

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

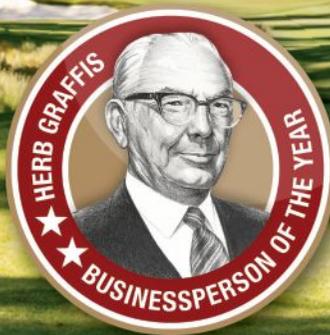
PLUS
2024 Business Journal
Expert advice on ABW
Dr. Koch's snow mold update

Golfdom

08.24

CAMP COUNSELOR

In 2006, Scott Bower helped build Martis Camp Club. Since then, he's taken it upon himself to not just maintain it, but also protect it



LEGENDS OF

MANUFACTURING

MEET NEIL

Neil is our steel fabricator. He does everything from reaming bushings and lacerating steel, to applying deviations to our steel tubing for the frames of our machines and accessories. His work provides a sturdy base for all of our machines, and his presence on the manufacturing floor provides the same consistency and structure needed to keep our team running like the well-oiled machine it is. Smithco's equipment is made in the USA by a team of people who bring their best to the factory floor each day.



Smithco

WE TAKE YOUR
TURF SERIOUSLY

RAYERS

BUNKER RAKES

GREENROLLERS

FAIRWAY ROLLERS

SWEEPERS

AERAT



Neil



NEIL
Steel Fabricator

Over 55 Years of Exceptional Service & Products

www.smithco.com

United States | 877.833.7648 - International | +1 610.688.4009

- TORS
- SPRAYERS
- BUNKER RAKES
- GREENROLLERS
- FAIRWAY ROLLERS
- SWEEPER



Camp counselor

In 2006, Scott Bower helped build Martis Camp Club. Since then, he's taken it upon himself to not just maintain it, but also protect it.

// 10



Business Journal

Expert business advice from industry leaders

// 20

COLUMNS

- // 4 **Keeping up with The Jones**—Seth Jones
Jones goes "Swinging around golf" to reflect on recent industry news and the U.S. Open at Pinehurst
- // 32 **The Turf Doc**—Karl Danneberger, Ph.D.
Danneberger explains how golf course superintendents can contend with snow mold
- // 38 **Off the Record**—Mike Kenna, Ph.D.
Kenna remembers the short-lived Bentgrass Breeding Consortium and its contributions to turf research



// 26

DEPARTMENTS

- // 6 **Starter**
- // 8 **Golfdom Gallery**
- // 24 **The Golfdom Files**
- // 40 **The 19th Hole**



SUPER SCIENCE

- // 25 **Preventive snow mold control on fairways**
- // 26 **Another look at winter rain's impact on snow mold fungicides**
- // 36 **Get to know ABW**

PHOTOS OF SCOTT BOWER BY: CHANTEL ELDER

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
216-675-6012 / 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

AZBEEES
2021



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

SALES & DIGITAL AD COORDINATOR Courtney Jaskiewicz
216-675-6003 / cjaskiewicz@northcoastmedia.net

SR. EVENT MANAGER Allison Blong
216-675-6003 / 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@infofinery.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.



The Original Turbine Debris Blower | Made in the USA

REMOVES ALL COURSE DEBRIS

Blitz
STAND-ON BLOWER

- ALL DAY PRODUCTIVITY.
- HIGH PERFORMANCE INDEPENDENT SUSPENSION.
- INSTANT NOZZLE ROTATION WHILE IN MOTION.
- GOLF COURSES NEW BEST FRIEND.

Call (716) 592-2700
Visit BuffaloTurbine.com

26HP & 40HP EFI ENGINE OPTIONS.

Best On Earth

25 YEAR WARRANTY

GREEN
DREAM

A BETTER BARRIER

The premium solution to rope and stakes



Shop Now at greendreamlife.com



“I got a chill when Mark Semm of BASF and B.T. pulled Connor aside to offer him advice and guidance on how to make it in the industry.”

SETH JONES, *Editor-in-Chief & Associate Publisher*

Welcoming the next generation

Last month, I brought back Herb Graffis’ “Swinging around golf,” and it turned out better than OK — and somewhat predictive — so let’s run it back. It’s also the Herb Graffis Businessperson of the Year award issue, after all. This time, I’m writing a few days before the start of The Open Championship as I bring the laptop over to the Hall of Justice to peck away at the keyboard, ponder what’s happened and wonder what’s next.

So, let’s get right to the bullet points:

• **How about that U.S.**

Open? Hats off to John Jeffreys and his team at Pinehurst (N.C.) Resort for another exceptional championship. Check out pages 8-9 to see some of the people and sights we saw at this year’s championship. I know many who love it when The Masters ends on Easter Sunday, but I’m more of a U.S. Open final-round-on-Father’s-Day kinda guy. My kids (Evey, 17 and Boyd, 12) asked me what I wanted to do on Father’s Day, and I said three things: 1) hang out with our family, 2) grill ribs and 3) watch the final round of the U.S. Open. Check, check and *check*.

• **Speaking of Father’s Day...**

my favorite part of that *Golfdom* Gallery spread: the two father/son combos who were included (photos 3 and 10)! Just about everyone in the industry knows Brian Thompson of BASF, but how often do you get to meet his son? I met Brendan on Wednesday of the U.S. Open, and I told B.T.’s kid, “Your dad is about the most famous guy I know in the golf maintenance industry,” which gave him a chuckle. In the same circle was another father/son duo: Bill and Connor Roddy. Bill is the Group Publisher for North Coast Media’s “Green” books — *Golfdom* and *Landscape Management*. Connor is an assistant-in-training

working at Pinehurst No. 6. As everyone was shaking hands and happily welcoming the younger generation, I got a chill when Mark Semm of BASF and B.T. pulled Connor aside to offer him advice and guidance on how to make it in the industry. I guess I’m getting to the age where we watch our kids grow up and become the next generation. That’s both inspiring and frightening — parents, you know what I mean.

• **We were just in the Envu offices** in Cary, N.C., and a few weeks later, a major industry announcement was made: FMC is selling its Global Specialty Solutions business to Envu. This package includes its golf, sports

turf and pest control products. We’ve been following this Envu journey from jump street, from when Bayer Environmental Science was looking to divest its T&O portfolio to when people walked by Envu’s massive booth in Orlando and asked, “En-*voo*?” “No... En-*VIEW*.” Then they looked over and saw the Stressgard portfolio of products and said, “OH! I know you.” With this acquisition, Envu has become an even bigger player in the industry. For more on this, see page 6.

• **Sure enough, the email that Mark LaFleur of Syngenta** hinted would be in my email inbox arrived about a week after my Father’s Day ribs were a distant memory. In short, the industry powerhouse launched two new active ingredients (isocycloseram and cyclobutrifluram), one a broad-spectrum fungicide and the other a nematocide and fungicide. We’ll keep pursuing the story as it evolves. See page 25 for additional details, or visit **Golfdom.com** for even more.

• **Time for me to place my bets (Rory!)** on The Open Championship and get ready for the final major of the season. I was fortunate to attend The Masters, the PGA Championship and the U.S. Open in 2024 — that’s a great year. And the end of the Open doesn’t mean that winter is coming ... but it does mean that fall is near. Hang in there, friends of *Golfdom*! 📍

Email Jones at: sjones@northcoastmedia.net



Built to be the last thing ball marks ever see.

Ballmarks are inevitable. But long-lasting Accuform® tools like the AccuFix™ make them disappear in seconds flat with just a simple push. See all of our premium course care products at [PARAIDE.COM](https://www.paraide.com)

Starter

NEWS, NOTES AND QUOTES



// A NEW ADVENTURE

Jeff Corcoran (left) and Dave Delsandro (right) bring more than 40 years of industry experience to their new joint venture, Agronomic Advisors. To learn more, visit Golfdom.com.



DELSANDRO AND CORCORAN LAUNCH AGRONOMIC ADVISORS

BY NATHAN MADER // Associate Editor

➔ From world-class superintendents to top-notch consultants, Dave Delsandro and Jeff Corcoran have seen just about everything during their long stays in the golf course industry. Now, they want to share their experiences.

Corcoran and Delsandro, both with more than 20 years in the GCSAA and multiple pro tournaments at Oak Hill CC and Oakmont CC respectively, partnered to soft-launch Agronomic Advisors last year with the goal of providing help and solutions to golf course superintendents.

“The idea for Agronomic Advisors formed rather organically over time,” Delsandro says. “We were both looking for a way to take a different path in our careers, and the concept of partnering together to form Agronomic Advisors grew out of our joint conversations.”

Both Corcoran and Delsandro say

the company is off to a great start, and they agree that building and maintaining strong relationships is not only enjoyable, but also paramount to their continued success.

“The most rewarding part for me, so far, has been the relationship building with our peers in the industry,” Corcoran says. “Visiting other golf courses and helping individuals overcome the challenges of their specific site or location has been both exciting and enjoyable.”

Delsandro says partnering with a close friend has been great, and the two often combine their knowledge and experiences to provide better help for the modern-day superintendent.

“Agronomic Advisors exists as a company to help others,” Delsandro says. “That has been and will continue to be the principle that guides our firm’s culture and future path.”

// BIG-TIME ACQUISITION

FMC TO SELL GSS BUSINESS TO ENVU

FMC Corp. has signed a definitive agreement to sell its Global Specialty Solutions (GSS) business to Envu for \$350 million, subject to a closing working capital adjustment.

In 2023, FMC announced plans to explore strategic options for 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.

“As a focused company that is dedicated to delivering forward-thinking solutions for our customers, we are excited by the prospect of joining forces with the GSS business,” said Gilles Galliou, CEO of Envu. “We see significant synergies and potential for accelerated innovation from the combination. In addition, as the successful outcome of a carve-out transaction ourselves, we believe we are the ideal partner to help GSS through this transition and maximize our collective potential.”

// #THANKASUPERINTENDENT

THANK A SUPERINTENDENT DAY SET FOR SEPT. 10

The Golf Course Superintendents Association of America (GCSAA), in conjunction with other global superintendent groups, is recognizing those who are essential to golf’s success with an international “Thank a Golf Course Superintendent Day,” encouraging all golfers, those who are in the golf business or anyone who benefits from the game to thank superintendents for their hard work and dedication to the game. “Thank a Golf Course Superintendent Day” 2024 will be celebrated on Sept. 10.

The celebration will include commercials that will appear on the Golf Channel, print advertisements and social media messages sharing the many ways that superintendents benefit the game and their communities. Golf courses and other groups are encouraged to provide special recognition for their superintendent and course maintenance staff on Sept. 10.

PHOTO BY: WELLSLAD / ISTOCK-GETTY IMAGES PLUS / GETTY IMAGES (GOLFBALL); COURTESY OF DAVE DELSANDRO



Students from a primary school near St. Andrews got a firsthand look at what it takes to maintain turf at Scotland's most iconic golf course.

// EDUCATION IN THE UK

St. Andrews hosts First Green field trip

➔ St. Andrews Links recently hosted local primary school students as it became the first venue in Scotland to host a First Green field trip.

Held at the St. Andrews Links Golf Academy adjacent to the Old Course, the event brought 23 students from Canongate, a local St. Andrews primary school, to the course for a day of interactive activities and practical learning. Students participated in three hands-on, outdoor learning stations that showcased a variety of skills utilized by professional greenkeepers each day.

"We are delighted to have held Scotland's first First Green event here

at the Home of Golf. Greenkeeping is often an overlooked industry with many people lacking an understanding of what goes into looking after a golf course," Gordon McKie, greenkeeping operations manager at St. Andrews Links Trust, said. "The First Green initiative allows us to engage with young people at primary school age who may go on to consider greenkeeping as a future career."

Three UK courses have now hosted First Green events thus far: Royal Liverpool, the Bedfordshire and St. Andrews Links, with events planned at Clevedon, Dudley and Woburn.

// NEW FACE ON TOP

PBI-GORDON NAMES NEW COO

The employee-owners of PBI-Gordon appointed Jackie Applegate, Ph.D., as the chief operating officer effective July 8. She will report directly to PBI-Gordon president and CEO Steve Clifford. "Jackie is a proven leader, and we are thrilled to welcome her to the PBI-Gordon family of employee-owners," said Clifford. "PBI-Gordon



Jackie Applegate

has had a tremendous amount of success in recent years, and recruiting proven and innovative leaders like Jackie enhances the depth of our leadership team. Her experience in R&D, operations and strategy development will be invaluable as PBI-Gordon keeps its sights on growing and scaling each of our three subsidiaries and ensuring employee-owner value."

Prior to PBI-Gordon, Applegate spent her career at Bayer Crop Science, starting as a process development chemist and eventually serving in several executive roles in both the agricultural crop and non-crop industries. She most recently served as the president of Bayer's North American Crop Science business.

// SUPER ADDITIONS

SYNGENTA EXPANDS DIGITAL PLATFORMS TEAM

Syngenta expanded its Digital Platforms team from five to eight to strengthen the support and development of its digital platform shop, including Spiio soil sensor technology.

According to the company, the additional expertise and talent will advance its capabilities, with a focus on refining user experience, expanding functionality and optimizing the integration of Spiio soil sensor data and enhanced weather insights. The new hires are Sally Jones, Digital Platforms technical specialist; Noel Popoli, Digital Platforms sales specialist, Northeast; and Andrew Fike, Digital Platforms sales specialist, Southeast.

The trio has more than 50 years of experience in golf course maintenance, including stints as general managers, superintendents and assistant superintendents.

Jones will provide technical training and support to Digital Platform customers, Popoli will concentrate on cultivating Digital Platform customer relationships in the northeast U.S. and Fike will focus on supporting Digital Platform customers in the southeast U.S.

X #TurfPostoftheMonth

Follow us @Golfdom

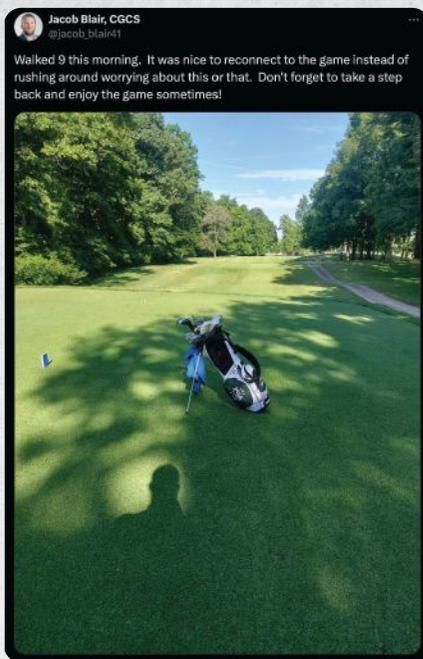
Jacob Blair, CGCS

@jacob_blair41

General Manager and Director of Agronomy Oldham County CC, La Grange, Ky.

Walked 9 this morning. It was nice to reconnect to the game instead of rushing around worrying about this or that. Don't forget to take a step back and enjoy the game sometimes!

Presented in partnership with:



Golfdom Gallery



1 One hunk, and one bad hair day
Golfdom's Editor-in-Chief Seth Jones (left) with USGA's Director of Partnerships and Outreach, Hunki Yun. Seems like our esteemed EIC finally let the heat and humidity get to his normally perfectly coifed hair while Hunki is, well, hunky.



2 A nice view at Envu At Envu's headquarters in Cary, N.C., Julie Groce, senior marketing communications manager and Mark Ford, customer marketing manager, talked to *Golfdom* Publisher Craig MacGregor (left) and Group Publisher Bill Roddy (right) about big plans the company has forthcoming.

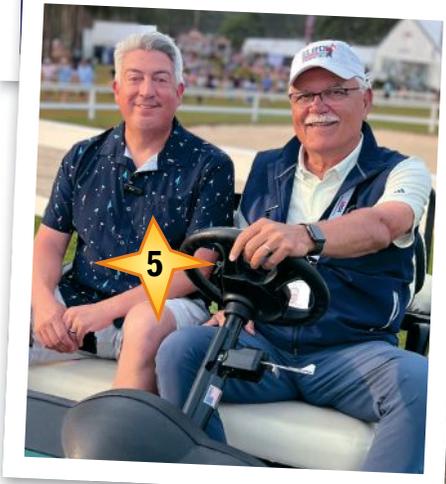


3 Band of BASF brothers (and son)
 From left to right: Scott Waltz, Aaron Wells and Mark Semm, all reps for BASF, with Steve Harris, CGCS, Invited Golf and Brian Thompson, BASF and his son, Brendan, checking out the action at the U.S. Open during Wednesday's practice round.



4 Sunset in Raleigh McGavock Edwards, partner / senior vice president of strategy and client services, E&V Strategic Communications, met up with the *Golfdom* crew for a pre-U.S. Open dinner.

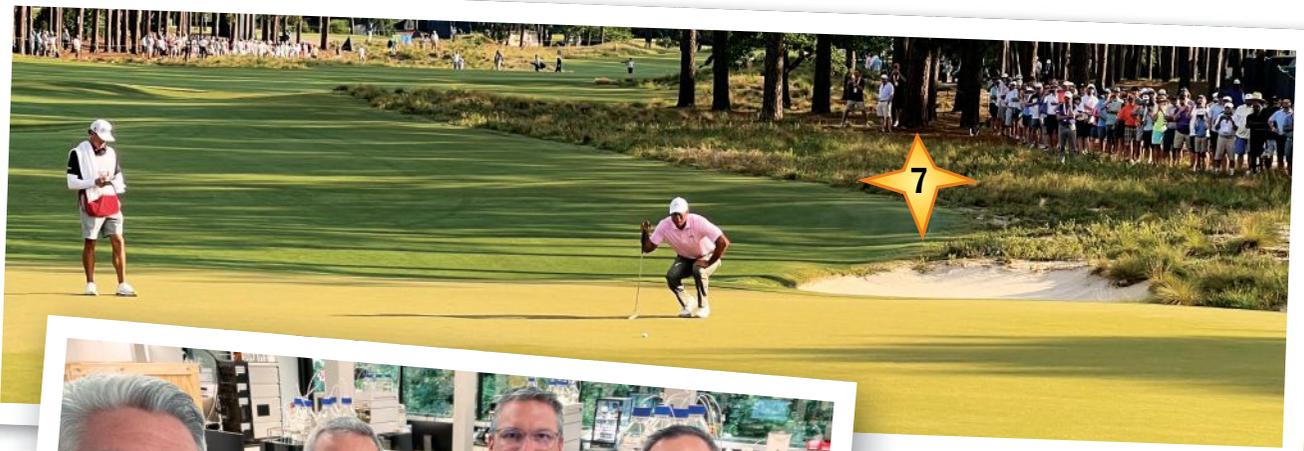
5 Turf's most interesting – and timely – man How good is the timing of Bob Farren, CGCS, director of golf course maintenance at Pinehurst (N.C.) Resort & CC? He happened upon Seth and Bill on Thursday morning just in time to shuttle them across the course to hole 10 to see Tiger's opening birdie that day. Thanks Bob!



6 Eagle eyes The turf was safe on holes 1, 2, 7 and 8 with John Hurtado, Pinehurst Resort and Ben Marshall, Brook Valley CC, Greenville, N.C., on watch.



PHOTOS BY: GOLFDOM STAFF



7 Tiger tracker Thanks to Farren, the *Golfdom* guys made it in time to catch a “Tiger roar” after sinking this putt on No. 10 — one of only three birdies for Tiger’s shortened 2024 U.S. Open.



8 Back in the lab again Reuel Heyden, U.S. marketing manager — turf and ornamental, Nufarm, gave the *Golfdom* team a tour of the labs at the company’s Morrisville, N.C. facility.



9 Ready to rock John Petrovsky, manager, Green Section Education, USGA and John Jeffreys, superintendent for Pinehurst No. 2, moments before the crew rolled out onto the course for evening rounds.



10 Happy Father’s Day Roddy (right) was happy he got to see his son, Connor, at work on the grounds crew during the U.S. Open as an early Father’s Day gift.

11 Boomer Sooner Former University of Oklahoma standout Logan McAllister takes a rip on No. 9, the shortest hole on Pinehurst No. 2 at 191 yards.

12 Sipcam Agro is growing Sipcam Agro USA CEO and COO Brent Marek and Elizabeth Taras, communications specialist, show the guys a photo of the new production plant in Mississippi the company recently purchased.



PHOTOS BY: GOLFDOM STAFF

Camp counselor

In 2006, Scott Bower helped build Martis Camp Club. Since then, he's taken it upon himself to not just maintain it, but also protect it

BY SETH JONES

It's 2013 and Scott Bower, superintendent, was about to receive an honor. His name, on a plaque, was being placed on the back of the No. 16 tee of Martis Camp Club, the course he helped build and has been working on since its groundbreaking in 2006. He was being honored but maybe at the same time also chided, he says.

"This wasn't completely a compliment," Bower laughs as he kicks at the grass around the plaque. "That area to the left of the tee boxes is a very large water quality sediment basin and it wasn't too pretty in the beginning. When we finally got it right, they honored me with this plaque."

Truckee, Calif., isn't the easiest place to 'get it right' when it comes to maintaining a high-end private golf club. It's not the short season or the weather that are the biggest hurdles to clear, it's the rules, regulations and restrictions that come with the area. A watchful eye on water quality is omnipresent. Concerns over wildfires are constant.

Troy Flanagan, CGCS, director of golf maintenance at the Olympic Club, says that for the construction of Martis Camp Club to be successful, it needed a loyal, dedicated superintendent like Scott Bower.

"Scott was essentially employee No. 1 at Martis Camp. He was hired when they were trying to go through the per-

mitting process. And if you know anything about Truckee, Calif., then you know that is a really difficult permitting process there," Flanagan says, "And he worked there for ... I don't know how long before they even got approval. I don't know what it was like for him, but he was all in on making that project great. And they really did, it's a special facility.

"If Scott believes in something, he's all in," Flanagan continues. "He definitely deserves the Graffis Award. I know he would never put his name up for this, but we all think the world of him — he's a great choice."

★ ★ ★

California dreamin'

A native of New Hampshire, Bower fell in love with golf at an early age. He worked as a caddie at age 13 at Nashua CC, then moved to Amherst CC at age 15 to work on the grounds crew. By the time he left for Michigan State, he had already achieved the role of assistant superintendent. His path was set.

"I was throwing quick couplers in the ground, night watering and doing all that," Bower recalls. "It was the second-most played golf course in New Hampshire, but it was family-owned. The owners of the golf course went to my wedding,

Continued on page 12

PHOTO BY: CHANTEL ELDER



The Herb Graffis Businessperson of the Year Award, given annually since 2012, is named in honor of *Golfdom's* founder, World Golf Hall of Fame member Herb Graffis. Graffis was one of the first people to think of golf as a business when he and his brother Joe founded *Golfdom* in 1927. With his vision, Graffis helped advance the game in numerous ways, from founding the National Golf Foundation and the Club Managers Association of America to his work advocating on behalf of superintendents and elevating their profile. It is with all due respect that we present this award in Mr. Graffis' honor.

PERFECTING
the Art of
WEED CONTROL

IYKYK



**THERE'S SIMPLY NO OTHER
HERBICIDE LIKE SUBLIME.**

If you know, you know. Learn more at
www.sublimeherbicide.com

ALBAUGH
SPECIALTY PRODUCTS

©2024 Albaugh, LLC. All rights reserved. Albaugh and the A logo are registered trademarks and Sublime is a trademark of Albaugh, LLC. Always read and follow label restrictions, precautions and directions for use.



// **GRAFFIS AWARD**

Continued from page 10

and the superintendent (Mike Bryant) was my first mentor; that's how close (everyone) was. And that's what I fell in love with. I felt like I was part of their team ... I owned it with them."

While still in school, Bower interned at Spyglass Hill GC and lived in dorms provided by the Pebble Beach Co. It was at this time he invited his then-girlfriend, Susan, to come see all that California had to offer.

"I took a week off and we toured California from north to south, got all the way to the top of Mount Whitney in one week, and just had a blast and kind of said, 'Geez, California has a lot to offer,'" Bower remembers. "After college, I was looking for positions and landed on working for Neil Hladik building a golf course outside of Sacramento. That was the beginning of us never wanting to leave California."

Bower later relocated to Truckee to work with Mike Kosak and Kevin Breen at Lahontan GC. While he was working at Lahontan, the same developers he worked for started making bold plans for Martis Camp Club: the ultimate place to relax with the family. On 2,100 acres, Martis Camp would offer members a private community for their families that would include a championship golf course along with a bevy of parks, world-class fishing and skiing and fine dining in the beautiful Sierra Nevada mountains.



PHOTO BY: CHANTELEIDER

Along with being responsible for the golf course, Scott Bower's team maintains 26 miles of trails and 21 miles of roadway.

Bower wanted to contribute to the team as construction superintendent, but the developer didn't want Bower.

"Rightfully so — I was young, and this was a risk. This was a massive property. Are we going to let this kid work on a \$30 million property? I don't think so," Bower says. "They started flying some of the big boy (superintendents) from around the country in. I'd say, 'Oh, he's coming here? Nice!' But I kept asking, and finally, they said yes — they got me for about \$2, but I didn't care. I just wanted the experience."

Bower adds that they put some safety nets up around him "so I wouldn't drive the ship into the shore," and it was time to get to work building a Tom Fazio-designed golf course ... or so he thought.

That was when Bower learned that before you can cut greens, you must cut red tape.

"We were delayed for a couple years until ligations and entitlements were completed. It was unbelievable. It was one of the only two years of my life that I wasn't on a golf course; I wasn't getting up cutting greens," Bower says, answering Flanagan's earlier question. "We worked a ton. Martis Camp had a relativity small development team that worked nonstop. It was a honor to join the team in many litigation meetings. I never thought I would be in a high rise law office in San Francisco doing that."



More red tape

Finally, the golf course was built, with more restrictions to face. Builders can only move dirt in Truckee from May 1 through Oct. 15. Bower describes it as a "rock job," moving, crushing and blasting rock to create the roads and the layout of the course.

"We tried to create a golf course that had the feel that it's been here for a hundred years, and that takes a little time," he says. "We're there now with the vegetation growing back."

The course opened for play in 2008 to critical acclaim. Tom Fazio told *Golf Digest* it was one of the finest natural pieces of property where he's ever created a golf course. Martis Camp was chosen as the host of the 2013 U.S. Junior Championship (won by Scottie Scheffler) and, more recently, the 2023 U.S. Senior Amateur (won by Todd White).

But despite the success of the course over the years, the club has had to overcome some challenges and curveballs, leading Bower to shift from superintendent to overall problem solver. Consider the following:

- Wastewater is strictly regulated in this area of Tahoe, which means the golf course's use of irrigation and any runoff is strictly monitored. "We have a creek running through the property, and it's something we cherish and test," Bower says.

"We have state-of-the-art, cutting-edge water quality testing. Over the years, through the way we've managed the sediment

Continued on page 14

ARKON
HERBICIDE LIQUID™



"Arkon™ has proved to be a phenomenal killer of yellow nutsedge."



– **Tim Nielsen**
Superintendent,
Golf Club at
Creekmoor,
Raymore, MO



G pbi / Gordon
Corporation
Employee-Owned
PBIGordonTurf.com

Always Read and Follow Label Directions. Arkon™ is a trademark of PBI-Gordon Corp. 2/24 646498



// GRAFFIS AWARD

Continued from page 13

basin, through the way we control our drainage, the creek has only gotten better. They didn't believe us, but the data doesn't lie."

• With more than 2,100 acres of forest, the threat of wildfires is always on Bower's mind. Bower has partnered with agencies in securing grants to assist in the forestry management — most recently a \$1.8 million grant from Cal-Fire. Bower expresses his gratitude to so many people for helping him learn about land management, something that was foreign to him a few years back.

"Some of it comes by feel, some of it is standard. It takes constant training with contractors, constant training for myself and constant training for my team," he says.

• Homeowners insurance policies, especially in forested areas of Northern California, have become hard to acquire, leading Bower to take on the insurance industry on behalf of his members. "Part of our job is to maintain the asset and the value of Martis Camp," Bower says. "It's difficult to get insurance here. So let's knock on some doors and tell people about the great work we're doing to keep the area safe. We're now at the point where we're right in the middle of potentially developing an insurance product for our members here."



Scott Bower (left) and California Insurance Commissioner Ricardo Lara at a town hall meeting in Lake Tahoe.

PHOTO COURTESY OF SCOTT BOWER



HERITAGE

LANDSCAPE SUPPLY GROUP

Turf Seed & Fertilizer **EXTRA EARLY ORDER PROGRAM**

EXCLUSIVE OFFER JULY 1 – AUGUST 30, 2024

In advance of our annual Early Order Program where you can get discounts and rebates on a wide range of products, we're offering incentives for purchasing turf seed or granular fertilizer. Purchase one pallet (40 bags) or more before August 30th and start qualifying toward this year's program — and receive 60-day payment terms!

Contact your local branch/territory manager to order.
Questions? Email info@heritagelsg.com.

[f](#) [in](#) [@](#) [@heritagelsg](https://www.instagram.com/heritagelsg) | [heritagelandscapesupplygroup.com](https://www.heritagelandscapesupplygroup.com)





Just do it

Jaime Haddad has worked for Martis Camp Club for five years. She started there as the communications manager and was promoted to assistant general manager and director of sustainability. Haddad nominated Bower for the Graffis Award. She says she felt compelled to put his name in for the honor because he has a “just do it” attitude combined with a willingness to think outside the box.

When she approached Bower about her concern with homeowners insurance policies for their members, he asked her what she wanted to do for a solution. She thought out loud that she wished they had a contact at the state level.

“And he said, ‘Well, let’s do it. Just reach out.’ And that was my first real Scott Bower example where I was like, ‘Just reach out? You can’t just reach out to the government!’” she says. “And we did. And sure enough, three months later, we had the insurance commissioner on property talking to our members about insurance problems.”

“To be a golf course superintendent and build a golf course and then transition into trying to insure multi-multi-million-dollar homes, it’s a pretty amazing feat,” says Evan McFadden, assistant superintendent. “That’s just one example. All the tree work and the fire mitigation that he and our team have done to make this property safe for the members and safe for the employees is amazing. I joke that he’s the busiest man in Truckee because he always is on the phone or in a meeting with someone because the scope of his work is vast, but the detail at which he’s able to

Continued on page 16



PHOTO BY: CHANTEL ELDER

“He puts the human back in the business,” says Jaime Haddad, director of sustainability (right).

ARKON™

HERBICIDE LIQUID

“It probably killed nutsedge faster than I’ve ever seen nutsedge killed.”



**– Tim Nielsen
Superintendent,
Golf Club at
Creekmoor,
Raymore, MO**



pbi / Gordon
CORPORATION
Employee-Owned

PBIGordonTurf.com

Always Read and Follow Label Directions. Arkon™ is a trademark of PBI-Gordon Corp. 2/24 646498



// GRAFFIS AWARD



Jonathan Moulton, superintendent, Bower and Evan McFadden, assistant. "They're the next generation," Bower says.

Continued from page 15

accomplish things is equally impressive."

Bower has taken on so much responsibility over the years, and in 2018, he was promoted to community general manager and director of grounds. Bower laughs when asked if he thought his job would one day evolve beyond taking care of a golf course.

"When you're young and you get on the golf course, your career goal is to be a superintendent and grow some grass and work hard," he says. "I think the furthest I ever thought about advancement was, maybe someday I'll be at a multi-course property. That was probably the furthest I ever thought about being away from just a normal superintendent. (My job has) evolved, and I think that's wonderful."

"Even though he has 10,000 things he does every day, you never feel like you're inconveniencing him or making his day more difficult. He's here to truly help me and make my life easier," says Jonathan Moulton, superintendent of Martis Camp Club. "I think after all these years, I truly understand what he's involved in. It seems like hyperbole, but every week I find out something else that he's into, and it's pretty neat to be on the outside edge of it. We have a close relationship, and we share things, and it's fun to hear the stories of all the crazy stuff he's involved in."

PHOTO BY: CHANTEL ELDER



Research Results!

plantfoodco.com

[@plantfoodco](https://twitter.com/plantfoodco)

[@plantfoodco](https://www.instagram.com/plantfoodco)

Experience The Difference!

"Throughout my career and numerous grow-ins I've never seen Tif Eagle roots persist with this much depth and density. Even with our poor irrigation water quality, pHusion Sea-E-C has helped us create optimal conditions and incredible results."

Andy Neiswender
Director of Facilities and Operations
Belleair Country Club, FL





"You always have an ear to bend with Scott," says Jonathan Moulton, superintendent.

Thomas Bastis, CGCS, director of agronomy for the PGA Tour, has observed his friend grapple with those many curveballs over the years. What makes Bower so good at navigating these challenges, Bastis says, is a combination of an endearing smile and a fearlessness in talking with anyone.

"He'll go right up and introduce himself to anyone. He's got a great smile, he'll start a conversation and he gets the ball rolling. He has no problem talking to a CEO. He will know who you are and who you travel in the same circles with, and he follows through," Bastis says. "Water quality and Tahoe is a pretty strict area to do business in, especially when you build something from the ground up. You have to prove to the community that golf courses can help the environment, not hurt the environment. It's the same game plan with the fires up there and the homeowners not being able to get fire insurance. Well, there's got to be a better way to get things accomplished, and Scott is not afraid to talk to anybody in order to get it done."

Rick Mooney, vice president of maintenance and development at Shore Lodge in McCall, Idaho, has been friends with Bower since they met at Michigan State. Mooney recalls traveling with Bower to attend their first-ever GCSAA Conference and Show in Dallas.

"I saw then that Scott had a great sense for networking and speaking with people," Mooney says. "I knew then that he was going to go places — that he was going to do well."

That thought was confirmed when Mooney (who coincidentally won the Graffis Award in 2020) traveled to Martis Camp to pick up a Mercedes passenger van his club purchased.

"I saw the expanse of his operation, and knowing that he was

Continued on page 18

PHOTO BY: CHANTEL ELDER

THE TRAIL IS BLAZED. TAKE IT.



ARKON
HERBICIDE LIQUID™

PBI-Gordon has blazed a new trail for sedge and kyllinga control



G pbi/gordon
CORPORATION
Employee-Owned
PBIGordonTurf.com

Always Read and Follow Label Directions. Arkon™ is a trademark of PBI-Gordon Corp. 8/23 646498



Who knew aeration and soil modification could be this easy?



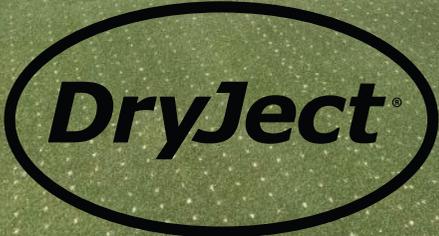
Savvy superintendents know.

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



Aerate and Amend in Just One Pass



// GRAFFIS AWARD

Continued from page 17

basically there from the start ... and seeing the maintenance facilities, the construction management, the clubhouse and the golf course was just amazing ... it was one of those moments where you're like, 'Man, this kid — my buddy — has done well.'"

★ ★ ★

Worth the effort

Bower looks back to those early years at Martis Camp and shudders when he thinks of all the hours he worked — the fight for the course to be built, then the work it took to build it. He had a young family at the time — Zac was three years old and the twins, Ian and Ben, were newborns when the ground was broken. But the club supported him then and the club supports him now.

And Bower, no longer just the superintendent, but more than general manager — perhaps Martis Camp's counselor — continues to support his club and its members in any way he can.

"I'm not going to lie. It was a lot of head down and long days," Bower says. "I'm happy to say I had my 28th wedding anniversary last Saturday. Martis Camp was a partnership ... Mark Johnson and Jim Bartlett and Nick Hackstock, they were so good to us, and they knew there were a few of us that, 'Hey, you guys are going to have to put your life on hold.' And they did right by that with my family. They supported Susan and me, and I would not change any of it. I'm still here with those guys, and that's pretty cool stuff." **G**



The Bower family, including Scott (center), Zac and Ben will forever be a part of Martis Camp thanks to this plaque on the 16th tee.

PHOTO COURTESY OF SCOTT BOWER

THE TRAIL IS BLAZED. TAKE IT.



ARKON
HERBICIDE LIQUID™

**It's time for sedge and
kyllinga control to go
somewhere new. Arkon™
Herbicide Liquid is there.**

Arkon is labeled for use on both cool- and warm-season turfgrass across a wide variety of sites, including greens. Arkon controls sedges, kyllingas, and listed broadleaf weeds, and it's proven to reduce the number and viability of nutsedge tubers.

**PBI-Gordon has blazed a new trail for
sedge and kyllinga control. Join us.**



Visit PBIGordonTurf.com

Always Read and Follow Label Directions. Arkon™ is a trademark and Vexis® is a registered trademark of PBI-Gordon Corp. 5/23 646498

G pbi/gordon
corporation
Employee-Owned

How to use social media to your advantage

BY BRANDON COX

Social media can be a double-edged sword. As a turf equipment salesperson for more than 10 years and an active member of the online turf community, I have witnessed firsthand the impacts of social media on the turf industry. Here's what I've discovered through conversations, experience and trial and error.

On one hand, social media is an incredible opportunity to showcase the ongoing work and effort put into your course. However, it isn't always easy to see long-term improvements, especially on a golf course. Members typically don't see the hours of labor behind the immaculate greens unless someone allows them to appreciate the final product more.

On the other hand, social media can be a burden. The unfortunate reality is that the world we live in has unnecessarily unkind people who will jump at any chance to tear you down. Those people could be other professionals in the industry, members or people who don't understand the extent of your course's progress over time.

Still, being vulnerable and sharing your progress, questions and concerns might be even more valuable than sharing that aesthetically pleasing photo of a freshly

mowed fairway (please still share this too, of course). You learn as much — or more — from your mistakes than you do from your successes.

In this industry, sometimes successes and failures depend largely on circumstances. Grass will die, rain won't come when you need it and your finances won't allow you to purchase the latest and greatest products and equipment.

When you're open and share your shortcomings, struggles and questions on social media, you'll likely find people willing to reach out and offer solutions and advice based on their experiences with the same problem. Everybody has a story about a failure; the question is, who will be the person to start sharing?

A presence on social media allows insight into how you manage your course. There's a reason you choose to verticut,

topdress or fertilize on the days you do. Social media allows you to explain those reasons in a few hundred characters with some pictures, prompting more understanding, appreciation and interest in the work that goes into a successful course. Plus, it's a heck of a portfolio to showcase all the projects that have benefited your

team and members.

Negative reactions

Don't be discouraged. No matter what you do, people will always point out the negatives in your professional or personal life.

Encourage members to approach you or someone else on your team and start an in-person conversation. It's important to remember that you only see a snapshot of the situation on social media. Taking the conversation off social media is the most professional way to handle situations you run into with an upset or negative comment. It provides a better chance of turning it into a positive outcome.

Knowledge is power. You can get all the degrees, titles and awards, but sometimes, it is just a matter of having the unmatched education that hands-on learning gives you.

Strength in numbers

Hearing other people's stories of employees not showing up for work and broken equipment forms a bond and helps you realize you are not the only person in the world who has had an intern drive a golf cart into the lake, get a mower stuck or flip tractors.

Everything you post is open to criticism as much as positive feedback. Don't hyperfixate on either one, but try to lean into the endless opportunities to connect with and learn from other superintendents, turf professionals and members.

When social media is utilized for connections and conversations and not unhelpful comparison and criticism, it opens a world of possibilities for the future of your course. Post to engage with others in the industry, not to be perceived as perfect.



LEDGER

NAME: Brandon Cox
COMPANY: STEC
TITLE: Sales Manager, Northeast and Midwest
COLLEGE: Clemson University and Georgia Southern University
YEARS OF EXPERIENCE: 28



STEC
EQUIPMENT

BRING YOUR
A-GAME

Results you desire, quality you deserve.

📞 (888) 325-2532

🌐 STECEQUIPMENT.COM

STEC.EQUIPMENT.COM


GKB

SF120

Tips and tricks for influencing stakeholders

BY TIFFANY KOSS

As an industry supplier dedicated to educating and creating value for our customers, I've had the privilege of working closely with numerous golf course superintendents. Often, I'm asked, "Tiffany, I love your product! I understand the value. But I need to convince my greens committee (or owner). Help!"

While superintendents excel in maintaining and enhancing the quality of golf courses, effectively selling their ideas internally to stakeholders is an equally important skill. Drawing from my experience, I've gathered insights and strategies that can help superintendents successfully influence their stakeholders and drive the positive changes they envision for their courses.

Understand your audience

Understanding your stakeholders' priorities and concerns is the first step in influencing them effectively. Greens committees often prioritize the course's aesthetics and playability, while owners may be more focused on the financial aspects and overall business performance.

Tailoring your approach to address these specific interests will make your proposals more compelling. Depending on what is most important to your stakeholders, you may emphasize how proposed changes will enhance the playing experience, improve turf health and boost the course's reputation or exclusivity. In other cases, it may be best to highlight potential financial benefits, such as reduced maintenance costs or reduced downtime during course renovations.

Start small

Introducing new materials, practices or equipment can be met with resistance, especially if the benefits are not immediately apparent. Starting with small-scale trials or demos can help demonstrate the effectiveness of your ideas without requiring a large initial investment of time or money. Select a small, manageable area of the course to test your proposal.

Choosing a highly visible and well-known problem area for your trial will increase the exposure and awareness of your efforts. Encourage your maintenance staff to help you monitor and document the results and use the data collected to make a compelling case for broader implementation.

Illustrate ROI

Clearly demonstrating the return on investment (ROI) of your proposals is crucial, particularly for stakeholders focused on the financial aspects of the business. This involves not only highlighting potential revenue increases, but also illustrating how your proposals can reduce costs and minimize downtime.

Show how investing in quality materials or new equipment can streamline maintenance tasks, reduce labor hours, lower costs and keep the course open and generating revenue.



LEDGER

NAME: Tiffany Koss

COMPANY: Kafka Granite

TITLE: President

COLLEGE: University of St. Thomas

YEARS OF EXPERIENCE: Since birth!

Utilize your vendors and peers

Both vendors and peers can be valuable allies when making a case to stakeholders. Many vendors offer resources, support and references to help superintendents present their proposals effectively. Leveraging vendor expertise and speaking with other superintendents who have successfully implemented change can help better prepare your case.

To leverage vendors, invite them to present to stakeholders, offering detailed insights and answering technical questions. When a vendor presentation is not appropriate, a quality vendor will help you prepare your presentation — we are here to help!

Calling vendor references and connecting your stakeholders with other satisfied customers is another great way to add credibility to your recommendations and share success stories from reputable peers.

By using these strategies to influence stakeholders, you'll be building stronger relationships to ensure the long-term success of your course. Effective communication and a clear demonstration of benefits are the keys to gaining stakeholder buy-in.



"THE TIME AND LABOR
SAVED AFTER HEAVY RAIN
SPEAKS FOR ITSELF."

CHRIS ZUGEL

Director – Agronomy, Landscape Hospitality, Real Estate Group
Destination Kohler

BEFORE

AFTER

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 Bunker Sand.

kafkagranite.com/golf | 800-852-7415



Natural Stone. Groundbreaking Solutions.

The Golfdom

F I L E S



Do you sometimes feel like you're asked to do three jobs at once? If so, you're not alone. In this article from the June 1973 issue of *Golfdom*, Illinois superintendent Paul Voykin explains why it takes a team effort from the superintendent, golf pro and club manager to operate a golf course profitably and efficiently. To read the full article, visit Golfdom.com.

key jobs in a golf course operation. His titles became legion: pro-greenkeeper-manager, pro-greenkeeper, pro-manager or manager-pro, and sometimes even greenkeeper-pro-manager.

Sad to say, some clubs are now trying to go back to that mixed-up yesterday. And that's bad. It didn't work out then and it won't work out today.

The Profitable Trio

BY PAUL VOYKIN

The Russian word troika always brings to my mind the image of three snorting horses pulling a sleigh full of Russians with hungry wolves chasing close behind. The expression "troika system" sometimes is used to describe the three key administrators in a club operation who pull the club's sleigh — golf professional, superintendent and manager — a triumvirate equally responsible, working together as a team and trying mightily to keep abreast of the inflationary dollar.

Their paramount aim is to give the club membership a first-class operation. Why does a club need three department heads? Why three entities? Can't one executive run the whole shebang successfully? Not really, not if you want a first-class operation in these three important areas. Of course, it's been tried a long time ago, and some clubs are still recovering from the bad experience. Conversely, other clubs now have forgotten their sad experiences and are advocating going back to the restriction of that era — complete control by one man.

A quarter of a century ago, when I first began apprenticing as a "greenkeeper," one man handled two and sometimes three

Club officials in those days learned quickly that when more and more demands were placed on gracious country club living, with its syndrome of comforts and recreational services, a man was either a good greenkeeper and a poor pro, or still worse, a man was a damn good manager, but poor in the other two departments.

Finally, as the pressure on good turf grooming and meticulous care continued on the golf course, with greater demand in the clubhouse and pro shop for better service, the man ended up being good at nothing. The sad part of that experiment was this: The more man became proficient at one job, the worse he became at the other two. It was a frustrating experience, and a lot of guys ended up shell-shocked.

There is something else also. There was a lot of job movement, especially by managers who finally found a good residence in hotel and motel management.

Eventually, wise club officials learned that, by having one man in complete and undisputed control, the money saved was negligible and the club services neglected. It was proven in the long run that the most successful method was to have three different responsible department administrators working together to provide the utmost in country club service. The same premise still holds true today. Admittedly, there has to be one man (the manager) to coordinate everything for the other two with the chairman and committee.

That's all right. Remember, the manager controls the club's money and final bookkeeping. I am not against that principle, but complete control has never worked out, and I don't think it ever will. Also, there must always be a member-department head involved in working together in planning and enforcing constructive suggestions, exchanging views and finally teaming up with the three administrators to carry out the plans once they have board and committee approval.

For one man to be in dictatorial control and to expect a top-notch operation is, in my opinion, too much to hope for. **G**

Producers & Installers of Fumigated Georgia Certified Quality Turfgrasses
for Golf Courses and Athletic Fields
Pike Creek Turf, Inc.
427 Pike Creek Turf Circle Adel, GA 31620
1.800.232-7453

Varieties Available
Tifway | TifGrand® | TifTurf™ | Celebration™
Tifdwarf™ | TifEagle | Tif3D | Platinum TE™ | Meyer
Trinity | Zorro | Centipede Sod & Seed

www.pikecreekturf.com [PikeCreekTurf](https://www.facebook.com/PikeCreekTurf)



Super Science

// NO MO SNOW MOLD

PREVENTIVE SNOW MOLD CONTROL ON FAIRWAYS

By Mike Kenna, Ph.D.

Researchers at the University of Massachusetts evaluated several nontraditional products and fungicide treatments to evaluate snow mold prevention at Val Halla Golf Course in Cumberland, Maine. They completed the study on annual bluegrass (*Poa annua*) and creeping bentgrass fairways mowed at 0.5 inches.

Individual plots were 3-by-6 feet arranged in a randomized complete block design with three replicates. Researchers applied the fungicides and nontraditional products according to labeled or recommended rates. The team applied individual treatments at a nozzle pressure of 40 psi using a CO₂-pressurized boom sprayer equipped with two XR TeeJet 8004 VS nozzles.

They ran the experiment from early November 2022 through the end of March 2023. They applied fungicide treatments only on Nov. 9 or both Nov. 3 and 9. Researchers agitated fungicides by hand and applied the equivalent of two gallons of water per 1000 ft. sq.

Researchers assessed the severity of snow molds caused by *Microdochium nivale* (pink), *Typhula incarnata* (gray) and *T. ishikariensis* (speckled) visually as a percentage of disease symptoms per plot on March 30. They then subjected data to analysis of variance and separated the means using Tukey's HSD.

Snow cover persisted in the experimental plot from Jan. 5 through March 23. They observed high disease severity (80 percent) in the untreated plots. Pink snow mold caused most of the damage. They observed better control than the untreated plot for 14 of 20 treatments; however, only seven treatments significantly reduced disease severity.

In general, only synthetic fungicide treatments provided significantly better control. Regardless of application date, the eight synthetic fungicide treatments demonstrated the highest disease control (0 to 35 percent). In addition to the synthetic fungicides, Civitas pre-mixed applied on Nov. 4 and 9 provided the best disease control (55 percent) among nontraditional products.

Reference

Adapted from S. Min and G. Jung, 2023. Preventive fungicide applications to control pink, speckled, and gray snow mold on a mixed stand of creeping bentgrass/annual bluegrass at fairway height, 2023. *Plant Disease Management Reports* 18:7006.



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

NEWS UPDATES

SYNGENTA DEBUTS TWO NEW ACTIVE INGREDIENTS

Syngenta recently announced two new active ingredients pending registration with the Environmental Protection Agency (EPA): isocycloseram, a broad-spectrum insecticide marketed as plinazolin, and cyclobutrifluram, a nematocide and fungicide marketed as tymirium.

Plinazolin controls insects by contact and ingestion to quickly stop feeding. Upon registration from the EPA, Syngenta will launch Plinazolin in the turf market as Atezo insecticide for control of annual bluegrass weevils, mole crickets, bermudagrass mites, billbugs, caterpillars and European crane flies.

Syngenta will launch tymirium in the turf market as Trefinti nematocide/fungicide, offering control of sting, lance, root-knot and Anguina nematodes while also helping to combat spring dead spot and other soil-borne turf diseases.

"Delivering chemistry at this level, with two new AIs including one with an all-new mode of action, is a significant achievement," said Mark Coffelt, Ph.D., head of technical services for Syngenta. "Syngenta is proud of our decades-long investment in research and development to deliver these cutting-edge technologies to our customers, and we're excited to see the impact they will have."

“RAINFALL AND SNOWMELT EVENTS WERE THE MOST SIGNIFICANT ENVIRONMENTAL FACTORS THAT LED TO FUNGICIDE DEGRADATION.”

Paul Koch, Ph.D.

(see story on page 26)

// HAVING SECOND THOUGHTS

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

By Paul Koch, Ph.D.

It doesn't take a climate scientist to tell us that our winters are changing. Warmer temperatures are leading to more winter rainfall and snowmelt events. That and decreased plant hardening in the fall can leave turf susceptible to snow mold development.

In 2015, we published an article detailing the results of our research investigating how variable winter conditions impacted the persistence of iprodione and chlorothalonil and whether that impacted the development of snow mold in the growth chamber (Koch et al., 2015). We found that concentrations of both fungicides declined rapidly following a rainfall or snowmelt event, translating to increased *Microdochium* patch development levels in the growth chamber.

This study provided important information about what happens to their protection over time for golf course superintendents who apply snow mold fungicides. However, a couple of important questions related to snow mold fungicide persistence remained unanswered.

First, how did a xylem-mobile fungicide like propiconazole respond to variable winter conditions? Second, would an antitranspirant applied to the turf after fungicide application help protect the products from the degrading effects of rainfall and snow melt?

To answer these new questions, we conducted a second study at the O.J. Noer Turfgrass Research and Education Facility in Madison, Wis., using propiconazole, chlorothalonil and the antitranspirant TransFilm. The scientific article detailing this research was recently published in *Plant Disease* (Hockemeyer et al., 2024).

FIGURE 1



The research plot at the OJ 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.

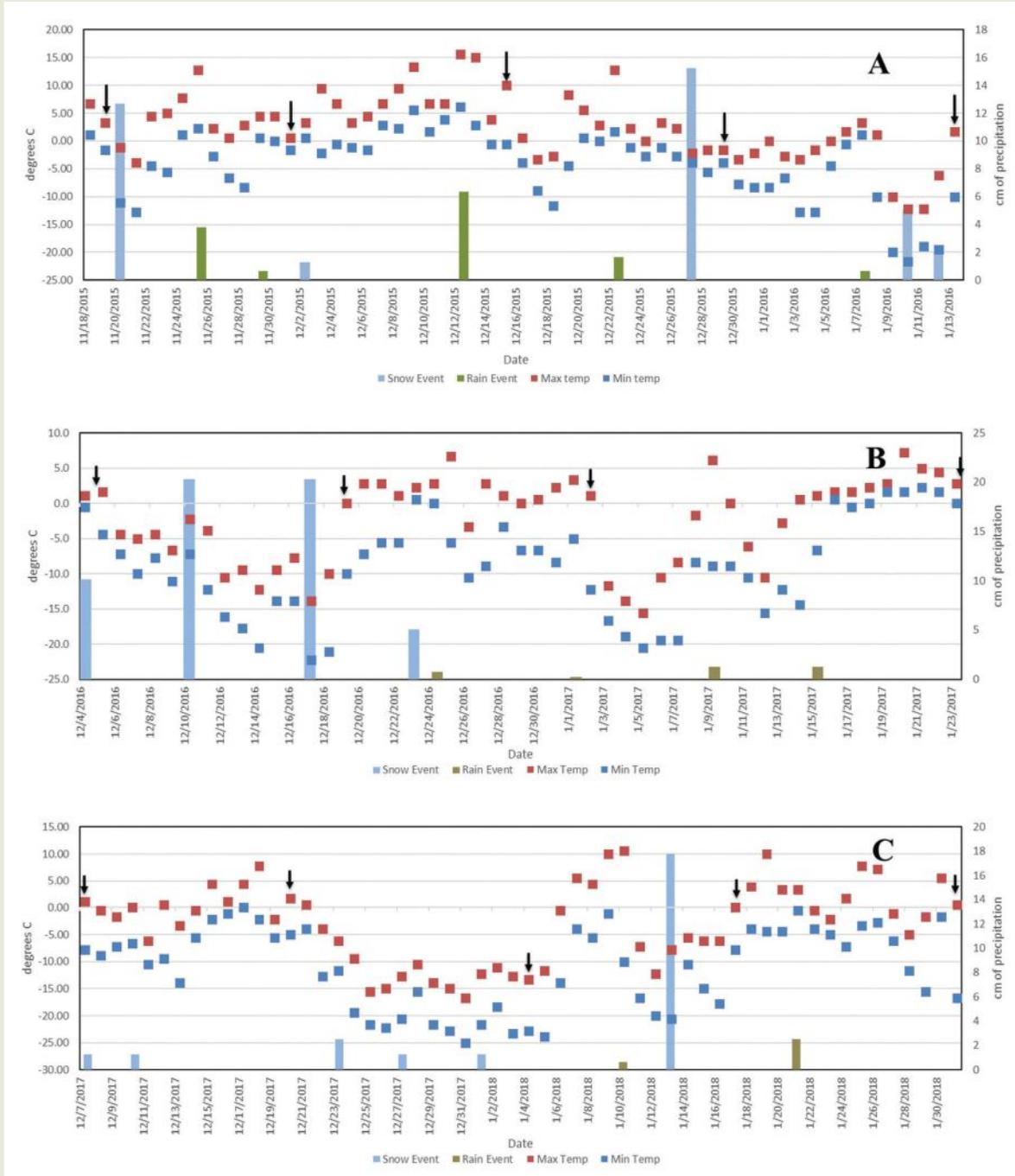
FIGURE 2



One of the two cores collected from each plot was taken to the growth chamber and inoculated with the pink snow mold fungus to determine the level of disease protection that remained on the plant.

PHOTOS BY: PAUL KOCH

FIGURE 3



Daily high and low temperatures and precipitation events for Madison, Wis., during the winters of 2015-2016 (A), 2016-2017 (B) and 2017-2018 (C). Black arrows indicate sampling dates.

THE STUDY

We conducted this experiment during the winters of 2015-2016 through 2017-2018 on fairway-height Penncross

creeping bentgrass (Figure 1). The treatments included the contact fungicide chlorothalonil applied as Daconil WeatherStik, the xylem-mobile fungicide

propiconazole applied as Banner MAXX and the antitranspirant TransFilm.

Our team applied each fungicide

Continued on page 28

Continued from page 27

to plots where the snow was either removed after each snowfall or kept under at least 4 inches of snowfall for the entire winter, and each fungicide was applied either alone or in concert with an antitranspirant. We applied treatments shortly before the first significant snowfall in Madison each winter. Approximately one hour following the application of fungicides,

we sampled two 2.5-inch cores from the center of each plot using a power drill with a hole-saw attachment.

We immediately transported the cores to the University of Wisconsin-Madison campus, where one core was designated for fungicide analysis using LC/MS, and the second core was placed in a growth chamber for inoculation with *Microdochium nivale* (Figure 2).

Our team collected repeat samplings

at two-week intervals for the remainder of each winter until the snow completely melted, the bioassay indicated limited disease suppression remaining or LC/MS analysis revealed no fungicide remaining in the samples. On snow-covered plots, we cleared a small area of snow using a shovel before sampling and immediately replaced following sample collection.

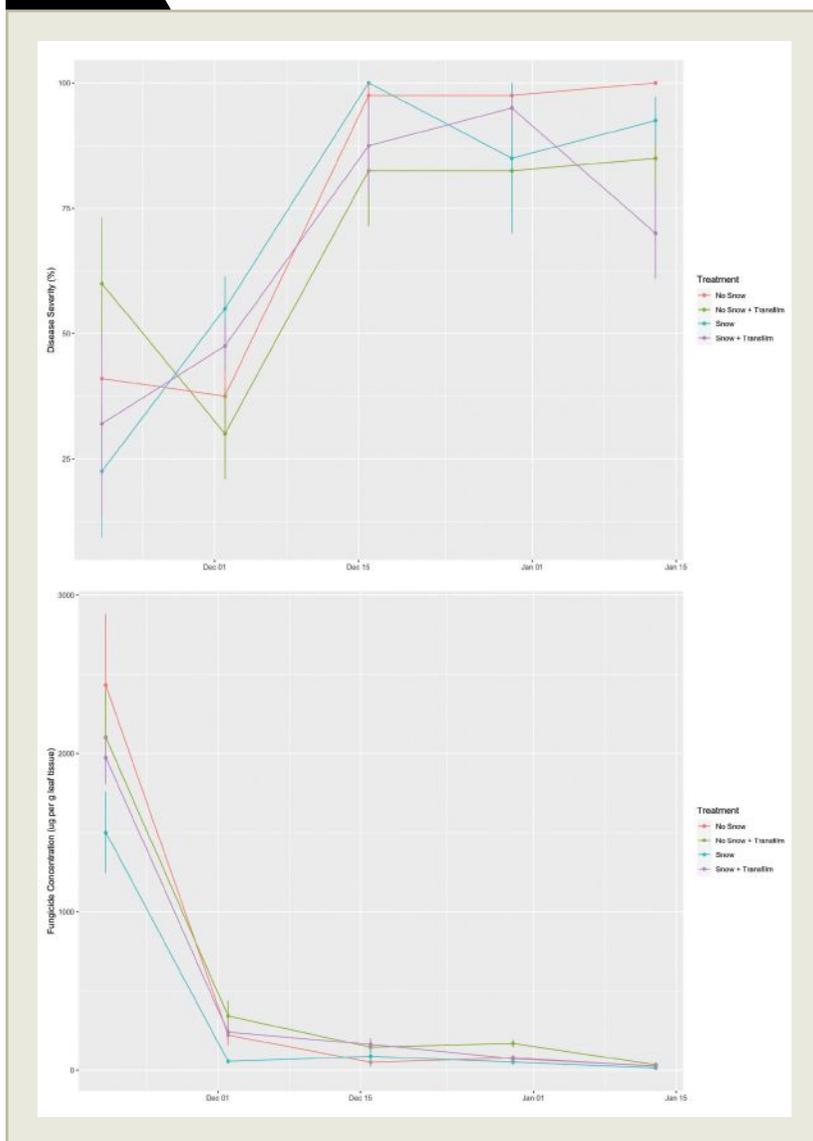
THE RESULTS

Different weather conditions led to slightly different results each winter (Figure 3). In 2015-2016, there was an early snowfall event followed by warm temperatures and multiple rainfall events. In 2016-2017, the winter was cold and snowy until early January, when warm temperatures resulted in lots of melting snow. In 2017-2018, small snow events and warm temperatures resulted in regular melting and inconsistent snow cover in December before more regular snow and colder temperatures arrived in mid-January.

This study produced many interesting results, but we identified three as the most important. The first, and probably most important for golf course superintendents, was that rainfall and snowmelt events were the most significant environmental factors that led to fungicide degradation. This was evident in 2015-2016 when numerous rainfall events in November and December led to rapid drops in both chlorothalonil and propiconazole concentration and corresponding increases in disease development in the bioassay (Figures 4 and 5).

It was also evident to a lesser degree in 2017-2018 when late winter rains coincided with residues rapidly dissipating at 42 and 56 days after application. The opposite was also true in 2016-2017 when there was minimal rainfall and colder temperatures, and concentrations of chlorothalonil remained high until rainfall events in January led to rapid dissipation. These results are very similar to the ones we observed from our

FIGURE 4



Microdochium patch development (top) and chlorothalonil concentration (bottom) were assessed during each sampling date during the winter of 2015-2016 (Year 1) in Madison, Wis.

previous study published in 2015.

The second main result was that the type of fungicide also had little impact on persistence. Chlorothalonil is a contact fungicide that is very insoluble in water, while propiconazole is a penetrant xylem-mobile fungicide that is over 100 times more soluble than chlorothalonil. In 2015-2016 and 2017-2018, both fungicides degraded in a similar manner, suggesting that topical mode of action and water solubility have minimal effects on residue dissipation over winter.

But in 2016-2017, chlorothalonil concentration remained steady 49 days after application while propiconazole was almost completely gone by day 28. This winter was characterized by early and heavy snowfall, only mild snowmelts and very little winter rain. With the lack of snowmelts and winter

rains, it appears that chlorothalonil remained on the turf leaves for much longer than propiconazole, which was affected by even modest snowmelts and winter rains.

Previous research conducted in our lab observed that there is limited upward movement of propiconazole in the plant during the fall and winter months, suggesting that much of the fungicide residue remains on the outside of the plant and is susceptible to rainfall and snowmelt (González Vázquez et al., 2022).

The third main result was the role that TransFilm played in snow mold fungicide persistence. We observed that TransFilm modestly increased the length of disease suppression with chlorothalonil in 2015-2016. TransFilm is classified as a film-forming antitranspirant, which provides a

Research Takeaways

- Winter rains and snow melts led to rapid degradation of both propiconazole and chlorothalonil.
- The presence of snow didn't impact the persistence of either fungicide.
- Transfilm slightly increased the persistence of chlorothalonil but not propiconazole.

barrier to plant water loss by coating plant leaves with wax, gel or plastics. We theorized that this moisture barrier may also work by limiting how much water from winter rains or snowmelt events could encounter fungicide residues and remove them from the leaf surface.

However, no impacts of TransFilm on chlorothalonil disease suppression were observed in the other two years.

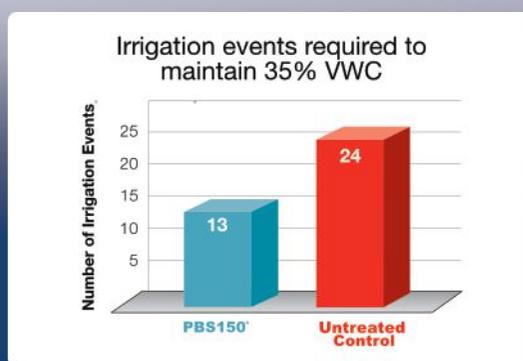
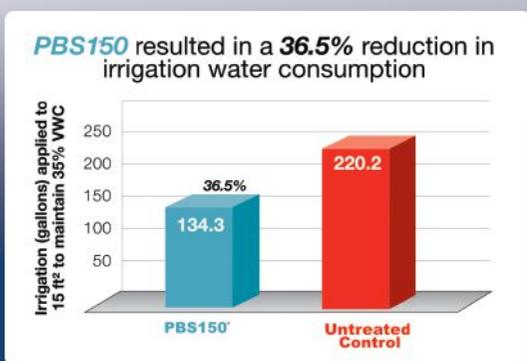
Continued on page 30



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



Read Research
HERE



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. 2016. Penn State University

Penn State University research study showed that creeping bentgrass plots treated with **PBS150** resulted in a **36.5% 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 **40% less irrigation events** versus untreated plots that only received irrigation with no soil surfactant.



Continued from page 29

Further, the disease was higher when TransFilm was applied with propiconazole in years two and three of the study. While this study provided some evidence that TransFilm might help extend the persistence of contact fungicides like chlorothalonil, the mixed results provided here suggest that further research is required to more completely understand this relationship.

WHEN SHOULD YOU REAPPLY SNOW MOLD FUNGICIDES?

The question many of you probably have right now is how these results impact you, and more specifically, what do they say about the reapplication of snow mold fungicides following rainfall or snowmelt events?

This study agrees with our earlier research that clearly shows most of your snow mold fungicide dissipates quickly

after it rains or warm temperatures cause the snow to melt, regardless of the fungicide or fungicide mixture you use (and mostly regardless of whether you use an antitranspirant or not).

What is more complex is whether a reapplication of snow mold fungicides is warranted. Most of the snow mold control provided by fungicides occurs because the fungicide is absorbed by the fungus shortly after application in the fall, not because the fungicide persists throughout the winter (Figure 6).

This means that in most cases, a reapplication is unnecessary to achieve effective snow mold control. Situations where a reapplication might be necessary include a rainfall event within a few days of the fungicide application or an early rainfall event in an area that traditionally has very long winters and experiences heavy snow mold pressure.

CONCLUSION

My initial thought was that warmer winters with increased rainfall would lead to less snow mold. However, what became apparent is that warmer temperatures in the fall result in more susceptible turf heading into the winter. In addition, rainfall and snowmelt result in more degradation of snow mold fungicide, decreasing the level of protection.

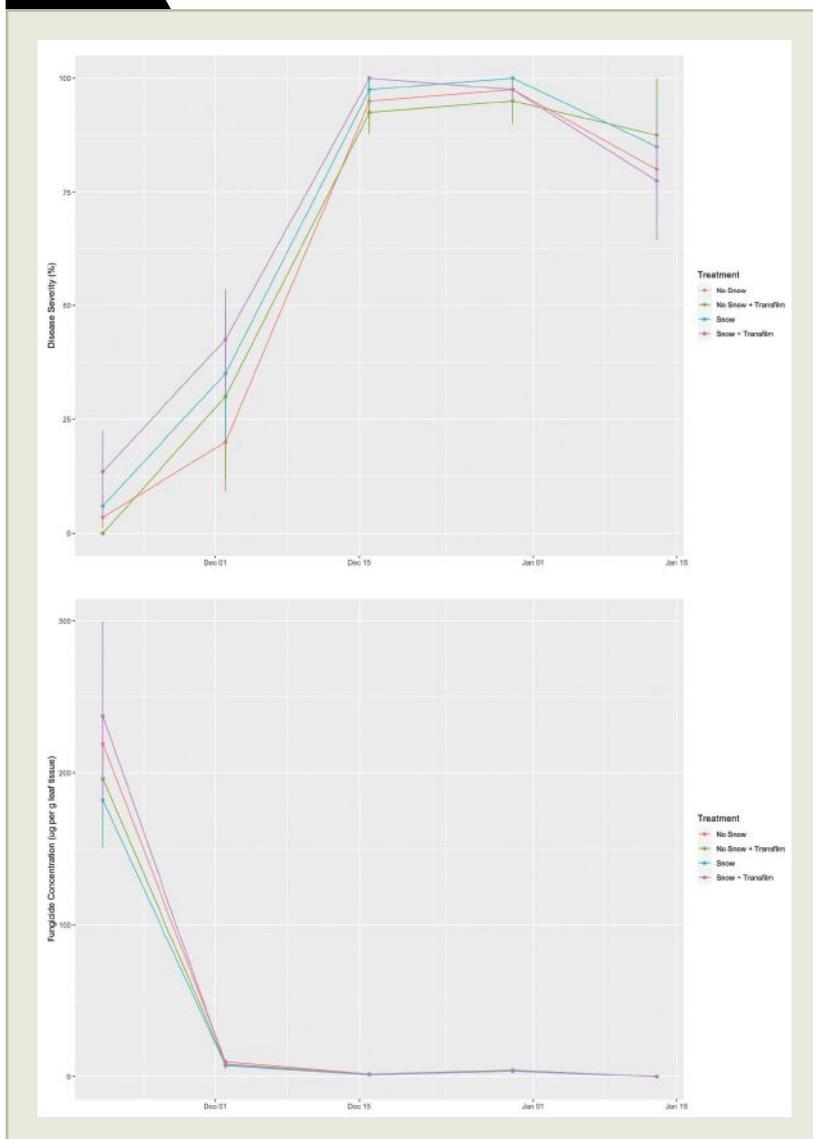
In short, warmer winters are making snow mold control more uncertain, and uncertainty during the winter can lead to lots of sleepless nights for superintendents. The research in this article provides important information about how snow mold fungicides react in a winter environment, and it will hopefully aid superintendents in developing strategies to improve snow mold control. ©

Author Paul Koch, Ph.D., is a professor at the University of Wisconsin, Madison. He can be reached at plkoch@wisc.edu.

Acknowledgements

The authors would like to thank the Canadian Turfgrass Research Foundation for providing partial funding of this work,

FIGURE 5



Microdochium patch development (top) and propiconazole concentration (bottom) were assessed during each sampling date during the winter of 2015-2016 in Madison, Wis.

Megan McConville from the lab of Christy Remucal at the University of Wisconsin-Madison for providing training and assistance in the LCMS analysis of the fungicide residues and Syngenta Professional Products for providing the Daconil WeatherStik and Banner MAXX fungicides used in this study.

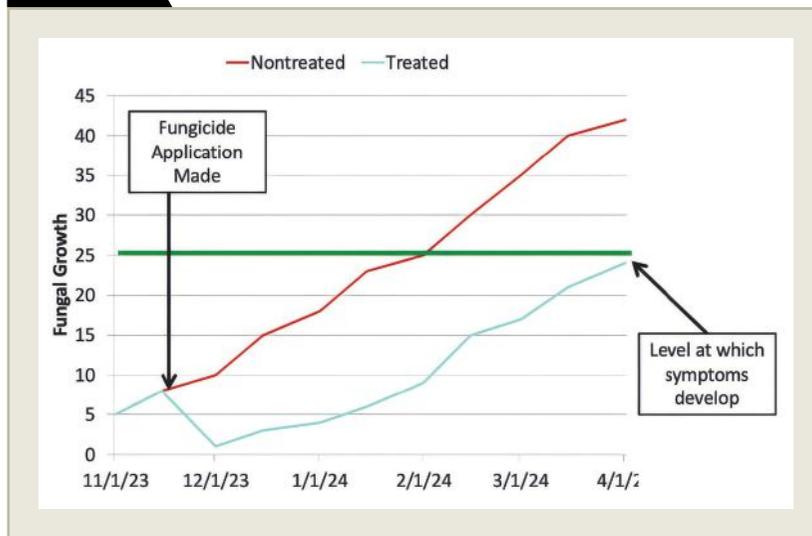
References

González Vázquez, A.E., Hockemeyer, K.R., McConville, M., Remucal, C.K., Koch, P.L. 2022. Assessment of temperature and time following application as predictors of propiconazole translocation in *Agrostis stolonifera*. *ACS Agric. Sci. Technol.* 2022, 592-602. <https://doi.org/10.1021/acscagritech.2c00022>

Hockemeyer, K., Gonzalez Vazquez, A.E., Koch, P.L. 2024. Persistence of fungicides applied to control snow mold of turfgrass as influenced by snow cover and antitranspirants. *Plant Disease* 108: <https://doi.org/10.1094/PDIS-05-23-0948-RE>

Koch, P.L., Stier, J.C., Kerns, J.P. 2015. Snow cover has variable effects on persistence of fungicides and their suppression of microdochium patch on amenity turfgrass. *Plant Pathology* 64: 1417-1428. <https://doi.org/10.1111/ppa.12379>

FIGURE 6



Theoretical example illustrating the reduction in fungal growth that occurs after a snow mold fungicide application is made, which also demonstrates why reapplications of snow mold fungicides are typically not needed.

THIS HERBICIDE IS AN ABSOLUTE BEAST.

GET QUICK, NON-SELECTIVE BURNDOWN AND AT LEAST 90 DAYS OF RESIDUAL CONTROL.

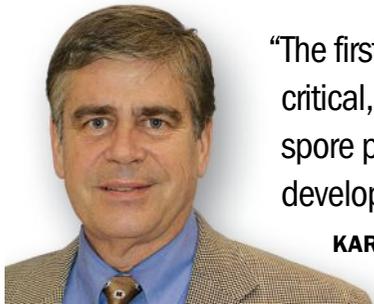
With its unique 3-way formulation, Surmise® SpeedPro™ XT delivers savage burndown with fast, visible results – and its 90+ day residual helps reduce labor costs. Unleash the beast for swift, relentless weed and grass control in walkways, hardscapes, fencerows, edging, and more.



Scan to learn more about Surmise SpeedPro XT.



©2023 Albaugh, LLC. All rights reserved. Albaugh, the A logo and Surmise are registered trademarks and SpeedPro is a trademark of Albaugh, LLC. Always read and follow label restrictions, precautions and directions for use.



“The first application is the most critical, as it helps reduce the spore population, slowing disease development over time.”

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

Disease battles never seem to end

Late fall is a time of reflection for golf course superintendents in the cool temperate regions of the United States. Post-summer stress management practices have been completed, and routine management practices have slowed, reflected in the slowing of turf growth. This lull is only a precursor to the most important disease control sprays of the season — those targeted at snow molds.

Snow molds in the northern U.S. are the most serious turfgrass diseases a superintendent will face. Due to the cold weather, snow molds often cause damage out of sight of golfers and stealthily under the cover of snow. The optimum time to control snow molds in the northern U.S. is after turf growth stops and before the first heavy snowfall.

The two main snow molds are *Typhula blight* and *Microdochium patch*. In the cool temperate regions of the country and the world, *Microdochium patch* causes the greatest damage to courses.

Cool, wet conditions found through early fall into early spring — 32 to 46 degrees F — are ideal for the pathogen *Microdochium nivale* to infect turfgrasses, leading to *Microdochium patch*. What makes this disease more prominent is that, unlike other major snow molds, a snow cover is not required.

Locations where wet cool conditions are extensive like areas in the United Kingdom, or New Zealand, *Microdochium patch* severity extends beyond a

“traditional” winter season.

Although turf managers commonly know this disease as pink snow mold, when it occurs under a snow cover, the official name is *Microdochium patch* (also formerly referred to as *Fusarium patch*). *Microdochium patch* is especially active on golf courses where annual bluegrass predominates, especially in shaded, wet, north-facing areas. In general, young, juvenile or lush turf is more susceptible than mature stands.

Microdochium patch initially appear as small patches, maybe 1 to 2 inches in diameter, that eventually reach 12 inches in diameter. Leaves become water-soaked and turn reddish-brown, then bleach-colored. In cool, wet weather, the leaves are matted together, especially on high-cut turf that becomes covered with a whitish-pink mycelial growth that is slimy when wet. The pink mycelium is often observed in the early morning. The circular patches may exhibit a pink coloration when exposed to light.

The pathogen, *Microdochium nivale*, is a profuse spore producer. Incredible spore loads develop around infected turf areas. These huge spore buildups may manifest in late winter or early spring along drainage ways, which, with moving water, can produce “streaks” of infected turf. Sometimes, these streaking patterns are misdiagnosed as cool-temperature *Pythium*. Cultural practices can help reduce the severity of *Microdochium patch*. Given that matted turf is more prone to it, regular mowing until the turf ceases growth would be recommended. Mulching or removing leaves from the turf can help reduce a wet, moist environment for the disease to develop under the leaf cover. Leaf removal in rough, shaded areas can help reduce the conditions favorable for disease.

On golf courses that use winter covers on greens, monitoring conditions under the covers is important. *Microdochium patch* can appear on greens that are subjected to humid and warmer conditions under the cover. In cases where disease might be expected, a preventative fungicide application would be suggested prior to covering.

Where *Microdochium patch* is a chronic and severe problem, preventive fungicides would be recommended. The first fungicide application is the most critical, as it helps reduce the spore population (inoculum level), slowing disease development over time.

This is an effective strategy in the United Kingdom, where *Microdochium patch* is a severe problem. A late summer or early fall application can slow *Microdochium patch* development, and subsequent applications help moderate the disease. 📍

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



UNCOVER SNOW MOLD-FREE TURF. GUARANTEED.

Feel confident with up to 130 days of control with the **GreenTrust® 365 Snow Mold Guarantee** and look forward to revealing healthy turf next spring.

Scan to download the Snow Mold Guarantee
GreenCastOnline.com/SnowMold



X  @SyngentaTurf

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.** GreenCast®, GreenTrust®, 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. Syngenta Customer Center: 1-866-SYNGENT(A) (796-4368).

®



As weather climates continue to change, superintendents must be ready for snow mold's unpredictability.

How to prepare for snow mold breakouts

By Chris Lewis

As Paul Koch, Ph.D., associate professor in the Department of Plant Pathology, at the University of Wisconsin–Madison, reflects on recent snow mold trends, he believes one especially stands out. More and more golf course superintendents are encountering ever-changing weather climates, which are decreasing snow mold control's predictability.



Paul Koch

“For example, more winter rainfall events lead to more rapid degradation of snow mold fungicides and reduced protection,” he explains. “Because of warmer temperatures, turf won’t be fully hardened prior to winter, either. In addition, turf will be highly susceptible going into snow cover, enabling snow mold to develop once conditions are conducive.”

To help avoid this trend — as much as superintendents can avoid fluctuating weather climates, that is — Koch advises them to *not* apply their snow mold fungicide as soon as a cold snap or light snowfall occurs for the first time

this fall. He stresses that this is especially important if their course encounters such conditions well in advance of their typical fall applications.

“The earlier those products are applied, the more exposure to rainfall and snowmelt events they will have, and the likelihood for degradation will increase,” he emphasizes.

In preparation for the future, Koch thinks the influences of steadily changing weather climates will not only vary, but be unpredictable too, even if winters become warmer. In fact, he believes that much of the U.S. will continue to experience the snow mold that it previously has, at least in some way.

“Superintendents must identify the snow mold that they typically experience on their course today and develop a control program specifically for that snow mold,” Koch says. “For instance, if their course now has pink snow mold rather than gray or speckled snow mold, they should use products like fludioxonil and iprodione, which have stronger efficacy against pink snow mold than demethylation inhibitors (DMIs) do.”

PHOTOS COURTESY OF: PAUL KOCH, QUALIPRO (TOP LEFT); NUFAFM (TOP RIGHT)

Albaugh Specialty Products

BRET CORBETT

Product Development Manager



Golf course superintendents can take several proactive steps to prepare their courses for potential snow mold outbreaks. Snow mold thrives under snow cover when the turf is not properly managed. To mitigate the risk, superintendents should apply fungicides in late fall before the first snowfall while combining contact and systemic fungicides for broader protection. Cultural practices — along with healthy turf maintenance — can also limit the disease outbreak. Superintendents should mow regularly until the grass stops growing and avoid heavy fertilization in late fall, as excessive nitrogen can promote lush growth that's susceptible to snow mold.

They should start preparing for snow mold in late summer to early fall, too. By monitoring weather forecasts and understanding the local climate, they can time their fungicide applications and cultural practices effectively.

Nufarm

RICK FLETCHER

Technical Services Manager,
Turf and Ornamentals



Snow mold is caused by cold weather fungi that primarily affect cool-season grasses in northern climates. Multiple pathogens cause these diseases, and each has climate conditions that favor its development, from cold and wet with no snow cover to frozen with prolonged snow cover. By knowing their area's historical weather patterns and previous snow mold events, superintendents can plan a winter season prevention program. They should also research the pathogens that are prevalent in their area, to receive insights into the effective mode of action (MOA) combinations and product choices that are available.

An effective approach to a season-long snow mold treatment plan involves combining three to five plant location and MOA strategies. For example, historical G-VG performers for pink snow molds are thiophanate-methyl, iprodione, flutolanil, fludioxonil and strobilurins. For gray snow molds, chemistries like pentachloronitrobenzene (PCNB) and demethylation inhibitors (DMIs), such as tebuconazole or metconazole, can be used.

Quali-Pro

BOBBY KERR, PH.D.

Technical Services Manager



Superintendents can prepare for snow mold outbreaks by applying a fungicide or a program of fungicides in the fall (typically in October). However, this is dependent on location and yearly weather patterns. The closer to snowfall the applications can be made, the better. There are three main snow mold pathogens that superintendents need to know about: gray snow mold (*Typhula incarnata*), speckled snow mold (*Typhula ishikariensis*) and pink snow mold (*Microdochium nivale*).

With four active ingredients in its formulation, one type of fungicide, known as Enclave, will offer superintendents consistent snow mold protection. During the 2021-2022 winter season, a single, 8 fl. oz. per 1,000 sq. ft. application of Enclave, prior to snowfall, controlled all three pathogens in trials from Idaho, Michigan, Minnesota, New York, New Hampshire, Oregon, Utah and Wisconsin.

Syngenta

LISA BEIRN, PH.D.

Technical Services Manager,
Northeast and Mid-Atlantic



It's never too early to begin preparing a course for snow mold. Snow mold prevention involves several critical elements though: properly identifying snow mold species, selecting a fungicide, understanding application timing and frequency and preparing for recovery efforts if needed.

For example, to select proper cultural and chemical control methods, superintendents must know whether their course is prone to pink, gray or both snow mold diseases. Fertility can impact the severity of *Microdochium* patch, so it is best to avoid urea or late-season potassium applications if *Microdochium* patch is a concern. Similarly, not all fungicides are effective against both species, so superintendents should select products that are labeled for the species that are present in their course.

It's critical to properly time applications before the onset of permanent snow cover, typically at the end of October or early November, varying by geography. The addition of a pigment can improve turf's overall quality and appearance too.

Get to know ABW

With ABW continuing to move west across the country, it's time to get familiar with this pest.

By Rob DiFranco

An annual bluegrass weevil (ABW) is traditionally an East Coast pest native to New York, where scientists first identified it in the 1950s. So, why now do superintendents as far west as Nebraska and Kansas face potential ABW damage?

According to Shannon Slevin, Northeast territory manager with Quali-Pro, part of the reason is sod from the East Coast making its way west.

“Unfortunately, we are seeing a little bit more activity popping up in the Midwest as far north as Michigan and also in Indiana, Kentucky and Tennessee. Part of that reason is accepting sod in those states from the East Coast. What happens is the ABW is just kind of wrapped up in a nice little package (in the sod),” he says.

With Midwest superintendents now needing to watch for ABW, it's important to know the warning signs and how to control this potentially damaging pest.

THE BASICS

Annual bluegrass weevil, as the name would suggest, feeds primarily on annual bluegrass (*Poa annua*), although it has been known to feed on other turf types like creeping bentgrass.

Signs of ABW damage begin as yellowish-to-brown spots or small dead patches of turf that eventually become large areas as larvae develop. ABW damage usually shows up on the edges of tees, collars, approaches and fairways.

Superintendents can sometimes



Quali-Pro's Suprado provides superintendents with a new mode of action against annual bluegrass weevil, targeting all stages of its life cycle.

mistake ABW damage for anthracnose, making scouting an important step for control. To successfully identify an ABW outbreak, superintendents need to get down and dirty, taking turf samples if necessary and sending them to their local Extension offices for testing.

Some more straightforward ways to know if you're dealing with ABW include flooding the affected turf area with soapy water to make the pest float to the surface or regularly checking clippings.

ONE TIMER

Slevin spent much of his career as a superintendent in what he calls “ABW-infested” areas of the country. Slevin served as superintendent at Old Oaks Country Club in Purchase, N.Y., and Shorehaven Golf Club in Norwalk, Conn.

“Most of my stops as either an assistant or superintendent were at heavily infested, if you will, ABW properties managing a lot of *Poa* surfaces with traditional chemistries prior to Suprado being available. On

average, I'd put down six applications a year focused on ABW control,” he says.

According to Slevin, the active ingredient in Suprado, novaluron, helps give superintendents a one-stop shop for protecting their courses against ABW.

“Traditional chemistries only focused on a specific part of ABW's life cycle and treat a specific stage,” he says. “So, timing was paramount depending on what product that you're using. Suprado works across the entire life cycle from adults to eggs to developing larval stages, just kind of breaking that cycle.”

Slevin adds that while superintendents often make a single application of Suprado at the beginning of the year for the entire season, he recommends rotating products for even better control.

“We recommend rotating. So (a superintendent) should follow up with another chemistry kind as an in-between. A lot of supers have adopted Suprado followed by Tetrino, which gives extended ABW and white grub control.”

PHOTOS BY: QUALI-PRO

BROUGHT TO YOU BY



QUALI-PRO SUPRADO

*Superior ABW control.
Wreck every stage!*



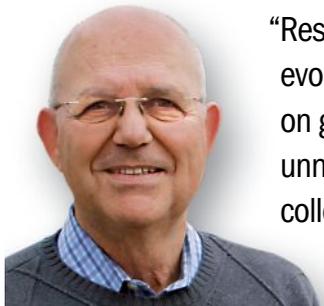
(Photos: Ben McGraw, Penn State University)

Learn
more
here!



INSECTICIDE

SUPRADO.COM



“Results indicated a possible long-term evolution of race-specific disease resistance on golf courses. This outcome went unnoticed by researchers when evaluating collections within a limited region.”

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

Remembering the short-lived Bentgrass Breeding Consortium

In 2000, scattered around the country, bentgrass breeding programs included New Jersey, Pennsylvania, Texas, Rhode Island, Michigan, Illinois, Wisconsin and Oregon. Many of these programs operated independently of each other or were poorly funded. While there was some collaboration between public and private programs, they primarily competed in developing cultivars for golf courses.

In 2003, the USGA initiated a multi-state bentgrass breeding program to identify and develop germplasm with better pest resistance. Each program had expertise, local knowledge and environmental conditions to support identifying resistance or tolerance to pest problems in their region.

The primary objective was to develop elite clones of creeping bentgrass with multiple pest resistances and stress tolerances for commercial breeders to create new creeping bentgrass varieties broadly adapted to various environmental conditions. The USGA financially supported the establishment of the Bentgrass Breeding Consortium, which included the USDA ARS, the University of Wisconsin, the University of Illinois and Michigan State University.

Three distinct populations of creeping bentgrass clones existed. The Wisconsin population was a cross between two clones that differed in resistance to gray and speckled snow mold. This

cross, consisting of 200 clones, was also utilized in genetic linkage and disease-resistance mapping.

The Michigan population included 200 clones collected from old golf courses, mainly for their high turf quality. The Illinois population included 200 clones that represent two generations of random mating of clones collected from old golf courses in Illinois.

THE EXPERIMENT BEGINS

Vegetatively propagated plants from the three populations were exchanged among the three states in February 2003. The researchers evaluated the clones maintained as golf course fairways for *Pythium* blight, pink and gray/speckled snow mold, dollar spot and black cutworms across all locations.

Unfortunately, the inoculations with pink snow mold, *Pythium* blight and black cutworm failed to provide meaningful differences among the creeping bentgrass clones. *Pythium* blight severely damaged all plants.

For pink snow mold, minor symptoms occurred due to mild winters with little significant snow cover. For black cutworms, the lack of variation among creeping bentgrass clones was due to problems with inoculation technique and symptom measurement.

Variation among the reaction of clones within three populations was significant for the dollar spot and the two snow molds, gray (*Typhula incarnata*) and speckled (*T. ishikariensis*). The Wisconsin population had the highest ratings for gray snow mold, while the Michigan population had the highest ratings for speckled snow mold.

Similarly, for dollar spot, the Wisconsin population had the highest mean rating in Wisconsin, the Michigan population generally had the best ratings in Michigan and the Illinois population had the highest ratings in Illinois. Dollar spot ratings were considerably more consistent across ratings made at different locations or years.

BEGINNING OF THE END

The results indicated a possible long-term evolution of race-specific disease resistance on golf courses. This outcome went unnoticed by researchers when evaluating collections within a limited region. Their results underscore the importance of collaboration between researchers at different locations, allowing for the evaluation of each disease across various environmental conditions and pathogen isolates.

Ultimately, the Bentgrass Breeding Consortium released 20 clones with the highest disease resistance and turf quality to private companies for breeding new creeping bentgrass varieties.

In the following years, the consortium had limited success in future research. Unfortunately, faculty retirements or reassignments ended the collaborative research effort by 2009. 📍

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

BE PART OF THE #1 NETWORKING
EVENT IN THE INDUSTRY!

Golfdom Summit

December 11-13, 2024

Reunion Resort - Orlando, FL

An exclusive invite-only,
all expenses paid experience.

Space is Limited.

Apply Today!



**20 one-on-one scheduled meetings
with leading industry executives**

- ▶ Presentations, peer panels and networking
- ▶ Exclusive event with your expenses covered (airfare, lodging, golf, food and drinks)

GolfdomSummit.com

Interested in becoming a partner?

Contact Craig MacGregor, cmacgregor@northcoastmedia.net,
216-526-5600

2024 Golfdom Summit Partners



The 19th Hole



Renee Geyer

CGCS // Canterwood G&CC, Gig Harbor, Wash.



Renee, what can I get you? A double Jameson on the rocks, so I can just sit down with you guys.

Tell me about Canterwood G&CC.

It's a very unique property. The course itself is about 100 acres of maintained turf, but the property is much larger — the course sits inside a homeowners association of about 700 homes inside the gates. It was developed in the late '80s as a horse trail equestrian destination, there are horse trails on the property. It's a great place with an engaged membership, and they truly care about the golf course.

How did you find your way into the industry?

I was that kid toting my mower around the neighborhood when I was little. My godfather taught me to play golf when I was 12 years old, so I got the golf bug back then. My first three

years of college were spent as a vocal music education and vocal performance major, then I realized I don't have to do something just because somebody else thinks it's a good idea. Then, I found this awesome career where I could combine a love of playing golf and my love of being outdoors. The rest is history.

What's your favorite tool to get the job done?

I don't say this in jest, I actually mean it: I was just blessed with a brand-new pump station this season, so that's definitely been making quite the difference in not only our agronomic success, but playability as far as what we are able to offer our membership on a daily basis. That has been such a blessing — I sleep so much better at night.

What do you and Emily do for fun?

Once September hits and the NFL starts up, we love watching sports together. We root for the (Cleveland) Browns and whatever fantasy football team I put together that beats people. We also enjoy theater and choir, so we go to concerts.

Give me a recommendation, it can be a movie, book, podcast, anything.

I'm not a movie person, which is interesting because my wife loves watching movies. I do like to read, though. I would say there's one thing worth trying if you've never done it: read the Lord of the Rings books in its entirety. It's a big undertaking, but it's amazing — Tolkien is an amazing author who paints awesome pictures for you to create in your head.

What's your most memorable day at work?

I have a hundred memorable days at work because so many special things have happened on the golf course. But my most memorable day was my last day at Firestone CC because it was the end of such a beautiful chapter of my life, and another door was opening, wide open, and all I had to do was jump.

Fill in the blank: The best thing about August is ____.

That July is over.
As interviewed by Seth Jones, July 5, 2024.

BROUGHT TO YOU BY



PHOTO OF RENEE BY: GOLFDOM STAFF; COURTESY OF BROWNS (HELMET); BOOKS (AMAZON); JAMESON (BOTTLE)

// BEST ADVICE

"BE KIND. THAT'S THE BEST PIECE OF ADVICE I COULD GIVE TO ANYBODY, BECAUSE IT'S REALLY IMPORTANT."





"THE TIME AND LABOR
SAVED AFTER HEAVY RAIN
SPEAKS FOR ITSELF."

CHRIS ZUGEL

Director – Agronomy, Landscape Hospitality, Real Estate Group
Destination Kohler

BEFORE

AFTER

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 Bunker Sand.

kafkagranite.com/golf | 800-852-7415



Natural Stone. Groundbreaking Solutions.

Time. Our greatest invention.

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

It's worth your time to see the difference. Schedule your demo today at www.turfco.com or call 800.679.8201

Torrent²
DEBRIS BLOWER



WideSpin[™] 1550
BROADCAST TOPDRESSER



TriWave[™] 45
45-INCH OVERSEEDER



Schedule your demo today at www.turfco.com or call 800.679.8201

