

JANUARY 2015
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2015 STATE OF THE INDUSTRY

THE INDUSTRY IS GROWING
IN WAYS THAT MAY **SHOCK**
AND SURPRISE YOU.
GET THE TOTAL PICTURE
BEGINNING ON PAGE 9.

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TEEING OFF

99 PROBLEMS?

As I consider the thick notebook of results from GCI's 2015 State of the Industry study, the words of that great philosopher Jay Z keep floating around in my head: "We got 99 problems but the turf ain't one."

It was clear from this year's responses that supers increasingly have the operational side buttoned down. The worries are on the business side: growing the game, slow play, discounting, aging memberships, etc. Agronomic concerns like water availability, regulation and costs like chemicals were way down the list.

I know you'll read the whole thing, but here are a few key observations from the report (which will spill over into February because we had so much good stuff):

- Overall, maintenance and capital budgets are growing modestly but steadily, and the number of profitable operations has grown by 25 percent in the past three years.
- Purchasing habits are getting smarter via EOP buys and consolidation with fewer vendors.
- The number of courses overseeding is less than half of what it was 10 years ago and, consequently, dyes and colorants are exploding.

But, of all the eye-openers none was more interesting than this: 94 percent of y'all feel you have the confidence of your ownership or membership.

Wow. In a profession historically driven by fear and insecurity, that's remarkable. That result ties closely to this one: 65 percent feel recognition of the profession has improved in the past decade.

Based on that, I'm willing to draw the following conclusion: The emerging golf market will be smaller, smarter and better and business-minded superintendents will thrive and, in many cases, be the most critical part of a facility's success.

You guys hold the key to the future: the ability to present a golf course that meets or beats the expectations of the customer. The entire industry is coming your way...if you choose to get out of your comfort zone and embrace the big picture.

Speaking of the big picture, we would be totally unable to do any of this without two companies that see it already: Jacobsen and Nufarm. Sponsoring a project of this magnitude is no small investment and it takes a company with foresight to realize we must have a deep understanding of our present to be successful in the future.

It's also pretty cool that 600 of you completed our lengthy survey! As a result, we'll be able to increase our contribution to the good work being done by Wee One Foundation on behalf of GCI, Jacobsen and Nufarm again this year. **GCI**



Pat Jones

Editorial director and publisher

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18-0-18 69% Meth-Ex 2% Fe SOP

21-0-15 90% Meth-Ex 3% Fe SOP

24-0-8 94% Meth-Ex 3% Fe 2% Mg .5% Mn SOP

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Turfhead forum

2014 Syngenta Business Institute is a crash course for the next generation of superintendent leaders.



In early December more than 50 superintendents from the U.S. and Canada attended the 2014 Syngenta Business Institute at Wake Forest University. The three-day seminar focused on advanced, hands-on management training.

Are you a Baby Boomer and just can't communicate effectively or properly manage younger workers? Are you a member of Generation X and just don't understand Baby Boomers or Generation Y?

Gaining a better understanding of what makes each generation tick is an important component to streamlining your management skills – both for bosses and for workers – and will lead to a more productive crew, even on a golf course. For example, it's important to realize that a characteristic driving Generation Y is their focus on doing what is necessary in their careers to support their outside interests. This contrasts members of Generation X who focus more on maximizing their career potential. It's an important lesson taught to a select group of superintendents who were chosen to attend the 2014 Syngenta Business Institute. The annual program took place at Wake Forest University's Graylyn International Conference Center in Winston-Salem N.C., in early December.

Since 2009, Syngenta has put on the event to provide superintendents with practical, hands-on knowledge and management skills to improve and enhance their business skills. In addition to multi-generational and cultural relations, the seminars focused on accounting and financial management principles, negotiating, and professional development.

Perhaps the most valuable lessons took place outside of the classroom during the event's numerous networking sessions. These provided attendees the opportunity to pick the brains of fellow turfheads from golf courses around the U.S. and Canada.

In addition to the valuable education, Syngenta debuted a new SBI app. The app not only provided a practical syllabus and itinerary for the three-day event but the hope is to connect with previous classes to provide a multi-class forum to connect SBI graduates with each other.



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HIT PLAY FOR SRN



GCI covers the most important news both in print and online. But if you haven't been listening to the Superintendent Radio Network, you've been missing out. Last year we talked about golf in China and views from the biggest industry shows. We even did a special series interviewing California

superintendents dealing with the heaviest drought in years statewide.

We've got even more in store for this year, with stories from our State of the Industry survey showcasing how superintendents handled last year's highs and lows, plus more interviews connected to what you're reading in the print edition. We'll bring the show floor to you with more coverage at industry events.

We'll bring superintendents the quick knowledge they need to talk about industry issues with players and managers with our Talking Points series, direct from experts. This month, Dr. Danesha Carley helps us deal with native turfgrass on the golf course. Check out the podcast at bit.ly/14rwh9a.

And we're kicking off more series this year, starting with a look at superintendent health issues: In January, we're talking to Mike Fabrizio about work-life balance, and how he learned to find his equilibrium in the industry.

Listening to the Superintendent Radio Network is easy. You can find all the episodes on the GCI website, or along the bottom navigation bar on the GCI app. Check out our monthly playlist newsletter for all the newest uploads, or automatically get the new shows by subscribing to the show on iTunes.

TWO U.S. OPENS DOWN, SALES CAREER TO GO

A superintendent who hosted two U.S. Opens is entering the industry sales force.

Macro-Sorb Technologies and SMS Additive Solutions hired former Pebble Beach and Winged Foot superintendent Eric Greytook as its national sales director. Greytook will direct sales activities for both companies, implementing agronomic programs, strategic planning and new product development, as well as provide assistance and product training for golf course and sports turfgrass

professionals.

Greytook became the youngest superintendent to prepare a course for a U.S. Open when Pebble Beach hosted the event in 2000. He was 27. Greytook hosted a second U.S. Open before turning 35 while working as the superintendent at Winged Foot in 2006. He also has served as the superintendent at Belfair Plantation (S.C.) Golf Club and Eagle Point (N.C.) Golf Club.



Greytook



THE FEED

We knew this headline would spark industry debate when it hit our inbox: "LWCC renovations include T1 bentgrass grass." The course replaced its Bermudagrass after observing the emerging variety of bentgrass at the PGA Championship at Valhalla Golf Club. Valhalla is in Louisville, Ky. Lake Wales is a Donald Ross design in Polk County, Fla. Let the "heated" debate begin.



Clay DuBose, CGCS

@ClayHomerun

Bentgrass south of Orlando, Florida? Ouch, that sounds like a fun summer! #NoThanks



Terry Davio

@terrydavio

seems odd to go with bentgrass that far south in Florida, esp w/ultradwarf thriving north to NC.



Bryce Gibson

@BryceGibson8

interesting, especially from a course in polk county with maybe 6 to 8 crew members. Good luck in the summer. #Hot



Eric Radkowsky

@bvgcturf

this must be the new definition of sustainability... #sarcasm



Kevin Hicks

@golfsuper1992

Inspirational! Thinking about being the only course in Idaho with ultra dwarf; not. #thatsso25yrsago



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2015 STATE OF THE INDUSTRY



THE **INDUSTRY IS GROWING** IN WAYS
THAT MAY **SHOCK AND SURPRISE YOU.**

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FROM OUR SPONSORS

As golf course superintendents surely know, and as a wise person (probably Pat Jones) once noted, there are lies, damn lies and statistics.

In the golf world, annual or monthly "rounds played" numbers sometimes serve as the stick with which certain segments of the media hits the golf industry. When total rounds played figures decline, it's seen as a sure-fire sign that the industry is depressed. On the surface, that was the case in 2014, when total rounds played were on track to decline by ~1 percent year over year from 2013.

But a deeper look at data compiled by PGA PerformanceTrak¹, taking into account days open due to weather and other factors, showed that, through October, "2014 is maintaining its trend as the highest number of rounds played per day open in the past five years."

In 2015, we'd like to invite golf course superintendents to take a closer look at Nufarm and our industry-leading portfolio of pest management solutions. We've also made important progress in the past few years, adding marketing and distribution rights to product lines from Cleary Chemical Corporation and Valent U.S.A. Corporation to an already diverse line of offerings.

We offer golf course superintendents a comprehensive product line of herbicides (Last Call™, Escalade®, Cool Power®, Millenium Ultra™, SureGuard® and Velocity®), fungicides (Affirm™, Stellar®, Torque™) and insecticides (Arena®). We're also constantly working to bring new and innovative products to the market to help superintendents accomplish their goals and solve their toughest challenges.

To ensure we provide "Better Choices. Better Business," Nufarm has a knowledgeable and experienced sales and marketing team, quality regulatory and product development resources, and a responsive customer service team all dedicated to the highest levels of service for our customers.

Through our sponsorship of Golf Course Industry's Superintendent Radio Network and other informative programs, we continue to invest in superintendent education.

As we look ahead to 2015 and beyond, Nufarm will continue working to provide the golf course industry with innovative solutions to their most challenging pest problems. At the same time, our vastly experienced team of sales and technical experts will be right beside you providing the support you need to reach your potential.

Jason Fausey
Nufarm



We are proud to sponsor Golf Course Industry magazine's 2014 State of the Industry Report. The annual study provides our industry critical information about strengths, weaknesses and opportunities that we can all leverage to improve and grow our businesses.

At Jacobsen, we understand that our success is intrinsically tied to yours. The more we can help your courses increase rounds, revenue, and profit, the more we all succeed.

We continue to serve the industry as a true partner in three ways:



Manufacturing Superior-Performing Products — Jacobsen has been synonymous with superior quality-of-cut since 1921. From the revolutionary technology of our ECLIPSE greens mowers to the class-leading productivity of the AR722T rough mower, Jacobsen has been an industry leader in turf equipment reliability, innovation and performance.

Proving World-Class Service — We understand how important it is for your team to be up and running every day. Through our parts distribution center in Charlotte, North Carolina and our national network of certified dealers, we provide the service and parts you need to keep our products – and your team – performing at the highest level.

Supporting Key Industry Organizations — We continue to support vital associations and organizations including the Golf Course Superintendent's Association of America, the PGA of America, the National Golf Course Owners Association, the International Golf Course Equipment Managers Association and the Golf Environment Organization.

We hope you find this study to be a helpful and useful tool.

Moving forward, Jacobsen will continue to work as a true industry partner, providing products, service and support that can help you be more successful every day.

Best Regards,

David Withers
President
Jacobsen

¹PGA PerformanceTrak Newsletter, October 2014

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JACOBSEN



INDUSTRY INSIDER

Larry Hantle
Superintendent
Country Club of Paducah,
Paducah, Ky.

"It's difficult to find the help. It's not difficult to stay under budget because you can't find the help. If you don't have them working, you're not spending the money. I think a lot of guys are in the same boat."

BUDGET

Overall, the average superintendent non-capital operations budgets rose nearly \$46,000 over the last three years, from \$651,392 in 2012 to \$697,000. And when compared to 2014, nearly half (49 percent) of superintendents expect to be working with a larger budget in 2015. Only 17 percent anticipate a smaller budget.

Private courses, according to the data, experienced the greatest boost in their average operating budget over the last three years, reporting an increase just over \$91,000. Regionally, Midwest supers were below the overall average, with budgets of around \$553,000; and those in the Northeast fared the best with budgets around \$800,000, followed by those in the South

(\$771,000) and the West (\$740,000), according to the data. And when compared to the previous year, 61 percent of private courses plan to work with a larger budget, as well as 60 percent of courses out West. On average, that increase is between 1 percent and 9 percent, according to the data.

Fungicide spending remains superintendent's most expensive budgetary line item. Respondents expect to surpass \$34,000 in average fungicide spending in 2015, a slight bump over the \$33,400 budgeted three years ago. Private courses expect to spend more than \$49,000 on fungicides this year, up nearly \$5,000 when compared to 2011. Northeast superintendents plan to spend the most on fungicides, budgeting more than \$58,000, followed by Mid-

west supers (\$36,600), southern supers (\$28,800) and those in the West (\$11,300).

However, despite the price tag, fungicide spending doesn't rank as a top budgetary concern. In fact, "chemical spending" ranks fourth among all respondents' top-five concerns, and breaks onto the list only in the Midwest and South.

"Labor" and "equipment replacement" held the No. 1 and No. 2 spots respectively except for in the Midwest where they were flipped. With regard to equipment replacement spending, the budget numbers indicate that superintendents are budgeting less on mowing and cultivation equipment in 2015 than they did in 2012 (\$31,300 vs. \$37,644, respectively), which may contribute to this anxiety.

TOP 5 BUDGET CHALLENGES



2015 TOP 5 BUDGET CHALLENGES BY REGION



2012

2015

	All	Non-private	Private	All	Non-private	Private
AVERAGE TOTAL	\$651,392	\$458,071	\$848,961	\$697,000	\$487,000	\$940,000
Water	16,499	12,484	20,390	22,800	17,400	28,600
Fuel	28,174	22,260	33,876	29,200	22,900	36,200
Mowing/Cultivating equipment	37,644	25,335	50,649	31,300	25,700	37,700
Handheld equipment	3,066	1,702	4,419	2,410	1,720	3,180
Course Accessories	4,561	3,804	5,294	4,410	3,030	5,970
Electricity & natural gas	19,046	17,990	20,088	21,300	18,200	24,800
Shop tools	2,568	1,878	3,284	2,860	2,160	3,620
Irrigation parts, heads & maintenance	7,918	5,948	9,876	84,100	6,880	10,170
Fungicides	33,461	22,163	44,476	34,100	20,900	49,000
Herbicides-preemergent	6,369	5,109	7,603	6,370	4,880	8,010
Herbicides-postemergent	3,869	3,613	4,144	4,260	3,500	5,120
Insecticides	5,141	3,694	6,570	6,190	3,580	9,160
Granular fertilizers	17,723	15,203	20,244	20,300	16,800	24,300
Liquid fertilizers/biostimulants/foliars	10,231	7,315	13,088	12,100	9,000	15,500
Wetting agents	4,399	3,129	5,669	6,150	3,500	9,120
Plant Growth Regulators (PGRs)	5,151	4,309	5,982	4,570	3,230	6,050
Seed	4,620	4,127	5,138	7,390	7,030	7,780
Aquatic Weed control	1,890	1,635	2,145	2,570	1,500	3,710

BUDGET CHANGES

2011 vs. 2012

ALL	PRIVATE	NON-PRIVATE	PERCENT CHANGE
1%	1%	1%	Increase 20% or more
7%	4%	8%	Increase 10%–19%
27%	38%	19%	Increase 1%–9%
33%	30%	36%	No change
28%	24%	32%	Decrease 1%–9%
7%	4%	8%	Decrease 10%–19%
2%	1%	3%	Decrease 20% or more

2014 vs 2015

ALL	PRIVATE	NON-PRIVATE	PERCENT CHANGE
1%	1%	1%	Increase 20% or more
3%	2%	3%	Increase 10%–19%
45%	37%	57%	Increase 1%–9%
34%	39%	27%	No change
14%	17%	10%	Decrease 1%–9%
3%	4%	2%	Decrease 10%–19%
0	0	0	Decrease 20% or more

%

JON LOBENSTINE

Director of agronomy
Montgomery County (Md.) Golf
"Now you have these year-to-year uncertainties with the growth of the game and why aren't people playing as much golf in general. We're losing golfers. We're trying to do the right thing, but ultimately it comes down to time, and what people are doing with their free time is playing less golf."

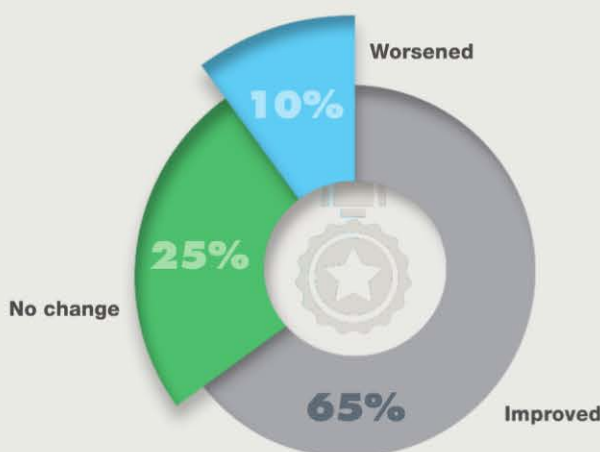
SUPER ATTITUDES

A lot has changed in the last decade, including how people view the vital role superintendents play not only on their course but in facilitating the golf experience. Nearly two-thirds (65 percent) of survey respondents cite a change in attitude and perception for the better. Only 10 percent of respondents believe that attitudes toward superintendents have worsened in the last 10 years.

Likewise, an overwhelming majority of respondents (95 percent) believe membership and ownership supports them in their endeavors.

Lack of new players remain the game's primary challenge, according to superintendent respondents. However, secondary concerns varied geographically, with speed of play a concern among 45 percent of all respondents, but dealing with a "saturated market" was an issue in the South and "water pricing and availability" a significant issue with superintendent respondents in the West.

CHANGE IN RECOGNITION OF A SUPERINTENDENT'S IMPORTANCE



METHODOLOGY

During the last quarter of 2014, Golf Course Industry contracted with Readex to assist in the creation and to facilitate the distribution, completion and computation of State of the Industry survey that examined superintendent trends and attitudes on a variety of topics.

GCI had 569 superintendents or superintendent-equivalent personnel of 18-hole facilities from around the U.S. complete the survey. As an added incentive to complete the questionnaire, GCI committed to making a substantial donation to the Wee One Foundation, a charity group started in memory of Wayne Otto, CGCS, that assists superintendents and other turf professionalism in need.

For the purpose of this report, data was broken down beyond "all" responses to include analysis by:

- **Private vs. Non-private** – Private course superintendents made up 43 percent of all respondents, while public course superintendents made up 57 percent. "Non-private" included public/daily

fee (23 percent), semi-private (15 percent), resort (5 percent) and government/municipal courses (14 percent).

- **Geographic region** – Respondents were broken down by their location: Northeast (19 percent of total respondents); Midwest (33 percent of total respondents); South (31 percent of total respondents); and West (17 percent of total respondents). See the map for which state belongs to which region.

- **Non-capital ops budget** – Respondents were also categorized by how their 2015 non-capital operations budgets compared to the average (\$697,000). This included "below the average" (58 percent of total respondents); "at average plus" (42 percent of total respondents) and "\$1 million plus" (23 percent). It should be noted that "\$1 million plus" was also represented in "at average plus."

Finally, when applicable, the 2015 data was compared again data from the 2012 State of the Industry report, which analyzed trend and attitude data compiled during the fourth quarter of 2011.

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BIGGEST CONCERNS ABOUT THE FUTURE OF GOLF



Speed of play	Saturated market	Water pricing/availability
45%	42%	30%
Regulations	Image	Other
25%	17%	13%

*Editor's note: "Other" responses included: staff and labor; costs; chemical restrictions; chemical affordability; undercutting the price of rounds; unsustainable expectations; and unwillingness of membership to change for the long-term betterment of their club/course.

NORTHEAST

Lack of new players	86%
Speed of play	45%
Saturated market	41%
Water pricing/availability	17%
Regulation	29%
Image	21%
Other	14%

MIDWEST

Lack of new players	85%
Speed of play	48%
Saturated market	43%
Water pricing/availability	22%
Regulation	21%
Image	15%
Other	13%

SOUTH

Lack of new players	85%
Speed of play	39%
Saturated market	43%
Water pricing/availability	34%
Regulation	29%
Image	16%
Other	13%

WEST

Lack of new players	80%
Speed of play	50%
Saturated market	35%
Water pricing/availability	61%
Regulation	27%
Image	17%
Other	12%

RENOVATION & CONSTRUCTION

Superintendents will focus their 2015 primary capital spending on equipment purchasing (51 percent), a trend seen previously when asked about their top budget concerns heading into the new year.

Projecting out over the next

three years, bunker projects are the main renovation and construction projects, according to respondents. More than half (51 percent) indicated they'll engage in bunker improvement projects, while 14 percent will conduct total rebuilds. Bunker removal plans accounted for 10 percent of

the responses, while only 7 percent say they were going to add bunkers.

Geographically, the greatest instances of bunker improvements will take place in the Northeast, with 57 percent of superintendents indicating this is planned for the next three years. Interestingly enough,

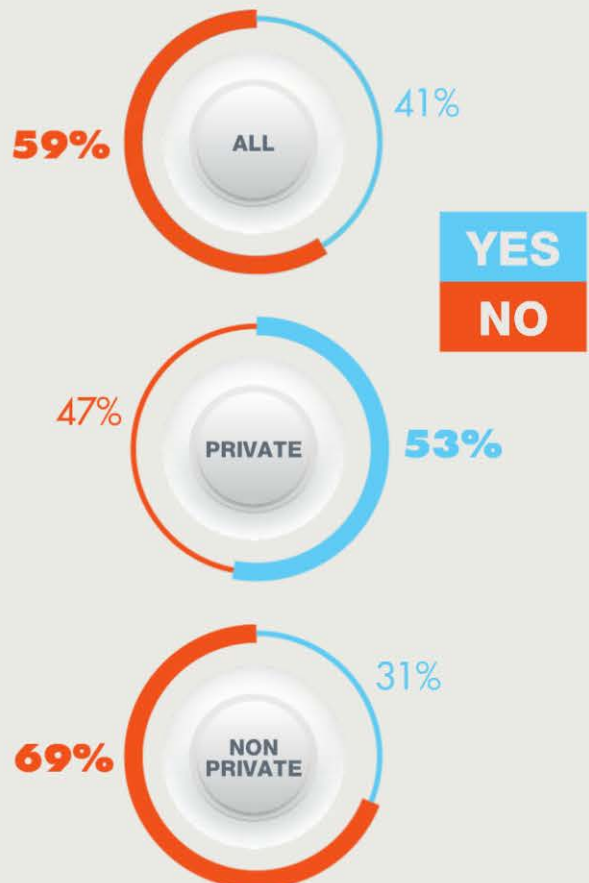
from a budget standpoint, those operating below the average 2015 budget (roughly \$697,000) will conduct more bunker improvement projects (53 percent of respondents) than those operating with more than a \$1 million budget (45 percent of respondents)

PRIMARY FOCUS OF 2015 CAPITAL SPENDING



*Editor's note: "Other" responses included: tree removal, cart path projects (renovation/resurfacing); landscaping; bridge construction; and waterway construction and restoration.

MASTER PLAN IN PLACE OUTLINING THIS WORK



RENOVATION AND CONSTRUCTION PROJECTS FOR THE NEXT THREE YEARS



BUNKERS

51% Improve
14% Total rebuild
10% Remove
7% Add
29% No change

COURSE LENGTH

6% Improve
1% Total rebuild
2% Remove
7% Add
82% No change

GREENS

20% Improve
5% Total rebuild
0% Remove
2% Add
69% No change

NATIVE AREAS

21% Improve
1% Total rebuild
2% Remove
25% Add
51% No change

TREES

12% Improve
1% Total rebuild
47% Remove
20% Add
27% No change

TURF

31% Improve
2% Total rebuild
8% Remove
4% Add
51% No change

INDUSTRY INSIDER

JUSTIN APEL

Executive director
Golf Course Builders Association of America

"The economy is too easy of an answer. Clubs had the money, but they were being cautious with how they were spending it. They wanted to wait and see. Some of these repairs just couldn't go any longer. They just had to move forward with it. You obviously do see some of the courses that did have to wait for the economy and funds to free up. With the private sector, it was just waiting to see what the market would do and now that they have a little bit of comfort, they are able to move forward."

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Thanks to **all-hydraulic deck** and traction drives, **212 less service parts** and **17 less grease points than the competition**, the all-new Jacobsen TurfCat out-front rotary mower provides the **lowest cost of ownership in its class**. The TurfCat also offer **superior versatility**, with nine different deck configurations and five attachments to keep it working year-round. If you want to get more done for less, take a look at the Jacobsen TurfCat at Jacobsen.com.

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DOUG MILLER

Senior VP of golf course management
ClubCorp

"I think a lot of the grass types have changed things over the years on aerifications and frequencies. The chemical industry continues to change with new technology and new chemicals have helped us do some things differently. Obviously, some things have gotten worse when we lose stuff like Nemacur. It has made it more difficult."

TURF MANAGEMENT

By far, sand topdressing, core cultivation on greens, verticutting greens and rolling greens are the most popular agronomic practices being followed by superintendents.

However, when looking closely at the data, some exceptions emerge. For example:

- 85 percent of Midwest superintendents practice core

cultivation on their greens, compared to 93 percent of all respondents

- 91 percent of superintendents from the West verticut their greens, compared to 85 percent of all respondents
- 73 percent of Northeast superintendents practice core cultivation on their fairways, compared to 61 percent of all respondents

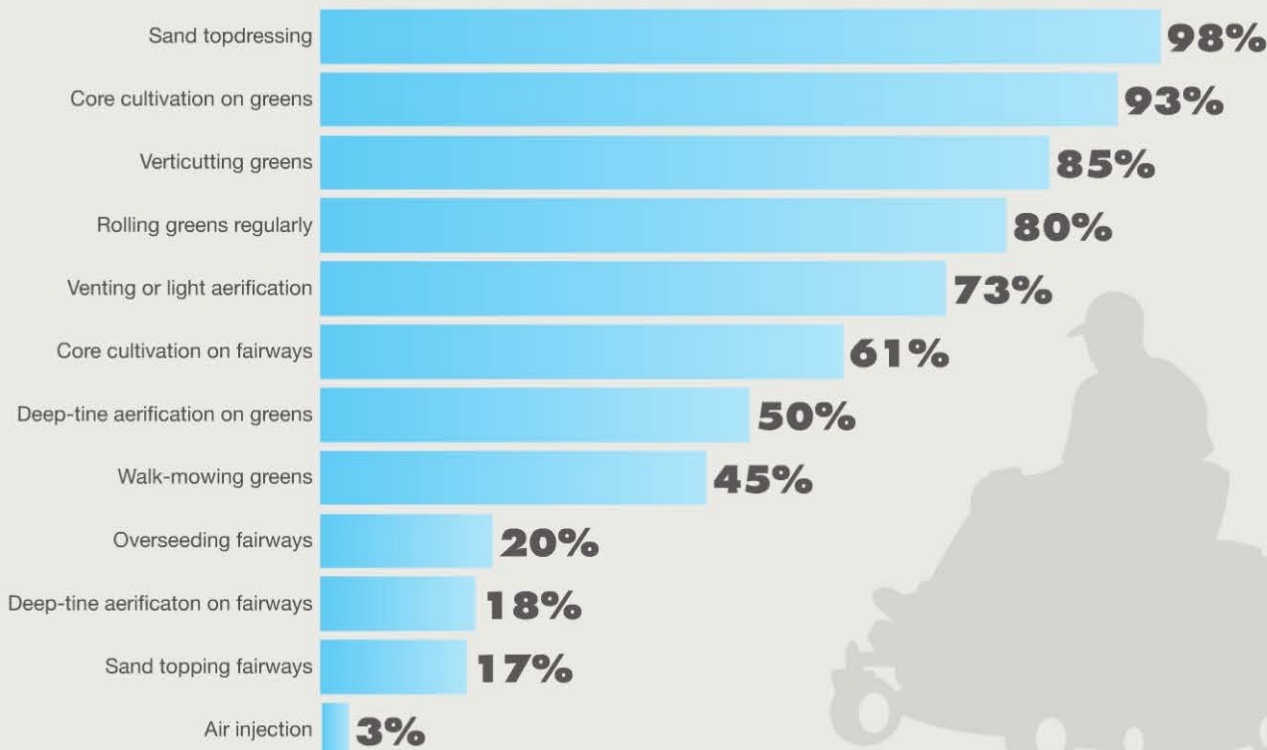
- 71 percent of superintendents at private courses walk-mow their greens, compared to 45 percent of all respondents

With regard to granular and liquid fertilizer trends, across most data breakdowns respondents maintained around a 60/40 split, respectively. The one exception was in the Midwest, where respondents indicated around 63 percent

of their fertilizer was granular.

The same sort of trend could be seen in overseeding, as well, with only a third (34 percent) of overall respondents saying they overseed. This trend could be observed across data breakdowns (private vs. non-private, geographic and budget size) with the exception of Midwest respondents, of only 19 percent said they overseeded.

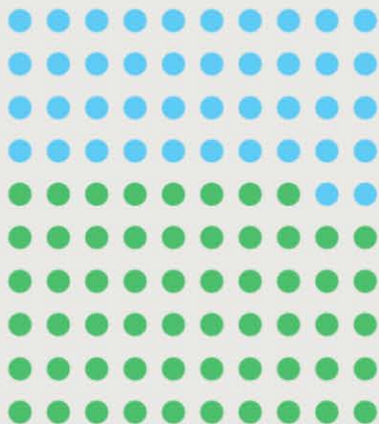
STANDARD MOWING AND CULTIVATION PROGRAMS



GREEN SPEED MANAGEMENT PHILOSOPHY

	Keep them moderate and healthy	Fast & firm all the time	Manage them up for events	Whatever the weather allows me	Mowing higher and running slower to minimize risk	Other
All	54%	30%	28%	21%	2%	2%
Private	32%	50%	31%	29%	0%	3%
Non-Private	70%	16%	26%	14%	4%	1%

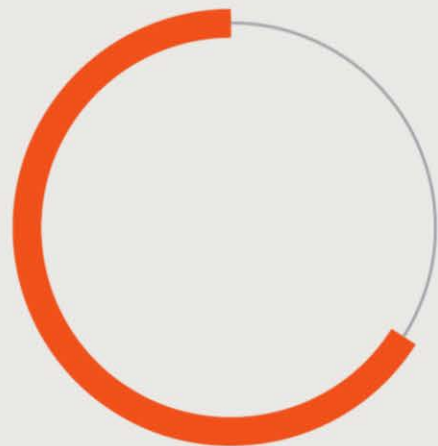
FERTILIZER MAKEUP



58%
GRANULAR

42%
LIQUID

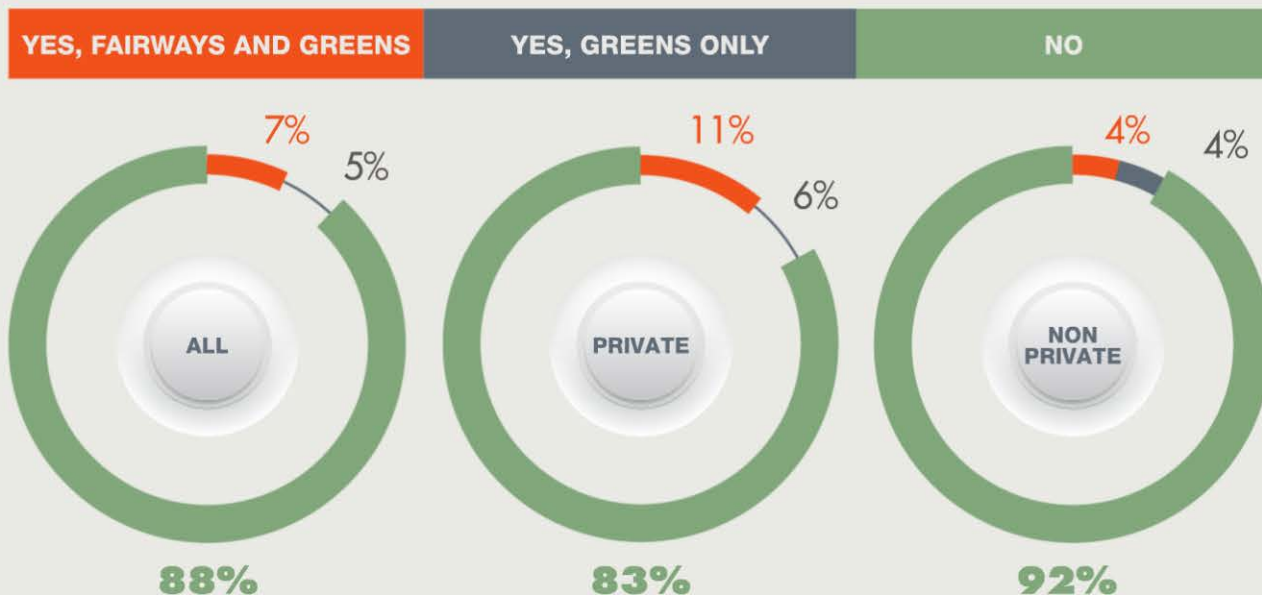
OVERSEEDING



66%
DON'T
OVERSEED

34%
OVERSEED

CONSIDERING A TURF CONVERSION IN THE NEXT THREE YEARS



SEED

We reported about a turf seed shortage in our April 2014 issue. Economic factors favoring other more profitable crops were resulting in a run on popular turf seed varieties. Many experts hypothesized at the time that this could influence superintendents' overseeding practices.

However, according to the research data, seed price and availability have not influenced seed use among golf course superintendents.

HAS PRICE AND/OR AVAILABILITY OF CERTAIN SEED TYPES REDUCED YOUR USE OF SEED?

YES 24%

NO 76%



INDUSTRY INSIDER

LARRY HANTLE

Superintendent
Country Club of Paducah, Paducah, Ky.

"I still think the greenspeed issue across the country is probably out of the control because in my mind really, really fast greens are a detriment to the game, especially to new players because new players can't cope with that and they are going to give up a lot faster. I'm not saying we need to go back to the days where we are six or seven on the stimp meter. But there has to be a balance and it's also part of cost. A lot of times we have tipped the scale too far and we need to come back to a middle ground."

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HENRY DELOZIER

Principal
Global Golf Advisors
"Certainly people are smarter. This was a great recession. Nobody should waste the lessons learned from it. Operators were very clever and deliberate with their expense management. Where we have seen substantial change and substantial growth has been in the capability of operators to improve their revenue stream. For the longest time, the golf operators were myopic in their focus on expense management if their revenues progressively declined and declined until finally the right people figured out how to drive revenue. That has now changed."

PAINT IT BLACK

There's more black ink on golf course ledger books than three years ago. In 2014, nearly three-quarters of superintendents (71 percent) reported their facilities either turned a profit or broke even, compared

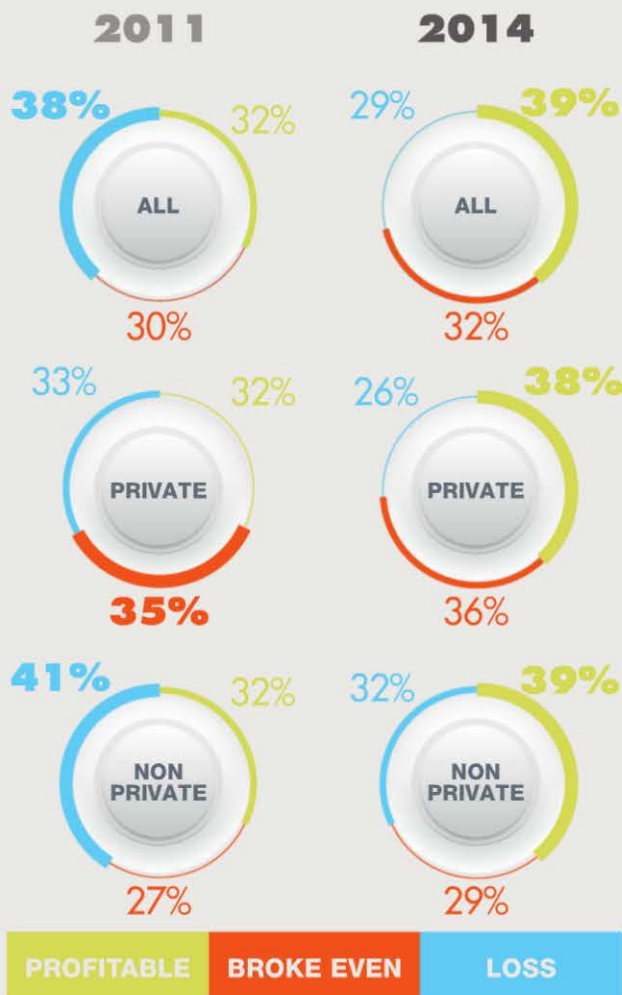
to 62 percent three years ago. That trend is higher with private courses, with 74 percent reporting being in the black in 2014, compared to 67 percent in 2011. However, non-private courses did even better over the last three years, with 68 percent reporting profitable or

break-even financials in 2014, a 9 percent jump since 2011.

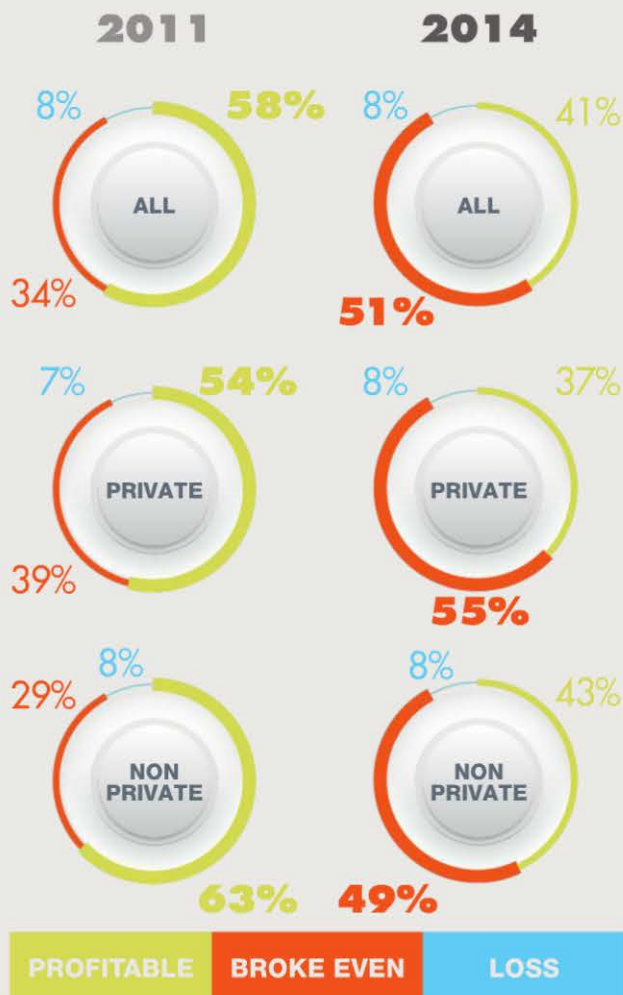
And there's room for optimism. In 2011, 92 percent anticipated a more profitable or stable financial scenario in three years. When asked to again project out three years, 92 percent an-

ticipated continued black ink in the books, and this figure remained consistent across the boards between private and non-private courses. It should be noted, that while fewer courses predicted increased profitability, they did see stable financials in lieu of losses.

WAS YOUR FACILITY PROFITABLE LAST YEAR?



ANTICIPATED ECONOMIC HEALTH IN THREE YEARS



IF IT AIN'T BROKE...



Tim Moraghan, principal, ASPIRE Golf (tmoraghan@aspire-golf.com). Follow Tim's blog, Golf Course Confidential at www.aspire-golf.com/buzz.html or on Twitter @TimMoraghan

You will never see me kicking a soccer ball on a golf course. For the life of me, I don't understand how that's supposed to get someone interested in playing golf. Will hitting 9 irons on a soccer field increase interest in soccer?

Somewhere, there's a disconnect.

I'm not saying everything in golf is perfect. But for a game that has been around for more than 400 years, it's possible that we are overthinking the need, and the process, to help it to grow. Is growth really what we want? Are we trying to make golf something that it's not? And if so, who is behind this pressure to grow — and why? What's in it for them?

In this country, at least, golf has always been a niche sport: open to all but with some significant obstacles to participation. Traditionally, these obstacles have been time and money. There's also skill, but that's true of all sports and part of the appeal of golf, and any other sport, is the opportunity to better those skills. Those barriers are why golf will never be basketball, baseball, or even tennis, which have always been more accessible.

Golf is more like polo, and there's nothing wrong with that. Not every sport has to appeal to everyone or be easily accessible. Consider yachting. Even skiing, assuming you don't live next to a mountain. They are all niche sports, of great interest to some, a total dud to others. That's fine.

And golf is fine, just the way it is. Golf has everything one could want — challenge, skills, the opportunity for camaraderie, the great outdoors, beautiful scenery, travel, fun, competition... I could go on and on.

Plus, golf generates billions of dollars in revenue for charity, real estate, equipment, apparel and other businesses. How do we know? Because even while the game has been "dying" — according to some reports — big companies are still lining up to slap their names on tournaments, give millions of dollars to the best players, and entertain their clients in tented villages and on courses.

Golf is not dead, it's just been on a diet. I happen to think it's lost a lot of unnecessary and harmful fat so it is much closer in size — and health — to where it should be.

Yet there still are countless initiatives to grow the game, a boiling stew of names and logos and ideas and programs and charities and corporations and private clubs and famous pros trying to fatten it up again.

Pardon my skepticism, but I want to know if these initiatives have been launched to truly help the game or just line the pockets of those most likely to profit from golf's growth.

Do I have the answers? No, I admit that. But I'm asking questions that I feel

should be asked. How broken is golf? How big should it be? Do we want another boom — and the bust that inevitably follows? And who stands to gain?


Should people be encouraged to play golf? Absolutely. It's a wonderful game. And for those of us in the business, more people might translate into more work and more money. But I think we've seen that trying to force the game to grow does not work. Ask the thousands of former employees of now-closed courses and clubs if the "golf boom" of the 1990s was a good thing.

But also ask those of us who genuinely love to play what we think of golf now. Fewer crowds, affordable green fees, great equipment (at lower prices). What's wrong with golf the way it is?

I do have one answer, or maybe more accurately, one opinion. And that is that too much energy, time and money are being spent trying to grow the game when it would be much more effective and smarter to worry about keeping the game where it is. Making it fun for those who are playing it now, not those we hope to get. I realize that won't make as much money for companies that depend on regular growth, but it could help firm up the game's foundation, stop the slide and position golf for a stronger future, a future of slow but regular growth.

This is not about favoring slow play, which ruins the game for so many people. But if it's my dime, I'll take my time. If I have five hours to practice and play, why should I rush through it in four-and-a-half because someone else said I should? That doesn't mean hurting someone else's enjoyment, but maybe we need another way to think about time, and not just shorter spaces between tee times to squeeze more players onto the course. And, honestly, how many courses are packing in so many people

(MORAGHAN continues on page 73)



“ If a bunker doesn’t hold up after a rain event, it doesn’t matter. If there are not good in-grass points, it doesn’t matter. You can get romantic with all aspects of a bunker, but if it doesn’t work, it just doesn’t matter.”

—Allan MacCurrach, MacCurrach Golf Construction

By Guy Cipriano

Year of the rebuilt bunker

Bunker renovations are on the rise. So let's celebrate the process of enhancing a maintenance menace and look at how we started moving dirt like it's 1999.



Those sandy, deep, curvy design elements causing superintendents to shout unprintable words and crew members to think about calling in sick following heavy rain might not look or play the same as they did in 2014 at

many golf courses.

Of the 569 superintendents who participated in GCI's State of the Industry survey, 71 percent report their course is planning at least some form of bunker construction in the next three years. The volume of

bunker projects has provided a jolt to the industry.

Golf course builders entered 2015 knowing, instead of hoping, work would arrive. "We have been negotiating projects before the holidays far more this year," says Judd Duininck, a principal at Duininck Golf. "In fact, we are almost full for the season and we aren't even into the spring."

Architects are scooting from project to project, a welcomed change from the days of silently refining sketches. "I don't pick up the phone and check for a dial tone as often as I did a few years ago," says architect Brian

Silva, principal of Brian M. Silva Inc.

Companies dedicated to providing bunker solutions are among the industry's fastest risers, going from curiosities to bustling businesses in less than five years. "We already have more orders for the first quarter of 2015 than we did over the first half of 2014," says Martin Sternberg, inventor and developer of Capillary Concrete. "I think we are going to do 100 percent more in the first half of the year than we did in 2014."

Unless you are intrigued by washouts or contaminated sand, the designing, digging and in-

vesting should create palatable excitement in 2015. A properly executed bunker renovation can be the quickest route to giving crews something easier to maintain, players something different to experience or, in many cases, both in 2015.

It might be preposterous to proclaim 2015 “The Year of the Bunker.” The USGA, after all, considers bunkers hazards, and they might be the game’s most polarizing feature. “For some reason, they are everybody’s angst on every golf course,” says Allan MacCurrach, CEO and founder of MacCurrach Golf Construction. “And they are the quickest thing to deteriorate.”

One thing most can agree on, though, is that we’re bracing for “The Year of the Rebuilt Bunker.” Let’s celebrate the process of enhancing a maintenance menace and look at how we started moving dirt like it’s 1999.

QUANTIFYING

Discolored sand, impromptu ponds, inconsistent lies, eroding edges and mud-caked golf balls are images of problematic bunkers. The images are powerful, but sometimes getting a needed project approved requires metrics.

Chris Tritabaugh took over as the superintendent at Hazeltine National Golf Club in Chaska, Minn., early in 2013. The job presented career-defining opportunities – How many superintendents get to host a Ryder Cup? – and plenty of bunkers to maintain. Hazeltine, a Robert

Trent Jones Sr. design, features 107 bunkers accounting for more square footage than the course’s greens.

Tritabaugh examined the numbers and estimated the club was spending \$50,000 per year in labor costs associated with fixing bunkers following rain events. The total translates to the salary of nearly four full-time seasonal employees, according to Tritabaugh. With the 2016 Ryder Cup looming and the club’s last major bunker renovation occurring before the 1991 U.S. Open, Tritabaugh presented bunker-related metrics to Hazeltine’s membership. “We were spending somewhere between a third and maybe even half of the dollars that it would take for us to do a full renovation,” Tritabaugh says. “Just to put in new sand for the Ryder Cup wouldn’t really solve all of the problems long term.”

Superintendents are having more success justifying potential savings provided by a bunker renovation to members and owners. Industry officials cite an improving economy, increased spending on golf acquisitions by investment funds, enhanced bunker technology and a desire to stand out in a competitive marketplace as reasons for bunker renovations.

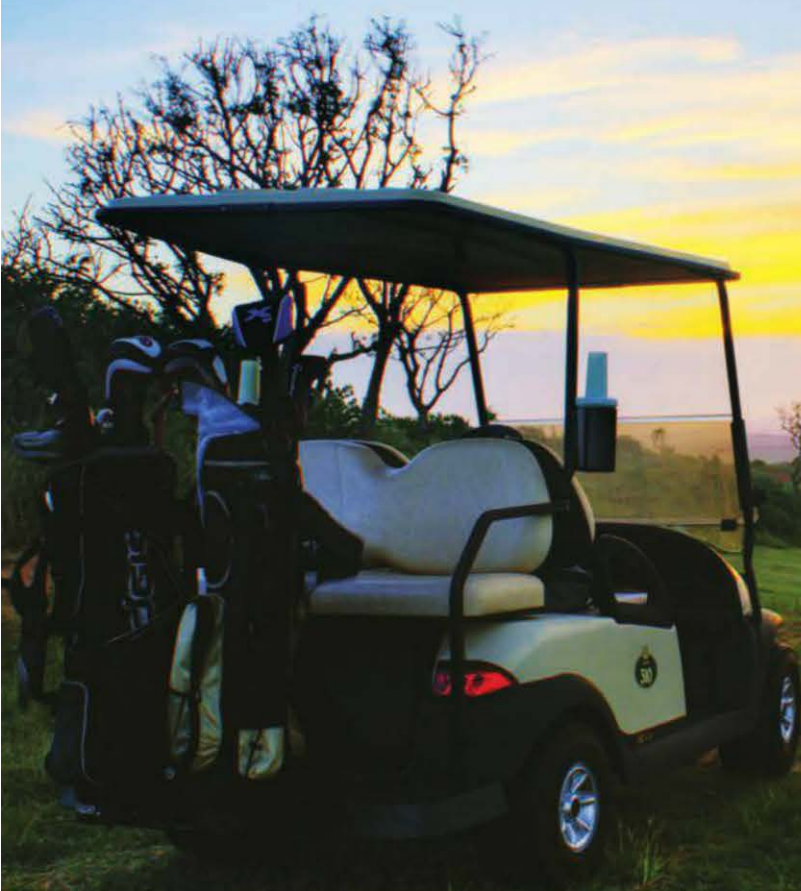
Hazeltine renovated its bunkers using the Better Billy Bunker method, which experienced significant sales spikes in the past year. The company had 16 active projects in December 2013. The number increased to



Before and after photos of the bunker renovation work on holes 8, 7 and 6 at Cape Cod National Golf Club. All 90 of the course’s bunkers were enhanced to make them a more prominent feature on the course. The renovation also included placing liners and new sand in each bunker.

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Hustling at Hazeltine

Some serious hauling recently occurred at the site of the 2016 Ryder Cup. Hazeltine National Golf Club in Chaska, Minn., needed less than two months to renovate its 107 bunkers. Duinick Golf started work in mid-September and finished in early November, despite having leeway to complete the project in 2015. Work involved excavating down to existing subgrades, providing detail shaping to restore bunkers to their original design, and installing new drain tile and the Better Billy Bunker system.

Duinick Golf principal Judd Duinick says the club's decision to allow his company to work freely expedited the project. "If you're talking about speed, it comes down to the club really understanding the contractor and being able to give us their entire golf course and deal with some downtime," Duinick says. "Hazeltine allowed us to get in and work while they played. They knew the short-term pain of that would compress the time schedule quite a bit, and it did. Things drag out when we have to go one or two bunkers at a time."

Entering 2015 with a completed bunker renovation excites superintendent Chris Tritabaugh. The club now has two full golf seasons to hone maintenance practices before the Ryder Cup. The three-day event begins Sept. 30, 2016.

"The next year two years are going to be huge for us," Tritabaugh says. "(This year) we are going to be one year out from the Ryder Cup and we didn't want to do a bunch of work on the course. We wanted people to come, whether it be members, guests or whomever, and experience the course as it's going to be in the 2016 Ryder Cup."

Other changes for the Ryder Cup include a new route, with current holes 1-4 and 14-18 comprising the front nine and 10-13 and 5-9 serving as the back nine. The routing should create a dramatic, spectator-friendly setting because the 16th will be a par 5 and the 17th will play as a par 3 over water. The yet-to-be-selected American captain also may suggest course set-up changes to create a home-field advantage.

contract for the fall, you might have to delay your project," Duinick says. "Either that or you might see very, very inflated pricing. We are turning down work right now."

Everybody looks for something different in a bunker project. A superintendent, for example, views a renovation as a way to disperse maintenance resources to other areas of the course. "I think that \$50,000 has been spent four times already in discussions," Tritabaugh says. Tritabaugh adds that 20 percent of the \$50,000 projected savings could be devoted to fine-tuning Hazeltine's bunkers through practices such as maintaining sand depth and moisture levels.

Differences between pre- and post-renovation bunkers should become noticeable when Minnesota receives its first significant spring rain. Hearing extended drips on his home roof at night would cause Tritabaugh to rise, check his watch and worry. Tritabaugh lauded his staff for remaining upbeat while preparing bunkers for play, a grueling task with the potential to demoralize a crew. "We are excited to find out what it's like to come out there after a three-quarter-inch-rain and not spend 75 percent of our labor the next day doing bunkers," he says.

MacCurrach also examines bunkers following rain, although he's looking for something different than a superintendent. "From my standpoint, as the builder, no matter how pretty or well-placed strategically a bunker is, if a bunker doesn't structurally work, it just doesn't matter," he says. "If a bunker doesn't hold up after a rain event, it doesn't

26 at the same point in 2014, according to vice president of sales Todd Jenkins.

"It's the one area of a golf course that has had a Band-Aid put on it time and time again," Jenkins says. "It's gotten to the point where it's costing

more to put a Band-Aid on it than if you go ahead, bite the bullet and do it right. In our industry, we spend entirely too much money on bunker maintenance."

Bunker renovations provided contractors with work

throughout the recession, because Duinick says they provided a way to "cut costs without spending a pile of money." But 2015 promises to be a frantic year. "If you haven't gotten a contractor or bunker specialist under

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Tennessee National Golf Club reworked its revetted bunkers using the Durabunker method, which uses recycled synthetic material to build bunker faces and edges. The renovation is expected to improve playability in and around the bunkers.



matter. If there are not good in-grass points, it doesn't matter. You can get romantic with all aspects of a bunker, but if it doesn't work, it just doesn't matter."

Silva is responsible for adding charm to a golf course. Ask him about trends in bunker design, and he smashes a 280-yard drive in your direction. He says golf, unlike other sports, is played on a field with no dimensions. The absence of length and width requirements leaves room for individuality in bunker placement and design. The stories he hears of bunker reduction or simplification don't match his philosophies or the desires of many clients. Bunkers are being renovated because he says clubs view them as "integral" parts of their facilities.

Once bunkers are considered worthwhile enough to enhance, Sternberg says owners, members and superintendents must examine the "whole picture" regarding where bunkers fit into a particular course's long-term plans. "They should make a decision on the design of the bunkers," says Sternberg, a CGCS who also manages and co-owns a course in Sweden. "Then, they need to make decisions how they want those bunkers to play. A lot of people try to build bunkers because they think they look nice and they don't think about how much they cost to maintain."

STYLE POINTS

Clubs that ask serious questions about bunkers, and provide ample time and room for a superintendent, architect and

contractor to collaborate, can reap major rewards.

Before polymer, gravel and even some liners started entering bunkers, Cape Cod National Golf Club in Brewster, Mass., opened for business. Play started on the 18-hole course in 2000. The Cape's sandy soils led to a decline in the consistency of the sand inside and the quality of turf outside bunkers.

Superintendent Eric Strzepek says bunkers weren't a prominent feature when the course opened. Tastes evolved, so the club contacted Silva, who originally designed the course, about enhancing all 90 bunkers. Explaining the value of a bunker project to the club's membership proved easy.

"The members were the ones kind of beating down

the door, saying we have a great golf course, greens, tees, fairways, everything is really good," Strzepek says. "Our bunkers, of course, they are always complained about the most ... It was just time. It didn't take much convincing."

In anticipation for the renovation, which started this past fall, Strzepek avoided ordering new sand and minimized the amount of time and money spent on the bunkers. Depending on a club's location, new sand costs \$60 to \$150 per ton. "We accepted that they were substandard compared to everything else on the golf course," Strzepek says. "Now, when you get the USGA involved and say, 'Hey, we have stones in the bunkers and they are inconsistent.' They go, 'Oh, perfect.' But that's not the reality of today's high-end club membership."

Silva's philosophies meshed with what members wanted, which were clean, visually appealing, playable bunkers. "I see clubs that think bunkers are an integral part of their facility and I don't see spectacular interest in dumping them down in terms

of numbers and complexity,” he says. “But I read about it all the time that that’s where golf has to go. That’s really like saying, ‘I’m really sick and tired of having to replace the tires after every 50,000 miles on my car. Couldn’t we just have a car with no tires?’”

Strzepek and Silva spoke frequently about options. Neither the superintendent nor architect wanted to be among the early adopters of any process, so they opted against installing products using polymer. The club demonstrated similar thinking in 2000 when it decided against placing liners in its bunkers. Fourteen years later, liners had succeeded at

enough courses for Strzepek and Silva to feel comfortable about installing them at Cape Cod National. “Twenty-five years ago we never lined a bunker,” Silva says. “Now it’s hard to think of a bunker we don’t line with one material or another.”

Drainage was also improved, and the sand was swapped for a local variety, which Strzepek selected following conversations with other New England superintendents. The appearance of the sand fit the look the club was trying to achieve, Strzepek says.

The course closed for construction on Oct. 15, allowing for uninterrupted work. The

timing worked perfectly for the club because many of its members head south in late fall and winter. Members will return to a layout that encourages play out of bunkers. “Visually, bunkers are now more prominent features on the golf course,” Strzepek says. “And I don’t think it plays any more difficult. I think it plays easier because you’re going to have a very consistent sand throughout the golf course.”

ERODING EDGES

Bunkers are an abundantly painful feature at Tennessee National Golf Club in Loudon, Tenn. The Greg Norman-designed course opened in 2006

with 170,000 square feet of sand filling 46 fairway bunkers.

Another number flustered superintendent Andrew McClintock and his staff throughout the past seven years: Norman placed 65 sod-stacked revetted bunkers throughout the course. The Scottish-style bunkers presented immediate maintenance challenges. Two revetted bunkers were rebuilt in 2007. At least six have been replaced every subsequent year.

“It’s been non-stop,” McClintock says. “You build something and everything looks great for about a year, then little stuff erodes away. There’s a little bit of settling you have to go back and fix



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along with repairing the ones you are doing. Soil washes off the face and gets in the sand, which messes up your drainage. It's never perfect, except the minute you finish it. You take a picture and that's the last time you will ever see it like that."

Heavy rain and cold temperatures magnified the problem as the course aged. Searching long and hard for solutions, McClintock had his crew sprayed polymers. He considered rebuilding sod walls using carpet or wood. He looked into purchasing rubber mats manufactured to a specified thickness. Nothing proved feasible.

An ownership change last year sparked numerous discussions regarding the revetted bunkers. "The owners were like, 'We have to do something. We either get rid of them completely or come up with a solution,'" McClintock says. "We didn't want to get rid of them. They are what makes us, us."

An Internet search led to one of McClintock's assistants to finding a website for Durabunker, a Wales company that uses recycled synthetic material to build bunker faces and edges. McClintock knew little about the company, and he says exhaustive research should be a major part of any bunker renovation project. Although not as expensive as a full-course renovation, bunker projects can cost six figures. A poorly executed one can damage a superintendent's reputation. "You're thinking, 'Man, if I miss on this, it's a big chunk of money,'" McClintock says. "I don't like to miss. It's extremely

important."

Before pitching Durabunker to ownership, McClintock spoke with the maintenance staff and membership at Trump National Golf Club in Jupiter, Fla., which renovated 19 revetted bunkers. He made across-the-pond calls to Turnberry, a high-profile Durabunker client. McClintock even purchased a plane ticket and flew to South Carolina to watch a crew build a test bunker at Secession Golf Club.

Tennessee National started its project late last year. The club is reducing the number of revetted bunkers on the course to 30. The remaining revetted bunkers are being renovated using the Durabunker method. A crew from Southeastern Golf Inc. is receiving training in the Durabunker process and assisting with the renovation. Tennessee National receives around 7,000 rounds per year, and disruption to play is minimal. McClintock says he expects the reworked faces and edges to last at least 20 years. When the project is completed, Tennessee National members should be noticing bunkers for the right reasons. "We got to a point where members did not like bringing guests out here," McClintock says. "That's what our course was, revetted bunkers, especially having 65 of them. It was all you saw. They were everywhere, so members didn't like coming out and showing off their place because it was more than we could handle. Now the wall is always going to look the way it does right now and the sand is clean. Members are excited." **GCI**

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Bunkers for Bent

Prairie Landing Golf Club swaps sand for grass in an effort to make course easier to maintain and play.

By Hal Phillips

When Prairie Landing Golf Club opened for public play in 1994, it embodied multiple trends shaping the industry at that time. Give or take a year or two, this was the dawn of a course development boom, one that brought a new course category – the upscale daily-fee facility – to prominence. Prairie Landing was representative of both this genre and the public-private partnerships that were innovated at this time (the course was essentially developed by the adjacent DuPage County Airport Authority).

Perhaps because it debuted

alongside so many other new daily-fee clubs, Prairie Landing was also created in such a way to make a splash. The Robert Trent Jones II design accomplished this by deploying some 109 bunkers featuring five acres (or 220,000 square feet) of sandy hazard.

Superintendent Tony Kalina was there in 1994, and remains the superintendent at the Chicago-area course today. Mitigation of the bunker presence at Prairie Landing began as early as, well, 1994 – such was the strain all that bunker upkeep, especially after rain events, had on his staff.

This fall, after picking away

at the problem over time, Kalina brought this 20-year effort to a definitive conclusion, thus embodying another, newer industry trend that values increased efficiencies over splash, dash and flashed sand. Collaborating with course contractor Golf Creations and the original architects at RTJ II, Kalina has reduced the number of bunkers at Prairie Landing to 68, and shrunk the overall bunker footprint to 66,000 square feet. Most of what had been sand has been sodded with bentgrass, and every surviving bunker has been outfitted with Better Billy Bunker liners.

“What this means is that

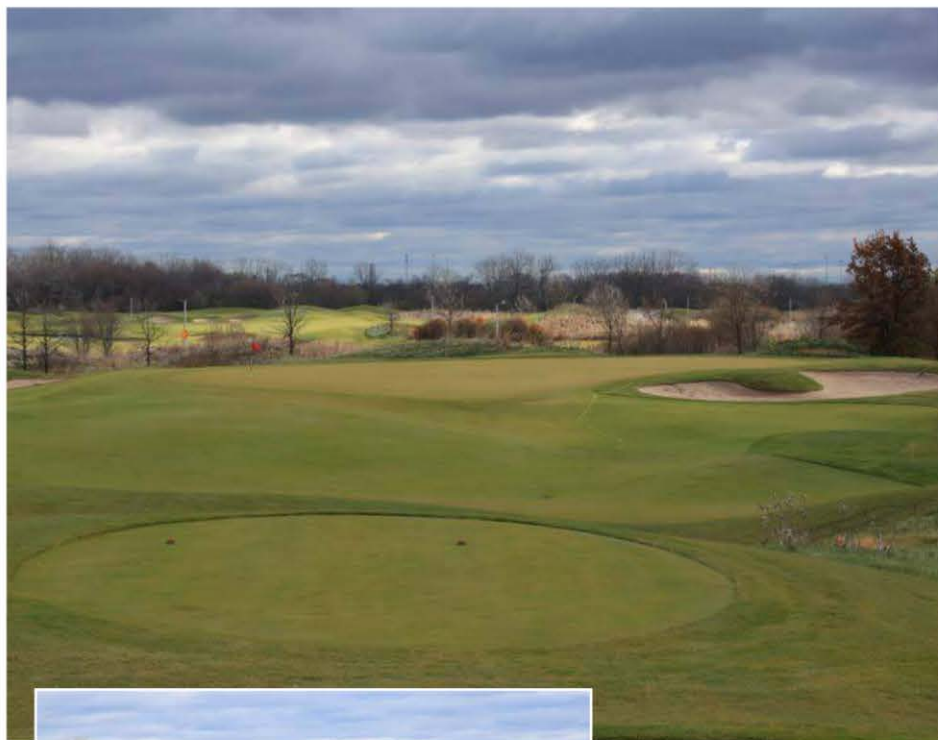
we won't spend an inordinate amount of time preparing bunkers for daily play, and we won't have to deal with excessive washouts," says Kalina, who has reported on project progress via Twitter, creating a minor social media sensation around the hashtag #betterwithbent. "We'll spend less time in bunkers and more time on details, which quite frankly, we'd been missing. This is a \$90 golf course. Expectations are high, and our reputation has suffered through the years because of the bunkers, which made the course too penal, had aged poorly and were well beyond their expectant life.

"Our greens, tees and fairways have always been good, I'm proud to say, but we were missing the little details on account of all this bunker work: Proper and timely cultural practices, divot programming, clubhouse landscaping and other course care all suffered. I don't expect we'll reduce staff, but we will be better suited to spread the man-hours around."

After dealing with bunker issues on and off for two decades, Kalina is gratified to put these issues to rest all at once and for the long term. But construction logistics were a challenge.

There are effectively 20 bunkered holes at Prairie Landing (18 regulation plus two full-length, par-4 practice holes) and because closing the course was never seriously considered, this project would require some adroit staging strategies. What's more, Kalina was determined to handle portions of the reconstruction (mainly the re-sodding effort) in-house, with his own maintenance crew, to create further efficiencies and savings.

"We were able to close two



Post-project shots of No. 18 at Prairie Landing Golf Club. Superintendent Tony Kalina: "If you're a less skilled player, you're going to love what you see out here. It's easier to get the ball on the green from the bentgrass. If you're a highly skilled player, you're going to love it, too."

holes at a time and work on them while still offering patrons an 18-hole experience," Kalina says. "Golf Creations has been awesome. They came on site and from the get-go, they collaborated on what the plan should be, bought into it and played a significant role in providing solutions and value-added engineering. For example, we'd work on two holes at a time, then rotate them out and close two more. My crews would follow the Golf Creations team around as they went, sodding with bentgrass. That's complicated

and frankly they taught me a lot about staging. They did things I would never have conceived of doing to save time and money. They've been a real blessing."

Matt Lohmann of Golf Creations says his Marengo, Ill.-based course construction firm is no stranger to deploying and working alongside client superintendents and their in-house maintenance crews. This collaboration, he says, represents another growing trend in the area of renovation, and sodding – the main job undertaken at Prairie Landing by Kalina and his team – is something main-

tenance teams are accustomed to doing already.

"It's important to give in-house crews the right sort of tasks," Lohmann says. "As an end product, sodding is something they can handle effectively, without interrupting the contractor's rhythm. So is sand installation, or, on the front end, sod removal and roto-tilling – though Golf Creations handled these tasks at Prairie Landing. We've done a lot of this collaboration with in-house crews, so we know what they can and should do. And we're doing this more and

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more, because it does provide savings on the overall cost of projects and maximizes the utility of course crews who might not be fully engaged (in day-to-day maintenance) on account of a renovation project that's

underway."

Because Prairie Landing kept 18 holes open throughout the project, Kalina's crews were indeed engaged with day-to-day maintenance matters every day.

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"But they found the time to complete the sodding, and they did it well," Lohmann says. "In the end, it's all about working with the client closely enough to create savings, efficiencies and solutions. All contracting jobs are like that – one of the cost savings solutions that made sense here was in-house crews."

Crews broke grounds Aug. 7 with an urgency to finish before winter. The idea of a golf course having too many bunkers may seem puzzling, but Prairie Landing was a product of its time. Even courses without design excess have engaged in bunker reduction. "This isn't exactly news to superintendents, but bunker maintenance can be a huge time-suck, especially if they're contaminated and not draining properly," Lohmann says. "There's little harm in removing bunkers that don't affect the strategy of a golf hole. Sometimes, if done well, replacing greenside bunkers with bent collection areas, or fairway bunkers with simple rough areas or swales, can enhance that strategy along with playability."

That was certainly the idea at Prairie Landing, where Kalina gives architect Bruce Charlton – the original RTJ II project designer – a lot of credit for coming in and amending his own work.

"It was really interesting to go back and put fresh clothes on a design from so long ago," Charlton says. "On one level, you go back and see the bunkering and say, 'What was I thinking?' But in another sense, the bones of a really good design are still there."

"We were trying to create something visual that was also strategic. When you look at the way things were built at that time, it's clear today they can be done in a far more sustainable way. I'll be honest, as I've gotten older, I've become more of a fan of short grass as a defense. But more short grass and fewer bunkers can be visual and strategic in their own way."

Charlton and Kalina collaborated on a plan to eliminate bunkers, but not at the expense of the design strategy. "We call it a 'bunker refinement' project, and the goal is to create a more sustainable bunker design and philosophy that diminished what we came to see as an 'overstated' bunker design and philosophy," Kalina says.

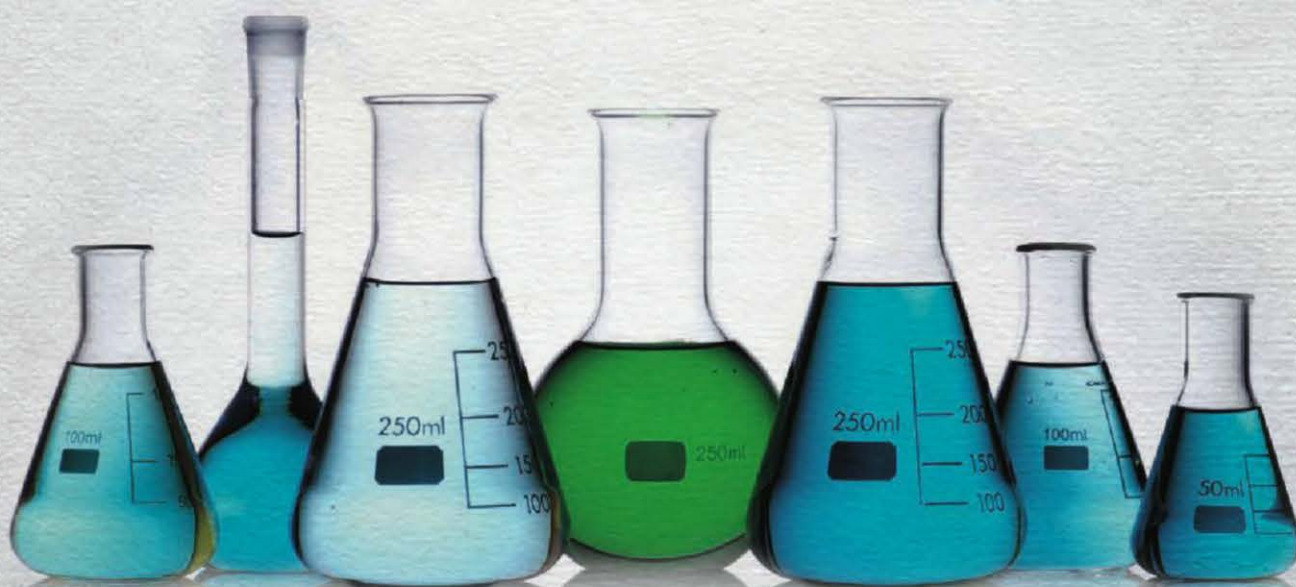
Hole No. 2, a shortish par-4 measuring



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380 from the tips, is a good example of the two main bunker refinement strategies deployed at Prairie Landing. In the landing area, the original 1994 architecture featured sprawling, 5,000-square-foot bunkers left and right. Kalina and Charlton identified the strategic pieces of those bunkers, left and right, and removed the rest, replacing the discarded bunker footprint with bentgrass. Today, the remaining bunker elements are nearly in the middle of a far wider fairway, serving essentially as cross-bunkers and centralizing the line of play.

A 4,000-square-foot bunker used to guard the green at No. 2, but only about 1,000

square feet were visible from the landing area. That visible portion remains; the other 3,000 square feet join the wider surrounds as bentgrass collection areas.

"I found myself out in the field taking my thumb and holding it in front of my eye, like a film director, imagining what these holes would look like if the bunkers weren't there, or parts of them weren't there," Charlton says.

"The contours are such that the ball will come to rest in nearly the same place, but it won't be in the sand," Kalina says. "There's nothing more disappointing than someone playing a 40-yard bunker shot

at greenside. High handicappers ... can't play that shot, and maybe they won't come back if we keep asking them to try.

"If you're a less skilled player, you're going to love what you see out here. It's easier to get the ball on the green from the bentgrass. If you're a highly skilled player, you're going to love it, too. These patrons aren't worried about getting the ball on the green – they want to hit it close, and now you have to hit a wide variety of deftly played touch shots to get the ball close." Pace of play improves by as much as 30 minutes, he adds.

Kalina doesn't hate bunkers, when they're deployed proper-

ly. But 20-plus years of dealing with a course that featured 130 of them has shaped his attitude toward the game – and the way courses affect the game. "From my youth, I recognized that golfers prefer to play a ball that came to rest after rolling to a stop, on the short grass as opposed to a bunker or hazard," he says. "I'm not fond of rough, and not particularly fond of bunkers. I am more fond of using bentgrass and hollows maintained close and tight. Most golf courses are just better with bent. So I started that hashtag to drum up a little support. We've had a lot of fun with it. It's come to be the battle cry for this project." **GCI**

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Jeffrey D. Brauer is a veteran golf course architect responsible for more than 50 new courses and more than 100 renovations. A member and past president of the American Society of Golf Course Architects, he is president of Jeffrey D. Brauer/GolfScapes in Arlington, Texas. Reach him at jeff@jeffreydbrauer.com.

When I started writing this column a decade ago, I hoped it led to some renovation commissions. While there has been some “street cred” attributable to this magazine, only a few direct commissions have resulted. What has happened, at a ratio of over 10 to 1, are calls asking for free advice of some kind. While I’m glad my columns have impacted some, they can’t really be a much generalized substitute for the work of your own green committee and/or architect, superintendent, consulting agronomists, etc., have put in to your unique problems.

Nor can I really offer good advice from a distance. Much like doctors who insist on an office visit for my twentieth consecutive year of October allergies, I would need to see it first hand to diagnose ills and give good architectural advice, especially when some differences of opinion possible revolve around club politics. As an architect, I have been in the middle of some contentious renovations and have seen small factions of club memberships try to call in another architect for a “second opinion” to continue the medical analogy. It rarely helps solve the problem.

In one case, dissenting club members cited one of my earliest articles to support the proposition of minimal change without major re-routing. They presented it as “proof from an expert who says you should never re-route your golf course.” After the architect, pro re-routing and pro no change factions contacted me, I re-read my article. I wrote that remodels without re-routing are generally less expensive than those involving massive re-routing. While true, I did not say, however, that it was always the right thing to do.

The premise of that article was that re-routing precludes saving many trees and any infrastructure, which is where the cost savings are. However, once analysis reveals (as it did at this club) that a course has major (and long deferred) infrastructure needs, and the master plan calls for a totally new irrigation system, cart paths and drainage, your “big ticket” items are going to be replaced anyway. There are fewer savings to be had, and re-routing doesn’t add as much to the total cost and can potentially yield substantially better results.

When I wrote that article, I had just secured a major renovation commission by virtue of a bigger name architect proposing a total re-routing while my proposal saved several holes, trees and money. No doubt, that affected my writing. However, problems like slice-side safety, lack of length, some poor holes and/or no range can often only be solved with re-routing. It is almost always worth studying, at least as an option.

In discussing this with all parties, I found the consulting architect at this club had 10 preliminary plans, and the committee picked one of the re-routing plans. A few members believed re-routing, infrastructure rebuilding and major design enhancements were unneeded and too expensive. It’s certainly a legitimate concern.

It is rare that architects (or egotistic greens chairman) needlessly blow up a golf course to put their “stamp” on it,” but that appears to be what these gentlemen in opposition to the project believed was happening. Ironically, had the opposition also Googled my next column, called “small factions,” they would have seen themselves. There are right and wrong ways (and times) to achieve a difficult consensus, and their way – bringing in random outside opinions after the final vote to move forward – is the wrong way.

The master plan is a process. If followed correctly, and transparently, which seems to have been the case here, it’s hard to believe a conscientious green committee and qualified architect would widely “miss the mark” as these members believed. This club interviewed several architects, hired one whose method fit their needs, had him perform a thorough course needs analysis, provide varying, multiple preliminary plans, collaboratively refined the best one and then voted as a committee. When you go through that methodical process, what are the chances reasonable people are all going to go awry? Very small.

In getting and opportunity to see this club’s master plan, I re-learned a few things:

- Many major renovations are contentious
- It’s difficult to achieve 100 percent consensus
- There can be big disagreements between good people and great friends
- The best team and plan starts with people of integrity and good intentions of your team
- Use the expertise and advice of your expert golf course architect and other consultants
- Use a process
- Communicate well
- Resolve issues all along the way rather than avoiding them until the end...

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NO BAD DEAL

Poor distribution uniformity may not mean an irrigation overhaul, but rather some simple fixes for some not-so-complex issues.

By Rob Thomas

Your once-immaculate fairways are now marred by “donuts,” dry patches and/or over-saturated areas. Your best practices have remained the same and the weather has been fairly consistent. What has changed? According to Mark Faris, Underhill International sales and marketing director, these are all signs of poor distribution uniformity, a result of inefficient irrigation.



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"The distribution uniformity rate, which is measured by an irrigation audit, indicates whether a sprinkler is delivering uniform coverage and is typically a barometer of turf health," Faris says. "A low DU rate (65 or lower) indicates that coverage is inconsistent, resulting in donut rings, dry spots or over-watered areas. A high DU rate (85 or better) shows that irrigation application is uniform with green, healthy turf and improved overall appearance. With a higher DU rate, sprinklers can be programmed for shorter run times, saving water and energy."

Poor distribution uniformity is typically caused by clogged or improperly performing plastic nozzles, rather than a systemic issue with the mechanics of the sprinkler, Faris says. A tried-and-true remedy has been to routinely clean out the clogged nozzles, while also hand-watering the dry patches.

For Michael Kropf, superintendent at The Views Golf Club in Oro Valley, Ariz., his course's entire irrigation system was replaced about 10 years ago because of poor distribution, as well as continual leaks and blow outs. Also, the course was converting to reclaimed water at the time, so it took the opportunity to have a new system to help prevent turf damage. The old system was lacking head coverage, had an assortment of heads ranging from old-fashioned impacts to new drive units and the central control was outdated and lacking accurate details.

When setting their sprinklers to grade, Kropf's team takes the extra effort to make sure the job is done correctly.

"We have decomposed gran-



ARC ADJUSTMENT

There is a fine line between sprinklers providing too much coverage and not enough. That said, there is potential harm in adjusting the arc incorrectly. For Michael Kropf and his desert golf course at The Views Golf Club, this is not a task to be taken lightly.

"We do a lot of arc adjustments," he says. "I only oversee fairways, tees, greens and aprons around greens, so we adjust arcs to where the ryegrass needs water and away from the dormant rough areas."

"Also, during the summer, we do a lot of adjustments with the cart path edges," he adds. "Water going across the path into the desert is a waste of water and creates a lush desert needing more maintenance. I'm a big believer in hard edges. I really think crisp edges make the golf course look that much better, so I put a big emphasis on maintaining them. An easy way to keep nice edges is to continually check and maintain sprinkler arcs. Heads that are too tight leave brown areas down the whole fairway, but heads that are too open waste water and create different maintenance issues."

Depending on the desired outcome, there are two ways to adjust Kropf's sprinkler arcs.

"Rain Bird adjusts with a hard side and an adjustable side of the sprinkler," he says. "Using a small screwdriver turns the adjuster on top of the head either opening or closing the arc. To change the hard side, the sprinkler needs to be removed from the main body and manually turned either direction to open or close."

"Along edges we open the head one notch off the edge to allow for wind," Kropf adds. "If the arc is set exactly on the edge of the grass, we tend to have damage to the turf from lack of water which looks very ugly down every edge. However, if the arc is too open, then we are wasting water into the desert, which is a large waste and leads to wet muddy areas around the cart path edges that are also very ugly."

While irrigation systems are vital to the overall health and appearance of turfgrass, superintendents can rest easy knowing that the process of setting sprinklers to grade, adjust arc and replacing nozzles are all fairly straightforward — if not labor intensive.

ite mixed with sand-type texture soils, so the only efficient way is to dig up around the swing arm and raise the head to grade," Kropf says. "We use a 2x4 to level the head with the surrounding area and then pack the soil back around the swing arm."

"We have Rain Bird 700, 750, 751 and 550, heads which all share the same sprinkler body, so the wiring is placed near the communication tube," he adds. "The wires are placed low enough that they are not clipped by sprinkler head edging, but high enough

they can be accessed fairly quickly for troubleshooting. The sod is laid back around the head slightly above grade to allow for settling."

The process is labor intensive and time consuming, but it beats the more "advanced" mechanical option.

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"We tried using the hydraulic machines that use a probe that injects water around the swing arm and uses hydraulic pressure to pull the head up, but the soil doesn't compact back around the swing arm," Kropf says. "Over time, the head settles right back down. We found the time it takes to dig up a head and pack the soil wasn't much different than using the hydraulic pullers and never have to worry about it settling."

As with any potential hazard to turf, waiting for damage to appear is not the prudent way to discover problems with an irrigation system.

Kropf takes a proactive approach. "I have my irriga-

tors try and check heads on two holes a day during down times," he says. "This check involves turning every head on with the satellite to make sure all the electrical components are working correctly from the satellite to the head. Then they manually turn on every head to check for arc adjustment, spray pattern and pressure."

"Our water is reclaimed, so we have problems with ciliated protozoa clogging heads and nozzles, as well as small rocks getting stuck," Kropf adds. "Usually the visual inspection will show whether the head is working properly in regard to nozzle performance. If a nozzle is clogged or worn, the spray



Regularly checking arc adjustment, spray pattern and pressure is a simple way to determine the efficiency of an irrigation system. Replacing faulty nozzles can be an inexpensive solution to improve distribution and reduce water consumption.

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pattern is very different.”

Kropf's team will first look to repair nozzles that are not functioning properly (having nozzles that thread and are easily removed and repaired), but it is sometimes better to just replace a faulty nozzle.

“We replace nozzles when they are worn out or damaged,” he says. “We can remove debris from them easily, so most of the time that is all that is required. Costs aren't prohibitive if only a few nozzles need replaced. However, if the nozzles are showing considerable wear across the entire golf course (that) would require adding to the irrigation budget. We have approximately 2,500

heads ... at about \$3 per nozzle assembly is several months of my operating budget. That is why we do a lot of preventative maintenance on the irrigation so we replace as required instead of waiting until there is a widespread problem.”

Replacing a faulty nozzle is a simple procedure. “The nozzle is easily removed by threading it out of the nozzle housing,” Kropf says. “The sprinkler is removed from the sprinkler body and the nozzle is simply unscrewed with a tool that fits around the nozzle.”

Replacing original equipment manufacturer nozzles is fairly easy, according to Faris, taking about three to four

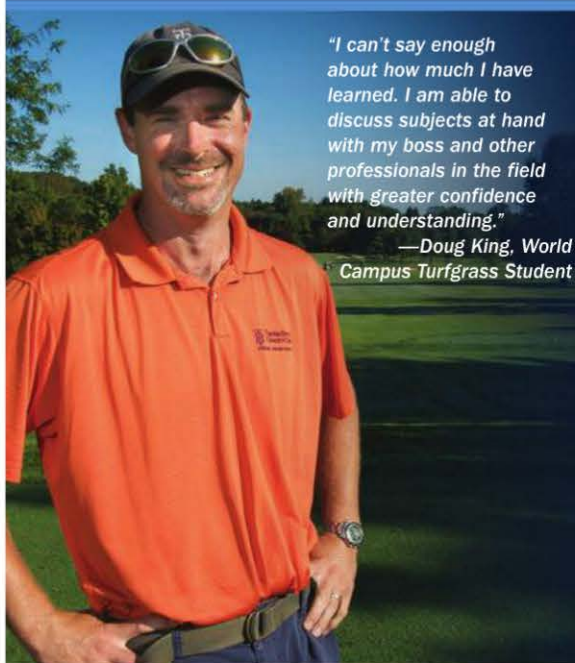
minutes to conduct both a main and intermediate nozzle change-out. “First, remove the sprinkler cap to gain access to the nozzle base. Depending on the OEM design, this may require a secondary operation to remove the nozzle base from the nozzle cap. Remove the OEM nozzle with a small pair of water-pump pliers. Wipe the inside cavity of the nozzle of any grit or sediment and press fit the new nozzle into place,” he adds. “Align the nozzle depending on the application and sprinkler model. Re-install the nozzle cap assembly.”

Faris cites a two-year study by the Center for Irrigation Technology (California State

University, Fresno) to stress the importance of properly working nozzles. Conducted at a series of courses, the study found metal nozzles improved distribution uniformity and reduced water consumption in one season by an average of 6 percent, and up to 20 percent on some sites. Water savings of 6 percent on a golf course can add up to 800,000 to 9 million gallons per course per year, depending on location and rainfall, and also were successful in preventing wind drift, Faris says. **GCI**

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

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Brian Vinchesi, the 2009 EPA WaterSense Irrigation Partner of the Year, is president of Irrigation Consulting Inc., a golf course irrigation design and consulting firm headquartered in Pepperell, Mass., that designs irrigation systems throughout the world. He can be reached at bvinchesi@irrigationconsulting.com or 978/433-8972.

Do you keep track of how many pipe and fitting breaks you have on your irrigation system on an annual basis? Do you separate mainline breaks from lateral line breaks? Or is a break a break? If you don't, you might consider starting. Knowing how many breaks your irrigation infrastructure is having and where they are occurring will help you figure out how to prevent them.

Most superintendents consider irrigation breaks to be a normal part of golf course maintenance, and that's a problem. Maintenance staffs are reactive with pipe and fitting repairs. If you want to stop and have fewer breaks, you need to be proactive. You need to determine why the pipe or fitting broke and take steps to keep it from happening again.

Short of digging through the pipe or fitting with a piece of excavating equipment, the reason for a failure will most likely not be obvious. However, the type of break will provide some information. For example, if the fitting pulled out at a solvent-weld (glued) joint, it is most likely age or not the best cementing process when it was installed. If there is a crack in the hoop of a PVC elbow or fitting, either cemented or gasket, the fitting has probably life cycled out. Pin holes in ductile iron fittings are caused in the manufacturing process but take time under pressure to show up. Cracked fittings on threaded joints are from overtightening.

You will have to do some analysis to determine the cause of breaks that are not as easy to identify. Pressure and velocity are the two places to start a pipe analysis. Test pressures with a pressure gauge inserted into a quick coupler in the vicinity of where you are having issues. A pressure gauge never lies and will tell you what is going on at that exact point where it is inserted. Read the gauge and compare it to your pump station operating pressure. Turn on and off some sprinklers and see how much the gauge moves around. Lots of movement back and forth is not good. Note what maximum pressure the gauge hits. Check your pump station to make sure it hasn't had any high-pressure alarms and if your pump station monitoring software tracks pressure, look at the graph for high pressures. Remember that high pressure breaks things. Velocity also breaks things, especially fittings, but it is a little more difficult to figure out.

The Irrigation Association

has friction loss/velocity charts on its website (bit.ly/1v0oogV) for most types of irrigation pipe. To use the charts, you need to know what type of pipe you have and some idea of how much water is flowing through it. Flow is obtained by multiplying the number of sprinklers that are turned on, fed by the pipe in question, multiplied by the gallonage. If your sprinklers use 33 gallons per minute each and you had eight on a 4-inch, Class 200 PVC pipe, the chart for Class 200 PVC pipe would tell you the velocity is approximately 6.58 feet per second (fps). Plastic irrigation pipe (PVC or HDPE) is not supposed to exceed a velocity of 5 fps, so in this case, the velocity could be causing issues. It may not be a problem if it was a onetime occurrence, but because it has a set schedule in golf irrigation, everything gets repeated, so the high velocity over time (many years) will cause issues.

Pipe and fitting breaks on mainlines are not as common as on laterals unless it was a bad installation. Mainline pipe is installed deeper and rarely has glued joints. The pipe is also trenched in as opposed to pulled which allows the trench to be inspected before pipe installation and to be carefully placed in the trench. Newer irrigation systems use fittings that are much stronger than PVC so they have fewer failures. Pulling pipe during installation of laterals can cause issues long term as you cannot see the pipe being installed and it can rub up against rocks or other obstacles as it installs weakening the pipe. When you look at the repair, it will exhibit a long crack or small hole where it slid along or was installed up against a rock during installation. **GCI**



A pressure gauge is a reliable tool used to determine the cause and location of an irrigation line break.

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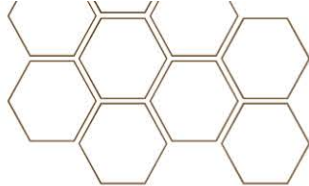
TO BEE, OR NOT TO BEE

University of Georgia
superintendent
experiments
with managing pollinator
habitat at his course.

By Helen M. Stone

Unless you're a wax figure, you've heard about the dire circumstances facing honeybee populations. Colony collapse disorder (CCD) reared its ugly head in 2006. Suddenly, beehives were deserted with no discernible cause.

According to the USDA, losses from the winter of 2006-2011 averaged about 33 percent each year, with a third of these losses attributed to CCD by beekeepers. The winter of 2011-12 was an exception, when total losses dropped to 22 percent, but preliminary statistics from 2013 show a whopping 34 percent loss. This rate of



loss is considered unsustainable; “accepted” rates are well below 20 percent.

Although there is no hard evidence of the reason for the decline, everything from pesticides to mites to cellphone towers have been blamed. Regardless the cause, there is no doubt pollinators are in noticeable decline. Even home gardeners across the nation are commenting on the loss.

Honeybees are not the only pollinators in short supply. Bumblebees and butterflies are among declining insects.

While the lack of pollinators may not affect greens, tees and fairways, superintendents see the larger picture. The open green space offered by a golf course is prime territory to lend a hand to local pollinators. Which is exactly what Scott Griffith did.

As superintendent at the University of Georgia’s golf course for the past eight years, Griffith has held the line on pesticides for a variety of reasons. “Pesticide reduction has always been a goal for obvious reasons,” he says. “The golf course industry is not doing that well, and we felt the (financial) pinch on our end so anything we can do to reduce costs helps us tremendously.

“But we also want to be good stewards,” Griffith continues. “We live in a college town; it’s very environmentally conscious. So we want to be sure we’re doing all we can to set the right example about what can be done.”

To that end, when Syngenta’s Jason Whitecliffe approached him about the company’s “Operation Pollinator” program, Griffith was eager to give it a try. He seeded almost half-an-acre on the course in

March 2014 with a Georgia-adapted wildflower mix.

The area was tilled and the Bermudagrass treated with herbicide (glyphosate, at the highest labeled rate) before planting. Then, the wildflower mix by Applewood Seed was put down at a rate of about 10 pounds per acre. With ample rain, the mix sprouted and grew with minimal irrigation.

“The wildflower seed mixture was developed by Anthony Williams at Stone Mountain Park, so I knew it would work,” Griffith says. It might have even worked too well for the Plains Coreopsis (*Coreopsis tinctoria*), which grew so tall it shaded out other species. “Next time, I might ask them to leave it out.”

The plot peaked during a June meeting of the Georgia Golf Course Superintendents Association, and performed right on schedule. “We host the Bulldog Classic every year here to benefit the scholarship fund,” he says. “In conjunction with the tournament, we also have outdoor education. It’s kind of a neat event.”

Griffith plans several more plots around the course starting next spring, until about seven or eight acres of the course are adorned with colorful flowers and plenty of pollinators. “Actually, we are kind of constricted as to where we can place them, because, of course, we don’t want to affect play,” he says. “And we’re a closed course, land-wise, plus you need some sunlight for the flowers so you can’t put them in the tree lines. But we’re fortunate in that we have some places where we can put them.”

With the success of the plot, Griffith is inspired to make the UGA course even more

Three steps to conserving pollinators

1. Recognize the native pollinators and their habitat that are already on your site.
2. Adjust existing land management practices to avoid causing undue harm to the pollinators already present.
3. Enhance, restore or create habitat for native bees and **butterflies**.



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environmentally friendly. “We didn’t want to be a copycat, but we’re pretty close to Augusta National, and our course is laid out very similar to them. I must admit that when I first got here, my idea was to select plant material that would emulate them and kind of mirror what they were doing,” he says.

“Since then, times have changed. Now I’ve decided that I’m not going plant anything unless it’s a Georgia native plant,” he adds. “From now on, if we plant anything new, or if we have a non-native plant or tree that dies and we need to replace, we’ll replace it with native material.”

Griffith is excited about the change. “We’re even going to take it a step further and we’re going to start labeling the plant material we put in,” he says. “We’ll also put in signage saying we only use native plants. We’re going to try to push that a little more.”

There are plenty of opportunities to partner with local organizations to advance this goal. “We have a botanic garden right across the street,” Griffith says. In addition, the University of Georgia has an extensive honey-

bee curriculum, which he plans to approach to help move his program along.

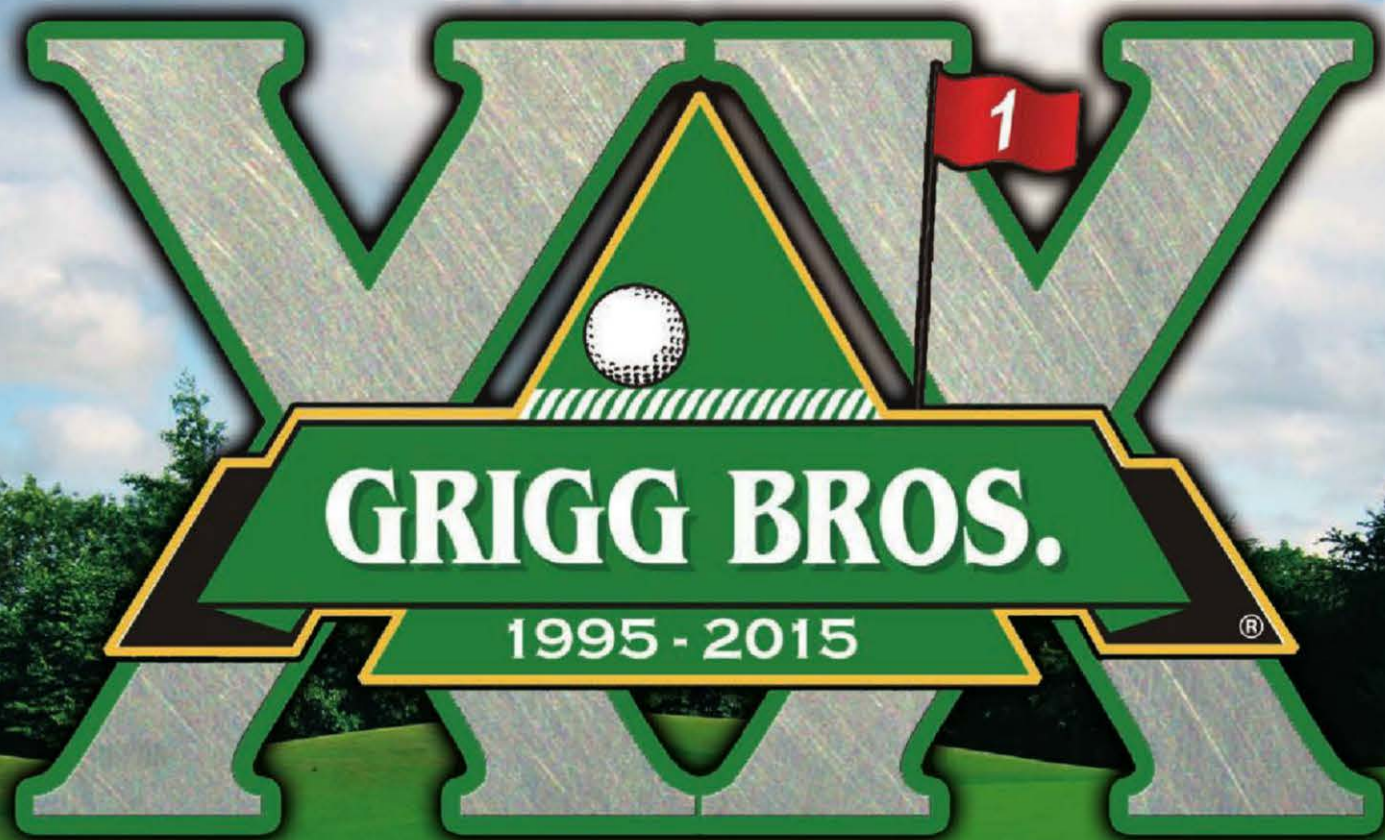
“People are going to be interested in what kind of plants are native to Georgia,” he says. “And obviously, these plants will be well suited to the environment, so they should work well. They may not be as showy, but they will be successful.”

As Griffith learns more about pollinators, he looks forward to trying more techniques to encourage them. “I looked briefly at having bee hives, but that’s too much. The botanic garden has some type of nesting system they use, that looks like a honeycomb with circles to encourage nesting. I’ll be talking to them to see how it works.”

“We are also getting signed up for the Audubon Certification Program,” Griffith says. “That took some convincing, because it’s like a subscription, but I finally got it approved. Once we start that program, we’re going to put in a lot more habitat, not only for bees, but for birds and bats and other wildlife as well.” **GCI**

Helen M. Stone is a Hayfork, Calif.-based writer and frequent GCI contributor.





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TOMATO AND THE FRUIT SALAD



Henry DeLozier is a principal in the Global Golf Advisors consultancy. DeLozier joined Global Golf Advisors in 2008 after nine years as the vice president of golf for 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.

It is knowledge when we learn that a tomato is a fruit and not a vegetable. It is wisdom when we know not to put a tomato in the fruit salad.

Knowledge provides us facts, data and general information. Wisdom indicates the ability to put information to work for desired outcomes.

With the annual launch of golf's "show season," PGA professionals, course owners, designers, builders, managers and superintendents renew their quest for both knowledge and wisdom. Whatever challenge or opportunity is foremost on your mind this show season, here are suggestions for increasing knowledge and converting it to wisdom.

ACQUIRING KNOWLEDGE, STEP BY STEP

In 1936, in his book titled "You Can Do Anything," self-help author James T. Mangan identified multiple ways to acquire knowledge. Those lessons — refreshed from a golf and club perspective — bear repeating as we get ready to hit the show aisles and education sessions.

Practice. More than one great golfer has said, "The more I practice, the luckier I get!" Knowledge — like luck — is earned and requires constant effort. Attending your association's events is good knowledge practice.

Ask. Children learn and collect information so readily because they constantly ask questions. Adopt the same habit at trade shows. The people in the booths and running education sessions like nothing better than for you to ask them about their products or points of view.

Desire. Desire sorts those who have good intentions from those who will have a good year. If you go to an event with the desire to learn and improve, you will.

Look Inward. The journey toward wisdom begins when you realize that knowledge seldom comes in a ready-to-use application that can be downloaded to a smartphone. Knowledge is what you add to the years of experience you already have.

Walk Around It. It often helps to walk around a complicated or confusing subject, sizing it up and taking the measure and characteristics of the challenge. That's exactly what our industry events allow us to do: collect information, gain a broad perspective and make informed decisions.

Experiment. Hiding behind golf's "tradition" is code for "I'm not willing to consider a better way." Innovation and creativity — the traits we're often told we need to embrace — start with simple experiments and asking the question: "What if ..."

Teach. The shows are filled with people who have less experience than you. Take a minute to share. I bet you can remember when someone did the same for you.

Read. Read widely and interpret solutions from other fields and professional disciplines. Apply proven solutions being written about in other businesses.

Write. The act of recording ideas in writing engages multiple layers of the brain and embeds information in our mental libraries. If you write things down — in a standard journal or even in the notes section on your phone — you are creating an archive of knowledge.

Listen. Stephen Covey tells the story of the "talking stick," which was a practice used by native peoples to manage fireside councils and discussions. Only the person holding the talking stick could speak at the council fire; others were obliged to listen, ask questions and think. Listening is the net into which knowledge gathers.

Observe. Observe the actions of successful people. Also observe those who lose the game or the discussion. Learn from both.

Define. One of the first steps for the learned philosophers is to define what something is and what it is not. Apply this practice to your industry event by precisely defining your key objectives for the trip.

Reason. One of the toughest elements of "show season" is the overwhelming volume of information, data and opinion offered by dedicated and well-meaning speakers. Do your own thinking and evaluate what you hear and observe to formulate your own understanding. Then, validate your thoughts with people who have knowledge, perspective and understanding.

IMPROVING WISDOM

Wisdom is the sum total of the mistakes we have made from which we have learned something valuable. Three certain ways to improve wisdom are:

1. Improve your weaknesses.
2. Update your strengths.
3. Talk to people whose knowledge is proven.

For many people in the business segments who are touched by golf, 2015 will be a breakout year. Those will be the people who have been aggressive collectors of knowledge en route to finding wisdom. **GCI**

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No room for a

BOOOON

Explosions cause terrifying screams and threaten employee safety. Understanding batteries is a quick route to improving safety and maximizing the effectiveness of your course's vehicles.

By Paul Grayson


A few years ago a beverage cart driver walked into my shop. It was the first indication of trouble because a driver walking means something is broken. I asked her what she needed, and she yelled: "My bev cart is broken down on No. 6 cart path. The battery exploded.

I couldn't hear anything for about 45 minutes, but I am OK now."

On that beverage cart model, the battery is under the driver's seat, and the explosion's force was directed out of the cart's open bottom. She didn't realize she was shouting, so she wasn't really OK.

I found a trail of plastic shrapnel, lead battery plates, a streak of liquid and the beverage cart where it had rolled to a stop. I collected the pieces for recycling and towed the cart to the shop, leaving a streak of battery acid for the approaching rain to wash off the cart path.


Back in the shop, I learned



the new-style, solid-state voltage regulator these beverage carts were outfitted with had failed in the “max-charging” mode and probably caused the explosion by overcharging the battery. I replaced the voltage regulator with the OEM replacement part. A few days later, another beverage cart battery exploded for the same reason. Since all the voltage regulators on the beverage carts were identical and the same age, I was concerned the rest would fail. To avoid more explosions, I replaced the new-style, solid-state voltage regulators on all six beverage carts with an older proven design that fails safe in the “no charging” mode. There were no more battery explosions after making the change.

How do you avoid explosive situations around your course and shop? Understanding the differences between battery types is a good place to start.

DISPOSABLE PRIMARY CELLS



Look around during the work day and you'll discover you are surrounded by an amazing variety of batteries. They are essential to everyday activities such as opening garage doors with a wireless remote, unlocking car doors with a key fob or using a metal detector to find keys in the snow. The batteries in all these things are inexpensive throwaways that produce a small amount of power. They work for a while, and when they quit, you toss them into the recycling and replace them with a fresh one.

BUILT-IN RECHARGEABLE BATTERIES

Electronic devices such as smartphones, tablet computers and other electronic devices contain tiny rechargeable batteries that you recharge frequently with the special charger that came with them. The life of these batteries is long enough that before they quit working you will have moved on to a newer model of the electronic device. These, too, are low-power batteries.

STARTING BATTERIES

For the necessarily bigger batteries used to start the plow truck, mowers, tractors and utility vehicles, rechargeable lead acid car batteries are the most economical. The trend in these automotive style batteries is toward “maintenance-free” designs, so most of the starting batteries you have will be sealed say “maintenance free” on them and have a warning not to open them.

Automobile-style batteries last about five years if they are properly maintained. In the case of the maintenance-free batteries, “maintained” means washed once a month to remove accumulated dust and dirt that might be conductive while making sure the connections are clean and tight.

Lead-acid batteries live longest if they are kept fully charged. Keeping them fully charged is usually taken care of by the vehicle's charging system when the vehicle is run regularly. Lead-acid batteries will slowly discharge themselves over time so a vehicle in storage should be checked once a month with a load-type battery tester and recharged as necessary.

In Michigan, fully charged

batteries can be left out in the cold. However, if left in the cold in the discharged state, they will freeze and split their case, destroying the battery.

The second style of lead-acid battery is the flooded cell battery, represented by the less expensive full maintenance automotive-style starting batteries and the hard working “deep-cycle” batteries for electric golf course vehicles. Removable caps allow access to the individual cells of the battery for adding distilled water (to keep the electrolyte level where it should be) and for measuring the specific gravity of the electrolyte with a hydrometer as part of checking the battery's health.

ELECTRIC VEHICLES

While several different chemistries are available to choose from and are available in maintenance-free versions, the least expensive way to store electrical power is with the deep-cycle version of the lead-acid flooded battery that requires regular maintenance.

This battery has been improved over the years, and is produced in large numbers for electric golf cars. It is also used for silent electric mowers and utility vehicles.

Since the amount of power these machines take to run is substantial, electric vehicles are powered by an array of batteries. For banks of batteries like this, semi-automatic watering systems are available which greatly improve the accuracy and speed of raising the electrolyte to the proper level without overfilling. When watering fleets of 60 to 400 vehicles weekly, the time savings of a watering system for batteries can be substantial. It

is important to use distilled water because in the five years of the battery's lifetime, the total volume of the battery liquid will have been replaced 16 times. If there were any minerals in the water, they would be left behind in the battery, shortening battery life.

SAFETY WARNINGS

You should have an MSDS sheet on lead acid batteries in your MSDS binder. The MSDS sheet points out to the workers what hazards are associated with the materials constructed to create the battery. If you need an MSDS sheet, the battery companies have printable PDFs available online.

Warnings appear molded into the case or as stickers applied to the outside of batteries. Lead, sulfuric acid and hydrogen gas are part of the warnings anyone working with batteries should be prepared to deal with. In the typical lead-acid flooded battery, water is lost both when the battery is charging and when it is discharging. The water is broken down into hydrogen and oxygen, and bubbles out of the batteries.

Maintenance-free cells have a catalyst built into the caps that return the gasses, recombined as water, to the battery. In the older style, the gasses vent out of the battery – which explains the importance in keeping fire and sparks away from batteries. The gasses are produced in the perfect ration (HH:O) for an explosion. Good ventilation, caution and flame arrestor caps can prevent an explosion from happening. **GC**

Paul Grayson is the equipment manager at Crown Golf Club in Traverse City, Mich.

AUTUMN'S GOLF TRIP



Monroe Miller retired after 35 years as superintendent at Blackhawk CC in Madison, Wis. He is a recipient of the 2004 USGA Green Section Award, the 2009 GCSAA Col. John Morley DSA Award, and is the only superintendent in the Wisconsin Golf Hall of Fame. Reach him at groots@charter.net.

We hadn't seen the Northeast fall foliage for a couple of years, so Cheryl and I decided this was the year to return. The timing was perfect. The best fall color, on average, is around Columbus Day, so the day after the Wisconsin Turfgrass Association golf fundraiser we headed east.

There are so many things to see on the way that it took considerable discipline to keep moving to arrive at the Chautauqua Institution in New York the first night. We stayed right on the grounds and it was beautiful. We made a late-afternoon visit to their golf course; Donald Ross designed one nine many years ago.

From there it was on to Ithaca and a stop to see Frank and Barb Rossi's new farm. Frank is burning the candle at both ends these days; he is teaching undergrads the introductory horticulture course. "Now he thinks he knows everything about fruits and veggies, not just turf," Barb lamented. We had a good laugh, but she probably is right.

I don't think I have ever seen New England's fall color more beautiful. Around every corner and over every hill was a vista more beautiful than the last. I called Pete Salinetti to get caught up with him. We first became acquainted at the very first Toro Professionals event many years ago. Pete and Mike Vogt were the first two individuals to earn certified status in both the GCSAA and the CMAA. Pete now works in sales in the Albany, N.Y., area, and he knows more about managing quality turf than just about anyone I know.

We stopped at the Dellwood Cemetery in Manchester, Vt., to visit Walter Travis' grave again. It's near Robert Lincoln's home in Manchester and close to the first course he designed. I have always admired Walter's vision. Along with another golfer, he lobbied for what he called a "National Golf Farm" or a "Golf Experimental Farm." They pushed from 1913-20 for the USGA to fill that void, and were successful when the Green Section was formed in 1920.

The trip from Manchester to our next planned stop — Strafford, Vt. — was breathtaking. Strafford is a quaint, historic Vermont village, a neat ensemble of white buildings that included the quintessential New England meeting-house — a church in modern lexicon. We traveled there to revisit the homestead of Justin Smith Morrill.

Morrill is best known for sponsoring the Land Grant College Act (aka Morrill Act) in the U.S. Senate. It established funding for higher education in each of the states and was signed into law by Abraham Lincoln in 1862.

Morrill was forced to leave school at age 15 to become a merchant's clerk. He was good at it and by the time he was 38, he retired. He designed

his house on the south side of the village. Morrill had an interest in landscape gardening and a visit to his homestead bears that out. Some of the plants cultivated these days were planted by Morrill.

He ran for office and was a U.S. Representative from 1855-67 and a Senator from 1867-98. His legislation expanded college education to include agriculture. Anyone involved in golf turf management is most fortunate for his foresight. The law provided 30,000 acres of federal land for each member of Congress as an endowment for each land grant college. In 1890, he sponsored a bill that gave each college \$25,000 annually to help operate.

The site is fascinating to visit. It includes the barns, corncrib, blacksmith shop, an icehouse and other buildings. Behind the buildings is a manmade pond, which provided water and ice in the winter.

Morrill's grave is a relatively short walk north on the road past the meetinghouse. Whenever we walk up there, I consider Morrill's humble beginnings and great vision. For turf, where would we be without the likes of Michigan State, Penn State, Ohio State, University of Rhode Island, Rutgers, N.C. State and every other land grant that has contributed science, research and education to golf turf? From Auburn University to the University of Wisconsin-Madison, we owe a debt to Sen. Morrill that we obviously can't repay, other than by lending support to our own land grant university.

When we left New England, we sort of followed the fall foliage color south until we arrived in Raleigh, N.C. Along the way, I thought about the great men who helped make America great, and Justin Smith Morrill was one of the greatest.

When we returned home from our golf trip, I realized I hadn't taken my clubs with me. What a great sport. **GCI**

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NEW GRASS, NEW PROBLEMS

By Rob Thomas

Superintendents caught napping following a conversion from bentgrass to ultradwarf Bermudagrass greens might be surprised by what they see.

Golf courses across the southern United States have been making the switch from bentgrass greens for Bermudagrass. While the latter may be less impacted by heat, superintendents are now facing the issue of unfamiliar diseases.

Dr. Lane Tredway, senior technical field representative for Syngenta, is receiving a significant increase in questions about diseases on Bermudagrass greens. Ten years ago, whenever he gave a talk, the majority of questions were about bentgrass greens. Now, 80 percent of the questions he receives are about Bermudagrass greens. Because this has been such a sizable shift and happened so quickly, Tredway said the transition could be called a “revolution.”

Why the dramatic shift?

“It all boils down to playing conditions,” Tredway says. “When properly managed, the ultradwarf Bermudagrasses provide playability that equals or surpasses creeping bentgrass in many locations. Because

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Bermudagrass is so much more tolerant of heat and mechanical stresses, superintendents can focus less on summer survival and more on creating an outstanding putting surface.”

Because of the relative quickness in the rise of Bermudagrass popularity, there is not a wealth of historical research in certain geographic regions, according to Tredway. Both Syngenta – and the industry as a whole – are working to support the current needs of superintendents with this transition. Thus far, more issues have been found with newer varieties than their predecessors.

“Unlike older Bermudagrass varieties, which had relatively few disease problems, the ultradwarf Bermudagrasses are susceptible to a variety of fungal diseases,” Tredway says. “Spring dead spot, *Rhizoctonia zeae* and fairy ring are the most difficult to manage and have become chronic problems in many locations. Leaf spot, Pythium blight, Microdochium patch and cream leaf blight are also common. These diseases attack the ultradwarfs during the fall, winter and spring when they are dormant or semi-dormant. Although these diseases are not the most destructive, they hit at a time when the turf is growing very slowly, so recovery from any damage can take a long time.”

Pests also present new challenges.

“Because they are more shallow-rooted, the ultradwarf Bermudagrasses tend to be more susceptible to nematodes than creeping bentgrass,”



Unlike older Bermudagrass varieties, which had few disease problems, the ultradwarf Bermudagrasses are susceptible to a variety of fungal diseases. *Rhizoctonia Zeae* can pop up during hot and humid summer conditions. Pretreat for this disease in the spring and fall.

Tredway says. “The ultradwarf movement makes it even more important that we develop new tools for nematode management on golf courses.”

Charlie Costello, superintendent and facilities manager at Phoenix (Ariz.) Country

Club, says his club did a major renovation in the summer of 2002, which included the removal of bentgrass greens and changing to TifEagle Bermudagrass. Though he didn’t arrive until 2006, one of his first responsibilities was to correct some mistakes his predecessor made while overseeding the previous year.

“My corrective measure was a ‘no-till renovation’ with Champion ultradwarf Bermudagrass,” Costello says. “I chose Champion because of Scott Kraut, the superintendent at Superstition Mountain. I always felt Scott’s greens were some of the best I had ever played on.”

Costello notes the new ultradwarfs are popular for

a number of reasons: No-till conversions are quick and rarely expensive; density of surface is “incredible;” and the non-overseeded surface is a “wonderful putting surface.”

That said, he has dealt with diseases such as Bermudagrass decline, *Gaeumannomyces graminis* var. *graminis*, Bipolaris leaf blotch and Pythium blight. A seminar provided Costello with the clarity he needed in maintaining his greens, which are generally affected mostly during the fall and winter.

“Until hearing Dr. Phil Harmon of University of Florida at a seminar in Phoenix, I was guessing ... treating the disease on a curative basis,” he says. “After hearing his talk about these diseases, I immediately changed to a preventative mentality. This is my first winter season since hearing ‘Dr. Phil,’ however, up to this point we

“
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aggressively to achieve
desired results.”

— Brad Fox, Green Meadow Country Club

have not seen disease. This is very exciting because the diseases normally flare up greatly in October.”

Dale Samar, general manager of Rancho Manana Golf Club in the Phoenix area, says his course switched from bentgrass to Bermudagrass because the team felt bentgrass greens required much more maintenance and also didn't handle the volume of rounds the course received annually.

“In the Southwest, I think Bermuda greens have been growing in popularity over bentgrass for that same reasons we switched, along with now there is such a greater variety of Bermudagrasses to choose from, which make better options to fit any particular southern climate,” Samar says. “Bent greens in the desert areas of the Southwest require a strict watering schedule throughout the day during the summer months – usually by hand – as well as much more disease monitoring/management during these periods of hot, humid weather. While Bermudagrasses can be susceptible to some of the same diseases as bentgrasses, we have been lucky to avoid most, as Bermudagrasses are quite a bit more disease resistant in our southwestern climate.”

Green Meadow Country Club in Alcoa, Tenn., converted to Bermudagrass in the summer of 2013. According to superintendent Brad Fox, summer stress in the Southeast and accumulating *Poa annua* in existing greens made maintaining bentgrass tough at an acceptable level. Plus, Bermudagrass provided excellent putting surfaces during peak golf times in the summer. His team has quickly learned what diseases their greens are most susceptible to.

“For us, it's *bipolaris* leaf spot during extended periods of cloudy and rainy days without sunshine,” Fox says. “Another disease we treat for is *Rhizoctonia Zeae* ‘mini ring,’ which can pop up during the hot and humid summer conditions. Others include spring dead spot and fairy ring. These two diseases are pretreated for in the spring and fall when soil temps are in the mid-50s to low-60s.”

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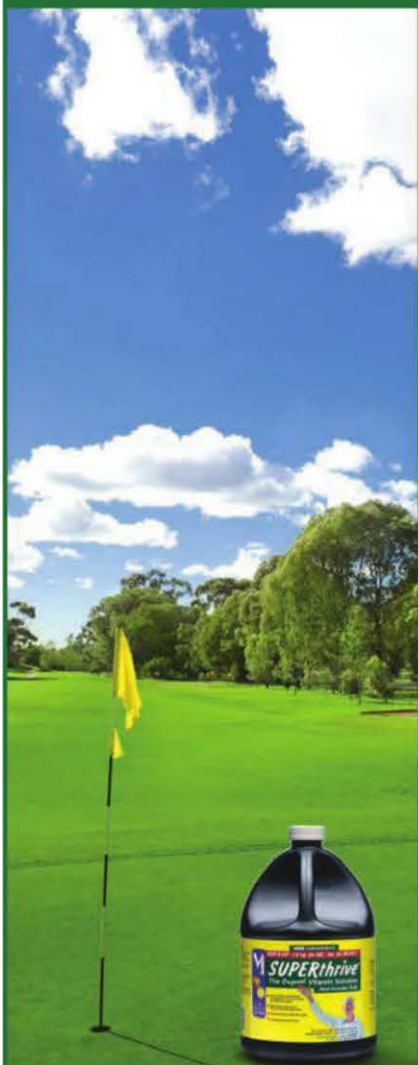
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DISEASE MANAGEMENT

Careful daily monitoring of the greens surfaces and watching the weather closely, especially during the shoulder months, helps Fox stay on top of these culprits. "Most all of the diseases we spray for can be managed preventatively if you keep a watchful eye on the weather," he says.

While a lab isn't always needed to determine what disease is present, Tredway says looks can be misleading. "Spring dead spot, Rhizoctonia zeae and fairy ring can often be diagnosed on-site based on their characteristic symptoms," he says. "However, these diseases can sometimes cause unusual symptoms and fool even the most experienced superintendent or turf pathologist. A laboratory diagnosis is always a good idea, since the curative options for these diseases can be quite expensive.

"Leaf spot and Pythium blight are frequently confused for one another; they develop under the same conditions and their above-ground symptoms can be very similar," he adds. "Close examination of the affected leaves with a magnifying glass or small microscope can help to distinguish these. Leaf spot causes distinct tan spots on affected leaves, whereas Pythium blight causes purplish-black greasy dieback."

Samar's maintenance staff can generally first identify diseases by sight, but if needed they can have soil samples taken to further investigate. "Healthy turf and roots are one of the best ways to prevent disease as well as not overwatering," he says. "Overwatering can really cause problems during both cooler and warmer times of year."

Strategies have changed on the best way to treat Bermudagrass greens as their popularity has grown, Tredway says. "Despite initial beliefs that the ultradwarf Bermudagrasses required minimal fungicide inputs, it is becoming more apparent that a season-long preventative program is necessary," Tredway says. "Rhizoctonia zeae,

“

Because they are more shallow-rooted, the ultradwarf Bermudagrasses tend to be more susceptible to nematodes than creeping bentgrass. The ultradwarf movement makes it even more important that we develop new tools for nematode management on golf courses.”

—Dr. Lane Tredway, Syngenta



in particular, is very difficult to manage and requires tank mixtures and rotations of multiple fungicide chemistries. Many of these fungicides applications will also help to prevent fairy ring. Spring dead spot must also be prevented, with fall application of fungicides prior to winter dormancy.

"With Rubigan no longer in production, superintendents will soon need an effective alternative for spring dead spot control," he adds. "Headway fungicide has shown excellent spring dead spot control and safety to the ultradwarf Bermudagrasses, and also provides broad spectrum control of other diseases such as Rhizoctonia zeae, fairy ring, leaf spot and Microdochium patch."

For southern courses considering making the switch to Bermudagrass, Costello believes it's an easy decision. "If you are in the South with Bermuda greens, to me it is a no-brainer," he says. "You will love overseeding your golf course and not having to worry about overseeding your greens. There is nothing better at overseed time of the year, opening your golf course and having greens roll as fast as you want them to be. So while everyone is wet, growing in their ryegrass and *Poa trivialis*, I think it is a great advantage to have nice, firm and fast greens from opening day. I believe it

dampens the sting of wet conditions, cart paths only, etc.”

Samar adds the human aspect into the discussion. “Any course contemplating switching has to consider not only the agronomic issues but also the wants and desires of the players and/or members,” he says. “Additionally, many climates will require Bermuda greens to be overseeded, as well, which requires the course to be shut down each fall for 12-18 days. Once a decision is made to make the switch, planning is critical, as the sod generally has to be ordered well in advance so the sod farm will have enough available and at the correct height. However, we were

able to make the actual change from bent to Bermuda in 19 days, which included striping the bentgrass, laying out the new sod and growing it into a smooth putting surface. It was definitely the right decision for us.”

Fox’s advice comes with a warning. “Do your research,” he says. “It isn’t a foolproof grass with less needs. It’s a very aggressive grass that must be maintained aggressively to achieve desired results.

“What you may save in summer labor dragging hoses will catch up to you in increased costs in topdressing sand, bed-

knives and winter help for covering greens,” Fox adds. “Also, learn as much as you can from as many people as possible and adjust how they do things to what your course wants and can do. Overall, switching was the best thing for us and we’ve found that the rest of the course has improved because of installing these greens. We have more time in the summer for detail work and other projects.”

For Tredway, the decision is much more specific to the course in consideration. “While ultradwarf Bermudagrasses are working well for many courses, they are not for everyone,” he warns. “If the majority of your golf rounds are during the

fall, winter and spring when Bermudagrass is dormant or semi-dormant, then creeping bentgrass may still be a better choice. Also, remember that Bermudagrass has very low shade tolerance and also does not perform well in poorly drained greens. If shade and poor drainage are limiting factors for your bentgrass greens, then a conversion to Bermudagrass may actually make the situation worse. Winter covers are essential in climates when low temperatures in the mid-20s or below are expected.” GCI

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



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FUN FIELD CHANGES



Paul F. Grayson is the Equipment Manager for the Crown Golf Club in Traverse City, Mich., a position he's held for the past decade. Previously, he spent 8½ years as the equipment manager at Grand Traverse Resort & Spa. Prior to that, he worked as a licensed ships engine officer sailing the Great Lakes and the oceans of the world.

The most valuable suggestions come from frontline workers who see opportunities to save money, eliminate waste and improve the final product. The quickest way to get another valuable suggestion from an employee or fellow worker is to use the one they gave you and give them credit for their contribution to the team effort. Most of the field changes I do are by special request from the guys who are actually using the equipment on a regular basis.

Luckily, I have the authority, tools, materials and parts to make these improvements to out-of-warranty machines. Here are a few of the changes I've done to Jacobsen LF 3400 fairway mowers entrusted to my care, however, these suggestions are applicable to pretty much any make or model of mower.

Every driver seems to want the same things:

1. A sweater basket;
2. A cup holder;
3. Lights; and more recently
4. A power outlet on their mower.

Jacobsen addressed the first two on the LF 3400 Fairway mower, and the third one partially. Rather than the sweater basket it has a well behind the driver's seat where the operator can put rain gear and things they find on the course. While it came with headlights, I have added, at the request of the drivers, a light in the back.

Everyone has cellphones now, and because radios are both expensive and a challenge to keep in working order, we have abandoned the use of radios except for a few tasks. Drivers on loud mowers – or me in the shop making noise – can send and receive text messages. Operators can contact, no matter what the noise level, for help getting out of a ditch, obtaining a can of fuel or things falling off their mowers. I can text them when the machine I am working on is ready for them, and the

message gets through no matter how loud the background noise is.

This increased use of their cellphones means that they need a power outlet on their mower to keep their cellphone and music player charged. While new mowers come with power outlets, older ones need to be retrofitted. I just finished installing the last power outlet, now all of the Crown Golf Club's vehicles are outfitted with power for the 2015 mowing season.

After years of working with Jacobsen LF 3400 mowers and every so often getting my fingers mashed between the hood and the fuel tank and other pinch points, I finally realized that I should put a handle on the hood to indicate to me and others where the safe place to put your hand is when wrestling with the large plastic engine cover.

My bin of overhead door parts had a garage door handle in it that I mounted on the plastic hood with a steel backer plate from the scrap metal pile to reinforce it. I mounted the handle on the service side of the mower, which is the side that you can reach nearly everything you need to when servicing the mower. I use that handle every day of the mowing season and smile each time.

In the spring and fall, I get requests from the drivers for heated seats and heated steering wheels. These requests are usually made in person while they are in the shop to warm up. Looking into the blue faces of shivering drivers desperately trying to get warm makes me think what they really need is a cab on their mower. **GCI**



Left: A handle placed on the hood of a Jacobsen LF 3400 offers a safe place to put your hand when wrestling with the engine cover. Center: The addition of a light, a popular operator request, as well as the addition of a 12v power outlet (right).

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.



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.

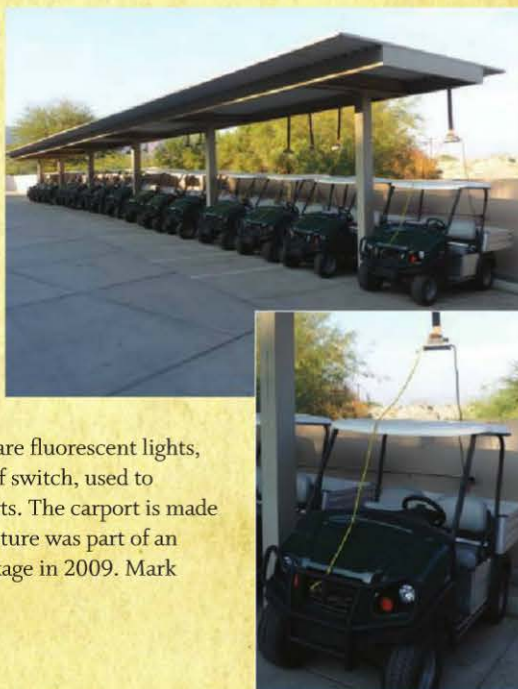
PAINT/CHEMICAL SHAKER

This recycled 1995 Peerless Back Lapping Machine vibrates a wire basket measuring 18 inches by 21 inches by 10 inches that is used to gently shake one gallon paint cans or 2.5 gallon chemical jugs. The basket is placed on top of $\frac{3}{4}$ -inch diameter by $\frac{1}{4}$ -inch long springs held in place with $\frac{1}{4}$ -inch diameter bolts and nuts mounted on all four corners. The original electric motor pulley remains, where the set screw holding it in place is removed and a $\frac{1}{4}$ -inch diameter bolt with four nuts attached in its place that provide an off-balanced wobble to shake the basket. One-inch diamond-shaped heavy duty metal mesh covers the wobbling pulley for employee safety. All scrap materials were used and it took about two hours to design and build. Scott Hellerman, superintendent, at the Pitman Golf Course, owned and operated by the County of Gloucester, in Mantua Township, N.J., conceived this idea.



ELECTRIC VEHICLE CHARGING STATION

To keep things quiet around this residential development private 18-hole golf club, The Quarry at LaQuinta in LaQuinta, Calif., uses seventeen 2014 Club Car Carryall 300 Turf Vehicles with 48 volt batteries. The carport roof keeps damaging sunlight and the desert heat off the vehicles. Each charging station has individual 20 amp electric outlets and circuit breakers for each vehicle. Concrete parking bumpers, placed behind each vehicle's rear tires, keep them from backing up too far into the wall. Underneath the roof are fluorescent lights, controlled with a photo electric cell and manual on/off switch, used to discourage vandalism and for those early morning starts. The carport is made of steel with a ribbed galvanized metal roof. This structure was part of an extensive maintenance building remodeling total package in 2009. Mark Smith, CGCS, is the superintendent.



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(MORAGHAN continued from page 25)

right now that we even have to think that way? Is yours?

Since this is an audience of dedicated professionals whose job is to maintain golf's glorious fields of play, let's turn to maintenance and agronomy. Think about all the grow-the-game programs. Have they added to your workload? Made it hard to prepare and maintain your course? Has that extra work translated into more golfers, increased revenue? Or would everything have been just as good, if not better, if you'd gone about business as usual?

Consider maintaining your golf course "down the middle" or moving the tees up. Does that really change what you do? "Down the middle" doesn't make it easier for the superintendent who has to be responsible for the entire property. Same with forward tees unless you're shutting down the back tees, too.

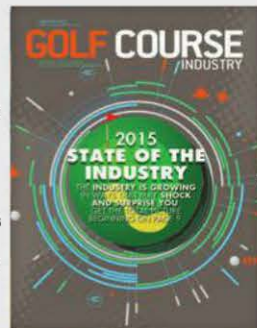
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REMEMBER THE ALAMO



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

At the risk of shattering the widespread illusion that I'm a cynical old curmudgeon about everything, I have a confession to make: I'm actually sort of excited for the upcoming GIS in San Antonio. Mind blown? Well, I have my reasons for looking forward to next month's trip to Texas. And they have nothing to do with great food or the prospect of escaping Cleveland's arctic weather for a week.

First, San Antonio is a great convention town. It's centralized, with everything clustered around the River Walk, and easy to get around on foot. The people are friendly as hell and (as opposed to many conference sites where they learn to hate attendees) they actually appreciate you being there.

Second, the food is spectacular.

Third, a brand new GIS site is intriguing. I've been to Orlando a bazillion times and San Diego and the other locations get a little weary. I'm interested to see the event dynamic at work in a cozier convention center. I've always thought San Antonio was the best small conference site in the nation...now we'll find out how it fits for 10,000-plus turfheads.

(BTW, I always get asked about attendance projections. I'll take a flier here and say 11,286. Remember, San Antonio holds very little family appeal and it's not within driving distance of major golf regions like Orlando or San Diego. It'll be smaller, but GCSAA clearly knew that going in. I also suspect their convention center costs will be lower in Texas so they may end up netting as much money as larger sites with higher expenses. That's good because the show underwrites much of the national's budget.)

So, all of that will make it an interesting event. The question is whether it will be a valuable event. The answer is up to you. Here are tips from a grizzled show vet to maximize the dollars you drop in the Alamo City.

Always have a strategy. Write out your show goals. What do you need to accomplish? Start with employer-driven goals (investigating new equipment/products, finding solutions for turf or business-related challenges, recruiting assistants or techs). Write those goals down. Make appointments to meet key suppliers at specific times rather than just trying to "drop by" the booth. Set a time and place for every meeting. Put those meetings in your calendar (include booth numbers or locations) and set it up to remind you 30 minutes in advance. If you don't have a specific schedule with hard meetings, you won't accomplish half of what you could.

Look up new networking contacts in advance and set a time to meet. This GIS is the industry's best networking event. Even if you're not thinking of changing

jobs, think about who can be a valuable partner to you when that time comes. Aim high. Don't be afraid to reach out to the best-known, best-connected industry folks. The reason so many of them are successful is they've cultivated great relationships over decades and I'd be shocked if they wouldn't agree to give you 15 minutes of their time. When possible, reach out by phone so you have some rapport with them before you meet but always confirm a specific time and place to meet. If you have Outlook or a similar program, send them a meeting request so you can be sure it's in their calendar, too.

Avoid looking unprofessional. Getting loaded and falling into the River is hilarious when you're on vacation. Not so much when you're at the industry's biggest event and word could get back to your boss. Have fun, but don't be an idiot.

Make time to explore the show. First, get your ass out on the floor, spend at least half-a-day and make sure to thank the exhibitors. Their support keeps your dues low and drives non-revenue programs like lobbying and career development back in Lawrence. Also, too many superintendents hit their key suppliers in the big booths and then head for the door. Wrong. You'll learn a lot by working your way around the little booths on the outskirts of the show and the new exhibitors area. I'm never surprised to see Matt Shaffer, Bob Farren or other industry legends poking around out there trying to learn something new so why wouldn't you do the same?

Outside the box thinking can make a huge difference. Ask yourself about the key challenges you face on and off the job and think, "How can I use this valuable time in San Antonio to fix my problems?"

So, remember the Alamo now as you prepare for the big show...and try not to fall in the River. **GCI**

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