced throws over water, minimal trees on the course, or very little elevation change.

Disc golf does require obstacles for the course to be enjoyable or challenging enough to get disc golfers to be willing to pay a fee to use the property. I am confident there are a lot of golf courses that this could be an outstanding addition to the property with only a minimal

investment of time and money to make it happen.

If you would like to discuss your golf course and the potential for disc golf please feel free to contact me. I am here to be a resource for golf course superintendents because I know you are integral in the decision making process for this venture to work. I understand and appreciate your concerns because I have managed turf for over 20 years. However, I believe the potential is far greater than the drawbacks. I want you to understand the game and the impact on your golf course in case your golf course owner decides this is something they would like to pursue.

If you educate yourself on this idea and feel strongly enough to recommend it to your owner or general manager, perhaps you will be valued even more than you already are for thinking outside the box. GCI



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CHARTING A VOYAGE

of

DISCOVERY

Looking for a diversion from the golf show? San Diego offers a multitude of waterside activities. *by Helen M. Stone*

Conquistador Juan Cabrillo set sail to the north September 1542 looking for the mythic gold cities of Cibola. Cabrillo also hopes he can find the Straits of Anian, a waterway connecting the Atlantic and Pacific Oceans. Instead, he and his crew pull into a “very good enclosed port” and become the first Europeans to set foot upon what is now the California coast – and breathtaking San Diego.

Whether the GCSAA conference and show is your first visit or you are a regular guest of this dynamic area, a voyage of discovery awaits you. Yes, there are nearly 100 golf courses in the area to keep you busy, but if you want to go beyond the convention center and indulge in other activities besides golfing, this seaside paradise satisfies.

Even if you decide to stay close to the conference and want to skip the hassle of renting a car, there is a multitude of waterside activities and eats. Just a short stroll down the waterfront brings you to Seaport Village (www.seaportvillage.com), a complex offering a wealth of small shops and restaurants in every price range, many with bay views.

If you are feeling energetic, stroll past the bustling Village and check out the waterfront action. If you need to fuel up, both locals and tourists rave about the Fish Market (www.thefishmarket.com/locations.aspx?id=6)

The house-smoked fish trio appetizer is a terrific prelude to the signature cioppino, an amazing combination of seafood in a savory marinara sauce. You can choose from casual dining on the patio, a fully stocked sushi bar or an upscale fine dining experience all in the same place.

Continue on to explore the Navy Pier. If you're lucky, there will be a Navy ship docked and offering free tours, or spend a few bucks and visit the USS Midway, a retired aircraft carrier that now serves as a museum featuring 27 restored aircraft (www.midway.org). If that doesn't wear you out, keep heading north.

You'll pass Broadway Pier, a docking area for all kinds of bay tours and a ferry to Coronado across the bay (www.sdhe.com). Do yourself a favor and book one of these. You can learn a bit about the area while enjoying spectacular views. February is also a great time of year for whale watching (with guaranteed sightings!).

Keep heading north and check out one the world's best collection of historic ships at Maritime Museum (www.sdmartime.org). Lucky you. February just happens to be Museum Month (www.sandiegomuseumcouncil.org/museum_month) so you can visit both museums, along with 38 others in San Diego for half price. Everything from art to natural history to railroads to botanic gardens await exploration.

If you don't feel like walking back, head

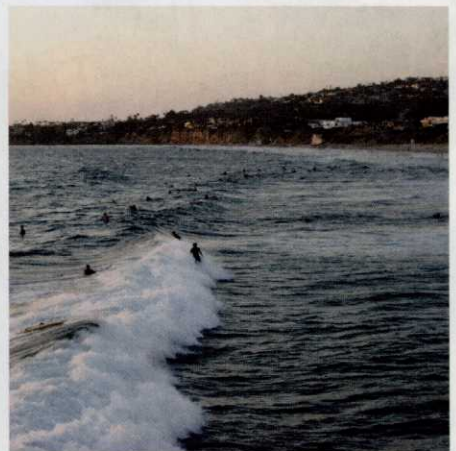
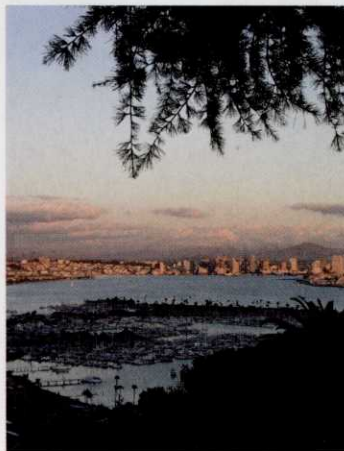
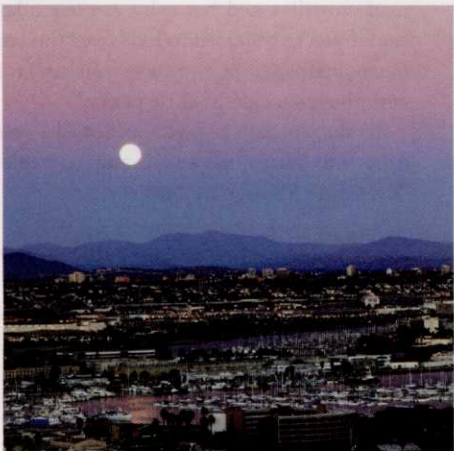
“inland” on Broadway and hop on the San Diego Trolley, which takes you right back to the Convention Center in no time (www.sdmts.com/trolley/trolley.asp). With a little bit of planning, the trolley can take you just about anywhere and the price can't be beat – only \$5 for a full day pass and even less if you purchase multiple days.

Speaking of trolleys, a great way to get to know the area is the San Diego Trolley Tour (www.trolleytours.com/san-diego). This takes you to all the “hot spots” with a guide who can steer you to the sites that best suits your interests. You can get off and on any time you please to explore further, grab a bite to eat or just relax.

If you only have a couple hours to dash out between the show and seminars, there are a host of restaurants, shopping and night life near the convention center or a short cab ride away. You'll be right next to the “Gaslamp District,” downtown revival at its best.

For “new American,” try the Croce's (www.croces.com). A trailblazer during downtown redevelopment, it was founded by musician Jim Croce's widow, Ingrid, and features live music every night to compliment your dining experience.

With its proximity to Mexico, you'd think that San Diego would offer some amazing Mexican restaurants, and you'd be right. Downtown, the locals' choice top choice is La Puerta (www.lapuertasd.com). The



Yes, there are nearly 100 golf courses in Greater San Diego to keep you busy, but if you want to go beyond the convention center and indulge in other activities besides golfing, this seaside paradise satisfies.

homemade salsas served with tortilla chips are a prelude to a great meal featuring traditional Mexican specialties and a few surprises. (Hint: Try to make it down for "Taco Tuesday." Happy hour from 3-7 p.m. offers two buck tacos and brews that will bring out the matador in you.)

If Asian is more your style, give Taka a try (www.takasushi.com). The freshest sushi you can get (many locals call it the best in San Diego), plus teriyaki dishes and steaks, make this a great addition to your dining rotation.

If you're in the mood for Italian, San Diego has its own "Little Italy." The area was home to Italian fishermen and their families in the 1920s, and is still known for its terrific food and friendly shops. If you're in need of one of the best sandwiches in town, San Diego locals flock to the deli at Mona Lisa Italian Foods (www.monalisalittleitaly.com). You can also order a full meal or fabulous pizza at the adjacent restaurant.

Why not stay an extra day and have a blast at the Carnavale on Feb. 9? This event, now in its tenth year, is like Mardi Gras with an Italian twist! Great costumes, plenty of music and dancing in the streets await! (www.littleitalysd.com/events/little-italy-carnevale).

One last "must-see" nearby is Petco Park, home of the San Diego Padres. Although you won't be there during baseball season, the

80-minute tours are a great way to get out and stretch your legs while seeing this venue up close and personal (<http://sandiego.padres.mlb.com/sd/ballpark/tours/index.jsp>).

Do you fish? If catching barracuda and yellowtail tuna sounds like fun and you can spare a half day, join one of the popular sport fishing outings that leave from nearby docks on the harbor (www.sportfishing.org). Early birds can depart at 6:30 am, or opt for the afternoon departure if you are attending morning classes. Don't worry if you don't have tackle; it's available for rent. You can even have your catch of the day processed and shipped home.

If hiking – or strolling – in amid lush landscapes and fine architecture is more your style, Balboa Park is a great way to while away an afternoon or the day. The world-famous San Diego Zoo is nestled in the heart of the park. Enjoy ornate structures and gardens built for the Panama-California Exposition in 1915, admire rare and colorful plants in a huge lathhouse, or enjoy drinks or a meal amidst a lush landscape. If you want to take advantage of Museum Month, everything from fine art to natural history to "oooh-aaah" science surprises await.

If you have a day and a car, treat yourself to a tour of San Diego's famous beaches. From downtown, head north on Harbor Drive to Point Loma. There are spectacular views as

you reach the Point. You can stop and visit the lighthouse and museum if you like, or explore the abundant ocean life in the tidepools. There's a good chance you will see migrating whales as well.

Head back and go north to Sunset Cliffs Boulevard and Ocean Beach. You can grab a cup of coffee and a pastry at Azucar Cuban Coffee (www.iloveazucar.com) on Newport Avenue and visit the municipal fishing pier to enjoy the ocean breeze. Then keep heading north to check out Mission Bay and the Aquatic Park. (You can also catch Sea World Drive and visit Sea World for a day of adventure if you chose.) West Mission Bay Drive ends at the beach and boardwalk. Stop for some truly world-class people watching. Rent a bike, grab a quick bite to eat or a beer and watch the surfers ride the waves.

Keep going on Mission Boulevard, hugging the coast until you reach La Jolla Boulevard (pronounced "La Hoya"). This upscale enclave boast some truly inspiring views, great opportunities for shopping and snacks, and the famous Children's Pool. This gentle beach is home to a colony of seals and you can enjoy the sight of these ocean mammals sunning, splashing and even nurturing their young.

After watching the sunset at La Jolla Cove, you can either extend the day by dining at one of the many restaurants in town, or hit the freeway for the drive back downtown. If you're up for one last adventure, or if you want to crown the day with another terrific Mexican meal, stop at Old Town.

This state historic park boasts more than 30 restaurants, but what might be the crown jewel is Old Town Mexican Cafe. The home made tortillas and hot salsa are legendary. And if you're too tired to look over the large menu, just order the carnitas – you can't miss with these succulent "little porks."

So do yourself a favor and build some time into your conference stay to explore "America's Finest City." **GCI**

Helen M. Stone is a freelance writer based on the West Coast and a frequent contributor to Golf Course Industry, as well as an alumnus of San Diego State University.



Balboa Park is a 1,200-acre urban cultural park in San Diego. In addition to open space areas, natural vegetation green belts, gardens and walking paths, it contains museums, several theaters, and the world-famous San Diego Zoo



THE PAUSE THAT REFRESHES

The scene outside my kitchen window says it is finally winter. We have had several inches of snow and, for the most part, golf is over for the year. The brief pause in the golf year will be welcome to superintendents and their families here in the North Country.

Mostly, northern superintendents like cold and snowy weather – “it tends to keep the riff raff out” is a commonly heard remark, usually repeated with a smile. It is a period I have always called “winterlude,” a time of normal workweeks, turf conferences and family vacations. A friend of mine who works in the south once asked me, “If cold miserable weather is so great, how come so many of you head south in the winter?” Good point!

It is especially easy to look forward to 2013 these days. Last year was a lousy one, a year many of us would like to forget. For much of America, it will be remembered for the drought and its effects that were felt far and wide. One look at the U.S. Drought Monitor tells the story. Wide swaths of the country were both dry and hot. In our town, below normal precipitation during the six-month heart of the golf season – including almost no rain in June – wreaked havoc on our golf courses.

Irrigation systems and pump stations weren't designed for the extra water, and superintendents exhausted themselves trying to keep up. Water supplies were depleted and leaks in irrigation systems were as abnormal as the weather. Thrust blocks that have held perfectly for 25 years were loosened in the dry soil as it shrunk, creating some really big problems. Stress levels on turf and golf course staff were at an all-time high. It may have been a challenging season, but it wasn't much fun.

If you believe tragedies often come in threes, then it was confirmed with the loss of Geoffrey Cornish, Stan Zontek and Neil Armstrong. Geoff and Stan were good friends; Neil Armstrong walked on the moon shortly after I assumed my Army duty station 20 miles north of Saigon. I met him briefly at the Bob Hope Christmas

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Show in 1969 and knew how much he loved golf. He was a great American I will never forget... although he didn't hit a golf ball on the moon as many assume – that was astronaut Alan Shepard.

And along with too many Americans, we faced the “Big C” up close and personal. I am not referring to my experience with skin cancer; in November my wife Cheryl was diagnosed with breast cancer. She has inspired me through surgery and subsequent treatment. It is an awful and brutal disease. Her courage, positive attitude and strength made me realize, once again, that I am a lucky man to have her as a spouse. She is my new hero.

The winter period isn't always as peaceful and calm as some seem to think. It can also be as stressful and difficult as summer. Maybe we don't worry about pythium or summer patch these days, but the concerns about pink snowmold and gray snowmold are real. The problem is you cannot do much when the golf course

is under three feet of snow.

And there isn't anything scarier to northern superintendents than ice accumulation. Not much can be done with problem, either, although we have tried everything imaginable. I remember damage to turf due to ice accumulation that wasn't fully healed until July 4th.

Some of us have the additional concern that comes from working with a golf facility that doesn't generate any income for several months. We might have the time to repair and repaint, but the GM says the budget won't allow it.

And then there is the responsibility of snow removal. We all want lots of snow, but cannot pretend we enjoy plowing it on weekends and evenings and holidays. “That's my life,” one colleague said to me. “Mow and plow!” Others have tasks related to cross country skiing and snowmobile trails.

The winter conference season should be a good one. Our WGCSA Symposium honored Charlie Wilson with the Distinguished Service Award in December, and the Wisconsin Turfgrass Association had its first Webinar in January, although you also had the option to attend in person. The GIS is being held in a favored place – San Diego. My guess is that it will be well attended and well received.

After the GIS, it is funny how we suddenly become fed up with winter weather and thoughts turn to spring. We are refreshed and anxious to get outdoors. It is a new season, opening day, green grass, and maybe even a new piece of equipment.

We are confident that we will return to more normal weather and, once again, experience what a great and satisfying profession managing a golf course can be. Bubbling to the surface is our perpetual belief that this year will be our best ever. **GCI**

SHOWSTOPPERS

Check out these new products debuting on the GIS 2013 show floor in San Diego.

Foley United's AccuMaster

foleyunited.com

GIS Booth #2818

- Accu-Touch Control allows for full control of automated inputs; automated in-feed cycles for "spin" grinding, and programmable automated in-feed cycles for relief grinding
- Reduces labor, time and effort
- 100% dust & Noise enclosure system
- Highest OEM quality grind possible
- Only reel grinder in the world with all these features



Displace 12% Calcium

griggbrothers.com

GIS Booth #3116

- Calcium soil specialty product formulated with a unique wetting agent technology
- Specially formulated soil surfactant enhances product infiltration and facilitates uniform placement of calcium throughout the soil profile
- Contains 12% Calcium remains in solution and reacts with the soil to displace sodium ions
- Backed by independent university testing that shows it can improve turf performance and quality by reducing high bicarbonate accumulation from poor irrigation water
- Specially designed to improve hydrophobic soil conditions and localized dry spots
- Convenient and easy to use formulation which will provide proven effective results



Turf Rx Fairway Flowable

RedoxTurf.com

Booth # 5139

- The most effective and environmentally sound fairway program
- Like all Redox products, Rx Fairway Flowable offers a highly efficient formula that allows you to reduce overall nutrient inputs
- Easy to mix and easy to handle Flowable formulation
- Carbon-based complexing and chelation deliver plant-available nutrients, ensuring high plant vitality response
- Extremely compatible with other plant treatment products
- 100% Satisfaction Manufacturer's Guarantee, assuring you for the greatest bang for the buck



Turf Marker TF-2020

richway.com

Booth #4658

- Affordable, compact, quality foam marker for golf course and turf professionals
- Outfits booms up to 30 feet
- Compatible with field speeds up to 7mph
- Golf ball sized foam drops



Penn State World Campus Turfgrass Programs

worldcampus.psu.edu/TurfOnline

GIS Booth #656

- Whether you're beginning your career or taking it to the next level, we have an online turfgrass program to meet your goals

PENNSTATE



World Campus

- Master of Professional Studies in Turfgrass Science
- Bachelor of Science in Turfgrass Science
- Associate in Science in Turfgrass Science and Management
- Advanced Certificate in Turfgrass Management
- Basic Certificate in Turfgrass Management

Becker Underwood Vision Pro HD

beckerunderwood.com

GIS Booth #2852

- Long-lasting, natural-looking green color that won't turn blue
- No adverse effects or breakdown associated with UV light
- Safe for all types of pump seals
- Compatible with conventional plant protection products



Jacobsen Mystery Machine

jacobsen.com

- Something new is coming from Jacobsen. On Jan. 15, at 5:10pm EST, Jacobsen will rip the cover off this machine to reveal a game-changing new product. As the anticipation and excitement builds, Jacobsen is asking people to guess what's under the cover. Go to jacobsen.com and make your guess. All guesses will be entered into a drawing for some great prizes. Of course, the product will be on display (without the cover) in Jacobsen's booth at the Golf Industry Show in San Diego.



Jacobsen 15-Blade Reel for Walking Greens Mowers

jacobsen.com

GIS Booth #

- 15-blade Classic XP reels now come standard with GK 500 series and PGM walking greens mowers. 15-blade reel provides superior frequency-of-clip compared to competitive mowers
- Entire line of Jacobsen walking greens mowers – including the revolutionary ECLIPSE2 series – now come standard with 15-blade Classic XP reels



Jacobsen ECLIPSE 322 Riding Greens with Advanced Lithium Power

jacobsen.com

GIS Booth #

- Beginning in 2013, Eclipse 322 riding greens mower will be offered with advanced lithium battery technology
- Able to cut 18 greens plus practice putting greens on one charge
- The lithium batteries never need maintenance
- Will last 6-8 years – approximately 2,000 cycles



Syngenta Secure Fungicide

syngentaprofessionalproducts.com

GIS Booth # 4339

- Multi-site contact fungicide and the only registered fungicide for turf in FRAC group 29
- No known disease resistance, and low risk of future resistance
- Perfect rotation partner with Daconil Action fungicide for season-long contact protection
- Perfect partner with systemic fungicides for inside out protection



Syngenta Briskway Fungicide

syngentaprofessionalproducts.com

GIS Booth # 4339

- DMI containing fungicide that can be used in even the hottest months
- No heat restrictions with no growth regulation effects, thinning or phytotoxicity
- Creeping bentgrass, Poa annua, and Bermudagrass are protected at any height of cut
- Controls over 20 diseases including dollar spot and anthracnose
- Excellent rainfastness from rapid uptake into leaf tissue
- Several plant health benefits including enhanced root development and CO2 assimilation



Syngenta Appear Fungicide

syngentaprofessionalproducts.com

GIS Booth # 4339

- Two components work together to enhance control of pythium and anthracnose
- Improves summer stress tolerance and overall turf quality
- Unique pigmented formulation provides a deep green color resulting in greater turf quality
- Can be used under extreme summer temperatures
- Mixes easily with Daconil Action fungicide or Secure fungicide



TurboDrop Asymmetric DualFan Nozzle

turbodrop.com

GIS Booth #4659

- Spray twice in one pass
- Maximize coverage and minimize drift
- Excellent for contact fungicides, growth regulators, foliar amendments, colorants, and anything else that requires maximum coverage on the leaf surface
- Air induction nozzles are designed specifically for turf grass applications



ProScape 20-0-10 60% MESA 100% EXPO SGN 145

GIS Booth #1929

lebanonturf.com

- Product number 2253717
- SGN 145 is perfect for close cut turf of fairways and tees
- Contains dual slow release of nitrogen and potassium
- MESA provides brilliant color without growth spikes
- EXPO helps protect turf during summer stress conditions
- Highly efficient, long-term feeding product



Trojan Battery Traveler 8V and Ranger 160

GIS Booth # 3521

- Batteries feature the longest life and longest range in the industry and deliver a new class of deep-cycle battery technology
- Traveler 8V provide more than 40 percent longer life, Ranger 160 deliver 35 percent more travel distance between recharges
- Traveler 8V's internal elements include Trojan's new Internal Battery Protection System which features thicker grids, membrane-wrapped plates, and the exclusive T2 Technology with Maxguard T2 multi-rib separators
- Traveler 8V incorporates a moss guard which insulates and protects the top of the battery plates, and features stronger case walls to increase durability
- Traveler 8V is compatible with Trojan's HydroLink single-point watering system
- Ranger 160 deep-cycle battery is optimized for excursions that require significantly more range
- As an 8-volt, high-performance battery, the Ranger 160 is rated at 160 minutes when discharged at 56 amps
- Is the first U.S.-made long-range product manufactured to meet the increasing demands of golf carts, utility and low-speed passenger vehicles, as well as hunting vehicles
- Ranger 160 delivers 35 percent more run time between recharging
- Ranger 160's internal design includes more active material delivering higher performance for long-range driving requirements, plus the exclusive Maxguard T2 multi-rib separators and T2 technology



Clearscape ETQ Fungicide

sipcamadvan.com

GIS Booth #3818

- Combines tebuconazole, a much anticipated DMI fungicide for use on golf course turf, with ETQ technology
- New tool for managing disease and turfgrass stress with a single product
- ETQ technology enhances turf quality and manages turfgrass stress factors such as heat and UV light
- DMI fungicide technology controls disease by inhibiting processes related to fungal biosynthesis, which disrupts target pathogen growth
- Provides rapid plant uptake, preventative and curative control, low use rate, application flexibility and delayed resistance development
- Controls anthracnose, dollar spot, brown patch, pink and gray snow mold, gray leaf spot and other diseases in turf
- Excellent tank mix and fungicide rotation partner

Clearscape® ETQ™
Turf Fungicide

Echo Dyad ETQ fungicide

sipcamadvan.com

GIS Booth #3818

- Next generation chlorothalonil plus ETQ formulation delivers broad-spectrum disease control and sunscreen-like protection from harmful UVA and UVB rays, while protecting from heat and other stress factors
- Contact fungicide with a multi-site mode of action interrupts the metabolic activity of fungal pathogens and prevents resistance issues
- ETQ technology improves fungicide effectiveness by making plants more efficient
- Improves turf color, strength, density and consistency
- Contains 4.17 lbs. of active ingredient per gallon . . . a different use rate than conventional chlorothalonil products
- Prevents dollar spot, brown patch, leaf spot, gray leaf spot, anthracnose and other diseases
- Natural adhesion to plant blade eliminates need for surfactants

Echo[®] Dyad ETQ™
Turf Fungicide

Eclipse ETQ

sipcamadvan.com

GIS Booth #3818

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- ETQ technology improves fungicide effectiveness by making plants more efficient
- Combination of active ingredient and ETQ technology protects grass blades while controlling dollar spot, brown patch, leaf spot, Fusarium blight, pink and gray snowmold, Pythium blight and other diseases
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Turf Fungicide

E-Scape ETQ

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- ETQ technology improves fungicide effectiveness by making plants more efficient, promotes optimum aesthetic response and provides complete plant protection
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E-Scape™ ETQ™
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Travels With Terry

Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in hand. He shares helpful ideas relating to maintenance equipment from the golf course superintendents he visits – as well as a few ideas of his own – with timely photos and captions that explore the changing world of golf course management.



Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 41-year, life member of the GCSAA. He can be reached at 757-561-7777 or terrybuchen@earthlink.net.

MECHANIC'S STAINLESS-STEEL SHOP TABLE

The Kenosha (Wis.) Country Club remodeled their clubhouse kitchen and they were given a discarded stainless steel table, which was recycled by Scott Verdun, golf course superintendent, Nate Keller, former assistant superintendent, and Dann Steltenpohl, mechanic, and transformed into a mechanic's stainless-steel shop table. The legs were cut-off of the 8-by-3-foot stainless-steel table top and the new wooden frame below was built using 7-foot-10-inch-long and 2-foot-by-10-inch-wide dimensions. The main wooden frame is made of 2-by-6-inch construction pine with 2-by-4 boards for additional support every 10.5 inches. The frame is held together using 16d 3½-inch nails. 4-by-4 posts makeup the table legs, which are anchored to the main frame using 7-inch lag bolts. An additional shelf was made 18 inches above the floor, supported by a 2-by-4-inch frame covered with ¾-inch plywood, which is commonly used for tools and parts storage. The top of the wooden frame was covered with 3-by-4-inch plywood with two 1-by-4-inch holes drilled in all four corners to slide the original table leg supports into. With all its sturdiness, this table can easily support the weight of two walk-behind greens mowers in addition to a 210-pound superintendent, who tested the stability and safety. This table is quite heavy and sturdy, which does not require it to be bolted to the floor, so it can be moved whenever necessary. The total material costs were approximately \$80 and it took about 1½ hours to build.



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Pat Jones is editorial director and publisher of *Golf Course Industry*. He can be reached at pjones@gie.net or 216-236-5854.

ON THE BOARD

Ever since that September day in 1926 when a small group of greenkeepers gathered in Sylvania, Ohio, to form the GCSAA, we have been a profession driven by the spirit of volunteerism.

Other than a few, well-funded exceptions, most chapters and turf associations are run primarily by superintendents who freely give their time and talents for the benefit of the larger profession. Our own Monroe Miller is a great example: he's probably put in 5,000 hours into writing, editing and managing the Wisconsin GCSA's "Grass Roots" magazine over his career and never received a dime. He did it because he was passionate about his profession and his association.

But, times are changing in the industry and the non-profits that serve it. Nearly every association has seen revenues fall as trade shows have declined, advertising has contracted and memberships have shrunk. They're being forced to operate in a leaner, meaner fashion. They're also being asked to deliver proof of value more than ever before. Companies are demanding a return on investment instead of just blindly writing checks.

The other casualty is the volunteer ethos that made us great to begin with has been weakened substantially. Fewer superintendents can devote time to their local chapters – even though they would love to – because of pressures to be focused on their real jobs or because they simply don't have their facilities' financial support anymore. I worry that younger folks aren't getting involved. Where will the next generation of leaders come from?

Fortunately, we're lucky to still have a dedicated, core group of leaders who – year after year – volunteer for board service or for demanding jobs like

government relations chair. It takes a remarkable person to accept what amounts to a second job and balance it with family and the occasional day off. I tip my hat to every one of you who serves as a volunteer leader.

And that includes those who serve nationally, particularly on the GCSAA board of directors. Yes, there are perks to national service, but does anyone really believe those perks outweigh the time, the responsibility, the nasty emails and, most importantly, the risks posed to their jobs? Yet they serve anyway...and that's something to be

I worry that younger folks aren't getting involved. Where will the next generation of leaders come from?

greatly admired no matter what you think about their policies or decisions.

Now, as we approach the GIS, it's important to recognize the most supreme challenge the national board and staff faces: how to manage the future of an association that has seen revenues decline dramatically.

Overall, their revenues from membership, education, magazine advertising and sponsorships are down. But the critical fact is the show, which has been Elsie the Miracle Cash Cow for two decades, is slowly shrinking.

In part, it's because of the overall downturn in golf. Our market has stabilized and is growing a bit, but it won't ever "come back" to the boom times we experienced in the '90s and early '00s. Anyone who tells you different is blowing smoke up your tailpipe.

And even if there is an unexpected future resurgence in the develop-

ment and maintenance business, the national show won't just rev back up to previous levels. Why? Trade shows have been hurt badly by the Internet, the GIS has never been a "selling show" where exhibitors booked revenues and could clearly show ROI, and educational credits – long a key reason to attend the national and meander around the show – are now widely available and often cheap or free.

So, the GCSAA leadership has to rethink their entire business model because just continuing to do the same thing is the surest path to failure. They have cut staff and services, they have dipped into reserves for operational funds year after year and they have raised dues. Hmm...that's exactly what a lot of golf facilities have done, too. How's that working out for them?

The bottom line is only about 2,500 superintendents will actually attend the San Diego show and industry partners have lots of other ways of talking to those well-known customers which don't require a ludicrous sum of money to put up a fancy booth for two days. For most exhibitors today, continuing to participate in the show is either very expensive exercise in "supporting the association" or a very expensive attempt to avoid the "conspicuous by our absence" label. And that last rationale is starting to crumble a little. You might be surprised by a few of the well-known companies that don't exhibit at all anymore.

I'm rooting for a solution. Perhaps it's a regionalized approach that makes superintendent participation easier. Perhaps it's an every-other-year schedule. All I know is change has to come, and your hard-working national volunteer leaders are going to have to commit to that change sooner rather than later. **GCI**



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