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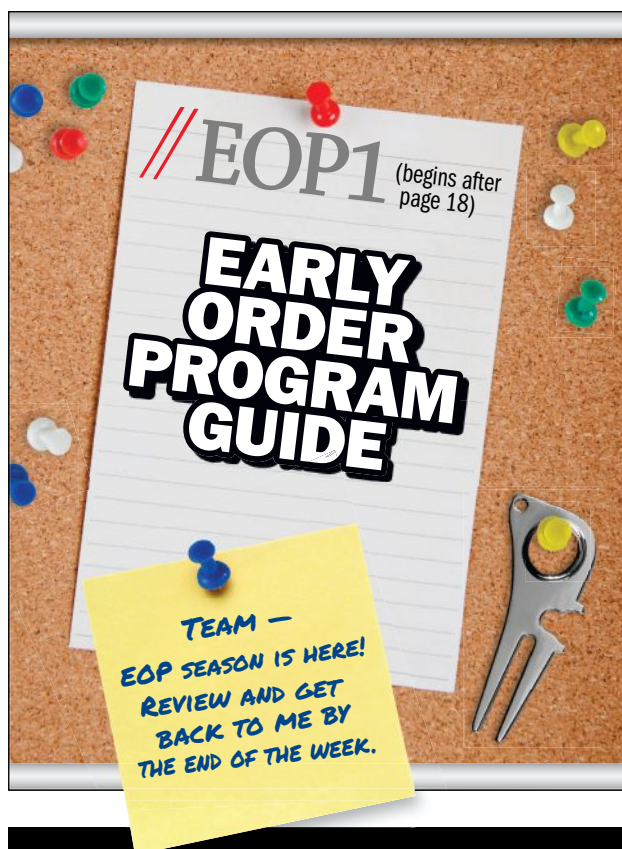
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"The following are first person accounts of the wildfires from superintendents in the region."

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

Ty Patton

Superintendent

TOKATEE GC

BLUE RIVER, ORE.

"We were having historic east wind gusts, up to 60, 70 mph. There were trees downed everywhere. A downed (power) line sparked a fire that was uncontrollable. I didn't realize how bad it was until at 11:30 a.m. last Monday, we got a level three evacuation notice. My crew met at the maintenance shop. You could see it burning up the hill, just raging.

It was a terrible feeling, even though we were upwind of it. We were watching a totally uncontrollable fire.

We're all sleeping in our maintenance shop currently because it's out in the open, and it's basically the safest place to be.

The interesting thing is that if you talk to the old-timers who have been in the McKenzie River Valley where we're located, they can't remember another forest fire, even in the vicinity. All of a sudden, we've had three in the last four years.

When we evacuated, we had to go around to the east. When I finally got to civilization again where I had internet, I learned that the fire had traveled more than 20 miles in five hours. It had destroyed the town of Blue River. My understanding is that there are more than 500 houses that are gone, more than 50 people missing at the mo-

Continued on page 47

Wildfires of 2020

In mid-September, I called my old friend Dave Phipps, longtime superintendent and now GCSAA Northwest field staff representative, to see how things were in Oregon. Wildfires have ravaged much of the West, burning millions of acres, thousands of homes and killing numerous people.

Dave and his family were safe in his home in Oregon City, Ore. He was just about to leave his house when I called him. He was heading to Home Depot to buy more air filters for his house. He showed me what his filter looked like. It was just a week old, but it looked like it had a year's worth of wear on it. For a few days in September, Oregon had the worst air quality of any place on earth.

"I'm sick of 2020. What else can this year throw at us?" Dave asked. It's hard to say, but the wildfires aren't the only current natural disaster. As of press time, Tropical Storm Sally is battering Alabama and Florida, and there are seven "areas of interest" in the Atlantic that are



In the McKenzie River Valley in Oregon, near Tokatee GC, "once-in-a-lifetime" wildfires have become much more common.

threatening to become major hurricanes.

As our team started compiling interviews with superintendents in Oregon and California, we realized

we needed to give these poignant stories the space they deserved in the magazine. The following are first person accounts of the wildfires from superintendents in the region.

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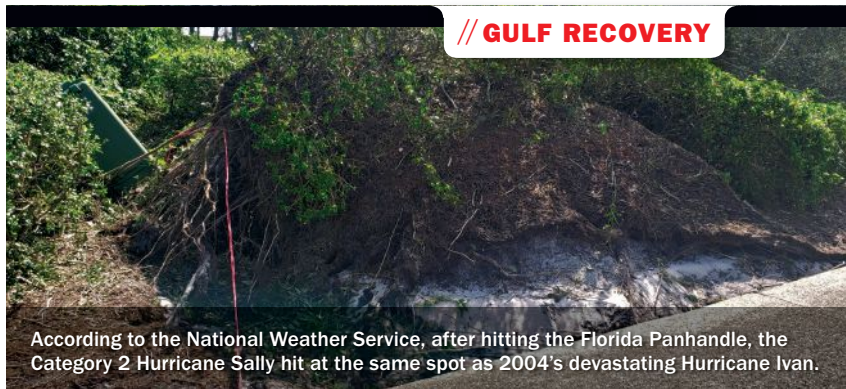
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Starter

NEWS, NOTES AND QUOTES



// GULF RECOVERY



According to the National Weather Service, after hitting the Florida Panhandle, the Category 2 Hurricane Sally hit at the same spot as 2004's devastating Hurricane Ivan.

HURRICANE SALLY HITS GULF SHORES

BY ABBY HART // Senior Editor



At 4:45 a.m. on Sept. 16, Hurricane Sally made landfall near Gulf Shores, Ala.

"We all thought this was just going to be a regular storm, no big deal, we'll have a little flooding, and we'll be back to work (the next day)," said Jamey Davis, CGCS at Peninsula Golf Club, Gulf Shores, Ala.



Jamey Davis

The crew prepared the 27-hole property for Sally for several days prior to the storm. On Tuesday, Sept. 15, the storm intensified, bringing 2 feet of rain before the slow-moving hurricane even made landfall. "You didn't even realize that that wasn't the meat of the storm," Davis said.

Davis reported that about two dozen houses in his nearby neighborhood of Orange Beach were hit badly, with many people walking out of their damaged homes with little more than the clothes on their backs. Luckily, Davis said he was able to account for his entire crew the day of the storm. After securing his

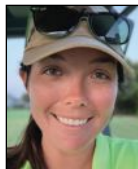
house, he jumped in his truck to survey the damage at the course.

"We had 120 mile-per-hour winds ... huge hardwood oaks broken right in the center of the trunk," he said, adding that the property is reporting about 600 trees down, flooding and structural damage to both its clubhouses.

Second Assistant Superintendent Morgan Taylor said the crew first started chopping down trees to get to the maintenance shop and then clearing brush so that the houses surrounding Peninsula could have access out of their homes.

She said the crew is making good progress, and the cleanup is creating a sense of community with other employees at the course. "We have a lot of motivation knowing where we are and where we want to be," she said.

For now, the crew is hard at work. "It's a big undertaking ... this is at least a six- to eight-week process, if not longer," Davis said.



Morgan Taylor

// A JOLLY GOOD FELLOW

NMSU TURFGRASS EXPERT RECOGNIZED BY CROP SCIENCE SOCIETY OF AMERICA

Bernd Leinauer, regents professor at New Mexico State University (NMSU), has been nominated and elected as a 2020 Fellow of the Crop Science Society of America.

The award is presented for outstanding contributions to crop science through education, national and international service and research. The fellow designation is the highest recognition bestowed by the Crop Science Society of America, and only 0.3 percent of the members have an opportunity to be elected as a fellow.

Leinauer has been with NMSU since 2000 as the turfgrass specialist in the College of Agricultural, Consumer and Environmental Sciences Cooperative Extension Service. Leinauer has already been awarded an American Society of Agronomy Fellow in 2017. He received his master's and doctoral degrees from Hohenheim University in Stuttgart, Germany.

Leinauer will receive his award virtually during the National Agronomy Meeting Nov. 8-11.

// TEAMING UP

TURF CARE SUPPLY TO DISTRIBUTE KOCH FERTILIZERS

Koch Agronomic Services, operating under its corporate brand Koch Turf and Ornamental (Koch), and Turf Care Supply Corporation (TCSC), reached a definitive agreement to grant TCSC an exclusive license to market and distribute the following Koch turf fertilizers in North America: Duratio, Hydrex, Nitroform, Nutralene, Uflexx, Umaxx and XCU.

The agreement will also provide TCSC an opportunity to purchase and resell Nitamin fertilizer to turf professionals.

TCSC is one of the nation's largest blenders and packagers of fertilizer products as well as the largest producer of coated nitrogen products for the turf industry, according to the company. TCSC has formed a new entity, Allied Nutrients, to market and distribute these technologies.

As part of this agreement, members of the Koch team will transition to Allied Nutrients.

//BIG PLANS AT PINEHURST

USGA unveils plans for facilities and US Opens at Pinehurst

➔ The United States Golf Association (USGA) will establish “Golf House Pinehurst” in North Carolina. It’ll include a new equipment-testing facility, innovation hub, museum/visitor center and offices by 2023 and will host five U.S. Open Championships in the golf-rich state by 2047.

“There is no better place for the USGA to plant new roots than the Home of American Golf,” said Mike Davis, CEO of the USGA. “Thanks to the vision of North Carolina, Moore County and Pinehurst leaders, we are taking a bold step forward and forging a long-term commitment that will elevate our championships, foster greater innovation in golf and ultimately help grow the game.”

The announcement adds four U.S.

Open Championships to be contested on the famed Pinehurst No. 2 course — in 2029, 2035, 2041 and 2047 — to the already scheduled 2024 event.

The total \$25 million investment over the next several years includes the construction of two buildings to be located near the clubhouse on the historic Pinehurst Resort property, housing 50 full-time USGA staff members. The campus will feature the USGA’s Equipment Standards Test Center, a laboratory dedicated to testing golf balls and clubs for conformance to the Rules of Golf. A USGA Golf Museum experience will also be added, giving visitors a chance to delve into the association’s premier collection of golf artifacts and connect them more deeply with the game’s rich history.

//UK BOUND

TEXTRON TO RELOCATE JACOBSEN PRODUCTION TO UK FACILITY

Textron Specialized Vehicles, a Textron company, will relocate all manufacturing of Jacobsen professional turf equipment to its facility in Ipswich, U.K. The move will begin this fall and be completed in stages over the next several months.

This move will enable the company to focus its investments, skill and improvements in mower production on a single facility and leverage existing resources and expertise at its Ipswich facility. The plant, which currently builds Jacobsen and Ransomes mowers, has been in operation for more than 187 years. The U.K. facility will produce mowers for all regions, including North America. Jacobsen will maintain its sales, parts and customer-care teams in North America, and its network of North American distributors, to serve its customers in the U.S. and Canada.

“We are excited to establish our Ipswich, U.K., facility as the worldwide manufacturing center of excellence for Jacobsen equipment,” said Simon Rainger, vice president, turf for Textron Specialized Vehicles.

//BRINGING HOME THE HARDWARE

GOLFDOM EARNS GOLD AT 2020 TOCA AWARDS

At the virtual 2020 Turf and Ornamental Communicators Association (TOCA) annual awards ceremony, *Golfdom* walked away with some hardware. The magazine earned 12 awards, including “best in show” Gardner awards for the July 2019 cover story on the goat caddie program at Silvies Valley Ranch, and best single photo for the February 2019 story, “The Big Idea of the Mini Course.”

“These awards make it clear the team is doing stellar work, but what makes me even more proud is to look back at how the team has deftly navigated the waters of a tumultuous 2020 and continued to serve its readers without pause,” said Craig MacGregor, publisher, *Golfdom*. “More good things are in store for *Golfdom* and its readers.”

GARDNER AWARDS (best in show)

Writing, operations profile, “Four-legged loopers,” Clara Richter

Photography, best single photo, “The Big Idea of the Mini Course,” Pete Seltzer, Kelly Smith

FIRST PLACE

Writing, operations profile, “Four-legged loopers,” Clara Richter

Photography, portrait/personality, “Herb

Graffis Award cover,” Fernando Gaglianese

Photography, Best single photo, “The big idea of the mini course,” Pete Seltzer, Kelly Smith

Photography, Best magazine cover, “Four-Legged Loopers,” Pete Seltzer, Silvies Valley Ranch

Column writing, Seth Jones, “Maybe it’s the mirror”

Special projects, Best coverage of an on-site

event, “Women in Golf,” *Golfdom* Staff

MERIT

Photography, portrait/personality, “U.S. Open/Chris Dalhamer,” Joann Dost, Pete Seltzer

Photography, best print magazine cover, “The grass is greener,” Pete Seltzer

Photography, Best single photo, “State of the industry cover,” Pete Seltzer

Photography, Best single photo, “Four-legged loopers,” Pete Seltzer, Silvies Valley Ranch





“(Chapman’s) cars were notoriously fast but fragile, but that didn’t matter provided it broke down *after* it crossed the finish line when its job was done.”

ALAN FITZGERALD, *superintendent,*
LedgeRock GC, Mohnton, Pa.

Racing to better turf

Anthony Colin Bruce Chapman is not a household name, but anyone who knows anything about cars will instantly recognize Colin Chapman as one of the most formidable automotive engineers of all time and the founder of Lotus Cars. At its peak, the little British car company won its class at LeMans, seven Formula 1 championships, the Indy 500 and the World Rally Championship — a feat that no other manufacturer has accomplished. The road cars also weren’t too shabby, with the Esprit starring as 007’s automotive eye candy in two Bond movies.

Chapman was very successful right up to his untimely death in 1982. At the time, his name was mired in controversy due to his dealings with John DeLorean and DeLorean Motor Cars. Chapman was annoyed the American received U.K. government funds for his car company, which Chapman couldn’t secure for his British company. Lotus ended up engineering the DeLorean and Chapman allegedly siphoned off a lot of government cash through a shell company with DeLorean. If nothing else, his story (and DeLorean’s) are fascinating and make for an interesting read or watch — depending on your pastime of choice.

Chapman revolutionized motor sport. Much of what is now the standard to build a race car comes from his innovations, along with other ideas that are taken for granted today, like sponsorships on the cars. He looked at how to build a car differently from everyone else, and when his cars started winning, it upset the establishment, including one Mr. Ferrari. Chapman’s underlying mantra was simplify and then add lightness. While it has never been proven that he actually stated those words, it sums up his philosophy: Make the car as light as possible and just reliable enough to win the race. His cars were notoriously

fast but fragile, but that didn’t matter provided it broke down *after* it crossed the finish line when its job was done.

You can make a car faster by adding a bigger engine — which adds weight. Then you need bigger brakes — which adds weight. Then you need bigger wheels to cover the brakes — which adds weight. The net gains are not great as you keep adding weight, which negates the power increase. Chapman’s philosophy was the opposite. Take away weight and the objectives are reversed ... smaller engine equals less weight. You get the added benefit of a smaller, lighter car, which is more nimble.

So, what does any of that have to do with turf? For a number of years, I have wondered if there is a Chapman way to grow grass. I can’t stop thinking that in the ’90s, when plant growth regulator (PGR) usage became commonplace, it was like adding the big engine to go faster. Everyone jumped on board as the PGRs helped speed up greens by retarding growth. However, the turf is still fertilized for plant health. This fattens the plant, necessitating more topdressing, verticutting, etc. With the turf not growing as much, it is more difficult to incorporate topdressing into the surface, which initiated the switch to light frequent topdressings. All of this increases the need to pull cores to manage the organic matter being produced. So, by attempting to do less, did we create more work?

COVID-19 has changed the world, limiting our resources, how we work and how we approach our jobs. The new normal has us looking at new ways to achieve the same goals with less. Maybe this is the time to be like Chapman and take a fresh look at what we are doing. Maybe stripping some things back is actually the way forward.

Then again, we want healthy turf that continues to survive once it crosses the line, so maybe we’re there already, and there’s nothing to change ... but it’s fuel for thought. ☺

Alan FitzGerald (alan@ledgerockgolf.com) is superintendent at LedgeRock GC in Mohnton, Pa.

How to get the job **you want**



Carol Rau, a speaker at the Bayer Women in Golf conference, shares her top career tips

Golfers love golf, not turf,” is one piece of advice Carol D. Rau, PHR, offers frequently to job seekers in the golf industry. Regaling a private club’s greens committee with tales of taming turf isn’t going to land you the job of your dreams, she says. Rau would know. She’s an HR expert who has worked with the GCSAA, and she’s a former president and greens chair at her local golf club.

So, how do you get the job you want?

“Remember that when these hiring managers are hiring their leadership team, they’re looking for business qualities like leadership, problem-solving and integrity,” Rau says.

“Those are the aspects that are going to stand out, not only how you are going to grow the grass.”

We asked Rau for a few more of her top career tips. Here’s what she said.

Q: What’s the best way to stand out during a job search?

A: My whole career has been researching this question: What do hiring managers want? Basically, it’s a mix of business and soft skills. In critiquing resumes for GCSAA members for about 15 years, so often, the resume would just be a document about how

to grow grass. In my opinion and in my research, it can have a little bit of that information, but it needs to be about why should they choose you to be part of their leadership team. You don’t stand out by listing all the different grasses you can grow. They want to know about you as a leader, person and team member. Those are the keys to achieving your career goals in the golf industry.

Q: What’s an overlooked part of the job search strategy?

A: There are a lot of jobs in golf and other industries that are never publicly posted. You hear about those by getting involved. Volunteer with your local GCSAA chapter or turf association. View every relationship with everyone you meet as an opportunity. One example is salespeople and other partners in the golf industry. A lot of times, (hiring managers will) ask the local well-known salespeople, “Do you know anyone we should talk to?” Every member you meet could influence your next job. Or, your golf professional may move to another club, and that’s the club you’ve always wanted to work at. Those are the people who are going to help you build your network so you will know about those unposted jobs and be someone they’ll consider.



Carol D. Rau, PHR



Q: What’s your No. 1 interview tip?

A: You control the first impression. Be very intentional about your opening minutes. Be prepared to shake hands, or bump elbows in this (COVID-19) environment, smile and make eye contact. They’re going to decide in those opening moments if they will select you.

Even in the interview, it’s easy to default back to your wheelhouse, which is the growing grass side. Again, don’t just dive right into the agronomic side of things. Shift your answers more to your business skills or soft skills, like your attitude or integrity. Everyone who gets the interview can do the job. The question is, “Are you the right person for our particular golf facility and our leadership team?”

// SET FOR SUCCESS

Gearred up

BY SARAH WEBB

Advanced features on greens mowers are changing the game

Gone are the days of pulling the ol' greens mower out of the maintenance shed and relying on — or worrying about — crew members properly calibrating the settings for each application.

Instead, these days, greens mower technology has advanced so far that superintendents can set and lock a wide array of supervisory controls, including the mow speed, transport speed, frequency of clip, raise and lower speed and cleanup pass speed — just to name a few.

“By taking the controls away from the operators, they are able to just concentrate on mowing,” says Tracy Lanier, manager of golf product marketing for John Deere Golf. “It takes some stress off the superintendent because they don’t have to worry about how the machine is going to operate on the course, and it takes some stress off the operator because, especially if they’re not skilled or seasoned, they can still go out there and mow like they’ve been mowing greens for a good number of years.”

Rob Hayward, product training manager at Jacobsen, adds that cut consistency has improved with these innovations, and superintendents can expect the first green to be cut in exactly the same way as the 18th green.

“Greens are a very precise playing surface,” he says. “With operators, you can get a steady operator or one who is a little too enthusiastic. Now, the superintendent can dial in a better quality of cut, or better frequency of cut, and lock that behind a pin number, so it

doesn’t matter what the operator does, even if he wants to finish a bit quicker, it’s set to exactly what the superintendent wants. There’s nothing the operator can do to bypass that. Literally, from the first moment that unit is dropped on the green to the last green that’s mowed, it’s the same consistency.”

On the edge of efficiency

Lanier acknowledges that many of the greens mower innovations stem from the labor woes on golf course crews.

“In our interactions with customers, we understood they were having a hard time getting the help to mow greens,” he says. “The staffs were always getting scrutinized as far as budgets, so as the economy got better and it got harder to recruit into the golf course environment, we really needed to take the greens mower to the next level with the 2700 and 2750.”

At Big Cedar Lodge in Ridgedale, Mo., controlling and adjusting the settings helps cut down on the number of headaches for crews and management alike, according to Todd Bohn, director of agronomy.

“The mowers stay on that adjustment, so it cuts down on time for my equipment technicians having to be out in the field with the mowers,” he says. “It ensures you get a good quality of cut, and you don’t have to be out there to babysit your mowers because you know they’re going to be mowing as good as they can be.”

Continued on page 15



Setting supervisory controls on greens mowers helps take stress off superintendents, and operators alike.

LEGENDS INITIATIVE



TED HORTON, CGCS

Former superintendent at Winged Foot GC, Westchester CC, Pebble Beach Co. and BrightView Golf Course Maintenance, et al.

By Seth Jones

Started by Anuvia, the Legends Initiative celebrates superintendents who have gone above and beyond in their careers — not just in maintaining tremendous golf courses, but also in their contributions to the industry, creative problem-solving and mentorship. *Golfdom* sat down with Anuvia Legend Ted Horton, CGCS, to reflect on the golf facilities he's served, the advancement of the profession and the best thing about his career.

Ted, what are you up to these days?

I'm fully retired. I'm continuing to volunteer as a board member with Audubon International. With that, I've gotten very involved in Monarchs in the Rough. I also volunteer with Helping Hands, which provides food to needy senior citizens. There's a section where we get calls for families who need ramps built on their homes. Slowly but surely, our ramps are getting more compliant!

You have had a storied career as a superintendent. How do you reflect on the places you've been and the golf you've seen? I started my career at 22 years old as superintendent at Winged Foot Golf Club. From my experience of having seen a number of very fine clubs, that is one of the finest golf clubs. I deliberately call it a golf club because it is pure golf. I then went to Westchester Country Club,

which I still feel is one of the finest country clubs. Those both still serve as examples of the purest forms of golf clubs and country clubs. Then, I had the opportunity to work at Pebble Beach Resorts. I think Pebble Beach is one of the finest American resorts we have. So, I've seen some of the finest and purest forms of those three types of golf.

How has the superintendent job changed since you started at Winged Foot in the 1960s?

The golf course superintendent has become increasingly more professional as the years have gone by. Technology has changed dramatically. Environmental awareness... as an early superintendent, I think we cared about our properties, but I don't think we fully understood the overall interaction of everything we were doing vis-a-vis the environment and our maintenance. Safety

awareness is a world of difference than what it used to be. I think the elevation of the profession in the public eye (has improved). People are far more aware of what a superintendent does and are far more prepared to value that profession than they were before.

What has been the best thing your career as a superintendent has brought to you personally?

Nancy and I made friends all over the world. Friends I'd call good friends. We don't call them every day, but if and when you need help, there's always someone who is going to pick up the phone when you call. The experiences of traveling to Morocco, Taiwan, Thailand and the stories relative to those places are fascinating. And, in most cases, my family got to travel with me. The profession has been very good to me. It's been a wild and fun ride.

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**Audubon
International**





Finding mower operators is a challenge, and advanced greens mowers allow new operators to cut like seasoned pros.

Continued from page 13

The five-course facility uses a variety of John Deere equipment, including the 2500 triplex greens riding mowers and the 260 walk-behind mowers.

Bohn adds that setting the adjustments also helps when it comes to ensuring prime conditions for the state and local tournament the resort golf club has hosted.

"I always get good comments on how our greens roll and how high of quality the cut is from the players," he says. "I like how they move with the contours of the greens a lot better."

Lanier notes that several other superintendents have lauded the importance of setting the ground-following ability on the units.

"As we looked at more customers moving away from a walk greens mower and going to a riding greens mower, we knew they'd need to be able to follow the contours better on the greens so we spent a lot of time taking it to the corner conditions for contour following," he says.

"Operators can follow the most undulating greens, keeping that cutting unit on the green so they get that nice quality of cut, just like you would with a walk greens mower."

Pick your position

When it comes down to choosing which settings to adjust and lock, Lanier says superintendents need to think about what they're trying to accomplish for their course.

"If they are on a course with a lot of surrounding houses and they are mowing greens early in the morning and want to be quiet, they can set the engine mode to the lowest engine RPM

Continued on page 16

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// SET FOR SUCCESS

Continued from page 15

setting — that's about 2,200 RPMs — and it'll stay at the setting the entire time so

the sound level is low," he says. "In some cases, superintendents are looking at fuel savings, so they can set it in economy

mode, and that adjusts the RPMs, so it's only outputting the power it needs. If they're out verticutting and need maximum power, there's a mode to set that up to do the most demanding job."

In addition to lockable settings, lithium technology is also stepping up to the plate — or rather, greens — as a new innovation in the greens mower market.

For example, Jacobsen recently partnered up with Samsung and will use the latest version of its battery systems, the Samsung SDI battery, to power the Eclipse 360 machines, which are set to roll out into the market in early 2021.

"Battery technology has been around for a very long time, but it's the lithium now that is really making a huge difference in the marketplace," Hayward says.

As greens are a precise surface that require attention to detail, ground-following settings help ensure a consistent cut.

PHOTO BY: JOHN DEERE



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"People are looking at costs, and fuel costs are going up all the time. Lead-acid batteries, while they're very effective and still in use throughout the world, there's a certain amount of maintenance needed for them, but with the lithium, the maintenance is zero, they're lighter and have minimal noise and vibration."

He adds that with traditional lead-acid batteries, operators haven't been able to make it around one cut of the course, but with lithium technology, the machines are performing three rounds of mowing, with accessories attached, and they still have some charge left at the end.

"If you think of the practicalities as to how many holes you can complete before you return to the shed for a recharge, in terms of operator efficiency, that's a huge benefit," says Simon Rainger, vice president of turf for Jacobsen.

Hayward says the environmental



Past battery-powered equipment may have slowed down operators because of recharge time, but lithium technology can make it around a course's greens three-plus times.

friendliness of battery-powered greens mowers is another factor for superintendents to hang their hats on.

"It's not just one specific item superintendents are looking at now; they're look-

ing at the much bigger picture. And, with golf courses being a natural environment, they want to also help that environment, and lower noise and emissions all go toward that end." ©

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HIGH-FLYING DATA AT YOUR FINGERTIPS

BY CHRISTINA HERRICK

How a combination of in-ground soil sensors and daily drone flights has helped Meadow Club cut costs and inputs while creating tournament-quality conditions

It's been three days in a row of temperatures in the mid-90s at Meadow Club in Fairfax, Calif. The evapotranspiration rate (ET) on the course has skyrocketed. Kevin Hauschel, superintendent, and Sean Tully, director of grounds, are developing a plan to handle heat stress throughout the property using new technology.

To keep close tabs on conditions, Meadow Club uses a combination of in-ground sensors from Soil Scout, GreenSight's TurfCloud daily drone service, and Spectrum TDR 350 soil moisture meters.

Every year, the course, designed by Alister Mackenzie, experiences a 4 percent rate increase on water, service fees and any other associated costs with the water, Tully says. He estimates the Meadow Club's water budget in

seven years will reach \$400,000 a year.

"We're trying to minimize our use and maximize its potential," Tully says.

Introducing technology in the form of in-ground sensors and overhead imagery has helped the course keep water use, diseases and biological and mechanical stress in check, Hauschel says.

"We're not being as reactionary," he says. "That means we're not having to apply so much

Continued on page 43



A SUPPLEMENT TO

Golfdom

EARLY ORDER PROGRAM GUIDE




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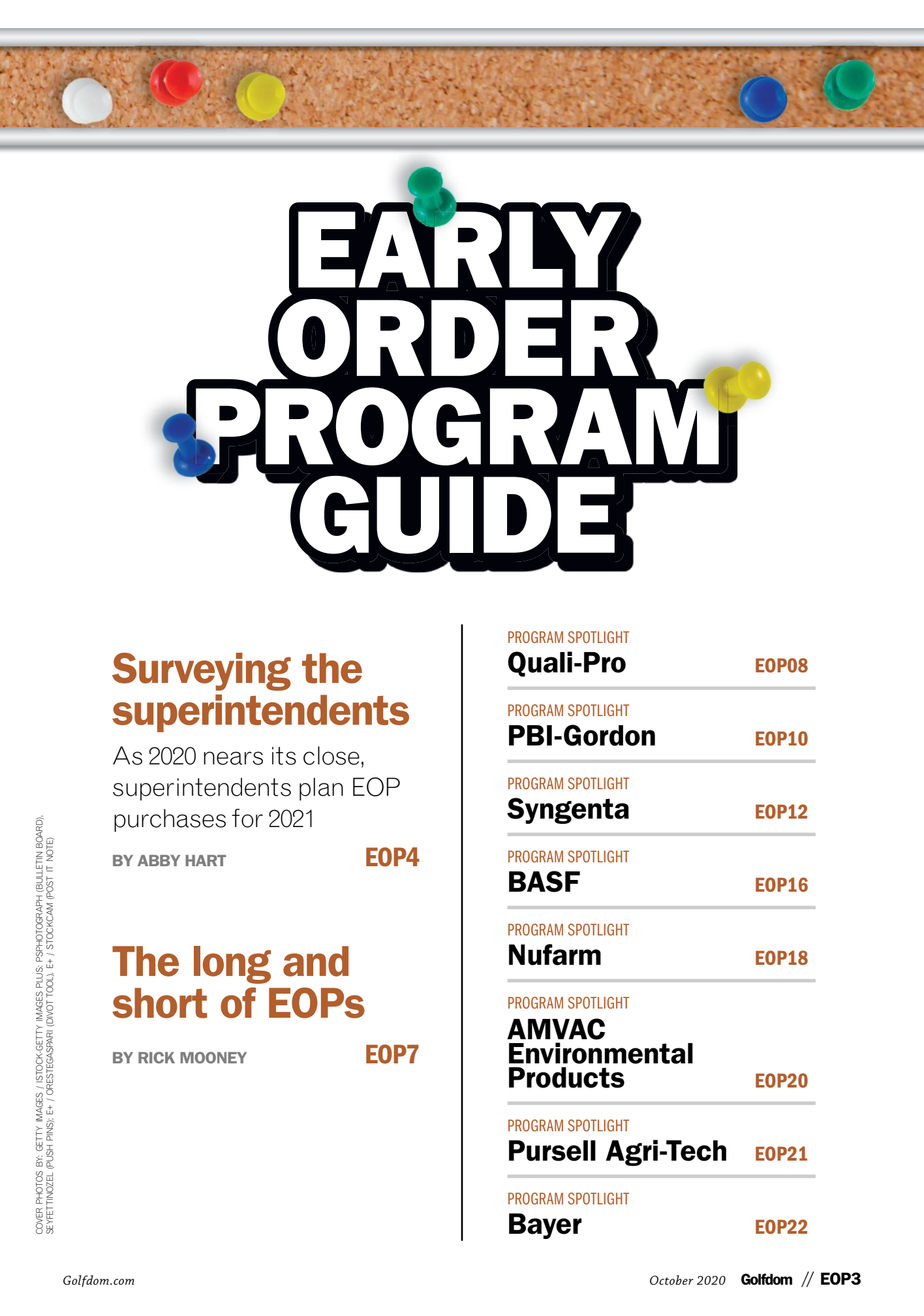
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EARLY ORDER PROGRAM GUIDE

Surveying the superintendents

As 2020 nears its close, superintendents plan EOP purchases for 2021

BY ABBY HART

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BY RICK MOONEY

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Surveying the superinten

As 2020 nears its close, superintendents plan EOP purchases for 2021

BY ABBY HART

Early order programs (EOPs) can be a source of stress for superintendents in a typical year — reflecting on past turf problems and fielding calls from salespeople while still in the chaos of the golf season. Then throw in a global pandemic as maintenance was about to kick off for the 2020 season in many parts of the country, and that has the potential to shake up even the best-laid plans.

In May and June, *Golfdom* surveyed readers about their opinions on EOPs and their outlook on how they plan on ordering for the 2021 season. In September, we interviewed a few superintendents to get their takes on EOPs. Here's what we learned.

Worth the work

"I'm just a huge fan of EOPs, because I feel if you have a history at a facility and your agronomic plan, you know what you're going to do, unless something crazy gets thrown your way," says Matt DiMase, director of agronomy and landscape at The Abaco Club on Winding Bay, Great Abaco, Bahamas.



Matt DiMase

DiMase says that he purchases 95 percent of his fertilizer and pesticide chemicals through an EOP. Considering that he's on an island and doesn't really know what to expect weather wise, he says he tries to buy his entire agronomic plan for the year during EOP season.

"I feel like you can save dollars and if you can commit to the product you're going to use — why not do it?" he says, noting that with manufacturer rebates that come at year-end, ultimately, superintendents' cost per acre for any EOP



comes out cheaper than if they didn't purchase in an EOP.

As for the younger superintendents or those just working on their first EOP, DiMase says your first several EOPs and the first order you do are the hardest.

"It's a challenge, and most GMs will challenge superintendents, because when we turn in that EOP order that's in the six-figure range, that's a big number for accounting," DiMase says. "If you show (your club) the value, where you're getting a percentage back and that you're actually saving money, it will show them that you're spending dollars in the best interest possible. My advice is work through it and understand it."

With paspalum turf and a subtropical environment in the Bahamas, DiMase's typical EOP purchases include Primo

PHOTO BY THE ABACO CLUB



dents

83% AGREE OR STRONGLY AGREE THAT BETTER PRICES OR LARGER REBATES ON INDIVIDUAL PRODUCTS ARE A REASON THEY PARTICIPATE IN EOPS

68% AGREE OR STRONGLY AGREE THAT EXTENDED PAYMENT TERMS ARE A REASON THEY PARTICIPATE IN EOPS

The Abaco Club in the Bahamas tries to order an entire year's worth of products through early order programs. Pictured here are the club's fifth and sixth greens.

Maxx growth regulator and fungicides. "Given where I am, I can't just have a vendor show up on the weekend with a truck full of Segway if I have *Pythium* pop up," he explains.

Despite the uncertainty blanketing the industry since the beginning of the coronavirus, DiMase doesn't intend to adjust his early order program plan for 2020.

"There have been some discussions about my 2021 budget being slightly modified, but I have several line items that are untouchable, and one of those is my fertilizer and chemical budget because of what we just endured with (Hurricane) Dorian," he explains. "But, COVID has not really affected it."

A cautious approach

Tom Brodeur, golf course superintendent at TPC Boston in Norton, Mass., wasn't an early convert to EOP programs.



Tom Brodeur

He says that since chemical companies have adapted and provided discount levels to achieve and become more user friendly, he's come around. "At some point, you're probably throwing money away if you don't

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EARLY ORDER PROGRAM GUIDE

Continued from page EOP5

use them,” he says. “The hard part is trying to predict what the next year will be, so I like to leave some room to adapt — especially this year. I’ll have to be careful so as not to overextend ourselves.”

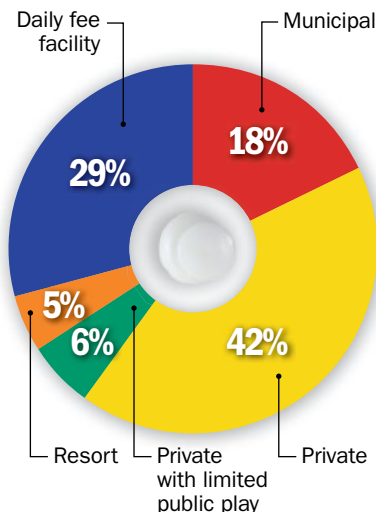
Tim Davis, golf course superintendent at Legacy Ridge GC in Westminster, Colo., agrees with the cautious approach. He typically plans to purchase 30 to 40 percent of his agronomic program through early order programs — PGRs and fungicides in particular.



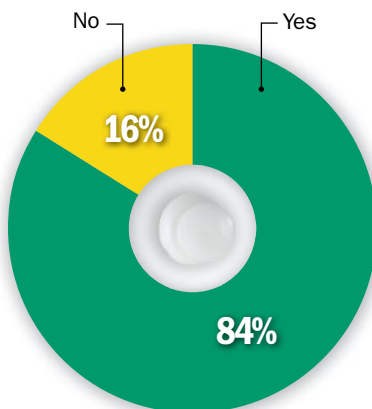
Tim Davis

“I wouldn’t want to operate strictly on EOPs, but it’s very useful for the products that make up the backbone of your agronomy program,” he says. “If you know you’re going to buy something for next year, use an EOP — that’s usually the best price you’ll get.”

DESCRIBE YOUR COURSE



DID YOU PARTICIPATE IN 2019 EOPS?

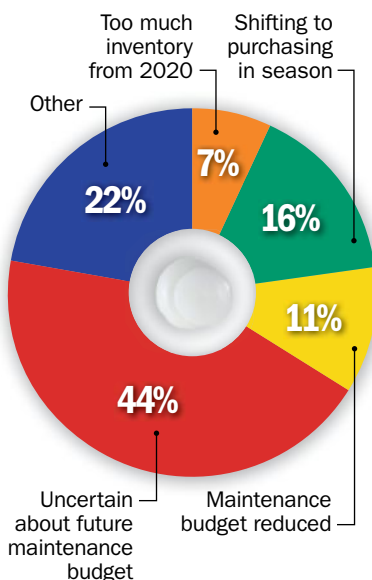


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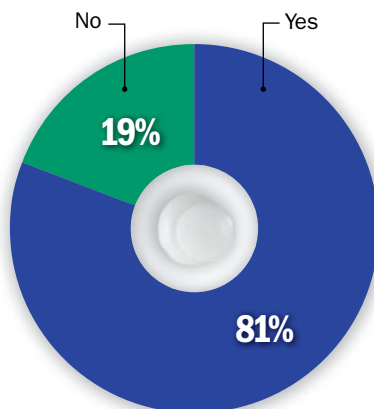
Going into the 2020 season, Paul Culclasure, CGCS of Kilmarlic GC, Powells Point, N.C., was comfortable. “For the most part, I knew what I was going to order for basic preventive programs,” he says. “I knew what I was going to need for the upcoming year, and it worked out well.”

Then, the pandemic hit, and Cul-

WHAT IS YOUR PRIMARY REASON FOR NOT PARTICIPATING IN 2020 EOPS?



WILL YOU PARTICIPATE IN 2020 EOPS?



clasure says that the bridge into his small island town shut down.



Paul Culclasure

“I was a little panicky,” he admits. “I had all this chemical sitting here in the shop, and I didn’t know if I was going to be able to pay for it.”

Luckily, the club opened after two months and has been having one of its best years ever.

On an average year, he estimates that he saves about \$10,000 to \$15,000 — enough to basically pay for his preemergence products.

For the 2020 EOP, Culclasure has decided to flip from his typical 60 percent of his product on EOPs and 40 percent buy-as-you-go, to 40 percent EOPs and 60 percent buy-as-you-go.

“With bentgrass in the Southeast and the summertime, it’s stressful, it’s tough. For me, EOP season is like a holiday. They’re a reset button. It’s like ‘Fall’s here — now I can start planning my program for next year.’” **G**

Editor’s Note: As of press time, Paul Culclasure has left Kilmarlic GC and is now a sales arborist at SavATree.



"I believe that a highly educated staff with ongoing learning and networking opportunities provides the best long-term benefits to my company and the industry."

RICK MOONEY, VP of maintenance and development,
Shore Lodge | Whitetail Club, McCall, Idaho

The long and short of EOPs

Throughout my years in the industry, I have seen early order programs evolve to become a useful tool for my facility and ownership. It is not every day that someone comes along with a program that lets you commit to purchase, deliver and pay eight to nine months later at a discount. It is important to realize this program has benefits for the manufacture and distributor as well, but let's focus on what the end-user benefits are.

Let me explain why these programs are well suited for Whitetail Club. You may argue my point, but here are my thoughts.

Our largest turf threats are winter kill and snow mold, so we spray our largest and most expensive applications headed into fall and winter. This program then becomes an order. We receive and utilize the product, while paying on extended terms with program pricing and rebates.

From my perspective, this means the distributor and the manufacturer are taking the greatest risk.

When entering into these agreements, I evaluate a number of factors. Price is at the top of the list. We all have limited resources, and stretching our budgets as far as they can go becomes the top priority to many facilities. I am blessed, and we are able to make our decisions based on a number of factors.

I recommend everyone do their homework and figure out what the net

cost to your facility will be and make sound decisions based on your short- and long-term needs.

When I discuss short-term needs, this may relate only to pricing and what the product will deliver in the moment. The long-term needs become more difficult to define. My list includes new product development, educational opportunities, product support in the field and strong support to our industry, associations and universities.

Many of these things are hard to put a value on, so you must be your own judge of how this pertains to and provides benefit to your facility.

In my opinion, companies that offer continuing education for myself and our team factor into my decision-making. I believe that a highly educated staff with ongoing learning and networking opportunities provides the best long-term benefits to my company and the industry. These qualities are always a factor in my

decision-making. I also know the companies that have established relationships with me or my vendor and who will stand behind the product if something does not work as planned. It is important to maintain relationships with allied partners.

The most effective way to make the best decisions is to do your agronomic plan of what your needs will be for the next 12 months. This will assist you in compiling a necessary shopping list.

Just like at the grocery store, companies hope you will make impulse buys with the bundling and discounting of larger quantities. While these bundles can be a great option, you need to make sure you and your company have the specific need. If you live in a remote location where distributor access can take up to a couple of days for shipment, I recommend creating a par level of inventory of items that might need to be addressed in an immediate time frame.

I also believe that looking at the cost of a 14-day application versus a 21-day or 28-day application makes sense. A 14-day application may cost 50 percent less in material, but when you add the cost, application including fuel, personnel and equipment depreciation, it may be more expensive in the long run. With the information available today, we try to make decisions based on modeling and growing degree days. For those who have not looked at these tools, I encourage you to do so.

Early order programs have, and will be, a part of my programming as long as they are being offered. How and why you use them and what manufacturers you choose should be based on you and your business' needs and goals. **G**

Rick Mooney is vice president of maintenance and development, Shore Lodge | Whitetail Club, McCall, Idaho, and is this year's Herb Graffis Businessperson of the Year.

PROGRAM
SPOTLIGHT

Quali-Pro Simply Grow Together early order program

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PROGRAM
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PBI-Gordon Early Order Program

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*Rebate bonus is calculated from the rebate amount.
Example: If your rebate is \$750, your rebate bonus will be \$112.50 (\$750 x 15 percent). Added together, your total rebate will be \$862.50.

The 2020 PBI-Gordon EOP features 16 of its newest and most popular products, including SpeedZone® EW, an advanced emulsion-in-water formulation that puts more active ingredients on the weed for more complete coverage and exceptional performance.

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To see the full list of qualifying products, visit EOP.PBIGordonTurf.com.

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*Rebate bonus is calculated from the rebate amount. Example: If your rebate is \$750, your rebate bonus will be \$112.50 (\$750 x 15%). Added together, your total rebate will be \$862.50. Always read and follow label directions. Union™ is a trademark, and SpeedZone® and Vexis® are registered trademarks of PBI-Gordon Corp. Kabuto® and Segway® are registered trademarks of Ishihara Sangyo Kaisha, LTD. 08/20 05943

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| Qualifying products purchased during the early order period: Oct. 1 – Dec. 9, 2020 | Yearlong rebate percentage |
|--|----------------------------|
| \$5,000 to < \$10,000 | 5% |
| \$10,000 to < \$20,000 | 6% |
| \$20,000 to < \$40,000 | 7% |
| \$40,000 to < \$70,000 | 8% |
| \$70,000 to < \$100,000 | 9% |
| \$100,000 + | 10% |




| October purchases | GT Bonus Booster |
|-----------------------|------------------|
| \$5,000 to < \$20,000 | 2% rebate |
| \$20,000 + | 3% rebate |



| Total spend on Posterity, Daconil and/or Secure brands* | Purchase minimum of Posterity Family brands | Plan it Your Way rebate levels** |
|---|---|----------------------------------|
| \$10,000 to < \$20,000 | \$2,500 | 6% |
| \$20,000 to < \$40,000 | \$5,000 | 8% |
| \$40,000 + | \$7,500 | 12% |

*May achieve Plan it Your Way rebate levels with only Posterity Family brands.

**Plan it Your Way rebate will be applied to all early order period purchases of Posterity, Daconil and Secure brands, plus on Acelepryn half gallons.



PROGRAM SPOTLIGHT

Pallet Solutions



Pallets offer the greatest savings of the year, plus:

- They are designed to match agronomic needs
- Nine of 12 pallets automatically qualify you for the program
- They can be combined with rebates for savings up to 35 percent
- They are only available during the Early Order Period

Multipaks



Save up to 15 percent on complementary products with our Multipaks. They are available all year long but can be combined with other rebates during the early order period for **savings up to 39 percent**.

New for 2021, the Briskway® + Velista® fungicide Multipak serves as an excellent foundation for a preventive fairy ring program.



Product Assurance Programs



Protect your turf with confidence with leading agronomic recommendations and performance guarantees.

- **New** spring dead spot and take-all root rot assurance
- **New** preventive fairy ring assurance
- **Enhanced** large patch assurance
- For a complete list, visit [GreenTrust365.com/Programs](https://www.GreenTrust365.com/Programs)

SummerPay™



Keep your cash flow in check by **deferring payment until June 25, 2021**, to help manage expenses more easily throughout the season.

Rebate Calculators



Our online rebate calculators make ordering easier than ever. Simply input the products you would like to purchase and find your maximum savings.

There are three versions available, such as the AgronomicPro, so you can choose the best option for your needs.

AgronomicPro Calculator




- Choose a tailored agronomic program and input your acreage
- Your order will be calculated to maximize your savings with:
 - Optimal product volumes
 - Configurations including Multipaks and pallets
 - GT Bonus Booster rebate
 - Plan it Your Way rebate

Access them at [GreenTrust365.com/Calculators](https://www.GreenTrust365.com/Calculators) or contact your local Syngenta territory manager to learn more.

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REAL PEOPLE. **REAL** SOLUTIONS.

CHANGE HAPPENS.
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At Sipcam Agro, we're always looking for a better way. From the products and programs we offer to the way we do business. If it will make our customers' lives easier, we'll gladly turn convention on its head. It's why we came to market with a breakthrough family of fungicides featuring ETQ™ technology that goes above and beyond typical turf protection. And why we introduced Coastal™ Herbicide, the most all-encompassing and easy-to-use herbicide for warm-season turf on the market. We're not afraid of new ideas. And as a company, we're nimble enough to make change happen.

Talk to your local authorized distributor or Sipcam sales manager today or visit sipcamagro.com.



PROGRAM
SPOTLIGHT

BASF 2021 Early Order Program: Return to Excellence

The BASF 2021 Early Order Program (EOP) is a return to simplicity, flexibility and innovation.

Designed to help superintendents and turf professionals get products that ensure the upcoming season is as successful as possible, our program is filled with groundbreaking products that bring proven results to your toolbox. You work hard to outwork tough diseases, so we made our EOP even easier by streamlining the whole process.

We're bringing back everything you loved from last year, and we're also offering our deepest level of customization ever, giving you the freedom to choose specific products and quantities to suit your needs so you can design your program from the ground up. Best of all, it's all backed by some of the best rebates in the industry, helping you save

while setting your operation up for success. Get exactly what you need — no more, no less.

Benefits of EOP

By purchasing through EOP, superintendents can enjoy a positive impact on budgets by saving time and money. Earn rebates based on your level of spend, with rebate levels ranging from 8 percent to 24 percent based on your purchase amount.

Qualifying for rebates is easy — purchase at least three qualifying fungicide brands and order at least \$5,000 in qualifying fungicide products. To enjoy the highest rebates, complete your order in October. For herbicides and ornamental and specialty solutions, the savings begin after just \$2,000 in qualifying purchases.

Order now and don't pay until June 9, 2021.

**RETURN
TO EXCELLENCE**

Design Your Own Program with these Qualifying Fungicides:

1 Select at least three qualifying fungicide brands. Partial cases still count toward your rebate level.

2 Order at least \$5,000 to start saving.

3 Order in October to lock in highest rebates.

Extended terms to June 9, 2021.

| Qualifying Fungicide Purchase Level | Earned Incentive % | |
|-------------------------------------|--------------------|---------------------|
| | Oct.1 - 31, 2020 | Nov.1 - Dec.4, 2020 |
| \$5,000-\$14,999 | 12% | 8% |
| \$15,000-\$24,999 | 16% | 10% |
| \$25,000-\$34,999 ^{1,2} | 20% | 12% |
| \$35,000 ³ + | 24% | 14% |

1. Purchase \$25,000 to \$34,999 of Qualifying EOP Products and Fungicides during EOP and qualify for 7% rebate on all EOP End-User Rebate Qualifying Products purchased January 1, 2021 – September 30, 2021.

2. Purchase \$25,000 to \$34,999 of Qualifying EOP Products and Fungicides AND purchase at least three (3) different Qualifying EOP Fungicide brands and receive a 10% rebate for all other EOP Rest of Portfolio Qualifying Products during the EOP time (October 1, 2020 - December 4, 2020).

3. Purchase \$35,000 or more of Qualifying EOP Products and Fungicides during EOP and qualify for 10% rebate on all EOP End-User Rebate Qualifying Products purchased January 1, 2021 – September 30, 2021.

Add innovation to your rotation

The entire BASF portfolio is designed to provide innovative and powerful solutions, including two groundbreaking products —

Maxtima® fungicide and Navicon® Intrinsic® brand fungicide, which are now a permanent part of our portfolio and ready for action. Both are recommended by nine out of 10 superintendents surveyed who have used the products.*



They feature cutting-edge DMI chemistries that deliver incredible results and can be sprayed on any turf at any temperature. Get control you can count on with rotation partners proven to help tackle the toughest pressures you'll face this season, including dollar spot, fairy ring, anthracnose and more.

Deeper online tools, seamless connectivity, flexible options.

This year, we've expanded our online tools to help our customers and distributor sales representatives stay seamlessly connected during the ordering process. With our online calculator, users can create multiple plans, track your rebate savings and share your plans with your DSR in real time. Getting started is easy. Just visit **BetterTurf.Basf.US/Eop**, set up a profile and begin designing your fungicide programs. The all-new EOP Calculator is customizable to the precise measurements of your course, allowing you to efficiently estimate your needs based on use area, acreage, number of applications and application rate. Plan your order, add additional qualifying

items and review your plans, all with accurate calculations that help you stay on budget. If pen and paper is more your style, our classic brochure is always available for simple, straightforward ordering as well. Any way you want to place your order, BASF has you covered.

Stay disease and stress free

Take the pressure out of this season's planning when you purchase top innovations through the BASF Early Order Program. Save time and money with simple, flexible tools and resources like the EOP Calculator that make the online ordering process just as rewarding as the savings and rebates you'll receive. Feel confident and prepared for the upcoming season knowing your toolbox is stocked with all the solutions you need for remaining free from disease and stress this year.



*Based on BASF survey of 107 responding product users, July 2020.

Always read and follow label directions. For more information and complete program details, including program terms, conditions, limitations and restrictions, visit **BetterTurf.Basf.US/EOP**. Intrinsic, Maxtima and Navicon are registered trademarks of BASF.

BASF
We create chemistry

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BetterTurf.BASF.US | @BASFTurf_us | Facebook.com/BASF.Turf.us | BASFTurf

PROGRAM
SPOTLIGHT

Nufarm Edge Rewards Program boosts profit potential in 2021

The 2021 Nufarm Edge Rewards Program offers golf course superintendents the best opportunity to save on more than 35 popular Nufarm brands during the upcoming season. Nufarm is a leading provider of high-performing plant growth regulators (PGRs), herbicides, fungicides and insecticides. Superintendents can earn top savings on these proven solutions by participating in Nufarm Edge Rewards during two order periods.

- Save the maximum during **Period 1:**
Sept. 14 – Oct. 31, 2020.
- Extend your time to save during **Period 2:**
Nov. 1 – Dec. 11, 2020.

Introducing new Volume Bonus Rebates for 2021 Edge Rewards

Nufarm's 2021 program is designed to deliver an added edge with five volume bonus discount offers. During Period 1, stack Edge Rewards and new Volume Bonus Rebates to maximize savings. Volume Bonus Rebates are available on Pinpoint® for resistant dollar spot; Traction™ for snow mold; Anuew™ for fairway turf growth management; Aloft® GC SC for ant, annual bluegrass weevil and grub control; and Millennium Ultra® 2 for weed control including naturalized area care.

BOOST PROFITS WITH NUFARM EDGE REWARDS PROGRAM



Add instantly and **SAVE** with our online calculator



Earn rewards faster with our **LOW** \$2,500 minimum



More ways to save with **NEW** volume bonus offers

[NUFARMREWARDS.COM](https://NufarmRewards.com)

Nufarm EDGE REWARDS PROGRAM

New Volume Bonus Rebates are only available during period 1:

- Pinpoint® fungicide: save \$20 per unit
- Traction™ fungicide: save \$50 per unit
- Anuew™ PGR: save \$21 per unit
- Aloft® GC SC: save \$50 per unit
- Millennium Ultra® 2: save \$50 per unit

Registration is quick and easy

Registration is easy and required to participate in Nufarm Edge Rewards. Visit **NufarmRewards.com** and submit the registration form. Previous registrants are automatically registered and do not need to register again. On the rewards website, you can browse eligible products and build a qualifying order with ease using the online Nufarm Edge Rewards Calculator Tool. It can tabulate your savings and be emailed directly to your distributor.

Nufarm | 4020 Aerial Center Parkway, Morrisville, NC 27560

800-345-3330 | Nufarm.com/UsTurf | @NufarmUSTurf

// REWARD YOURSELF

GROW YOUR EDGE WITH BIG REWARDS



New for 2021, we've added more ways to save with 5 volume bonus offers. Hurry, offers are only available through October 31, 2020.

PINPOINT® // SAVE \$20 EACH

ANUEW™ // SAVE \$21 EACH

ALOFT® // SAVE \$50 EACH

MILLENNIUM ULTRA® 2 // SAVE \$50 EACH

TRACTION™ // SAVE \$50 EACH

REGISTER TODAY
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Nufarm
EDGE
// REWARDS PROGRAM

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 **Nufarm**
Grow a better tomorrow

AMVAC Environmental Products' Threebate 2020 Early Order Program

There is no debate about it, Threebate 2020 can save you money!

AMVAC® Environmental Products (AEP) 2020 Early Order Program is back and offers great rebates on our three lines of proven herbicides, insecticides and fungicides to meet the needs of your golf course all season long.

Order between Oct. 1 – Dec. 18, 2020, and save.

Choose from our unique chemistries such as **PCNB-powered Premion®** and **Turfcide®** to help control a broad range of diseases including anthracnose and snow mold.

Our newest herbicides — **Scepter®** and **Surepyn®** — provide new alternatives for cost-effective control of stubborn sedges and broadleaf weeds.

SAVE UP TO **15% OFF**
SELECTED PRODUCTS!

Don't forget our line of popular insecticides, including **Orthene®** and **Wisdom®** and new **Avensis®** for hard-to-control annual bluegrass weevil.

AEP's 2020 EOP is easier than ever before and requires no formal sign-up. Just order by Dec. 18, 2020, and rebates will be issued as a distributor credit in June 2021.

Get complete product details along with rebate information at **AMVAC.com/EOP**.



AMVAC Environmental Products | 4695 MacArthur Court, Suite 1200, Newport Beach, CA 92660

1-888-462-6822 | AMVAC.com

PROGRAM
SPOTLIGHT

Pursell Agri-Tech's PurKote™ Pro Turf Mini products Early Order Discount Program

Announcing Pursell Agri-Tech's first-ever Early Order Discount Program for our PurKote™ Pro Turf Mini product line. It's everything great about PurKote™, now in a mini size that's best for greens and tee boxes.

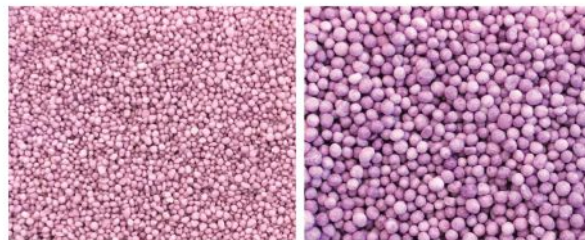
Order between Oct. 1 and Dec. 31, 2020, with delivery between Jan. 1 and Feb. 15, 2021, to receive significant discounts on anything in the PurKote™ Pro Turf Mini line of products. Offer includes SGN 90-150 materials (urea, ammonium sulfate and potassium sulfate) with longevities of 45 days or longer.

Engineered for excellence, PurKote™ is designed to meet your precise standards and offers the widest variety of substrates. Regardless of pH levels, moisture conditions or microbial activity, PurKote™ is engineered to be reliable and flexible.

Pursell Agri-Tech is the leader in controlled-release fertilizers, and our adaptive nutrient delivery system is driven by temperature, allowing for consistent release under excessive water conditions. PurKote™ also reduces loss from leaching with flexible durations from 30 days up to two years.

To take advantage of our first-ever Early Order Discount Program for PurKote™ Pro Turf Mini products, contact Jason Woulfin, sales and marketing director, at jason@fertilizer.com.

This discount is available between Oct. 1 and Dec. 31, 2020, so don't wait to take advantage of this offer.



SGN 90

SGN 150



Pursell Agri-Tech

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From the 1st tee to the 18th green, Bayer has your back

Bayer developed Fall Solutions with golf course superintendents in mind. Maintaining consistently outstanding golf courses takes work, and the last thing you want to do is waste precious time searching for ways to save money. When you order turf products through the Fall Solutions early order program, you get great deals on a variety of innovative solutions with four ways to save:

- // Off-invoice discounts
- // Tier-level rebates
- // Individual select product rebates
- // Agronomic pairing incentives

Another way Bayer has your back is by offering agronomic recommendations. In addition to the solutions highlighted in the Fall Solutions program, Bayer has launched a new series of digital flipbooks featuring golf agronomic recommendations by adaption zone. Developed by the Green Solutions Team, these eight booklets highlight specific disease, weed and insect control programs relevant to a given zone. And, the best part is they are free to download and easy to use.



To learn more about the Bayer Fall Solutions program, visit es.bayer.us/fall-solutions or contact your distributor representative and start saving today. The early order program deadline is Dec. 7, 2020.

To download the free digital flipbook for your adaption zone, visit es.bayer.us/agronomic-zone-recommendations.



> Fall Solutions



Eric Materkowski
*Golf Course Superintendent
St. Clair Country Club*

From the first tee to the eighteenth green,
Bayer has your back.

Bayer developed Fall Solutions early order program with Golf Course Superintendents like you in mind. Save on Stressgard® and all the other essentials you need to keep golf course turf healthy, beautiful and playable.

Visit es.bayer.us/fall-solutions or contact your distributor representative to learn more today.



There are four ways to save:

/// Off-invoice discounts

/// Tier level rebates

/// Individual select product rebates

/// Agronomic pairing incentives

Calculate your total savings by using the
Flex Solutions tool. Visit flexsolutions.bayer.us

ALWAYS READ AND FOLLOW LABEL INSTRUCTIONS
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With more ways to earn rebates than ever before, the GreenTrust® 365 program is the best way to save on industry-leading products all year long. Choose from the largest branded golf portfolio and see how your savings keep going with yearlong rebates, volume discounts and more, for combined savings of up to 39%.

The Early Order Period runs Oct. 1 – Dec. 9, 2020

OCT

NOV

DEC

JAN

JAN

DEC

NOV

OCT



GT Bonus Booster

Save up to 3% more on purchases made in October 2020.



Plan it Your Way Rebate

Earn up to an **additional 12%** on Posterity®, Secure® and Daconil® brand fungicides as well as Acelepryn® insecticide.



Pallet Solutions

Apply the right mix of products for any facet of your agronomic program and save with pallet solutions.

Extend your savings at GreenTrust365.com/Golf



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GreenTrust® 365

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Kevin Hauschel, superintendent of the Meadow Club, uses aerial images to help communicate project updates, like this bunker renovation on the 12th hole, to members.

Continued from page 18

fertilizer and pesticides because we're staying ahead of issues across the property."

The subscription costs the club \$6,000 for six months, but the return is an annual savings of \$35,000 in inputs and water, Hauschel says. He found TurfCloud during a Golf Course Superintendents Association of Northern California's assistant superintendent boot camp a few years ago. Since then, Meadow Club has worked with TurfCloud to fine-tune what the imagery tells superintendents and understand how to utilize the imagery.

"I was looking at what tools we can add to the property that are going to give us a return on investment year in and year out

but that are also going to aid me in the agronomics and labor efficiency across the property," Hauschel says.

This year, GreenSight partnered with Soil Scout, a Finnish company, to help integrate the wireless soil sensors into the cloud-based TurfCloud data platform.

Implementing on the course

Tully estimates each Soil Scout is about the size of a soda can and one-fourth the width of a can. Meadow Club has deployed 18 Soil Scouts, buried about 3 inches deep in most fairways, since fairways are the club's biggest water user.

Continued on page 44

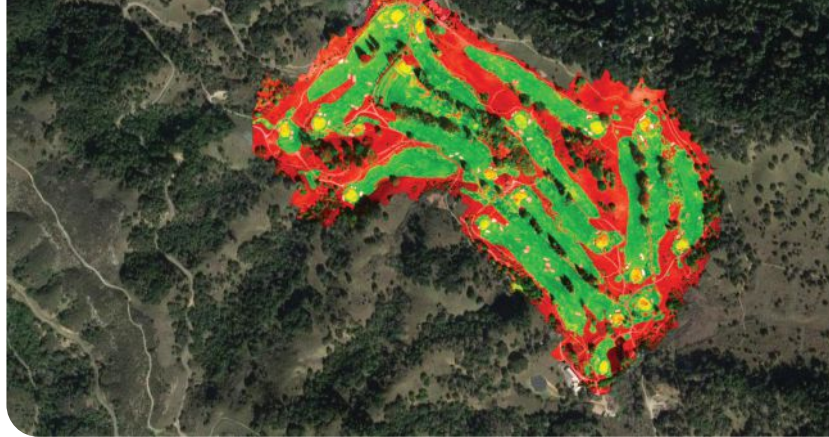
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This NDVI image shows how the turf responds when plant growth regulators have been applied.

Continued from page 43

Hauschel says he did not put any Soil Scouts in par 3 holes and doubled up sensors on par 5 fairways.

"The footprint is very small," Tully says. "It's a quick snapshot. It's just a quick scan of everything, and we can see that we're a little wet at 3 inches."

Hauschel and Tully like that the sensors are easy to move as needed and have a 20-year battery life.

"We're still using TDRs on the greens and the fairways," Tully says. "They all come together and help us shape our programs and day-to-day maintenance and management of the golf course. It's a broad spectrum look at the golf course in a way that allows us

to manage to a level where we're not pushing too much growth."

Benefits on the course

Hauschel says he's able to understand how the turf responds to applications of plant growth regulators and when the PGR effects are starting to wear off with normalized difference vegetation index (NDVI) imagery that captures the turf's vegetative state.

"You're able to build trends being able to fly five days a week," he says. "You're able to see how the golf course is responding day in and day out to the changes you make."

Hauschel says this can be anything from fertilizer applications by monitoring NDVI imagery to turf recovery from heat stress

PHOTO BY: KEVIN HAUSCHEL

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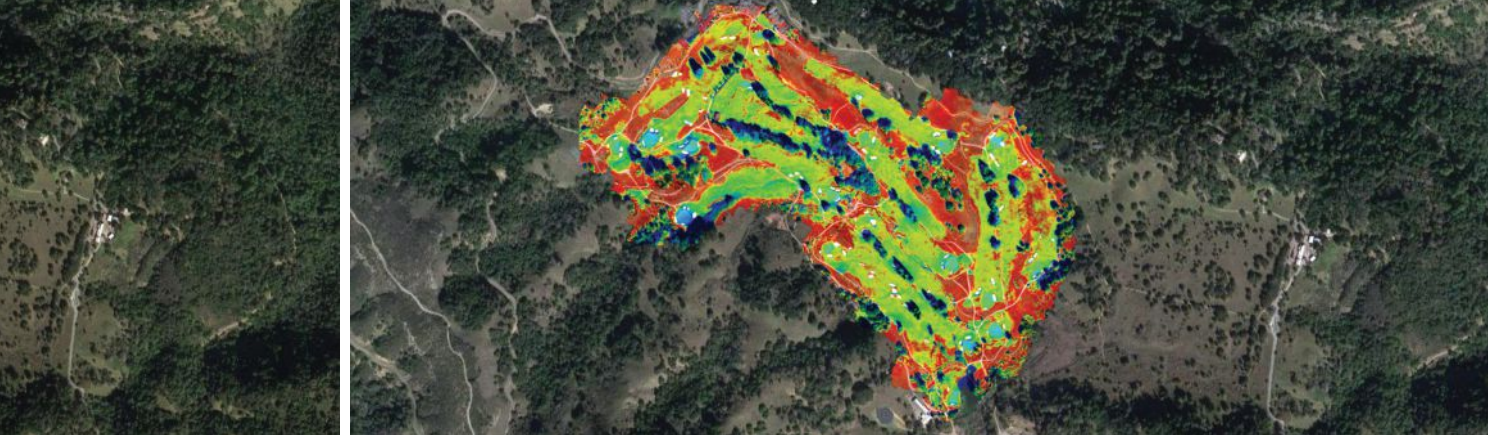
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This thermal image shows Meadow Club in dry down ahead of the course's Club Championship.

using thermal imagery. He says he's able to use the NDVI images to tailor PGR applications using growing degree day data.

"We have been able to keep the grass regulated, which means less mowing, which means less stress on the plant, which means overall healthier turf," he says. "All of this is the goal of having a tournament-quality course day in and day out for our membership."

The new system has cut back on the course's fungicide applications. Only two applications have been made since April.

"Our theory is, if we're able to control our water and make sure we're not overwatering or underwatering and inviting disease in, we have the ability to focus on plant health which, in turn, will

allow us to back off on fungicide use," Hauschel says.

Tully and Hauschel say they've learned more about the distinct microclimates within the course from the drone flights.

"By putting (the Soil Scouts) in the southwest-facing fairways, we're able to see an area dry down just a little bit quicker than everything else, and if it's drying down there, everything else shouldn't be too far behind," Tully says.

Other areas might be low lying or get too wet, and being able to isolate historic areas helps the team manage conditions that much closer. Meadow Club overlaps irrigation maps on top of the aerial images from TurfCloud. Hauschel says because of this, crew

Continued on page 46

PHOTO BY: KEVIN HAUSCHEL



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ABOVE: Soil Scout's wireless in-ground sensor system sends salinity, soil temperature and soil moisture to its cloud-based platform.

LEFT: GreenSight's drone records images and downloads them to TurfCloud's platform, which the team can access anywhere at any time.

Continued from page 45

members often will run out to spots on the course that need hand watering right away.

"We're not guessing where we're going anymore," he says. "We're not having to poke 30 TDR readings down one fairway with one guy. Being more efficient with our hand watering has allowed us to pull two guys off hand watering and put them back on the golf course doing detail work."

Hauschel is quick to point out that there is no reduction of labor with the data he gets from Soil Scout and GreenSight; it's a redeployment of staff in a more efficient way. TurfCloud's job board with artificial intelligence built in helps suggest jobs for crew members.


"I am also able to schedule jobs more efficiently as the job board learns my trends and suggests jobs for individuals," he says.

More data, less stress

Hauschel says a key benefit to having data available at his fingertips is how he can communicate better with Meadow Club's members. He says this helps the membership understand what he's doing on the course such as bunker project updates and tree removals.

"They've seen how we've been able to monitor our water and it makes them more comfortable," he says. "Our goal as superintendents is not just to be good with taking care of the plant with water and fertility, but we also have a duty to our club to be efficient with money that we're given."

The system is good for taking care of plants, but also people. Hauschel says an added bonus is he's able to work more realistic hours, knowing he's able to monitor the course from his smartphone and make adjustments as necessary.

"Being able to leave the property and go 'OK. We're fine,' that's the biggest plus on a personal standpoint," he says. "I can leave at 3. I used to be out here till 6 or 7 at night hand watering. Your quality of life gets better now that you're working more of a normal shift." 

PHOTOS BY: KEVIN HAUSCHEL

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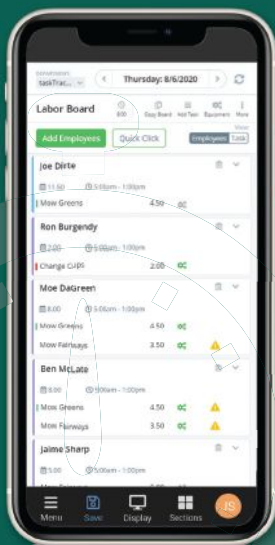
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"We're devastated for everyone."

2020 wildfire reports

Continued from page 6
ment. Hopefully, they're just in a different town. There's one confirmed fatality, tons of pets are missing.

This was a once-in-a-lifetime fire at the moment. I hope we don't have more of these once-in-a-lifetime fires, but it's possible."

— Interview by Sarah Webb

Jerry Bibbey
Superintendent
BOULDER CREEK
(CALIF.) GC

"The area historically has not had a wildfire come through it in over 150 years, almost. In the last few years, there have been more fires, spot ones ... nothing more than 25 or 50 acres.

On Aug. 16, we had an unprecedented dry lightning storm come through the entire Bay Area ... it sparked some fires out on the coast, probably 20 miles away from

the golf course. Then, the fires continued to burn, continued to burn. On (Aug. 17), it was getting smokier and smokier at the golf course. That evening, around 4 p.m. or 5 p.m., the smoke was very thick. There was actually ash coming down from the sky. Around 6:30 p.m., we got the call to evacuate the golf course.

The golf course was in an evacuation zone until (Sept. 9), so there was no maintenance done, no water on the golf course since Aug. 18. We've lost all the greens. On top of that, the weekend before last (Labor Day weekend), we had four days over 100 degrees F and no water, no nothing. One, there was no power, and two, we're not allowed into the area.

About 10 homes on the golf course were destroyed by fire. We're devastated for everyone.

The fire came about 30 feet from my house.



A burned-out Rain Bird pump station near Boulder Creek (Calif.) GC.

All of the well wishes and prayers and everything of the golf course community that's been poured out to me through my Twitter account, it's been overwhelming at times, the support and the offers of help. I've had local superintendents from all over the area say, 'we'll be there when you're ready,' and that's just been really a blessing and also humbling and overwhelming. It just

goes to show what a tightknit community that the golf course industry is.

Our goal right now is to step back, tap the brakes and figure out what we're going to do next. Our immediate goals, we want to open the clubhouse and restaurant and be a community hub for the people that are coming back here. We're just kind of feeling our way along as are a lot of people who lost everything in the fire."

— Interview by Christina Herrick

Howard Robertson
General manager
Santiam GC, Aumsville, Ore.

"My wife and I are fortunate; we live 30 miles west of where all the activity was. Aside from dealing with smoke and ash, our life hasn't changed

Continued on page 48



A wildfire blazes in the distance as seen from Rogue Valley Country Club, Medford, Ore.

Continued from page 47

a bit. It's tough to sometimes not be able to help. We'll know in a few more weeks once they open things back up and let people back in once the fires are contained. We'll know how to better serve people.

Our biggest concern once we knew the fires weren't going to reach us was, unfortunately, we had a couple of incidents with looters. The communities that burned down, once the fires got out of there, they were doing bad things. We ended up pulling all of our cash and our computers out of the facility, and we posted signs on the windows to let the looters know, 'unless you want shirts and golf balls, we're not the place to be.'

Our golf course wasn't touched (by wildfires). Luckily, the fires stopped spreading about 12 to 15 miles from us. We're clear of fire damage, but we've been under this blanket of smoke for about 10 days. One employee lost his home, and we had a couple others that have been displaced until they can get back into their homes.

We let one of the families settle into our restaurant area for a few nights, so they could figure out what was going on and so there was a safe, warm place for them to be. Fortunately for the other families, they had a local family that they could go be with.

It's hard to put everything into words and perspective. The ups and downs, first knowing that you have members and employees' families that are potentially going to lose everything to the relief that some didn't. It's hard to put into words where your feelings go for that."

— Interview by
Christina Herrick

Jerry Minor

Owner/superintendent
Ranch Hills GC
Mulino, Ore.

"We can't even go out and work. I can't see the first hole — the smoke.

I worked four hours on Saturday and four hours on Sunday with a really good mask, and I'm still coughing. I have to stay in today. It's a nine-hole golf course. You come into the parking lot, and I've got a clubhouse building and an apartment above. My wife and I own the golf course, and we live above the pro shop in a little apartment.

You can't go outside. Nobody can go outside. The smoke is too thick.

We had 120 golfers on Labor Day. The fires started Sept. 8, and then we left and we went to Oregon City. We helped our daughter evacuate from Sandy, Ore. Then, we evacuated from Oregon City and had to go to Hillsboro,



Smoke clouds are visible from Meadow Club in Fairfax, Calif.

Ore. We came back on Saturday morning because I had to work on the greens. I had to blow the ash off of the greens. It can't sit there.

Our phone hasn't rung, we locked the gates. Nobody's golfing. The whole course had debris blown on it and six fallen trees. We blew them off, and then I mowed around the greens, and I mowed again to pick up the debris because there are leaves everywhere. You just have to get the stuff off."

— Interview by
Christina Herrick


David Phipps, GCSAA Northwest Field Staff Rep Oregon City, Ore.

"I'm sick of 2020, what else can this year throw at us? This came on really quick. Winds came from the west, not just ordinary winds but raging, 50 to 60 mph coming over the Cascades. With 90, 95 degree F temperatures, that's a recipe for disaster. These things grew like none other.

I'm here in Oregon City. There's a huge fire east of Eugene that started just a

few hundred yards to the west of Tokatee GC, probably my favorite course in the state, an amazing facility. They dodged a huge bullet, because right now, they're OK. But everything down the McKenzie River Highway, from their course to almost Springfield, has been demolished. It's tragic, it's horrible.

We have the worst air conditions in the world right now. We surpassed Beijing and Delhi in terms of air quality. You step outside, and you can smell it. We've got ash all over our cars. For the superintendents out there still managing their course, regular dust masks, homemade jobs, aren't going to cut it. You have to have an N95, and those are hard to get.

All the superintendents I spoke with, they all had employees who have lost homes that have been totally demolished. We're setting up a GoFundMe for them. The damage is considerable. I just want to get some clothes on their backs and maybe a \$1,000 each if we can." 

— Interview by Seth Jones

Email Jones at:
sjones@northcoastmedia.net.

HOW TO HELP

Superintendents Craig Hilty, Matt Grove, Laura Chancellor, Josh Loy and GCSAA's David Phipps created a GoFundMe to support golf course maintenance employees who lost their homes to wildfires. At press time, the campaign had raised \$23,000. To donate, visit <https://www.gofundme.com/f/zdwhk-southern-oregon-golf-course-employee-fire-relief> or contact Phipps at dphipps@gcsaa.org.



Super Science

// POA PESTS

UPDATE ON THE LESSER OF TWO WEEVILS


By Katherine H. Diehl, Matthew T. Elmore, Ph.D., James A. Murphy, Ph.D., Albrecht M. Koppenhöfer, Ph.D., and Olga S. Kostromytska, Ph.D.

Adult annual bluegrass weevils (*Listronotus maculicollis*; ABWs) are a common turfgrass pest that prefers to lay eggs on annual bluegrass (*Poa annua* L.) over creeping bentgrass (*Agrostis stolonifera* L.). We thought that allowing some damage from ABW larvae in creeping bentgrass fairways would reduce annual bluegrass cover throughout the season.

The effect of ABW damage was tested alone and in combination with various rates of paclobutrazol. From April to November in 2018 and 2019, we experimented at the Rutgers University on a simulated fairway consisting of creeping bentgrass and annual bluegrass. Paclobutrazol was applied monthly at 0, 4, 6 and 12 fluid ounces per acre across three insecticide programs (preventive, threshold and no insecticide).

The preventive insecticide program was an industry-standard program designed to provide commercially acceptable ABW control. In the threshold program, we did not apply insecticides until visual ratings determined that ABWs caused unacceptable turfgrass quality. The no-insecticide treatment did not receive any applications.

We visually evaluated annual bluegrass cover each month. In the absence of paclobutrazol, the preventive insecticide program resulted in 82 percent greater annual bluegrass cover than the threshold (67 percent) and no-insecticide programs (56 percent) by November 2018. Paclobutrazol at 6 ounces per acre resulted in 33 percent more annual bluegrass cover for the preventive program than the threshold (13 percent) and no-insecticide programs (8 percent). There were no differences between insecticide programs treated with 4 or 12 fluid ounces of paclobutrazol per acre.

In 2019, non-paclobutrazol-treated plots had more annual bluegrass cover (26 percent) than all paclobutrazol treatments (13 to 19 percent). The preventive insecticide program had 23 percent more annual bluegrass cover than the no-insecticide program (13 percent) by August 2019. 

Katherine H. Diehl, Matthew T. Elmore, Ph.D., James A. Murphy, Ph.D., and Albrecht M. Koppenhöfer, Ph.D., are turfgrass scientists at Rutgers University. Olga S. Kostromytska, Ph.D., is at the University of Massachusetts. You may reach Koppenhofer at a.koppenhofer@rutgers.edu.



Annual bluegrass weevils lay their eggs in annual bluegrass, resulting in damage from larvae (top).

NEWS UPDATES

PBI-GORDON FUNGICIDE APPROVED IN CALIFORNIA

SpeedZone Southern EW broadleaf herbicide from PBI-Gordon Corp. has received registration from the State of California.

Formulated for sensitive southern turfgrasses, SpeedZone Southern EW controls more than 70 tough broadleaf weeds including dollarweed, ground ivy and spurge.

"The new SpeedZone Southern EW formulation helps ensure more active ingredient impacts the leaf surface for improved efficacy," said Jay Young, herbicide product manager for PBI-Gordon. "Now that SpeedZone Southern EW is approved for use in California, more golf course superintendents than ever can benefit from the reliable, outstanding performance of this go-to herbicide."

Ideal for use on golf courses, the features of SpeedZone Southern EW include: most effective when applied February through April; rainfast in as little as three hours; allows for reseeding in one week; a visual response within 24 hours and weeds die within seven to 14 days; and highly selective in established cool-season and warm-season turfgrasses.

... THE OVERUSE OF THE REMAINING EFFECTIVE INSECTICIDES MAY DESENSITIZE THE ABW TO THESE COMPOUNDS AS WELL."

Ana Luiza Sousa, Ph.D., et al.
(see story on page 50)

// **ABCS ON ABWS**

Annual bluegrass weevil sampling methods

By Ana Luiza Sousa, Ph.D., Ryan Geisert, Ph.D., and Albrecht M. Koppenhöfer, Ph.D.

The annual bluegrass weevil (ABW) is a challenging insect pest to control on golf course fairways and greens in eastern North America. Golf course superintendents have relied on insecticides for ABW management, but increased use has led to widespread resistance to several classes of insecticide.

We are concerned that the overuse of the remaining effective insecticides will desensitize ABWs to these compounds as well. Golf course superintendents need to delay resistance development by applying control products only when and where necessary. That requires monitoring and sampling methods that are easy enough to use and fit into their busy schedules.

The sampling techniques for adult and larval stages of ABWs have high predictive power. Our goal for this research is to optimize the use and predictive power of existing sampling and monitoring methods for ABW adults. We looked at the effect of temperature and mowing height on the percentage of adults detected (1) by examining mower clippings, (2) by vacuuming with a leaf blower and (3) by soap flushing. We also determined the effect of water volume applied and detergent concentration on the extraction efficiency of the soap-flushing method.

Temperature and mowing height can influence the efficiency of these methods, particularly for vacuuming and clipping examination. The soap flushes are the least likely to be affected by environmental conditions and mowing height. Water mixed with

FIGURE 1



Color-marked annual bluegrass weevil (ABW) adults released into a fairway-height creeping bentgrass plot.

liquid dishwashing detergent irritates the adults and brings them up to the surface on grass blades for counting. For soap flushing, researchers have not examined the effect of water volume and detergent concentration on extraction efficiency.

In the first year of the study, sampling methods were examined under warm conditions to allow for the optimization of extraction methods. Color-marked adults were released into turf plots about one hour before extractions started.

This procedure allowed the adults to settle in and distribute naturally (Figure 1). In lab observations, we found that the colored powder adhered for several days to the adults without interfering with their behavior.

In all experiments, we tested adult recovery in areas consisting of mixed stands of annual bluegrass and creeping bentgrass mown at fairway (0.35 inch) and green (0.118 inch) cutting heights. After the plots were either mowed or vacuumed, we extracted adult ABWs from the plots with soap flushes (Figure 2). We distributed 16 ounces of water with 0.4 percent lemon-scented liquid dishwashing detergent within a 1-square-foot sampling area at zero and five minutes. We counted adults for 20 minutes after the soap flush application.

Recovery of adults in mower

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Research provided and funded in part by USGA.

PHOTOS BY: ALBRECHT KOPPENHÖFER

FIGURE 2


Vacuuming of ABW adults with a leaf blower next to plots from which adults were extracted with soap flushes within 1-square-foot sampling squares.

clippings from a Toro Flex 21-inch mower was significantly affected by cutting height. Adult recovery in the fairway was sporadic, and we recovered considerably more adults from the green (Figure 3). However, the total adult recovery from clippings and soap extraction combined was about twice as high from the fairway as from the green.

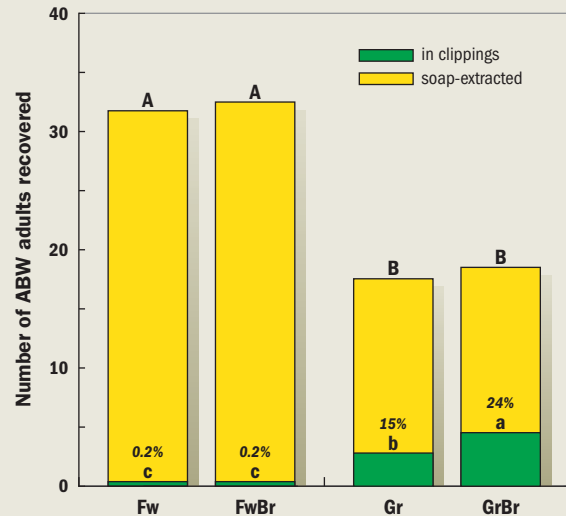
Adults dispersed more quickly from the release area on the green, and some may have left the sampling area before sampling started. Relative to the total recovery, recovery from the clippings was only 0.2 percent from the green irrespective of attachment of a brush in front of the mower basket. At fairway height, we recovered significantly more adults with the brush (24 percent of total recovery) than without the brush (15 percent).

Recovery of adults by vacuuming was also significantly affected by mowing height. Adult recovery did not differ significantly between the treatments with one or two passages with the vacuum, but more adults were recovered from the green than the fairway (Figure 4). As in the mowing experiment, we recovered about half as many adults in total (including soap extraction) from the green as from the fairway. This trend occurred whether or not we vacuumed the plot area before soap extraction.

Soap flushing alone was the most effective recovery method. We recovered 83 percent of adults from the fairway but only 42 percent from the green. Again, this result was likely because of the faster dispersal of the adults out of the sampling area on the green. Relative to the total recovery, recovery by vacuuming was 4.5 percent from the fairway and 31 percent from the green.

FIGURE 3

Recovery of marked ABW adults from areas mown at fairway height (Fw) and greens height (Gr) using a mower with (Br) or without a brush attached to the mower basket.



Recovery of marked ABW adult from areas mown at fairway height (Fw) and greens height (Gr) using a mower with (Br) or without a brush attached to the mower basket. Letters indicate significant differences between the number of adults recovered from mower clippings alone (lower case) and for clippings plus the ensuing soap extraction combined (upper case). Percentages within the bars are for clippings relative to total recovery.

Research Takeaways

- Adult ABW recovery in mower clippings from the putting green was 15 percent without and 24 percent with a brush attached in front of the mower.
- Mower clippings from a fairway only recovered 0.2 percent of ABW adults.
- Vacuuming with a leaf blower recovered only 4.5 percent of adults from a fairway but 31 percent from a green.
- Soap flushing with 16 fluid ounces of water containing 0.4 percent liquid dishwashing detergent applied twice recovered 83 percent of adults from a fairway within 20 minutes.
- Soap flushing was most effective with 16 ounces of water containing 0.8 percent dishwashing detergents applied twice and with adults collected for 20 minutes.

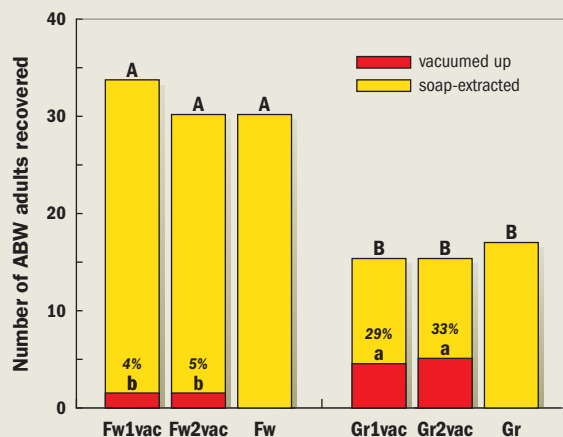
In additional experiments using natural ABW populations in an area mown at fairway height, we tested the effect of liquid detergent concentration, water volume and application frequency on the extraction of adult ABW in 1-square-foot plots. Extraction efficiency increased with detergent concentration, being higher at 0.8 percent than at 0.4 and 0.2 percent (Figure 5).

At 0.4 percent, two applications extracted significantly

Continued on page 52

FIGURE 4

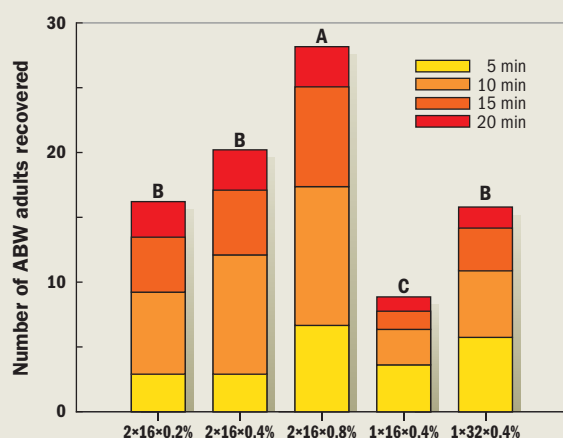
Recovery of marked ABW adults from areas mown at fairway height (Fw) and greens height (Gr) by none, one (1vac), or two (2vac) vacuum passages followed by soap extraction.



Recovery of marked ABW adults from areas mown at fairway height (Fw) and greens height (Gr) by none, one (1vac) or two (2vac) vacuum passages followed by soap extraction. Letters indicate significant differences between the number of adults recovered by one or two vacuum passages (lower case) and by vacuuming and ensuing soap extraction combined (upper case). Percentages within the bars are for vacuum alone relative to total recovery.

FIGURE 5

Recovery of ABW adults from areas mown at fairway height by soap extraction with different soap treatments.



Recovery of ABW adults from areas mown at fairway height by soap extraction with different soap treatments. The solution was applied once (1: at zero minutes) or twice (2: at zero and five minutes), in a volume of 16 or 32 ounces and at a detergent concentration of 0.2, 0.4 and 0.8 percent. Stacked bars show how many adults were recovered at zero to five, five to 10, 10 to 15 and 15 to 20 minutes. Bars with the same letters do not differ significantly in total recovery.

Continued from page 51

more adults than one application. And, one application at 0.4 percent extracted more adults when applying 32 ounces rather than the 16-ounce application.

The data did not show a significant improvement in the split application of 32 ounces at 0.4 percent compared to all applied at once. Yet, it was impossible to use 32 ounces at once without significant runoff of the solution even when applied very slowly.

We did not observe any phytotoxicity or significant ABW adult mortality as long as we watered the plots with a similar amount of water after extraction. Higher detergent concentrations maybe even more effective but also more likely to cause phytotoxicity.

Overall, the data suggest that two applications of 16 ounces at 0.8 percent liquid detergent concentration worked the best, and collecting adults for at least 15 or 20 minutes yields better results.

Ongoing research suggests that adult recovery in mower clippings on greens may increase with temperature, but this needs to be confirmed in additional experiments. ©

Albrecht Koppenhöfer, Ph.D., is an Extension Specialist in entomology at Rutgers University, New Brunswick, N.J. You can contact him at a.koppenhofer@rutgers.edu. Sousa, Ph.D., and Geisert, Ph.D., are postdoctoral researchers in Koppenhöfer's program.

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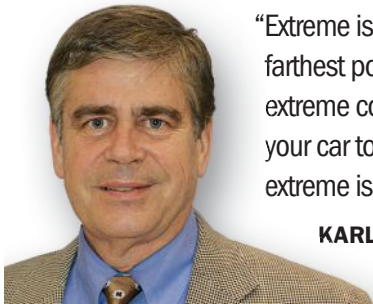
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"Extreme is an interesting word that means the farthest point from the center. Related to cars, an extreme condition might be looked at as having your car towed. Regarding golf course management, extreme is reserved for temperatures."

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

Extreme temperature

This past summer was blistering hot. Although the phrase "blistering hot" or "hotter than normal" is rather vague, it's associated with a temperature record or a personal experience that brings clarity to the terminology.

I could tell how hot the summer of 2020 was by how well my 1969 Pontiac Firebird and my son's 1970 Chevrolet Nova ran. This summer, we would occasionally go out for a Saturday cruise. As the summer progressed and temperatures rose, the Nova would shut off (vapor lock?). We would wait a few minutes, and then the car would start back up and off we would go — usually back to the garage.

One Saturday in late July, we didn't get back to the garage. Driving through west Columbus, the Nova stopped. When restarted, the car, within a couple of minutes, was running 30 degrees F hotter than normal. Popping the hood, we noticed the fan was not turning. Stranded on a side street, waiting for a tow truck while cars drove by honking, is always a unique father-son moment.

One problem was the electric fan's (what we will do for extra horsepower) location up against the radiator. A car's fan helps provide a draft of air through the radiator aiding in cooling the liquid. The fan's diameter did not reach the outer areas of the radiator. Thus, along the edges, the liquid was not cooling

sufficiently, contributing to the rise in temperature. One remedy was to add a shroud that helped improve air movement along with the entire radiator.

The lack of a shroud was not an issue when air temperatures were cool, given our driving distance, but at higher temperatures, the lack of one was detrimental. Once the temperature became extremely high, the car ceased to run.

Extreme is an interesting word that means the farthest point from the center. Related to cars, an extreme condition might be looked at as having your car towed. Regarding golf course management, extreme is reserved for temperatures.

During the summer of 2020, the Southwestern United States experienced severe heat waves and temperatures, maybe no more so than Death Valley, Calif. High temperatures are no stranger to Death Valley, but on Aug. 16, 2020, the Furnace Creek Visitor Center weather station recorded a temperature of 129.9 degrees Fahrenheit at 5:41 p.m. PDT. The National Oceanic and Atmospheric Association rounded that temperature to 130 F in its final report.

Only three temperatures of at least 130 F have been recognized by the World Meteorological Organization, including the 130 F recorded this year at Death Valley. The other two are the 131 F recording at Kebilli, Tunisia, on July 7, 1951, and the world record of 134 F at Death Valley on July 10, 1913. By definition, extreme temperatures are those at or above 130 F.

Turfgrasses rarely live in an environment of extreme temperatures. However, as temperatures move further from the optimum range for growth, the potential for plant injury increases. The major cooling system for turfgrasses is evapotranspiration. As the plant transpires, the conversion of water from a liquid to a gas dissipating heat is known as evaporative cooling.

Aiding in the cooling process is the movement of air across the leaf. Slight breezes or winds enhance evapotranspiration. Where natural wind movement across a green is not possible, mechanical fans might generate an artificial breeze. Golf course greens act much like a car's radiator with a breeze — natural or artificial — enhancing the cooling process. Transpirational cooling reduces the canopy temperature while a breeze aids in cooling.

But, like a car fan — without a shroud — the fan's effectiveness is only within its radius and dissipates with distance. As temperatures become more extreme, areas outside the fan's effective range become increasingly more stressed.

This fall is a good time to reevaluate how effective your fans are. What might have worked satisfactorily for a normal year may not be effective in an above-normal year. Adding fans or looking to upgrade a fan's capabilities will help address temperature stress on putting greens. **G**

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



The annual bluegrass weevil (ABW) has been pestering golf course superintendents for more than 70 years. Experts say scouting is a critical component of ABW control.

Notorious ABW

THE ANNUAL BLUEGRASS WEEVIL CAN TAKE A BITE OUT OF YOUR *POA ANNUA*, BUT EXPERTS SHARE WAYS YOU CAN LIVE WITH THE PEST

When Albrecht Koppenhöfer, Ph.D., professor and Extension specialist at Rutgers University's department of entomology, first heard of the annual bluegrass weevil (ABW), he thought it had the makings of a beneficial insect.

ABWs prefer annual bluegrass, or *Poa annua*. *Poa*'s growth habits can prove difficult to control.

"That grass is so successful and so invasive that at some point, they have to choose what is easier: keeping the *Poa* out or controlling the pests that can damage it," he says.

ABW has been a golf course pest for almost 70 years, with insecticide resistance becoming a problem over the last 20 years.


Scouting for ABWs is important for keeping ahead of the insect. Universities, such as Rutgers, have information available to help time the emergence of the pest.

Koppenhöfer says superintendents should focus on the larvae if resistance is suspected.

ABWs prefer short-mown grass, and Koppenhöfer says the ABW can survive mowing, so it is a good idea to dispose of clippings to ensure the weevils don't return.

Above all, Koppenhöfer says don't panic if you suspect ABW on your course because it's next to impossible to eradicate the pest. One superintendent in his area has been successful for about 30 years with applying a single spray to problem areas in the spring to kill adults and a cleanup spray later in the year.

Koppenhöfer recommends that superintendents make peace with the pest and learn to live with it.

"Treat only where and when necessary, and the grass can usually recover if you give it enough water," he says. 

PHOTOS COURTESY OF BEN MCGRAW

Bayer

PAUL GIORDANO, PH.D.

Green Solutions Team member



In areas where ABWs may be a “new” or emerging pest, damage on collars and edges of fairways in late spring/early summer is a good indication that a more dedicated scouting program may be warranted. Understanding the life cycle and population dynamics as well as using the right chemistry at the right time can help keep populations in check and limit subsequent generations into the summer. Keep an eye on the latest innovation and recommendations moving forward to ensure you’re employing the best tools available for success. Bayer is very excited about our new broad-spectrum insecticide active ingredient tetraniliprole. Although not yet registered in the U.S., this technology has shown exciting results on various turf insect pests, especially the ABW.

Quali-Pro

IAN RODRIGUEZ, PH.D.

Technical services manager



Since damage doesn’t become apparent until the late stages of the first generation, superintendents should primarily focus on scouting to determine optimum control timings. Scouting can include placing pitfall traps and performing soap flushes or vacuuming to find adults and soaking plugs in saltwater to find larval stages. Preventing damage depends on stopping development before they reach the final stage and keeping them from a second generation. Monitoring development and targeting specific growth stages is the most effective approach to management. The ABW prefers annual bluegrass stands and is most commonly seen in turf adjacent to wooded areas where the adults overwinter. They are most common in the Northeast. The range is expanding and resistance is a known issue, so not putting all of your eggs in one basket or one mode of action is important.

FMC Professional Solutions

RAKIM K. TURNIPSEED, PH.D.

Product development manager, insecticides



One of the most notorious pests encountered by golf course superintendents is the annual bluegrass weevil (ABW). Effective management of the ABW involves proper identification. Scouting should be performed in annual bluegrass in mid-April to early May when adults begin emerging from overwintering sites at the perimeter. During this time, adults may be seen walking across turf stands. Minor damage first appears in mid-May when adults chew tiny notches in leaf blades. The most significant damage appears as yellow spots on short-mown turf caused by larval crown feeding from late May to early June, and again from mid- to late July to early August. At this time, turf can be easily pulled from soil when grass stems become hollow.

Syngenta

MIKE AGNEW, PH.D.

Technical services manager



It’s best to establish a routine of scouting for the annual bluegrass weevil (ABW). This may be as simple as looking for adults in mower baskets or doing soap flushes on collars and fairways. Scouting for larvae requires larvae extraction by sampling and salt flushes. When small yellow spots begin to appear on turf, a core sample on the spot may reveal young larvae feeding on the plant. Preventing damage requires not only scouting but a sound insecticide program. Adulticides should be kept at a minimum. Cyantraniliprole is also an excellent choice for targeted control of all ABW larval stages. It all goes back to knowing your golf course. Most golf courses that battle the ABW have “hot spots.” These are areas where damage can occur from one year to the next. Target these areas for scouting, and timing insecticides will become easier.



"The researchers stress that insecticide resistance will be different for each golf course. Yet, the findings at Rutgers and other universities prove that insecticide resistance exists. They recommend minimizing insecticide applications for adult ABW control."

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

See no weevil

Anual bluegrass weevils are a problematic insect pest to control in the Northeast. Making matters worse, several entomologists report an increase in adult pyrethroid resistance. Due to the resistance issues, golf course superintendents have turned to other insecticides.

The United States Golf Association (USGA) and Golf Course Superintendents Association of America helped support research that examined annual bluegrass weevil (ABW) insecticide resistance. Albrecht Koppenhöfer, Ph.D., at Rutgers University showed pyrethroid-resistant adults were not as susceptible to other insecticide products. For example, chlorpyrifos was not effective at controlling resistant adult ABW populations. Also, indoxacarb and spinosad showed a similar decline in the control of pyrethroid-resistant adults. When treating larvae, only cyantraniliprole and spinosad were not affected by resistant populations. Indoxacarb, chlorantraniliprole, clothianidin and trichlorfon were less effective.

The researchers stress that insecticide resistance will be different for each golf course. Yet, the findings at Rutgers and other universities prove that insecticide resistance exists. They recommend minimizing insecticide

applications for adult ABW control. Monitoring and timing insecticide applications are vital.

Another approach is to shift control measures toward emerging larvae. Early larvicide applications can be timed by monitoring adults past their peak densities in the spring. Late larvicide applications require the monitoring of larval densities.

The ABW adult sampling article in this issue of *Golfdom* provides some useful information for you to use. Monitoring adult densities is more critical if you observe decreasing insecticide efficacy on your course.

If you think ABW adult resistance exists, Rutgers has developed a simple insecticide resistance test using formulated bifenthrin and chlorpyrifos. Consultants and diagnostic laboratories can use the test to determine the resistance level at your course.

The USGA is funding a new project evaluating other control measures

in three states. Ben McGraw, Ph.D., Steve Alm, Ph.D., and Koppenhöfer are conducting the research. Preliminary laboratory trials suggested that oils and petroleum-derived spray oils are capable of controlling adults.

Within three hours after application, Silwet and Civitas provided control of adults (greater than 80 percent). Neither product reduced larvae in the greenhouse or field. Also, Silwet applied at 9 ounces per 1,000 ft² was phytotoxic and dropped from field studies.

Civitas applied at 8.5 or 17 fluid ounces per 1,000 ft² performed the same for pyrethroid-resistant and susceptible populations. For several field trials in New Jersey, the Civitas rate was not a significant factor. Split or sequential applications in back-to-back weeks provided the most substantial reduction of adults.

Civitas alone, or in combination with a pyrethroid, may provide reasonable adult control. In 2018, Civitas suppressed resistant adult densities for all treatments (Civitas 50 percent, pyrethroid (Talstar) 44 percent, Civitas + Talstar 67 percent). Also, they reported larvae reductions for Civitas (48 percent) and the Civitas + pyrethroid (Talstar) combination (59 percent) but not Talstar (4 percent).

Controlling the ABW will continue to be a problem. I am excited about what we are learning about this insect pest, and we will continue to provide updates with the completion of more research. For now, try to monitor adult populations in the spring that will help extend the use of current insecticides. If you suspect adult ABW resistance, confirm your suspicions with the test developed by Rutgers. **G**

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



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1 | Echo CS-2511T

ECHO's CS-2511T is a light gas-powered chainsaw delivering compact power, according to the company. The CS-2511T packs a 25-cc, two-stroke engine, which provides 1.45 hp in the tight, lightweight package. The chainsaw has a choke with automatic fast idle for easy starting, a textured grip for easy handling and a large tank opening for easy filling.

Echo-USA.com

2 | Under Armour Women's Authentics ColdGear, Men's Armour Fleece 1/2 Zip

GEMPLER'S women's base layer keeps wearers warm and dry without bulk or riding up. The men's original performance fleece replaces bulky fleece — it's light, breathable and just the right amount of stretch. Customers can customize their gear and add their logo for free on orders of six or more. Orders are turned around in three to five days with Gempler's in-house embroidery. Gempler's also offers a laser etching service, an expansion to its embroidery and heat press customization services.

Gemplers.com

3 | 3M WorkTunes Connect + Gel Cushions Hearing Protector

3M WorkTunes Connect + Gel Cushions Hearing Protector with Bluetooth technology combines a modern, comfortable design with high-fidelity sound quality, according to 3M. This hearing protection lets users conveniently make and take phone calls. Equipped with Bluetooth wireless technology, these hearing protectors allow users to stream the entertainment of their choice from a smartphone or other mobile device, while helping provide protection in noisy environments. Premium gel cushions provide enhanced comfort.

3M.com



4 | Stihl BGA 200

The **STIHL** BGA 200 handheld blower not only provides nearly 25 percent more blowing force than the BGA 100, but it's ideally suited for low-noise environments and delivers a range of features that allow users to take on almost any blowing task. With no onboard battery, users can enjoy a lightweight, ergonomic design. When paired with the optional BGA 200 Carrying System, users can experience reduced operator fatigue and tackle large areas with ease, the company said.

StihlUSA.com

5 | Pro Compression socks

PRO COMPRESSION socks can help improve circulation and prevent leg fatigue and swelling. The company is also known for having colorful and creatively designed socks. Pro Compression's medical-grade graduated compression fabric provides firm pressure throughout the sock, without sagging, making them comfortable and effective all day long, according to the company.

ProCompression.com

6 | Elgin Rucks Discord Bluetooth Earplug Earbuds

ELGIN's Ruckus Discord Bluetooth Earplug Earbuds provide EPA-certified hearing protection while allowing users to listen to music and use their mobile phone's voice activation. The noise-canceling mic allows users to make phone calls in noisy environments. Designed to block out noise, the Discord features an IP65 rated enclosure that seals out dust and sweat. The noise-isolating tips are made of biocompatible, USP Class 5 medical-grade silicone, and the cable is reinforced with a triple Kevlar braid. The earbuds have a range of up to 50 feet and a rechargeable battery life of up to 14 hours.

ElginUSA.com

The 19th Hole

Steve Sarro

DIRECTOR OF GROUNDS // Pinehurst Country Club, Denver



What can I get you? In the words of my good friend Rob McKinney, retired superintendent at the Broadmoor, “free and cold.”

Tell me about your family. I’ve been married to my wife, Lindsey, for 13 years. She was a beverage cart girl at the Broadmoor. We have three daughters, 4, 9 and 11. We’re doing the whole home-school roller coaster ride like many parents.

Give me the scouting report on Pinehurst CC. Pinehurst is a great club. It’s the largest club in Denver. We’re on the southwest side of town; you can see Red Rocks Amphitheatre from the first tee on our nine-hole course. We’ve got 27 holes of full regulation golf. Built in 1959 by Press Maxwell, it’s a beauty of a course, a fun course to manage.

What’s going on with the wildfires in Colorado? August was the toughest time. We had four major fires going in the state at the same time. Denver was in the top five of poorest air quality in the world. Today has been bad, but the wind direction should change. With what’s going on in the west, I don’t see any end in sight. It doesn’t make for the most enjoyable golf round when you’re sucking in smoke for four hours.

Can you believe it was 15 years ago that you invited me to come with you and a bunch of Colorado and Wyoming guys to volunteer on golf courses in New Orleans after Hurricane Katrina? Probably the hard-

est week of work in your life, huh, Seth? It’s crazy to think it was 15 years ago. What a trip. I always knew this industry had a great band of superintendents and golf course employees. When I reached out, I was never concerned that people would say no, but when we got to New Orleans, the most memorable thing to me was how important golf is to people. Those people had their worlds turned upside down, but golf was a release, a chance to forget about life for a while. That’s how great the game can be. You can be in nature, be yourself and relax.

What’s your favorite celebrity encounter? Back in ’99, I worked at the Country Club in Brookline. It was a couple weeks after the U.S. Open, and we were preparing for the Ryder Cup. I was in a bunch of juniper bushes pulling weeds. I heard some golfers coming up onto the 15th tee box. I stumbled out, knowing I probably shouldn’t be in these bushes while the guys are hitting. I pick my head up, and it was Payne Stewart right in front of me. I was always a big fan of his. He complimented me on the conditions of the golf course. Every time I think about him, it’s so sad that he’s gone.

As interviewed by Seth Jones, Sept. 17, 2020.



// BEST ADVICE

“JUST LISTEN. LISTEN TO WHAT PEOPLE HAVE TO SAY. YOU DON’T HAVE TO AGREE, BUT PAY ATTENTION TO WHAT THEY’RE SAYING AND UNDERSTAND THEIR PERSPECTIVES.”

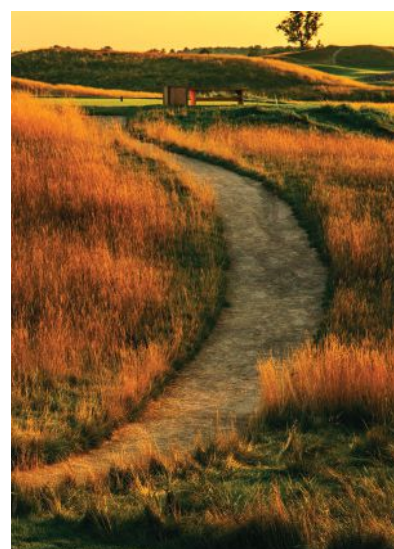


PHOTO OF STEVE SARRO BY: LOU FERRARO, PARK SOUTH PHOTOGRAPHY; WILLIAM REAGAN / ISTOCK-GETTY IMAGES PLUS / GETTY IMAGES (RED ROCKS AMPHITHEATER); GROUP PHOTO COURTESY OF: GCSAA



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