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PUUS
GREENS IN A BLANKET
NEW PRODUCT SHOWCASE
SUPER'S SON IS A ROCK STAR

21 at last

In the 2021 *Golfdom* Report, readers say they're expecting a spring golf boom unlike any other

No. 17, The Cliffs at Keowee Vineyards Lake Course, Salem, S.C.

Plus

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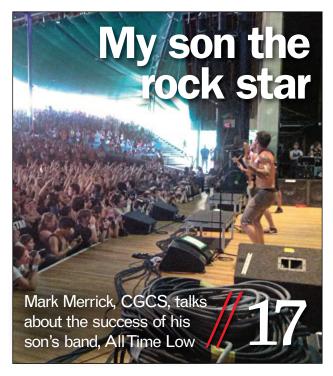
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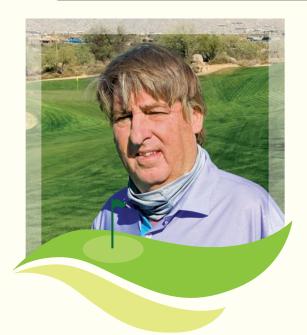


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LEGENDS INITIATIVE



SHAWN EMERSON

Director of agronomy

Desert Mountain Club, Scottsdale, Ariz.

By Seth Jones

Started by Anuvia and presented in partnership with Audubon International and *Golfdom*, the Legends Initiative celebrates superintendents who have gone above and beyond in their careers — not just in maintaining tremendous golf courses, but also in their contributions to the industry, creative problem-solving and mentorship. *Golfdom* sat down with Anuvia Legend Shawn Emerson to discuss working for his father, his fondest memory and how he views leadership.

Shawn, congratulations on being named the newest Legend. What did you think when you found out about the honor? I was speechless, and that's rare for me. And, it's because of the people who came before me — the Bob Farrens, the David Stones, the Ted Hortons, the Matt Shaffers. That's unbelievable.

You're a second-generation superintendent. What are some of your earliest memories of working with your father, Bill? My dad always brought me to work. I got to watch a legend. The greatest influence my dad had on me wasn't grass; it was how he influenced people. I was 15, and I'd ride to work with Dad to Chevy Chase Club. There was an accident on 270, and we were 10 minutes late. Everybody waited for him, they didn't have cellphones then. We get in line, and he's telling everyone what to do.

'Blue, George, Winston ... you're mowing greens, you're cutting cups.' Then he turns to me and he says, 'Young man, we start work at 6 o'clock.' I said, 'Dad, I rode with you!' He says, 'Young man, it's not this company's responsibility to make sure you have reliable transportation to work.' So, I got written up by my father for being 10 minutes late! I learned right then, you can't have any excuses.

You oversee a lot of golf holes and a lot of people. What's the secret to being successful in such a large operation? I treat golf course maintenance like being a coach. I'm not the same type of coach I used to be. I used to have fire and I was a disciplinarian. Over my 35 years, I've learned it's easier for me to change. I have 200 guys who work with me now, I can't change all those people. That's the greatest lesson I would tell managers

today — keep evolving, keep changing. Find better ways to do things.

Does any one day stand out to you in your career? In 1999, we hosted the Tradition. It was the first golf tournament that ever got snowed out on the PGA Tour. We had 2 or 3 inches, and we were freaking out. I told the kids to go home and get back at midnight. We left at 1 o'clock in the afternoon and got back at midnight. There was no way in the world anyone thought we could get that golf course put back together. But with five crews here, we did it. We played the next day in unbelievable conditions. That day will stand out because of the accomplishment of what all the employees did. I thanked and shook hands with every single person. That's why we love this profession. You can see the reward.







Golfdom

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"I shook my head in disbelief. How bad am I at Twitter that I can trip over backward right into an awkward situation like this?"

SETH JONES, Editor-in-Chief & Associate Publisher

My tweet reaches an All Time Low

n old friend recently asked me why I don't post on Twitter as much as I used to. I told him, "because I always mess up there!" ¶ While I enjoy following along on Twitter, it seems that when I post, I find a way to offend someone. The next morning, I'll get to work and see the notification that someone canceled their *Golfdom* subscription. And it's a free subscription!

But, if you look at my Twitter feed (@SethAJones), I've become so innocuous, so vanilla, I'm barely worth a follow. My tweets fall into one of three categories: 1) marveling at my awesome kids; 2) positive reinforcement for my Kansas Jayhawks; or 3) lamenting the state of Kansas City alternative rock radio.

Even with me limiting my Twitter banter to the above three categories, I recently found a way to place my foot directly in my mouth with a *Golfdom* reader. And, it somehow came on category No. 3.

I'll retell the beginning of the story here and then direct you to the story "My Son the Rock Star" on page 17 to fill in the rest. We had just gone to press with the December issue. I was able to take a deep breath, so I turned on the radio. The song that was on was the same song I keep hearing over and over again ... and I finally took my frustration to Twitter with the following message:

Any fellow @Alt965kc listeners notice how often the station plays "Monsters" by All Time Low? It feels like they come out of every commercial break with it. It's like All Time Low's mom is the new programming director.

Harmless, right? It's not like All Time Low's mom follows me on Twitter.

Then I got a strange reply from Bayer's Darrin Batisky: Hey Seth, maybe ask @Dudefester2? I thought, hmm, what's Darrin talking about? Then, @Dudefester2 replied with:

Careful, Seth, that's my boy! So, I asked @Dudefester2, aka Mark Merrick, CGCS, if he was an All Time Low superfan, because if he is ...

if he was an All Time Low superfan, because if he is ... he'd love my local KC station, which celebrates the band every hour on the hour. Subsequently, I did what common sense should have told me to do first — I looked at his Twitter feed. And then, I nervously asked, "... or is that literally your boy?"

Aqua-Aid's Sam Green had a good laugh and replied, "Literally his boy!"

So no, All Time Low's mom doesn't follow me on Twitter ... but their dad does!

I shook my head in disbelief. How bad am I at Twitter that I can trip over backward right into an awkward situation like this? I messaged Mark and told him I meant no disrespect to his son's band ... that I was just frustrated by the way my local station beats a song into the ground.

And then I asked, maybe we could discuss his son's band sometime because it sounds like a pretty cool story? Thankfully Mark is a cool dad — he has to be to have a son in a famous rock band, right? — and he was happy to have a Zoom call with me where we talked business, then talked about his rock star son Zack.

Like most stories of successful rock bands, it's a pretty cool story. The story isn't going to win any writing awards or convince golfers around the world to fix their ball marks ... but I'm pretty pumped to have a rock and roll story in *Golfdom*.

While my first reaction was embarrassment, after a moment or two, I realized how lucky it was — I wouldn't have learned of this story had it not been for my foot-inmouth tweet.

And someday, when the pandemic has passed and I can go to concerts again? Look for a tweet from an old guy front row at the All Time Low concert. That'll be me. ②

Email Jones at: sjones@northcoastmedia.net.

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NEWS, NOTES AND QUOTES



KENNA NAMED 2021 COL. MORLEY DSA WINNER

BY SETH JONES // Editor-in-Chief

Michael Kenna, Ph.D., retired director of USGA Green Section Research and Golfdom's research editor, has been selected to receive the 2021 Col. John Morley Distinguished Service Award from GCSAA. He'll be recognized at the 2021 Golf Industry Show on Feb. 2.

The Distinguished Service Award (DSA) is given to an individual who has made an outstanding, substantive and enduring contribution to the advancement of the golf course superintendent profession. The award was renamed in 2009 in honor of Col. John Morley, GCSAA's founder and first president.

"Mike's years of dedication and extensive contributions to the industry help continue the vision of Col. John Morley," said Rhett Evans, GCSAA CEO. "His leadership and insight in research efforts are second to none and of great value to superintendents and to the game of golf."

A 25-year GCSAA member, Kenna oversaw environmental and turfgrass research activities at the USGA from 1990 to 2019. This included soliciting and evaluating research proposals, grant-making and working with private and governmental organizations to develop cooperative funding opportunities for turfgrass scientists. He managed more than 600 research projects funded with \$40 million from the USGA.

"I've always looked at the golf course superintendents as the primary recipients of the programs and the research. Without them, we can't make the improvements that we're striving for," Kenna told *Golfdom*. "They're the conduits, the ones who implement the research results. To be honored by them ... it's an honor to feel that we made an impact."

//WINNER, WINNER, CHICKEN DINNER!

LEBANONTURF NAMES 2020 EMERALD ISLE SOLUTIONS CAMPAIGN WINNER

LebanonTurf named Justin Wheeler, an Air Force agronomist from Texas, as its 2020 Emerald Isle Solutions campaign grand prize winner. Wheeler will be donating the \$5,000 prize to his Central Texas Chapter of the Golf Course Superintendents Association.

The campaign, launched at the 2020 Golf Industry Show, highlighted the company's Emerald Isle Solutions True Foliar Technology and aimed to show an increased commitment to customers and maintenance crews in the turf industry by giving away a \$500 Amazon gift card each month, plus a \$5,000 grand prize donation to one winner's local GCSAA or STMA chapter.

"This campaign not only highlighted an innovative product but also allowed us to support our customers even further," said Chris Gray, golf channel manager for LebanonTurf. "We send our congratulations to Mr. Wheeler and the Central Texas GCSA, and we hope this donation helps them enhance their programs in 2021."

//BIG MOWER COMING THROUGH

HUSQVARNA TO ADD LARGE AUTOMOWER TO ITS LINE

During the company's recent Living City digital event, Husqvarna offered a sneak peek at its new robotic solution for commercial turf care management. The new Husqvarna Ceora platform is a revolutionary autonomous turf care solution for grass areas and will cover more than 12 acres with one mower.

Husqvarna Ceora is a robotic mower designed specifically for professional applications delivering a first-class result in a cost-efficient and safe way with low noise and zero emissions during use. Husqvarna Ceora operates independently within a defined area. The systematic mowing technology offers cuts in parallel paths.

More details will be presented during summer 2021, and mowers will start shipping to customers from early 2022.

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//IN MEMORIAM

Former national director of USGA Green Section dies

James Taft Snow, 68, of Basking Ridge, N.J., died on Nov. 25 after a 10-year battle with frontotemporal dementia.

For the last 21 years of his 35-year career at the United States Golf Association (USGA) in Far Hills, N.J., Snow served as the national director of the Green Section and was a leader in fostering partnerships, education programs and turfgrass research initiatives to make golf courses more sustainable and environmentally friendly. An excellent writer and public speaker, Snow also edited the Green Section Record publication and several important books about turfgrass science.

In addition to his lifelong hobbies

of nature photography, gardening and genealogy research, Snow spent two decades as a Boy Scout leader for Troop 351 in Basking Ridge, where he enjoyed mentoring young people. Among the highlights of his life were several backpacking trips to various Western national parks with the Boy Scouts.

Snow was born on Dec. 2, 1951, in Ithaca, N.Y. Raised in Trumansburg, N.Y., he was a 1970 graduate of Trumansburg Central School, where he was class president, and then received a BS and MS in horticulture from Cornell University. Snow cherished his Trumansburg roots and connections throughout his life.

//WISHES. GRANTED

THE FAIRWAYS FOUNDATION **COMPLETES INAUGURAL GRANT CYCLE**

The FairWays Foundation finished its inaugural grant cycle this year and chose seven projects from around the world, resulting in a total grant amount of \$106,703.

Despite challenging times, grant application numbers were more than satisfactory, and there was an incredible cross-section of project types to consider, according to the foundation.

Grant recipients include:

- Button Hole nonprofit golf facility, Providence, R.I.: Invasive Species Management in Native and Wetland Areas.
- Mohonk Preserve, New Paltz, N.Y.: City Kids on the Ridge. Mohonk Preserve's City Kids on the Ridge.
- Hill Crest CC, Lower Burrell, Pa.: Fairway Stream Improvement.
- · Salmon Run GC, Gold Beach, Ore.: Jack Creek Riparian Enhancement.
- · Cog Hill G&CC, Lemont, Ill.: Wash Pad Bioswale.
- Hartford GC, Manchester, England: **Grassland Restoration.**
- Scottish Wildlife Trust, Irvine, United Kingdom: Irvine to Girvan Nectar Network.

//SUPER OF THE YEAR

EBNER NAMED SUPERINTENDENT OF THE YEAR BY **UTAH GCSA**

Alpine CC's Director of Agronomy Jake Ebner has been named the "Superintendent of the Year" for private clubs by

the Utah Golf Course Superintendents Association (GCSA). Ebner was recognized during the Utah GCSA's virtual annual meeting on Nov. 12.

Ebner has been the director of agronomy at Alpine CC, located ap-



Jake Ebner

proximately 30 miles south of Salt Lake City in Highland, since 2006. He manages a staff of 22 crew members and has a degree in horticulture. Ebner's career began in golf as a 15-year-old looking for a summer job and eventually grew into managing agronomics at courses across the country. In 2019, Ebner worked closely with John Fought Design while leading Alpine CC through numerous golf course enhancement and renovation projects. Projects included the renovation and modernization of golf course bunkers, new cart paths and enlarging and improving the existing practice range and putting green.

#TurfTweetoftheMonth

Rob Andrews

@andrews rp

Assistant superintendent Ansley Golf Club at Settindown Creek, Atlanta

Mysterious alien monolith found at the golf course.



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PHOTO BY: ROB ANDREWS

// 2021 GOLFDOM REPORT

In the 2021 *Golfdom* Report, readers say they're preparing for what they expect to be a booming spring golf season



21 at last

BY THE GOLFDOM STAFF

What a difference a year makes.

When we published last year's *Golfdom* Report, we had never heard of COVID-19. Our topics were expectations for 2020, labor, how readers use social media and what they thought of robotic mowers. Never has a *Golfdom* Report aged so poorly in just a year.

With the benefit of experiencing the tumultuous year that was 2020, this year's *Golfdom* Report offers much more insight. Reader expectations are through the roof for 2021. A whopping 90 percent of survey respondents are optimistic for the upcoming golf season, up from 70 percent the year before. More than 90 percent of respondents saw an increase of rounds at their facility. And, a 50/50 split of respondents had lost workdays as a result of

a positive test of COVID-19.

This year, 324 readers took our survey. As a thank you, *Golfdom* is donating \$1 for every returned survey to the Wee One Foundation. We will save some of the survey responses for future issues, as other answers offered interesting feedback worthy of further coverage.

Spring '21 — a perfect situation?

In last month's issue, we spoke to GCSAA chapter presidents from 10 different states and the sentiment was practically universal: While COVID-19 is an awful disease, it did golf a tremendous favor by bringing more people to the game.

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// 2021 GOLFDOM REPORT

Continued from page 11

Mark Merrick, CGCS, vice president of sales and marketing for Genesis Turfgrass in the mid-Atlantic, says he hasn't seen this



Mark Merrick

much excitement about golf in a very long time. He forecasts that the spring of 2021 will be a golf boom for the record books.

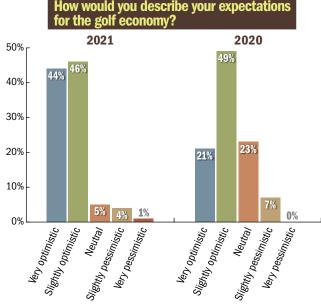
"Talk about COVID-19 and how bad it is, but once we get through it ... we've talked about it for years, about getting more people to play. Well, all of a sudden, it happened as a byproduct of COVID," Merrick says. "I think it's going to be the perfect situation

come next spring — when golf starts all over the country big time. More and more people will be playing golf. COVID-19 seems to be almost under control. We'll have a dark period here, but the so-called 'cure' is coming out. COVID is on the downswing, and everyone has picked up golf in the past six months. It's going to be great timing for everyone in the golf industry."

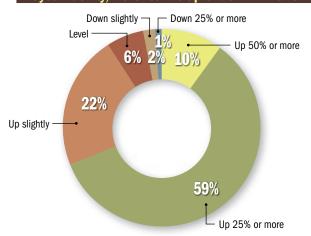
Joey Warren, assistant general manager of Mount Vintage GC in North Augusta, S.C., says he's noticed a growing interest in golf for the past three years, but 2020 was beyond expectations.

"(Last) year, we met our projections before the end of October," he says of rounds. "As awful as the coronavirus has been, the golf industry in general really prospered. We're fortunate to be an outdoor sport where people are all spread out. We've just been blessed that so many people came here to play golf."

Mike Fast, CGCS, spent 22 years as superintendent at Delphos CC in Van Wert, Ohio, before leaving to take a different superintendent position. After two years, he returned to Delphos, a course with a reliable crew comprised mostly of retirees and his son in the summers. While the clubhouse revenue has been negatively affected by COVID-19, the course has been busy, memberships are



At your facility, were rounds up or down in 2020?



up and he expects an increase to his maintenance budget.

"I think COVID-19 has really helped the industry; that's what I've seen in Ohio and talking to other superintendents," he says.

"Everyone is busy and having a good year. Ever since 2000, our memberships have been going down, but, this year, we rebounded — 40 to 50 new members. COVID has helped, and we've also done a lot of improvements to the course."



Mike Fast

Kevin Rotti is the superintendent at the Legacy Club at Alaqua Lakes, a Tom Fazio design in the Orlando area. He echoes what

Fast says — membership is up, and if the budget is approved, his maintenance budget will go up "substantially."

"We're owned by Concert Golf, and we have two properties. This one, the Legacy Club at Alaqua Lakes, then down the road a mile is Heathrow CC. Both of our golf courses have been extremely busy all year long," he says. "We've had no issues with lack of play, and even our membership has gone up over the last month or two."



Kevin Rotti

As far as the maintenance budget, the increase of almost 10 percent is coming simply because it's due.

"We've got a lot of low handicappers, a lot of good players," Rotti says. "They're trying to turn a profit as good as they can, but my particular club, we're a golfers-only club. They know we have to step it up a notch or two to keep everyone happy and to keep up

with the premier courses in our area."

Genesis Turfgrass serves customers in seven states. Merrick says the Early Order Program (EOP) of fall 2020 was "shockingly great."

"The big question was, are people going to pay their bills (in 2020)? Is it going to be really bad? Is EOP going to be bad? Everybody went through that period, early order, then COVID hit, the

Continued on page 14



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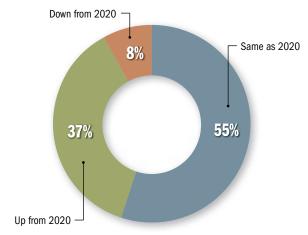
The Cliffs in Salem, S.C., features seven different courses including Keowee Falls. This year, Keowee Falls added an additional forward tee to the Nicklaus course and implemented switching tee setup almost daily on all seven courses.

Continued from page 13

fear hit. We're human," he says. "It was absolutely reverse. More people paid their bills (in 2020), even with clubs closed and wedding losses, more people paid their bills (in 2020) than ever. To see an EOP improve over last year, it shows you the state of the industry. To me, what people want to do in this situation and what they want to do next year ... golf is going to boom."

— S.J.

How does your maintenance budget look for 2021?



Attracting family play

More than 90 percent of our survey respondents said rounds were up this year. This increased interest in demand for tee times is good for the game of golf, but with this increase came operational challenges.

A challenge many courses had to navigate at the beginning of the pandemic was a shift to single-rider carts. This meant extra cart traffic on the course and the necessity to sanitize carts for

the next tee time. Such was the case at The Cliffs at Keowee Falls in Salem, S.C.

"Turning those carts around was a big deal because we just didn't have any tee times available," says Jim Evans, director of agronomy for The Cliffs. "It was mainly due to golf cart availability. We tripled our rounds this year. Honestly, it was very hard to keep up."

The Cliffs — which features seven differ-



Jim Evans

ent courses on the resort — implemented a few innovative ideas. The first was to set a new forward orange tee, which Evans says cuts the challenging Keowee Falls course in half.

"It's a Nicklaus design, and it is tough," he says. "We wanted to make it easier for everybody to play. We especially wanted to bring in families, kids, folks that have never played before."

The team at The Cliffs has also implemented a daily tee setup

PHOTO COURTESY OF THE CLIFFS

program to mix up the look of the tees on an almost daily basis.

"You may play the blues one day, and the next day it's totally different on the blues," he says. "We've thought hard on how to make the game interesting and unique every single day."

— С.Н.

Jennifer Torres

Staying home or staying on the course

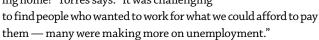
Though many respondents reported a record number of rounds played in 2020, when asked on a scale of 1 to 5 (5 being difficult) how hard it was to maintain a full crew, more than half reported a 4 or 5 in 2020.

The perennial problem continues to hold true: Finding people who are willing to work for the pay is a big barrier to hiring in the golf industry. With the added challenge of the pandemic, sev-

eral superintendents cite unemployment and stimulus checks as a reason they were unable to get people out of their homes to come work on a golf course.

Jennifer Torres, golf course superintendent at Westlake Golf and Country Club in Jackson, N.J., is in that camp.

"2020: The year of free money and staying home!" Torres says. "It was challenging

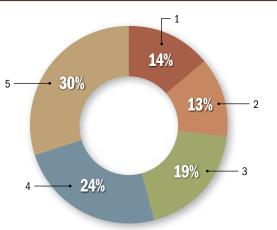


She hired five people this year, but it took a while to get them up to speed, and the short-staffed crew was unable to pay extra attention to the details on the course.

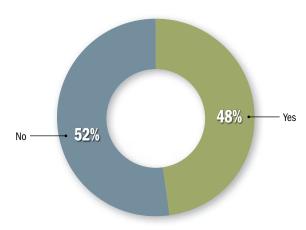
"It's always been a struggle," she says. "I don't know how we fix it because they can flip burgers for the same amount of money to get up at 4:30 in the morning and work in the freezing cold."

At the peak of the season, including Torres and the mechanic, about 10 people comprise the Westlake crew. She currently doesn't have an assistant superintendent, but her crew includes

On a scale of 1 to 5, with 1 being easy, 5 being difficult, how hard has it been to maintain a full crew?



Did any of your staff miss work this year as a result of a positive COVID-19 test?



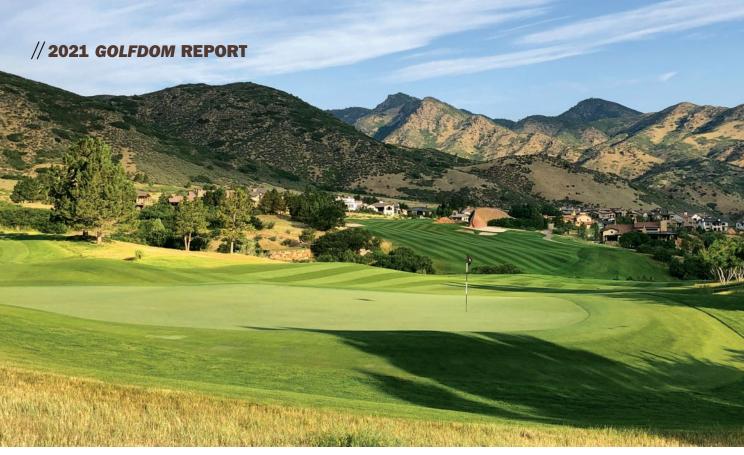
people she can rely on, including her mentor and her 20-year-old son.

"Take care of the people you have," she says. "I go out of my way to make people feel like this isn't just a job, we're a family, and tell them how important their job really is."

Continued on page 16



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The Club at Ravenna in Littleton, Colo., keeps its 11 crew members productive year-round with projects like bunker renovations, irrigation improvements and landscaping maintenance around the clubhouse.

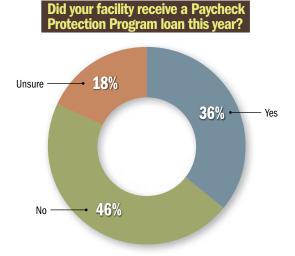
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 $\label{thm:continuous} Timothy\ Garceau, superintendent\ of\ Haworth\ (N.J.)\ Country\ Club,\ also\ had\ a\ smaller\ crew\ this\ year.$

But, unlike Torres, management asked Garceau to reduce his staff, though he had people who wanted to come back and work. He had a skeleton crew of nine at the end of June, with 13 people at the peak of the season, down from 19. His assistant quit at the end of August, too.

That meant getting creative by executing maintenance plans earlier and enlisting the pro shop staff to help move tee markers in the morning.

He says that moving tee times back 45 minutes, less bunker



maintenance and rolling greens less frequently helped labor.

"It couldn't have worked any better for us," he says. "We were able to manage the golf course almost better than we had in the past with more guys. Looking at my labor numbers, we came in at the end of this year about \$185,000 less in labor than last year."

Though more than half of our survey respondents reported that it was a difficult year for labor, more than a quarter of respondents said it was easy to keep a full crew.

"We didn't give them a reason to find another job," says Steve Datwyler, golf course superintendent at The Club at Ravenna in Littleton, Colo. "If you lay them off in the winter, you're lucky to get them back."

For the past five years, The Club at Ravenna has invested in keeping 11 staff members year-round by doing small- to medium-sized projects in-house. These have included irrigation improvements, renovating three greens, removing 2 acres of bunkers, building a 1-acre short-game facility and completing landscape work and a practice area expansion around the clubhouse.

Datwyler says the club has more than tripled memberships (from 80 to 300) since the maintenance crew began these projects.

Going into 2021, Datwyler says he's optimistic and thinks the crew will hit the ground running in the spring.

"I'm not anticipating challenges with labor," he says. "I know that's not what most people are going to face either. There are even departments within Ravenna where it's a struggle. We were fortunate to build a strong team and we have a supportive club leadership that believes in keeping the team together."

-A.H.

7 THE ROCK STAR

Mark Merrick, CGCS, talks about the success of his son's band, All Time Low

BY SETH JONES

Golfdom: Thanks for taking the time, Mark! First, tell us about yourself.

Mark Merrick: I started in 1973 when the changeover from farmers to superintendents started, and every irrigation system was manual with snap valves everywhere — even on greens! I could tell you stories, that's how old I am now.

Golfdom: And, I discovered this by accident recently ... your son Zack is the bassist in All Time Low? They're a bigtime band ...

Merrick: They're really big in punkpop, alternative, whatever you want to call it. It wasn't my thing until all this started, and now my wife and I know every word to every song.

Golfdom: What's it been like to see their growth and their success?

Merrick: It's a long, long story, like anything involving parents and kids and what they want to do. They were in their teens, they got together as friends, they hit it off and came to us as parents and

said they want to quit everything else to get into this band thing. We were like, 'excuse me?' It was right before they were all to go to college. We had to drive them around at the beginning, and we said this isn't going to last. Then, they brought us all together at the drummer's parents' house, there's a guy there from California, and he wants to offer them a record deal at 16 years old. It didn't take off right away. Local bars and things. When it did take off, it took off big. Now, Zack lives in a big house in Hawaii.

Golfdom: Their song 'Monsters' has been the No. 1 song on alternative charts for 13 weeks. You've traveled with them and seen some pretty cool venues.

Merrick: Paris, Montreal, Hawaii, Germany. They've traveled the world seven or eight times. They sold out an arena in Shepherds Bush, England, three nights in a row. My favorite is they sold out Wembley Arena, not the Stadium, but the Arena, which holds 15,000 or so.



Mark Merrick, CGCS, is a longtime superintendent and the vice president of sales and marketing for Genesis Turfgrass. Golfdom caught up with Merrick to talk about his rock star son, Zack Merrick, who is the bassist for the band All Time Low. To view the complete interview, visit Golfdom.com.

As all rock bands do, they bought out the bar at the top of the Hyatt in London. We went, and this guy taps me on the shoulder ... he's British, in a suit. This gentleman turns out to be friends with the band because his kids love the band. He's an MP in Parliament. To make a long story short, he says, 'Hey, want to go to Parliament tomorrow? They're out of session, I'll walk you through.' ... this is one story of many. These kids have been great; they're great at what they do. They won an award in England, called the Kerrang! Awards (Best Newcomer, 2008). I'll never forget, the guy who handed over the award to the band was Alice Cooper, and it made my day. To have a guy from my era like Alice Cooper hand that to the band at their age ... it's neat. I remember they won a contest and were playing this festival, and we were backstage. Joan Jett walks by. My wife says to my son, 'Zack, it's Joan Jett!' Of course, Joan Jett

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could hear her say that. So, my son says, 'Mom! We don't do that back here!'

Golfdom: Did you have a musical background or did he find it on his own?

Merrick: Our whole family is musical. His sister Sam has the best voice. My wife, Carla, she's been a musical dancer. We've done some charitable work, and we've been involved in The Paint & Powder Club, one of the oldest charitable performing clubs in the nation. I fronted a band for five years as the lead singer, so they've seen a lot of that growing up.

Golfdom: Is there an album you'd recommend for All Time Low?

Merrick: I really like Future Hearts. That set them on a different course. The one that's out now shows their maturity. It's called Wake Up, Sunshine and just came out in April.

Golfdom: Mark, I appreciate your good sense of humor and not getting upset with



me. It was me complaining about the song 'Monsters' being overplayed on Twitter that connected us, and you let it slide.

Merrick: We're going to see you front and center at one of their concerts one of these days when COVID is over. You know you want to be there.

Golfdom: And I'm going to tweet about how awesome the show is. "Check out

'Monsters!"

Merrick: And play it about 20 times in a row! You know, last night the new version of 'Monsters' with Demi Lovato came out at midnight — so you have to check that out! Seth, I still love you, you do a great job, we all love you in the industry, you know that, but we are going to get you front and center. **G**







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CORTEVA AGRISCIENCE

with Chris Moyer
Turf & ornamental category leader

How do your products save golf course superintendents time?

Each course is unique, and supers know what they need to spend time on. Corteva Agriscience products serve as the foundation to a successful program that superintendents can rely on year after year. We want to make superintendents' jobs easier, to get better control and consistency while saving that time and effort, which is why our products are designed with technical success as the one of most important aspects to help them win on and off the course.

How do your products save golf course superintendents labor?

Year after year, labor is the biggest pain point for superintendents. In the environment that we are in, we strive to make products that are easier for our superintendent customers. Our products come in multiple formulations, giving superintendents the ability to choose the application process that makes them the most efficient allowing them to save time and labor. Corteva products are also easy to use,





which saves time on training and can improve operational efficiencies.

How do your products help generate additional revenue for golf courses?

As a former superintendent, I know what it's like to have to make sure the course is visually appealing and performs to the expectations of golfers. Corteva products are the tools in the superintendent's toolbox that help them achieve that goal — which entices golfers to return to the course over and over again.

In what other ways do your products or services make golf courses profitable?

Corteva Ultimate Rewards gives superintendents the freedom to purchase the products they want when they need them — and earn cash back. With yearlong rate locks, rebates and two flexible ordering periods, superintendents can keep their course pristine on a budget. Stop by our virtual booth at GIS 2021 to learn how to lock in your rebate and save on products.

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DRYJECT



with John Paddock

Owner and president

How does your service save golf course superintendents time?

Managers of DryJect service centers supply all the labor to operate our injection equipment. This simplifies the magnitude of planning out a large core aeration project.

How does your service save golf course superintendents labor?

Labor associated with operating aerators is eliminated. Because our machines fully fill each injection hole with sand or other amendments, topdressing and aggressive dragging to work the material in the holes is either greatly reduced or, in most cases, not needed at all. As a result, several grounds crew workers are freed up to perform other duties that may have been neglected or have required overtime to accomplish.

How does your service save golf courses materials or fuel?

Using the DryJect service will aid substantially in retaining the golf course's normal rounds played pattern when compared to coring, topdressing and aggressive dragging, which diminishes the putting surface playability (or the golfer's perception on playability). Whether the course is



daily fee or private, using DryJect will help retain golfers, resulting in more successful revenue streams.

With DryJect's newly designed hopper with agitation, we now have the ability to inject wet sand. Depending on availability and pricing for kiln-dried sand, having the capability to inject wet sand may save the golf course a substantial amount of money!

How does your service help generate additional revenue for golf courses?

Golfers marvel at how well the greens putt just after our service. So, happy

golfers equal better profits! Here's what one satisfied customer had to sav:

"Our data shows that when we core aerate and topdress in early September, we see about a \$30,000 drop in revenue over the next two weeks. When using DryJect, we realize only one day of lost revenue. We estimate a \$19,000 savings in using DryJect over core aeration."

> - JUSTIN N. SMITH, general manager Olde Homestead Golf Club, Pa.

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In The Field!







FROST INC.



with Ken Rost Founder and CEO

How do your products save golf course superintendents time?

Three ways. When GPS spray control can make the decisions about which nozzles should be on or off, that takes the decision making burden off the operator, so he can focus more on piloting the sprayer. This allows the operator to be more efficient. Second, with our dual-nozzle configuration, a wider range of speeds can be achieved. At low speed, the smaller nozzle is on, and at a little faster speed, it switches to a larger nozzle. At top speed, both nozzles are on, and the spray pressure is reduced. The result is faster spray speeds with no increased drift. Last, our Kubota Ninja sprayer has a highrange transmission to allow transport speeds up to 25 mph. That allows for a significant reduction in time spent between spray jobs.

How do your products save golf course superintendents labor?

With our dual-nozzle feature mentioned above, the increased productivity for a single operator typically allows five fairways to be sprayed in the time three were done without our system. Because of this productivity, many customers have

been able to spray with one sprayer instead of multiple sprayers. This includes freeing up a sprayer operator to do other work.

How do your products save golf courses materials?

Spray product savings with increased accuracy in application and reduced overlap saves between 8-17 percent with an average of 14 percent. When variable rate maps are used, savings up to 30 percent have been seen. Easy math can be used to know that that translates into dollars and ROI.

How do your products help generate additional revenue for golf courses?

If you can open up play earlier because your spray program is more time efficient using GPS sprayers, more rounds can be accommodated, and golfers don't need to see the





sprayer on the course.

In what other ways do your products make golf courses profitable?

The first way to profitability is a reduction in input costs. Whether it's spray product savings, increased efficiency in equipment usage and/or labor, GPS spray systems contribute greatly. GPS spray systems also help produce higher-quality turf that golfers see. For instance, if more accurate applications of PGRs on greens and fairways are done with GPS, collars and approaches don't go into suppression from being over sprayed. That might be the difference on your course in getting that big tournament, or whether the new potential member joins your course or the one down the road. In addition to the input savings, it's about using a tool to help get the healthiest turf.

2205 US Hwy 8, Saint Croix Falls, WI 54024 (800-621-7910) frostserv.com



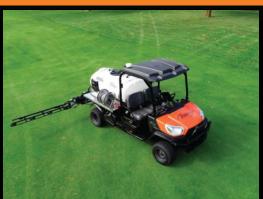
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HUNTER TTS-800 SERIES ROTORS

with Carl Eberts

Golf product marketing manager

How does your product help generate additional revenue for golf courses?

Golf course superintendents have a difficult job when it comes to irrigation management. Playability directly impacts revenue and reputation, so effective irrigation is critical at all times. Harsh environments, water quality issues, and difficult-to-service rotors can make matters even more complicated. With heavy-duty, highly efficient and easy-to-service TTS-800 rotors from Hunter Industries, superintendents can push past these obstacles to ensure beautiful, playable courses for years to come.

How does your product save golf course superintendents labor?

TTS-800 rotors provide maximum longevity in the field. The hightorque gear drives are the strongest in the industry, so the





challenges of poor water quality are mitigated. The rotors come standard with a robust inlet valve that includes an exclusive Filter Sentry® scrubbing system. Thanks to a powerful wiper mechanism, Filter Sentry scours the filter clean during every opening and closing cycle, which decreases the need to service the rotors and saves on labor.

How does your product save golf course superintendents time?

TTS-800 rotors have an innovative manual off switch that enables servicing of the solenoid, pressure regulator and internal riser without

depressurizing the entire piping system. This means there is no need to spend time draining and then refilling the system if servicing is required.

In what other ways does your product make golf courses profitable?

The optimized distribution uniformity of TTS-800 rotors reduces run times, decreases electricity use, promotes water savings and reduces wear and tear on the pumps. Over time, these benefits lead to significant savings in operational expenses and translate directly to increased profitability.

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Our Long Game Is YOUR SUCCESS



From best-in-class TTS-800 rotor technology developed over decades of research to highly agile and intuitive Pilot Command Center software, we're proud to offer the most reliable and water-efficient golf irrigation solutions in the industry. Backed by the highest-quality products and unwavering partnership, you can keep irrigation in check to focus on what matters most: healthy, playable courses. **That's the power of innovation.**

The Game Has Changed. The Partnership Hasn't. Visit us at the virtual Golf Industry Show or contact us at hunterindustries.com/golf to learn why.





NUFARM



with Dave Biegacki

Customer & brand manager — T&O

How do your products save golf course superintendents time?

Nufarm offers a leading line of herbicides to simplify maintenance of naturalized areas. At Nufarm, we suggest a two-application program to keep weeds out and native grass stands pure. Consider applying Sure Power in the fall. Sure Power selective herbicide has the power to quickly strike down more than 250 broadleaf weeds, including ground ivy and wild violet. Save time with one fall application that will keep natural landscapes weed free throughout the entire winter season.

How do your products save golf course superintendents labor?

By default, maintaining a naturalized area requires fewer labor resources - such as mowing and chemical application — than playable surfaces. However, naturalized areas still need some attention to prevent weed takeover. A spring application of Millennium Ultra 2 will quickly "melt" tough weeds, even thistle, without leaving unsightly dead, brown plants behind. This premium selective herbicide saves turf managers from

applying multiple applications or handweed labor. If saving labor isn't enough, Millennium offers an additional unique benefit — it is gentler on milkweed and usually allows reflower bounce back after initial growth suppression. Milkweed provides habitat for Monarch butterflies, making it a great choice for designated pollinator zones.

How do your products save golf course superintendents material?

Save on chemical inputs by using the longest-lasting residual product. SureGuard SC can keep nonturf course areas weed free for eight months or more, meaning there is less product to buy and apply. Plus, SureGuard SC works in more than



ornamental landscape settings. For warm-season courses, keep SureGuard SC on the shelf for a dormant bermudagrass application. It provides excellent control to winter weeds, including Poa, and binds tightly to the soil so there is less concern regarding runoff to overseeded rye.

How do your products help generate additional revenue for golf courses?

With a simple application program, naturalized areas can directly benefit your bottom line, but they can work to generate revenue as well. Courses may publicize the benefits of environmental sustainability and enhanced beauty, both of which result in more booked rounds — and more revenue — for your course.

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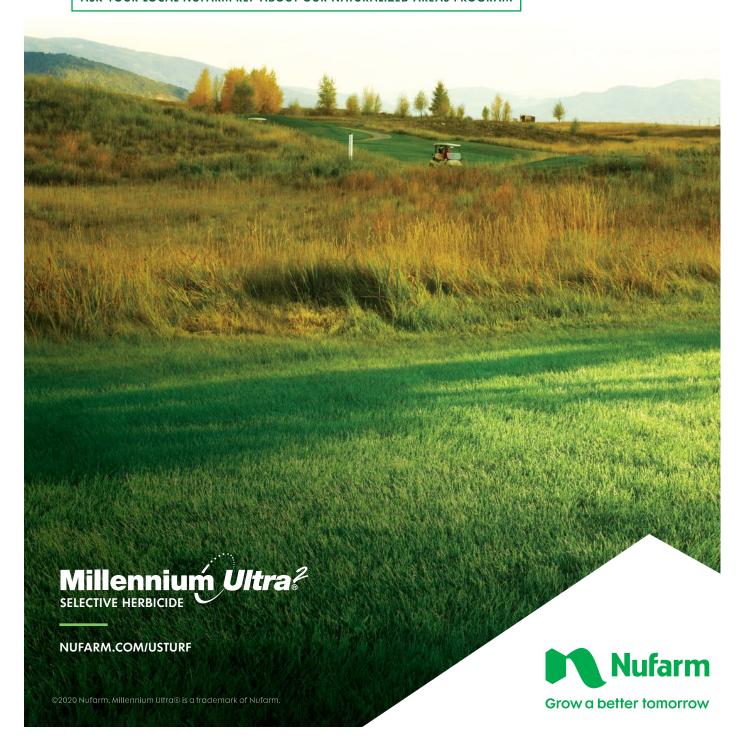
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PLAYABLE + NATURALIZED AREAS, GROWING HARMONY

Naturalized areas can be both beautiful as well as beneficial to your bottom line. However, it is important to remember that naturalized areas do require some level of maintenance to prevent takeover by undesirable weeds. Our line of herbicides will help you achieve optimum balance between naturalized, yet managed, landscape settings and our team of golf experts will guide you every step of the way.

ASK YOUR LOCAL NUFARM REP ABOUT OUR NATURALIZED AREAS PROGRAM





PBI-GORDON CORP.

with Jay Young Herbicide product manager

What's the big news from **PBI-Gordon right now?**

The big news from PBI-Gordon is an innovation that we've been working on a long time. SpeedZone® Broadleaf Herbicide for Turf is the No. 1 speed herbicide in the industry, and we made it better with SpeedZone EW.

Why are you excited about bringing this product to the market?

The "EW" in SpeedZone EW stands for emulsion in water. Our innovative EW formulation technology creates a smaller particle size. That means more of the four active ingredients in SpeedZone impact the leaf surface for improved efficacy.

What are some of the technical specs of this product?

Many of the turf industry's favorite herbicides are oil-based emulsifiable concentrate (EC) formulations, including original SpeedZone. EW is different. The advanced emulsion-inwater formulation of SpeedZone EW is engineered for use in low-volume and conventional sprayers, it has a lower odor profile compared to EC formulations and lower volatile



organic contents (VOC) compared to EC formulations. In fact, SpeedZone EW will meet all current VOC regulations of every state.

How has this product been tested in the field, and what were the results?

SpeedZone EW and SpeedZone Southern EW were tested at Rutgers University, Penn State University, the University of Tennessee, the Ohio State University, the University of

Georgia and by private researchers in Kentucky and Florida. In sideby-side comparisons of EW and EC formulations, the EW performed better than the current EC formulations in controlling 15-20 of the top broadleaf weeds, including dandelion, clover, plantain, henbit and ground ivy.

What is the most important thing you want superintendents to know about your product?

Original SpeedZone is the No. 1 speed herbicide, but we couldn't rest on that achievement. We asked, "What if we can improve on No. 1?" The answer is yes, we can. And we did. Let us tell you how. Visit the PBI-Gordon booth and learn more about the advanced emulsion-in-water formulation of SpeedZone EW.

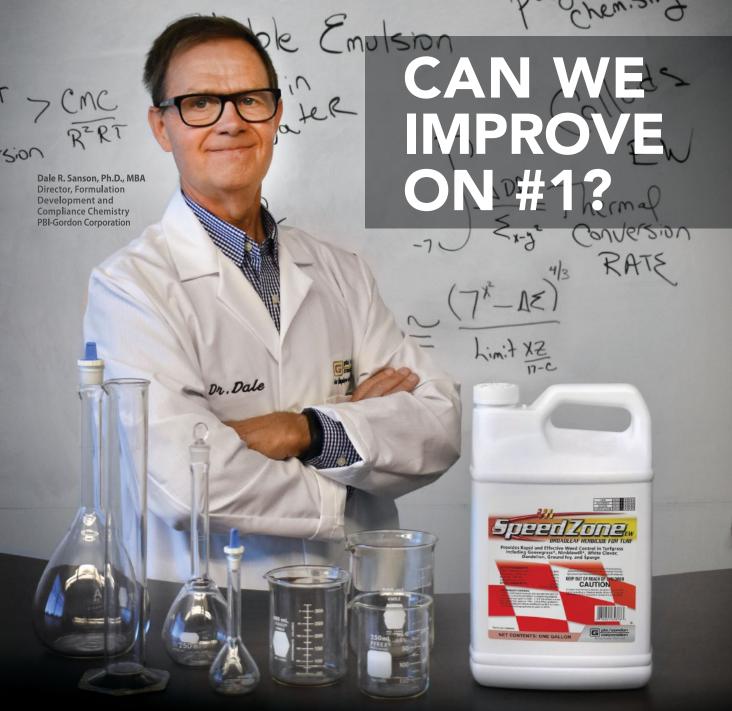


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WE CAN. AND WE DID.

At PBI-Gordon, we never stop innovating. So when original SpeedZone® became the #1 speed herbicide in the industry, we went to work. The result is **SpeedZone® EW Broadleaf Herbicide for Turf**.

The advanced emulsion-in-water formulation of SpeedZone EW delivers a smaller particle size than an EC formulation. The smaller droplets deliver more of the active ingredients to the leaf surface, which leads to more complete coverage of the weed surface and improved efficacy.

SpeedZone EW delivers:

- Lower odor profile and lower Volatile Organic Content than EC formulations
- Control of 90+ broadleaf weeds including clover, dandelions, and ground ivy

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PBIGordonTurf.com





POGO TURFPRO



with Carmen Magro, CGCS Vice president/Chief agronomist

How does POGO save time?

Superintendents demand precision. Without it, failure is imminent. The POGO TurfPro system allows supers to know precisely the true condition of their turf, while providing many other insights and measuring stress on turf performance. POGO helps superintendents make the best use of their time with only minutes per day, as we understand both the short- and long-term impacts of less-than-optimal decisions.

How does POGO save labor?

All superintendents want to know their operations are efficient and precise. The POGO system clearly indicates what the turf sees and what influences it, bad or good, so that the right decisions can be made quickly and efficiently. Further, it is especially insightful at trending conditions and predicting the impacts of current or planned irrigation, fertilization or cultural practices, allowing users to make efficient labor decisions. With POGO's innovative mapping features, users can quickly visualize their practices and see the results of their operations over time while logging features and attributes specific to their property.





How does POGO save materials?

In only minutes a day, POGO provides supers with the knowledge that they are using materials efficiently and effectively. With the world increasingly putting pressure on the green industry to utilize strong fundamental practices in lieu of pesticides and other plant protective products, we must be efficient and precise in our decision-making now more than ever. This is especially true with the use of water, nutrients and cultural practices designed to improve



the natural performance of turf to meet the demands of the game. POGO is the only scientifically based monitoring and analytical system in the industry that never requires calibration and always measures the most influential component of the turf system that impacts surface performance and true health. It remains accurate and precise through the ever-changing dynamics of turf systems and allows for instantaneous mobile mapping analytics.

How does POGO impact revenue?

It is difficult to put a price on the loss of value due to suboptimal conditions. Such a loss has terrible consequences on facilities and the quality of life of the superintendent and staff. Using the POGO system prevents the loss of revenue by informing superintendents of turf stress long before symptoms appear. Making the best decisions for advancing turf performance requires knowing what the turf conditions are and where they are going with every influential variable that impacts it. The POGO system is the essential monitoring and analysis system that the industry depends on to know what the actual conditions of the turf system are.

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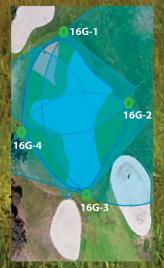




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PONDHAWK BY **LINNE INDUSTRIES**

with Craig Burton

How does your product save golf course superintendents time?

PondHawk is the one-and-done solution to keeping golf course ponds and lakes clean and healthy. PondHawk is a solar-powered subsurface aeration system that independently works yearround to keep your water assets looking and smelling great. Course staff can install it in as little as three hours, and because the system uses no electricity or pumps in the water, it requires no winter removal. With maintenance-free PondHawk installed, superintendents spend less time applying chemicals and checking on equipment. Plus, unsightly, smelly ponds become a thing of the past, and golfers stay happy. That means no more pond-related complaints for superintendents to address, which saves them time.

How does your product save golf course superintendents labor?

PondHawk adds circulation and





dissolved oxygen to the water, which improves water quality. As a result, there's no need to manually remove algae, there's no need for repeated chemical applications, and there's no need for winter removal. Add up the time typically spent on those activities, and you'll see how much time PondHawk saves a golf course crew.

How does your product provide cost savings for golf courses?

PondHawk uses solar power, which makes the power delivery required of plug-in aeration systems unnecessary. Golf courses using PondHawk for pond management experience a dramatic reduction in ongoing electric costs.

How does your product help generate additional revenue for golf courses?

PondHawk helps boost golf course profits by reducing costs. PondHawk reduces the energy, chemicals, labor, licensing and permitting required. And by improving the water quality in golf course ponds, PondHawk leads to happier golfers. This can improve a course's reputation and in turn lead to more members and golfers.

In what other ways does your product make golf courses profitable?

Muck buildup leads to costly dredging. By aerating course ponds and lakes, PondHawk adds dissolved oxygen to the bottom of the water, facilitating the aerobic digestion of the organic detritus at the bottom of the pond. As a result, your pond maintains its design capacity and you can push out the need for dredging a few more years!

P.O. Box 9856, Newark, DE 19714 🔇 888-755-1950 🌐 PondHawk.com 💟 @solarPondHawk 🚹 PondHawk.by.LINNEindustries







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Think you need tons of manpower to keep your pond clean?

Think again.

It's not manpower you need to keep your pond clean—it's solar power! PondHawk®, our unique subsurface aeration system, harnesses the power of the sun to keep water healthy. Install a PondHawk®, and go tend to your course. PondHawk® will be your most productive employee, quietly keeping your pond healthy and clean—no electricity required.







PROGRESSIVE TURF **EQUIPMENT**

with Rob Janmaat

General manager

What products does **Progressive Turf Equipment** offer to help golf course superintendents?

Since 1990, Progressive Turf Equipment has built different mowers for different types of customers. Whether it's the 5-deck Pro-Flex, a Tri-Deck or a Contour Roller mower. Progressive has mowers for any application from 10 feet to 36 feet wide. On top of that Progressive also has a fairway roller called the Pro-Roll that comes in 10-foot and 15-foot widths.

The different mower widths available allow the superintendent to match the proper mower to their course to get the maximum mowing done in the shortest amount of time.

Other innovative features that are exclusive to Progressive are the Pro Lift-N-Turn, 100-hour greasing interval PTO shafts, Adaptive Swivel Hitch, HEX drive roller end and bearings. These are all time saving elements to help reduce superintendents' mowing costs and prevent downtime.

In what other ways do your products make golf courses profitable?

Lower operating cost — running a

mower costs money, but it must be done. Progressive's approach is to offer both increased utilization and higher production to combat cost. Superintendents choose Progressive mowers for the quality, dependability and workmanship that goes into every mower. Many facilities are moving to pull-behind rotary mowers, which offer not only a lower cost purchase option than self-contained units, but the ongoing maintenance costs are lower and simpler. Because of the simplicity and construction of a Progressive pull-behind mower, it has a much longer life than other mowers and is easier on the capital budget year after year.

What makes Progressive Turf Equipment mowers appealing to a superintendent?

All Progressive mowers and rollers are pulled with a turf tractor, giving superintendents the freedom of using the tractor for other uses around the course when the mowing is done. The tractor is not dedicated to mowing



The Better Built Choice."



unlike the self-contained mowers on the market. The increased utilization saves them money.

How do your products help golf course superintendents sleep at night?

With the release of the TDR-X. last year and along with the Pro-Flex 120B, Progressive offers two styles of contour mowers, so a superintendent can select the best mower for their course. Our two widearea contour rollers also give them an option to help manage turf health that they never had before. Ultimately, this allows them choices on how to spend their budget wisely.

137 West William St, Seaforth, ON, NOK 1W0 🔇 519-527-1080 🌐 progressiveturfequip.com 🚹 ProTurfMowers





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The Better Built Choice.™

FOR GOLF, WE KNOW CONTOURS





10 foot 8 inch wide

THE NEW TDR-X CONTOUR ROLLER MOWER



- ☑ 10'6" wide cut
- ☑ 3 Floating decks
- ☑ Full width rollers
- ✓ No daily greasing
- ☑ Adaptive Swivel Hitch
- ☑ Lift-N-Turn
- ☑ Replaceable blade tips

For over 30 years, professionals worldwide have relied on Progressive mowers. Find out why a Progressive mower is ... The Better Built Choice.™

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/progressiveturfequip



PURSELL AGRI-TECH



with Nick Adamchak

President & CEO

Why would golf course superintendents want or need a fertilizer specific to greens and tee boxes?

The smaller size is designed to give even distribution in smaller areas. Regardless of pH levels, moisture conditions or microbial activity, PurKote is engineered to be reliable and flexible. PurKote Pro Turf Mini is available for N, P, K and homogenous NPK formats with or without micronutrients. It is everything that is great about PurKote but in a mini size.

Pursell is known for innovation. Which innovations or accomplishments of 2020 are you most proud of?

During 2020, we have managed to more than double our sales over the



previous year, drastically increase our logistics capabilities through the expansion of our on-site rail-loading installations, geographically increase our distribution footprint throughout the western United States and multiple key international markets. In terms of innovation, there are several fronts in which we have made significant progress as well. Specific to nitrogen for the turf market, our R&D department completed product development for additional nitrogen products so that we now have multiple nitrogen sources (ammoniacal as well as nitrate) available for GSI without the risks associated with burn or handling/ compatibility, instead of just a urea offering as has been historically the option.

How has Pursell Agri-Tech changed to adapt to the **COVID-19 environment?**

Like others, we have conducted our share of Zoom conferences to stay connected to our customers and suppliers. More importantly, we have a production staff that is second to none, and they have remained fully committed to producing high-quality products in a safe manner. In addition, we have had to adapt our on-site education programs and protocols for hosting our partners. We are providing education via online programs/meetings and have even been able to do virtual tours for those interested in our production



abilities and our extensive quality and testing procedures.

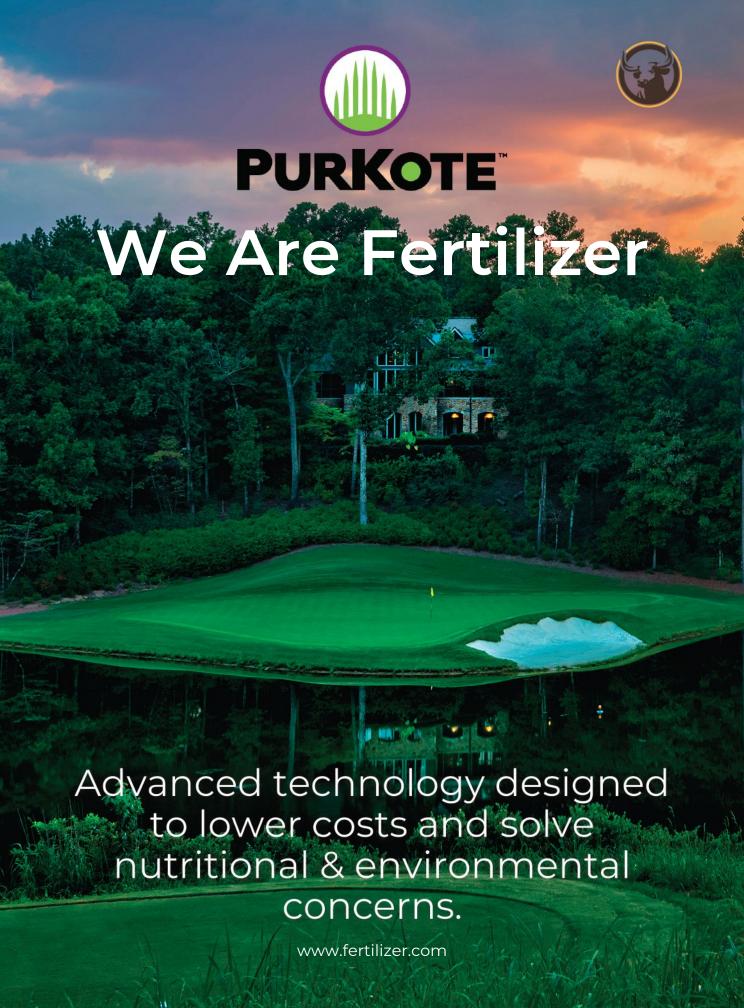
Can you tell us about any new products or developments in the pipeline that you were planning to share at GIS 2021?

We continue to expand our product portfolio by widening the range of incorporated additives such as micronutrients, biologicals and amino acids that are encapsulated within our coated products to empower our growers to utilize products that are crop and condition specific. In short, we remain focused on leveraging the capability and versatility of our next-generation coating system to address the ever-changing needs of our customers.

104 Calhoun Avenue, Sylacauga, AL 35150 (256-208-9509) fertilizer.com



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SEAGO INTERNATIONAL



with Scott Sweeney President

How do your products save golf course superintendents time?

We do that by making their labor force more efficient. Mowing bunker faces and pond banks can be timeconsuming, and our Air Force Hover Mowers help get the job done faster. Bunkers with standing water and irrigation breaks create real issues our PortaPump and PortaPump Junior are fast, efficient and very portable pumps. Our attachment group provides different cutting tools for areas that are hard to reach with larger mowing machines.

How do your products help generate additional revenue for golf courses?

Separation and savings. Most of our machines are designed to help golf courses with the details, and that makes them look better and more attractive to golfers. We help clean up areas — bunker faces, cart paths, clubhouse and entrance areas — that are highly visible and really stand out to golfers. Our Masport Rotarola is a striping rotary mower that can be used to stripe around the clubhouse



and/or entrance areas — details are difference makers that allow courses to have higher rates.

Also, by providing better equipment, we cut down on equipment maintenance costs. Strong warranties and always improving our products with better materials and designs help lower maintenance costs. Our Spyker spreaders have a lifetime warranty on their enclosed metal gears. On our new F-15 Air Force Hover Mower, we have changed the deck design and material to make it much stronger and increased the air filter size in response to feedback from our customers.

What is the best thing your equipment can do for superintendents and their golf courses?

Solve problems. When I visit golf courses with our dealer salespeople, one of the main issues that I hear about is lack of labor. What our equipment does is make what labor the course has more efficient. Our hover mowers cover more ground than a string trimmer and leave a more consistent surface that doesn't need mowing as often. Our Atom Cart Path Edger is fast and more efficient, so you can edge the entire course in hours and not days. Our Power Rotary Scissor Head is great for edging bunkers in one pass, leaving really crisp and clean edges - so



much faster than string trimmers or shovels. Our equipment brings speed and efficiency to the detail areas that usually need attention.

Air Force Hover Mowers is a name that really fits the product — where did that come from?

I am a retired Air Force officer, and when my team was working on names for our new machine, it just fit in so many ways. We are a family company that is veteran owned, and we support the Wounded Warrior Project. the USO and several local military related charities, so the name really fits in with our core values.

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NEW F-15 with Improvements All Around

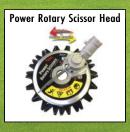




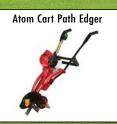
Other Great Equipment from Seago:











For more information or a dealer near you: 800-780-9889 www.seagousa.com sales@seagousa.com



SIPCAM AGRO USA



with Todd Mason

Director of sales & development for T&O

Who is Sipcam Agro?

Sipcam Agro is a third-generation, family-owned company providing golf superintendents with real, personalized solutions that address their turf maintenance needs, while maximizing their investment and respecting their bottom line. Superintendents have used our products for years, but they might not have known Sipcam was the name behind them.

What solutions does Sipcam Agro offer golf course superintendents?

Sipcam has a robust portfolio of products for turf and ornamental health, including proven fungicides, herbicides, plant growth regulators and plant health solutions. Our approach is to listen to our customers' challenges and then develop a solution that works for them — not find a place on the course for existing products.

Can you share an example of a Sipcam solution that addresses real concerns for superintendents?



Absolutely. Poa annua is a major issue facing southern golf courses, so we developed Coastal Herbicide. It is a broad-spectrum pre- and postemergent herbicide. It outperforms the current industry leader on hard-tocontrol weeds, including crabgrass and Poa annua, and is an excellent resistance management tool.

Will we continue to see more advancements from Sipcam?

As long as golf superintendents face new challenges, Sipcam will continue to develop the real solutions they need. That means we'll continue to innovate. Our exclusive ETQ technology is one example of how we are doing that. ETQ combines a proprietary complex blend with proven fungicides to provide maximum protection against high temperature and drought stress events. It is a proven solution for disease control that optimizes turf color and enhances turf quality.

How have the events of 2020 impacted Sipcam's operations?

2020 has thrown everyone a curveball, but as an agile, family-owned organization, Sipcam has adjusted



quickly. Though we haven't been able to meet with our customers in person, we have been able to utilize the numerous platforms available so we can still have that personal interaction, which is so important. Whether it's group video calls or having an on-course consultation via FaceTime, we are working hard to continue to offer real solutions.

What can golf course superintendents expect from Sipcam in the future?

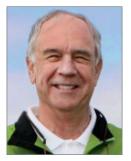
Sipcam is focused on providing real solutions that help superintendents keep courses healthy and beautiful. We are always innovating and have a few more products in the pipeline that you'll be hearing about soon, so stay tuned.

2525 Meridian Parkway, Suite 100, Durham, NC 27713 🔇 877-898-9514 🌐 sipcamagrousa.com



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Don Smith

SMITHCO

Q+A

Bill Kenney



How do your products save golf course superintendents time?

Smithco products are designed after consultations with superintendents to solve the issues they struggle with every day. This collaboration has resulted in machines that perform more efficiently and often offer features new to the market. The Star Command line of sprayers is a good example of this.

How do your products save golf course superintendents labor?

Efficiency is the key. Features from Smithco and TeeJet Technologies can reduce the time and the cost to perform needed maintenance. For example, the highly accurate application of turf protectants and nutrients save time, fuel and chemicals.

How do your products save golf courses materials or fuel?

Again, efficiency. Using DynaJet from TeeJet Technology with the ability to preset a specific droplet size for the product being applied, efficacy is enhanced, and speed range is increased from a narrow 4-5 mph





to a more efficient 2 mph up to 10 mph, cutting application times in half in many instances. Smithco also is a leader in electric power, ideal for early morning maintenance, notably our Sand Star bunker rakes and 70-inch Tournament Greens Roller. Both utilize lithium battery options, enhancing performance and reducing fuel and maintenance costs, while providing minimal noise disruption for surrounding homes or other sensitive areas.

How do your products help generate additional revenue for golf courses?

By minimizing costs while providing superior playing surfaces. Whether it's golf, sports turf or other formal grass areas, providing superior playing surfaces can greatly increase customer interest, which will increase property value.

In what other ways do your products or services make golf courses profitable?

Faster speeds at increased efficacy allow for more play through for golf and other playing areas. The Smithco Star Command 3.0 System is a great example of this attention to superintendents' needs. The Smithco Spray Star platform offers 110-gallon, 175-gallon, 200-gallon, 318-gallon and 520-gallon machines, all designed from the ground up. Smithco Super Booms also range from 15-, 18.5-, 20- and 24-foot widths. You will find a tank capacity and boom width for your discrete areas that no other manufacturer offers today. This all adds up to a significant advantage; no other manufacturer offers sprayers that fit your needs more exactly.

34 West Avenue, Wayne, PA 19087 877-833-7648 smithco.com @SmithcoInc

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No one matches our 9 years of experience developing the most precise applications available for spraying chemicals on turf.

The Star Command 3.0 includes these current TeeJet® features:

GPS ACCURACY LEVELS of 5 cm or less using TeeJet® Aeros 9040 Flow Control Computer with TerraStar-C Pro for differential correction.

PULSE WIDTH MODULATION (PWM) allows application speeds, from 3 to 10 MPH at the same droplet size and pressure, often doubling your previous production.

INSTANT MONEY-SAVING ON/OFF while retaining pressure and droplet size.

Plus these exclusive NEW features:

TURN COMPENSATION. Nozzle output matches boom speed during turns. preventing the inside and outside of a boom to travel at different speeds, resulting in overdosing on the inside and under-dosing on the outside.

TEN-INCH NOZZLE SPACING allows more efficacy because of increased overlap of the spray pattern.

VIRTUAL ON-SCREEN NOZZLE CONTROL. Operate up to 100 nozzle sections individually. Eliminate extra cabling and separate controller.

INSTANT MONEY-SAVING ON/OFF.

No longer recharge the boom in On/Off cycles.

THE DYNAJET SYSTEM is

incorporated into the Aeros 9040 controller, eliminating extra cabling and separate controller.



TeeJet DynaJet Flex 7140 Nozzle Control System

TERRASTAR-C PRO significantly reduces convergence time to as little as 90 seconds.

Ask your Smithco dealer to set up a demonstration or visit

Smithco.com



SYNGENTA



with Stephanie Schwenke

Turf market manager

What will superintendents get to learn more about at the virtual Syngenta booth?

Superintendents will learn about some new, powerful options for treating key turf diseases by choosing dollar spot, large patch, fairy ring, anthracnose, spring dead spot and take-all root rot in our interactive "choose your own adventure" video.

Upon completion of choosing one of the diseases and filling out a short form, superintendents will automatically earn their choice of a **12- or 16-ounce Yeti Colster Can.**

Additionally, we're excited to introduce our **improved GreenCast Turf App,** which has been fully redesigned with more features and flexibility to fit superintendents' needs.

Our team will be on hand to share more information about three new fungicides launched last August: Ascernity®, Posterity® XT and Posterity

What kind of virtual activities does Syngenta have planned?

Although 2020 has been tough for



many, we want to hear what people have to be thankful for. Be sure to check out @SyngentaTurf on Twitter and Facebook to see how you can win one of seven Solo Stove Yukon fire pits by sharing your positive #TurfPerspectives.

What other virtual events during GIS should superintendents plan for?

The entire Syngenta team will miss getting together in person with our

industry peers at GIS, but we are excited to be able to get involved in more ways at the show. We'll be available in our virtual booth to catch up or chat.

The fifth annual Health in Action 5K will be hosted virtually from Jan. 18 through Feb. 1, so when and where you complete your run is your choice! All proceeds benefit the EIFG, and you can register at GolfindustryShow. com/5K. We're also looking forward to the Ladies Leading Turf

Panel and Networking Session on Feb. 3.

This panel, moderated by Jan Bel Jan, ASGCA, will feature several female leaders in the golf course industry. Don't miss this rewarding discussion and opportunity to network one-on-one with your peers.

Learn about these activities and more at **GreenCastOnline.com/GIS**



410 S. Swing Road, Greensboro, NC 27409 1-866-SYNGENT(A) (1-866-796-4368) www.greencastonline.com

@SyngentaTurf Syngenta Turf





syngenta.

*Jonathan L. Larson, Carl T. Redmond and Daniel A. Potter, SCI. September 2011.

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TARGET SPECIALTY **PRODUCTS**



with Steve Loveday

Turf Fuel product development manager

Why did Turf Fuel develop **Vertical?**

Since 2011, our goal at Turf Fuel has been to deliver product solutions to turf managers that make the job easier, improve turf quality and bring great value to their operation. Our latest product innovation, Vertical, takes on both plant and soil health with a technology-packed formulation.

What does the name Vertical mean?

Vertical gets its name from how it works. It literally works vertically from the tips of the roots to the tips of the shoots, creating ultrastrong turf and healthy soil.

How does Vertical create ultrastrong turf?

One of the greatest challenges faced by the curators of fine turf is energy production; plant energy, that is. Low mowing heights reduce the plant's ability to harness sunlight, and when you mix that with persistent



Empowering You to Grow Your Business™

environmental stress, well, turf has a lot stacked against it. Vertical from the new Turf Fuel Reserve line makes survival easier than ever as it contains university-proven Nutrifense™ technology to improve turf survival rates during intense stress and resources to support and improve soil biology. When combined with micronutrients, Vertical creates an incredible color response. This intense color response means more chlorophyll or "solar panels." Another way Vertical supports photosynthesis is by safeguarding key enzymes from degradation during high heat and humidity.

How does Vertical improve soil health?

In the soil, Vertical works to supply existing soil biology with a rich carbon food source derived from a handcrafted sugar complex specifically formulated for intensely managed turf. As microorganisms consume carbon, they release carbon dioxide, which will be liberated from the soil and then absorbed by the plant for energy production. Below ground, Vertical also contains a new root-driving technology to promote new growth, giving plants better access to nutrients and water.



How is Vertical used on the golf course?

Vertical is super easy to use and can be applied in both foliar and soil applications. Vertical doesn't need to be watered in and has proven to be very tank compatible. The highefficiency 8 percent potassium/ carbon blend is quickly absorbed into plant tissue and works to shuttle other tank mix components into tissue as well.



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Conditioning: Build Strength All Season

SUPPLY ENERGY

Your turf has just finished a marathon. During the heat of the summer it has consumed all of it's stored energy. Photosynthesis has been less than ideal, and respiration has throttled up. Use these Turf Fuel plant energy products to fill the tank.

Found in Element 6. Vertical. Carbon 21

MAINTAIN COLOR

As temperaturs drop chlorophyl production grinds to a halt. Other pigments start to exhibit their colours such as yellow, orange and purple. Everyone wants green. Maintain summer color with products to build chlorophyl or provide natural green tones with pigments.

Found in Minors Fuel Kelp, Photo Fuel, Hulk, Green Shield

DRIVE GROWTH

Cooler temperatures slow down turf growth by compromising nutrient availability and plant metabolism. Highly available sources of essential nutrients will keep turf growing and recovering during a busy winter playing season.

Found in Quick Green, Base N25, Root Down



Empowering You to

JOIN US

AT THE

2021 VIRTUAL golf industry show

FEB 2-4, 2021

Meet our experts, participate in educational presentations, and enter to win prizes.





Contact us to learn more | info@target-specialty.com









TURFCO



with Scott Kinkead Executive vice president

2020 was a year for the history books. What is your takeaway from such a challenging time?

We learned when everything was happening so fast, how resilient, flexible and creative our staff could be dealing with the ever-changing challenges dealt by COVID-19 and how resilient and creative superintendents could be as well. While rounds were up. not everybody had all the staff they needed. It strengthened our resolve to continue creating productive products that help our customers achieve their goals. And, it reminded us once again how truly fortunate we are to be in the golf business, especially with everything going on.

In what ways does your equipment help with productivity?

The Torrent 2 debris blower is a good example. We observed that if an operator's nozzle angle is too low or too high by even a few degrees, it





could add up to two hours of additional work time per day. We developed our MagnaPoint technology, allowing users to lock in their settings and get the most productive angle at every pass. Nick Hanson of Sunnylands Golf Course in Rancho Mirage, Calif., said, "We had substantial catch-up after being closed for two-and-half weeks. With the Torrent 2, we could lock and blow the substantial tree clutter into rows for easy pickup. (It) made the process so much more efficient."

How do you bring productivity to topdressing?

In listening to superintendents, we heard how they were tired of doing wheel-towheel spreads, overlapping spreads, dealing with complicated mechanical adjustments and just wasting time checking in with their crews to verify spread settings. The Turfco WideSpin



1550 with even feathering on the edges can save one to four passes per green. If you calculate that over 18 holes over the course of the year, a superintendent could save up to 720 passes per year. With savable presets, you can get your preferred application every time.

How about the seeding process?

Record rounds of golf means added damage to the turf. We saw that traditional seeders were complicated and hard to hook up, causing mixed results. Our TriWave 45 Overseeder is easy to tow behind any turf vehicle. The quick seeding delivery system reduces waste and ensures more than 30 percent better germination. Plus, our floating heads follow the contours of the terrain for consistent seed depth, so seeding damaged or weak areas is fast, easy and you get the results you want.

1655 101st Avenue N.E., Minneapolis, MN 55449 (800-679-8201) turfco.com (@TurfcoGolf





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Me Our greatest invention.

Creating a perfectly breathtaking course requires your passion and knowledge. It also takes something you don't always have: Time. At Turfco, we're always looking for ways to free-up your time. Ways like saving up to two hours per day with the Torrent 2 Debris Blower. Reducing up to 720 passes on your greens per year with the WideSpin Topdresser. And seeding more quickly to achieve better results with the TriWave Overseeder. We bring innovative technologies that improve performance, while giving you back what matters most. Your day.







BLINDER BUNKER

Q+A

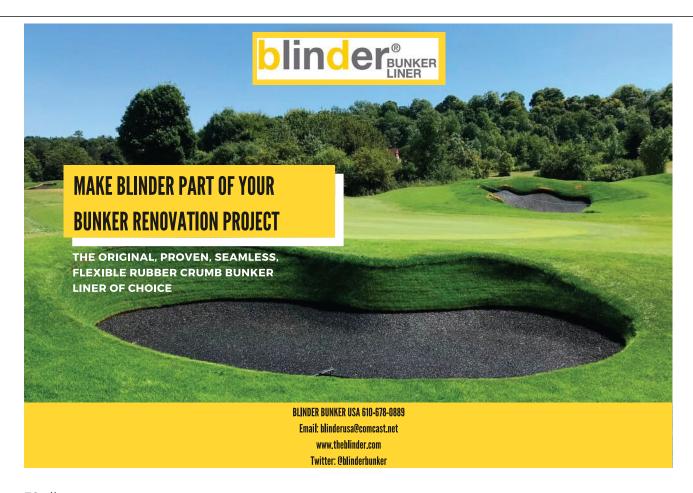
with Alan FitzGerald
Director of operations, USA

Blinder Bunker Liner is the original porous, seamless and flexible bunker lining solution. Created by a golf course superintendent to be the definitive bunker lining and drainage system, it addresses all the traditional issues related to bunker management.

The 1-inch thickness of the Blinder liner creates a functional drainage layer,

with the rubber crumb sized to bridge most — if not all — bunker sands, ensuring that the drainage layer will not clog, therefore guaranteeing the longevity of the liner. The crumb rubber is mixed on-site, creating a robust homogeneous mix that, once set, is flexible enough to withstand freeze-thaw cycles and club strikes. By preventing

washouts, Blinder saves time, labor and money in getting bunkers back into play after a rain event, with the added benefit of no downtime or substandard conditions to the golfer. The long-term savings of extending the life of a bunker and ensuring there is minimal downtime to golfers make Blinder an essential part of any bunker renovation.



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LANDMARK GOLF COURSE PRODUCTS





with JJ Gosh

Sales manager/International account manager

How do your products save superintendents time?

We offer a variety of course furnishings that are low maintenance or maintenance free, allowing superintendents to focus on other aspects of the course.

How do your products save superintendents on labor?

It starts by selecting high-quality raw

materials and components. We incorporate old-world construction techniques into our manufacturing process that provide added durability, ensuring our furnishings stand the test of time and make maintenance less labor intensive.

How do your products save golf courses materials or fuel?

We offer several size options for ice chests, sand and seed bottle storage

containers and more. Each prevents staff from making unnecessary trips to empty, refill or maintain these products.

How else do your products make golf courses profitable?

Our custom design furnishings and personalized branding make it easier for facilities to stand out and boost their potential for increasing rounds and helps drive new membership.





POROUS PAVE & SAND GUARD

with Matt Lamb Vice president



What is Porous Pave?

Porous Pave is a poured-in-place permeable paving material used as an overpour pavement over existing cart paths or as a new permeable path. It comes in a variety of colors and is made of recycled rubber chips from used tires, kiln dried granite aggregate and a proprietary urethane binder. It drains at 9,300 inches per hour. When Porous Pave is used in a cart path, it has 73

percent reduction of ball bounce when a golf ball strikes the surface versus traditional concrete or asphalt paths.

What is Sand Guard?

Sand Guard is our bunker liner material applied on the substrate at 1-inch depth within prepared bunker floors. It provides a flexible, permeable bunker liner that can be installed at a rate of 6,000 square feet per day by a crew of five trained installers using low-impact equipment.

How do your products save materials or fuel?

The Porous Pave and Sand Guard materials are lightweight, reducing the risk of damage to turfgrass and cart paths with heavy equipment. Sand Guard requires less bunker maintenance by keeping the sand in place.

Sand Guard

Bunker Liner





Porous Pave is a pour in place surfacing material using stone, recycled rubber and a binder material

LEED qualified, Porous Pave is slip resistant, won't freeze or crack, environmentally friendly, and is available in several colors. Porous Pave is easy and quick to install, curing time is about 24 hours and it is ready for use.



- · Patios & sidewalks
- Bridges
- Pool surrounds





· Cart paths

Trailways





Permeable

Durable & Flexible

15-20 year life expectancy

Mixed on-site, applied 1" thick, Sand Guard fully cures in 24 hours

· Allows large amounts of water to pass through

· Eliminates standing water in sand bunker

The rubber expands and contracts with

freeze/thaw and high heat to resist cracking

Low impact installation allows the fairway to remain in-play while Sand Guard is installed

No Sub Base Needed

Can be installed directly over existing bunker floor























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BRAND YOUR COURSE AND GAIN THE HOLD AND GAIN THE HOLD ADVANTAGE

REMOVE SIGHT LINES, ACCESSORIES





in-ground trash car

no-touch ball el



ADAPT TO THE CHANGING ENVIRONMENT

WITH NO-TOUCH ACCESSORIES

VISIT OUR WEBSITE FOR A COMPLETE LIST OF OUR NEW PRODUCTS FOR 2021



323 readers submitted surveys to the 2021 *Golfdom* Report, resulting in a \$323 donation. Add in money raised from the *Golfdom* Summit, and that's **\$1,823 donated to the**Wee One Foundation in 2020.

Thank you Golfdom for your support of the Wee One Foundation!

The Wee One Foundation was developed as a tribute to Wayne Otto, CGCS, to assist golf course management professionals (or their dependents) who incur overwhelming expenses due to medical hardship without comprehensive insurance or adequate financial resources. Through the Foundation's work, Wayne's legacy will never be forgotten.

To donate to the Wee One Foundation, visit weeone.org.



RESEARCH FOR REAL SUPERINTENDENTS

Hosted by Mike Kenna, Ph.D. | mpkenna@gmail.com



Super Science

// UNDERCOVER IN NORWAY

WINTER SURVIVAL OF 6 TURFGRASS SPECIES ON PUTTING GREENS

By Wendy M. Waalen, Ph.D.; Tatsiana Espevig, Ph.D.; Agnar Kvalbein; and Trygve S. Aamlid, Ph.D.

ce encasement is the most economically significant winter stress in Scandinavia. At the Norwegian Institute for Bioeconomy Research, we evaluated the impact of ice encasement and two protective covers on the winter survival of six cool-season turfgrasses used on golf greens.

The two covers were plastic alone and plastic over a 0.4-inch woven mat. The six turfgrasses included creeping (*Agrostis stolonifera* L.), velvet (*A. canina* L.), and colonial (*A. capillaris*) bentgrass; Chewings (*Festuca. rubra* L. ssp. *commutata*) and slender creeping red (*F. rubra* L. ssp. *litoralis*) fescue; and annual bluegrass (*Poa annua* L.). The experiment was

on a sand-based green at Apelsvoll, Norway, during 2011-2012 and 2012-2013. Turfgrass samples (3 inches in diameter, 4 inches deep) were removed from plots at the time of cover installation and throughout the winter. We recorded percent live turfgrass cover after 21 days of regrowth in a growth chamber. Results show velvet bentgrass had superior tolerance to ice



Turfgrass researchers at the Norwegian Institute for Bioeconomy Research evaluate the impact of ice encasement and two protective covers on the winter survival of six cool-season turfgrasses used on golf greens.

encasement, surviving for 98 and 119 days during 2011-2012 and 2012-2013 winters, respectively. Ice encasement tolerance in 2012-2013 was velvet bentgrass > creeping bentgrass > Chewings fescue, slender creeping red fescue, colonial bentgrass > annual bluegrass. \bigcirc

Additional Information:

The Effect of Ice Encasement and Protective Covers on the Winter Survival of Six Turfgrass Species on Putting Greens - https://onlinelibrary.wiley.com/doi/full/10.2134/itsrj2016.05.0432

Use of impermeable covers for better winter survival of golf course putting greens - http://www.sterf.org/Media/Get/3593/fact-sheet-impermeable-covers-for-better-winter-survival-k

Turfgrass Winter Survival - http://www.sterf.org/sv/library/fact-sheets-winter-survival

Ice Breaker Project - http://www.sterf.org/sv/about-sterf/news-archive/ice-breaker



Wendy M. Waalen, Ph.D.; Tatsiana Espevig, Ph.D.; Agnar Kvalbein and Trygve S. Aamlid, Ph.D., Norwegian Institute for Bioeconomy Research. Contact Wendy Waalen at wendy.waalen@nibio.no for more information.

This project was funded in part by the USGA Green Section.

NEWS UPDATES

SEPRO ADDS TO T+O TEAM

SePro expanded its turf and ornamental team to include and be led by John Wendorf, who will serve as director. Wendorf comes to SePro with almost 30 years of industry experience.

"SePro is passionate about our leadership role in the Turf & Ornamental industry," said Tyler Koschnick, president of SePro. "John's distinctive industry vision and approach with customers has earned him a tremendous amount of respect. This type of leadership will significantly enhance SePro's ability to deliver unprecedented solutions for our customers and the communities in which they serve."

In his role, Wendorf will focus on elevating SePro's pace of innovation, with a strong emphasis on technical efficacy, operational efficiencies and social and environmental responsibility. While developing future-focused strategies for growth will be central to Wendorf's role with SePro, building a strong, thriving team will be of equal importance.

Wendorf earned his Bachelor of Science in horticulture from the University of Wisconsin-Madison and his Master of Business Administration from Texas A&M University. He has been a member of the communications committee for RISE (Responsible Industry for a Sound Environment) since 2017 and is also a current member of the FFA's National Floriculture Committee.

THE BENEFITS OF COVERS FOR
WINTER PROTECTION OF PUTTING
GREENS HAVE BEEN WELLDOCUMENTED IN COOL- AND
WARM-SEASON TURFGRASSES."

Mike Richardson, Ph.D., et al. (see story on page 60)

PHOTO BY: WENDY M. WAALEN, PH.D.



"Moving forward into 2021 and beyond, will we see rounds continue to grow? Will we retain the new golfers attracted to the game in 2020?"

KARL DANNEBERGER, PH.D., Science Editor

Good riddance

he year everyone wanted to end is finally over. COVID-19 will forever be linked to 2020. In the coming years, historians will study, analyze and write about the impact of the coronavirus on our society as they would a major global war. No doubt future generations and maybe your own grandchildren will ask you, 'What did you do during 2020?'

As a part of that history, what lasting impact, if any, will there be on the game of golf and the maintenance of golf courses?

What we have learned so far is that golf is a game for a pandemic. The number of golf rounds is up almost 11 percent through October with a projected increase in 20 percent by the end of 2020, according to Golf Datatech. Amazingly, included in this increase is the 42 percent drop in golf rounds during April due to the lockdown. Across the continental United States, every state saw a significant increase in rounds of golf over 2019.

Why golf continues to be popular during the pandemic is self-evident. There is a lower risk of infection being outside compared to indoors. Even registering to play golf or picking up something to eat can be coordinated to avoid being indoors. The large open spaces associated with a golf course reduces the likelihood of

close contact with fellow golfers. Social distancing is part of golf.

Moving forward into 2021 and beyond, will we see rounds continue to grow? Will we retain the new golfers attracted to the game in 2020?

Rule adjustments and relaxation of certain golf norms were necessary to permit golf courses to be open following the April lockdown. Two practices that stood out to me were raising the cup liner and removing bunker rakes.

Besides eliminating a high-touch area, raising the cup liner eliminated the need to bend over and pick the ball out of the cup, which, for a golfer like me, also helps reduce some back stress. In addition, raising the cup liner decreased the time needed to putt, since hitting the cup liner consisted of just striking the putt straight at the liner, requiring little touch and less time to read the break. My own belief, and according to the golfers I've spoken with, this lowered

scores for the most part — but the downside is what these scores meant to one's handicap.

Removing bunker rakes has taken the task of raking the bunker from the golfer. Golfers appreciated the feeling of not having to do the "raking chore" after hitting a bunker shot. The lift and smooth rule in bunkers actually reduced the number of sand shots from the bunker by the average golfer.

From a maintenance standpoint, some golf courses saw a decrease in costs associated with maintaining bunkers. The lack of bunker rakes had collateral benefits including less time and effort spent mowing around bunkers.

In a year when golfers were grateful just to be able to play, raising the cup liner and flag and removing bunker rakes made golf a little easier and more enjoyable. Going forward, will simple changes like the two mentioned here catch on?

I'm reminded of when I constructed a practice putting green in my backyard a number of years ago. My golfing neighbors thought it was the coolest, mostly because they were extremely grateful that I allowed them to use the putting green at any time. As time passed, however, I increasingly faced neighbor suggestions, like changing the cups more frequently, making the green faster, adding a collar. And I received questions such as, why is the green dry? Or, why can't you do something about the spots on the green?

As we move forward into 2021 and beyond, I wonder what long-term impact 2020 will have on golf and our business. Will golf return to "normal," and what does that mean?

Karl Danneberger, Ph.D., Golfdom's science editor and a professor at The Ohio State University, can be reached at danneberger.1@osu.edu.

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TURF'S GREENER FUTURE //GREENS IN A BLANKET

Covers to increase winter soil temperatures on ultradwarf bermudagrass putting greens

By Mike Richardson, Ph.D.; Eric DeBoer; Doug Karcher, Ph.D.; and Thomas Walton

s ultradwarf bermudagrass (Cynodon dactylon x C. transvaalensis) putting greens move further north in the Transition Zone, there is an increased risk of sustaining low-temperature winter injury. The periodic covering of greens can prevent winter injury.

The benefits of covers for winter protection of putting greens have been well-documented in cool-season and warm-season turfgrasses (3, 4, 5, 6).



In a recent USGA-funded study (1, 2), we determined that reducing the predicted low temperature to cover greens from 25 degrees F to 15 degrees F (-4.0 degrees C to -9.4 degrees C)

did not significantly reduce winter survival. However, we observe some winter injury under extremely low temperatures in all covered plots. Our results suggest that the use of industrystandard covers alone may not always be enough to protect greens from winter injury.

There are several cases where winterkill of ultradwarf bermudagrass greens still occurred with a conservative Transition Zone program. On golf courses and in research trials, a consistent observation of winterkill



Winterkill of ultradwarf bermudagrass in Fayetteville, Ark., with patterns suggesting enhanced turfgrass survival under seams and air ripples in a protective cover.

PHOTO BY :MIKE RICHARDSON, PH.D.

Research Takeaways

- Covers on ultradwarf putting greens prevent winter damage.
- Reducing the predicted low temperature to cover greens from 25 degrees F to 15 degrees F does not significantly reduce winter survival.
- Winterkill patterns suggest that cover thickness or the presence of air under the covers improves winter survival.
- Batting increased the 1-inch (2.5-centimeter) depth soil temperature by 4 to 5 degrees F (2 to 3 degrees C) compared to the cover-only control on some dates: however, there are no statistical differences among the batting weight treatments.

patterns suggests that cover thickness or the presence of air under the covers improves winter survival (Photo 1).

Superintendents have tried various methods to raise covers off the turf canopy and create an air gap, such as placing pine straw, irrigation pipe or even plastic foam "pool noodles" on the green before placing protective covers. Although the use of materials such as pine straw to create an air gap, in conjunction with covers, has been practiced by superintendents, the effect of an air gap under protective covers on soil temperature has not been tested experimentally on ultradwarf bermudagrass greens in the Transition Zone.

We conducted a preliminary trial during the 2018-2019 winter season at the University of Arkansas Research and Extension Center in Fayetteville, Ark. The trial was on a USGAconstructed green containing large, replicated plots 13 feet by 40 feet (4 meters by 12 meters) of TifEagle ultradwarf bermudagrass.

Cover treatments were applied to the green for low-temperature predictions to fall below 20 degrees F (- 6.7 degrees C). We used a permeable, black woven polypropylene cover (Xton, Florence, Ala.) to cover four of the five plots, with one plot treated as an uncovered control. We used batting in the other three plots (Hendrix Batting, High Point, N.C.). One plot had the Xton cover but no



Example batting material treatments before placing the cover.



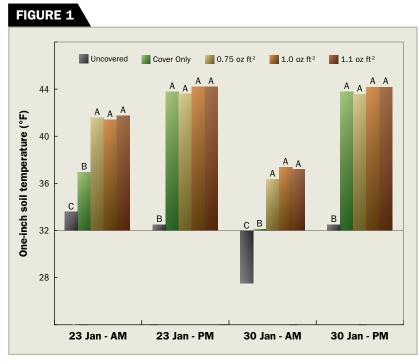
Effect of protective covers and batting material weight on spring greenup of TifEagle bermudagrass. Batting weights were 0.75, 1.0 and 1.1 ounces per square foot.

"Our results suggest that the use of industry-standard covers alone may not always be enough to protect greens from winter injury."

batting (covered control).

A 6-foot by 6-foot (1.8-meter by 1.8-meter) batting piece was installed on plots before placing the cover (Photo 2). Batting weights were 0.75, 1.0 and 1.1 ounces per square foot (229, 305 and 336 g m-2). Data collected in the study included soil temperature at a depth of 2.5 centimeters.

Continued on page 62



Effect of protective covers and various weights of batting fabric on the morning and afternoon soil temperature of an ultradwarf bermudagrass green on two dates in 2019. Different letters within each bar grouping indicate a significant difference.

Continued from page 61

We measured soil temperatures early in the morning (8 to 9 a.m.) or in the afternoon (3 to 4 p.m.). We collected winter survival and greenup data in the spring, but the only significant difference was between the uncovered control and all cover treatments (Photo 3).

The covered control and all batting treatments had significantly warmer soil temperatures on all sampling dates than the uncovered controls (Figure 1). On average, the covered control increased soil temperature 2 to 4 degrees F (1 to 2 degrees C) compared to the uncovered control.

The batting increased the 1-inch (2.5-centimeter) depth soil temperature by 4 to 5 degrees F (2 to 3 degrees C) compared to the cover-only control on most dates. There were no statistical differences in soil temperature under the various batting weight treatments.

This preliminary study suggests that an air gap under a protective cover can

enhance soil temperature and provide additional protection to warm-season putting greens under extremely low temperatures. **(9)**

Mike Richardson, Ph.D.; Eric DeBoer; Doug Karcher, Ph.D.; and Thomas Walton, University of Arkansas, Department of Horticulture. Contact Mike Richardson at mricha@uark.edu for more information.

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"Spring management headaches result from having to deal with dead grass and golfers coming out of winter dormancy."

MIKE KENNA, PH.D., Research Editor

A turf brain trust

very spring, it seems a golf course somewhere in the Transition Zone will have winter damage. Bermudagrass greens or fairways are the most likely victims. Spring management headaches result from having to deal with dead grass and golfers coming out of winter dormancy. Desiccation, ice cover or extreme cold are often the physiological stresses to blame.

Yet, I have lived in Stillwater, Okla., since 1979 and know the Oklahoma State University (OSU) bermudagrass breeding history well. It is an excellent story addressing the need for turfgrass to survive the summer's heat and humidity while pulling through cold winters.

Turfgrass research started in 1948 at the Oklahoma Agricultural Experiment Station under the supervision of Professor W. C. Elder. For the first three years, the work was supported, in part, by money furnished by the Tulsa Golfers Fund for War Wounded, through the USGA Green Section.

Early research focused on evaluating species and strains of turfgrass that would survive cold winters and hot summers in Oklahoma. As a result, U-3 bermudagrass was placed with foundation growers and increased for commercial usage.

Wayne Huffine, Ph.D., started working with turfgrass at Oklahoma State University in 1953. Huffine enjoyed traveling and, by 1963, had gathered

an extensive amount of bermudagrass from around the world. Huffine's collection was the primary source of taxonomic research by Jack R. Harlan, Ph.D., and J. M. J de Wet, Ph.D., which resulted in the 1970 publication, *A Guide to the Species of Cynodon (Gramineae)*.

In 1965, Charles M. Taliaferro, Ph.D., started at Oklahoma State University. He worked a short time for Glen Burton, Ph.D., at Tifton, Ga., after he finished his doctorate in 1963 at Texas A&M University. Taliaferro began breeding grasses for improved forage quality and winter hardiness. He did not have to start from scratch since a significant collection of bermudagrass was already available.

Over the next 40 years, Taliaferro and Huffine added more common *C. dactylon* and *C. transvaalensis* to the collection. Many originated from Africa, Australia, Europe and Asia.

In 1986, the USGA began to support bermudagrass breeding at OSU. The program's initial objective was to develop seed-propagated, cold-hardy bermudagrass with improvements in turf performance quality. The hope was to increase the use of bermudagrass in the Transition Zone. The effort was novel since previous cultivars performed best in the far southern states, and their use in the Transition Zone was at high risk due to winterkill.

Since then, Taliaferro has independently or collaboratively released seven bermudagrass cultivars. These include Midlawn and Midfield in 1993, Yukon and Riviera in 2005, Patriot in 2006 and NorthBridge and Latitude 36 in 2011.

Denis Martin, Ph.D., has helped with turfgrass evaluation since his arrival in 1990. In 2006, Yanqi Wu, Ph.D., was hired at OSU after Taliaferro's retirement. Wu and Martin added Tahoma 31 in 2019 to the list of successful cultivars. All OSU releases are popular in the Transition Zone due to improved turf quality, cold hardiness and spring dead spot tolerance.

The research team at OSU has collaborated with turfgrass scientists at Texas A&M University, University of Georgia, University of Florida and North Carolina State University. The five universities were successful in securing several U.S. Department of Agriculture grants since 2010. More than \$14 million of support from the Specialty Crop Research Initiative has helped these universities collaborate on drought and salinity tolerance of warm-season grasses.

The OSU bermudagrass breeding program has contributed significantly to moving the species farther north into the Transition Zone. With increased collaboration among universities, the effort will continue to improve cold hardiness while providing a turfgrass that tolerates summer heat, requires less water and fewer chemical inputs. ③

Mike Kenna, Ph.D., is the retired director of research, USGA Green Section. Contact him at mpkenna@gmail.com.



Ponds and other water features often develop algae, which can be cut down by aeration, chemical treatments and adding carp into the pond.

Solving water feature woes

Zach Ferone, second assistant at Sycamore Creek CC in Springboro, Ohio, has worked with his fair share of ponds and water features.

With those water features come the costs and labor associated with maintaining them.

"We usually see algae develop when it gets super hot, in those late stagnant dog days of summer going into early fall, especially if we haven't had any rain," he says. "During those drought times, we'll start to see it really pop up."

His course, Sycamore CC, includes three main water features: a 9-acre reservoir that the course uses for its pump station, a small natural pond and a man-made pond.

In addition to physically removing debris from the water features, golf courses can use various forms of aeration and chemical applications to keep algae in check. However, Sycamore CC is thinking about taking it a step further.

"The man-made feature is the one we have issues with in terms of algae," he says. "We try to use a fountain to get some aeration through there, and we've had the idea of putting grass carp in, which is something I've used in the past at other golf course with tremendous success."

Ferone says the ponds he's worked with could be stocked with carp once every two years for about \$300 each time.

"If you don't have anything that will eat the algae, phytoplankton keep recycling themselves and keep coming back," he says. "If you take the time to stock it properly with other wildlife, that'll help maintain the pond, and it'll cut down on your man-hours and your costs."

PHOTO COURTESY OF: SANDRA BURTC

Air-O-Lator Corp.

ROY WATKINS
President

Aeration is the lifeline to a pond. Without aeration, oxygen

levels will drop to levels that will not sustain an aerobic balance of the ecosystem, resulting in organic sludge buildup, high concentrations of nitrates, odors, murky water, algae growth and fish kills. Without proper mixing, dispersion of oxygen throughout the body of water will be insufficient. Water stagnation results in algae, odor and increased mosquito breeding areas. Adding native plants, vegetation and grass to the banks will prevent erosion damage to the shoreline and provide a natural filtration system to runoff entering the pond. As with turf management, some chemical or biological treatment is required to eliminate unwanted weeds and grasses. Don't forget to dredge the pond as over time, even with good management practices, ponds will accumulate a buildup of sludge.



SANDRA BURTON
President and CFO

Using the "treatment train" approach is an easy, effective way for superintendents to employ best management practices (BMPs) in golf course ponds. The treatment train is



actually a series of BMPs that work together to slow down and reduce the water and nutrients that enter the pond. The first step is to install swales, berms and riparian buffers to capture pollutants, nutrients and sediments from the runoff before it enters the pond. The next step is to install subsurface diffused aeration to maintain dissolved oxygen and eliminate temperature stratification for the water already in the pond. Dissolved oxygen binds nutrients in the sediment and prevents the reintroduction of nutrients already in the sediment. Maintaining dissolved oxygen and temperature equilibrium also prevents fish kills. Superintendents who get on board with the treatment train will benefit from healthy, clean, pleasant-smelling ponds that golfers will appreciate.

U.S. Aqua Vac

BRIAN PIRL

Vice president of operations

Make sure you watch for sediment levels. Once the



mucky sediment starts to expose itself at the surface, it will harden, and it can become a lot more expensive to remove. Make sure you pick up the leaves in the fall. So many times, we see course personnel blow leaves into the pond. In the long run, it costs the course money as it becomes mucky sediment and clogs up their irrigation intake. The sad thing is most of the time, superintendents don't even know that some of their guys are doing it.

Tidewater GC & Plantation, North Myrtle Beach, S.C.

SHAUN DONAHUE

Superintendent

After my first season using solar pond aeration, I realized really quickly that the technology coupled with the ease of use from that system was going to be very successful at our club.



We maintain buffers around our ponds with regard to fertilizer and chemical applications to minimize runoff and leaching into the pond system. We also try very hard to manage the waterfowl that utilize the ponds on the property and improve the pond environment for aquatic life. The biggest challenge associated with pond maintenance, for us, is strictly visual. We have shallow ponds, which increase algae instances, so our management practices revolve around keeping the algae to a minimum. Removing unwanted vegetation by hand and clearing out downed trees and limbs requires an increase in labor, especially during hurricane season. The amount of organic trash, like pine straw, leaves and pinecones, that makes its way into the ponds after a storm can be quite significant.

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BlueBirdTurf.com

3 | Toro Greensmaster 1000 Series

TORO's Greensmaster 1000 Series fixed-head walk greensmowers were designed to eliminate variability in the walk mowing process by integrating operators of all sizes and skill levels to work in harmony with the machine. A number of operator-centric features have been integrated into the new line to improve cut quality and consistency, like the innovative telescoping loop handle, simple height adjustment and handle isolation mounts, which give the cutting units consistent contact with the ground throughout the mowing process.

Toro.com/golf

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4 2750 E-Cut Hybrid Triplex Mower

The 2750 E-Cut Hybrid Triplex Mower by **JOHN DEERE** provides premium cut quality, boasting a 62-inch mowing width and mow speeds of up to 6 mph. The passcode-protected TechControl system enables managers and technicians to input commands, controlling nearly everything regarding the operator's performance. The three-axis lift system provides up to 18 degrees of steering and 42 degrees of contour following. The open platform frame design with a low center of gravity results in excellent stability.

Deere.com/golf

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Maredo-BV.com

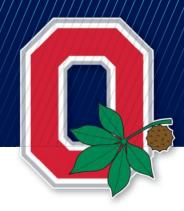
6 | WatchDog Wireless ET Weather Station

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SpecMeters.com

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19thHole



Clay Stewart

SUPERINTENDENT // Idle Hour CC, Lexington, Ky.



After 18 holes, what can I get you for a drink? I am a pretty cheap date. I'm going to go with the tallest, coldest Miller Lite you can find.

Tell me about Idle Hour Club. It's a cool, laid-back, under-the-radar club. We're a 1924 Donald Ross design. We went through a renovation in 2006 to bring all the Ross characteristics back. And, it's a great membership to work for. It's demanding, but fair. I've been here for 12 years now. I was an assistant here, so they gave me my shot, and I will be forever grateful for that.

Do you have a family? Just my wife Amanda, we've been married for 17 years, and my two dogs, a 13-year-old Border Collie named Ryder and a 1-year-old Aussie/Blue Heeler mix that we picked up this summer from the rescue shelter, Magnolia.

What are you looking forward to most in 2021? The same thing everybody else is — getting back to normal, if there is such a thing. As far as golf course wise, this year I had two first-year assistant superintendents, fresh out of college. For them to try to cut their teeth on the management side of things and

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"NEVER FORGET WHOSE
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IS. AS MUCH AS WE WANT
IT TO BE OURS, WITH AS
MUCH TIME AND EFFORT
WE HAVE INVESTED IN IT,
I THINK IT'S IMPORTANT
TO REALIZE THAT IT'S THE
MEMBERS' GOLF COURSE."

go through what we had to go through this year? I hope it normalizes, and I'm excited to see their growth from year one to year two.

So, is Pearl Jam your No. 1 favorite band? Probably one, two, three and four. I don't think Pearl Jam radio has been turned off of Sirius in the car for at least five or six years. I've seen them around 10 or 11 times. The most memorable show I've seen was probably Wrigley (Field) in 2018. We were out getting some pizza and having a few beers with some friends. It was the night before the show. I said, screw it, bought a ticket on StubHub, booked a hotel and went up by myself the next morning.

What's the best thing about being an Ohio State Buckeye? I don't know

where to start. All the friends that you make. It's the best four years of your life. I was lucky enough to walk onto the football team my freshman year and got to experience that. I still get goose bumps when I hear the alma mater.

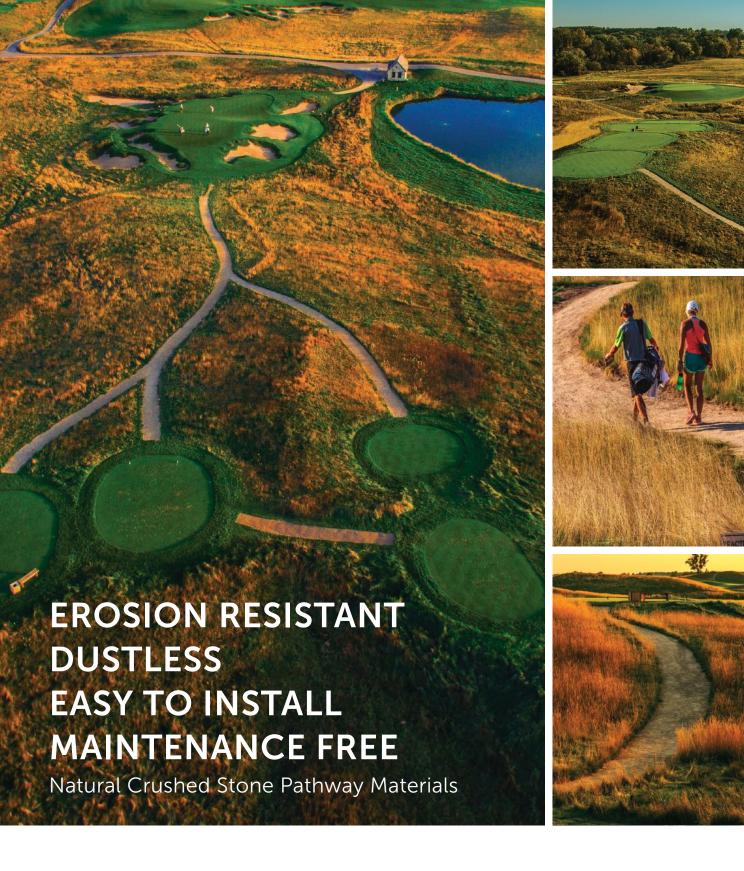
What position did you play? Technically, I was a long snapper, but really, I was a breathing tackling dummy.

What's the easiest way to get a laugh out of the crew? Ask them if the hot sauce is hot. If somebody says no, and everybody else starts laugh-

ing, then you know that all right, this is going to suck. I asked for it, and now I have to eat it.

As interviewed by Seth Jones, Dec. 3, 2020.

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INTRODUCING

Humic DG[™] CharX[™]



Our newest innovation, Humic DG CharX, harnesses the power of humic acid and biochar in a 50/50 blend, providing the benefits of the more quickly-available humic acid and the long-term soil building qualities of biochar. Powered by Dispersing Granule (DG) Technology, Humic DG CharX takes soil health to the next level.

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