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Come Dec. 1st, a new Department of Labor regulation could have a big impact on the golf industry.

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A NORTH COAST MEDIA PUBLICATION
VOL. 72 // NO. 8

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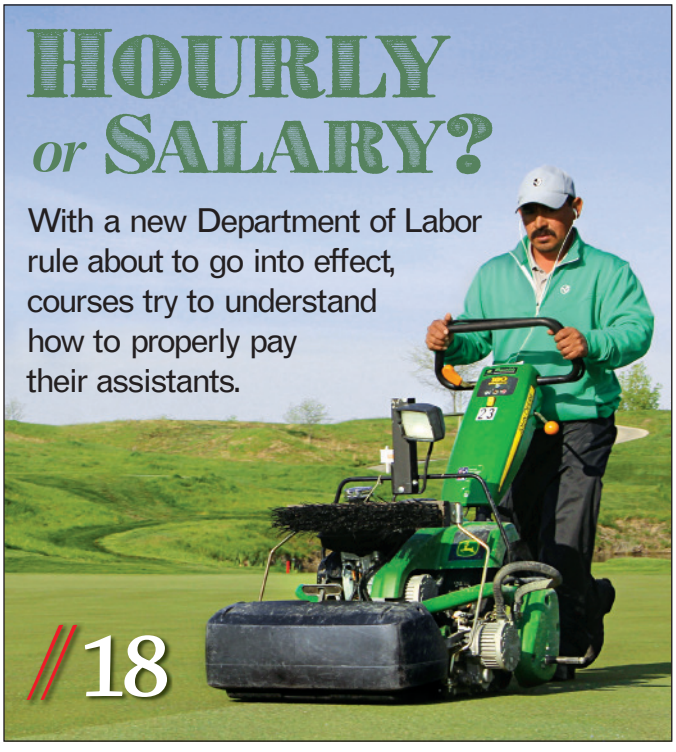

HOURLY or SALARY?

With a new Department of Labor rule about to go into effect, courses try to understand how to properly pay their assistants.

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COLUMNS

DEPARTMENTS

SUPER SCIENCE

COVER PHOTO: SETH JONES

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"It could be a dream come true — maybe some guys will start getting paid what they're worth. So long as they can keep their job, that is."

SETH JONES, *Editor-in-Chief*

Better call HR

I did something this month I've never done before in my professional career — I sent the cover story I was about to publish to my human resources director.

Associate Editor Grant B. Gannon and I wrote the cover story, "Pay up or go home," together. As we discussed the project at the PGA Championship, we agreed that we didn't want the story to be written in the voice of the HR department. We wanted it to be written in the perspective of those who it was going to impact: superintendents and assistant superintendents.

I'm an "easier to ask for forgiveness than permission" type guy. Especially when it comes to showing my work to someone before it gets printed. But in this case, I knew it would be a smart move to call HR — that our HR director, Debbie Pipik, would be a savvy advisor.

It wasn't long after I hit send on the email than her name popped up on my caller ID. I took a deep breath and got ready for her feedback.

She gave her approval to the article, telling me our HR-speak was sound. And then she said, in a whisper, "Seth, just so you know… this whole thing is going to be a nightmare when it goes into effect."

That was when I learned that a big part of next week's annual North Coast Media publisher/editor meeting will focus directly on this new Department of Labor regulation, and what it means for my company.

In a nutshell: Once Dec. 1 rolls around, salaried workers who make $47,476 a year and under are entitled to time-and-a-half overtime pay. The previous number was $23,660. So now we'll have 4.2 million American workers who fall into this new, much larger window, and are now entitled to overtime.

Knowing that assistant superintendents, irrigation techs, spray techs, assistants-in-training, all work hours upon hours, especially during the golf season, "nightmare" might be the right term for what will happen. Or, it could be a dream come true — maybe some workers will start getting paid what they're worth. So long as they can keep their job, that is.

What will it mean for your operation? Every course will be different, but every source we talked to for the story got wide-eyed and said this was a hugely important matter for their operation.

"We're going to have to start managing differently, or we're going to have to do things different with the budget, it's one or the other," Nate Herman, assistant superintendent at Victoria National in Newburgh, Ind., told me while we were both at the PGA Championship. The crew there averages 60 hours a week in season. While the new overtime regulation won't effect a lot of people on the Victoria National crew, the ones it will, he says, "Are really key guys."

Herman told me that he could recall early in his career when he and a colleague calculated how much they were making based on all the hours they were putting in on a busy summer. The total was $2 an hour.

I didn't leave a zero out. Two dollars. An hour.

That's tough. If you don't absolutely love what you're doing, why would you keep at it? Unless maybe their was a promise of promotion — a superintendent job in the future, more pay, benefits. But as one of our sources says, that's not a guarantee anymore.

There's a saying that goes, "If you love what you do, you'll never work a day in your life." But for the men and women who are putting in all these hours, even if they love what they do, they still need to get paid for their hard work.

A lot more than $2 an hour.

Email Jones at: sjones@northcoastmedia.net.

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NEWS, NOTES AND QUOTES

Edward Breen (left), chairman and CEO of DuPont, and Andrew Liveris, president chairman and CEO of Dow.

STOCKHOLDERS OF DOW, DUPONT APPROVE MERGER

The stockholders at both DuPont and Dow Chemical have voted to approve all stockholder proposals necessary to complete the merger of equal transaction.

The companies expect the merger transaction to close in the second half of 2016, subject to customary closing conditions, including receipt of regulatory approvals. The recent approval vote marks a key milestone in the process to merge the two companies and subsequently pursue the intended spins of three independent companies.

"The overwhelming support of Dow and DuPont stockholders to approve this historic merger transaction is a clear testament to the compelling value proposition and enhanced shareholder value that DowDuPont represents," says Andrew Liveris, Dow's chairman and CEO.

DuPont and Dow aim to, following the completion of the merger, separate the combined company's agriculture business, material science business and specialty products business into three independent, publicly traded companies, subject to approval by the DowDuPont board and receipt of any required regulatory approvals. Finalization of the separations is not expected to exceed 18-24 months after the merger closing.

"We are pleased to receive such strong support from our stockholders, which represents an essential milestone in the combination of our two companies and our intention to subsequently separate into three independent companies," says Ed Breen, chair and CEO of DuPont. "We are now focused on important next steps toward completing the merger transaction, including working with regulators in the appropriate jurisdictions."

//GUESSING GAS

OPEI WARNS OF CONSUMER CONFUSION

The Outdoor Power Equipment Institute (OPEI), the trade association representing power equipment, engine and utility vehicle manufacturers and suppliers, provided comments to the Environmental Protection Agency (EPA) about the *Renewable Fuel Standard Program: Standards for 2017 and Biomass-Based Diesel Volume for 2018.* In a letter sent to the EPA, OPEI expresses concerns about the expansion of E15 in the marketplace without a solid consumer education program.

"If you are going to introduce blender pumps and more E15 into the marketplace, then you also need a robust consumer education campaign so consumers understand which fuel blends are safe for which product," Kris Kiser, President and CEO of OPEI, said. National polls conducted by OPEI in 2016 show that consumers remain confused about the changing fuels marketplace. Sixty percent of respondents assumed that any retail fuel is safe for any type of engine.

//NEW TECHNOLOGY

BAYER ANNOUNCES EXTERIS STRESSGARD

Environmental Science, a division of Crop Science, a division of Bayer, announced EPA registration of Exteris Stressgard — the newest addition to the Stressgard Formulation Technology (FT) family. Exteris Stressgard includes a new active ingredient for the turf and ornamentals market, utilizing succinate dehydrogenase inhibition (SDHI) as its mode of action. Exteris Stressgard is a foliar disease specialist uniquely formulated to offer fungicidal control, plant health and the benefits of Stressgard Formulation Technology in a single solution.

Exteris Stressgard introduces a new registered use for the active ingredient, fluopyram, combined with the control of trifloxystrobin to create a foliar disease specialist to provide both preventative and curative control. This formulation provides broad-spectrum control of damaging foliar diseases like dollar spot, brown patch and leaf spot while adding additional benefits, such as dew mitigation and fast knockdown of damaging mycelium.

PHOTO COURTESY: DOW CHEMICAL/DUPONT / ISTOCK.COM/WELLGLAD (GOLF BALL)

GO FIGURE

$47,476

Amount hourly workers can make and be eligible for time-and-a-half overtime pay, according to a new law that begins Dec. 1st. Previously the amount was $23,660.

$41,372

Average salary of assistant superintendents, according to GCSAA's 2015 Compensation and Benefits survey.

//THAT-A-KID

AARON THOMAS GARNERS MARRIOTT'S TOP SUPERINTENDENT AWARD

Marriott Golf announced its annual awards for golf excellence across the Company's portfolio of properties. Aaron Thomas, Director of Grounds Operations at JW Marriott Camelback Golf Club in Scottsdale, Arizona, was recognized as Golf Grounds Manager of the Year. Thomas led the renovation and is responsible for sustaining the day-to-day maintenance program for the award winning Ambiente golf course as well as the Padre course at Camelback. Further, under Thomas's leadership, and backed by a unique grassing plan to responsibly utilize natural resources, the property conserved more than 30 million gallons of water in 2015.

Aaron Thomas

Golfdom Gallery

1 Hungry for pretzel buns This chipmunk is living the high life next to the halfway house at Erin Hills GC, Erin, Wis., where his diet consists of pretzel buns and more pretzel buns.

2 Tee it up with El Presidente (L to R) Erin Hills PGA Professional Rich Tock; *Golfdom* EIC Seth Jones; Fry/Straka Global Golf Course Design's Jason Straka; and Martin Design's Greg Martin. Martin is the current president of the ASGCA.

3 Assistants get attention Adam Ayers and Alex Benson-Crone, the two assistant superintendents at Erin Hills, discuss the afternoon's plans with the crew.

4 Official drink of the 2017 U.S. Open Dan the bartender poured us the official drink of Erin Hills, host of the 2017 U.S. Open: the Fescue Rescue. We had to order a couple.

5 Wee bit of celebration *Golfdom's* Craig MacGregor (left) and Jake Goodman (right) celebrate with the 2015 TOCA columnist of the year, Matt Neff, assistant superintendent at Wedgewood G&CC in Powell, Ohio, during a Wee One Foundation tournament his course hosted.

6 Take me out to the ball game Before teeing it up at Erin Hills, Straka and Martin found time to take Jones to a Milwaukee Brewers game, where they saw Martin's Chicago Cubs nab a late comeback W.

7 Selfie game strong Leave it to *Golfdom's* Grant B. Gannon to perfectly nail this selfie with Baltusrol's Mark Kuhns, CGCS, on the first day of the 2016 PGA Championship.

8 Hosts with the most Ken Kubik, CEO Grass Roots Turf Co., Dave Schell, BASF senior sales specialist, and Stephen Kuhns man the PGA Championship hospitality tent and make sure everyone has enough food, water and beer.

PHOTOS BY: SETH JONES (1,3,4); BILL RODDY (5); GRANT B. GANNON (7, 8)

With the new **John Deere 9009A TerrainCut™ Rough Mower**, you can now mow more rough in less time without sacrificing cut quality. The 9009A features five, 27-inch decks for a nine-foot cutting width. Each deck has a unique, deep shell design with an innovative rear discharge chute. Height-of-cut can be set instantly using no tools. And the 9009A comes with the TechControl Display, letting you make precise settings of mow, transport and turn speed, as well as, weight transfer, LoadMatch™ and cruise control.

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"A mentor of mine and I were talking about a recent vacation he took. Two weeks out of the country. I don't know the last time I took two weeks off from work."

JARED NEMITZ, *superintendent, The Peninsula Club, Cornelius, N.C.*

Remember to recharge

It's that time of year again. It's August, and it's blazing hot in most parts of the country. For those of you in the cooler regions, 80 degrees is like 100 to you. We are almost there. Whether it's on to cooler temperatures, the final or first golf event, the end of capital improvements or the start of a golf season, we are almost there.

No matter where you are, what you grow or sell, we are all tired. A salesman visited the other day and he said I look like someone from "The Walking Dead." He wasn't too far himself from being an extra in the next Rob Zombie film. Whether you are a salesman or growing grass, it seems we are tired all across the country. Possibly on the verge of burnout.

We are no different at The Peninsula Club. We have been upgrading irrigation, building a boulder seawall, renovating our practice facility and beginning a bunker master plan. It's been many long and stressful days for me and my staff. I know we are tired.

But as the projects have begun to wind down, and one by one the contractors have departed, it hit me. It never ends. This business is a living, breathing entity. The job never stops. I may break down and compartmentalize each part of the year, but it never stops. For me, the projects end but the golfing calendar begins. Winter bellows in with a chill and the projects begin again. Spring flourishes and golf takes off. Summer heat bakes and the cultural practices take flight. The work is never complete. It merely changes with the seasons.

A mentor of mine and I were talking about a recent vacation he took. Two weeks out of the country. I don't know the last time I took two weeks off from work. Not sure I ever have. He went on to tell me how his perspective was better and he felt re-energized. Seems logical, profound and groundbreaking, right?

Personal confession: I have not been as good at taking time away from work as many seasoned, successful turf professionals have been. Highly effective people attribute success to working hard and finding a good work-life balance. Blame it on youth. Blame it on stubbornness. Blame it on IQ. I am not good at it. Not proud of it, just haven't overcome it yet.

I don't think I am out on a plank here. I am not the only one. This industry is full of hardworking, do-what-it-takes-to-get-the-job-done people. That's what makes this industry the best. When the going gets tough, the turfies get going. However, the long stretches of work that can burn us out need to be followed by good, quality time away from work.

Too many people do the hard work and forget to take the time off. Many of those same people find their way out of the industry and into the 9 to 5. Patrick Murphy (@riverclubsuper) said it best on Twitter. "Rest allows us to recalibrate our priorities and replenish our cistern of creativity." We are better at what we do when we are at our best when doing it. I can tell you that my staff and I will be taking some much needed time away to recharge after the final project is completed.

So as summer is quickly coming to an end, remember to take time and rejuvenate. Spend time with the family, start that hobby you always wanted to or just take a break. We all may look like zombies now, but it's nothing a few days away can't fix.

As you are reading this I'm chasing two young ones all over the beach. I hope one or two of you are here with me.

Jared Nemitz is superintendent at The Peninsula Club, Cornelius, N.C. He can be reached at jared.nemitz@thepeninsulaclub.com or followed at @jarednemitz.

ADVERTORIAL

ELITE
REJUVENATION

Summer heat never felt so cool

The summer season is beginning to wind down, but the courses involved in BASF's Elite Rejuvenation are in the thick of the program.

At Oglebay Resort, Wheeling, W.Va., Superintendent Nick Janovich had a recent scare on the resort's Jones course, one of the four courses he maintains. Nine holes on the course lost irrigation for a week in extreme heat, but Janovich was shocked to see they still looked "decent."

Janovich has been so happy with the results he has seen while participating in the Elite Rejuvenation program that he is starting to use BASF products on his other golf courses. Using that much product puts Janovich over his allotted amount of free chemicals, so he has purchased more in-season.

For Chris Ellsmore, superintendent, Mohegan Sun Golf Club, Baltic, Conn., it was tricky to sneak a spray application in every 14 days because of the average 200 rounds per day on the 18-hole course.

"For me and our maintenance standards here we need to make our spray program as efficient as possible," says Ellsmore. "My goal is to spray it less frequently but still get the same control, and to see it working is great. We had a pretty good stretch of dollar spot weather right after an Xzemplar application and we didn't see disease anywhere."

In Nokesville, Va., Prince William Golf Course has traditionally been known as a lower-end municipal golf course, but this year with the help of BASF, Superintendent Shawn Gill says their plant health is much better than the high end public, and even some of the private courses, in the area.

"It's been a tough summer and our fairways have been far and away the best they have ever been for this time of year," says Gill. "Kyle recommended I spray Honor on the Memorial Day and Independence Day holidays. It's something I wasn't able to afford in the past but I may have to afford to do it in the future. The results were fantastic."

Kyle Miller, BASF's Senior Market Developmental Specialist, has had constant contact with each of the superintendents and says he is hearing praises for the spray programs he helped design for all four.

"I think the program is going really great, and the superintendents are very happy with the way their courses look," says Miller. "Growing conditions have been good in most areas but we really like to hear that from the superintendents. When they say it I know their golfers are saying the same thing."

Check back for updates on these four courses and the Elite Rejuvenation program in future issues of Golfdom.

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"The shift from an open golf course to that of a narrow, tree-lined course takes as little as 30 years. But all too often through multiple generations, golfers only see a small shift instead of the bigger picture."

SEAN TULLY, *superintendent, Meadow Club, Fairfax, Calif.*

Tree removal projects, big and small

In the lead-up to the U.S. Open at Oakmont, everyone was talking about the tree removal program and how the course had been restored to the original Fownes vision. But by Sunday the conversation had switched back to the faster-than-fast green speeds and Dustin Johnson overpowering the golf course.

The massive tree removal at Oakmont over the last 15 or so years offered a great opportunity to start a conversation among golfers at their own courses in regard to implementing a tree management program. But should Oakmont be the model for others to follow? Does it make it harder for some clubs to start removing trees, given a model of near total removal?

As we all know, golf courses cannot, and should not, be compared to each other. This is a key point that often is lost on golfers, but an issue all too familiar to superintendents. How many times do we as superintendents hear golfers comparing green speeds from one course to another?

This idea plays into the conversation started by the tree work at Oakmont. It's asking the wrong question. And that wrong question is, "Does a course need to go Oakmont's route and remove all of its trees?"

The problem with this idea is simple. Each course has its own history and identity. Case in point: The week following the U.S. Open, the PGA Tour was at Congressional Country Club, Bethesda, Md., ironically another U.S. Open venue, but one that is the polar opposite to Oakmont in regard to tree management.

Would Congressional be honoring its history by removing all of its trees? Probably not. However, it could benefit from a tree removal program on a smaller scale.

Yet as good as the Oakmont story is, there are other stories just as important that need to be told, and that, for many courses, might be just what the doctor ordered. Trees can provide a deeply dividing conversation at any golf course. It's important to know how to handle the topic and share with golfers not only the benefit — but more important, the historical precedent — for tree removal.

The shift from an open golf course to that of a narrow, tree-lined course takes as little as 30 years. But all too often through multiple generations, golfers only see a small shift instead of the bigger picture. Corridors not only become narrower, but doglegs can be straightened out and prime landing areas can be hidden in the trees, nullifying the original intent of the architect. The idea of separating holes has driven tree planting with little to no thought to tree planting besides filling in the gaps. As courses look at tree removal programs today, these same trees are given much more consideration — both positive and negative — than when they were originally planted, and as to what they offer a course from an architectural and agronomic perspective.

One such story is taking place at Moraine Country Club in Dayton, Ohio. Originally designed by Alec Campbell, a highly respected golf professional and architect with ties to Brookline, the course recently was restored by noted architect Keith Foster. Foster worked closely with Jason Mahl, the superintendent, to open up vistas long lost to tree plantings that hid the course and its rolling topography. This work has allowed Foster to highlight the original design by drawing from early aerial photos to identify the time frame to which they wanted to restore the course. Not all the trees were removed, but many were, and the results have made an already great course that much better.

Considering how prolific the parkland style of course is in Ohio, it says a lot about Moraine Country Club's decision to remove as many trees as they did and make the centerpiece of the club what the membership values most: their golf course.

Sean Tully is superintendent at the Meadow Club in Fairfax, Calif. He can be reached at stully@meadowclub.com or followed at @tullfescue.


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The Golfdom FILES

FROM THE ARCHIVE

Everyone loves a shiny new piece of equipment, but unless it's a lease, you're expected to keep it running as long as possible. The February 1962 *Golfdom* included best practices to do that and also to prepare for the equipment's replacement, with help from Jacobsen and Toro. Some of these prices are jarring; $250 for an engine overhaul? Take us back. To read the full article visit **golfdom.com/exclusive.**

Setting up depreciation reserves stabilizes dues structure

***GOLFDOM* SURVEY**

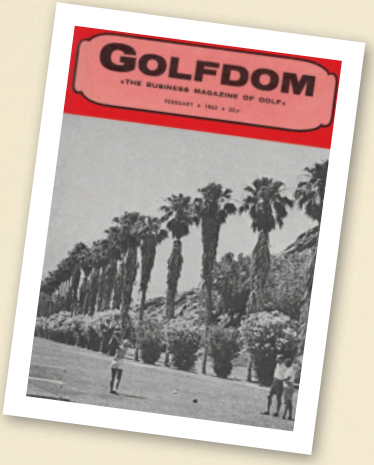
In the last ten years or so, country clubs generally have adopted a more businesslike attitude in their equipment depreciation and replacement policies, but there still is plenty of room for improvement where these vital things are involved.

Clubs that do not set up annual reserves for depreciation of equipment, as well as clubhouse furnishings and fixtures, pool renovations, deterioration of buildings, etc., are following a shortsighted policy. While it may show a profit for a period of perhaps two or three or four years, it ultimately ends in a kind of financial panic. This is especially true if the machinery breaks down in the same year that buildings start to fall apart and the clubhouse furniture begins to disintegrate.

MEMBERS HAVE OBJECTIONS

So far as course machinery is concerned, Oscar Borgmeier, of George A. Davis, Inc., Chicago, points out that making large outlays for equipment in a single year may place unfair restraint on the greenkeeping department and result in inefficient maintenance.

"If it is seen that a large amount of money has to he spent in 1962 to replace worn out tractors and mowers," says



Borgmeier, "and there is absolutely nothing in the reserve fund, a board may balk at spending so much money at one time. It may decide to defer the purchase of some sorely needed equipment until next year, with the result that the superintendent is seriously handicapped. If the upkeep of the course visibly declines it is hardly necessary to mention who is made the scapegoat."

SUGGESTED DEPRECIATION SCHEDULE

Jacobsen Manufacturing Co. Vice President of Sales Charles A. Livesey made a special survey among superintendents and dealers for Golfdom to determine a depreciation schedule on the Model F tractor with wing- lift hydraulic system and 7-gang mower. Based on these things — average mowing time, good maintenance policy, average cutting conditions and an experienced operator — Livesey arrived at the following formula:

1-5 years — 30 to 50 percent
5-10 years — 50 to 70 percent

Frequency of repairs on the Model F tractor amounts to:

1-2 years — no major repairs; 2-5 years — overhaul (subject to use and care): $125
5-10 years — one complete engine overhaul, $250

Repair frequency for the wing lift and hydraulic system with 7-gang mowers is pegged at these figures:
1-2 years — mowers sharpened once each year, $18 per unit
3 years — replacement of bearings, grease seals, gaskets, etc., $15 per unit
7 or 8 years — replacement of mower reels, $50 per unit

Livesey points out that superintendents and dealers feel that disregarding depreciation schedules or formulas, the actual depreciation of tractors, mowers, etc., is largely contingent upon the treatment these units receive and how often they are checked and repaired.

CITES FINANCE PLAN

According to J. M. Kaufman, sales promotion manager for Toro Manufacturing Corp., his company is presently engaged in a thorough study of repairs, salvage values and other factors pertaining to depreciation and replacement, but it will be some time before it is completed.

However, in 1960, when Toro was setting up its fleet financing plan that covers both purchases and leases, a payment and leasing term of from 36 to 40 months was decided upon. The reasoning behind this is that the best economical period of usage of grass-cutting machinery and allied units is three years. After this, the high cost of repairs to the units and their loss of efficiency generally make it unwise not to invest in replacement equipment.

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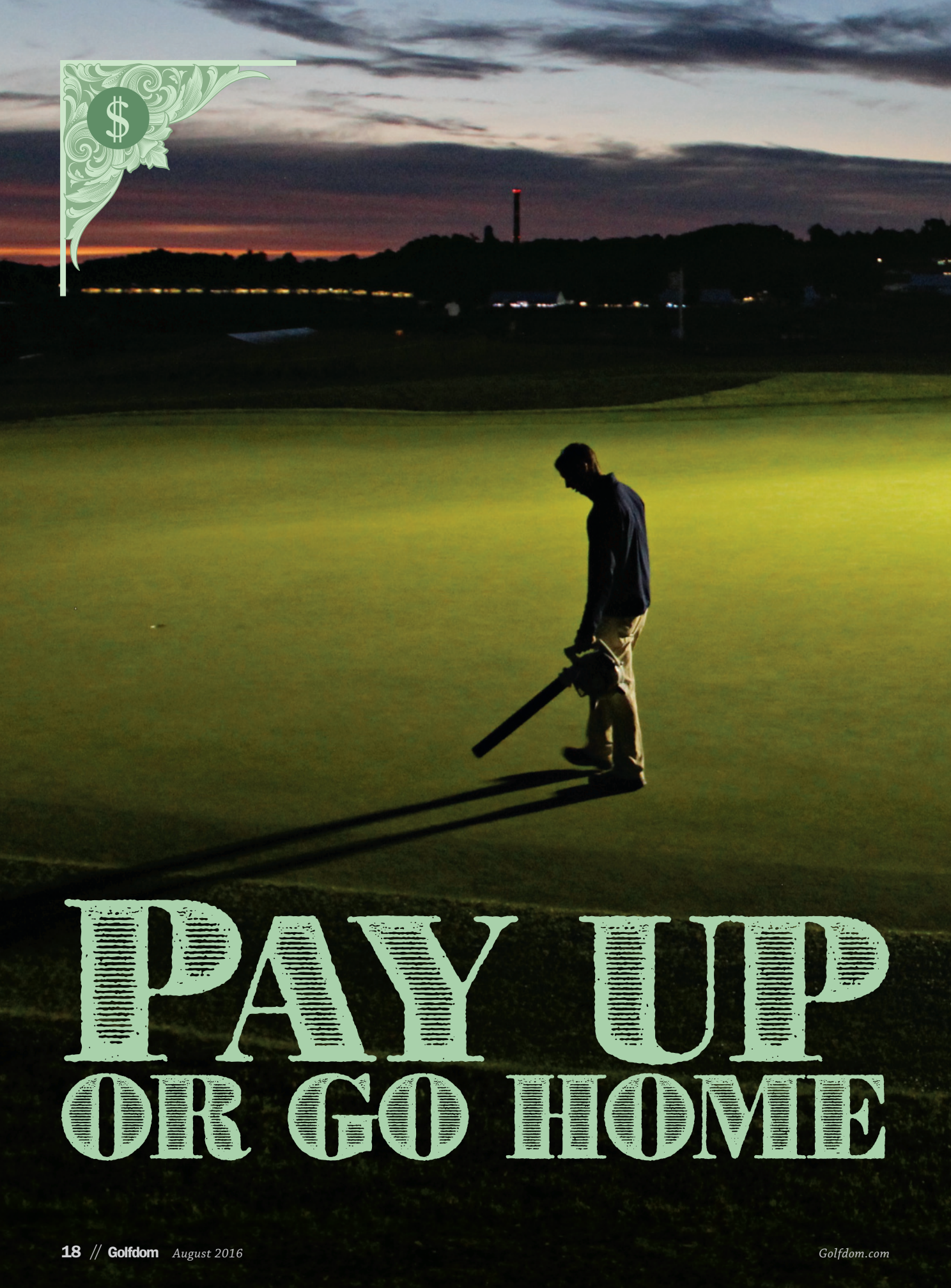
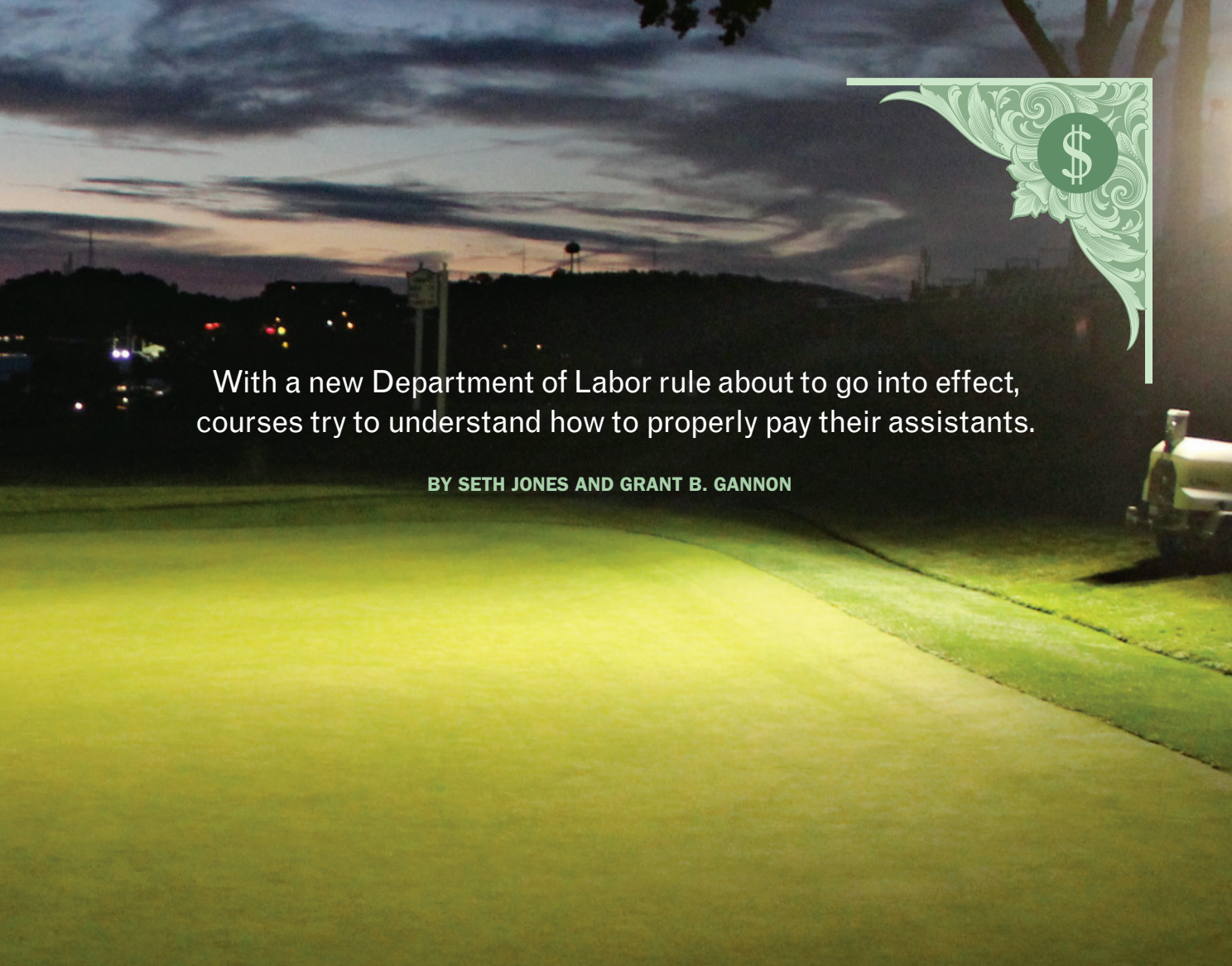


PAY UP OR GO HOME



With a new Department of Labor rule about to go into effect, courses try to understand how to properly pay their assistants.

BY SETH JONES AND GRANT B. GANNON

A new labor law goes into effect December 1st. This law will impact 4.2 million American workers. But will workers make more money and have more free time, or find themselves unemployed?

President Barack Obama has upped the ante for middle class workers, particularly those who work overtime. Currently, salaried employees who make $23,660 and under are entitled to time-and-a-half pay. Beginning Dec. 1, the Department of Labor will up that amount to $47,476. That means any executive, administrative or professional employee who makes $47,476 or less annually must be paid time-and-a-half wage for any hours worked over 40.

How this will impact America's golf courses — and who will be affected — will vary greatly from course to course. A golf course that already pays its assistant superintendent $50,000 a year will see no change with that employee. But a course that pays its assistant-in-training $35,000 a year and works him or her 60 hours a week must ask: Does paying that employee time-and-a-half for 20 hours a week make financial sense?

And an even bigger question: With the industry already facing a dearth of assistant superintendents, is it time to start taking better care of assistant superintendents for the vital work they do?

Equating work to dollars

According to GCSAA's 2015 Compensation and Benefits report, assistant superintendents make, on average, $41,372 a year. The average salary reported in 2013 was $41,122, meaning assistant

Continued on page 20

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salaries increased only $250 in two years.

With the average assistant superintendent salary at $41,372, that puts this position directly in the crosshairs of the new overtime law. Facilities will need to do the math, and either pay up or send the assistants home.

For Alex Stuedemann, director of golf course maintenance at TPC Deere Run in Silvis, Ill., it's been a major topic of discussion. The new rule will have an impact on both of his assistants.

Alex Stuedemann

"This question has been tossed around a lot in the cauldron of business and how the new rule equates to our operation," Stuedemann says. "Do we toss them up to the $47,476 level, or keep them hourly? When you equate the work to dollars, it's a tough question. Me myself, I'm still in the middle of the equation."

> **TEN YEARS AGO, I HATE TO SAY IT, BUT ASSISTANTS WERE A DIME A DOZEN. I WAS PART OF THAT CLASS. NOW THAT'S NOT THE CASE.**
>
> ALEX STUEDEMANN

Stuedemann says he's especially nervous because the number of talented turf students coming out of college — along with experienced interns — has dwindled in recent years. He says pay historically has been an issue.

"Ten years ago, I hate to say it, but assistants were a dime a dozen," Stuedemann says. "I was part of that class. Now that's not the case. Guys are leaving for vendors or they're leaving the industry altogether. Maybe this new law will let us have some

retention. Finish your job in less hours and have a life, or make more money for the blood, sweat and tears of working 60, 70, 80 hours a week."

Can't settle down

If you want to find Rob Podleski on July 4th all you have to do is head over to Farmington Country Club. Independence Day is one of the busiest days at the Charlottesville, Va., club, like it is at most courses around the country.

The 37-year-old Podleski has been an assistant at Farmington for 12 years and has worked Independence Day the last five years. Making that sacrifice to his personal life is what's best for the club. Still, it doesn't mean the hard-working assistant wouldn't want to be elsewhere.

In a typical summer week Podleski works 40 hours to 45 hours, with a half-

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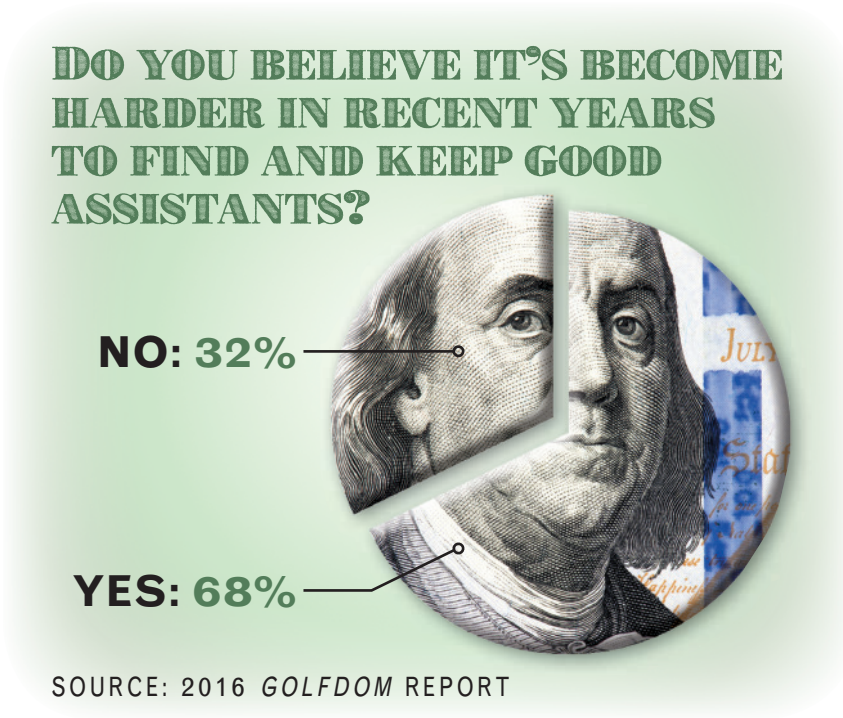
ALL PHOTOS BY: SETH JONES



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day on Friday, but it hasn't been typical at Farmington since a construction project started. His hours are much more sporadic as he manages the crew between the course and the construction, and is now working 50 hours to 60 hours weekly.

"With the construction going on, my day is all over the place. I'm still doing the assistant job as far as running the golf course and the maintenance staff," Podleski says. "I'm also facilitating the logistics that are going on with the construction as far as fuel, material delivery, sending my staff to help lay sod or irrigation."

Podleski's girlfriend of two years, Keri Blain, has been there to support him and his career. But let's face it, the amount of time and the schedule he works would frustrate any girlfriend. Podleski has aspirations to be a superintendent. He admits that his job has put settling down and starting a family on hold.

"She understands the hours that come along with my position, but she doesn't really like it some days," he says. "It's fair to say that my job has held me back from settling down. Hopefully in the future I will have more time for that."

At the end of the day Podleski is happy with his career and calls Farmington CC his home. Other, or younger, millennial turf professionals early in their career might not have the same patience and may look for other career opportunities. Stuedemann says that is exactly the case.

"It's not a surprise to me that guys are worried about pay, that's always one of two big concerns, the other being communication," Stuedemann says. "With this new labor law, pay has been more on the forefront. We always say, 'You're getting paid X. Is the passion you have for the job worth it?'

"Today, that's a 50/50 answer, depending on the person," he continues. "It's an eye-opener."

Single-room apartment living

Stuedemann says that while the TPC network will make a decision as a whole, it's

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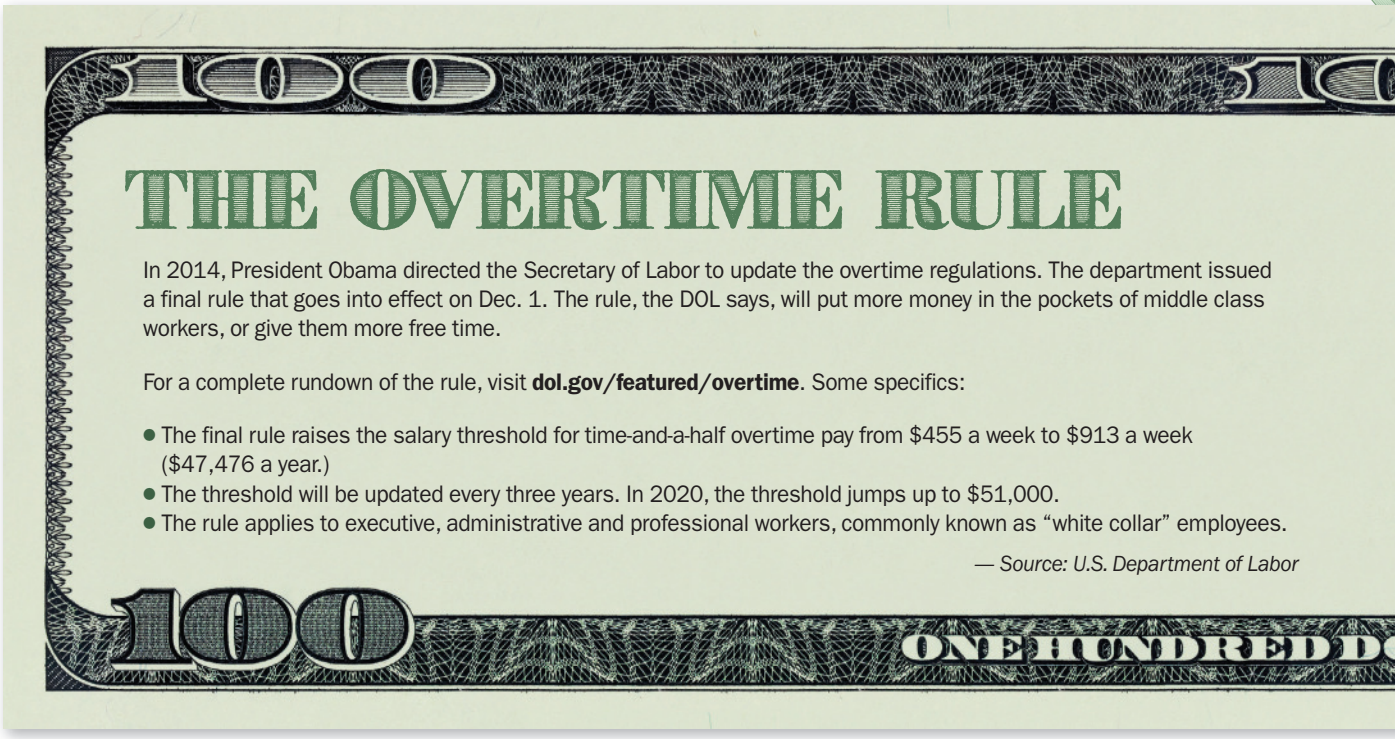

THE OVERTIME RULE

In 2014, President Obama directed the Secretary of Labor to update the overtime regulations. The department issued a final rule that goes into effect on Dec. 1. The rule, the DOL says, will put more money in the pockets of middle class workers, or give them more free time.

For a complete rundown of the rule, visit **dol.gov/featured/overtime**. Some specifics:

- The final rule raises the salary threshold for time-and-a-half overtime pay from $455 a week to $913 a week ($47,476 a year.)
- The threshold will be updated every three years. In 2020, the threshold jumps up to $51,000.
- The rule applies to executive, administrative and professional workers, commonly known as "white collar" employees.

— Source: U.S. Department of Labor

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> JUST BECAUSE I WORKED A THOUSAND HOURS A WEEK AND ONLY TOOK ONE DAY OFF A MONTH IN THE SEASON WHEN I WAS AN ASSISTANT DOESN'T MEAN IT SHOULD BE LIKE THAT FOR MY GUYS.
>
> MICHAEL BRUNELLE

Continued from page 22

not just about compliance. It's about taking care of people.

"My guys have mortgage payments, they have families, their kids need braces," he says. "You can't do all that on an assistants' salary, and that's not right."

This is a hot topic at the Metropolitan GCSA meetings, where board member Michael Brunelle, CGCS, Upper Montclair Country Club, Clifton, N.J., also is standing up for assistants. He sees assistants making the same salary but handling more responsibility than he was 10 years ago.

Michael Brunelle

"Just because I worked a thousand hours a week and only took one day off a month in the season when I was an assistant doesn't mean it should be like that for my guys," says Brunelle. "There are still those gems who are committed. The tough part is we've got to do something to keep those guys in the industry."

What's the difference in Brunelle's mind between today and 10 years ago when he was an assistant? There was a light at the end of the tunnel. Brunelle says that he knew he was going to be an assistant for four to six years before he got his first superintendent job. Now there are fewer superintendent jobs out there and his assistants are looking at 10 to 12 years before they get a chance.

Also, his assistants live rent-free in Upper Montclair's clubhouse apartments, which helps if there's a course emergency. It benefits the assistants because they can't afford the apartments near the course. But if they want to get married? Not many people want to ask that special someone to live in a clubhouse.

"You have to compensate them enough to have a family to keep

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them in it. You can create that lifer position for that guy or at least make sure he stays at your club until he has an opportunity to make that next move," Brunelle says. "We have to pay them so much more if they were going to live in our area. (With) the taxes alone they can't own a home. You could rent a respectable place where you feel safe with a family but that costs $2,000 per month. I think these are all issues that need to be handled sooner rather than later."

Brunelle acknowledges that raising assistant superintendent salaries is not possible at all municipal, resort or private courses, but in his area there's money that he wants to get to the assistants.

"The type of club I'm at and the area I am in, there are a ton of private clubs and there's enough to go around," Brunelle says. "In an industry where if a superintendent is making $200,000, how is his right-hand man not making $100,000? In every other industry that's how it works. Why is it not in our industry?"

$80K to stare at a computer

At Cattail Creek Country Club in Glenwood, Md., Superintendent Chris Harriman has three assistants. One has been there for 23 years, the other is in his fourth season and the youngest, a recent Penn State grad, is in his first season and already has accepted a new position and will be leaving in the fall.

Chris Harriman

He says that some decisions will need to be made, but other decisions won't be so tough.

"First of all, it's a shame you have to have someone tell you to do this... these guys are certainly worth $50,000 a year," he says. Harriman says competition in his area for hard-working young people are fierce, and he's mostly outgunned.

"It's hard enough to get golfers to play, let alone get someone to work outside on the course," he says. "GCSAA is trying to paint this as a white-collar business. It's not. In the mid-Atlantic, we're looking to Hispanic workers to help out. Because here in D.C., kids are making $80,000 to stare at a computer all day."

He says assistants should be able to get their jobs done in 40 hours if there is the right amount of employees on the course, and it has a decent irrigation system and proper organization.

"To a certain point, courses have already been doing more with less for the last 10 years," he says. "This is just another aspect of that. During the week it won't make a difference. We're organized so guys are only here eight, maybe nine hours a day. It's weekend work that'll change. But it won't be a massive change, we'll just have to work smarter."

Making peanuts

As Dec. 1 nears, decisions will need to be made at courses across the country. And not just with the maintenance team. This new rule could affect everyone from the assistant pro to the sous chef.

"Right or wrong, you have to ask if you can make up this money in revenue," Stuedemann says. "There will be courses that have to ask if they can maintain the course with 25 guys instead of 30, or with 10 guys instead of 12."

"For some guys, they'll have no issues," Harriman says. "And for the courses that have their guys making peanuts? ...Things are about to get nuts."

Hosted by Clark Throssell, Ph.D. | *clarkthrossell@bresnan.net*

Super Science

// THE INTERFACE OF SAND AND GRAVEL

FORMATION OF CLAY BANDS IN SAND PUTTING GREENS

By Glen Obear and Bill Kreuser, Ph.D.

In 2014, we observed thin bands of clay in the sand putting greens of a golf course in Mississippi. These layers resulted in reduced water infiltration, saturated soils and a decline in turfgrass density.

The greens, constructed in 2005 following USGA guidelines, had a root zone blend of 90:10 sand and calcined clay. These layers had formed at the interface of sand and gravel, with clay contents ranging from 1.7 percent to 3.8 percent.

Thin clay band at the interface of sand and gravel (14-inch depth) in a nine-year-old putting green in Mississippi.

We proposed three hypotheses to explain the formation of these layers: 1) Clay was present in the sand and subsequently moved downward, 2) Clay originated from the breakdown and subsequent translocation of the calcined clay amendment in the root zone mix, or 3) Clay from the underlying compacted subgrade moved upward through the gravel when it was saturated and into the sand.

In each hypothesis, the preferential retention of water in the sand above the gravel resulted in clay accumulation at this boundary. We characterized the clay with X-ray diffraction and found that the mineralogy of the clay bands was different from both the calcined clay amendment and the underlying subgrade. Our findings suggest that the calcined clay soil amendment did not break down and contribute to the layers. It also is unlikely that clay moved up from the compacted subsoil into the sand.

The clay bands most likely originated from clay that was present in the root zone mix during construction. The layers contained 1.7 percent to 3.8 percent clay, yet current USGA recommendations allow up to 3 percent clay in construction mixes. We are conducting USGA-funded research on clay movement and accumulation in root zones containing a range of clay content. We also are examining how irrigation water chemistry interacts with clay mineralogy to induce swelling, deflocculation and dispersion. This will provide details about the interactions between soil and water chemistry, and could improve construction recommendations to avoid the formation of layers in putting green soils.

Glen Obear is a Ph.D. candidate, and Bill Kreuser, Ph.D., is a turfgrass scientist at the University of Nebraska-Lincoln. You may reach Glen at glenobear@gmail.com for more information.

PHOTO BY: GLEN OBEAR

NEWS UPDATES

UNIVERSITY OF GEORGIA LAUNCHES SEASHORE PASPALUM WEBSITE

Team UGA at the University of Georgia recently launched a website dedicated to seashore paspalum turfgrass.

Team UGA consists of experts in warm-season turfgrass breeding, pest resistance, management, licensing, certification and foundation plant material production. The site, SeashorePaspalum.uga.edu, was created as a resource on the proper use, maintenance and research of this family of grasses.

The website was developed by Team UGA, utilizing the expertise of turfgrass researchers at the University of Georgia, led by Paul Raymer, breeder of seashore paspalum turfgrass varieties and director of the turfgrass breeding and genetics research program at the University of Georgia campus in Griffin.

The site serves as a one-stop shop for superintendents looking for information on planting, growing and maintaining seashore paspalum turfgrass. The website provides information on seashore paspalum turf benefits, as well as management tips for fertilization, mowing, disease control, insect control and weed control.

The University of Georgia has released four varieties of seashore paspalum: Sealsle 1, Sea Isle 2000, Sealsle Supreme and SeaStar Seashore Paspalum.

"WE DIDN'T EXPECT WIDESPREAD SNOW MOLD IN 2015-2016 BECAUSE OF THE EL NIÑO FORECAST."

Paul Koch, Ph.D.

(see story on page 28)

//ASSESS YOUR RISK COMFORT LEVEL

Snow mold lessons learned from last winter

By Paul Koch, Ph.D.

The winter of 2015-2016 can best be described as unusual, whacky, zany, goofy or any other words that imply it was abnormal for most of the northern United States.

December had record-breaking warmth for most locales, and frequent heavy rainfall events made the month feel more like October. These conditions led to widespread discussion about whether to reapply snow mold fungicides. While many superintendents reapplied these fungicides to putting surfaces and tees, the majority did not.

Our recommendation from the University of Wisconsin was to base reapplication decisions on the amount of risk superintendents were comfortable taking. Though our past research clearly shows that warm winter temperatures and rainfall events rapidly degrade snow mold fungicides, we didn't expect widespread snow mold in 2015-2016 because of the El Niño forecast.

Because El Niño winters traditionally result in reduced snowfall in the Midwest, we advised that most superintendents likely would see little snow mold breakthrough, and a reapplication would not be warranted. However, superintendents who believed the risk of snow mold developing on their relatively unprotected turf was more than they were willing to bear were encouraged to make additional applications in December. Snow mold largely was absent for both groups, validating the decision by those who didn't reapply.

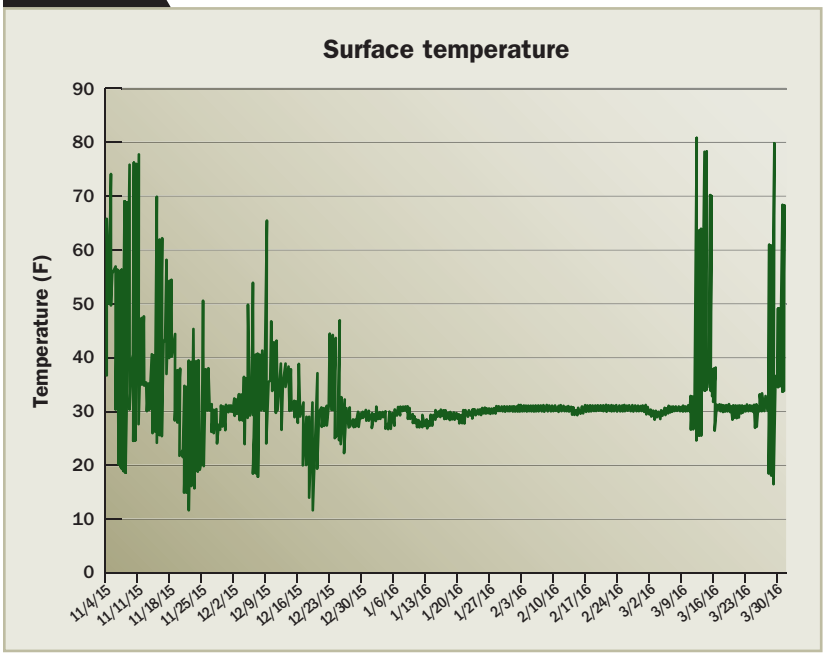
If a reapplication wasn't needed this past winter, will one ever be warranted? One of the benefits of conducting research is that we can experiment without fear of retribution from angry golfers, owners or GMs when the experiment fails and the plots are littered with disease. Our 2015-2016 snow mold trial at Marquette Country Club in Marquette, Mich., provided an excellent test of 100 different fungicide treatments and how they would perform when exposed to a month of exceptionally warm and wet weather followed by two months of highly conducive snow mold conditions.

THE TRIAL AT MARQUETTE COUNTRY CLUB

The trial at Marquette CC included 100 different fungicide treatments. Each treatment was applied in 1.5 gallons of water per 1,000 square feet on Nov. 3, 2015. From local weather records and our Spectrum Watchdog data logger placed on the plot, we know that temperatures in Marquette were well above average in November and December and that numerous rainfall events occurred between the application and the beginning of 2016 (Figure 1).

Based on the horizontal temperature line from Figure 1, we also know that a deep and insulating snow cover was present on site from Jan. 1, 2016 until mid-March, a duration of just more than 60 days. We assessed disease severity, turf quality and turf color following snowmelt on March 31, 2016. For the full report from this and other trials, please visit the University of

FIGURE 1



Surface temperature at Marquette (Mich.) Country Club during the winter of 2015-2016.

TABLE 1

Percent snow mold on the 12 top-performing treatments and the non-treated control

Treatment	Rate	Percent Disease
Non-treated control		83.8
Fame T	0.67 fl oz/1000 ft2	2.8
Fame T	0.89 fl oz/1000 ft2	3.5
Fame SC	0.18 fl oz/1000 ft2 0.44 oz/1000 ft2	2.3
Fame SC Tourney	0.36 fl oz/1000 ft2 0.37 oz/1000 ft2	2.3
Insignia SC Trinity Daconil Ultrex Turfcide	0.7 fl oz/1000 ft2 1.0 fl oz/1000 ft2 5.0 oz/1000 ft2 8.0 fl oz/1000 ft2	1.8
Insignia SC Trinity Chipco 26GT Turfcide	0.7 fl oz/1000 ft2 1.0 fl oz/1000 ft2 4.0 fl oz/1000 ft2 8.0 fl oz/1000 ft2	4.3
Insignia SC Trinity Chipco 26GT Daconil Ultrex	0.7 fl oz/1000 ft2 1.0 fl oz/1000 ft2 4.0 fl oz/1000 ft2 5.0 oz/1000 ft2	1.8
Concert II Turfcide Foursome	5.5 fl oz/1000 ft2 8.0 fl oz/1000 ft2 0.5 fl oz/1000 ft2	4.0
Concert II Turfcide Foursome	8.5 fl oz/1000 ft2 8.0 fl oz/1000 ft2 0.5 fl oz/1000 ft2	4.8
26GT Xtra Daconil Weatherstik Mirage	5.0 fl oz/1000 ft2 5.5 fl oz/1000 ft2 2.0 fl oz/1000 ft2	3.5
26GT Xtra Daconil Weatherstik Mirage	8.0 fl oz/1000 ft2 5.5 fl oz/1000 ft2 2.0 fl oz/1000 ft2	4.8
Daconil Weatherstik Interface Mirage	5.5 fl oz/1000 ft2 6.0 fl oz/1000 ft2 2.0 fl oz/1000 ft2	4.8

Percent snow mold on the 12 top-performing treatments and the non-treated control from the research trial at Marquette (Mich.) Country Club during the winter of 2015-2016. For full trial results, please visit the University of Wisconsin's Turfgrass Diagnostic Lab research page (**http://tdl.wisc.edu/results/**).

Wisconsin's Turfgrass Diagnostic Lab research page (**http://tdl.wisc.edu/results/**).

The two months of snow cover on unfrozen ground at Marquette provided optimal pink snow mold conditions, and the non-treated control plots averaged 84 percent disease (Figure 2). However, there also were numerous treatments that performed exceptionally well under trying circumstances. Every treatment except for one lowered disease relative to the non-treated control, and 12 treatments provided more than 95 percent control (Table 1). Numerous additional treatments provided excellent control of 90 percent or more. Of those providing excellent control, most included a mixture of two, three or four active ingredients. In many cases, one of those active ingredients was chlorothalonil in the form of Daconil WeatherStik.

Research from our work and others has long shown the importance of fungicide mixtures in adequately suppressing snow mold in high-pressure areas, and this trial was no different. Fame plus Tourney (fluoxastrobin plus metconazole) performed exceptionally well, but Tourney (only metconazole) did not (Figure 3). Interface (iprodione plus trifloxystrobin) and Mirage (tebuconazole) tank mixed together provided excellent snow mold control, though both Interface and Mirage on their own did not (Figure 4).

These results demonstrate that mixtures provide improved snow mold control even when warm temperatures and heavy rains occur following application. This improved control likely is due to an increased inhibitory effect on the fungus rather than an extension of fungicide persistence. So even if your snow mold fungicide mixture is washed away a week after you apply it, our results suggest that it still had an impact on the fungus and likely will provide at least some level of disease suppression relative to non-treated areas, no matter what the

Continued on page 30

FIGURE 2

Despite the warm December, snow mold pressure at Marquette CC was very high.

FIGURE 3

Tank-mixing Fame SC and Tourney provided excellent snow mold suppression at Marquette CC in 2015-2016, though Tourney applied on its own was ineffective.

PHOTOS BY: PAUL KOCH

FIGURE 4

Combining Interface and Mirage was highly effective at suppressing snow mold at Marquette CC in 2015-2016, but protection broke down when either one of the products was applied alone.

Continued from page 29

winter entails.

As mentioned above, mixtures including Daconil WeatherStik (i.e. chlorothalonil) performed better than similar mixtures not containing chlorothalonil. This is not universally true, but a quick look at Table 1 shows that seven of the 12 best performing treatments included chlorothalonil.

While there aren't hard facts supporting why this might be the case, one possible explanation is that chlorothalonil products may be more persistent in variable winter weather. The solubility of chlorothalonil in water is 0.81 mg/L, which is extremely insoluble. For comparison's sake, the solubility of iprodione in water is 13 mg/L. So even though chlorothalonil alone is not an exceptional fungicide against pink snow mold, its ability to persist on the turf leaf blade during winter rains and snowmelt a little longer than other active ingredients may contribute to improved snow mold suppression.

IMPLICATIONS FOR YOU

How do the results at Marquette Country Club in 2015-2016 relate to the decisions being made at your facility?

The bottom line is that snow mold applications can still provide prolonged snow mold suppression, even if they are degraded shortly after application by rainfall and warm temperatures. While seemingly contradictive, this is true because most snow mold fungi grow slowly, even in optimal conditions. If stunted by a fungicide in the fall, the fungi likely will require prolonged time to recover.

If weather conditions aren't ideal for fungal growth they may never recover to the point of symptom development, even when the fungicide is no longer present. However, if conducive snow mold conditions persist for a prolonged period after fungicide degradation, it's likely the fungus eventually will recover to the point of infecting the plant and producing symptoms.

So what did last winter teach us about the need to reapply snow mold fungicides following record warmth and frequent rainfall? The answer will be based on your location, the historical level of snow mold observed, the expectations of the club and the level of risk you're willing to take during the winter months.

The majority of superintendents won't have to reapply. As discussed above, the initial fungicide application will severely stunt fungal growth and provide enough suppression for most superintendents. However, if you 1) live in a snowbelt that traditionally experiences lots of snow mold, or 2) are hosting a spring event or otherwise can't tolerate any springtime symptoms, or 3) you're just going to sleep better during the long, cold winter if you reapply… then a reapplication is warranted.

Paul Koch, Ph.D. is an assistant professor in the department of plant pathology at the University of Wisconsin-Madison. He can be contacted at 608-262-6531 or plkoch@wisc.edu.

Acknowledgements

I would like to thank the superintendents who hosted snow mold trials for us in 2015-2016: Craig Moore, Marquette CC, Randy Slavik, Wausau CC and Eric Leonard, Cherokee CC.

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PHOTOS BY: PAUL KOCH

//POWER BY PROXY

A new key to *Poa annua* seedhead suppression

Research shows an early application of Proxy (ethephon) provides consistent *Poa annua* seedhead suppression.

By Shawn Askew, Ph.D.

Annual bluegrass (*Poa annua*) seedhead suppression long has been among the more unpredictable turf management objectives faced by superintendents. One challenge is that annual bluegrass is one of the most adaptable plant species on the planet, leading to a broad range of genetic diversity spanning geography and management intensity.

In addition, several interacting factors contribute to stimulate floral primordia. Embark T&O (mefluidide) is an established seedhead suppressor, generally considered to suppress seedheads better with increasing rates. Embark at effective rates (1 fl. oz. /1,000 sq. ft.), however, injures both annual bluegrass and creeping bentgrass (*Agrostis stolonifera*). Adding chelated iron can decrease turf discoloration by Embark, but the tank mixture tends to promote Embark precipitation, lowering product efficacy when the two products are applied together.

A recent decision by the 3M Co. to reduce waste in the manufacturing of a common spray adhesive has nearly eliminated the availability of mefluidide, a waste product in the manufacturing process and the active ingredient in Embark. Efforts to manufacture mefluidide directly are said to be cost prohibitive. Thus, this long-standing seedhead suppressor's availability has been limited in recent years and may be phased out completely.

ENTER PROXY (ETHEPHON)

Proxy (ethephon) first was marketed for seedhead suppression in turf about 15 years ago and generally offers improved turf safety over Embark. As with most products, the safety of Proxy on creeping bentgrass and annual bluegrass turf is not absolute. In warmer climates or warmer times of the year, Proxy can cause "crown rising" of creeping bentgrass that leads to scalping-associated discoloration on greens. In northern climates, applying Proxy during late spring, especially on thatchy greens, likely will cause the crown-rising problem to appear in early summer. In the Deep South, Proxy has been associated with severe declines in turf quality and root density of creeping bentgrass.

"The results were astounding... When an early application (of Proxy) was included with a normal spring program, seedhead suppression was improved to 95 percent with a standard deviation of 5 percent in these same trials."

The reason for root loss in hot climates is unknown, but recent research at Virginia Tech suggests Proxy may accentuate root senescence following turf stress. In a trial conducted on four Virginia putting greens, Proxy at 5 fl. oz. /1,000 sq. ft., when mixed with PoaCure (methiozolin), interacted with core aeration stress to cause creeping bentgrass stand loss. Treatments were applied at 50 growing degree days at a 50-degree F base temperature (GDD_{50}) (March 2012, April 2013 and 2014) and repeated three weeks later. PoaCure alone did not injure creeping bentgrass at any rate, but when mixed with Proxy on greens that were aerated a few days after treatment, up to 90-percent creeping bentgrass stand loss was observed at the 2.4 fl. oz. /1,000 sq. ft. (4 X) PoaCure rate. When core aeration was separated from chemical treatments by at least two weeks, creeping bentgrass was not injured by any treatment.

The theory has not yet been confirmed, but it seems that aeration stress interacted with Proxy to cause root loss that could not be replenished by creeping bentgrass crowns in the presence of PoaCure. PoaCure can inhibit root growth when root tips are exposed to the product, a situation that normally would not occur on a green unless severe stress caused root loss, requiring new root growth from turfgrass crowns.

If Proxy were causing root loss following aeration stress on greens we

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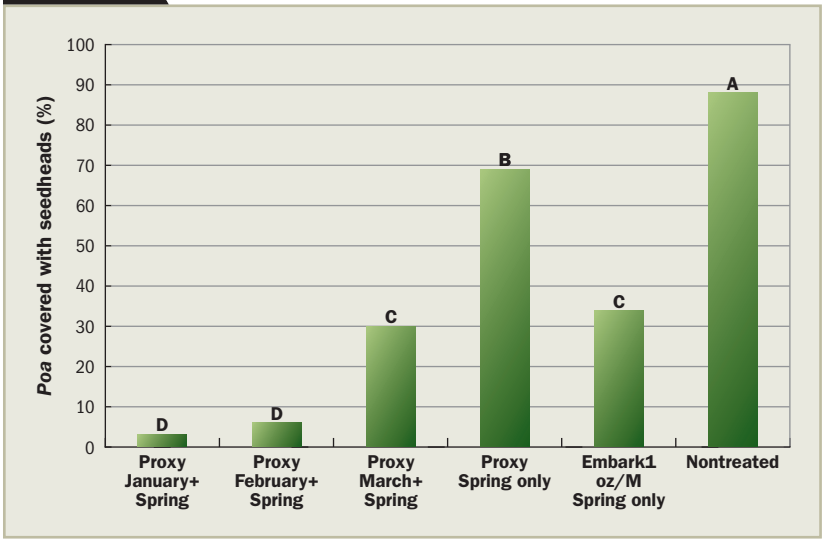
normally would not notice symptoms on a well-irrigated green, as creeping bentgrass can replenish roots quickly in cool weather. Therefore, don't mix PoaCure with Proxy, especially if you expect mechanical or environmental stress on greens. Proxy also tends to cause transient yellow-to-orange discoloration of annual bluegrass, especially when spring weather presents intermittent frost events. Primo Maxx (trinexapac ethyl) typically is mixed with Proxy to improve both turf density and color. When applied in spring in the Transition Zone and further north, this combination of Proxy and Primo Maxx is extremely safe on putting greens but tends to deliver highly variable annual bluegrass seedhead suppression among locations and years.

In an analysis of 195 observations from published reports, Proxy suppressed seedheads 56 percent on average, with a standard deviation of 28 percent across 11 Northeastern or Northcentral U.S. trials. In 21 replicated research trials conducted in Virginia in the past 15 years, seedhead suppression provided by Proxy applied in the spring also has been similarly variable. These data suggest that superintendents can expect about 70 percent of Proxy applications to reduce seedhead cover between 28 percent and 84 percent compared to nontreated turf.

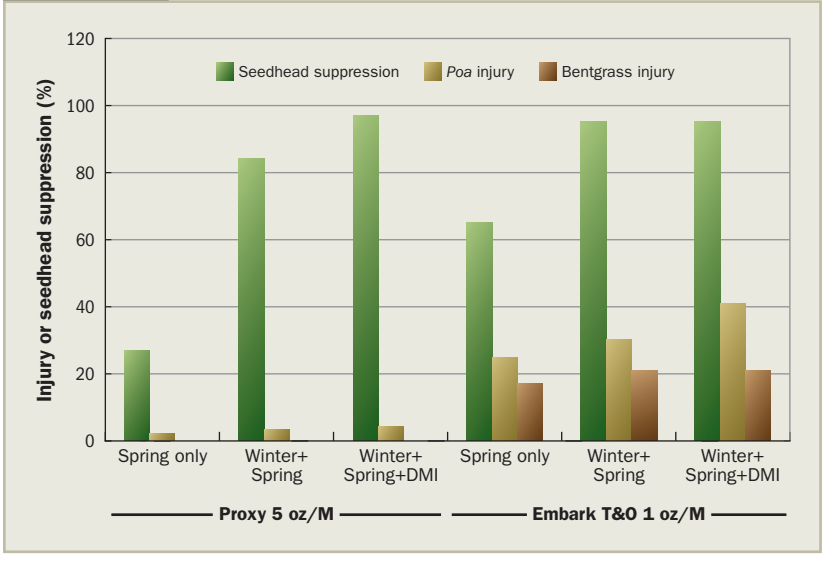
We have tried almost everything in the book at Virginia Tech to reduce this variable seedhead suppression by Proxy. We quickly recognized, like others, the value of proper application timing and have successfully employed growing degree day application thresholds based on both 32 and 50 F base temperatures. In the Mid-Atlantic region, applying Proxy at 50 GDD_{50} or 400 GDD_{32} (base 32 F) typically maximizes efficacy. We even have used black sand to "heat up" the green. We were able to rapidly initiate annual bluegrass seedhead emergence using black sand, and this allowed our Proxy applications to be timed precisely relative to seedhead emergence. The result was still poor seedhead suppression in the first four weeks of the season. After much experience, it became apparent that all of our application timing research only served to optimize what was Proxy's inherently variable seedhead suppression.

FIGURE 1



Percentage of annual bluegrass displaying seedheads at peak bloom six weeks after 50 GDD_{50} averaged over putting green trials in Blacksburg and Harrisonburg, Va., in 2012. Proxy at 5 fl. oz./1,000 sq. ft. was applied at various winter timings and followed by the spring program of Proxy at 5 fl. oz./1,000 sq. ft. plus Primo Maxx at 0.125 fl. oz./1,000 sq. ft. twice at a three-week interval.

FIGURE 2



Influence of Proxy plus Primo Maxx or Embark T&O spring programs (Spring) ± a February early application of Proxy or Embark (Winter) ± a 90 GDD_{50} treatment of Bayleton at 1 fl. oz. /1000 sq. ft. (DMI) on creeping bentgrass and *Poa annua* injury and suppression of peak *Poa annua* seedhead production averaged over putting green trials in Blacksburg, Va., (2011) and Harrisonburg, VA (2012).

FIGURE 3

Virginia Tech graduate student Sandeep Rana collecting spectral reflectance data on seedhead suppression studies. The plot to Rana's left is a spring-only program of Proxy plus Primo Maxx that suppressed seedheads about 60 percent. Surrounding plots included fall or winter applications of Proxy in addition to the spring program, improving seedhead suppression to over 90 percent.

PHOTO COURTESY SHAWN ASKEW

WHY THE VARIABILITY?

What's the source of the variability? Could it be *Poa annua*'s genetic diversity, as many have proposed? No. Despite similar trial conditions and applications timings, Proxy would work great one year at a given location but not at the next. Although genetics probably plays an important role, it can't explain all of the variability.

The term "flowering" is loosely used and involves photoperiodic induction, floral evocation and floral differentiation. The photoperiod-based induction process is fairly well studied, but the process of evocation and differentiation is far less understood. Chemical compounds yet to be discovered and labeled as "florigenic stimuli" or "florigens" are believed to travel through the plant using nutrient-conducting tissue to kickstart floral evocation at the growing point. Hormones, similarly translocated, are believed to play a role in the floral differentiation stage. Because the production and translocation of chemical stimuli for floral initiation are influenced by environmental conditions, it stands to reason that a high percentage of annual bluegrass plants will "initiate seedhead formation" during warm periods in winter. Spring-applied Proxy will not prevent seedheads on these plants if floral differentiation has already begun.

About five years ago, I started evaluating "early" applications of Proxy in winter and fall to test a hypothesis that these winter-initiated floral primordia could be prevented. The results were astounding. In 51 side-by-side comparisons within 13 field trials at various Virginia golf courses, the normal spring program of Proxy at 5 fl. oz./1,000 sq. ft. plus Primo Maxx at 0.125 fl. oz./1,000 sq. ft. suppressed seedheads 58 percent, with a standard deviation of 17 percent. When an early application was included with a normal spring program, seedhead suppression was improved to 95 percent with a standard deviation of 5 percent in these same trials.

Data from nontreated turf shows that the duration of *Poa annua* seedhead production at Spotswood Country Club in Harrisonburg, Va., was about 80 days in 2012. We often see the spring Proxy plus Primo Maxx program perform inconsistently during the first four weeks of the spring season, but seedhead suppression generally improves later in the season after the second application.

Applying Proxy at 5 fl. oz./1,000 sq. ft. at least one month prior to the normal spring GDD-based program of Proxy at 5 fl. oz./1,000 sq. ft. plus Primo Maxx at 0.125 fl. oz./1,000 sq. ft. nearly eliminates seedhead production in most cases (Figures 1, 2, 3). Winter application timing did not strongly influence performance if Proxy was applied at least one month before the spring GDD-based treatments, which was late March in 2012 (Figure 1). Proxy always was safer to both annual bluegrass and creeping bentgrass compared to mefluidide (Figure 2).

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ANOTHER CONCERN

A particular concern with fall or winter Proxy applications is the potential effect additional Proxy applications may have on *Poa annua* winter survival in the extreme north. Our research in Virginia can't directly answer this question, but we can say that these Proxy programs have not reduced *Poa annua* cover and were considerably safer on *Poa annua* than Embark programs in every evaluation. Recent research is proving that fall Proxy treatments applied between mid-November and mid-December work equal to or better than winter treatments to improve efficacy for seedhead suppression (Figure 3). Fall applications are much easier to implement than winter applications because of seasonal weather patterns and lack of snow cover in most locations. Proxy applications prior to Nov. 15 are not advised in our area, as seedhead suppression was reduced in research trials.

Our current recommendation for Mid-Atlantic states is to apply Proxy alone in late November or December and follow with Proxy plus Primo Maxx in spring using 400 GDD_{32} or 50 GDD_{50} as the initial spring trigger, and repeating the mixture 3 to 4 weeks later. This program works great in areas where greens tend to enter winter dormancy soon after the fall treatment, as these fall treatments can increase winter-associated leaf tip burn and decrease new leaf growth that would otherwise mask frost injury.

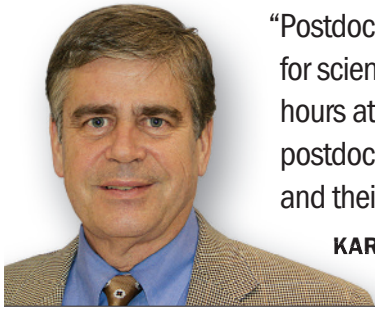
Use of a pigment-containing product has improved winter turf quality in several of our trials and may be appropriate for southern or coastal locations where greens do not go completely dormant. We also have evaluated these winter and fall applications with Helena's ethephon product, Oskie, with the same response. Both Proxy and Oskie programs exhibited dramatically improved seedhead suppression when a fall or winter treatment was applied in advance of a normal spring two-application program. In collaboration with Adam Van Dyke (owner, Professional Turfgrass Solutions, LLC) in the past two years, we have evaluated early applications of these two products in both fall and winter with multiple trials conducted in Virginia and Utah. There has been no significant difference between fall and winter applications, and only slight improvement in seedhead suppression when both fall and winter applications are applied prior to a normal two-application spring program. Thus far, we have not observed unacceptable injury to *Poa annua* or creeping bentgrass, even when both fall and winter applications were applied. We currently are evaluating plant health products to promote potential winter stress defense with fall ethephon treatments.

DRAMATIC IMPROVEMENT

In seedhead suppression research at Virginia Tech in the past five years, adding early ethephon applications dramatically improved seedhead suppression over traditional spring programs alone in every comparison within 15 replicated putting green and fairway research trials across Virginia.

In the past two years, other university scientists have started evaluating these programs with reportedly similar results. Based on my correspondence with superintendents in the eastern United States and in social media discussions, it appears many superintendents also have adopted these programs with general success. Future efforts at Virginia Tech will include various tank mixtures and approaches to economical seedhead suppression on fairways and incorporation of other growth regulators, such as Anuew (prohexadione calcium), Trimmit (paclobutrazol), and Cutless (flurprimidol) into these programs on both greens and fairways.

Shawn Askew, Ph.D., is a turfgrass weed scientist at Virginia Tech. You may reach Askew at saskew@vt.edu for more information.



"Postdocs have a deep passion and love for science that drives them to work long hours at a relatively low pay. The goal of a postdoc is to end up with a faculty position and their own laboratory."

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

Eerie similarities: Postdocs and assistants

Postdoctoral researchers, commonly known as postdocs, play an integral part in scientific advancement. A postdoc holds a doctoral degree (Ph.D.) and is employed in a faculty member's laboratory and engaged in research, acquiring the needed professional skills. Additionally, they often write grants to help fund the laboratory. Faculty mentoring is a big part of postdoc training.

Postdocs are extremely skilled and drive scientific research at universities, especially in the biomedical area. Numerous Nobel Prize winners did their award-winning work as postdocs, including James Watson, who described the double-helix structure of DNA. Postdocs have a deep passion and love for science that drives them to work long hours at relatively low pay. The goal of a postdoc is to end up with a faculty position and their own laboratory. Regarding pay — a sore point — postdocs often joke that they could earn more being paid minimum wage with overtime than with current salaries.

However, change is coming this year for faculty and postdocs.

The Department of Labor announced in May that its final rule on the Fair Labor Standards Act (FSLA) — which will affect more than 4 million workers, including postdocs — goes into effect Dec. 1, 2016. Garnering considerable attention is the update of salary and compensation levels needed for executive, administrative and professional workers, including postdocs, to be exempt. According to the Department, the rule "Sets the standard salary level at the 40th percentile of earnings of full-time salaried levels workers in the lowest-wage Census Region, currently the South ($913 per week; 47,476 annually for a full-year worker). The alternative to increasing the salary is to document hourly pay along with overtime.

A quote from a blog post by Francis Collins, director of the National Institutes of Health, and U.S. Secretary of Labor Thomas E. Perez, makes the choice clear: "... So, from our vantage point, it seems that the only option consistent with the professional nature of scientific work is to increase salaries above the threshold."

I think postdocs deserve and are worth the pay increase. Given their education and talent they should be paid more than $47, 476. (The current base salary, set in 2004, is $23,660.)

There's no doubt that it's going to be more difficult to fund postdocs. Depending on the funding source and geographical area, it's unlikely that hiring a postdoc will involve a minor cost increase. And when funding postdocs no longer is feasible, money will shift into alternative labor types, such as graduate students and research assistants.

The downside of moving away from postdocs, especially in the competitive world of science where they are critical, is a loss of quality and competitiveness in research programs.

Some of you may note the similarities between postdocs and assistant superintendents in this column. You could substitute "assistant superintendent" for "postdoc" and "faculty" with "superintendent." However, one difference between assistants and postdocs is that the current number of postdocs rose 150 percent between 2000 and 2012, while the number of tenured faculty positions available has flattened. Some, but not all, think the new FLSA rules will help reduce the postdoc glut.

Conversely, there's a shortage of qualified assistants entering the golf industry. Enrollments are down in turf programs across the country to a point where we are not delivering enough quality assistants to fill the available positions. I welcome the new FLSA regulations as a potential means of attracting students who are interested in our profession but have been chased away by long hours and low pay.

I hope the golf industry will embrace the change. If we are not currently producing enough qualified assistant superintendents, who will become superintendents in five to 10 years when current superintendents reach retirement? If we are not taking on and training quality assistants, what will the profession of the golf course superintendent look like in the future?

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

Success at Cal-Riverside

I have the good fortune to serve on the USGA Turfgrass and Environmental Research Committee. Some of the duties of committee members include visiting universities with research projects in progress to see how the research is going and to visit universities where the committee would like to see a specific project in the future. Mike Kenna, Ph.D., director of Green Section research, leads the visits and is accompanied by two or three committee members and Green Section agronomists from the local region.

My most recent visit was to the University of California-Riverside (UCR). Jim Baird, Ph.D., leads the turfgrass program at UCR. In fact, Baird is the only university faculty member specializing in turfgrass science in the entire state of California. Talk about a big job. He organized a day of field plot tours, lab tours and meetings for committee members, university staff and students working in turf and two local superintendents closely involved with funding research at UCR.

As you might expect, the primary focus of research at UCR is on all things related to water. Marco Schiavon, Ph.D., postdoctoral researcher, leads a range of studies managing turf while using water in the most efficient manner possible. Some of the studies are watered with saline water that is manufactured on site to study turfgrass and soil response to saline water.

After talking to Baird and Schiavon, it's clear that warm-season grasses, primarily bermudagrass, are the turf choices to conserve water in southern California. The challenge of using bermudagrass is the reluctance of many people, including some golfers, to accept the tan color of dormant bermudagrass. While turfgrass scientists have made considerable progress in breeding turfgrasses that use less water and in developing management practices that provide quality turf that requires less water, changing the public's view on year-round green grass remains a big hurdle.

Baird and his staff conduct numerous pest-control studies focused on the specific needs of superintendents in California. In a state as big and geographically diverse as California, you can imagine the wide range of turfgrass problems that exist. Management and control of annual bluegrass (*Poa annua*), nematodes (*Anguina pacifica*), anthracnose and various weed species fill much of Baird's time. He conducts many of his studies on golf courses in several regions of California in addition to the research at UCR.

California golf course superintendents deserve a big round of applause for providing funding and moral support for the UCR turfgrass research program. Superintendents are playing a major role in having and keeping a turfgrass scientist at UCR, and that's a huge advantage for the state's golf industry.

UCR's turf program is a good example of what is needed to sustain other university turf programs. It starts with local or statewide interest from golf course superintendents. There needs to be widespread, consistent, genuine interest in university turf programs. Active support of all aspects of the program, from recruiting undergraduate students, hiring recent graduates, funding research and attending university sponsored educational events, all are vital for a successful university turf program.

Once local superintendents have committed to a program's success it's easier for private industry and associations to become involved. However, this is a two-way street. University turfgrass scientists need to listen carefully and respond appropriately to the needs of superintendents. There needs to be constant communication among all parties involved in university turfgrass programs.

Starting with graduate school, I have been fortunate to spend the majority of my career in an environment where strong university turf programs were the norm. That environment has changed and will continue to change. We all need to step up and support university turf programs so our industry can continue to flourish. I hate to think where golf course superintendents in California would be without Jim Baird at UCR.

Clark Throssell, Ph.D., loves to talk turf. Contact him at clarkthrossell@bresnan.net.

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BY THE GOLFDOM STAFF

WORKPLACE SAFETY on the golf course usually means being cautious for golf balls, wearing eye protection when necessary or taking extra care on steep embankments. But don't take for granted the importance of breathing safely.

Remind workers, especially when operating heavy equipment, to stay upwind from any projects that create a lot of dust, especially those involving crystalline silica-containing materials, like sand, stone and concrete. Avoid using compressed air to clean surfaces, and when possible, spray water to diminish the dust.

1. Reelmaster 3555-D/3755-D

TORO recently introduced the Reelmaster 3555-D with 5-inch reels and the Reelmaster 3575-D with 7-inch reels. Both deliver a 100-inch width of cut. The new mowers also feature Toro's new EdgeSeries reels in 8- or 11-blade configurations, and are built on proven and tested Reelmaster platforms. These machines feature Toro's Dual Precision Adjustment (DPA) cutting units with EdgeSeries reels, which retain their edge longer, and provide a crisp, clean cut. The efficient traction system enhances maneuverability in hilly and wet conditions, while the three-wheel design minimizes turnaround time and wear and tear on turf. Additionally, the all-wheel drive traction system prevents wheel slip and loss of traction for improved performance.
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2. GA Series Tractor-Mounted Aerators

JACOBSEN'S all-new GA Series of Tractor-Mounted Aerators will provide everything from heavy duty deep-tine aeration to light conventional greens and tees aeration. The product line has been designed to improve hole quality, boost productivity, and enhance aeration performance over undulated surfaces. The GA600 is a deep-tine aerator with a working depth of 12 inches and working width of 72 inches. The GA600 can achieve deep tine and conventional tine aeration in the same pass. The GA580 and GA450 are two intermediate depth coring aerators with differing working widths of 70 inches and 54 inches and a working depth of 7 inches. Finally, the GA400 is a machine designed for greens and tees, having a 48-inches working width and a 6-inch working depth.
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3. WideSpin 1550

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4. 7700A PrecisionCut Fairway Mower

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5. CBR-IVSS Pro Broadcast

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The 19th Hole

Mike Brunelle

CGCS // Upper Montclair CC, Clifton, N.J.

Mike, what can I get you? Do they have a local IPA?

So you've got two little ones? Yes, my wife, Jenni, and I have two; Gracie turns 3 in September. My little guy is going to be 1 in September. His name is Tedy, after (former New England Patriot) Tedy Bruschi.

So I guess I don't need to ask you what teams you root for… All Boston — New England Patriots, Red Sox, Celtics, Bruins.

You must be from around there, because there's no other good reason to root for those teams. Yeah, I'd say the same thing about your Kansas teams! I'm from western Massachusetts, a little town called Southampton.

Do the Red Sox have a chance this year? They're doing well — they're the best offense in baseball. But they need another good starting pitcher, and they don't have that.

Where did you go to school? Where didn't I go to school? I graduated from UMass-Amherst, but I also went to St. Michael's College in Vermont, where I played baseball and majored in social activities… and I also took classes at junior college to take care of some courses.

Tell me something unique about Upper Montclair CC? We're big on tournaments here. We're proud to have hosted the PGA Tour, the LPGA and the Champions Tour.

What's your claim to fame? My two gigs in college, when I fronted a Pearl Jam cover band.

Fill in the blank: The best type of golfer is the golfer who _____ Appreciates the effort that goes into making their experience great. That's your typical superintendent answer, right there.

What's your dream vacation? I don't know. It's probably coming up when we go to Orlando and see the looks on the kids' faces when we take them to Disney World for the first time. Other than that? Maybe a trip to Scotland and Ireland to see all the classic golf courses.

You're on a tear right now with golf tournaments. What all have you done these past couple weeks? Last week I worked with Todd Raisch at Ridgewood CC helping for the U.S. Junior Girls' Championship. This week I'm helping Mark (Kuhns) in the mornings for the PGA Championship at Baltustrol. And then at my course, in the afternoons, we've had the New Jersey Women's State Amateur. Then in two weeks I have our Member/Guest. Oh, and we also recently hosted the U.S. Senior Open qualifier.

So on a scale of one to 10, how tired are you right now? Can your scale go to 75 or 80?

As interviewed by Seth Jones on July 29, 2016.

MAIN PHOTO BY: PETE SELTZER

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