

★ SPECIAL DOUBLE ISSUE ★ HOLIDAY BONUS ★

Golfdom

ALSO
2024
**SUPERS'
CHOICE**
AWARDS

SINCE 1927—The Resource for Superintendents // Golfdom.com

NOVEMBER/DECEMBER 2024

A perfect 10

A superintendent partners
with a Hall of Fame architect
on what would be
his final project

No. 4 at Tom's 10
at Spanish Peaks
Mountain Club
in Big Sky, Mont.

Plus

Controlling sedges

2024 research recap

Precision irrigation technology

WE'RE TAKING IT UP A NOTCH WITH PULSE WIDTH MODULATION

Unlike traditional sprayers, the Star Command II 4.0 maintains consistent pressure, spray pattern and spray rate across a wide range of speeds. With PWM with a duty cycle of 20 times per second, Smithco sprayers provide accurate application without the need for constant tip changes, reducing waste and ensuring even coverage on all terrains – including tricky areas like bunkers and wetlands.

KEY BENEFITS

- **Consistent Spray:**
Maintain consistent spray pattern, pressure and rate across various ground speeds and terrains with turn compensation.
- **RightSpot™ Nozzle-by-Nozzle Control:**
Reduces over spray, eliminates waste, and delivers optimal droplet size for every application.
- **User-Friendly Interface:**
The Ag Leader InCommand™ 1200 Display provides real-time data logging, mapping, and optional automated steering for total course control.
- **Smart Report™:**
Generates detailed PDF reports on applications, viewable remotely for easy monitoring.
- **Boom Loop:**
Automates the priming process, creating a continuous flow of product through the boom and back to the tank, preventing buildup and eliminating dead zones in the system.

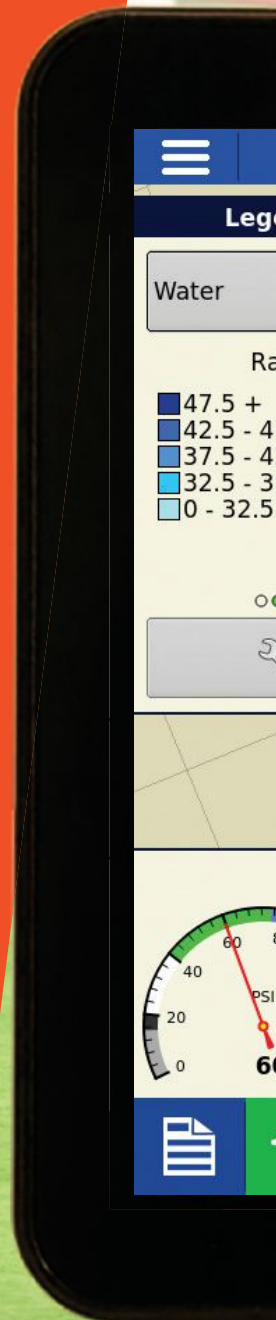
Smithco

WE TAKE YOUR TURF SERIOUSLY

Over 55 Years of Exceptional
Service and Products

smithco.com

United States | 877.833.7648
International | +1 610.688.4009



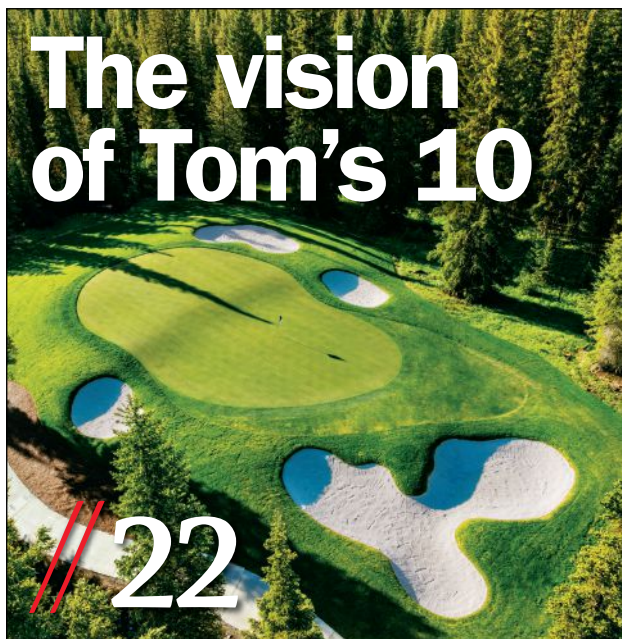
INTRODUCING AG LEADER



Golfdom // 11/12.24

VOL. 80 // NO. 12

SINCE 1927—The Resource for Superintendents // Golfdom.com



COLUMNS

- // 6 **Keeping up with The Jones**—Seth Jones
Jones lists his top moments from 2024, including a trifecta of American majors
- // 14 **Scott's Thoughts**—Scott Hollister
Hollister checks in after eight months at North Coast Media and looks ahead to 2025
- // 20 **Matt's Memories**—Matt Shaffer
Shaffer gives his favorite tools throughout the decades and what tools he wishes he had as a superintendent
- // 53 **The Turf Doc**—Karl Danneberger, Ph.D.
Danneberger explains climate havens and the harsh reality that they will face in the future
- // 55 **Off the Record**—Mike Kenna, Ph.D.
Kenna shares how soil moisture sensors are revolutionizing fairway watering



SUPER SCIENCE

- // 47 **A key to unlocking efficient irrigation**
- // 48 **A look back at 2024**
- // 54 **Tips for driving away nutsedge**

DEPARTMENTS

- // 10 **Starter**
- // 16 **Golfdom Gallery**
- // 18 **The Golfdom Files**
- // 32 **At the Turn**
- // 56 **The 19th Hole**



SYNGENTA TURF NEWS TODAY

XTRA! XTRA!

ACELEPRYN XTRA PACKS
AN XTRA PUNCH FOR
EVEN *MORE* CONTROL



Breaking news: With two modes of action, Acelepryn® Xtra insecticide offers even more insect control than the original Acelepryn. In addition to **grubs**, **billbugs** and **caterpillars**, it's labeled for greater control of **chinch bugs**, **ants** as well as **curative grub control**.



Compare Acelepryn Xtra to Acelepryn at
[GreenCastOnline.com/AceleprynBrands](https://www.GreenCastOnline.com/AceleprynBrands)



Controls more insects with
just **one application**



10% volume discount
available for purchases of
10 gallons

X @SyngentaTurf #Time4AceleprynXtra



Acelepryn® Xtra
Insecticide

syngenta®

All photos are either the property of Syngenta or are used with permission.

© 2024 Syngenta. **Important: Always read and follow label instructions. Some products may not be registered for sale or use in all states or counties and/or may have state-specific use requirements. Please check with your local extension service to ensure registration and proper use.** Acelepryn®, GreenCast®, the Alliance Frame, the Purpose Icon and the Syngenta logo are trademarks of a Syngenta Group Company. All other trademarks are the property of their respective third-party owners.

Real Stripes without Reel Hassles



Solid rear roller
for great stripes
from a rotary
mower.



Masport

800-780-9889

SEAGO
INTERNATIONAL, INC.

seagousa.com

Green
dream

A BETTER BARRIER

The premium solution to rope and stakes



Shop Now at greenreamlife.com

Golfdom

Seven-time winner of the national Folio Award for editorial excellence

EDITORIAL

EDITORIAL DIRECTOR, EDITOR-IN-CHIEF & ASSOCIATE PUBLISHER Seth Jones

785-542-2627 / sjones@northcoastmedia.net

MANAGING EDITOR Rob DiFranco
216-675-6001 / rdifranco@northcoastmedia.net

EDITOR Scott Hollister
216-675-6013 / shollister@northcoastmedia.net

ASSOCIATE EDITOR Nathan Mader
216-675-6002 / nmader@northcoastmedia.net

DIGITAL MEDIA SPECIALIST Sydney Fischer
216-675-6002 / sfischer@northcoastmedia.net

ART DIRECTOR Pete Seltzer
216-706-3737 / pseltzer@northcoastmedia.net

CONTRIBUTING EDITORS

Karl Danneberger (*Science*), Alan FitzGerald,
Benton Hodges, Mike Kenna (*Research*), Jim Moore



BUSINESS

CLEVELAND HEADQUARTERS

1360 EAST 9TH ST, 10TH FLOOR, CLEVELAND, OH 44114

GROUP PUBLISHER

Bill Roddy
216-706-3758 / broddy@northcoastmedia.net

PUBLISHER

Craig MacGregor
216-706-3787 / cmacgregor@northcoastmedia.net

WESTERN REGIONAL SALES MANAGER

Jake Goodman
216-363-7923 / jgoodman@northcoastmedia.net

ACCOUNT EXECUTIVE

Nader Hassen
216-363-7932 / nhassen@northcoastmedia.net

CUSTOM MEDIA SALES DIRECTOR

Tod McCloskey
216-363-7921 / tmccloskey@northcoastmedia.net

SALES & DIGITAL AD COORDINATOR

Courtney Jaskiewicz
216-675-6003 / cjaskiewicz@northcoastmedia.net

SR. EVENT MANAGER

Allison Blong
216-363-7936 / ablong@northcoastmedia.net

SR. MGR., PRODUCTION SERVICES

Terri Johnstone-Mueller
216-978-9622 / tjohnstone@northcoastmedia.net

SR. AUDIENCE DEVELOPMENT MANAGER

Antoinette Sanchez-Perkins
216-706-3750 / asanchez-perkins@northcoastmedia.net

AUDIENCE MARKETING MANAGER

Hillary Blaser
216-440-0411 / hblaser@northcoastmedia.net

MARKETING/MAGAZINE SERVICES

SUBSCRIBER, CUSTOMER SERVICE

847-513-6030 / golfdom@omeda.com

LIST RENTAL

Brahm Schenkman
800-529-9020 / bschenkman@infofirefly.com

REPRINTS & PERMISSIONS

Wright's Reprints
northcoastmedia@wrightsmedia.com

CORPORATE

PRESIDENT & CEO

Kevin Stoltman

VP OF FINANCE & OPERATIONS

Steve Galperin

VP OF CONTENT

Marty Whitford

VP OF MARKETING

Michelle Mitchell

VP OF GRAPHIC DESIGN & PRODUCTION

Pete Seltzer

EDITORIAL DIRECTOR

Kevin Yanik

Golfdom does not verify any claims or other information appearing in any of the advertisements contained in the publication, and cannot take any responsibility for any losses or other damages incurred by readers in reliance on such content. The views and opinions expressed by Golfdom's contributors are those of the authors and do not necessarily reflect the official policy or position of Golfdom or North Coast Media.

Golfdom welcomes unsolicited articles, manuscripts, photographs, illustrations and other materials but cannot be held responsible for their safekeeping or return.

North Coast Media LLC provides certain customer contact data (such as customers' names, addresses, phone numbers and e-mail addresses) to third parties who wish to promote relevant products, services and other opportunities which may be of interest to you. If you do not want North Coast Media LLC to make your contact information available to third parties for marketing purposes, simply call 847-513-6030 between the hours of 8:30 a.m. and 5 p.m. CT and a customer service representative will assist you in removing your name from North Coast Media LLC's lists.

GOLFDOM (ISSN 1526-4270), Copyright © 2024 by North Coast Media, LLC is published monthly except for a combined November/December issue and an additional Spring issue by North Coast Media, 1360 East 9th Street, 10th Floor, Cleveland, OH 44114. Call (847) 513-6030 to subscribe. Periodicals postage paid at Cleveland OH 44101-9603 and additional mailing offices.

POSTMASTER: Please send address change to GOLFDOM, PO Box 2090, Skokie, IL 60076.

Subscription rates: For US, Canada and Mexico, 1 year \$58.95 print and digital; two years \$88.95 print and digital. All other countries, 1 year print and digital \$109.95, 2 years \$169.95. For air-expedited service, include an additional \$75 per order annually. Single copies (prepaid only) \$10 plus postage and handling. For current single copy or back issues, call 847-513-6030. Printed in the U.S.A. All rights reserved. No part of this publication may be reproduced or transmitted in any form by any means, electronic or mechanical including by photocopy, recording, or information storage and retrieval without permission in writing from the publisher. Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients is granted by North Coast Media, LLC for libraries and other users registered with the Copyright Clearance Center, 222 Rosewood Dr, Danvers, MA 01923, phone 978-750-8400, fax 978-750-4470. Call for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law.





WHAT THEY SEE. MADE BETTER BY WHAT THEY DON'T SEE

Take water efficiency to the highest level with best-in-class Hunter Golf solutions!

From our intuitive Pilot® Cloud Software to our top-of-the-line TTS-800 Series Golf Rotors, our complete lineup of industry-leading products is designed to ensure long-lasting performance, simplified maintenance, and maximum efficiency, so you can keep your course green with less effort — and less water.





"As is tradition, I like to look back at the year that was. Here are my top five work-related moments of 2024."

SETH JONES, Editor-in-Chief & Associate Publisher

Reflecting on a Big (K) 2024

Greetings from the Hall of Justice (HOJ) on a rainy November day in northeast Kansas. It's been another fun, interesting, challenging and ... exciting year here at *Golfdom* editorial headquarters. The HOJ almost nabbed an exclusive two-month sponsorship (read: loaner) with an all-terrain vehicle company, but that fell through. Instead, I nabbed a sponsorship with generic "Big K" brand soda, so now ... "If you stop by the HOJ, we're drinking Big K!"

Oh, my favorite flavor? The creatively named Cola.

Ahem. Failed sponsorships aside, this was an incredible year for your pal Jonesy. As is tradition, I like to look back at the year that was. Here are my top five work-related trips/moments of 2024:

No. 5 – Alaska trip This year, I scratched Alaska off my list of states to visit with a trip for our sister publication, *Landscape Management* (LM). Some fishing, some bear watching ... Alaska is beautiful! Now I'm down to three states on my list that I still need to visit: Hawaii, West Virginia and Wyoming. If you've got a chapter meeting in one of those states and are looking for a speaker or even,

I don't know, a foosball ringer, let me know. I'm dangerously close to crossing off all 50 states before age 50.

No. 4 – Three American majors? Check. This is unfair to lump all three American majors in one category since each one had amazing highlights. I just don't want to eat up three of my five spots with the Masters, the PGA Championship at Valhalla and the U.S. Open at Pinehurst No. 2. I saw a lot of Friends of *Golfdom* at each of these tournaments, and the golf watching, people visiting and the weather was (mostly) perfect. I'm excited and hopeful for a repeat performance in 2025 — and adding in the U.S. Women's Open at Erin Hills

and maybe the Ryder Cup at Bethpage.

No. 3 – Lake Las Vegas TOCAs Not-so-humble brag alert ... this year's Turf and Ornamental Communicators Association meeting, our annual meeting of industry trade publications, was special. We racked up a ton of awards for our work in 2023. And even though I was disappointed when my monthly column for LM, "Seth's Cut," took second place in the monthly column writing category, that was short-lived as my column for *Golfdom*, "Keeping up with the Jones," took first place — I swept the category, something I've been trying to accomplish for six years. And this was

my last year to be eligible for that goal, which leads me to No. 2 ...

No. 2 – I got the band back together In April of this year, I made a major announcement: We added my old friend Scott Hollister to the team, reuniting me and Scott as coworkers from when we last worked together in 2010. Hollister, the longtime editor-in-chief of *Golf Course Management*, came on board to become EIC of *Landscape Management*. But it's a small family of magazines here at North Coast Media, and I'd be a fool not to have Scott help me with *Golfdom*. So, turn to page 14 for a few words from my once again partner in crime, the H-Bomb ...

No. 1 – Photo shoot with Evey Jones OK, this isn't really work related, but ... a few years ago, an industry photographer friend I made — Allie Filly — told me he'd love to take my daughter's senior photos when the time was here. All we had to do was road trip to Louisville, Ky. On Labor Day weekend, Evey and I took a quick trip to Kentucky where I spent four hours on a photo shoot that wasn't for work, but for family. As many amazing trips I took this year, that short trip to Louisville with my daughter — including a visit to the Louisville Zoo and a walk across the Big Four Bridge into Indiana for some pizza — goes down as my favorite trip of 2024. 📸

Email Jones at:
sjones@northcoastmedia.net.



Invest in Excellence.

Sustainable solutions for a superior golf course

Storm events can create bunker washouts, contaminate sand, and reduce playability. Sand Guard enhances your ROI by protecting your bunker features to remain clean and consistent by stabilizing sand and minimizing maintenance. Porous Pave reduces ball bounce on cart paths by 75%, enhances traction, and provides exceptional permeability & durability while remaining flexible, eliminating cracking.



APPLICATIONS:

CART PATHS • BUNKER LINERS • WASH STATIONS • CART STAGING AREAS
COURT SURROUNDS • BRIDGE DECKS • MAINTENANCE STRIPS



SPONSORED CONTENT



Erin Hills Golf Course
by *Golfdom* Staff.



ERIN HILLS

A Course Built on Quality

Located near Milwaukee, Wis., Erin Hills Golf Course stands as a testament to the power of meticulous golf course management. Under the care of Zach Reineking, this championship course has not only hosted major tournaments, but has also embraced a forward-thinking approach to turf care.

Reineking's journey began at a young age, with a passion for golf and an eye for detail. After graduating with a degree in turfgrass science, he landed a position at Erin Hills Golf Course in 2005. Since then, he has overseen the course's transformation into a world-class venue, hosting prestigious events like the 2017 U.S. Open and the 2011 U.S. Amateur.



Zach Reineking

But it's not just the tournament success that sets Erin Hills apart. The course's commitment to sustainability

and cost-effectiveness is equally impressive. Reineking credits Quali-Pro's Enclave for playing a significant role in achieving these goals.

Enclave is a broad-spectrum fungicide that gives you a powerful weapon in the war on fungal diseases in turfgrass and ornamentals. The first product of its kind in North America, Enclave is formulated with combination chemistry that delivers effective, long-lasting protection from anthracnose, brown patch, dollar spot, snow mold and a broad range of ornamental diseases. Quali-Pro is a hybrid manufacturer that offers one of the industry's most comprehensive portfolios, featuring a broad spectrum of post-patent and innovative products.


"We've been using Quali-Pro products since around 2018," Reineking explains. "They've helped us reduce costs significantly while maintaining the highest standards of turf quality."

Erin Hills experienced a number of

these benefits once they incorporated Quali-Pro products into their maintenance routine. "About 65 percent of the products that we use now are products by Quali-Pro."

The biggest advantage Reineking noticed once he started using Enclave was its ability to control snow mold. "We use it on all fairways, approaches, and tees. It's great to use just one product that gives us peace of mind for when we come back in the Spring. We know there will be no disease in sight."

Reineking encourages other superintendents to consider trying Enclave. "If you're looking for superior snowmold control in the convenience of a single product, this is it," he says.

As Erin Hills continues to evolve, Reineking and his team will continue to explore innovative solutions to keep the world-class course in top condition. With the support of Quali-Pro, they are well-positioned to maintain their legacy for years to come. 



Proven **Performance**,
Superior **Value**.

ENCLAVE®

Flowable Fungicide

HOW DOES IT PROTECT THE PLANT?

- **Topically** by coating the plant to prevent disease penetration into the plant.
- **Locally** penetrates into the plant from the contact site.
- **Acropetal** movement from the point of contact.
- **Systemically** moves upward through the roots.



VISIT US AT:
QUALI-PRO.COM

Starter

NEWS, NOTES AND QUOTES



//NEW KIDS ON THE BLOCK



Santaluz Club Director of Agronomy Jeff Miller answered questions from California superintendents about ROI, cut quality and more. For the full story, visit Golfdom.com

KRESS SHOWCASES ROBOTIC MOWERS FOR CALIFORNIA SUPERS

BY ROB DiFRANCO // Managing Editor

➔ Kress hosted superintendents from across Southern California at the Santaluz Club to showcase its new robotic mowers and electric power equipment.

Santaluz Club director of agronomy Jeff Miller spoke to attendees about the time he's spent with Kress' mowers on his course.

"We've learned how much they help our entire program here as far as noise, fuel consumption and improving the rough," Miller told the more than a dozen superintendents gathered at his clubhouse.

Miller has plenty of experience with robotic mowers on his course, having used mowers from a different manufacturer before he adopted Kress' units for his rough. Santaluz also utilizes larger robotic mowers for its fairways from Firefly Automatrix.

The most significant selling point for Kress' robotic mowers is the singular GPS antenna that a course needs for a full fleet to operate. According to Tim Barrier, CGCS, a former superintendent at Rancho Santa Fe GC who now serves as Kress's golf business development manager, the antenna is free to install and doesn't require a subscription to use.

For Miller and Santaluz Club, the cost savings have also been significant. He estimates that by using battery-powered equipment, including mowers, he's saved \$6,000.

"We spend 2,200 hours yearly mowing the rough using traditional methods and blowing all the clippings," he said. "For four guys, it took two full days to mow the course, and you have to do that when the golf course is closed. So, I calculated it, and it saved us around 2,000 hours, which is around \$50,000."

//A GOLF LIFER

ALBAUGH'S CORBETT AWARDED GCSAA SCHOLARSHIP

Bret Corbett, a doctoral student at Virginia Tech University and product development manager at Albaugh Specialty Products, has been named the recipient of the Larry Powell Scholarship from the Golf Course Superintendents Association of America (GCSAA).

The Larry Powell Scholarship is selected by GCSAA's Diversity, Equity and Inclusion Advisory Council.

Corbett is a member of the Coharie Indian Tribe. The Larry Powell Scholarship is funded by donor support through the GCSAA Foundation and benefits individual members of GCSAA or those interested in becoming members who represent underserved populations.



Bret Corbett

"My brother and I would help water the research plots for my dad on the weekend," Corbett said. "This is where I developed a deep appreciation for the intricate details that contribute to the maintenance and aesthetics of a golf course. Observing the meticulous work required to keep the greens in pristine condition ignited my interest in the science and art behind golf course management."

//JOINING FAMILIES

FOLEY ACQUIRES SALSCO

Foley Co. has acquired Salsco, a turf maintenance equipment company.

Salsco, founded in 1979 by Sal Rizzo, is based in Cheshire, Conn. The company offers a line of products including gas and electric greens rollers, core recovery vehicles, leaf vacuums and more.

"We are excited to welcome Salsco into the Foley family," said Paul Rauker, president and CEO of Foley Co. "This acquisition strengthens our commitment to providing top-tier solutions for golf courses and turf professionals. Salsco's expertise and innovative products will enhance our capabilities and allow us to better serve our customers."

//MAKING MOVES

FMC COMPLETES GSS SALE TO ENVU

➔ FMC Corp. has sold FMC's Global Specialty Solutions (GSS) business to Envu. The companies signed a definitive acquisition agreement on July 11, 2024, and have now satisfied all necessary conditions and regulatory approvals.

The divestiture of GSS, which includes a line of products that serve a diverse mix of non-crop markets such as golf courses, professional sports stadiums and pest control, is a key step in FMC's strategic plan to focus solely on innovating products and services for the global crop protection market.

"The successful sale of our GSS business to Envu marks an important milestone for FMC," said Pierre Brondeau, FMC chairman and CEO. "This transaction enables us to further

sharpen our focus on our core agricultural business while ensuring the GSS business and employees have the right partner in Envu."

As part of the agreement, FMC will work with Envu through the companies' transition period and will remain a contracted supplier of key products and actives.

"This is a very exciting day for Envu, and we believe for our customers as well," said Gilles Galliou, Envu CEO. "Now that the deal is closed, we will move quickly to begin integrating the GSS team and exploring ways that we can leverage our collective strengths to deliver more innovation and more value for our customers."

FMC intends to allocate all proceeds from the sale to debt reduction.

X #TurfPostoftheMonth

Follow us @Golfdom

Dylan Leonard

@PinGreenAce0104

Spray Technician, Mariner Sands CC, Stuart, Fla.

Hurricane Milton may have caused damage to our courses & community, but it didn't damage our spirits! I am proud to be a part of the Mariner Sands community and I am proud to have such a strong maintenance team capable of taking on the toughest of challenges. God bless!

Presented in partnership with:



syngenta®

Ask Thad

BY THAD THOMPSON

Superintendent

Terry Hills GC, Batavia, N.Y.



Do you think the TGL will be a boom or a bust? Will you watch any and are you hopeful for a New York Golf Club sweater for Christmas? Or are you team Jupiter Links?

Ok, first off, I'm old. Second, I've been blowing tons of leaves, winterizing my irrigation system and keeping up with an unseasonably warm fall in Western New York. I actually had to Google, "What is the TGL?" in preparation for this question.

I owned a Sega Genesis gaming system 30-plus years ago. It's the only video game system I've ever owned. I specifically purchased it because PGA Tour Golf 2 was coming out, so obviously, I'm a gamer and have OG street cred. Golf pandering to us gaming nerds is nothing new, but TGL marketing and bringing this game to the masses are unique and attractive to our computer-screened minds. I actually love the setup.

Players mic'd up? Count me in on that! Changing the image that professional golfers are not robots and resemble anything close to a human being or even show a personality would be a refreshing change.

Max Homa stands out as someone who has given us a glimpse of a normal person via social media. He seems like a buddy you might see on the first tee on Saturday morning. I want to see players interact, bust balls and be relatable to normal golfers.

I don't care about what you're learning on the range, how good or bad your hotel room or courtesy car was last weekend, or if your sponsors want a patch on your team shirt, but be real and enjoy yourself. I don't have a crystal ball, but if it can show golfers with talent, personality and a willingness to let their hair down and have fun, it could be a hit.

I might need a New York GC shirt!

Got a question for Thad? Tweet to @TerryHillsMaint and @Golfdom or email Thad at thadthompson@terryhills.com

Friends in High Places

#THANKASUPERINTENDENT

Joe Theismann, NFL quarterback and broadcaster

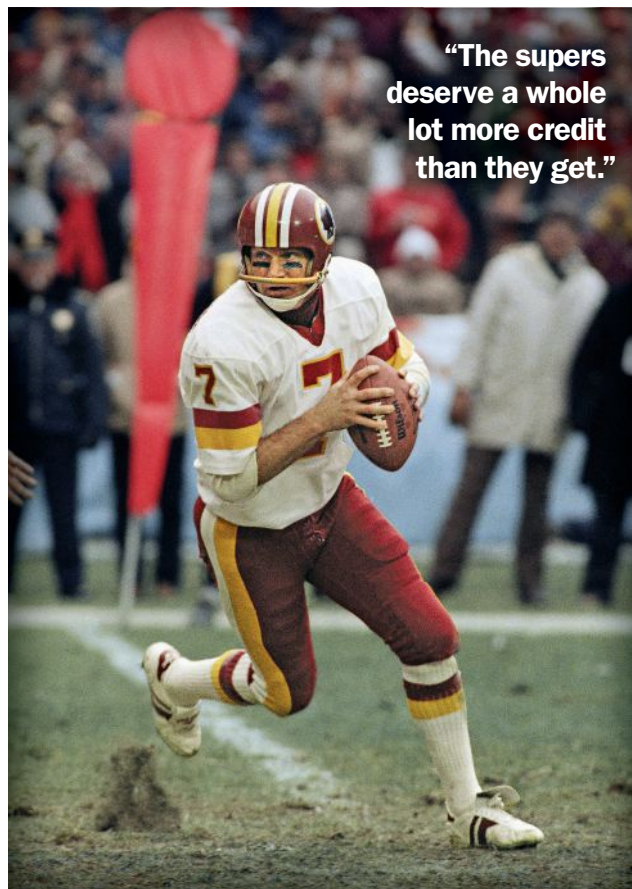
THE NFL'S MVP IN 1983, Joe Theismann has been involved in the NFL as both a player and then commentator for decades. He led the Washington Redskins to both Super Bowl XVII and XVIII, winning Super Bowl XVII. He was named the NFL's Man of the Year in 1982.

A two-time Pro Bowler, Theismann's playing career was cut short after a gruesome injury on Monday Night Football in November of 1985. Following the injury, he went on to become a successful sportscaster for ESPN, calling games for Sunday Night Football. Theismann still holds several Washington Redskins records, including most wins (87) and career passing yards (25,206).

— Seth Jones // Editor-in-Chief

"Golf is an individual game. I think golf is the most personal of all the sports because there are so many different swings, so many different ways to get the job done. It's a real mental toughness game."

"I personally think of all the golf that I watch and all the golf that I play, I don't think the superintendents get enough credit, I really don't. I've played on golf courses where they're dealing with weather all the time. Out here for example, they don't cover the greens all the way down, they stake them so they can breathe. They'll get seven to ten feet of snow out here. Six weeks ago, this place was under a ton of snow, and now all of a sudden, the greens are as good as I've seen them in a long time, the fairways are running absolutely beautiful. The supers deserve a whole lot more credit than they get."



"The supers deserve a whole lot more credit than they get."

//THE WIZARD OF OZ

Ozzie Smith wins Old Tom Morris Award

 The Golf Course Superintendents Association of America (GCSAA) named Ozzie Smith, National Baseball Hall of Famer, the recipient of the 43rd Old Tom Morris Award. GCSAA will honor Smith on Feb. 6 at the send-off celebration presented in partnership with John Deere at the 2025 GCSAA Conference and Trade Show in San Diego, Calif.

Since retiring from baseball, Smith

has found a love for the game of golf both as an avid golfer and as someone devoted to introducing the game to children and young adults who may not have access to play. His work has brought new players into the game.



Ozzie Smith

Along the way, Smith has developed a deep appreciation for

golf course superintendents and their teams. He has seen the essential role they play in making golf enjoyable and makes sure to promote their work.

"Golfers come out and enjoy the beauty of it," Smith said. "It's the superintendents and their teams who give us these beautiful playing surfaces. Their drive and teamwork to make each round the best it can be is amazing."



Your Job Depends on you Making THE Very Best Daily Decisions

Having the Automated Insight YOU Need is a Fundamental
Necessity in Every Program

Turf, Soil, Weather, Water, Mapping, and MORE!

Catch Carmen Magro, PhD
talking everything monitoring
and analysis at GCSAA's
Education Session in San Diego

See POGO at **BOOTH 2327**



Get to know the POGO System at
pogoturfpro.com
info@pogoturfpro.com or 1-971-420-0500



"It's not often that you make a career change where the new gig allows you the opportunity to do all the cool stuff that you loved about your old job, but this is one of those rare situations."

SCOTT HOLLISTER, Editor

Best of both worlds

When Seth Jones asked me to pen a column for *Golfdom*, my mind immediately went to Michael Corleone's famous quote from *The Godfather Part III*, "Just when I thought I was out, they pull me back in!"

Considering the context of that scene and the manner in which Al Pacino delivered that line, my comparison is probably more than a little misguided. I mean, he practically spit that line onto the screen with the frustrated, angry growl of a man who wanted *anything* other than a return to the life he once lived (plus, if memory serves, Corleone had a heart attack just after uttering this famous line, so there's that).

My response to Seth's request was the polar opposite. I was fired up by the opportunity to step back into a world that was such a huge part of my life for more than a quarter of a century and readily accepted the assignment. Plus, the chances of this request triggering a heart attack seemed remote, so I had that going for me, too.

At the risk of repeating

a story that some readers might be sick and tired of hearing (and trust me ... I'm getting close to that point, too), I joined the fine folks at North Coast Media in April of this year after spending 26 years working for the Golf Course Superintendents Association of America (GCSAA), where I oversaw their monthly publication, *Golf Course Management*.

When I made the move, it wasn't for a role with *Golfdom*; my new "real" job is with the parent company's industry-leading landscape magazine, *Landscape Management*. But one of the perks of taking that leap was that in addition to getting to exercise my creative muscles in a new industry, I'd also have the chance to contribute from time to time to this magazine and keep myself involved in an industry that I knew like

the back of my hand.

The more attentive among you already know that this isn't my first venture into the pages of *Golfdom*. I penned a feature story on a course in Tallahassee, Fla., bouncing back from not one but two tornadoes in the July issue. I've also written a few news-focused stories that have appeared on the magazine's website and in the Starter section of the print publication.

But I guess I consider this my first "official" introduction to the *Golfdom* family, and I'm super excited to meet you all. It's not often that you make a career change where the new gig allows you the opportunity to do all the cool stuff that you loved about your old job, but this is one of those rare situations.

Topping that cool-stuff list were always the chances I had

to spend time with and learn from the amazing people who make up this industry, so it's pretty awesome that some of my first tasks under the *Golfdom* banner will fall under that category.

That includes the upcoming GCSAA Conference and Trade Show, which is heading to San Diego Feb. 3-6. I won't lie; after so many years being a part of the event as a GCSAA staffer, spending a few days in Southern California in this new role will take some getting used to. But that familiarity with this industry and the people in it will go a long way in taking that edge off, and I can't wait to see all those familiar faces once again.

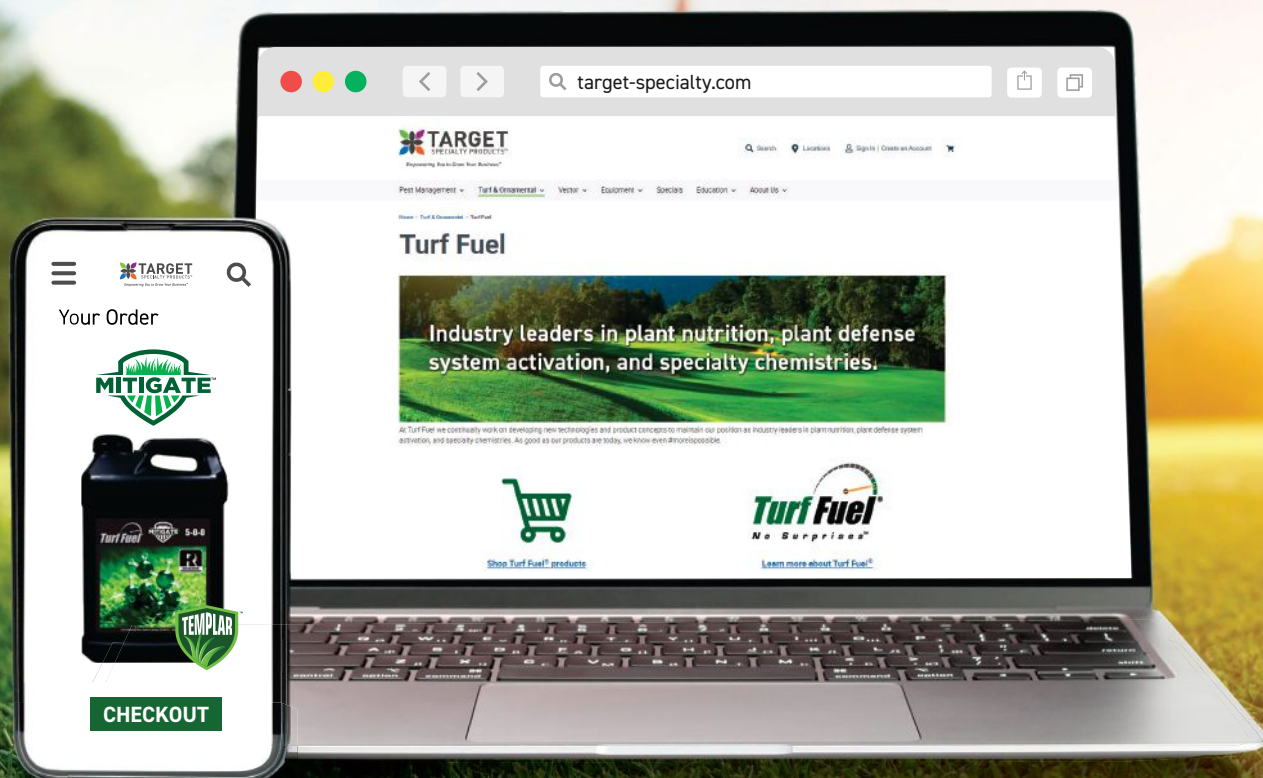
Then there is this month's *Golfdom* Summit at Reunion Resort, the invitation-only event that brings together superintendents and some of the top companies in the business for a few days of presentations, product demos and plenty of networking. In my past life, I was always more than a little jealous of the concept behind the Summit and how North Coast Media had successfully implemented it, so the chance to be a part of it now is one I'm super excited about.

So basically, I'm getting the best of both worlds in this new job, and I am grateful that it has brought me back to an industry that has meant so much to me over the years. We'll be seeing you down the road. 🍷

Email Scott at:
shollister@northcoastmedia.net.

NEW SITE. NEW EXPERIENCE.

Visit our new site to explore new features!



Mitigate™ is the ultimate solution for conditioning high-performance turf to withstand extreme plant stress

Blocks Stress



Prepares Turf



University Proven



Contact our team today to learn more about this latest product!



✉ info@target-specialty.com
🌐 target-specialty.com
🌐 turfuel.com
f [TargetSpecialty](#)

🐦 [TargetSpecProd](#)
in [Target Specialty Products](#)
📺 [targetspecialtyproducts](#)

Golfdom Gallery



1 Mountain man Rhett Evans, CEO, GCSAA, gave a stirring presentation at the 2024 National Golf Foundation (NGF) Golf Business Symposium about his experience climbing Mount Everest.



2 NGF opening reception Emily Jean, territory sales manager, Prestwick Golf Group; Jeff Eldridge, CGCS, golf segment lead, Nufarm; and Matt Pauli, director of marketing, Standard Golf, while the sun was setting in Carlsbad, Calif.



3 GCSAA guys stick together Among all the apparel and club CEOs at the NGF Golf Business Symposium, Dan Brown and Mike Hilliard, Par Aide, with Seth Jones, *Golfdom* and Evans still found each other in the crowd.

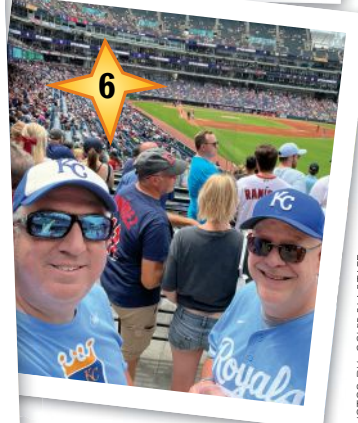


4 NGF golf foursome Jones and Pauli joined Ryan Cannon, executive director, Golf Tourism Solutions, and Steve Mays, president, Founders Group International, for a round on the beautiful North Course at Omni La Costa Resort.

5 Callie, Finn, Tim and Dr. Dale We had to commemorate this recent trip to Creekmoor GC with a photo. Left to right are Callie Zevecke Pestock, marketing production manager, PBI-Gordon; Finn; Tim Nielsen, superintendent at Creekmoor GC, Raymore, Mo., and Dale Sanson, Ph.D., PBI-Gordon.



6 Always Royal Jones and Scott Hollister, editor, *Golfdom*, take in one last Royals game in Cleveland.



PHOTOS BY: GOLFDOM STAFF



7 Reservation for MacGregor?

Talk about a dinner party! Craig MacGregor, publisher, *Golfdom*; Chloe Scoular, account manager, *Golfdom*; Craig Carlson, president, Dawson Manufacturing; Halle Reid, Alicia LoPresti and Cassi Calamunci of North Coast Media; Nick Carlson, founder, Dawson Manufacturing; and John Perry, president and CEO, Greene County Fertilizer Co. all met up at Ruth's Chris Steak House in Louisville, Ky.



8 California dreamin'

Tim Barrier, CGCS, golf business development manager for Kress; DJ Johnson, executive vice president, Positec USA; Michael Mitchell, senior director of brand marketing, Positec; and Santaluz Club Director of Agronomy Jeff Miller pose for a photo after a lunch and learn.



9 Here we go again!

Jones, Scoular and Roddy take a moment for a selfie before a busy tradeshow day at Equip Exposition.



10 Houston trip

Hollister and MacGregor with Bill Roddy, group publisher, *Golfdom*; Erica Cardenas, marketing and event coordinator, Quali-Pro; Sam Pass, PCO director, Control Solutions Inc. (CSI); and Mayra Castorina, digital marketing specialist, Quali-Pro/CSI.



11 The boys meet the bugler

Craig, Bill and Scott nabbed this photo with Karen Williams, senior vice president, partnerships and development, Equip Exposition, and the famous Kentucky Derby bugler, Steve Buttleman, at Equip Expo.



12 HOJ visit

Closing out this year's Gallery is one last photo of Bill, Seth and Scott with Jake Goodman, regional sales manager, *Golfdom*, during a visit to the HOJ in Eudora, Kan. Somebody play track 7810 on the juke and turn it up, will you?

The Golfdom FILES

FROM THE ARCHIVE

The more things change, the more they stay the same. In the 10 years since we published our 2015 *Golfdom* Report, finding and retaining assistant superintendents has remained a challenge for superintendents. Read what these superintendents said was the problem in finding (and keeping) good help. To read the full 2015 *Golfdom* Report, visit Golfdom.com.

Help wanted

*Survey shows an interesting trend:
good help is getting harder to come by*

Tom Bolon, superintendent at Lake Forest CC in Hudson, Ohio, is in need of a new assistant superintendent and looks over the résumés he has received. Bolon advertised the position nationally and locally but only had a total of 25 applicants. He was not optimistic about the talent pool.

"It is hard to find someone really ready and willing to put in the time and effort," Bolon says. "When I was an assistant superintendent, my job was to take as much as possible off the superintendent's plate, and people are not willing to do that."

Sixty percent of readers agreed with Bolon that it has become harder in recent years to find and keep good assistant superintendents. The amount of applications being received and work ethic are not the only problems seen by readers.

David Groelle, GCCS, has not encountered any issue retaining assistants, calling himself "blessed" that he has only had to hire two in his 14 years at Royal Melbourne CC in Long Grove, Ill. Still, Groelle noticed a difference in the candidates' education the last time he hired a



new assistant.

"There aren't as many applicants with full four-year bachelor degrees. It seems to be becoming more of a trade, so to speak — where guys are learning on the job and getting experience in the field and maybe taking some classes on the side or going through programs online and getting an education that way," Groelle says.


(Incoming GCSAA president) John O'Keefe usually retains three assistants

at one time, and he tries to provide a fair wage as they work their way through the ranks. But the current vice president of the GCSAA believes the cost of living is the reason it has been more difficult to find assistants in recent years.

O'Keefe, who will take over as president of the GCSAA at the 2015 GIS in San Antonio, says it takes the average assistant superintendent seven to eight years to attain their first superintendent job. In those years, it can be difficult for assistants to work a lot of hours and make a living on \$50,000 a year while getting married and starting families.

"What I've found is that these guys are having to find a higher salary immediately, and they just can't afford to work those eight years before getting that higher salary," says O'Keefe. "And keep in mind, the eight years as an assistant is if you're lucky."

Those who make it through the years as an assistant are there because of the passion for the job, he says.

"Those who hang in there and get promoted, they love it," says O'Keefe. "You only get into this industry if you love it." 



A STEEL OF A DEAL



Scan to Find a Dealer



Get a game-changing price on a new Steel Green spreader/sprayer during our early order program.

Take 3-4% off the standard price of any machine from now through December 15, 2024.
Plus, use promo code **SAVINGS** for up to 20% off parts ordered online through December 15

	MSRP	October Price (5% Discount)	November Price (4% Discount)	December Price (3% Discount)
SG36	\$17,195.00	\$16,335.25	\$16,507.20	\$16,679.15
SG42	\$17,395.00	\$16,525.25	\$16,699.20	\$16,873.15
SG46	\$17,695.00	\$16,810.25	\$16,987.20	\$17,164.15
SG52	\$18,195.00	\$17,285.25	\$17,467.20	\$17,649.15
SG54	\$26,000.00	\$24,700.00	\$24,960.00	\$25,220.00
SGXL	\$38,000.00	\$36,100.00	\$36,480.00	\$36,860.00
SGXL ALL-GRANULAR	\$33,000.00	\$31,350.00	\$31,680.00	\$32,010.00

Offer valid at participating dealers only.

Prices are for standard models without attachments or customization options and do not include taxes or freight.



"I started my second superintendent job growing in a golf course in the mountains of Pennsylvania. Automatic irrigation would have been nice!"

MATT SHAFFER, *director of golf course operations emeritus Merion Golf Club, Ardmore, Pa.*

My favorite product? Depends on the decade

Since this issue has a focus on superintendents' favorite products, I thought it might be fun to take a trip down memory lane. Some of you may be mystified about my favorite products/requests, but I'll attempt to explain each one.

The fun thing about this issue is that there are so many different products that people list as their favorites. That's because we all have different challenges we're trying to overcome. One of these products could be a real game-changer for a superintendent facing a similar problem, while others might be something a superintendent would never even consider.

My favorite products have changed often over the years. It always depended on where I was working and that course's problems. But my favorite product of all time? I don't think that one is changing. More on that later ... but now, here's a look through my years in the industry and what products were important to me at the time.

1965: As a 13-year-old, I wished for a pipeline milking system so that I wouldn't have to carry milkers full of milk anymore.

1969: Age 17, my first year working on a golf course. What I really wanted was an easier way to edge bunkers. We used a half-moon edger, and it would wear a hole right through your leather boots.

1974: My first year as a superintendent. Back then, we were called greenkeepers. I needed a good chemistry to control *Pythium* — all we had at the time was SP and Koban.

1978: I started my second superintendent job growing in a golf course in the mountains of Pennsylvania. Automatic irrigation would have been nice! Everything was snap valves. They had to be

manually put in the ground and turned on. You walk out on dirt to turn it on and back out again in mud to turn it off without washing the seed. You would have to rake out your tracks the next day and seed again if necessary. You did this every day until your first cut.

1986: I became an assistant superintendent again to resurrect my career at Augusta National. I wished for cooler summers. We had a hydraulic irrigation system that failed often. This system had tiny hoses that ran to the head to open the foot valve with water. When they would get a hole in them, the head would open and stay open until you found it.

1989: I was the superintendent of a private club in

New Jersey. What I really wish is that I had one-tenth of the money they spent at Augusta National.

1992: Director at Hershey Entertainment and Resort Co. I wished we weren't union.

2002: Merion Golf Club: I always wanted better and better drainage. Philly is hot and steamy in the summer. Having wet soils was risky business in that climate. I got lots of my wishes answered at Merion — underground sensors, fairway rollers, sand topdressing fairways. But my favorite wish came true when the U.S. Open came to Merion. It held up to the best golfers in the world with a winning score of +1 on a little tiny course that was on less than a hundred acres, and the length was never greater than 6,900 yards.

In conclusion, all of the above are great, but none of them are my favorite tool of all time. My favorite tool of all time is the cell phone. It allowed me to stay on the course all the time.

Superintendents and turf managers of today, imagine doing your job today but without your cell phone. Could you operate? We old timers did it for decades. ☺

Matt Shaffer, a longtime superintendent, is the owner of Minimalistic Agronomic Techniques (M.A.T.). He was previously the superintendent at The Country Club in Cleveland and is director of golf course operations emeritus at Merion GC, Ardmore, Pa., where he hosted the 2013 U.S. Open. Reach him at matthewgshaffer@gmail.com.



Cutting holes is easy.
Getting the ball in them, not so much.

The HiO® Hole Cutter gives you perfect holes with clean edges every time, with a lot less effort than it'll take golfers to find the bottom of them. See all of our premium course care products at [PARAIDE.COM](https://www.paraide.com)

The vision

BY RYAN BLECHTA, senior director of grounds and mountain operations, Spanish Peaks Mountain Club

Three years ago, right in the middle of the pandemic, Spanish Peaks Mountain Club (SPMC) was booming like most golf courses, with member play and new members joining. We have 538 members at the club with 346 of those being golf members; we will eventually be capping our golf members at 395. With the growth of golf memberships and the new Montage Hotel on property, we were looking for a location to add an additional 18 holes.

Unfortunately, additional space for a full regulation 18-hole course was unavailable, but we knew something was needed to keep up with the desire for golf at our club. One morning, Tom Weiskopf walked into my office, pointed at a property map I had hanging and said, "We should build a par-3 course, and that's the perfect location for a nine-hole par 3. Let's go walk it right now; you have time?"

Of course, I always had time for our course designer. A 16-time winner on the PGA Tour and the 1973 Open Championship winner, Tom is local to Big Sky, Mont. Since his playing days, Tom has had a celebrated career as a designer, with notable projects like Yellowstone Club, also in Big Sky, Loch Lomond in Dunbartonshire, Scotland, and most recently Black Desert in Ivins, Utah.

We loaded up in the cart and off we went to walk the 35 acres he pointed to. Tom knew that section of property better than I did and had walked this area many times with his dog Spanky. It was heavily wooded with lots of streams and wetlands throughout, not a place I would have ever imagined you could

build a golf hole, let alone a par-3 course.

We were walking through thick timber; it was hard to see anything, but Tom could see it all. He was in his visioning mode, telling me about where there could be teeing grounds and green sites, when suddenly a black bear popped out 20 feet from us. The bear startled me, and as I jumped back, I looked over at Tom, thinking he would also be surprised. However, he was calm and just told me, "It's just a year-old black bear, don't worry."

Despite his calm demeanor, I was worried — we were in the woods in an area where no one ever walks, and we had no bear spray. I immediately radioed my superintendent, Beau, to bring out some bear spray.

Getting started

If I had to guess, I would say I walked this area with Tom about 12 times before we broke ground in 2021. It was such an incredible experience walking with Tom and listening to him explain where the teeing grounds and green sites should be placed. It was like he was a bird and could see everything from above, like it was already laid out and cut in, despite it still being heavy timber.

Throughout the design and construction phases, Tom brought in Phil Smith of Phil Smith Design. Phil and Tom have worked together for years on projects, and they both think alike. We have worked with Phil previously on some course renovations and will continue to work with him in the future. Before we moved forward with any grassing, Tom and Phil needed to sign off on anything

Continued on page 25

An aerial photograph of a golf course nestled in a valley. A large, irregularly shaped pond with clear blue water is the central feature. The golf course is surrounded by dense evergreen forests. In the background, a small village with wooden houses is visible on a hillside, and further back, majestic mountains rise under a sky with scattered clouds. The overall scene is lush and scenic.

of Tom's 10

An impromptu visit from a World Golf Hall of Famer results in an amazing journey and an incredible par-3 course



All greens were built to USGA specification, tees were sand capped to 4 inches and all other turfed areas were capped with 4 inches of topsoil. All greens were sodded with Dominator bentgrass, and tees and rough were sodded with Dwarf Kentucky bluegrass. Bunkers were lined with Capillary Concrete, and Uniman BB 205 white bunker sand was used. Native areas were hydro-seeded with a custom Rocky Mountain mix, which included wildflowers.

Make Your Irrigation Water **2-3x** Better Than Rainwater

Comprehensive Turf Solutions

- Significantly increases irrigation water dissolved oxygen
- Manages pH and sulfides in Reclaimed water. Eliminates source of black layer
- Raises Well water oxygen levels.
- Kills pathogens and eliminates anaerobic biofilm. Slow release ozone keeps on working in the soil

Algae and pH Management:

- Creates healthy ponds and eliminates algae at the source
- Aerobic water column consumes muck and organic sediment
- Pond fills can be used to distribute ultrafine bubbles across your entire property

Proven Performance:

- Documented reductions in fertilizer, pesticides, and wetting agents
- Reduced water use by up to 30% from increased root mass / length
- High reliability systems – minimal downtime ensures results

We've added
THE most
efficient CO₂ -
Carbonic Acid
pH control

Contact Us

843.822.3415

NanoOxygenSystems.com

NanoOxygen
SYSTEMS
OXYGEN DELIVERED

For more
information
use the
QR code



Continued from page 22

to make sure it was just right.

With all the wetlands and streams, there was a big chunk of 35 acres we couldn't use. We wanted to make sure we were environmentally sensitive when building this course and were careful not to disturb any wetlands or streams. After three different routings, we ended up finding one that fit the parcel best, eventually installing eight bridges to make it work. We had BMPs in place before construction started and a stormwater permit in place with the Montana Department of Environmental Quality throughout the entire construction process. To make sure the BMPs were working, we had weekly inspections, which were critical in ensuring there were zero impacts on the wetlands and streams.

In the years leading up to the par-3 project, we had been doing some renovation projects on the original golf course with the golf construction company Frontier Golf. We were so impressed with Frontier and the work they did on the original course that we decided to have them bid on this project. Because of the complexity of this project, Frontier bid this as a three-year project. They were the main contractor of three total contractors involved in the construction of the par 3. We had a tree-clearing contractor do the initial clearing work and a pond expert who built the water feature on hole 9.

The project originally was bid at \$5.5 million. However, we spent \$6.4 million to complete the project. There were two areas we looked at related to cost savings: a pump station and cart paths. Eventually, we ended up connecting the water supply to the original golf course, saving a significant amount of money. The cart paths we determined would work best were poured concrete, matching with the original course, which increased the overall cost. With a budget in place, we got the green light to start.

Sudden, and sad, changes

The first step was bringing in a wetland scientist to delineate all wetlands by flagging and creating a map we could utilize with our contractors for planning and avoidance. Once that was complete, we marked all the green and teeing grounds with colored PVC pipe and flagged the clearing limits with neon ribbon. Tom was very sensitive about removing too many trees, so we were careful with our clearing limits.

Next, the clearing contractor came on site, and due to the complexity and volume of sensitive areas, they spent the first two weeks creating access around streams and wetlands to get their equipment in place for the clearing. Once that was completed, they cleared all the timber and chipped it into mulch piles, which were eventually spread out in the native areas.

The entire 2021 season was spent on design and tree clearing because we wanted to start 2022 with shaping and infrastructure installation. One thing I learned during this process was that everything changes, and usually on the fly. During clearing, Tom

Continued on page 26

There's only one Segway®.



G pbi / GORDON
CORPORATION
Employee-Owned

PBIGordonTurf.com/Segway

Always read and follow label directions.
Segway® is a registered trademark of Ishihara Sangyo Kaisha Ltd. 11/23 672902



The routing of Tom's 10, Big Sky, Mont. The layout includes 10 holes, a practice putting green and a half-acre pond stocked with Westslope Cutthroat trout.

“Tom was heavily involved in the par 3 until the week leading up to his passing. I was fortunate enough to work with Tom throughout ... and I count it among my most memorable experiences in this profession.”

— RYAN BLECHTA

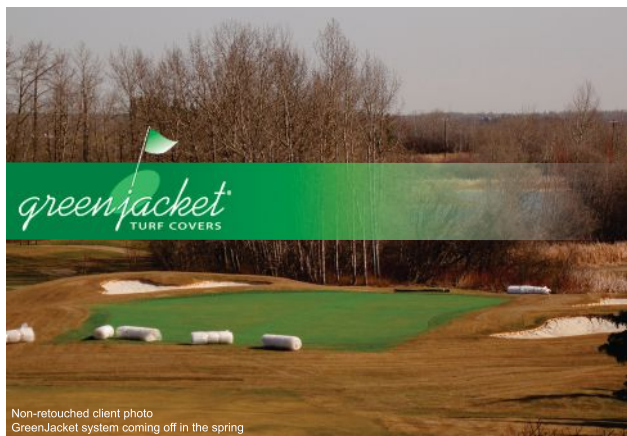
Continued from page 25

would change a hole design, the layout of an approach or green complex. We had to stay in front of the clearing crew with all design changes to ensure the correct trees were removed while maintaining progress. The goal was to create an unbelievable par-3 course with minimal disturbance to the existing landscape. In fact, the cut and fill on this project balanced out — no material was hauled in or out.

In 2020, Tom had been diagnosed with pancreatic cancer. He went through a rigorous treatment process, including multiple surgeries in 2021 while we were in the design and clearing phase. In the early spring of 2022, we were given the sad news that Tom's cancer was back, and we had only a few months with him. We immediately decided to bring in two shapers for the season to have Tom be as involved and approve as much as he was able.

Typically, on a project like this, they would only have one shaper; however, with two shapers, we were able to get nearly everything shaped by October. Unfortunately, we lost Tom in August of 2022, but he was able to approve all but one hole. Tom was heavily involved in the par 3 until the week leading up to his passing. I was fortunate enough to work with Tom throughout the entire time he was with us, and I count it among my most memorable experiences in this profession.

I believe this project gave him a distraction from his diagnosis, and it helped fuel him to see it through. He was so passionate about this course, and I am proud we were able to accomplish what he envisioned. That year, we were able to get most everything shaped, drainage and irrigation installed, green and tee



Non-retouched client photo
GreenJacket system coming off in the spring

PROVEN BY 25+ YEARS OF SUPERINTENDENT SUCCESS.

- Patented **IMPERMEABLE Reinforced Winter Cover Turf Protection** System.
- **PERMEABLE Lace Coated Grow-In Covers** increase healthier turf growth.

Find out how the GreenJacket System can make a difference for your golf course.

Call **888-786-2683** or Email **info@greenjacket.com**
See Research at **GreenJacket.com**



Tom Weiskopf kept the crews on their toes with design changes on the fly. The goal was to create a par-3 with minimal disturbance.

surrounds top-soiled and all greens were constructed to USGA specifications. Additionally, bridges were installed, and some cart paths were poured. For a short construction window, we were able to get a lot completed that year. At our elevation, the construction season is generally four to five months, but 2022 was even less with an early onset of snow in October.

A top-10 experience

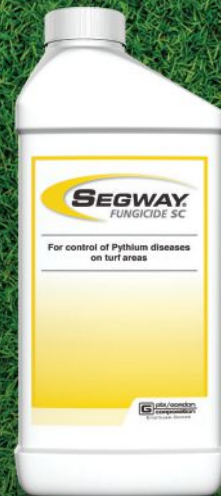
We started back up in June 2023, coming off one of the biggest snow years and wettest springs that I have ever experienced. Because of the snowpack and wet weather, we couldn't get out to do any work on the par 3 until late June.

It was a busy 2023 season with final shaping, cartpath installation, grassing and native establishment. We sodded the last green in early September and laid the last bluegrass sod in the rough surrounds at the end of September. We were able to mow the greens a few times before spraying our snow mold protection, preparing the course for winter, and for the most part, all the sod had rooted before we got our first snowfall. The course was ready for winter, and we felt good about where we were at.

We dedicated the par-3 course to Tom by calling it Tom's 10. All the holes were homages to his favorite par-3 holes he had played throughout his career:

Continued on page 28

Superintendents Agree: Segway® Fungicide SC is reliable, proven, and trusted.



"Segway is a trusted partner through the summer months, keeping all of our cool season surfaces in great shape."



– Pete Wendt, CGCS
Director of Golf Course
and Grounds,
Congressional CC

G pbi / Gordon
corporation
Employee-Owned

PBIGordonTurf.com/Segway

Always read and follow label directions.
Segway® is a registered trademark of Ishihara Sangyo Kaisha Ltd. 11/23 672902





BUFFALO TURBINE

The Original & **Most Powerful** Turbine Debris Blowers | **Made in USA**

Nozzle Auto Positioning
Locate the best nozzle angles quick. Move debris further, faster.

Most Powerful Tow-Behind
Clear more in less time. 40HP EFI engine. Reliable direct drive technology

10-Button Wireless Remote
The most control in the industry. Right in the palm of your hand.



Heavy Duty Frame
Reduce turf impact. More compact and lighter. Same long term durability.

Multi-position Retractable Tongue
Easier to transport and tow. Navigate tight areas.

EXPLORE HOW TO PREPARE MORE FAIRWAYS & GREENS IN LESS TIME

— WITH THE —
NEW & UPDATED

CYCLONE MEGA3

Call (716) 592-2700 • Visit BuffaloTurbine.com





Continued from page 27

Hole 1. Design concept from Loch Lomond's 18th green in Scotland, bunker within a bunker.

Hole 2. Design concept from the Riviera CC's No. 6 green with the bunker in the middle of the green.

Hole 3. Design concept from Royal Troon's No. 8 called the Postage Stamp, very small green with bunkers surrounding. Built a sod stacked bunker using ecoturf product.

Hole 4. Design concept from Augusta's No. 16, we built the pond to mimic.

Hole 5. Design concept from Pine Valley's No. 10, deep bunker front right of green. We ended up making the depth of this bunker the height of Tom, 6 foot, 3 inches.

Hole 6. Recreation of the original 18th green at Spanish Peaks before we redesigned it in 2020.

Hole 7. Design concept from the greens at Pinhurst No. 2 course, perched greens, convex movement.

Hole 8. Design concept from Merion's No. 17 green — ridge in front, balls go to back right.

Hole 9. Design concept from Pebble Beach's No. 7, the short downhill par 3.

Hole 10. Design concept from the Frost Creek's No. 14 green in Eagle, Colo.

I often am asked, "Why a 10-hole par-3 course instead of a traditional nine-hole course?" The original design was a nine-hole par 3, but during the routing exercises, Tom made it a 10-hole routing. Tom's answer was, "If we could fit more holes in this parcel, we would; I want to give them as much golf as we can see



Frontier Golf began construction in 2021 with Phil Smith overseeing the design and construction process. Tom Weiskopf worked on the course until the week leading up to his passing in August 2022 and approved all but the last hole.

fit.” So we ended up with 10 holes and a practice putting green.

The pond on hole No. 9 was a man-made, half-acre pond stocked with over 1,000 native Westslope Cutthroat trout (our state fish for Montana). We created a separate cart path to the pond so our members can safely access the pond for fly-fishing and not disturb the golf course.

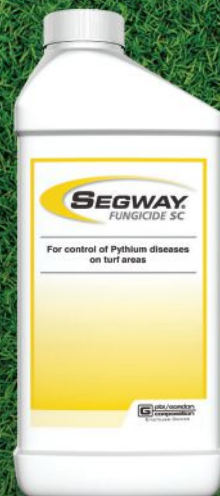
Before Tom passed, he gave us an old log stack cabin that he once had on one of his properties, with the intention we could use it someday at the course. It had been stored for over 10 years in Bozeman and was in rough shape. I really wanted to include this in the par-3 course, so I was determined to get it put back together to see how we could incorporate it into the layout.

Since we had no pictures or drawings of the cabin while it was on his property, I hired a contractor to put it back together so we could get measurements to have an architect draw up plans to make it a comfort station. We were able to start the construction of the cabin in the spring of 2024, and I was excited to have it completed before opening the course in July. The cabin will be filled with Tom’s memorabilia that his wife Laurie donated to us and will honor Tom and all of his accomplishments as a professional golfer and great person.

One of the accomplishments we are excited to celebrate is Tom’s posthumous induction to the World Golf Hall of Fame. This June, he was inducted, and my family and I were excited

Continued on page 30

Superintendents Agree: Segway® Fungicide SC is reliable, proven, and trusted.



“With Segway, we really have a go-to product that’s going to allow us to sleep at night.”



– Paul Dotti
Superintendent,
Arcola Country Club,
Paramus, NJ

G pbi / Gordon
corporation
Employee-Owned

PBIGordonTurf.com/Segway

Always read and follow label directions.
Segway® is a registered trademark of Ishihara Sangyo Kaisha Ltd. 11/23 672902

Continued from page 29


to be there with Laurie and others to celebrate Tom and his accomplishments in golf.

Experience of a lifetime

This was such an exciting project to manage. I would say the highlight of my past three years has been working on this project.

I learned a lot on this project: to be patient, to listen, and I would say one thing that made it easier on my end was hiring an

experienced contractor. Having an experienced contractor is key to being successful and eliminating a lot of the stress that goes along with the decision-making.

The best part of this experience was getting to know Tom on a professional and personal level. While he was going through his radiation treatments, my family was able to spend a lot of time with him and Laurie, which led to us ultimately becoming close friends, a friendship we truly cherish. If Tom were here today, he would be excited to see Tom's 10 and share it with everyone. 



A member of Spanish Peaks Mountain Club and resident of Big Sky, Mont., Weiskopf designed the club's original 18-hole championship course and, in his final years, collaborated with longtime partner Phil Smith of Phil Smith Design on this new par-3 course.

COMPROMISED

NOT WHEN IT COMES
TO PYTHIUM.



There's only one Segway®.



Learn more at PBIgordonTurf.com/Segway

Always read and follow label directions. Segway® is a registered trademark of Ishihara Sangyo Kaisha Ltd. 06238-3/22

At the Turn



Ryan Blechta

Senior Director of Grounds and Mountain Operations // Spanish Peaks Mountain Club, Big Sky, Mont.



Ryan, what are you having?

A Modelo, please.



Make that two! Tell me about Spanish Peaks.

It's a resort-style golf club. We just opened a 10-hole par three course. We have the regulation course we call the Championship Course, designed by Tom Weiskopf, which has been there for 11 years. We have a great golf maintenance team in the summer, and we transition to a mountain operation in the winter, where we groom a lot of cross-country trails. Our pro shop becomes a ski shop.

Do you have a family, and what do you all do for fun?

I have a wife, Sarah, and a daughter, Ella. My daughter turns 13 in February. In the summer, we like to go to the lake. We're big lake surfers and water skiers. In the wintertime, obviously, we're a ski community, so we love to go out skiing, snowshoeing, Nordic skiing, and do anything with the snow.

How did you get into the industry?

I was 16, and I got my first job on a golf course in the Minnesota market. A couple of the guys from high school were there, a little older than me, and they took me under their wings. I remember after my first year I went to my boss, the



// **BEST ADVICE**

"I ALWAYS TELL MY CREW, ALWAYS CELEBRATE THE SUCCESSES. A WIN IS A WIN, NO MATTER HOW SMALL. ESPECIALLY WHEN WE TAKE THE LOSSES HARDER THAN WE SHOULD."

superintendent, and I asked him, 'How can I do this for a living?' He told me, 'Get a degree.' I pursued it from there, and I've never looked back.

Thanks for sharing your story of Tom's Ten in this issue (see page 22). Can you tell me a Tom Weiskopf story from your time knowing him?

I worked closely with Tom, and we became really close. He went through a lot of tough times with his chemo and pancreatic cancer. We would hang out with Tom and his wife — we're still really dear friends with Lori — at his house and watch golf on the weekends, whatever it was. And he'd always tell me stories going back to his playing days and Jack Nicklaus, who was kind of his rival.

be a book, movie or whatever. I'm not a big book reader, but I'll tell you what I'm all about: as a person, you should always treat others with respect. Treat others the way you want to be treated.

If I'm ever in Big Sky, what should I do?

If you come in the summer, you have to go rafting down the Gallatin River. Then go to the River House Barbecue. They have the best barbecue around. Those boys know how to cook some BBQ.

OK, a fill-in-the-blank question:

The most gratifying moment as a superintendent is when _____.

When I pull up to the course, I see my crew and I say good morning or *buenos dias*, and I see a smile on their face. That's the best time every day. I love seeing the smiles.

As interviewed by Seth Jones, Nov. 1, 2024.

BROUGHT TO YOU BY



Give me a recommendation. It could



"A SUPERIOR COMBINATION OF EASE
OF INSTALLATION, DURABILITY, LIMITED
MAINTENANCE, AND GREAT AESTHETICS."

ZACHARY REINEKING

CGCS, Director of Course Maintenance
Erin Hills

EROSION RESISTANT. DUSTLESS.
MAINTENANCE FREE. EASY TO INSTALL.

Proprietary Wax Coated Aggregate Pathway and Bunker Materials engineered
for golf course professionals to reduce labor and improve aesthetics.

LET US PROVE IT.

Mention this ad for a **FREE** trial of our Wax Polymer Pathway Mix.

kafkagranite.com/golf | 800-852-7415



Natural Stone. Groundbreaking Solutions.



LET STANDARD GOLF BE THE
ONE STOP SHOP
FOR ALL YOUR COURSE NEEDS

STANDARD
GOLF COMPANY
EMPLOYEE OWNED



BEAT THE RUSH OF ORDERS IN 2025

From custom flags, tee markers, signage, and pro-shop gifts to ball pickers, bag stands, banners and marking poles. Let Standard Golf be the one stop shop for all your course needs!

800.553.1707 • Standard Golf Company ©2024 Standard Golf Company. All rights reserved.

Golfdom **2024** **SUPERS'** **CHOICE** **AWARDS**

Now in its third year, the Supers' Choice Awards asks the simple question: What is your favorite tool to get the job done? Here are the answers.

THIRD ANNUAL

Golfdom 2024 SUPERS' CHOICE AWARDS

COMPILED BY THE GOLFDOM STAFF

You superintendents are dialed in when it comes to the best tools available in the industry.

Now in its third year, the Supers' Choice Awards asks the simple question: What is your favorite tool to get the job done? Then we sit back and listen. This year we learned about a new chemistry that is delivering season-long insect control in Houston; a wicked smart combination of technology that has eliminated over-regulation in the Arizona desert; and how vital a simple putter is to knowing the difference between good and great.

Get ready for the golf maintenance version of a red carpet walk — these next 10 pages share some of the best of the best in the industry. These are the 2024 Supers' Choice Award winners.



▲ Battery-powered handheld blower STIHL

"I use it all the time. We have a lot of mulch beds on the course, and I'm always jumping out of my cart and using it there. When I don't have it, I feel like I'm naked."

— **Ryan Blechta, Senior Director of Grounds and Mountain Operations,**
Spanish Peaks Mountain Club, Big Sky, Mont.



▲ Manuscript herbicide SYNGENTA

"I was hot and heavy on Manuscript for tropical signalgrass for three years, which is almost gone. So that has been super important for me and the course."

Mike Bellino, Superintendent,
Heathrow CC, Lake Mary, Fla.

277C Skid Steer CATERPILLAR

"We do a lot of in-house projects and this skid steer gets used daily. Snow removal, grading, just about everything. It has a wide stance, and it's a tracked machine, so you can drive over a fairway, and it doesn't do any damage."

— **Bill Larson, CGCS,** Town & Country Club, St. Paul, Minn.



SUPERS' CHOICE AWARDS



ALL-TIME
FAVORITE

Tournament XL 7000 Ultra Wide SMITHCO

"It's wide, it's fast, it doesn't leave any ruts. It's awesome. It gets the job done. I use it on greens every day. This thing is the Cadillac of greens rollers."

— **Patrick Affolder, Superintendent,**
McAllen (Texas) CC

TCT Fairway Trencher ▼ TRENCHIT

"The TCT Fairway Trencher has been an irreplaceable piece of equipment for us. We are able to efficiently install significant drainage additions annually while maintaining a clean job site. We utilize the laser-controlled leveling feature, which allows us to successfully install long runs with precise elevation requirements. I'd highly recommend the TCT Fairway Trencher to any superintendent planning significant drainage additions."

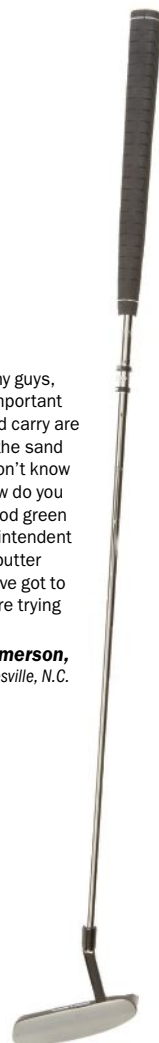
— **Jason Tharp, Superintendent,**
Gulf Stream (Fla.) GC



Putter ▶

"I used to tell my guys, the two most important tools you should carry are the putter and the sand wedge. If you don't know how to putt, how do you know what a good green is? Every superintendent should carry a putter with them. You've got to know what you're trying to achieve."

— **Shawn Emerson,**
Ethos Golf, Mooresville, N.C.



▲ Pogo Turf Pro POGO

"I met Carmen Magro at the Golfdom Summit, and I'm grateful I did. We use the POGO so readily; it would be hard for me to recommend anything else. We use it every day. When you're going through the season, we look at all the numbers the POGO gives us on our moisture readings, it's assigned daily."

— **Brian Birney, CGCS,**
The Everglades Club, Palm Beach, Fla.

SUPERS' CHOICE AWARDS



ALL-TIME
FAVORITE

ProCore 648 TORO

"We do about 97,000 rounds a year over our 36 holes, so our 648, whether we're solid-tining or needing to core for compaction and wear and tear, just being able to send that machine out and open the greens up is big for us."

— **Grant Jones,**
Sherrill Park GC, Richardson, Texas

Zipline ▶ AQUATROLS

"It's a staple for me with greens. We use it on tees, too, which are our two biggest problem children when it comes to water management. The real proof in the pudding was, for us, during the U.S. Open, how well it helped the greens respond and hold up. The USGA raved about it during the entire week."

— **Josh Saunders, Superintendent,**
Lancaster (Pa.) CC



ALL-TIME
FAVORITE

FieldScout TDR Soil Moisture Meter SPECTRUM TECHNOLOGIES

"I'm all about the TDR Soil Moisture Meter. This industry is all about water, and you have to water correctly. If you want to save water, it's the TDR ...100 percent."

— **David Beanblossom,**
CDN Golf Management, Laconia, Ind.



◀ Acelepryn Xtra SYNGENTA

"With one application in May, we basically get coverage for the whole year. We spray it everywhere except greens. We face armyworms in June/July, then grubs. To have one application in May cover the whole year is definitely a win."

— **Miles Carlson,**
Superintendent,
The Player Course,
The Woodlands (Texas) CC



Conference and Trade Show

SAN DIEGO, CA | Feb 3-6, 2025



STEC
EQUIPMENT



VISIT US AT **BOOTH #4251**



SCAN HERE



Scan the QR code for an
EXCLUSIVE LOOK
at equipment we're showcasing this year!

SUPERS' CHOICE AWARDS



▶ Dryject

"This is my 14th year here, and when I got here, the greens were very heavy with clay, so (Dryject) has been a way to supplement with traditional aeration to modify the soil profile. In turn that's made our greens much more healthy and playable, even after heavy rains."

— **Greg D'Antonio, Golf Course Superintendent / Facilities Manager,**
Concord CC, West Chester, Pa.

KR236 ▶ KRESS

"We've learned a lot, and they've helped our entire program here as far as noise, fuel, consumption and improving the rough. It gives me flexibility. I can mow all 60 acres by myself. It's great to have everything in your hands with an app and the help of some robots."

— **Jeff Miller, Director of Agronomy,**
The Santaluz Club, San Diego



Sand Guard ▶ POROUS PAVE

"Install is easy, all it takes is a crew of five guys, some simple tools and a mortar mixer. As a crew, we're able to line five to six full bunkers a day. The ability to mix on-site also allows for any repairs or changes to be done quickly and simply. We installed it in our full bunker renovation with Mike DeVries, who is not much of a fan of liners. To get his graces as well was nothing short of a miracle."

— **Alex Lincoln, Superintendent,**
Lakelands G&CC, Brighton, Mich.





▲ Multitool LEATHERMAN

"I carry it with me every day, as a lot of superintendents probably do. I've got a Leatherman on my belt and I have had that since I got into the industry. I thought it was a neat little gadget at first, and now I've come to rely on it for everything ... popping off quick couplers, valve lids, stripping wire, cutting open packages, pulling out slivers, whatever it may be. I've got it on my belt every day and it's a pretty trusty friend to have."

Greg Matz, Superintendent,
Inglewood GC, Kenmore, Wash.



▲ Defend and 19 AQUARITIN

"I started using the Aquaritin products on my greens in the 2022 season. The results I saw were not so much a response on the surface but rather underground. Our primarily Poa greens usually have roots around a half-inch by mid-July. With Aquaritin, our roots were two-plus inches and denser throughout the season. We also saw reduced drought stress and were able to go 4-or-5 percent lower on our moisture meters before needing to hand water. If we did get some areas of stress, the recovery was faster, and areas that would annually stress out were not a problem anymore. We were also able to reduce our applied nitrogen by over a pound. I was so impressed with the results that I used the products on tees and fairways in the last two seasons and saw similar results."

Randy Kehres, Director of Golf Course Maintenance,
New Albany (Ohio) CC



Who knew aeration and soil modification could be this easy?



Savvy superintendents know.

Some courses need 4"- 5" depth for drainage, like **1**. Some need to break through shallow organic matter, like **2**. And some need to increase infiltration rates, like **3** with DryJect® Maximus®.

Tell us your agronomic needs. DryJect can handle it with wet or dry material. Call today. Let's talk about it.

Just like that, your course is back in business.
Few if any closed days or discounted rounds.
That's how DryJect can pay you back thousands.

DryJect.com or 800-270-8873

DryJect®

Aerate and Amend in Just One Pass

SUPERS' CHOICE AWARDS



▶ Groundsmaster 4500 TORO

"I love getting out there (on the 4500), either late in the afternoon or early in the morning, putting my earbuds in and mowing fairways or rough."

Joshua Stutts, Superintendent,
Lane Tree GC, Goldsboro, N.C.

Ultimax ▼ FROST, INC.

"The Ultimax pre-mix station has significantly improved our efficiency, allowing us to stay ahead of play with all applications. Its design also simplifies the mixing and rinsing process, making it easier and safer for our team."

J.R. Lynn, Director of Grounds Operations,
Columbus (Ohio) CC



▲ Performance Bunker Liner

"It's affordable for the average golf course. The cost is \$1.80 a sq. ft. It comes with a 16-year warranty, and I can install it myself without having to pay a certified crew."

— **Richard Green, Superintendent,**
Heritage Hills Golf Resort, York, Pa.



ALL-TIME
FAVORITE

Verti-Drain REDEXIM

"Conventional aerators would only go down at the most about four inches. We all started sand top dressing and in four years, you'd have an extra inch of root zone. The deep tine aerator came out, and all of a sudden, we could go down nine and 10 inches to penetrate layers, and it saved millions and millions of dollars from not having to rebuild greens completely."

— Jim Moore, Director,
Green Section Education,
United States Golf Association
(retired),
McGregor, Texas

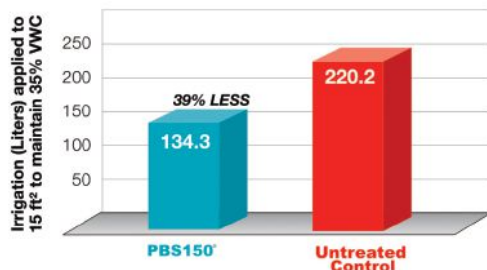


FIRST surfactant in the turfgrass industry to have peer-reviewed, published research to **prove** and **quantify water savings**.

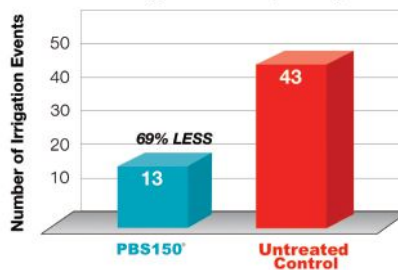


Read Research
HERE

PBS150 resulted in a **39% reduction** in irrigation water consumption



PBS150 resulted in a **69% reduction** in irrigation frequency



Evaluation of Two Soil Surfactants for Soil Water Management of Creeping Bentgrass on a Wettable Clay Loam Rootzone During a Dry-down Period

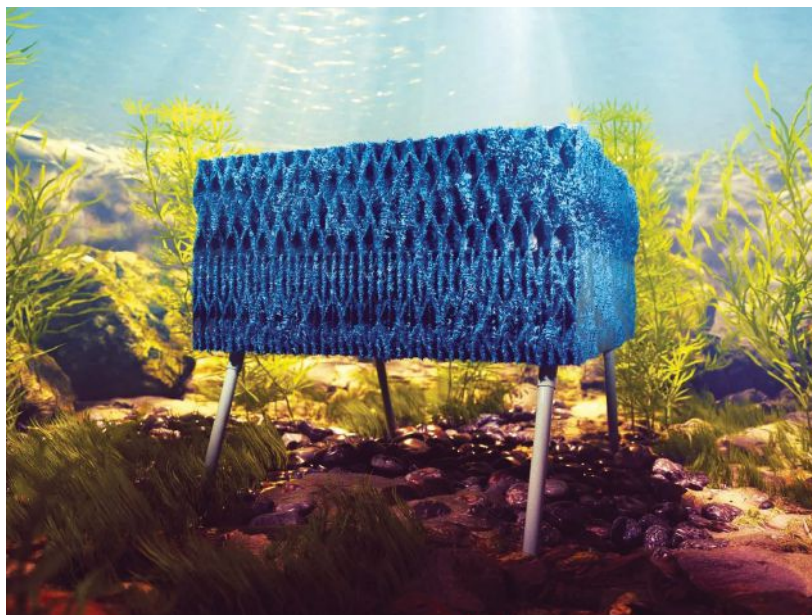
Nolan, G. and M. Fidanza. 2024. *Journal of Environmental Horticulture*

Penn State University research study showed that creeping bentgrass plots treated with **PBS150** resulted in a **39% reduction in irrigation water consumption** over a 63-day dry-down period versus plots only treated with irrigation water.

Turfgrass plots that were treated with 3 applications of **PBS150** prior to the 63-day dry-down period required **69% less irrigation events** versus untreated plots that only received irrigation with no soil surfactant.



SUPERS' CHOICE AWARDS



▶ **BioBoost Nest** **BIOBOOST**

"We had several ponds that were struggling with just regular aeration, and since we started using BioBoost Nest, they've just been getting better and better. We have about 25 ponds here, and we're about halfway through adding BioBoost to them. We use reclaimed water, which tends to be off-color and a little stagnant, and the ponds with BioBoost are so much clearer than the others. I've recommended it to several other superintendents, and the ones who have switched have had similar success."

— **Tyler Truman, Director of Agronomy and Grounds,**
Mountain Vista GC, Indio, Calif.



▶ **Ceora** **HUSQVARNA**

"We use them to supplement the mowing on our fairways, have more consistent playability, and also make it so we don't fall behind mowing during stretches of weather or flushes of growth. It saves us time and manpower and it saves us wear and tear on equipment to the point where it's going to play a major factor in whether we lease equipment or purchase it outright."

— **Jason Meersman, Director of Grounds,**
The Patterson Club, Fairfield, Conn.

Hauler Pro Elite 6.2 ▶ **CUSHMAN**

"As a superintendent, the Cushman Hauler Pro Elite 6.2 has been a game-changer for me and my team. It's quiet and eco-friendly and makes our job easier by allowing us to move tools and equipment effortlessly across the course with minimal disturbance to the members and guests, all while reducing our environmental impact."

— **Matt Davidson,**
Superintendent,
Islington GC, Toronto



ALL-TIME
FAVORITE

Eclipse 360 ELITE Triplex JACOBSEN

"We currently have two set up with 11-blade reels and two with 15-blade reels. These machines are quiet with an impressive quality of cut. No hydraulic issues to worry about, so this makes it a win-win all the way around for us here at the Samoset Resort."

— **Chris Barnicoat, Golf Course Turf and Landscape Manager,**
Samoset Resort, Rockport, Maine



◀ Revert Soil Water Repellency Management System NUMERATOR TECHNOLOGIES

"Revert is a game changer for heavier soils on greens. Greens that are years in age often take on properties of a 'non-USGA' spec green even though they were built that way. As we have eight months of rain here in the Pacific Northwest, Revert allows us to drive water down and through the profile even in times of 'torrential mist,' as I call it."

— **Renee Geyer, CGCS,**
Canterwood G&CC, Gig Harbor, Wash.



◀ TurfMend bent TURFMEND

"TurfMend is a great tool for bentgrass recovery during a short growing season. Having bentgrass tees and fairways and the increased golf rounds helps us manage our bentgrass driving range tee throughout the season along with helping tee and fairway divots recover efficiently. It keeps golfer/member satisfaction high because our turf conditions are at a high level."

— **Brian Renschler,**
Director of Agronomy,
Talisker Club at Tuhaye (Utah)

SUPERS' CHOICE AWARDS



◀ Spray Bug with Ninja GPS HAHN AND FROST, INC.

"To my knowledge, we're the first to put a Ninja GPS on a Spray Bug. The motivation was that throughout the year you tend to get over-regulation on the collars. By adding the Ninja, we eliminated a problem."

— **Rob Collins, Director of Greens and Grounds,**
Paradise Valley (Ariz.) CC

PolyPhosphite 30 ▶ PLANT FOOD CO.

"My tee surfaces had been showing no signs of dollar spot or large patch during times of heavy pressure (weather, moisture content, etc.), which, as a manager of Paspalum, was very unusual. The only change I had made from the previous season was introducing PolyPhosphite 30 to my foliar sprays on tees. We've been doing this program on all shortgrass for a year, and I have saved significant funds in the budget."

— **Paul Bacon, Superintendent,**
The GC at Crown Colony, Fort Myers, Fla.



Snake ▶ TRIMAX

"It's economical and efficient. It gets the job done. Also, it's easy to maintain."

— **Jeff Whitmire, CGCS,**
Williamsburg (Va.) GC





Super Science

// A TOOL IN THE TOOLBOX

A KEY TO UNLOCKING EFFICIENT IRRIGATION

By Mike Kenna, Ph.D.

Informed decisions are vital to managing any course, and Toro's PrecisionSense Service was a pivotal tool in a USGA water conservation study. This patented service collects detailed data on soil moisture, compaction, salinity, turf health and more.

PrecisionSense mapped out irrigation zones based on native soil texture data, identifying where to place moisture sensors for optimal results. By integrating with Toro's Turf Guard wireless soil monitoring system, researchers could monitor subsurface conditions in real time and irrigate more efficiently.

It provided accurate information on defining irrigation zones on all the course fairways, helping to save water and improve turf quality.

Essentially, the PrecisionSense method is an irrigation audit based on soil moisture, compaction, salinity, turf vigor, topography and slope. Researchers could fine-tune the irrigation system using actual soil moisture measurements for better accuracy and efficiency. The data is invaluable, especially when considering the investments in irrigation.

What stands out is soil and turf quality mapping. Toro generates irrigation audit maps that identify problem areas, such as dry or compacted zones, without requiring much manual labor.

This data, combined with the ability to view the maps in Google Earth and program irrigation schedules in the software, helped optimize resource use, saving water and labor.

Results from the USGA study with soil moisture sensors located in the PrecisionSense irrigation zones showed a 29 percent decrease in water use compared to the superintendent's schedule and a 46 percent decrease from ET replacement estimates.

For anyone looking to improve course maintenance and irrigation efficiency, the Toro PrecisionSense evaluation is a valuable tool for enhancing water conservation.



The Toro PrecisionSense provides an irrigation audit based on soil moisture, compaction, salinity, turf vigor, topography and slope.

NEWS UPDATES

SOIL SCOUT DEBUTS OXYGEN SENSOR

Soil Scout recently launched the Happi100 oxygen sensor. Commercially available for the first time anywhere, this wireless, real-time monitoring solution allows turf professionals and growers to see the true impact of soil oxygen levels on plant root health.

Happi100 reads soil oxygen, moisture and temperature from the same measurement point and integrates with Soil Scout's existing platform for a complete suite of underground trend data. This comprehensive approach allows agriculture and sports turf management professionals to make more prescriptive interventions.

"When soil oxygen levels dip below 10 percent for just four hours, plant root hair death occurs," said Johannes Tiisanen, head of agronomy for Soil Scout. "Happi100 gives early warning of this happening, making it easier to prepare for, monitor and mitigate the impact from events like adverse weather and over-irrigation."



WE WANT TO THANK ALL THE AUTHORS FOR WORKING CLOSELY WITH US TO BRING YOU THE RESULTS OF THEIR EXCELLENT RESEARCH"

Mike Kenna, Ph.D.
(see story on page 48)

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

// YEAR IN REVIEW

A look back at 2024

By Mike Kenna, Ph.D.

As 2024 comes to a close, we're looking back at the list of outstanding research articles that appeared in *Golfdom* this year. We want to thank all the authors for working closely with us to bring you the results of their excellent research.

I hope this has been an excellent year for you all, and we wish you all the best in 2025!

JANUARY *Factors affecting re-establishment of golf course putting greens following winterkill*

By Michelle DaCosta, Eric Watkins and Dominic Petrella

- We evaluated a set of 12 creeping bentgrass cultivars for differences in seedling vigor and establishment in response to low temperatures and variable light intensities.
- Exposure of creeping bentgrass seedlings to freezing temperatures temporarily inhibited photosynthesis

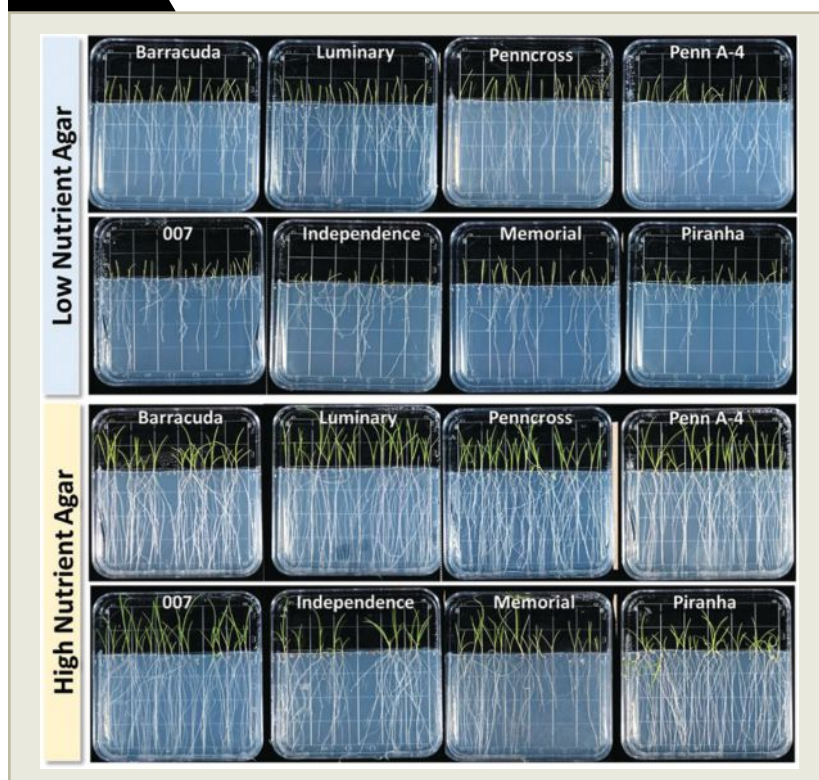
and growth of some cultivars more than others, with cultivars such as Piranha, Declaration, T1 and Penn A4 showing the highest tolerance to freezing events.

- Creeping bentgrass cultivars differ in their overall seedling vigor when grown under lower nutrient availability and at lower temperatures.

- Based on replicated field experiments in Minnesota and Norway, using shade cloths to achieve 50 to 90 percent reductions in light intensity increased photochemical efficiency and growth of creeping bentgrass seedlings during low temperatures typical of spring months.

- Different creeping bentgrass cultivars did not significantly vary in their overall establishment rate, but synthetic permeable cover decreased the time needed to achieve 50 percent turf coverage during spring establishment.

FIGURE 1



Creeping bentgrass seedlings exposed to combination treatments consisting of high or low temperatures (20 or 10 degrees C) and three light intensity levels (800, 400 and 100 $\mu\text{mol m}^{-2} \text{s}^{-1}$ PPFD). We used light-intensity treatments with shade cloths to reduce 0 to 90 percent light. The top panel photos show plants at seven days of treatment. The bottom panel highlights the growth changes for one cultivar, Memorial creeping bentgrass.

FEBRUARY *Nematodes and their control*

By John Rowland

- Not all nematodes found in the soil are detrimental. Some feed on soil pests, mineralize nutrients and decompose organic matter.

- If you think nematodes are responsible for turf damage, proper sampling is essential to determine the species present and the population sizes.

- Tolerance thresholds for plant-parasitic nematodes can vary greatly depending on the species of nematode, turf species and variety, soil type and

PHOTO BY: MICHELL DACOSTA

PHOTO 1



The green strip on this bermudagrass putting green was treated with fluopyram once in the fall before overseeding. In the untreated areas, there is extensive sting nematode damage.

condition, location and climate.

- Cultural practices — particularly adequate irrigation and fertilization — may allow you to manage nematode issues under light to moderate pressure without chemical applications.

- Test control products on a small scale first to determine their effectiveness to avoid wasting time and money on larger applications that may not work.

MARCH *A look at factors impacting tissue N content in creeping bentgrass*

By Qiyu Zhou and Douglas J. Soldat

- Nitrogen is the main factor controlling tissue nitrogen content in creeping bentgrass.

- Weather, irrigation and foot traffic have little impact on tissue N in creeping bentgrass.

- The average tissue nitrogen of creeping bentgrass is about 3.9 percent over a growing season.

APRIL *Fungicide evaluations for dollar spot control on creeping bentgrass*

By Lee Miller and Matthew Carpenter

Putting Green Trials

- Following final applications in late August, Maxtima and Xzemplar had lower dollar spot severity than Traction on the 'Crenshaw' green in September,

Continued on page 50

TABLE 1

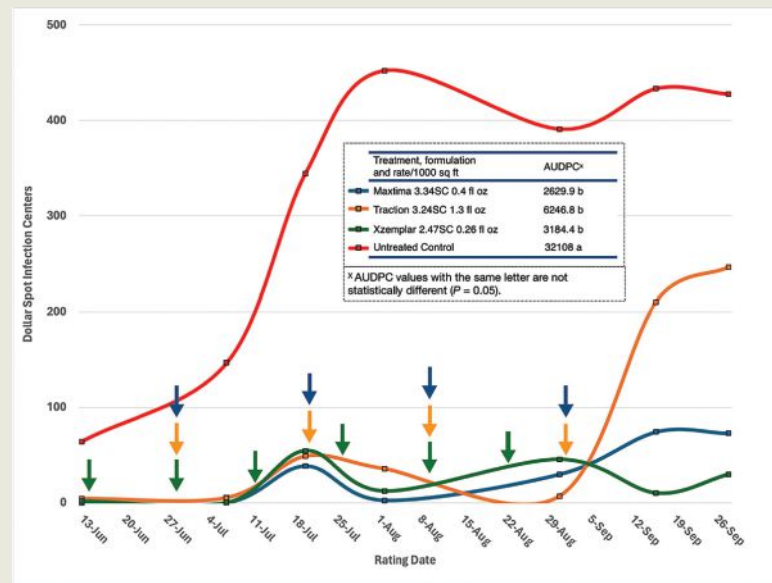
Statistical analysis of the effects of soil volumetric water content (VWC) and traffic intensity on the tissue N content and normalized difference red edge (NDRE) of Focus creeping bentgrass collected from Aug. 1 to Sept. 18, 2019.

	Clipping N content		NDRE
	Aug. 2019	Sept. 2019	Aug.-Sept. 2018
Volumetric Water Content	percent		
Low (12–15 percent)	4.17	N/A	0.2840 aba
Medium (17–22 percent)	4.26	3.93	0.2811 b
High (25–29 percent)	4.09	3.91	0.2967 a
Traffic rate (rounds per week-1)			
0	4.24	3.92	0.2971 a
700	4.10	3.87	0.2875 ab
1,400	4.27	3.95	0.2772 b
Summary of ANOVA effects			
VWC	ns	ns	*
Traffic	ns	ns	*
VWC × traffic	ns	ns	ns

* Values in the same column followed by the same letter or not followed by any letter are not significantly different at $P = .05$ (Tukey's post-hoc test).

* Significant at the 0.05 probability level, and ns, not significant.

FIGURE 2



Fungicide treatments on a 'Crenshaw' creeping bentgrass putting green. Maxtima and Traction's final applications were made on Aug. 30, and Xzemplar's final application was made on Aug. 23. Arrows indicate application dates for each fungicide on 14 d (Xzemplar) and 21 d (Maxtima and Traction), respectively.

Continued from page 49

but all fungicide treatments performed better than the untreated control throughout the course of the study.

- On the 'Pennlinks' green, Lexicon, Maxtima and Navicon treatments provided excellent dollar spot control throughout the season.

Fairway Trial

- Plots treated with Encartis (3 fl. oz./1000 sq. ft. – 14 days), Encartis (3.5 fl. oz./1000 sq. ft. – 21 days), both Xzemplar rates and program-treated plots had the fewest dollar spot infection centers several weeks after the final application.

- Encartis rates and application timing did not significantly affect dollar spot control. However, plots treated more frequently (14 and 21 days) with Encartis at lower rates had fewer dollar spot infection centers than Encartis applied at a higher rate and 28-day intervals.

- Different application rates and timing within Xzemplar and Maxtima treatments did not significantly affect dollar spot control during the study.

- Daconil Ultrex and Secure, both individually and combined, provided less residual dollar spot control than other treatments. This is not surprising for contact-protectant fungicides, which are more prone to removal through mowing or environmental degradation than systemic fungicides that get into the plant. Contact fungicides are less prone to resistance development and are important tools for fungicide resistance management.

MAY Investigating irrigation requirements for cool-season fairway species

By Jada Powlen and Cale Bigelow

- Irrigating with a green-coverage-based approach reduced irrigation needs compared to an 80 percent ETo replacement approach.

- A Mid-Atlantic type Kentucky

PHOTO 2



Researchers at Purdue University evaluated the irrigation requirements of six cool-season turfgrass species and ten cultivars utilizing two distinct irrigation methods: 80 percent evapotranspiration (ETo) replacement and a green cover threshold (GCT) strategy.

bluegrass and tall fescue required the least supplemental irrigation.

- Turf-type tall fescue maintained acceptable quality with less irrigation than creeping bentgrass.

JUNE A deeper dive into Pythium root rot control on bentgrass and ryegrass

By Mike Kenna

- All treatments at North Carolina State University significantly suppressed *Pythium* root rot based on AUDPC values except for Subdue MAXX. The rotation of Segway with Serata almost completely suppressed the development of *Pythium* root rot.

- In July at Clemson, Serata had comparable control of *Pythium* root rot disease to Segway. Tank mixing a lower rate of Serata (0.4 fluid ounces) with Fame SC 0.36 fl. oz. provided comparable control to higher rates of Serata or Segway alone.

- At Rutgers, AUDPC values on ryegrass rough for all treated plots were significantly lower than those for the untreated check. Plots treated with Banol had lower values than Segway at

both rates but were not different from plots treated with Union and Subdue Maxx.

- For peak disease on perennial ryegrass in July at Rutgers, Banol (severity of 5.6 percent) was not statistically different from Subdue Maxx with 17.1 percent disease severity.

JULY Imazapic growth suppression of hybrid bermudagrass

By Benjamin Pritchard, Devon E. Carroll, Tyler Carr, Gregory Breeden and James T. Brosnan

- In 2020 and 2021, researchers at the University of Tennessee evaluated imazapic, a herbicide labeled for weed control in pastures, rangeland and non-crop areas, for growth suppression of four hybrid bermudagrasses.

- Separate experiments on 'TifTuf,' 'Tifway,' 'Tahoma 31' and 'Latitude 36' hybrid bermudagrass.

- Normalized differential vegetation index (NDVI) data were collected, and growth suppression was quantified via reductions in dry clipping weight.

- Hybrid bermudagrass injury

PHOTO COURTESY OF JADA POWLEN

TABLE 2

Fungicide control of *Pythium* root rot on a creeping bentgrass putting green at Clemson University.

Treatment and rate/1000 ft ²	Application code ²	Pythium root rot (percent)				
		June 28	July 7	July 20	July 29	August 5
Serata 20WG 0.6 oz.	ACEGIK ³	0.0	0.3 b ⁴	1.3	1.2 b	0.0 b
Serata 20WG 0.8 oz.	ACEGIK	0.0	1.3 ab	0.0	4.2 b	0.4 b
Serata 20WG 0.4 oz. + Fame 3.98SC 0.36 fl. oz.	ACEGIK	0.0	0.9 b	2.5	4.9 b	0.0 b
Segway 3.33SC 0.67 fl. oz.	ACEGIK	0.5	0.0 b	0.0	1.2 b	0.0 b
Nontreated		1.0 ^x	5.8 a	4.7	26.8 a	29.6 a

² Treatments were applied at the specified intervals beginning May 17 in 2.1 gal/1000 ft² using a CO₂ walk-behind sprayer equipped with two TeeJet 8002 nozzles.

³ Letter designations represent specific application dates with A – May 17, C – May 31, E – June 14, G – June 28, I – July 12 and K – July 26.

⁴ Means within columns followed by the same letter are not significantly different according to Fisher's LSD test ($\alpha < 0.05$).

increased with imazapic rate for all cultivars, and peak injury (> 30 percent) following all imazapic treatments occurred within 14 days.

- At the lowest imazapic rate of 0.5 ounces per acre (35 g ha⁻¹), the injury was transient, with all hybrid bermudagrass cultivars fully recovered by 28 days.

- All rates of imazapic reduced hybrid bermudagrass dry clipping weight for 21 days on all cultivars.

AUGUST *Another look at winter rain's impact on snow mold fungicides*

By Paul Koch

- Winter rains and snow melts led to rapid degradation of both propiconazole and chlorothalonil.

- The presence of snow did not impact the persistence of either fungicide.

- Transfilm slightly increased the persistence of chlorothalonil but not propiconazole.

SEPTEMBER *Precision spring dead spot control*

By Jordan Booth, Dana Sullivan, Shawn Askew, Kevin Kochersberger and David McCall

- Spring dead spot (SDS) is a destructive disease that affects bermudagrass and

Continued on page 52

TABLE 3

Growth suppression of hybrid bermudagrass cultivars in 2020 and 2021 in Knoxville, Tenn., USA.

Cultivar ¹	Year	Growth suppression ^{II}				
		3 DAT ^{III}	10 DAT ^{IV}	14 DAT	21 DAT	28 DAT
Latitude 36	2020	52 a ^v	26 ^b	13 c	42 a	50 a
	2021	62 b	ND	15 c	75 b	109 a
Tahoma 31	2020	66 a	5 d	34 c	78 a	50 b
	2021	57 b	ND	19 c	76 b	122 a
Tifluf	2020	56 a	17 c	18 c	20 c	37 b
	2021	90 ab	ND	68 b	78 b	107 a
Tifway	2020	43 c	4 e	22 d	77 a	56 b
	2021	74 a	ND	ND	39 b	64 a

¹ Hybrid bermudagrass cultivars Latitude 36, Tahoma 31, Tifluf and Tifway are presented by each treatment and experimental year.

^{II} Growth suppression was determined by collecting and weighing clippings in each experimental unit. Data were used to calculate growth suppression as a percentage relative to the untreated control.

^{III} DAT = days after treatment.

^{IV} No data (ND) for 10 DAT in 2021 are presented because extreme weather prevented clipping yield collections.

^v Means with the same letter within each row are not significantly different according to Fisher's protected least significant difference ($P < 0.05$).

PHOTO 3



The research plot at the O.J. Noer Turfgrass Research Facility in November 2015. Half the plots were kept covered in snow for the entire winter and half the plots had snow removed for the entire winter.

TABLE 4

Means comparisons of four different spring dead spot suppression treatments

Treatment	Diseased area 2016 pretreatments	Diseased area 2016-2017	Diseased area 2017-2018	Patch count 2016 pretreatments	Patch count 2016-2017	Patch count 2017-2018
	mm ² m ²			Number		
1: Nontreated	19,266 ns ^a	10,951 A	55,114 a	8.08 ns	8.53 A	13.43 a
2: tebuconazole blanket	25,508 ns	9,889 A	47,328 ab	8.12 ns	7.30 A	9.02 b
3: penthiopyrad Blanket	14,943 ns	2,282 B	12,488 c	8.20 ns	1.67 B	2.53 c
4: penthiopyrad Targeted	22,630 ns	4,682 B	36,522 b	8.27 ns	3.45 B	6.58 b
LSD ^b (0.05)	14,400	4,310	16,020	2.71 ns	2.35	2.96

Note: Within a column, values not sharing a letter are significantly different ($\alpha = .05$) according to the Student's t-test.

^a ns indicates treatment differences were not significant.

^b LSD, least significant difference.

Continued from page 51

hybrid bermudagrass in the Transition Zone of the United States.

- The study aimed to develop SDS incidence maps using digital imagery captured with an unmanned aerial vehicle (UAV) and evaluate the efficacy of targeted, site-specific penthiopyrad treatments guided by these maps.

- The results showed that targeted penthiopyrad treatments based on SDS incidence maps had significantly less disease than tebuconazole and the non-treated control in 2016-2017.

- Full-coverage penthiopyrad was superior to targeted penthiopyrad and tebuconazole in 2017-2018 for both diseased area (DA) and patch count (PC).

- Targeted penthiopyrad using SDS incidence maps required 51 percent fewer fungicides in 2016-2017 and 65 percent less in 2017-2018 compared to full-coverage penthiopyrad.

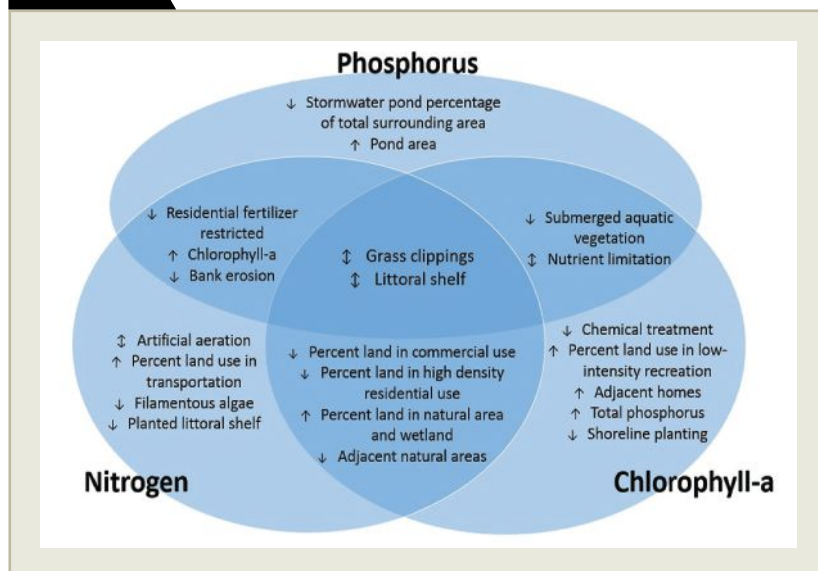
- Our results suggest that targeted, site-specific management of SDS can reduce the amount of fungicide applied and lower costs while still providing acceptable suppression of the disease.

OCTOBER Factors influencing stormwater pond nutrients and algae

By Charles Nealis

- The stepwise regression model identified key predictors for total phosphorus (TP), total nitrogen (TN) and chlorophyll-a concentrations in

FIGURE 3



Variables identified as significant predictors of phosphorus, nitrogen and chlorophyll-a concentrations in stormwater ponds. Arrows indicate positive, negative or both positive and negative variable coefficients.

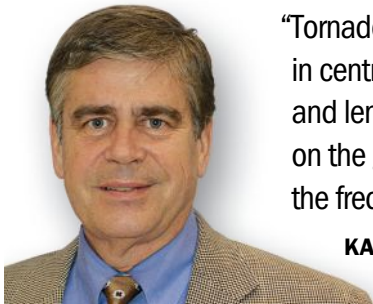
clear and colored stormwater ponds, refining variables through least squares fitting.

- Littoral shelf coverage and grass clippings emerged as significant predictors, with complex relationships between pond type and nutrient concentrations impacting TP, TN and chlorophyll-a levels.

- Littoral shelves and submerged vegetation influence nutrient dynamics, with higher plant coverage generally reducing TN and TP concentrations while affecting chlorophyll-a in varying ways.

- Residential fertilizer application and management practices such as chemical treatments and aeration were significant factors influencing nutrient levels, with restrictions on fertilizer use effectively reducing TP and TN concentrations.

- Surrounding land use, including natural areas and wetlands, contributes to nutrient dynamics and shows complex relationships that sometimes contradict conventional expectations regarding runoff from developed areas. **G**



"Tornadoes have always been a concern in central Ohio. Still, the increasing number and length of time that a tornado remains on the ground is worrisome, with the frequency increasing yearly."

KARL DANNEBERGER, PH.D., *Science Editor*

The truth about climate havens

Over the last several years, I have heard the phrase "climate haven" increasingly used to describe communities or regions resistant to climate change. Several years ago, a professor at Tulane University, Jesse Keenan, developed the concept that cities could be "climate havens," although he never used or coined the term.

The phrase most likely evolved from articles on the topic starting in 2018. Most cities identified as climate havens are centered around the Great Lakes region and are often considered nice places to live with moderate to stable climates. Increasingly, cities are marketing themselves as climate havens.

This is most likely in response to one-third of Americans citing climate change as a reason to move. Asheville, N.C., was identified as a climate haven before Hurricane Helene. The devastation caused by Helene in Asheville showed that climate change is often underestimated, and maybe more importantly, there is no safe haven from it.

For decades, golf course managers have often dealt with the impact of climate change in maintaining a golf course, whether the golf course lies in the path of ever-increasing intensity and frequency of hurricanes, tornadoes, fires or flooding or the impact of rising summer temperatures, drought or limited availability of water.

In past columns, I have written about climate change and the impact of associated weather events on golf course management. From water rights/restrictions and drought in the west to flooding in the south and eastern United States to fires in the north, to name a few.

To add to the list and not to exclude where I live, golf courses in central Ohio have faced a catastrophic event along with a prolonged period of stress. This past spring, we had a rash of tornadoes. One golf course north of Columbus had a tornado touch down, entering the course on one side of the property and exiting on the other.

The result was more than a thousand trees downed. For those who have experienced a tornado, the sound generated is something you will never forget — it's like a locomotive bearing down on you.

Tornadoes have always been a concern in central Ohio. Still, the increasing number and length of time that a

tornado remains on the ground is worrisome, with the frequency increasing yearly.

In response, Franklin County, which includes the city of Columbus, The Ohio State University and some of the country's finest and most famous golf courses (I may be slightly prejudiced) has 198 outside tornado warning sirens. As a comparison, and given there can be other factors, the entire state of Oklahoma, which is located in "Tornado Alley," has 182 (Tulsa has 80).

Transitioning from spring to summer in 2024, we experienced the third driest summer (measured from June 1 through Aug. 31). For reference, the driest summer on record was in 1933. The drought we faced this year has not been as frequent from year to year as in other places in the country, but one thing that has been consistent is the increasingly hotter summers.

As I reflect on 2024 and look forward to 2025, I can't help but think about what challenges we will face. Whatever weather challenge presents itself, golf course managers will be up to it. Across all categories of golf courses, quality and playability improvements continue to be sustained and improved in the face of a changing climate. I saw that in 2024.

I base my observation on visiting, speaking and working with golf course managers in the United States for more than 40 years. Currently, I find the education, knowledge base, awareness and technology advancements in the industry at their highest point. Those traits are core to adapting to a changing environment.

I wish you a happy holiday. I can't wait until 2025 to see the challenges golf course managers face and how they successfully address them. **G**

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

Tips for driving away nutsedge

Follow these tips to keep this weed off your course

By Nathan Mader

Unfortunately for superintendents, nutsedge has the uniquely irritating ability to be a common problem for golf courses, yet one that's still incredibly pesky to get rid of.

This aggressive perennial can hide in fairways and on the outskirts of courses throughout North America, usually preferring moist soils. However, once an infestation is established, it quickly withstands even droughts, hogging the soil's resources while remaining annoyingly resilient.

Nutsedges are challenging to remove because their tubers and underground stems (rhizomes) survive in the ground even after the leaves die during the cold fall or winter. They can grow up to 14 inches below the soil surface, and new tubers can form four to six weeks after new branches spread and emerge.

SWING AT THE SEDGES

Chris Butcher, Quali-Pro southeast territory manager, says nutsedge is also called nutgrass due to its similarities to various grassy weeds. However, this nickname can be problematic for superintendents.

"Nutsedge is sometimes mistaken for a 'grassy' weed because of similar appearance, and many herbicides designed for grassy weed control are ineffective against nutsedge," Butcher says.

It may sound obvious, but the answer is in the name. Sedges require different treatments to grassy weeds, so correct identification is essential.

Nutsedge usually has thicker and stiffer leaves than grasses and are arranged in sets of three at the base. Butcher also says nutsedge grows



The thick leaves of nutsedge are unsightly on a golf course and grow faster than the surrounding turfgrass, so eliminating this pest quickly is crucial.

quicker than grasses, making them look gaudy and stand out in an otherwise well-maintained course.

A COLORFUL COURSE

On top of identifying nutsedge from other weeds, superintendents need to determine which kind of nutsedge they're dealing with. The two most common types are yellow nutsedge (*Cyperus esculentus*) and purple (*Cyperus rotundus*), which is essential for knowing the best herbicide.

While the two species often grow together, yellow nutsedge is more common due to its higher cold tolerance, while purple nutsedge is more vigorous. Butcher says they can differ by seedhead color, height and even leaf shape.

HOLE-IN-ONE HELP

You've identified a nutsedge invasion at your club, and you know what color you're dealing with. So, now what? Well, Butcher recommends first ensuring you have proper course maintenance and irrigation to maximize the efficiency of treatments.

"Timing nutsedge applications

post-emergent is more effective when plants are young, the correct herbicides are applied and soil moisture conditions are adequate," he says. "Applications during drought and extreme heat may lead to inadequate control."

Active ingredients such as halosulfuron, sulfentrazone and bentazon can be successful options for postemergent treatment, and Butcher recommends sticking to trusted brands and products for more guaranteed results.

Butcher says Quali-Pro has two products, Sedgemaster and Expel, that he recommends for sedge control.

"Sedgemaster and Expel do an excellent job of controlling nutsedge and other weed species. Sedgemaster (powered by halosulfuron) is a Group 2 herbicide that inhibits amino acid formation," Butcher says. "Expel (powered by sulfentrazone) inhibits PPO enzymes in Nutsedge. Expel and Sedgemaster have separate modes of action, which is important to Integrated Pest Management programs when chemistries are rotated to prevent herbicide-resistant weeds." ©

PHOTOS BY: CHRIS BUTCHER, QUALI-PRO



Chris Butcher



“After a few false starts, the results were finally in, and they were exciting thanks to Friell collaborating with Chase Straw, Ph.D., Ryan Schwab and Eric Watkins, Ph.D.”

MIKE KENNA, PH.D., *Research Editor*

How soil sensors are revolutionizing fairway watering

In September, USGA-Davis committee members visited the University of Minnesota. Josh Friell, Ph.D., presented progress from their on-course project to encourage the adoption of precision irrigation technology. His research team wanted to quantify changes in water consumption relative to typical practices using evapotranspiration (ET-based) and soil moisture sensor (SMS-based) irrigation scheduling.

Several years ago, we asked Dana Lonn at Toro what had happened to PrecisionSense. Long before, on a USGA research visit to the University of Georgia, USGA research committee members saw a very rough prototype of the PrecisionSense put together by Bob Carrow, Ph.D.

The prototype had a rotating arm that swung around and plunged into the fairway, using time-domain reflectivity and penetrometer probes to obtain soil moisture and compaction. On the back end of this machine was a Greenseeker that recorded the normalized digital vegetation index, a measure of turfgrass canopy health.

Carrow suggested that the awkward-looking device would revolutionize golf course irrigation. Superintendents could run the machine behind a work vehicle for the first time and log the spatial variability for soil moisture and compaction and how it impacted turfgrass health. Established irrigation

zones would have soil moisture sensors installed to help determine the next irrigation event.

When we visited Friell at the GCSAA conference, he reported that PrecisionSense usage was languishing. We thought maybe the USGA could set up some research on golf courses and see if the technology could improve our ability to conserve water.

After a few false starts, the results were finally in, and they were exciting thanks to Friell collaborating with Chase Straw, Ph.D., Ryan Schwab and Eric Watkins, Ph.D. They set up experiments on nine holes at Edina CC in Minnesota. They selected nine fairways, then grouped three fairways based on size, soil moisture descriptive statistics and spatial maps of soil moisture variability.

Each grouping of three fairways is one replication in the study, and each fairway within a grouping was assigned one of three irrigation treat-

ments initiated in 2020. Irrigation scheduling treatments are SMS-based, ET-based and traditional scheduling by the superintendent.

The soil moisture sensor placement was determined using two course surveys conducted with the Toro PrecisionSense (PS6000). Those surveys provided field capacity-based segmentation and classification (low, moderate or high soil moisture) of fairways assigned to the SMS-based treatment.

One Toro TurfGuard in-ground SMS was placed in each soil moisture class within each replication for nine sensors. In 2020 and 2021, they completed two irrigation runs for three holes using weather station replacement ET, three using SMS and three determined by the superintendent.

The superintendent and SMS-based did better than the ET replacement. The good news is that an experienced superintendent can do an excellent job, but SMS can do even better. It comes down to recognizing the spatial variability in golf course soils, and mapping improves our ability to irrigate zones appropriately.

The two-year average mm per week results for irrigation runs in 2020 and 2021 were 7.81 mm for the ET method, 5.57 mm for the superintendent and 4.22 mm for the SMS. This result is a 29 percent decrease for the superintendent and a 46 percent decrease for SMS-based irrigation.

SMS-based irrigation scheduling achieved significant water savings. Due to the humid climate and the superintendent's professionalism and talent, the traditional scheduling approach used significantly less water than the ET-based treatment. **G**

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

The 19th Hole



Joe Felicetti

CGCS // Pinehills GC, Plymouth, Mass.

PATRIOTS

Joe, what can I get you?

I'm a Tito's and tonic guy. I'm not a beer drinker; I like wine and vodka.



Tell me about Pinehills Golf Club. It's

a 36-hole public golf course. We like to consider ourselves the best in the area, but I think everybody feels that way about their course. It's a Rees Jones that opened in 2001 and a Jack Nicklaus Jr. that opened in 2002. This is my 25th year here — I grew it in. We're one of the higher-priced courses in the area, and we still knock it out of the park every week. Even today, on a Saturday, we've got 125 people on each course, which is pretty good for November.

Do you have a family? I have a wife, Tara. We have two daughters, Catherine

and Sophia. Tara and I have been married 33 years — today is our anniversary. And we have a family dog, Howard. I'm sorry, I'm going to get a little emotional ... He's only 10. Mentally, he's strong, but his back legs are going out. Today is the first day I haven't been able to bring him to work with me. Can I include him in my photo?

Yes, of course! I'm a dog lover as well. Are you a sports fan? I'm a huge sports fan ... I love all the Boston teams. With the Patriots, we just had 20 of the best years ever. We're going through some struggles now, but I still love them.

What is your most memorable day at work? The day we opened. It's just special. Growing it in is fun — it's tough, it's a lot of work — but when you finally get to the point where it's open for golf, it's awesome.

If I'm ever in your area, what's one thing I have to do?

Plymouth is only ten minutes from the cape. Go to the cape and go to the outer cape. Go to Dennis, Orleans, Truro — the beaches out there are beautiful. There are so many great little bars and Tiki bars and places to hang out.

That sounds awesome. I love the cape.

I actually have a house in Sandwich on the cape, and we have a cottage down in Dennis. Everybody says, 'Why would you buy a cottage 20 minutes from your house?' I'm like, it's in the summer, I can't go on vacation, so at least I can drive 20 minutes further down the road, and I can hang out and pretend I'm on vacation.

Do you have an all-time golf highlight?

I get to play a lot of great golf courses by being in the business. I've played some really good golf courses up around this area. But I got to play Cypress Point when I went out to California to one of the shows. That was my all-time highlight, that's the best golf course. And I broke 80, too, so that was even more special. I love playing golf. I've had a couple of hole-in-ones, but playing some of these golf courses that I played was just spectacular. As interviewed by Seth Jones, Nov. 2, 2024.

// BEST ADVICE

"IF YOU CAN, FIND SOMEONE WHO IS GOING TO SUPPORT YOU. THERE ARE A LOT OF TIMES THAT YOU HAVE TO PUT IN EXTRA HOURS AT THE GOLF COURSE. IF YOU CAN FIND SOMEBODY THAT'S SUPPORTING YOU AT HOME ON A TOUGH DAY, THAT'S REALLY HELPFUL."



BROUGHT TO YOU BY

Kafka
Granite LLC

An aerial photograph of a golf course. A light-colored, winding path or bunker runs through the center of the frame, bordered by lush green grass. To the left of the path is a calm pond that reflects the surrounding landscape. The background shows a line of trees and a slight rise in the terrain. The lighting suggests a late afternoon or early morning setting, with long shadows and warm tones.

"LOOKS FANTASTIC AFTER
YEARS OF HEAVY WEAR."

SCOTT BORDNER

Director of Agronomy
Union League National Golf Club

EROSION RESISTANT. DUSTLESS.
MAINTENANCE FREE. EASY TO INSTALL.

Proprietary Wax Coated Aggregate Pathway and Bunker Materials engineered
for golf course professionals to reduce labor and improve aesthetics.

LET US PROVE IT.

Mention this ad for a **FREE** trial of our Wax Polymer Pathway Mix.

kafkagranite.com/golf | 800-852-7415



Natural Stone. Groundbreaking Solutions.

The Best Conditions Require the Best Partners



You work hard to care for your golf course, because your golfers deserve top playing conditions. Achieve those perfect conditions with solutions and services from Ewing Outdoor Supply.

Ewing is proud to serve as your exclusive distributor of all Rain Bird® Golf products in Arizona, Western Connecticut, Delaware, Georgia, Las Vegas, Maryland, Washington DC, New Jersey, New York, Southern Nevada, North Carolina, Pennsylvania, South Carolina, Virginia, and West Virginia.



Download our
Golf Catalog



Have a Question?
Ask Our Team!

Follow us on
social media:



EwingOutdoorSupply.com/Golf | 800.343.9464

LEAN ON US