

JULY 2011
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A legendary club
changes hands and new
superintendent Jay Mullen
gets his first top job.

POLISHING Diamonds

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Performing a deadbeatotomy pg 12

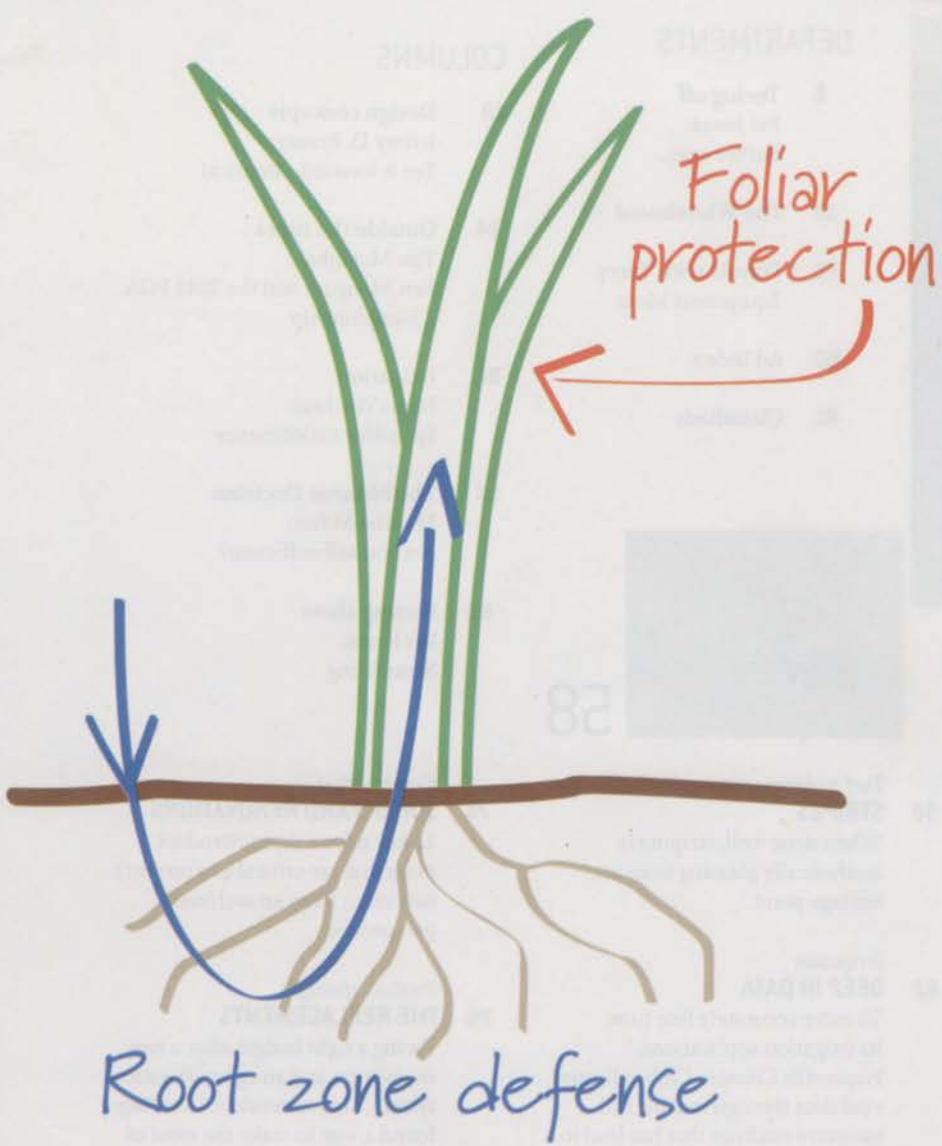
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Plus, Pat Jones pg 82

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SURVEY SAYS...

The behind-the-scenes work of publishing a magazine is a bit like maintaining a golf course. It's not that different from keeping up with daily maintenance while also gearing up for a monthly member/guest. Just like in your world, the grind sucks, but the payoff is awesome.

And, like you, we occasionally take a break from that insanity to think, analyze and plan for the future. We recently did just that to begin setting our editorial calendar (the stories we'll run each issue) for 2012.

To help us identify what interests you most we did something crazy: we asked you. We sent a survey out and received more than 300 responses. Here's a few of the things we heard.

YOU LIKE US! Just more than 80 percent of you said you read most or all of the magazine every month. For folks as busy as you, that's pretty good. Your comments ranged from "I like the honesty" of GCI to "It's a great counterpoint vs. GCM." Many also noted that we focus on the *business* side of things beyond agronomy. One summed it up well: "You have your finger on the pulse of the whole industry...not just growing grass...and you guys tell the truth."

YOU DON'T LIKE ADS. When we asked what you don't like, it was pretty clear some of you wish the ads would just go away. Ah, there's the rub. If the ads go away, so does the information. I'm always reminded of the superintendent who told me years ago that "this would be a great job if it wasn't for the #\$\$%! golfers." By the way, the advertisers (did I mention they're brilliant, lovely people?) like us for the same reason you do: we create interesting useful content you're more likely to read than, say, some rag full of boring stories about string trimmers or miracle snake oil potions.

YOU'RE CAREER-MINDED. We asked you what types of articles we should do more of and, of course, you offered specific ideas about topics (foliar fertilization, disease control, etc.) but you also said clearly that you want even more articles about career development. "Planning

for retirement" and "Preparing to change jobs" were specifically mentioned. You also want other non-turf articles about communicating with golfers, using social media and managing your crew. Message received and you'll see us focusing more attention on that next year.

YOU WANT US TO THINK SMALL. We really do try to cover stories about smaller-budget facilities, but you called us out for still focusing too much attention on facilities that can afford every luxury. And you're right. The best stories are often about creative, low-budget solutions developed out of the necessity that comes from running a lean-and-mean operation.

YOU'RE GOING BEYOND TURF. A bunch of folks want even more articles about non-turf topics like balancing work and family, managing stress and alternative career paths. Looking back, I think we've had more feedback on those types of articles than any others. It's not unusual for us to get letters or e-mails from spouses or family members when we do a piece on work/life balance. It's a reminder that this profession demands a lot from those around you too.



Pat Jones
Editorial director and publisher

WE'RE EASY! You rated us high on being easy to read and easy to look at. You like our format and our design. You particularly like our covers (which is appropriate, since one of the big awards we won this year was for best cover design) but we seem to have hit on a layout that makes it enjoyable. So, it ain't broke so we won't fix it.

We'll use the results of this survey to tweak our coverage just the way you want it. GCI will continue to be guided by superintendents, written for superintendents and, happily, largely written by superintendents. As I looked through our back issues over the last year, I realized that more than half of our articles were written by you. More than 30 different superintendent authors have contributed since January 2010. I love that.

When I took over last year as publisher and editorial director, I wrote that GCI really is **your** magazine. I wasn't kidding. We listen, we learn and we lead. **GCI**

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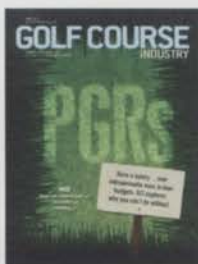
FEEDBACK

Success stories

Just finished reading Pat Jones' May 2011 Parting Shots, "Stuck In The Middle" (page 82).

I will be 50 years old in October. Fortunately for me, I am in a solid position and was told last December during my annual review that "...we are happy you are here and you can stay as long as you like." So there are some positive stories about 50-year-old superintendents out there, too.

In regard to the "semi-career assistant," you are spot-on in your analysis of those individuals in this situation. However, let me add this as the one caveat to the formula. If you work at the right name club, you will get a job. Does not matter if you are first or second or third assistant, if you come from the right club you will be



selected over the more qualified, more experienced assistant from the club down the road. Now those members on that selection committee can brag to the general membership that they conducted a "national search" and found the most qualified candidate. Give me a break!

Keep up the thought-provoking articles. And by the way, look out for the Amish people ("Lessons from the Amish," May 2011, page 6), they may make you buy something you don't need!

John D. Carlone, CGCS
Meadow Brook Club
Jericho, N.Y.

Excellent publication

There are always at least two or three articles per issue that deal with the hot topics at my club. They are great support to the messages I've been relaying to my member-

ship. "Aerate Great" (April 2011, page 68) was a perfect example of this. We are healing slowly from aeration due to below-average temperatures, so I've shared this article on my turf care blog for our members to hear it from someone else other than me. That usually does the trick!

Jason Hooper
Superintendent
QGolf Club
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Get a *life*

Golf has a history of being paired with fermented drinks after a trip around the course. Everyone has a different opinion of what goes best with golf, but Russ Jones, equipment manager at Martis Camp in Truckee, Cali., thinks his wine pairs perfectly. In addition to managing the machines of the course, Jones owns and runs the Truckee River Winery, which recently won an award for his Best Man Pinot Noir.



WHAT'S THE TRUCKEE RIVER WINERY LIKE? It's a full-fledged winery. I started in 1989. I made small batches of wine, high-quality stuff. I bring in grapes to Truckee, and sell the wine all around town. We just opened a tasting room recently – this is our second summer of that – and we've got four bocce ball courts as well. So we've got people that come down to play bocce ball and try the wine.

How did you decide to get involved in making wine? I went to UC Davis and graduated in viticulture and fermentation science, so it's something I really wanted to do. I worked in Oregon, but I decided I wanted to move back to Truckee and started the winery there.

How are winemaking and golf similar? Golf goes pretty well with winemaking. Golf starts early in the morning, and then I have what I call my "vineyard duty." I work in the winehouse after. We source our fruit from vineyards in California. Golf and wine-making are the same in that they're both a real hands-on job. You have to do everything by

hand. And if you're a winemaker for a small winery, you have to be good at maintenance. It goes hand-in-hand with golf and winemaking.

What do you enjoy about making wine? It's something I have a real passion for. The thing I really love about it is the hands-on part. You have to go down to the vineyard, you can help hand-pick the grapes, load up the truck or trailer, pitch the grapes into the crusher, get them ready for fermentation and stir the vats by hand. It's a really involved process. It's a two-year process before the wine goes into the bottle.

Do you have a favorite wine? Pinot noir is my favorite wine to make. It's a very difficult wine to make. It's a little more complex than some of the other varieties: It's kind of got layers of flavors and complexity that some other wine doesn't have.

Where can we find your wine? We sell my wine here at Martis Camp, and use it here. You can also find it at the Truckee River Winery, or on our website, at www.TruckeeRiverWinery.com.

ROLL CALL

Darin "Lumpy" Pearson is the new superintendent for Eagle Bend Golf Course, Lawrence, Kan.

David McGhee, the general manager of Fiddler's Elbow Country Club, Bedminster, N.J., announced his retirement.

John Gertz has joined the leadership team at PrimeraTurf to replace Frans Jager as chief executive officer. Jager is retiring on Sept. 30, 2011.

E-Z-GO promoted **John Collins** to vice president, integrated supply chain.

Hunter Industries announced the addition of **Tim Curnow**, who will be responsible for working with distribution, contractors, and municipalities in South East Asia.

LebanonTurf named **Dave Dell** director of marketing.

Harrell's hired **Jack Harrell, III**, to service turf managers from Sea Island, Ga. to New Smyrna Beach, Fla; Al Pondel, territory manager servicing golf courses in Chicago; and Adam Wright territory manager for St. Petersburg, Tampa and Ocala.

Thunderstruck

The storms that swept across the Midwest in the past few weeks did a lot of damage, but one bolt of ionized air left its mark on the No. 9 green at the Ironwood Golf Course in Normal, Ill.

After an early-morning thunderstorm June 27, superintendent Rob Hale drove out to check over the 18-hole muni course for damage.

"The weirdest thing is that I just started right with the No. 9 green," says Hale. "I never go there first."

Arriving on the scene, he saw a strange scar pattern spread across the turf, tendrils cutting out jagged from the middle of the green in a 20-foot radius.

"I just looked at the green at first, but then I realized what happened," he says.

Lightning ignored the flagstick but struck the green during the thunderstorm, leaving a pattern cut into the grass similar to lightning in the sky. Despite the scar, the turf seems healthy and Hale is continuing play, including an upcoming local tournament.

Maybe Zeus will call ahead the next time he wants to practice his short game.



Turf for thought

The crew at Skyline Country Club may be planting seeds for turf, but the membership is planting seeds for the growth of the crew. For the seventh year running, members donated toward scholarship funds for education and career goals, a total of \$26,000 for nine employees or immediate family members. Each scholarship of \$2,000-\$3,000 will help pay for college or PGA programs.

The Skyline Country Club Scholarship Awards program

has provided \$144,325 through the last few years awarded by financial need, potential for academic achievement and extracurricular activities. The club partners with the Community Foundation for Southern Arizona for the process, and winners received letters announcing the awards.

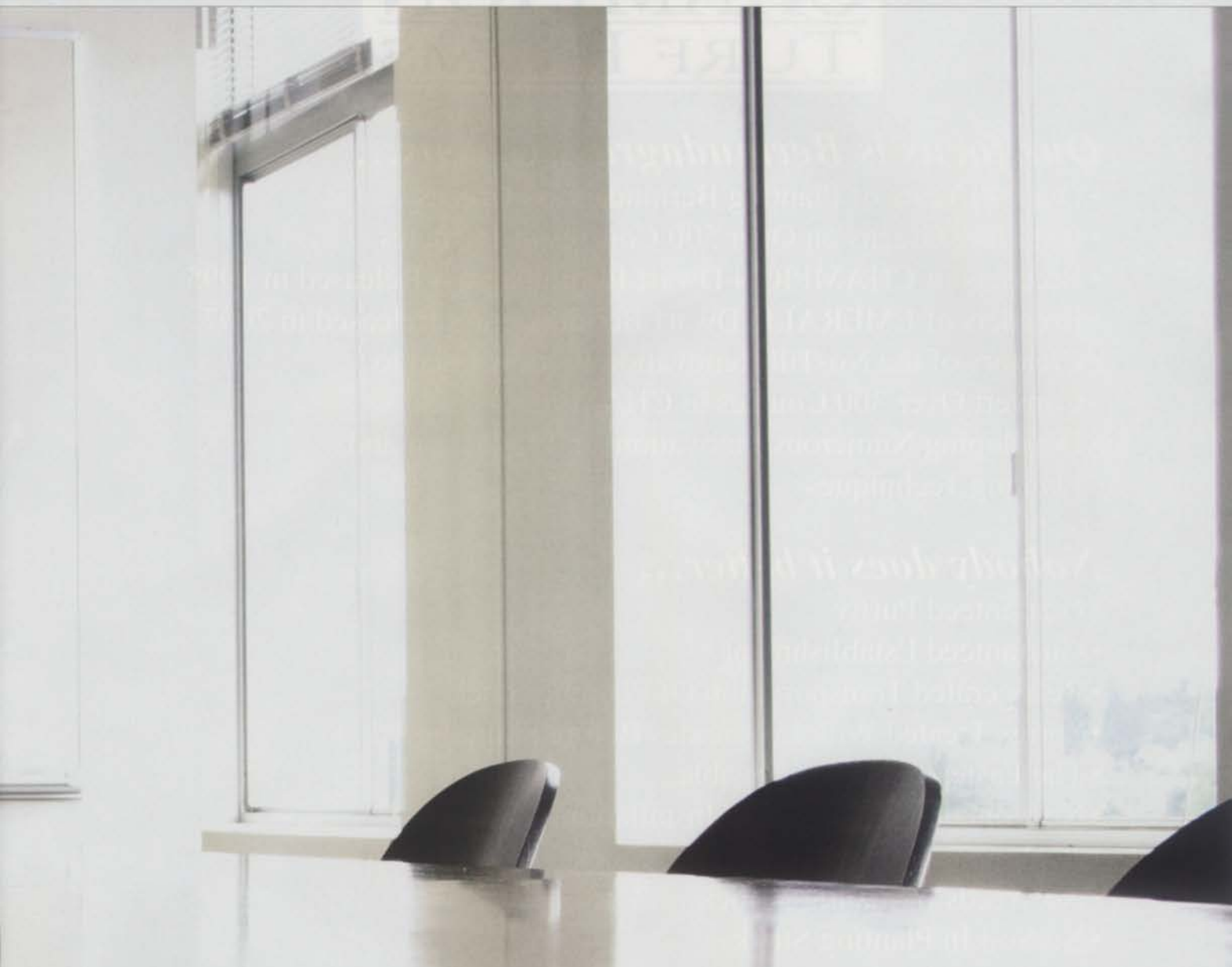
This year's scholarship recipients are using the scholarships for enrollment at the University of Arizona, Pima Community College and Seattle University.



Performing a deadbeatectomy

You're the boss. Time to step up and deal with those underperforming employees.

By Michael D. Vogt, CGCS



Congratulations, your first head superintendent job. All of those years as an assistant are finally paying off. You have supreme confidence in your agronomic skills, you can water turf with a magical sixth sense, knowing the optimum soil moisture required to grow the perfect turf. Additionally, you possess a solid background in golf course construction; you even have business experience in formulating budgets and cost controls. However, one of the trickiest parts of your job may be dealing with employees – deadbeat employees, specifically.

A deadbeat employee is a superintendent's nightmare. You know the employee I am talking about. He doesn't show up for work, or when he does he slides in the door at 5:13 a.m. for the 5 a.m. start time, calls in sick, milks the time-off policy and is always complaining that it's too hot, too wet, too cold... constantly walking on the edge, but never falling off. These deadbeats walk the edge

of the work policies, safety guidelines and established processes, too.

You might stomach the problem team member and consider that your deadbeat employee knows the course, can operate most equipment, knows how to do a decent set-up and might even have a good relationship with your golfers.

He does just enough to stay employed but doesn't grow professionally nor contribute like your other employees. He sometimes reaches his goals but exhibits a general lack of enthusiasm. The hallmark of the deadbeat employee is that he is always walking on the edge between succeeding and failing.

Another attribute is the deadbeat employee's ability to actively criticize the superintendent, the club and the club's policies. And not through normal constructive or suggested routes, but in the employee lunchroom, out on the course and during after-work activities. Other

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Dealing with the deadbeat

Whatever you decide about why your deadbeat employee is a deadbeat employee, these are actions you can try.

- Help the deadbeat employee see what's in it for him to succeed and improve. Both personal and professional gains result from improved performance and a commitment to success.
- Assure the employee that you have faith in their ability to succeed. Sometimes supportive words from the superintendent are the first they've received in some time.
- Help the employee set several short-term, achievable goals. These should be time-based and have clear outcomes about which you agree. Some of these goals can address employee "attitude" in behavioral terms. By this I mean that it is not possible for you and the employee to share a clear picture of "bad attitude." But, you can share a picture about the behaviors the employee exhibits that make you think "bad attitude." Then, monitor progress.
- Make sure the employee has at least one task in their day to do a job that they like, every day.

problem employees are constantly unhappy with whatever policy the superintendent or club sets. Their unhappiness cascades all over the people around them as they complain, gossip and criticize. Whatever the form of behavior your deadbeat employee exhibits, it won't go away without your intervention. Bad habits, like good habits, become ingrained in workplace behavior and often spread like a virus.

THE IMPACT. A deadbeat impacts your club and the rest of your crew negatively, constantly and insidiously. Smart employees shun the deadbeat, realizing the impact they have on their positive crew's morale. But employees who feel a bit like the deadbeat does about change, the workplace in general or their jobs are quick to echo the deadbeat's point of view. This further poisons your crew's morale and productivity.

If you let the deadbeat employee get away with this behavior, you are encouraging and training him or her that the behavior is acceptable. The person's coworkers, who are probably picking up the slack, become demoralized because they work hard and contribute and see that the deadbeat does not. Additionally, they lose respect for your authority, and possibly their faith in the club as a whole, because you, the superintendent, failed to deal with a problem that everyone else sees.

YOUR RESPONSIBILITY. The deadbeat's team members expect and depend on you to deal with the problem. They may make cutting remarks, shun the non-performer or talk among themselves, but they don't feel enabled or equipped to deal with the poor performer. They just feel his impact on their work.

Your best performers can do their little bits to encourage the deadbeat employee to contribute. They can make expectations for their team, give coworker

feedback and express unhappiness, but the deadbeat has no obligation to change or improve. Often, the deadbeat thrives on negative remarks and makes a quite convincing case to other team members. This behavior is a cancer, often growing and infecting the rest of the team during the heat of the battle just when you need optimum performance for the entire crew, such as during an event or adverse weather conditions. The deadbeat's behavior is ultimately the superintendent's responsibility to address.

THE APPROACH. Your first step with a deadbeat employee is to figure out what went wrong.

Something did go wrong. This will give you insight into what caused the behavior that is troubling your workplace. Remember your first day at the course? Most employees start out enthusiastic

and excited about their new job. Somewhere along the way they find their enthusiasm diminished. Or, they spoiled their own enthusiasm – it works both ways. Figuring out what happened is critical to help the deadbeat become a contributing member.

It's a rare employee who wakes up in the morning and decides to have a miserable day. It's a rare employee who wants to feel failure as he leaves the workplace. Yes, a rare employee, but they do exist. And I guarantee the employee believes it's not his fault. Instead, you or another crew member is the problem, the equipment is to blame or it's the workplace in general.

Once you've worked with the employee to discover the source of his unhappiness and low morale, you can assist them to do something about it. With

“Their unhappiness cascades all over the people around them as they complain, gossip and criticize.”

and excited about their new job. Somewhere along the way they find their enthusiasm diminished. Or, they spoiled their own enthusiasm – it works both ways. Figuring out what happened is critical to help the deadbeat become a contributing member.

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details, the employee must own that his reaction to the circumstances belongs to him. He must own his chosen reaction. Indeed, our reactions to the changing circumstances around us may be the only factor that is always under our control in most situations.

These ideas should help you deal with your deadbeat employee. But, if you've done your best and the employee isn't changing, you must become a surgeon and do a deadbeatotomy, removing this cancer from your valuable crew. Meaning; you can responsibly, ethically and legally help the employee move on to his next employment opportunity. **GCI**

Michael Vogt, CGCS, CGIA, is the head of McMahan Group's Golf Division and a frequent contributor to GCI.



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Jeffrey D. Brauer is a licensed golf course architect and president of GolfScapes, a golf course design firm in Arlington, Texas. Brauer, a past president of the American Society of Golf Course Architects, can be reached at jeff@jeffreymbrauer.com.

TEE IT FORWARD, AMERICA!

Given my support of the idea of shortening courses by design, when I saw the late May announcement for Tee It Forward, the national initiative to encourage golfers to play from tees best suited to their game and ability, changing this month's column to a review of that program was almost automatic.

If you happen to see the original announcement or this article too late to take part on the suggested days (the PGA and USGA are proposing this at all golf facilities from July 5-17), may I suggest you take the time-honored tradition of a "mulligan" and institute a similar program as soon as you can. And I encourage those who participate in the program to share your personal or manager's comments on www.facebook.com/PlayGolfAmerica so the discussion can continue about the benefits of shortening America's golf courses back to where the rest of us can enjoy them.

The chart below is from the Tee It Forward webpage, and may surprise some as to just how drastically many now recommend courses be shortened. I have been building and remodeling courses with forward tees as short as 4,400 yards, (which is at least 600 yards shorter than the typical forward tee) but this initiative is suggesting 4,400-4,600 yards for what would typically be "white" tees for longer women and seniors. At most places, white tees measure 5,200-5,400. This program recommends "typical" forward tees (for 125-150-yard tee shots) at 2,800-3,700 yards. And typical blue tees, normally at 6,200-6,400 yards get trimmed to a maximum of 6,000 yards,

Driver Distance	Recommended 18 Hole Yardages	
PGA Tour Pro	7,600	7,900
300	7,150	7,400
275	6,700	6,900
250	6,200	6,400
225	5,800	6,000
200	5,200	5,400
175	4,400	4,600
150	3,500	3,700
125	2,800	3,000
100	2,100	2,300

"At worst, this will still promote the 'short course' idea even if courses ultimately decide to set up tees at longer distances than this initiative recommends."

for those who (like me....) hit the "weak 225 fanned shot right."

In other words, this initiative seems to be putting players up even one tee farther than the typical golf experience. It's "radical," but it's worth a try. At best, everyone will see how much faster and fun it is to play a shorter course. At worst, this will still promote the "short course" idea even if courses ultimately decide to set up tees at longer distances than this initiative recommends.

I believe there is finally a benefit to the prodigious distance of PGA Tour Pros – it's convincing us to stop playing longer courses. I played in a pro-am in 1982, getting dream pairings with Fuzzy Zoeller, Tom Watson, Gary Player and Calvin Peete. I was "just a little" behind them in tee shot distance (more true with Player and Peete than Fuzzy and Tom) encouraging me to play at 6,800 yards while they played at 7,000.

Now that my tee shot is about 100 yards shorter than (Bubba) Watson, I prefer to play from tees where I hit the same approach club pros do, rather than tees that take my tee shot to the same landing zone, but leave me with longer clubs to the green.

I like playing "TV Golf," reaching a par 5 in 2 shots, and having short and mid-irons in for my approach clubs on most holes. I don't like most par 4 holes playing as par 5 holes for me, or hitting fairway woods or hybrids to most greens. It's a lot more fun. It's a lot faster. And, there are fewer lost golf balls.

I fully support of the idea of shortening courses by design, by management and by individual golfer choice. There is an old design adage that says "less is more." It is also true in golf course yardages, and this is a chance for the golf industry to confirm that old adage in a dramatic way. **GCI**

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Mullen: "I believe that any time you start a new job there will be some nervousness and excitement. I would not say that I had any fears as I knew the crew was top-notch."



Polishing DIAMONDS

By Dennis Lyon, CGCS

A legendary club changes hands and new superintendent Jay Mullen gets his first top job.

“Polishing diamonds” is the phrase David Matheson uses to describe the plans his company, Escalante Golf, has for the recently-purchased 45-hole Black Diamond Ranch in Lecanto, Fla. “Our goal is to polish these three Tom Fazio gems, including the highly-acclaimed Quarry Course, and take the entire development to the next level,” says Mathe-

son, one of four Escalante Golf Partners. “Jay Mullen is our director of golf maintenance and is a home-grown gem that started as a golf course laborer at one of our courses over a decade ago. Black Diamond Ranch is Mullen’s first superintendent position. He intends to apply his particular brand of polish to the operation and is ecstatic about the opportunity and challenges

of maintaining this 1,200-acre residential development and golf course property.”

Escalante Golf is described as a boutique owner and operator of luxury golf properties in California, Colorado, Florida and Ohio. From Escalante Golf’s offices in Fort Worth, Texas, Matheson beams when discussing his company’s recent acquisition of Black Diamond Ranch, includ-



ing the Black Diamond Ranch golf courses.

The Quarry, one of the Black Diamond Ranch courses, is ranked one of "America's 100 Greatest Courses" for 20 consecutive years by *Golf Digest* and among the "Top 100 Courses in the U.S." by *GOLF Magazine*. Fazio is forged the Quarry Course from the limestone cliffs of two abandoned quarries. The results of Fazio's efforts are generally regarded as spectacular golf. The club includes two additional courses: The Ranch, an 18-hole layout with rolling fairways and dramatic elevation changes, and the nine-hole Highlands Course, a mix of lush fairways, stands of oak and pine and pristine water features.

The Black Diamond Ranch was founded in 1987. The courses, a little farther than one hour north of Tampa, are the foundation of the Black Diamond Ranch residential golf community.

Q. Why did Escalante Golf purchase Black Diamond Properties?

Matheson: Escalante Golf has been acquiring some spectacular properties the past few years. The challenging golf economy has presented our company with the opportunity to acquire some world-class assets like Black Diamond. Recognized as one of Florida's top residential golf communities, Black Diamond is a wonderful addition to our Florida portfolio.

Black Diamond is our company's fifth property either owned or managed in Florida. We are quite bullish on Florida's economic future – especially for a property with the quality and reputation of Black Diamond. The Quarry Course was carved from two abandoned limestone quarries, bounded by live oaks, dogwoods, myrtles and magnolias. The design is considered one of Tom Fazio's seminal works. Famed golf writer Dan Jenkins called holes 13-17, "The best consecutive five golf holes in the world."

Q. I understand Black Diamond was in excellent shape when Escalante acquired it. How do you intend to take the courses and club to an even higher level?

Matheson: The three courses were in great condition when we arrived. However, as new owners, we will make subtle changes to improve the member experience. One of our first decisions

was to greatly reduce outside access to the courses by non-members. With the exception of an occasional outing, the club is once again the exclusive domain of our members. Escalante Golf also brought in a new management team. This highly skilled team was challenged from day-one with providing members with a top 100 experience. From the clubhouse to the golf courses, creating an authentic top 100 experience remains our ultimate objective.

Transparency is also the foundation of our management philosophy. All employees are expected to be committed to the transparency concept. There are no hidden agendas; everyone pulls the rope in the same direction. We are confident our management style will keep Black Diamond Ranch moving in a positive direction.

"Off to my right I could see an incredible view of some of the quarry holes. It was simply breathtaking. I immediately knew I was going to be responsible for a very special place." – Jay Mullen

Q. Speaking of your management team, can you tell us about Superintendent/Director of Golf Course Maintenance, Jay Mullen?

Matheson: We first met Jay when our company took over Waterlefe Golf Club in Bradenton, Florida. Jay immediately stood out as a superior employee and someone with a bright future in our company. Jay started as a laborer on Waterlefe and worked his way up. When the superintendent position opened at Black Diamond we knew, "Jay was the

right guy for the job. He's a young guy, a smart guy and a strong leader. Jay leads by example. We knew he had the leadership and skills to manage a multiple course operation. Since day one, Jay has done a fantastic job. In his short time at Black Diamond, he has established a standard for superior course conditions, and has also earned the respect from our club members. We are extremely excited to have Jay on our management team."

Q. Let's now direct the conversation to you Jay. Tell us how you got into the golf business.

Mullen: I am originally from St. Louis. I attended the University of Missouri and studied engineering for a short time. As a young single guy I moved with my family to the Bradenton – Sarasota area. My first job in golf was

working on the Waterlefe Golf Course in Sarasota. Having never worked on a golf course before, I started out raking bunkers and found I loved the golf course maintenance field. While at Waterlefe, I worked my way up from laborer to machine operator to irrigation technician to spray technician and eventually to assistant superintendent.

Q. How did you learn the technical skills to become a successful superintendent?

Mullen: I had the great fortune

“The members were a little skeptical when I first took over maintenance of the courses. I am young, plus I think people are always a little anxious when things change.”
— Jay Mullen

to work under a number of superintendents who enjoyed sharing their knowledge with everyone on the team. Ranjit Sagrainsingh took me under his wing after I joined the crew at Waterlefe. Ranjit was one of those unique individuals who believed it important for everyone to learn several jobs. He was a great influence in helping me with my understanding of agronomy and the science behind it. He invited me to attend numerous seminars and classes. I am a firm believer there are several ways to accomplish every goal and that sometimes the best approach is to think outside the box.

My next superintendent was Erik Gowdy. Erik is an incredible leader who taught me that no job is too big or too difficult. He has a can-do attitude which is infectious with his team. He's a hands-on leader who knows how to work through challenges. I learned an incredible amount from both Erik and Ranjit. In addition, I am a hungry proponent of research. In dealing with technical issues, I look for case studies and speak with other superintendents to bounce ideas around. I also attend every GC-SAA class I can and make good use of the various reference materials available.

Q. What was it like when you first arrived at Black Diamond Ranch?

Mullen: I will never forget when I first arrived at the property. My wife and I drove up to the security gate to enter the compound. While I was talking to the guard my wife kept tapping me on the shoulder saying, “Jay, look, Jay – look to the right.” Off to my right I could see an incredible view of some of the quarry holes. It was simply breathtaking. I immediately knew I was going to be responsible for a very special place.

Q. Share with us your thoughts, feelings and fears with your first days on the job as a new superintendent at a large, multicourse operation.

Mullen: I believe that any time you start a new job there will be some nervousness and excitement. I would not say that I had any fears as I knew the crew was top-notch. My first days on the job were spent meeting the team and familiarizing myself with each course's intricacies and priorities. The great news for me was each course was already very well maintained. In the time I have been here, I am so pleased with the team and how they have responded to a new leader. I have also enjoyed getting to know the



members - they have been very gracious and welcoming to me and my family.

Q. What are some of the maintenance practices you

are implementing at the courses?

Mullen: I feel I am a “back-to-basics” type superintendent. I believe in annually removing about 20 percent of the biomass



Black Diamond Ranch is Jay Mullen's first superintendent position. He intends to apply his particular brand of polish to the operation and is ecstatic about the opportunity and challenges of maintaining this 1,200-acre residential development and golf course property.



from the greens through aeration and I do a lot of light frequent greens topdressing. I like to keep the TifEagle greens on the lean side with 6-7 pounds of nitrogen per 1,000 square feet per year using both foliar and granular fertilizers. Our preventative fungicide applications are usually sprayed every two to three weeks year round, on greens only. We rotate fungicides with different modes of action for resistance management and to preserve a fungicide's effectiveness. The most challenging disease we deal with in this part of the country is *Rhizoctonia Zeae*. It is very damaging and hard to suppress, so we make every effort to control it before we see any visible signs.

In managing turf I don't focus

too much on shoot growth but do concentrate on strong roots. I always try to balance course playability and aesthetics. A little brown on the greens and in the fairways is OK. We are looking for the courses to play fast and firm. The members have really responded positively to this change.

Another change we have been implementing is the previous owners liked the oak trees to have a natural look with branches to the ground. We have been pruning up the oaks so if behind a tree, the golfer's next shot is not completely blocked. We are also replacing some cart paths and plan some shaping around bunkers to keep water from running through the bunkers and

washing out the faces. We are not doing anything real flashy. We are making subtle changes to enhance playability, aesthetics and turf conditions.

The members were a little skeptical when I first took over maintenance of the courses. I am young, plus I think people are always a little anxious when things change. However, I started making little adjustments here and there, plus the changes previously mentioned and the response has been very positive. I have had members come up to me and say, "I was wrong to worry, the courses are great." The positive reinforcement has been very rewarding.

Q. Tell me how the crew is organized and about your responsibilities within the development in addition to maintaining the courses.

Mullen: There is one maintenance shop for the entire complex. Each course has a superintendent. They all worked for the previous management company and know their courses well. All other employees from spray techs to equipment operators to laborers go between courses as needed. The flexibility to move employees between courses has proven very efficient.

I am also responsible for maintaining the common area landscaping and the maintenance of undeveloped areas throughout the complex. Although the common areas are budgeted separately, my emphasis is using the resources I have to get the job done, whether it is on the courses or in the common areas. Escalante Golf places a lot of emphasis on the whole community, in addition to the golf courses. It's my job to do the best I can in all areas.

Q. Thanks, Jay, for sharing your journey from bunker raker to multi-course manager. It has been interesting and inspiring. Turning back to you David, do you have any final thoughts?

Matheson: When I think back to my opening statement on polishing diamonds, I cannot be any more enthusiastic about Black Diamond Ranch Properties and Jay Mullen. They are both gems and the future looks exceptionally bright for both." **GCI**

Dennis Lyon is a GCI columnist and frequent contributor.



Tim Moraghan, principal, ASPIRE Golf [tmoraghan@aspire-golf.com]. Follow Tim's blog, Golf Course Confidential at <http://www.aspire-golf.com/buzz.html> or on Twitter @TimMoraghan

KEN MANGUM AND THE 2011 PGA CHAMPIONSHIP

With the golf season well underway and championship golf on everyone's mind, the fourth major of the year – the 2011 PGA Championship – is being contested at The Atlanta Athletic Club where long-time friend Ken Mangum, CGCS, is preparing for his fifth big-time event. Recently, I had time to catch up with Ken and see where he and the course stand entering the final months of preparation.

Q: Where are you and the golf course at this stage?

A: While we were happy to see spring this year, the south really did not get its usual warming temperatures. We suffered from a cold and extended winter which affected our Bermudagrass and zoysia turf. The cold temperatures lingered longer than usual, affecting the spring green-up we normally see. Also, we encountered a tremendous amount of spring dead spot (*Ophiosphaerella* sp.) on both Bermudagrass and zoysia. Trying to push the turf to have a growth response was difficult due to cold air and soil temperatures along with only an inch of rain in six weeks. As we entered June, things were better and moving along fine. You cannot push Mother Nature. The slow green-up was good for our annual club invitational as we achieved the "firm and fast" conditions our industry is currently embracing and the members loved it.

Q: You and The Atlanta Athletic Club have been at the forefront in converting to new turf cultivars, especially the hybrid Bermudagrasses for putting surfaces. Why?

A: The club decided to move to these turfgrasses for several reasons, primarily due to the difficult growing conditions of a Georgia summer when you are trying to maintain quality creeping bentgrass turf; also, hosting major championships at the Athletic Club in the month of August (PGA Championship in 2011, U.S. Amateur in 2014). The risks of having weak bentgrass entering August and the inherent championship conditioning requirements were too great. With the warm season turf we can provide challenging playing conditions for our members and tournament players throughout the year.

Our on-course turf cultivars are:

- Champion Bermudagrass for the greens on

The Highlands and Riverside golf courses

- Diamond zoysia grass for teeing grounds and fairways, approaches and closely-mown areas.

• T-10 Bermudagrass for the primary roughs. The darker blue green color is a wonderful contrast to the Bermuda and zoysia.

These turfs provide the following features and attributes:

- Firm and fast playing conditions especially in the summer.
- USGA sub-profiles that allow water to move away from the upper portion and assist in firmness.

• Cultivation depends on weather. The more we cultivate, the better the turf responds. Sand topdressing is ongoing annually for speed and surface smoothness.

We have found the more you manage the Champion Bermudagrass, the better it becomes for play.

• The putting green collars are also Bermudagrass and they hold up very well, eliminating hand-syringing during play and the need for fans on our poorer green surrounds.

• The Champion Bermudagrass provides members with a longer period of good playing quality.

• If there is a downside it would be from a longer winter period and covering and uncovering during our "offseason." However, the covers allow us – in many instances – to start play by 9:30 a.m. most winter mornings.

Q: This is your second PGA Championship. Anything different this time around?

A: First, The Highlands Golf Course is totally different than 2001. The club commissioned Rees Jones to re-do The Highlands and it has become a very tough championship golf course. The changes are as follows:

- The fairway bunkers have been re-posi-



(continued on page 80)



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Preventative MEDICINE

The proper steps in the fall can prevent dollar spot and snow mold outbreaks next season.

by John Torsiello

Top left: Dollar spot *Sclerotinia homoeocarpa*. Snow molds *Typhula spp.*

When making sure conditions are pristine during the height of the busy summer playing season, it is easy for superintendents to get caught up in daily chores and lose sight of the big picture.

In this instance, the big picture means next year and what steps should be taken now to guard against problems such as dollar spot and, especially in the northern climates, snow mold.

Next spring seems a long way off, but like the proverbial squirrel preparing for the coming winter, the smart superintendent realizes treating his turf now with fungicide applications can prevent problems next spring.

"Dollar spot and snow mold are essentially our primary con-

cerns," says David Libby, superintendent at Prout's Neck Country Club, Scarborough, Maine. "Here on the coast of Maine we can go days at a time in a fog bank while it can be bright and sunny four miles inland, and winters can produce snow mold pressure for six to seven months."

Libby's staff are always on the lookout for symptoms of dollar spot. "My assistants are both weather junkies, so we are always looking at short- and long-range models to try and stay ahead of the curve," he says.

Libby adheres to a preventative program for dollar spot, "as our use of foliar nutrition and a heavy reliance on PGRs make it more difficult to grow out of an outbreak." He begins

applications in mid-May when soil temperatures rise to levels conducive for uptake, and uses primarily systemic products.

"Should we stretch our interval too long, we will make a curative application of a contact or local penetrant and bump our foliar nitrogen up to facilitate a speedy recovery," says Libby.

Libby's snow mold applications begin in early October with systemic fungicides to bolster the immune system of the plant, and he makes a final application of a contact/local penetrant tank mix paired with an anti-desiccant as late as possible, usually just before Christmas.

"We have seen increased efficacy in recent years with the addition of PGRs to our snow

mold treatments. I have no scientific data as to why we are achieving greater success with this addition, but in slowing the metabolism of the plant we seem to be elongating our window of control. Should we experience any breakthrough due to an abnormally long period of pressure, we will apply curative rates of mancozeb in the early spring to burn down any residing inoculates."

A greater number of superintendents have changed their philosophy on controlling dollar spot in the last several years and have incorporated late-season applications to provide dollar spot-free turf during the winter and reduce the inoculum, which delays dollar spot incidence the following spring, says Kyle Miller, senior technical specialist for BASF Professional Turf and Ornamentals.

A season-ending fungicide spray can be timed with a snow mold application to save on manpower. Miller advises superintendents to make sure they include a top-performing dollar spot product in their mix, as most superintendents are focused on snow mold control.

"To be prepared for this application, superintendents need to choose their products and have them on hand for the application," says Miller. "Most suppliers offer early-order discounts beginning in September and October, which is an excellent time to acquire the products you are targeting for this application."

To control dollar spot next spring, Jim Goodrich, product sales specialist for PBI/Gordon, says superintendents should look at reducing the amount of overwintering by applying a late-season fungicide application

prior to the first frost of winter.

"Controlling snow mold may be accomplished with a fungicide applied in late October or November or prior to prolonged periods of snow cover. By scheduling a late October or November snow mold application, a superintendent can have product on the ground before snowfall."

Dollar spot is Eric Wygant's greatest problem on fairways and tees. "If it gets ahead of me just a little I will battle it the rest of the season," Wygant, superintendent at Shannopin Country Club in Pittsburgh, says. "Snow mold is not as much of a concern as it is something that we just need to be aware of because of where we live. If you do not treat it preventively you could have a big problem coming out of winter."

"Taking proper steps in the fall can help set you up to prevent dollar spot the next season. Maintaining healthy turf with adequate nutrient level in the soil coming into winter will go a long way to fight off diseases."

Dollar spot can appear anytime during the growing season, says Matt Giese, technical manager for Syngenta. Steps should be taken to scout and observe not only prior outbreak dates but the environmental conditions at the time of the outbreak. Dollar spot development is dependent upon moisture, optimum temperature, and humidity levels, he says.

"By monitoring the conditions that can influence disease development, a golf course superintendent can make an educated decision about when to apply a fungicide before the disease appears," he says. "Strong cultural practices to discourage dollar spot coupled with a preventive fungicide program is crucial for long-term control."

Snow mold, on the other hand, generally occurs outside the growing season or during cold and wet conditions, Giese says.

Pink snow mold, for example, occurs during cloudy, cool and wet conditions and sometimes in the absence of snow cover. Gray snow mold requires a minimum of 60 days of snow cover to develop an infection. Both pink and gray snow mold can be controlled with fungicides prior to conducive weather conditions, he says.

"Depending on the geography, these applications may occur as early as late August or as late as December in any given year," Giese says. "For locations with prior snow mold history, these fall applications are most effective at limiting turf damage from snow mold infections. In some instances where favorable conditions persist for snow mold

"Remember, how you leave the grass in the fall is what you start with in the spring."

—Megan Van Arsdale,
Danville Country Club

development, spring applications may be warranted for control of pink snow mold."

Pine Tree Country Club superintendent Mike Posey hasn't had to deal with severe dollar spot outbreaks since the Birmingham, Ala., course has A1/A4. "But in the Southeast we spray low nitrogen rates on our bentgrass so it can pop up from time to time," he says. "At previous courses with more susceptible varieties it was a constant battle with the high humidity in the Southeast. It can actually be more prevalent in our Tifway fairways and roughs in the spring and fall when Bermudagrass is not growing aggressively enough to outgrow it. It is also very prevalent in low-fertility (N) Bermudagrass."

Posey reports good luck on

bentgrass greens with the Emerald first and last program.

"This year on the 'first' spray, I used Honor (Emerald+Insignia) since pythium root dysfunction was a major disease in the Southeast last year and Lane Treadway's recommendation of a spring Insignia application coincides with my Emerald timing," he says. "To me, Honor makes a lot of sense for the spring application in our area. The dollar spot will really start showing up in the fall on the Bermudagrass when your slow-release fertilizer starts wearing off and temperatures drop below optimum for the Bermudagrass growth. Most of the time I will just put down .5lb/N/1000 square feet to mask the dollar spot. Fungicide applications are too cost-prohibitive on such a large area."

Posey calls the Southeast "the perfect storm for disease," given the region's high humidity, high daytime/nighttime temperatures and afternoon thunderstorms.

Megan Van Arsdale has followed "the rule of thumb" of not spraying DMI's during the high stress periods of summer.

"I just like to remember that late summer does not mean you are in the clear," says the superintendent at Danville Country Club, Lexington, Ky. "By late summer, the grass is stressed and tired, and I cannot stress enough that superintendents need to be on their A-games at all times. It is always important to spray proper rates to prevent disease – don't get cheap towards the end of summer and stretch spray intervals or rates... it's not worth it. Remember, how you leave the grass in the fall is what you start with in the spring."

When timing fungicides applications, Sandy Queen, superintendent for the Overland Park Golf Division in Overland Park, Kan., is more concerned with the calendar than with weather

conditions. "I try to have a couple of applications of DMI's out before mid-May and I also try and have an application of chlorothalnil down, too," she says. "This doesn't always happen as I am now applying more curatively than preventively."

Timing treatments is important, says Miller. "Generally speaking, we want to time our snow mold treatments just prior to the onset of cold and snowy weather," he says. "This will allow the fungicide to provide season-long residual. Applying in the fall with numerous warm days remaining might enhance the breakdown of these fungicides, shortening their control period. Delaying applications until after snow has fallen may result in poor control if the product is not allowed to reach the turf."

Each part of the country is different in regard to treatments and applications. The date of the first snowfall is used as a good indicator to time the last fungicide application. Superintendents employ historical weather patterns (normal year) and what products

"Taking proper steps in the fall can help set you up to prevent dollar spot the next season." — Eric Wygant, Shannopin Country Club

have been effective to most successfully control dollar spot and snow mold.

It's too late to apply fungicides when infection symptoms already appear, says Tim Zech, president of United Turf Alliance. It is possible to arrest or prevent additional infections if the same environmental conditions exist.

"Existence of dollar spot may mean that you can expect more to come if the conditions remain favorable and if nutrient inefficiencies are not addressed," he says. "It is too late to apply snow mold products if the ground is already frozen or snow has covered the turf."

Wygant plans his treatments in the spring when dollar spot is just starting to get active

in the soil. "If we can suppress it then there is less of a chance for it to get into the plant in the summer," he says. "Other than applying when conditions are favorable for a proper application, treatments are done preventively to reduce the frequency we would have to treat on active dollar spot. Extended periods of high nighttime temperatures with high humidity could bring dollar spot on and then we would have to treat curatively."

"I use the first and last program, and then I catch control with my applications of Daconil, 26GT, and 3336," says Posey. "One of these products are sprayed every other week with a pythium preventative the weeks in between." This usually starts in June and continues until September. Posey will also mix a low rate of Banner Maxx with the Daconil in his first June application and last fall application while the temperatures are still low.

The common thread for all treatments is the GDD model for early season dollar spot application, says Dr. Kathie Kalmowitz, BASF Professional Turf and Ornamentals techni-

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cal specialist. "Of course dollar spot is more problematic in some areas over others, as is snow mold," she says. "And yes, local environments or microclimates greatly impact disease development. Areas with more air movement and more sun exposure are less susceptible to disease."

Given the number of dollar spot fungicides and their efficacy for dollar spot, most applications have an effect in reducing disease levels when timed late or when disease is present, Giese says. In these situations, complete disease control may not occur or may take longer and require more applications than a preventive program."

In fact, research has shown limited benefits from fall applications or early spring applications to reduce dollar spot inoculum prior to typical preventive applications, Giese says. Fungicide residuals that expired prior to disease activity required subsequent applications and therefore effectively negated any benefit of early applications.

Snow mold applications can also be applied too early, or if fall weather conditions remain mild fungicide treatments may need to be repeated. Once snow cover has occurred, fungicides should not be applied on top of snow. Plant uptake and foliar coverage are essential to protect the plant throughout winter. Mid-winter thaws or open winters may allow treatment, but these are not conducive to plant uptake and should be used infrequently.

Zech advises superintendents to maintain a year-round focus on healthy turf, take soils samples to look for nutrient deficiencies, pay attention to soil temperatures, dig down in the soil and see what turf roots are doing, carefully balance nitrogen amounts, use a reasonable base program and spoon-feed if possible, look ahead at pending weather patterns, establish a prevention program and adjust it in advance of pending weather changes and agronomic changes.

There are ways to save on manpower needed for such treatments. "The best ways to reduce manpower hours are to make sure you have a properly trained and licensed applicator performing the treatment," Goodrich says. "He will make sure the course is sprayed in the most efficient manner by reducing travel time from area to area and applying only to those areas designated for the application. Another way to reduce manpower is to properly calibrate the spraying equipment. If the equipment is calibrated incorrectly, it could result in too little chemical being applied, limiting the effectiveness of the application

and thereby raising the need for retreatment."

Get a bigger sprayer. Or better yet, get two bigger sprayers, Libby says. Often, superintendents overlook replacing the sprayer because it does a great job. Instead, they look to the new fairway unit or triplex upgrade. Actually, the easiest and most effective way to reduce man hours for applications is to keep healthier turf. "Take it easier on your turf, and it will

lower your disease pressure and perhaps even your blood pressure."

Apply the right products at the right time, Zech says. Tank mixing appropriate products saves a trip or two over the course. Good fertility and agronomic practices extends application intervals of control products or potentially avoid some sprays altogether. **GCI**

"In the winter months when the weather cooperates, we will try to pull a deep core, and now we are using the long BAYONETS™ in our VERTI-DRAIN® machine, and they are working great. In the summer, you have to put a hole in the greens and let them breathe. When it starts to get hot, gasses will build under the surface. The sooner you release the gas the better."

Bush Sheffield, CGCS, North Ridge Country Club, Raleigh, NC

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Jason Sanderson, Superintendent, Cherokee Country Club, Knoxville, TN

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Brian Vinchesi, the 2009 EPA WaterSense Irrigation Partner of the Year, is president of Irrigation Consulting Inc., a golf course irrigation design and consulting firm headquartered in Pepperell, Mass., that designs irrigation systems throughout the world. He can be reached at bvinchesi@irrigationconsulting.com or 978/433-8972.

SPRINKLER MAINTENANCE

In today's golf course economy, money for capital improvements is hard to come by, especially for irrigation system improvements. So how can you improve the performance of your system, save water and not spend a lot of money? An inexpensive way is to make sure all your sprinklers are at grade. Additionally, making sure your sprinklers are level will improve your irrigation system performance.

GRADE. Sprinklers need to be installed at the appropriate grade. This varies depending on your sprinkler's age. Newer sprinklers have much higher pop-up heights than older sprinklers, about 2.5 inches to as high as 4 inches where older sprinklers only popped up less than an inch. Newer sprinklers also have a much smaller area of the sprinkler that pops up.

Needless to say, sprinklers that are too high are unacceptable as they get hit and damaged by mowing equipment and are visually obvious to the players. The problem with not having sprinklers to grade is that they are too low. The grade of the sprinkler should be consistent throughout the course. When the sprinkler is too low the turf and or soil around it interferes with the stream. The lower the sprinkler, the more interference.

Once the stream has been influenced, the distribution profile of the sprinkler is changed, which affects the uniformity of the area irrigated by that sprinkler. As the uniformity lowers, more water and energy is used to compensate for the effects of the sprinkler being too low. The low sprinkler also affects close-in watering near the sprinkler as that nozzle may be partially or totally blocked. Low sprinklers also deteriorate the area around the sprinkler and

provide a liability due to a depression. There is not much difference between a very low sprinkler and a valve box with no cover. Making sure valve-box covers are on has always been an important part of irrigation system maintenance. Low sprinklers are no different. You should decide what that height should be, $\frac{1}{4}$ inch below grade, $\frac{1}{2}$ inch below grade or whatever and then keep the sprinklers at grade. You'd be surprised at the improvements that just raising low sprinklers will make to your irrigation system. Of course, you will have to free up the labor to set them at grade. Not a believer? Take a representative area of a fairway and set 8-12 sprinklers to proper grade and see the difference.



An inexpensive improvement is to make sure your sprinklers are at grade.

LEVEL. When a manufacturer builds a sprinkler, tests it and reports its performance it assumes the sprinkler is installed level. If the sprinkler is not level, then its performance will be different than what the manufacturer states in its literature. If it is not level, it will use the same gallonage at the operating pressure stated, but it will not throw the stated distance nor will it have the expected uniformity. Irrigation designers have always been taught to maintain the proper sprinkler spacing to have good uniformity, but what if maintaining the proper spacing puts

the sprinkler on a 30 degree slope on the front right side of the green? Is that the best place for the sprinkler to have decent uniformity? Do you dare compromise the spacing to get the sprinkler in a level area? Many designers use set spacings and maintain that spacing no matter what. I was one of those designers in the past. However, as systems evolved many superintendents and irrigation designers have come to realize that having the sprinkler in the proper location is more important than maintaining the proper spacing. There are a number of reasons for this. When the sprinkler is not level its stream is severely distorted and that changes its distribution profile.

Today's sprinklers have more nozzles available than older sprinklers, and different spacings can be compensated for with different nozzles. Not that I am a proponent of lots of nozzle variability, but you do what you have to. You could also influence the sprinklers' throw by manipulating pressure. Lastly, some of the newer sprinklers have multiple, settable angles of trajectory. You can fine-tune for the different spacings with that adjustment. Keep in mind, adjusting spacing, nozzle or pressure will affect the sprinklers precipitation rate which will influence your run times.

The effect of sprinklers on a slope can be seen just by watching one, but if you want proof, do a touch-can test and observe for uneven distribution. The sprinkler needs to be level even if on a slope. If that is not possible, you need to move the sprinkler to a better location.

Installing and keeping your sprinklers level and at grade will provide a better operating irrigation system. The challenge is in finding the labor and time to get it accomplished. GCI

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By Bruce R. Williams, CGCS

ivate

Want to be a more effective leader? Spread contagious enthusiasm to get your team to perform at its highest level.

“An average level of productivity can be elevated significantly by utilizing a few basics of psychology.”

To get the most out of any team, a coach must inspire his players to perform to the highest level they can. Similarly, a coach must motivate the team to bring the best out of his people every day. Golf course superintendents are coaches and our teams are our staffs. Every day we are challenged to spread a contagious enthusiasm to our teams in the golf course operations department.

Motivating employees to keep up morale is essential to achieving your facility's goals. An average level of productivity can be elevated significantly by utilizing a few psychology basics. I often reflect on lessons learned from my father – one day he showed me a copy of *Psychology Today* and told me to subscribe to it. He said: “Understanding people is what sets the great managers and leaders apart from others.”

Anyone who has ever taken a basic psychology class will remember that people have basic needs. People have a basic need to:

- Achieve
- Be affiliated and
- Have power.

As it relates to golf course operations, people want to be a part of a team. They want to be able to progress in an organization and earn recognition. They want to move up in the hierarchy. And while not always elevating in their positions, they want to be respected for their knowledge, loyalty and experience.

A superintendent should provide motivation or incentives for people to perform well on the job. No two people are alike and different things motivate different people. However, some commonalities exist.

A primary concern of employees is the ability to balance work and family. Job security is the next highest-rated concern with earning a competitive salary coming in a close third. Survey company managers say money is a employee's primary concern. It's evident that not all department heads know what their employees want. Maybe that is the biggest problem since it is tough to motivate people if you don't really know what is important to them.

Different things motivate different people for different reasons to do different things. Through trial and error

we find what generally works for a team, but then we need to customize that to each individual team member. Here are some examples of what might work best at your golf course.

MONEY. An incentive for some people, money typically has a short-term effect on employees. A tactic that is much more effective is providing opportunities for increases in pay rates that are consistent and based upon solid performance reviews, potential promotions, validated skill level assessment, etc. Know that pay rates put into effect under duress are almost certain to have a short-term effect.

GROWTH OPPORTUNITY. Surveys indicate employees find it important to grow within their organization or department. Sadly, golf courses don't always do a good job in this area. Some of the best teams I have seen allow opportunities to receive training and are encouraged to take on more skills, such as a spray or irrigation tech.

Typically, money follows and compensation becomes more related to individual contribution to the facility's success rather than seniority. Be sure training and growth are adequately documented and they allow the superintendent the ability to justify promotion to a greater level job description.

FEELING APPRECIATED. People want more than a paycheck. They want a feeling of being appreciated for doing a good job. There are a variety of techniques for effective praising.

PRAISING. Praise people in public and let them feel good about others knowing they are doing a good job. Find people doing things right and too often managers are compelled to find their staff just doing things wrong. Tell your staff how it makes you feel

when you do a good job. Praising can be as simple as a thumbs up, a smile or a pat on the back. Ultimately, the desired effect of praising is to reward the employee for work well done and provide encouragement to repeat similar behavior.

REPRIMANDING. When reprimanding someone on your staff, it should be done only after collecting all of the facts. Speak to the individual in private and tell them what they did. Share how their actions impact the ability to achieve the goals of the organization. After stating the behavior to correct there should always be time to affirm past positive performance, as well.

FEELING A PART OF THE TEAM. People want to be part of a winning team. They respond to having responsibility in a team atmosphere. Being a member of the team allows people the opportunity to achieve and possibly move up through the ranks.

INTERESTING WORK. Very few people would enjoy raking bunkers or using a weedeater for their entire career. It is obvious that would be boring for most people. I
(continued on page 51)



Motivating factors

So what kind of a motivator are you?

- Do you make sure employees understand how to properly complete the job?
- Do you clearly indicate the results you expect?
- Do you take the proper steps to foster a positive relationship?
- Do you offer adequate support?
- Do you show concern for your employees as individuals?
- Do you reward or recognize promptly and effectively?
- Do you communicate in a positive and productive manner?

More than a few of us criticize our employees unjustly. The first question I usually ask of my supervisors is whether we have adequately communicated the task we want done and also what the finished product looks like. It is considered poor management when all the blame is on the workers.

Good motivators work hard to do a better job of communicating their message. The end result is a finished product that everyone can be proud of.

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inside...

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Underhill™ Magnum™ contains no plastic internal parts to break, stick or wear out. Our unique ratchet mechanism easily adjusts from gentle fan to powerful jet stream and prevents over-tightening damage. Precision-machined, incredibly smooth operation and outstanding distribution patterns make it ideal for high-demand areas like greens and tees. Magnum™ is also an excellent equipment wash-down nozzle.



Magnum™ nozzle pictured with 1" brass adapter (sold separately on Page 3)

features

- Built for 1" and 3/4" flow rates
- Fire hose quality nozzle feels great in your hands
- Ultra-durable construction withstands any abuse
- Solid metal internal - no plastic parts to break or wear out
- Beautiful, consistent spray patterns for life
- Ratchet mechanism prevents over-tightening damage
- Multi-pattern sprays - effortless control with hydraulic assist on/off



solid metal internal body
Won't stick...won't break

specifications

Materials: stainless steel, aluminum, TPR rubber
 Flow: 37 GPM at 80 psi
 Inlet: 3/4" hose thread
 (1" brass adapter available, see Page 3)



fan



jet



soak



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A hot summer day can be murder on your greens. Use too much water and you risk damage to the roots. CoolPro™ is the first nozzle specifically designed for the single purpose of lightly misting the turf canopy to cool without over watering. And its 25 foot fogging pattern gets the job done quickly.

features

- 3/4" inlet (1" brass adapter available, see Page 3)
- Ergonomic handle/valve provides easy grip and variable on/off control.
- Durable solid metal design: zinc, aircraft aluminum and stainless steel.
- Patented Precision™ nozzle fogs at 70 psi to deliver a 25 ft. pattern with only 4-6 GPM

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Part # CV075L	CoolPro™ Valve only

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Rainmaker™ (green)	23	High-Flow	Syringe and spot watering turf and hardy landscaping
Cloudburst™ (blue)	48	High-Flow	Dry spots, drenching, and wetting agent application
Cyclone™ (red)	50+	High-Flow	Pre-game skins watering, heavy watering of large areas

Note: GPM will vary with pressure at nozzle.



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Part # HN4800	Precision™ Cloudburst™ Hose Nozzle
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Add "-CV" to part numbers to include brass high-flow valve and 1" adapter (as pictured above).

Part # CV075H	High-Flow 3/4" Valve - Brass
Part # A-BV77FM	High-Flow 3/4" Valve - Composite/Steel
Part # A-BA107FM	1" FHT x 3/4" MHT Brass Hose Adapter
Part # A-BA107MF	1" MHT x 3/4" FHT Brass Hose Adapter
Part # A-BQ7M	3/4" Quick-Connect, male end
Part # A-BQ7F	3/4" Quick-Connect, female end
Part # HN075W	replacement washer, 3/4" hose

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features

- 48 GPM capability gets the job done faster!
- Ultra Heavy-Duty - brass fittings, aircraft aluminum, stainless steel, and precision engineered glass-filled materials
- Patented Precision™ Cloudburst™ nozzle delivers large droplets in an outstanding fan pattern
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PelletPro's bowl works perfectly as a replacement in-line filter bowl for most spray rigs. Heavy-duty, transparent plastic shows fluids. (No more cracked bowls during winter storage!)



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Part # A-PPWA50K	PelletPro™ Applicator Gun
Part # A-PPQ-075	PelletPro™ In-line Applicator: 3/4" FHT inlet, 3/4" MHT outlet
Part # A-PPQ-100	PelletPro™ In-line Applicator: 1" FHT inlet, 1" MHT outlet
Part # A-PPB	In-line Filter Bowl
Part # A-PPBG	Gasket

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features

- Patented Precision™ Cloudburst™ nozzle evenly distributes wetting agent ensuring uniform coverage. Made of aircraft aluminum and stainless steel.
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- Pistol grip design with textured handle provides sure grip surface and reduces operator fatigue.
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Part # A-LPWA50K - LiquidPro™ Applicator Gun

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Use less water, energy and manpower
and get better course playability.

"Profile nozzles lived up to our expectations and eliminated patchy dry spots and donuts. We retrofitted all our fairways and now run a more efficient irrigation program."

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Superintendent, Sherwood Country Club

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Assistant Superintendent, Silverado Resort - Napa, California

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Profile nozzles for **Toro®**

730 SERIES Full Circle: Front/Rear Nozzle Set

Part #	Nozzle Color # range/spreader	Toro Noz #
T730-3313	Brown 33 / Gray 13	33
T730-3413	Blue 34 / Gray 13	34
T730-3515	Violet 35 / Red 15	---
T730-3515L (50 psi)	Green 35 / Red 15*	35
T730-3615	Red 36 / Red 15*	36
T730-3617	Red 36 / Lavender 17	



* For square spacing, specify #17 (lavender) nozzle with the #35 and #36 range nozzles



760 and 860 SERIES Part Circle: Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange/close-in
T760-GY	Gray / Yellow
T860-GY	Gray / Yellow



830 and 834S SERIES Full Circle: Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange / close-in	Toro Series
T830-GY	Gray / Yellow	830
T834-GY	Gray / Yellow	834S



835S SERIES Full Circle: Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange / close-in
T835S-WP	White / Plug

630 SERIES CALL FOR AVAILABILITY



670 SERIES Full Circle: Rear Nozzles

Part #	Nozzle Color: midrange / close-in
T670-BY	Black / Yellow



690 SERIES Full Circle: Rear Nozzle

Part #	Nozzle Color: spreader
T690-G	Gray



750 SERIES Full Circle: Front/Rear Nozzle Set

Part #	Nozzle Color #range / spreader	Toro Nozzle #s
T750-5617	Red 56 / Lavender 17	56
T750-5717	Gray 57 / Lavender 17	57



780 and 854S SERIES Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange / close-in	Toro Series
T780-BY	Black / Yellow	780
T854-BY	Black / Yellow	854S



855S SERIES Full Circle: Midrange/Close-in Nozzle Set

Part #	Nozzle Color: midrange / close-in
T855S-PP	Pink / Plug

650 SERIES CALL FOR AVAILABILITY



Profile nozzles are so consistent, with distribution patterns so uniform... it's like rain on demand.™



Profile nozzles for **Rain Bird®**

EAGLE 700 SERIES

Full Circle: Midrange/Close-in Nozzles

Part #	Nozzle Color midrange / close-in	Rain Bird Nozzle #s
R70028-RG	Blue / Gray	28
R70032-RG	Red / Gray	32
R7003640-GG	Blue / Gray	36/40 and larger

Our NEW low-angle 12° wind-fighting spreader nozzle delivers exceptional close-in uniformity for all Eagle 700 series sprinklers on either triangular or square spacing.



900 EAGLE SERIES

Full Circle: Close-in Nozzle

Part #	Nozzle Color
R900-M	Maroon



91 SERIES BRASS IMPACTS

Full Circle: Close-in Nozzle

Part #	Nozzle Color
R91-G	Gray



51 SERIES BRASS IMPACTS

Full Circle: Front/Rear Nozzles

Part #	Nozzle Color # range / spreader	Rain Bird Nozzle #s
R51-1411.5	White 14 / Gray 11.5	14 / 11.5
R51-1611.5	Blue 16 / Gray 11.5	16 / 11.5
R51-1811.5	Yellow 18 / Gray 11.5	18 / 11.5
R51-2011.5	Red 20 / Gray 11.5	20 / 11.5
R51-2213	Green 22 / Black 13	22 / 13
R51-2413	Black 24 / Black 13	24 / 13

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AuditMaster™

EXPERT SPRINKLER PERFORMANCE TESTING KITS

Increasing watering times to compensate for poorly performing sprinklers wastes a lot of water. Accurately measuring sprinkler application rates with Underhill™ AuditMaster™ helps maximize water savings.



4" x 5" Marking flags™ on 21" wire (50-pack) are available in 6 colors.



AuditMaster Combo ST/LT Kit pictured, includes large CatchCanPro cups (blue) and CatchCanPro Mini cups (30 each).

AuditMaster ST Kit excludes the large CatchCanPro cups. This kit is ideal for **SMALL TURF** audits.

AuditMaster LT Kit excludes the CatchCanPro Mini cups, 3/4" Hose Bib and Gauge and the Spray Head Tester w/Gauge. This kit is optimized for golf courses, sports fields and other **LARGE TURF** audits.

CatchCan Pro™

features

- Self standing - easily anchors into turf, even on slopes
- Measures sprinkler application in inches or centimeters
- Unique design allows for shorter duration test
- Made of durable polypropylene engineered plastic
- Can be stacked for easy storage
- Each 10 pack kit comes with instructions



CatchCan Pro (CCPK-10) for **LARGE TURF** audits. Measures ml, cm, inches.

CatchCan Pro Mini (CCPMK-10) for **SMALL TURF** audits. Measures inches.

ordering

Part # AUD-ST AuditMaster ST Kit
 Part # AUD-LT AuditMaster LT Kit
 Part # AUD-STLT AuditMaster Combo ST/LT Kit
 Part # SALESPRO4 AuditMaster Wheeled Carry Case
 Part # A-STW Stop Watch
 Part # A-WIND Anemometer (Wind Gauge)
 Part # CCPK-10 CatchCan Pro (Blue) - 10 Pack
 Part # CCPMK-10 CatchCan Pro Mini - 10 Pack

Part # MT-100 Fiberglass Measuring Tape: 100'
 Part # A-FLAG Marking Flags: Yellow - 50 Pack
 Part # A-FLAG-B Marking Flags: Blue - 50 Pack
 Part # A-FLAG-O Marking Flags: Orange - 50 Pack
 Part # A-FLAG-P Marking Flags: Pink - 50 Pack
 Part # A-FLAG-R Marking Flags: Red - 50 Pack
 Part # A-FLAG-W Marking Flags: White - 50 Pack

TurfSpy™

EARLY STRESS DETECTION GLASSES

Disease, drought and weed invasion are plant and turf killers. But by the time you see them it can be too late. TurfSpy™ glasses, with stress detection technology developed by NASA, lets you "see into the future" to identify problems 2-10 days before they are visible to your naked eye. Keep your turf and vegetation healthy BEFORE serious problems arise.



fusarium patch

pythium blight

yellow patch
(rhizoctonia)

brown patch

anthracnose

get a jump on broken
or poor-performing
sprinklers

highly efficient spot
watering saves time
and labor costs

superior weed location
and spraying saves
time and money

features

- Shatterproof/polycarbonate stress detection lens (ANSI approved safety lens)
- Wrap-around lens limits ambient light for optimal detection
- Sports frame with adjustable ear piece
- Lightweight case included

HOW IT WORKS

Dying vegetation absorbs and reflects sunlight differently than when it's healthy. The earliest signals occur at the outer limits of the human visual spectrum, and are rendered invisible compared to the predominant middle wavelengths. TurfSpy™ filters the light in the center so that fringe spectra, which show early plant stress, become visible.



ordering

Part # NG655-01 TurfSpy™ Glasses and Deluxe Case

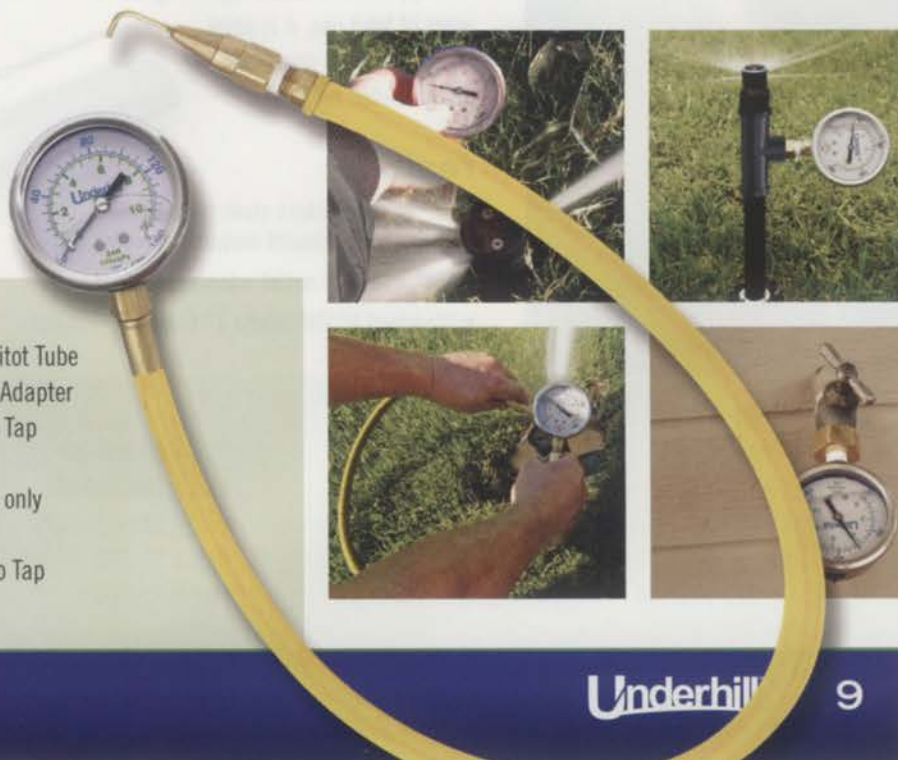
HeadChecker™

NOZZLE DISCHARGE PRESSURE GAUGE

Use this liquid-filled 160 psi gauge with 30" flex hose and solid brass Pitot tube, hose bib, or spray head adapter to measure water pressure at discharge points.

ordering

- Part # A-PHG-160K HeadChecker™ gauge, 30" Flex Hose, Pitot Tube
- Part # A-SHG-160K HeadChecker™ gauge with Spray Head Adapter
- Part # A-HBG-160K HeadChecker™ with 3/4" POC Hose Bib Tap
- Part # A-HCGPK HeadChecker™ gauge and Pitot tube
- Part # A-PG160L HeadChecker™ 160 psi pressure gauge only
- Part # A-HCP Pitot tube only
- Part # A-HBT 3/4" Hose Thread x 1/4" Brass Hose Bib Tap
- Part # A-SHA Spray Head Adapter





SpotShot™ **NEW!**

LOW VOLUME PORTABLE SPRINKLER KIT

SpotShot™ is an expandable sprinkler system kit ideal for turf areas requiring low volume watering for extended periods. Connect the Starter Kit to a quick coupler (or golf sprinkler with the HoseTap™ on page 12) and connect Add-On Kits for larger area needs.



Starter Kit includes 20' of ½ flexible PVC tubing with connection fittings, pressure regulator, sprinkler base and low volume rotating sprinkler (20 ft. radius / 0.65 GPM - 0.16 in./hr.)



Add-On Kit includes 20' of ½ flexible PVC tubing with connection fittings, sprinkler base and low volume rotating sprinkler (20 ft. radius / 0.65 GPM - 0.16 in./hr.)



Micro-Sprinkler Options

- 20 ft. radius / 0.65 GPM (0.16 in./hr.)
- 20 ft. radius / 1.2 GPM - (0.26 in./hr.)



ideal for

- Leaching salts on greens
- Targeting hot spots on fairways, roughs, etc.
- Mound watering
- New seed grown in
- Other low volume watering



RollerPro™

PORTABLE SPRINKLER BASE

The 22" wide stainless steel roller of RollerPro™ provides a stable field position for supplemental watering. Designed for years of hard use, it is ideal for watering dry spots and newly seeded areas.

features

- 22" wide stainless steel roller is weighted to prevent movement during use.
- 3/4" inlet and outlet adapters included
- Standard 1" FHT inlet x 1" female NPT outlet



RollerPro™ works with both 1" and 3/4" hoses and sprinklers using the included adapters. Sprinklers sold separately on page 12-13.

ordering

Part # A-RP221	RollerPro™	Part # TP-050-20	20' Coil of ½ PVC, SuperFlex Pipe
Part # SS-SK	SpotShot™ Starter Kit	Part # S40-050-HFS	½" Hose Thread Female x Male, Slip Fitting
Part # SS-AOK	SpotShot™ Add-On Kit	Part # S40-050-HMS	½" Hose Thread Male x Female, Slip Fitting
Part # SS-SB	SpotShot™ Sprinkler Base	Part # SS-S16	SpotShot™ Sprinkler (20 ft. radius / 0.65 GPM - 0.16 in./hr.)
Part # R75-HFM-40	Pressure Regulator (40 psi)	Part # SS-S26	SpotShot™ Sprinkler (20 ft. radius / 1.2 GPM - 0.26 in./hr.)

Tracker™

PORTABLE IRRIGATION MACHINE

The Tracker™ offers an economical solution for supplementing seasonal watering needs of 1/4 acre to 2 acre areas. It's also ideal for irrigating athletic fields, cemeteries, golf course roughs, or other large areas where an underground system is impractical. Built to last with precision German engineering and high quality materials, this portable powerhouse can irrigate an entire football field in just two passes.

specifications

- Weight: 58 lbs.
- Size: Length 33", Width 22", Height 22"
- Materials: Aluminum, Brass, ABS
- Minimum Water Pressure: 50 psi
- Hose Required: 1"
- Includes 1" brass quick-connect adapter



ordering

Part # T-400 Tracker™ Portable Irrigation Machine

NozzlePro™ Kits

KNOW WHERE YOUR TOOLS ARE
with these heavy-duty corrosion-resistant, lockable cases.



NOZZLE PRO DELUXE KIT

This ultimate collection of watering products includes everything in the NozzlePro™ Kit plus the PelletPro™ wetting agent applicator, LiquidPro™ nutrient applicator, a sprinkler HoseTap™ and SuperKey™. This kit also includes TurfSpy™ stress detection glasses and a Gulp™ Ultra Syringe pump. Heavy-duty case attaches to utility vehicles.

NOZZLE PRO KIT

MAGNUM™, CoolPro™, the entire Precision™ nozzle series and a high-flow brass valve. all kept safe and secure in an unbreakable, lockable, corrosion-proof case.

ordering

- Part # HP-K1 NozzlePro™ Kit
Part # HPDR-K1 NozzlePro™ Deluxe Kit, w/ SuperKey™ and HoseTap™ for Rain Bird®)
Part # HPDT-K1 NozzlePro™ Deluxe Kit, w/ SuperKey™ and HoseTap™ for TORO®)

Quick Coupler Valves & Keys

SOLID BRASS, SINGLE SLOT/LUG ESSENTIALS

Built to last, Underhill valves and keys are constructed of solid red brass and stainless steel. Valves incorporate rugged one-piece design.



Valve: Part # QV-075R
(3/4" FPT inlet)

Key: Part # QK-075
(3/4" MPT x 1/2" FPT outlet)

Valve: Part # QV-100R
(1" FPT inlet)

Key: Part # QK-100
(1" MPT x 3/4" FPT outlet)

Valve: Part # QV-150R
(1-1/2" FPT inlet)

Key: Part # QK-150
(1-1/2" MPT x 1-1/4" FPT outlet)

hose swivels

- Part # HS-075 3/4" FPT x 3/4" MHT outlet
- Part # HS-100 1" FPT x 3/4" MHT outlet
- Part # HS-101 1" FPT x 1" MHT outlet
- Part # HS-151 1-1/2" FPT x 1" MHT outlet



The Claw™ pictured with 1" quick coupler, key and hose swivel.

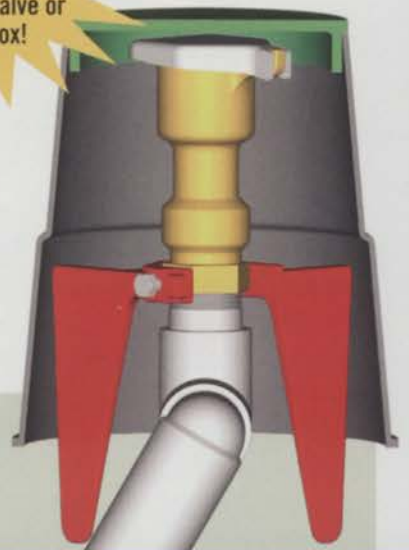
The Claw™

QUICK COUPLER MOTION RESTRAINT

When quick coupler valves become unscrewed from swing joints, it's more than just a hassle - it can be dangerous. The Claw™, new from Underhill, offers a simple solution. Embedded in the soil below the quick coupler, and then securely attached to its base, The Claw provides significant resistance to rotational, vertical and horizontal motion, preventing the valve from moving. Made from high strength ductile iron, this compact anchor attaches easily with a single steel bolt.

EASY RETROFIT

Installs without removing valve or valve box!



ordering

- Part # QCA-075100 The Claw™ for 3/4" and 1" valves
- Part # QCA-150 The Claw™ for 1-1/2" valves

Impact Sprinklers

SOLID BRASS, ULTRA-RELIABLE WORKHORSES

For reliable, trouble-free, high-performance year after year, you just can't beat our brass impact sprinklers. Available in full circle and full/part circle, in inlet sizes of 3/4", 1" and 1-1/4".

features

- Solid brass construction
- Stainless steel drive spring
- Chemical resistant bearing seals
- Bearing assembly hood for longer wear life
- Solid brass nozzle



Underhill brass impacts atop the RollerPro™ portable base (see page 10) puts a powerful sprinkler anywhere you can run a hose.



3/4"
Flow: 5-15 GPM
Spacing: 40-60 ft.



1"
Flow: 15-45 GPM
Spacing: 50-80 ft.

1-1/4"
Flow: 25-120 GPM
Spacing: 75-110 ft.

Performance data shown at 80 psi. GPM and radius will vary with pressure at sprinkler

ordering

		GPM	Radius (ft.)
Part # SI075F	3/4" MPT Full Circle	13	57
Part # SI075P	3/4" MPT Part/Full Circle	11	48
Part # SI100F	1" MPT Full Circle	23	71
Part # SI100P	1" MPT Part/Full Circle	23	71
Part # SI125F	1-1/4" MPT Full Circle	51	96
Part # SI125P	1-1/4" MPT Part/Full Circle	54	78

Order with
brass swivel for
EXTRA SAVINGS



HoseTap™

SOLID METAL HOSE ADAPTER

HoseTap™ gives you a hose connection anywhere you have a Toro® or Rain Bird® electric, valve-in-head sprinkler... a fast connection when quick-couplers or hose bibs are not available. Aircraft aluminum body won't break or wear out like plastic, and is anodized with sprinkler manufacturer color. Each HoseTap™ includes the precision metal disc, o-ring, and riser.

ordering

- Part # HN-T100 HoseTap™ for Toro® 1" inlet golf sprinklers
- Part # HN-T150 HoseTap™ for Toro® 1-1/2" inlet golf sprinklers
- Part # HN-R125 HoseTap™ for Rain Bird® Eagle 700 Series sprinklers

Additional Part Number Specifications: Add "B" for BSP thread.

Add "S" to include 1" brass swivel. Add "S75" to include 3/4" brass swivel

REPLACEMENT O-RINGS

- Part # OR-100 Fits Toro® 1" inlet and Rain Bird® Eagle 700 Series golf sprinklers / HoseTap
- Part # OR-150 Fits Toro® 1-1/2" inlet golf sprinklers / HoseTap



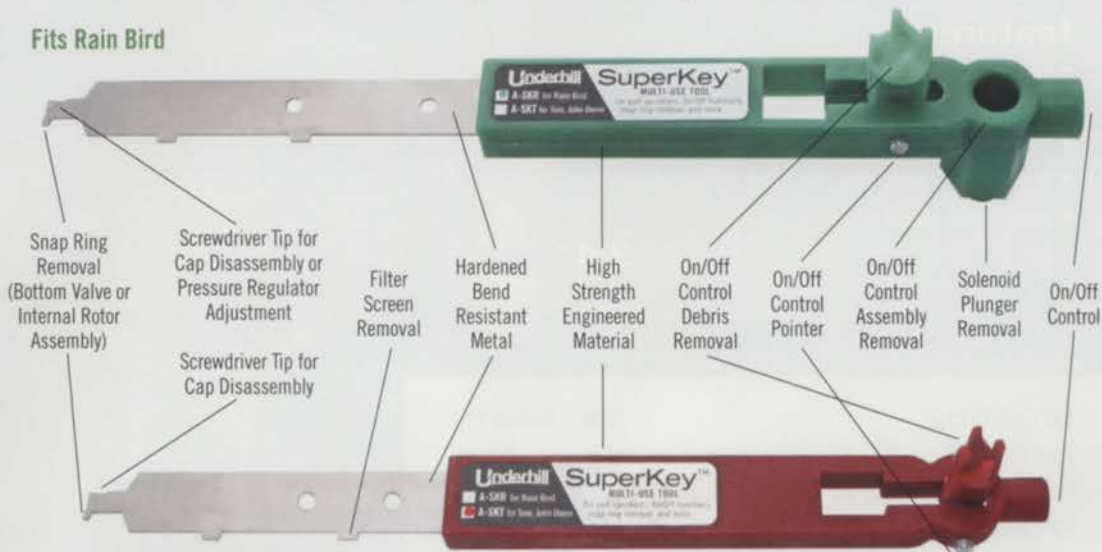


SuperKey™

MULTI-PURPOSE GOLF SPRINKLER TOOL

This ultimate multi-purpose tool designed for Rain Bird®, Toro® and John Deere® golf sprinklers is a must have. Made of stainless steel and composite material, it effortlessly turns Electric-Valve-In-Heads on and off, removes internal assembly snap rings and performs many other sprinkler maintenance chores.

Fits Rain Bird



Fits Toro, John Deere

ordering

- Part # A-SKR SuperKey™ for Rain Bird® golf sprinklers
- Part # A-SKT SuperKey™ for Toro® and John Deere® golf sprinklers

VersaLid™

VALVE BOX UNIVERSAL REPLACEMENT LID

VersaLid™ is the easy solution for broken or missing valve box lids. No need to guess what brand a buried box is or even worse – dig it up to find out – VersaLid's locking system fits all 6"-7" round valve boxes.

features

- Stepped locking system
- Fits all 6"-7" round boxes
- Universal fit
- Greater top-load strength and more UV-resistant than structural foam lids
- Purple Lid available for non-potable/reclaimed water



Splice Kit

3M DIRECT BURY SPLICE KIT

Each kit includes one wire connector which can accommodate wire sizes from 18-10 gauge and a waterproof gel case. Excellent for golf, commercial and residential applications.

ordering

- Part # VL-6 Green VersaLid™ 6"-7" valve box lid
- Part # VL-6NP Purple VersaLid™ 6"-7" valve box lid
- Part # DBRY-4 Direct Bury Splice Kit - 4 Pack

NEW!

Gulp™ UltraMax Pumps

SUPER HIGH-CAPACITY WATER REMOVAL SUCTION PUMPS

Whether you need to remove water from sprinklers and valve boxes or other areas or devices, UltraMax Series Pumps are the ideal tools for the job... huge capacities and the smoothest pumps you will ever use as well.

BIG GULP ULTRAMAX

- 12+ gallons per minute!
- 36" clear pump chamber
- 72" or 36" outlet hose

GULP ULTRAMAX

- 8 gallons per minute!
- 14" clear pump chamber
- 18" outlet hose

special features

- Super Smooth Pumping Action
- Extra Volume Capacity
- Strong Aluminum Pump Shaft
- Heavy-Duty Clear Tube Material
- Self Priming



Contour grip handle



Easy, push-button cleaning system



more Gulp products

SUPER GULP

- 20+ GPM pumping capability
- 4" dia. x 24" pump chamber
- 3" dia. x 84" inlet, 36" outlet hose

GULP SYRINGE ULTRA

- 12 oz./stroke
- 12" pump chamber

BIG GULP

- 35 oz./stroke
- 36" chamber
- 72" or 36" outlet hose

Use the BigGulp™ Riser Attachment to help prevent mud and rocks from entering the pump chamber.

also great for



ordering

- | | |
|------------------|--|
| Part # A-G12-C | Gulp™ UltraMax |
| Part # A-G3636CK | BigGulp™ UltraMax with 36" outlet hose |
| Part # A-G3672CK | BigGulp™ UltraMax with 72" outlet hose |
| Part # A-G12S-CK | Gulp™ Syringe Ultra |
| Part # A-G2484 | SuperGulp™ |
| Part # A-G3636K | BigGulp™ with 36" outlet hose |
| Part # A-G3672K | BigGulp™ with 72" outlet hose |
| Part # A-G2484 | SuperGulp™ with 84" outlet hose |
| Part # A-G01 | BigGulp™ Riser Attachment |



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An industry leader in innovative watering products all over the world, Underhill brings 32 years of know-how in developing our inventory of "Products that work...smart.™"



UNDERHILL INTERNATIONAL

WATERING PRODUCTS
2011

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Products that work...smart.™

have always preferred cross training people in a variety of skill sets.

The broader the training, the more valuable the employee. I have often heard that golf clubs cannot afford to have a formal training program. I would counter and say you cannot afford to be without a formal program as you will pay the price for one in the long run with inefficiencies and an unmotivated team.

“A golf course superintendent should be providing a motive or incentive for people to perform well on the job.”

JOB SECURITY. In our current economy nobody wants to be without a job. Some of us grew up in a generation in which employees worked at facilities for their entire adult life. That may be a wonderful thing, but it is happening less and less. Part of that reason is a lack of career growth and interest on behalf of the employees. The other part is unmotivated staff members tend to only accomplish as much as they need to do to stay employed. As superintendents we need to do all we can do to inspire our people to be the best workers they can be and that will assist in providing job security.

WORKING IN A SOLID ENVIRONMENT. Everyone wants to work in a safe environment with proper personal protection equipment and safe tools and equipment to work with. The ability to document safety training and preventing lost days to accidents is very meaningful to the staff. Facilities should be clean and well-organized. After all, your team spends 8-10 hours a day in and around your turf care center and they deserve to have safe and clean working conditions.

Upon arriving at my last golf course superintendent job I asked my staff what some of their concerns were and the thing they wanted most was an additional refrigerator and couple more microwaves in the break room. It was done the next day and the staff was happy because management listened. I wish it was always that easy to motivate my team!

PUTTING IT ALL TOGETHER. Great superintendents work hard to build bridges with their

staff. Together we succeed or together we fail. It isn't always easy but everyone on the team needs to work together and get along in the workplace. Anything less is not tolerable.

At times, some of the staff will need a bit more special attention. If you have great crew members who work at a high-performance level then it is worth the little extra time to devote to them individually. However, we all have had more than a few problematic employees who take up a significant portion of our time. There is a difference between motivating and babysitting employees. If your return on investment with any team member is minimal, then it is time to re-evaluate who comprises your team.

Make sure proper training is offered and taken advantage of. Good employees are provided adequate support to do their jobs at peak performance. The right tools, equipment and training allow for that.

Be compassionate about your employees. We all have issues in our personal lives and some of it can impact our work situations. I remember an employee that was having a hard time getting to work on time on weekends. I had suspected he was out having a bit too much fun on the weekends. After speaking with him I found out that he took a bus to work and the bus schedule was undependable on the weekends. With a little compassion I was able to provide him with a later start on weekends to accomplish his tasks and there was never a problem with tardiness again. Sometimes a small accommodation for someone can provide big dividends.

Finally, don't evaluate people once a year during their review. Let them know on a daily basis what you think and how you like their performance. A smile goes a long way and words of praise can take you even further in your relationship with your staff.

While I wish there was a motivational mold that would fit every staff member... there is not. But there are a number of approaches to inspire team members and motivate them to peak performance with a high level of enthusiasm. **GCI**

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Copycats

never quite
get it right.



Stick
with
the
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www.aquatrols.com

PICK ME



TKO

THE KNOCKOUT INTERVIEW

Five ways to interview better for the right person. By Dottie DeHart

Hasty hiring brings eventual firing. These wise words should be the mantra for every organization hiring from today's overcrowded job market. If your course's hiring process consists of putting out a job posting, sifting through résumés and hiring the first person who doesn't throw up a major red flag during an interview, then it's time to adopt a renewed approach.

"Making poor hiring decisions will cost both your budget and your group's unique culture," says Dave Anderson, author of "How to Lead by The Book: Proverbs, Parables, and Principles to Tackle Your Toughest Business Challenges." "It's much better to be temporarily short-staffed than to lower your standards. Learn to use the interview process to knock out the candidates who aren't the right fit for you, and you'll end up with a new team member who will be an asset to your brand, your morale, your momentum and your productivity for a long time to come."

A knockout interview eliminates candidates from consideration using smart, rigorous standards without wasting time, Anderson says. Knockout interviews help upgrade hiring from an inclusive process to an elimination process, thus saving your most valuable resource – time. To that end, knockout interviews are invaluable.

"The knockout interview begins before you ever meet a candidate face to face," Anderson says. "In fact, your goal is to avoid face time with as many applicants as possible. As soon as you receive the first stack of résumés, you should look for reasons to cut individuals from consideration."

Anderson acknowledges this method may seem ruthless

and cutthroat. However, it's prudent to identify undesirables before they've landed a position on your payroll.

Plus, from a financial standpoint, hiring hastily can be expensive. Think about it: If you have to let someone go, you're facing numerous expenses, including administrative costs, possible severance pay and possible unemployment compensation. Then you'll have to pay for attracting a new candidate and providing training for that person. And all the while, you might have to pay others overtime to complete essential tasks. When you're more discriminating upfront, you're a better steward of your organization's resources.

"I used to think that I needed to talk to a lot of people to find a great job candidate," Anderson says. "Frankly, it's exhausting to speak to a lot of people if they are the wrong people. I now judge the strength of my organization's interview process by how few folks we meet face to face.

"Ultimately, because of the knockout interview process, I am assured that the handful of people who make the cut are likely to possess the right stuff and add to my organization instead of costing it."

If you would like to put the knockout interview to work for your own facility, here are five things to keep in mind.

Be true to the little things

When hiring a new person to your team, no detail is too small to overlook. The fact is, how well a person performs on the little things is indicative of how well he will – or won't – perform on the big things. You can evaluate this capability as soon as the first batch of résumés lands on your desk. As you read through them, consciously look for reasons to put

“The knockout interview begins before you ever meet a candidate face to face.” – Dave Anderson



some of those résumés in the reject pile.

“Look for use of professional language and correctly-spelled words,” Anderson says. “If these aren’t present, it’s a reason for disqualification. Recently, my organization hired a new administrative assistant. One application for the job had multiple spelling and grammatical errors. Knockout! One person sent emails in all lowercase letters. Knockout! And unbelievably, one person even spelled his own last name incorrectly in one spot. Definite knockout! I knew we didn’t want these sorts of slip-ups representing our company.”

The basic ability to do the job.

After you’ve cut the dead weight from the résumés, it’s time to start conducting phone interviews. In addition to making sure that candidates communicate clearly and respectfully, your task at this point is to ensure that they can fulfill the non-negotiables of the position.

“You may want to ask applicants about whether they’re available to work certain days or hours, or if they’re comfortable performing specific tasks,” Anderson says. “If, for example, you need someone to work Saturdays and a particular applicant is unable to do so, why would you want to wait until he has come to your office and wasted your – and his – time to discover this? A phone interview is the time for these kinds of knockouts to happen.”

Let them do the talking.

When conducting face-to-face interviews, many employers put interviewees at ease by doing most of the talking and spending much of the interview telling the candidate about how great the company is. However, your job as a leader isn’t to have a friendly chat – it’s to assess an applicant’s character and competency. Specifically, you should avoid:

- Talking too much – you need to learn about the candidate, not vice versa
- Having a time-wasting, good-old-boy, get-acquainted session
- Conducting the interview as though it were a casual conversation
- Degrading the interview into a sales pitch

“There’s no need to intimidate or to be unduly overbearing toward an interviewee,” Anderson says, “but keep in mind your objective is to evaluate past accomplishments, because past performance is much more telling than past experience. Dig into her life and try to determine what her key traits, such as character, talent, attitude, energy and drive,

look like. Those things strengthen or weaken your team, not how glibly a person can carry on a conversation. If the candidate doesn’t express these critical components, then it’s time for another knockout.”

Look at their journey, not their location.

Just as you shouldn’t judge a book by its cover, you shouldn’t judge a job candidate by his location on life’s ladder. Don’t judge applicants strictly by the station they have reached in life. Dig deeper.

“I’m not saying you should disregard people who have had an easier road through life,” Anderson says. “Simply acknowledge that they may not have had the opportunity to face certain challenges that can forge strength of character and develop persistence. It may be that the best candidate was born with the proverbial silver spoon, but in order to find out, you’ll have to dig deep. You won’t be able to judge this strictly by the impressive job titles on his résumé.”

Share your core values.

The knockout interview provides a reason to say “no” to a job candidate. By sharing your core values with applicants, though, you may find that they “knock” themselves “out” for you. Share your organization’s core values and behavioral expectations before extending an offer. Let applicants know that you have non-negotiable standards for integrity, teamwork, attitude, attention to detail, etc. Then describe what these behaviors look like in practice, and be honest about the consequences for not living up to these standards.

“It’s better to let these folks turn away voluntarily before they’re on your payroll, where they’ll infect attitudes, lower morale and undermine your own credibility as a leader,” Anderson says.

“Ultimately, knockout interviews work because they force a candidate to show through her actions that she has initiative, that she really wants a job and that she would like to work for your organization in particular,” Anderson adds. “And since these techniques reveal whether a candidate is prepared or not, they’ll prevent your existing team members from having to bail out an unqualified newcomer. Knockout interviews give you, as a leader, the power to serve as a sentry for your organization and to protect and preserve its culture, values, and people.” **GCI**

Dottie DeHart is a writer based in Hickory, N.C.

The Power of One to One.

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Monroe Miller is a retired golf course superintendent. He spent 36 years as superintendent at Blackhawk Country Club in Madison, Wis. Miller can be reached at groots@charter.net.

ARE YOU SELF-SUFFICIENT?

It's an image burned into my memory – trying to help my father fix an Oliver tractor so we could bale hay. The hay was dry and needed baling before it was too dry and too many leaves would fall off, diminishing its feed value. It didn't help that it was 90 degrees out and we had a lot of hay to make.

We were having trouble – it was a timing problem and we had no diagnostic equipment (this was in the 1950s). Finally, I said, "Why don't we just call Chet Graham – the Oliver dealer in our hometown – and have him send someone out to fix it?"

Dad took a drag on his Camel and said, "Because we cannot afford a service call. I have to fix this myself."

It scared me a little, and the incident brought into focus the importance of self-sufficiency. After all, everything that needed to be done on our farm – from equipment repairs to birthing livestock to land preparation – we did. Many times in my long career as a golf course superintendent I have thought about how important it is to deal with the things that go wrong in the golf course operation. After all, in many ways a course is somewhat like a farm.

My dad set a good example – he was the valedictorian of his high school class, an honors graduate in animal husbandry from the University of Wisconsin-Madison and spent successful years as a businessman before he wanted to return to the life as a farmer. And he could do just about anything – from judging livestock at a county fair to getting that Oliver tractor running like a clock. We pretty much got along fine because of his long-held notions of self-sufficiency.

Robert Heinlein, a well-known writer and personality from a generation ago and a proponent of individual self-reliance, wrote this: "A human be-

ing should be able to change a diaper, plan an invasion, butcher a hog, conn a ship, design a building, write a sonnet, balance accounts, build a wall, set a bone, comfort the dying, take orders, give orders, cooperate, act alone, solve equations, analyze a new problem, pitch manure, program a computer, cook a tasty meal, fight efficiently, die gallantly. Specialization is for insects."

Since golf courses are undeniably agricultural enterprises, early in my career many turf students were either farm kids or had worked on a farm. It was a wonderful compromise for a career, and the talents they had developed before they arrived in our shop

"Since golf courses are undeniably agricultural enterprises, early in my career many turf students were either farm kids or had worked on a farm."

were put to good use. I'll never forget the farm gal who hopped on our diesel Ransomes 6150 rough mower and was in business with it after a couple of minutes. For her, it was a small, uncomplicated piece of equipment. In contrast, kids lacking that background took a fair amount of coaching and practice before gaining even minimal confidence in such a "huge" machine.

As years went by, fewer and fewer kids came from a farm background. The labor force changed, the young people entering the golf turf programs changed, but so did golf course management.

And golf course superintendents – at many courses anyway – had to change. Gone were the noisy, vibrating small engines with points and plugs that always needed attention – my truck has 125,000 miles and its original spark plugs! Belts and chains have been replaced by hydraulics. Manual irrigation systems have mostly

been replaced by automatic ones. Electronic components are the norm and they need little attention. There's not even a towing tractor to be seen in some shops anymore.

We have websites and blogs; pump stations operate variable frequency pumps with sophisticated controls. And a golf course mechanic friend of mine could not remember the last time he ground the valves on a gas engine. Even a flat tire seems a rare event these days.

As our course operations have changed, so have the skills required to be self-reliant. I can recall a computer locking up on me a number of years

ago and my first instinct was to find a turf student to get me out of trouble. Times change, the golf course business changes, and so do superintendents.

So, to answer the question I posed in the title, I say in resounding voice, YES!

It isn't a matter of being more self-reliant or less. Rather, it's a case of a different kind of self-reliance. The nature and variety of these operations will always require a person who is a jack-of-all-trades. It is just that the trades change.

It will always be important to have the skills and desire to count on yourself first. After all, you should be the most reliable person you know of.

That Oliver tractor my dad had to fix? If you want to see one like it you'll have to go to a museum or an antique power show.

Like a lot of things, it's gone the way of the Parkmasters and F-10s. **GC**

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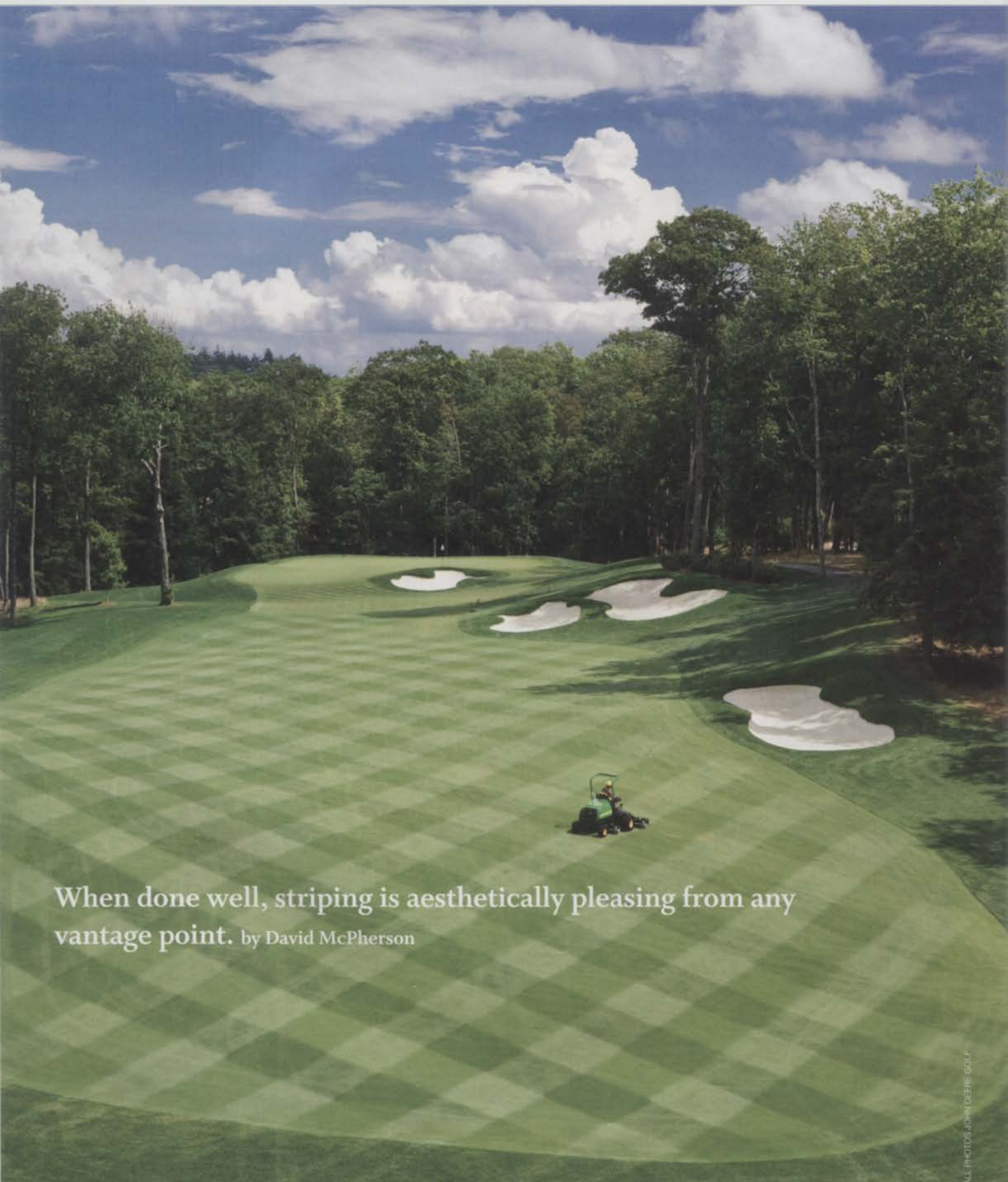
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When done well, striping is aesthetically pleasing from any vantage point. by David McPherson

ALL PHOTOS JOHN DEERE GOLF

Next time you are on an airplane, look out the window at the golf courses you're passing over.

Can you see the burn?

It's from this vantage point where the fine art of striping really stands out.

And, while you don't need to see the stripes from 1,000 feet to appreciate yet another one of the modern superintendent's talents, when striping is done well, it's aesthetically pleasing from any vantage point.

For cool season grass courses that only open for six months of the year, it's essential that superintendent's burn in the stripes right from the first cut of the season. This sets the guidelines, so staff know where to cut for the rest of the year. It's part art and part science. You need to cut it at the right height, so the grain of the grass doesn't lay down too far to one side.

Brent Thompson, superintendent at Mountaintop Golf and Lake Club in Cashiers, N.C., starts mowing in his stripes beginning in late March. The course, which has bentgrass fairways, usually opens May 1 and shuts down the Sunday after Thanksgiving.

"We will start mowing in late March and for the first six to eight mowings up until mid-

April, I will mow dark and light or round and round, which is pretty much the opposite direction of what I do when I burn in my stripes," he explains. "I'll mow the first five or six times in a different direction; then, I will burn in the stripes in late April and do that all the way until late October."

Thompson does this because he believes the cross-cut helps stand the grass up a bit more. "Your stripes are a lot more vivid and the guys know which way to mow every time," he says. "They just really stand out when you burn them in."

Thompson, who has been at the club since 2006 when this Tom Fazio design nestled in the Blue Ridge Mountains opened, stripes in a diamond cut in two directions.

"I mow them right to left and then left to right to get the diamond cut," he explains. "I mow in the same direction on each line and mow down the light stripes. When going from tee to green, I start in the middle and then work my way out."

Groomers on the mowers and grooved rollers help Thompson and his crew keep the grass down. He says the only negative against this practice is if you don't cut the grass short enough, you get longer and leafier blades, creat-

ing a grain that is not acceptable to players as it results in inconsistent lies on the fairway. His crew mow the fairways at roughly 400,000ths of an inch. "The height of the cut definitely makes a difference," he says.

Towards late October, Thompson and his crew return to cutting the fairways round and round. Mountaintop members are happy with the conditions and the striping makes the course more aesthetically-pleasing.

From the Blue Ridge Mountains to the California Coast, Pebble Beach beckons for a striping story of its own. The course that tops the bucket list wish for most golfers and host of the PGA Tour's AT&T National Pro-Am is a place Jack Holt is lucky to call his home away from home for the past 30 years. Holt is the assistant superintendent at Pebble Beach Golf Links. He gives me a bit of a history lesson on striping before talking about what they do at the greatest public course in the United States.

"Different grasses react in different ways," he says. "Originally, striping was a method of making sure you got a different direction each time you mowed to improve the quality of the cut. As you mow, the grass gets pressed down in the direction you are mowing on the cutting unit and if you

STRIPES



When it comes to equipment, you can use most mowers to burn in lines on the fairways. Any reel or deck mower can give a skilled superintendent the ability to stripe.

cut the same way every time, pretty soon you get an elongated growth pattern or you are not getting an effective cut – you are just pressing the grass down. So, you change direction each day to make sure that doesn't happen.

"But it evolved to a thing where aesthetics was as important as quality of cut in some people's opinion," he continues. "That's where fancy striping happened. People got more concerned with the look than the real purpose of mowing."

Holt says striping is all about striking a balance between agronomics and aesthetics. "It can actually take away from the aesthetics of the golf course. You think it looks good, but it's not to the benefit of the course. You want something that makes

agronomic sense and enhances your aesthetics rather than put all the attention on the stripes you've just put down."

At Pebble Beach they vary their striping throughout the year. The advent of new equipment and smaller cutting units has given greenkeepers more options and leeway to the types of stripes they can create.

"Sometimes we will do a shadow cut, which is up and back," he says. "For the U.S. Open last year, we cut everything in the same direction because the USGA didn't want any stripes. For our other televised tournaments we do a diamond cut. We think that enhances our aesthetics and shows off the contours of the fairways."

There is a lot more to striping than meets the eye, Holt adds.

"Many think it's haphazard, but there really is a lot of thought and consideration that goes into it."

While some courses stripe year-round, others tend to use this practice solely before hosting major tournaments. Pat Moir, superintendent at Hillsdale Golf and Country Club, Mirabel, Quebec, Canada, says he will start striping leading up to the LPGA CN Canadian Women's Open, which is happening at the club this August.

"In my mind, it's all aesthetics," he says. "Everybody has a different view as to what they think looks good or not. As an example, I tried it last year and used the same mowing pattern on the fairways. Some members said the striping looked really good, then others said 'why don't we have the checkerboard pattern we used to have or that club down the road has,' so it really is a matter of taste.

"What I'll do leading up to the event is inform my board and membership through our newsletter that the main body of fairways will be striped in the half-half mowing pattern," he continues. We will mow up one side, then turn around and come back on other side to burn it in. It's basically a throw-back look to when they didn't have riding fairway mowers. They had pull-gang fairway mowers and guys couldn't turn in the rough or they would mow the rough, so guys would start mowing and they would stay on the fairways and mow like a Zamboni. They'd go up one side then turn around and go down other and then work your way out from there, but always going up the same half and always going back down the other half – this results in a light stripe on one side on half the fairways and a dark stripe on the other half of the fairway."

When it comes to equipment, you can use most mowers to burn in lines on the fairways. Tracy Lanier, product manager at John

Deere Golf, who has been with the company for 21 years, says any reel or deck mower can give you the ability to stripe.

"We do things a bit different with our fairway mowers that can help in the striping of the turf," he says. "We have hydraulic down pressure on our cutting units, which is basically taking weight on the traction unit and putting it down on the cutting unit. It's going to stripe better because it is staying in contact with the turf and pressing down on it more.

"We also have a brush option that can go between the front roller and the reel ... it's a gear-driven brush," he adds. "This can help to burn in stripes. You brush the turf ... just tickle grass to help it stand up more and give it darker/more pronounced stripe."

Why not leave the last word on the subject to Tim Moraghan, principal at Aspire Golf, who knows a thing or two about striping. A former superintendent, Moraghan spent 20 years working for the USGA preparing golf courses for national championships.

"The first line is the most important," he says. "Guys have to choose their direction ... almost streamline it sometimes. A lot of guys told me they like to work from putting greens and work back to the tee as it seems easier to lay the line down. It's an exact science for these guys and it takes a lot of work.

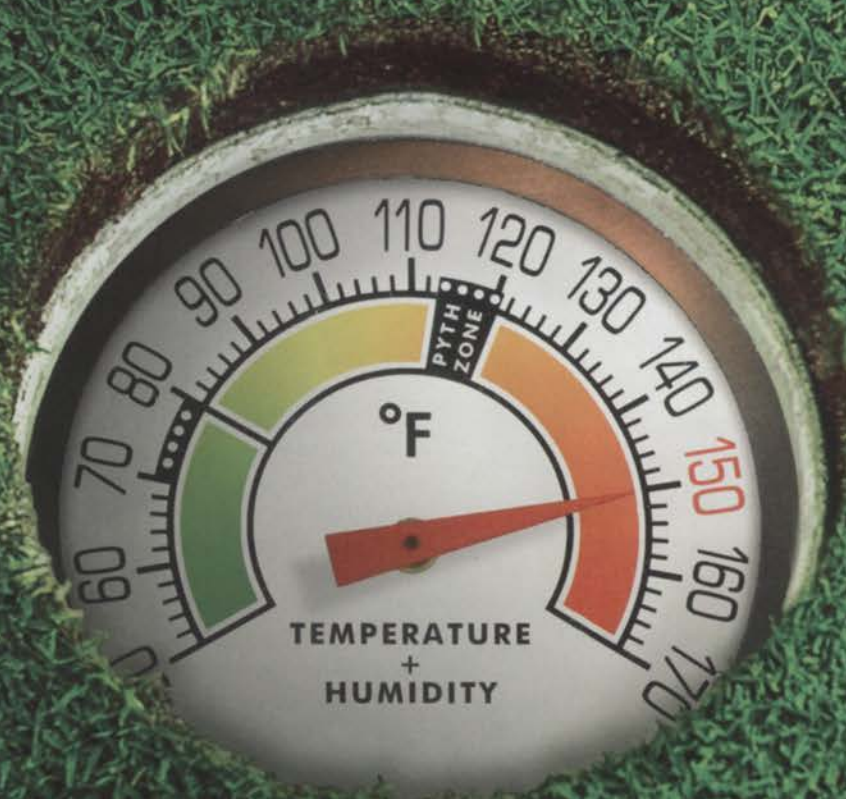
"For courses holding a major tournament like the U.S. Open, they know there are going to be a lot of aerial shots from the blimp, so you want your lines as straight, tight and uniform as possible because they are going to take a picture from 1,000 feet in the air and you don't want it to be sloppy." **GCI**

David McPherson is a freelance writer based in Toronto.

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DEEP IN DATA

4.341 To more accurately fine tune its irrigation applications, Naperville Country Club collected vital data through routine soil moisture readings that has lead to considerable water savings. By Steven Biehl

Though we have been fortunate at this point in time to have not been the subject of water use restrictions, it is important for us to be cognizant of how we use water to irrigate the course.

Our efforts spanning the past two years have been focused on understanding and optimizing a new irrigation system we received as part of a renovation project in 2007. This, along with routine soil moisture readings has given us the data to more accurately fine tune our irrigation applications for more uniform playing conditions and better prepare ourselves for any future water restrictions.

During the 2009 season we began taking an inventory of our system with a goal to operate the system from ET. Taking an inventory of the irrigation components on the course allowed us to enter the correct information into the central control, as well as ensure the correct components were on the course. The first step was to determine the head and row spacing between each sprinkler using a measuring wheel, while also making note of the sprinkler

model. From this information we could determine the correct nozzle set for each sprinkler based on spacing. We then retraced our steps to ensure the correct nozzle was in each head, and also set and recorded the arc of each part circle head to within 5 degrees. With this completed, we now have a record of the irrigation specifics that need to be in place. We can refer to these whenever we need to make irrigation repairs to ensure the correct heads and nozzles are in place for the data that is in the computer.

The second step in the process was performing an irrigation audit, starting with the greens, to determine our precipitation rates – which would be used for operating from ET – and application uniformity. As we gathered this information, it was entered into a spreadsheet to record and analyze the data. Through the spreadsheet a graphical repre-

presentation of the catch-can data was created to easily observe which areas were being over or under-watered. By recognizing that each head on the greens was a part circle and set at differing arcs, thus giving different precipitation rates, we knew we would be able to increase our uniformity across the green by adjusting run times. By only adjusting run times we were able to increase our uniformity across all greens from an average of 73 percent to an average of 80 percent with one green measuring 89 percent. Although we do not irrigate our greens to the daily ET value, we use the precipitation rate and uniformity information to set our program run times to apply 1 inch

of water. This allows us to easily adjust the program percentage to apply the amount of water we want as well as an even amount of water across the green.

At the same time we were performing the audits on the greens, we were also tracking soil moisture content with a portable TDR meter. This data was also recorded into a spreadsheet, where we tracked the high, low, mean, uniformity and standard deviation of our soil moisture readings (see chart "April 12"). While watching the data we noticed, even when our greens were at their driest, there were areas that never reached levels that necessitated supplemental watering. In an effort to identify



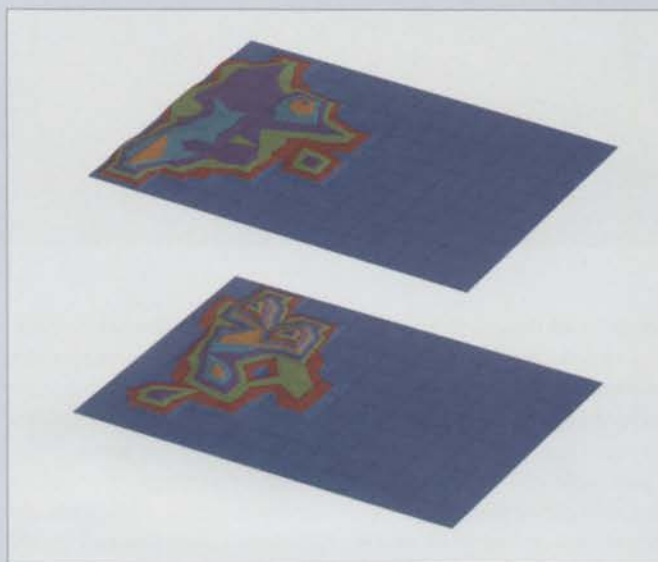
these "wet" areas, we have the spreadsheet identify moisture readings that are equal to or greater than one standard deviation above, or "wetter" than the mean. The heads that irrigated those areas were turned off. In 2010, this accounted for 11 of the 103 heads that irrigate the greens, or 10 percent of the heads. No supplemental irrigation has been needed in these areas and those heads remain turned off.

The greens only account for a small fraction of the water that we use to irrigate the course, so it does not have a large impact on our water usage for the year. However, we are taking the process applied to the greens and applying it to the fairways. Our limited data and experimenting with the fairways is telling us we may be able to turn off 10 percent of those heads, as well. An easy

way for us to save 10 percent of our water use seems to lay with the ability to identify which heads on the course do not need to run. Because this irrigation system is new and the variability of environmental conditions, it will be hard to quantify any irrigation savings over previous years.

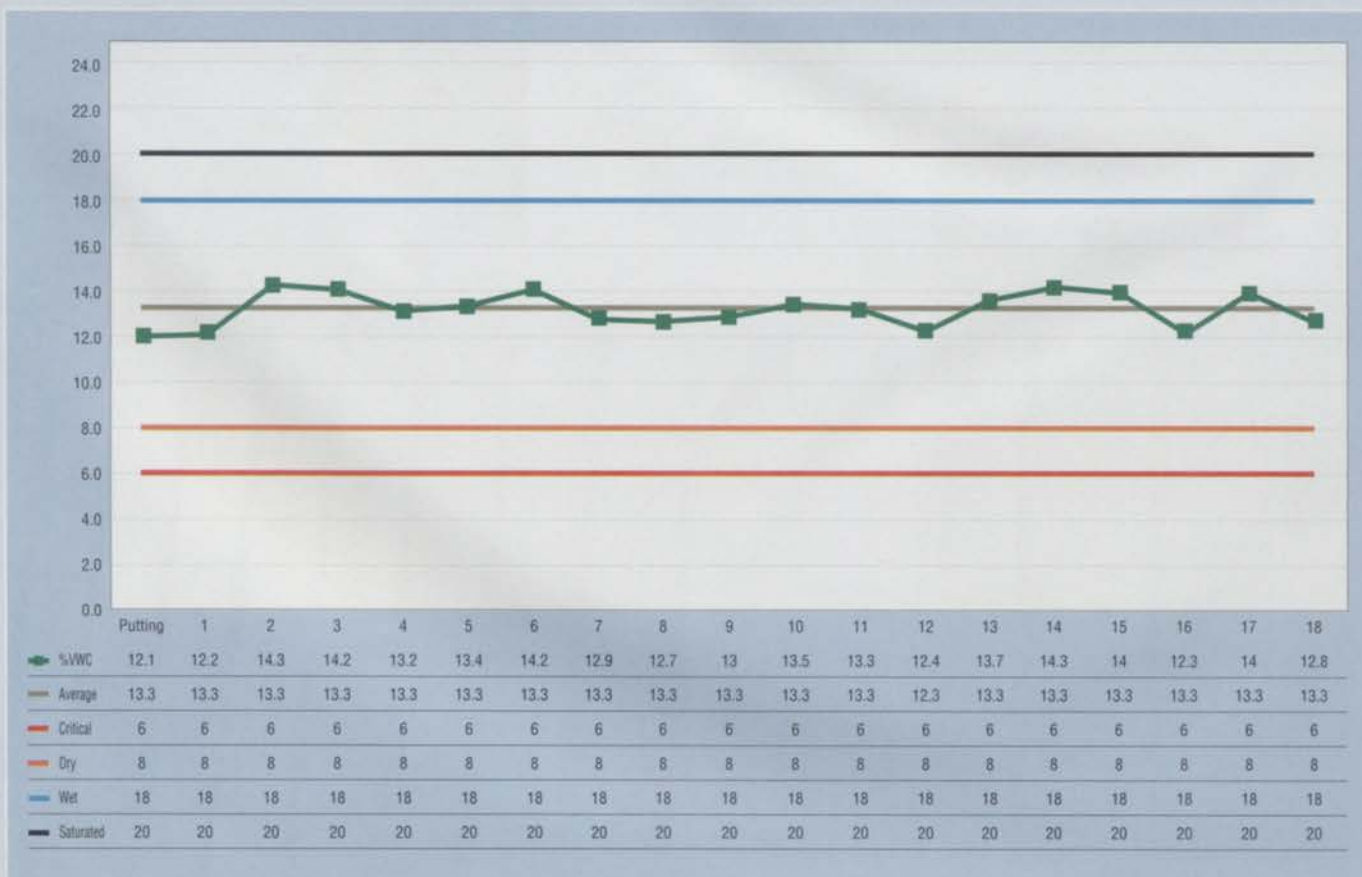
Our intentions at the beginning of this process were only to achieve a more uniform application of water that would lead to more consistent playing conditions for our members. We believe we are making better use of our water resources with the information we have obtained, which will allow us to avoid some of the initial woes of water restrictions. **GCI**

Steven Biehl is assistant superintendent at Naperville Country Club, Naperville, Ill.



Routine soil moisture readings gave Naperville Country Club's maintenance team the hard data to more accurately fine tune its irrigation applications for more uniform playing conditions.

APRIL 12



REVOLUTIONARILY ORIGINAL

If you're just looking for cut-and-paste online news consisting of a few headlines lifted from a half-assed Google search, don't look here. GCI's newly redesigned website and our new Firm & Fast e-newsletter **ALWAYS** contain original content like guest columns, bonus research features, snappy editorial videos and think pieces that put the news into perspective. Unlike others, our content always has that great new car smell.



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Poa Annu seedheads.



STUNTED growth

Seedhead suppression creates healthier plants.
The trick, though, is precise timing.

By Jason Stahl

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Ex herb. E. F. LINTON, M.A., Oxon.

Polygonum littorale, Sm.
in sand

Littlesea,
Dorset.

Legi ipse 27. VIII. 1889



ILLUSTRATION: REV. EDWARD FRANCIS LINTON; ALL PHOTOS: PBLGORDON



Poa seedhead control: the white block is untreated.

The use of plant growth regulators (PGRs) in suppressing seedheads has grown in popularity. The theory is seedhead suppression creates heartier plants due to the misdirection of energy away from seed production and into plant reserves.

There are other methods besides PGRs for suppressing seedheads, such as verticutting and topdressing. However, PGRs alone can be quite effective. The trick is application timing, which has to be precise.

According to a study conducted by Tim Murphy (University of Georgia), Ted Whitwell (Clemson University), L.B. McCarty (Clemson University) and Fred Yelverton (North Carolina State University) titled, "Plant Growth Regulators Used in Turfgrass Management," PGRs, when used for seedhead suppression, must be applied before seedhead formation and emergence. Applications made after seedhead emergence will not be effective.

The study goes on to offer recommendations on timing for different turfgrasses. For Bahiagrass, for instance, mowing should occur as seedheads emerge – usually from May to mid-June. Then, PGRs should be applied about 10 to 14 days following mowing or just prior to new seedhead appearance. Additional applications six to eight weeks later may be required if new seedheads begin to emerge.



Poa and clumpy ryegrass in Bermudagrass in South Carolina.



For creeping bentgrass golf greens, the study recommends applications be made during periods of active root growth – mid-fall and spring in the southern U.S. Applications should not be made during mid-summer and mid-winter months. On warm season turfgrasses, such as Bermudagrass, the appropriate PGR should be applied to actively-growing turfgrasses after full spring green-up and several mowings. Applications can be repeated during summer months if additional growth regulation is needed.

“It comes down to the long-term objectives of the superintendent in certain areas, whether they be fairways or greens.”

— Todd Bunnell, SePRO

So what is the appropriate PGR to use? According to Todd Bunnell, golf market manager of SePRO, there are two types of PGRs: those that inhibit the overall growth of the plant, and those that are used predominantly for seedhead suppression or the “abortion of seedheads.”

“It comes down to the long-term objectives of the superintendent in certain areas, whether they be fairways or greens,” Bunnell says. “If they want to maintain *Poa*, they will likely use Primo and then Proxy or Embark to manage the seedheads as they go through the growing season. If they want to reduce the *Poa* population, then PGRs such as Cutlass are effective to do that over the long-term of one to three years.”

Many superintendents will apply Cutlass in a program over an entire year, Bunnell explains. At the onset of the Cutlass program on fairways, superintendents might have 50 percent *Poa annua*. If they apply Cutlass throughout the entire year, then they might only have 25 percent *Poa* the following spring. If they

follow the same program the following year, they may go down to 10 percent *Poa*.

“If a superintendent can go from 50 percent *Poa* to 10 percent over two years in fairways, once they get to the 10 percent level they may not even need to apply Embark or Proxy. So a more long-term fix to reduce the *Poa* population eliminates having to use some of the *Poa* seedhead inhibitors.”

The cell division inhibitors are also called Type 1 PGRs and, according to the previously-referenced study, inhibit growth

rapidly, within four to 10 days and lasting three to four weeks depending on the application rate. However, the study cites phytotoxicity or yellowing as a problem, which is why the PGRs are used primarily on low and medium-maintenance turfgrass areas. However, the yellowing is not a problem that can't be overcome.

John Gallagher, superintendent of Race Brook Country Club in Orange, Conn., has begun experimenting with applications of PAR mixed in the tank with Embark or applied a few days after the application of Embark to mask the yellowing. He also uses more potassium sulfate to keep the turf green in colder weather without surges of growth.

“The biggest challenge I face regarding the suppression of seedheads is explaining to the golfing membership why the turf goes off color once the Embark takes effect,” Gallagher says. “I write articles to the membership and post photos and relevant magazine articles. I think I've been using Embark for so long that the membership doesn't

remember what it's like to play or putt on turf that's gone to seed.”

Another method to reduce the temporary yellowing is tank mixing Embark with Ferromec AC Liquid Iron, which contains nitrogen, iron and sulfur. When Ferromec is added, seedhead suppression has reportedly decreased by 10 to 15 percent.

For the past 15 years, Gallagher has pretty much followed the same routine to suppress seedheads. He applies Embark roughly the first week of April to greens, tees and fairways but in that application is also a fungicide for leaf spot prevention and liquid iron to keep the turf green. After about a week, he topdresses greens and lightly grooms over the next few weeks to help remove any seedheads that appear. He may verticut depending on the weather but he usually doesn't that early in the season. He also may apply Embark again if the weather gets unusually warm about three weeks after the initial application in order to stay seedhead-free. About 10 to 14 days after that, he begins his Primo and Cutlass season-long applications to greens, tees and fairways.

The issue to be wary about with verticutting is potential damage to the turf. Verticutting can eliminate some of the seedheads on a putting green after emergence, but this tactic doesn't prevent the formation of seedheads. The equipment must be properly adjusted to avoid damage to the turfgrass plants, and the mechanical removal of seedheads will need to continue until seedhead production ceases.

In Gallagher's region, timing PGR application is very tricky because in the Northeast, the weather doesn't cooperate a whole lot in April. He has found, however, that the timing isn't as critical with Embark.

Jim Ryerson, superintendent of Two Oaks North Golf Club in

Wautoma, Wis., agrees that timing can be a challenge.

“In Wisconsin, no spring is ever normal,” Ryerson says. “Last spring was very cold, very wet and very snowy. We verticut a couple of times, but couldn't topdress very often with the wet weather.”

Ryerson was sort of a stranger to seedhead suppression as he had never had to do much about it because it had never been much of an issue. But that all changed during the last two to three years. He first used Primo Maxx, verticutting and topdressing. Last spring, however, he used Embark and, after calculating the GGD (growing degree days), applied 30 ounces per acre on May 12. He then made an additional application three weeks later on June 6 and says it worked pretty well.

“I think you need to verticut and topdress along with applying PGRs as the plants are quite aggressive at that time,” he says.

Gallagher, however, says that PGRs alone seem to be his solution to seedhead suppression.

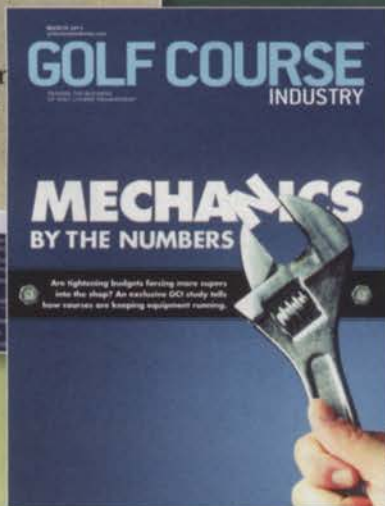
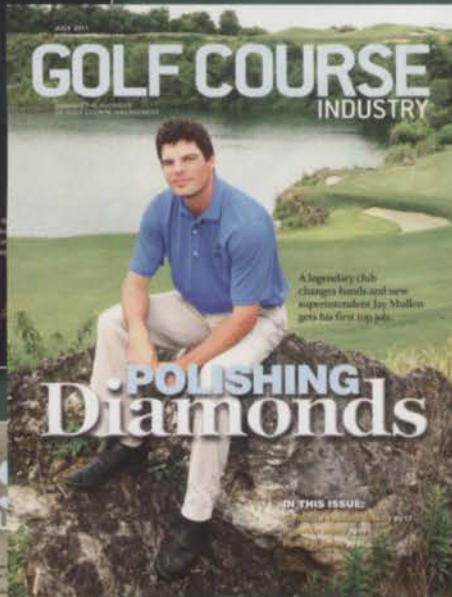
“I experimented with other PGRs for two years to test new theories and products, but found that success was too dependent on perfect timing and cooperative weather,” says Gallagher, who counts Embark, Trimmit, Primo and Cutlass in his PGR arsenal. “With the right one, however, it could be all you need.”

Gallagher had also cited cost as an issue at one time, but the cost of PGRs is now about half what it was a few years ago due to the active ingredient Trinexapacetyl, the main component of Primo Maxx, recently coming off patent.

To get the timing just right, superintendents are encouraged to seek advice from their local product representatives and extension agents to figure out application dates based on degree days, historical data and physical observation. **GCI**

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A SIMPLE 5-STEP PROCESS TO
SUPERCHARGE YOUR TO-DO LIST.

High achievers... go-getters... type-A personalities... Whatever you call them, one thing is certain: these people want to do it all, and they want to do it all... right now.

While having many lofty and simultaneous goals is a good thing, doing too many things at once can make you feel overwhelmed and stressed out. There just never seems to be enough time to make everything happen. But that doesn't stop high achievers. They are determined to make everything happen, even if doing so ruins their day and everyone else's in the process.

The answer to getting everything done isn't about doing less, especially since high achievers gain great happiness from getting many things accomplished. They're determined to do whatever it takes to meet their objectives. Rather, this is about having a system in place that can simplify the process of doing many things fast – one that will bring you progress as well as peace.

If you're ready to supercharge the completion of your to-do list without becoming overwhelmed or alienating others, the following five-step process will help you get it all done, with less stress and greater results.



by
**JOELLE
K. JAY**

“The answer to getting everything done isn't about doing less... this is about **having a system in place** that can simplify the process of doing many things fast – one that will bring you progress as well as peace.”

1

Make a mess

If you're like most high achievers, you likely have numerous sticky notes, lists, files, piles, papers and a host of other items spattered around your office, on your desk, and in your computer. Each one is meant to help you move forward to reaching your goals. However, as the piles and files grow, they become overwhelming -- no matter how neatly you may have them organized.

Therefore, begin by getting all of your ideas and notes in one place. Make a big pile of all the papers and items in the middle of your office floor or on your desk. Don't leave anything out.

Sort and purge

2

Now it's time to roll up your sleeves and start digging. Go through your pile of stuff and look at each item to determine what you should keep and what you can toss. For each item, ask yourself,

- Is this idea or information still important to me?
 - Can I retrieve this information from elsewhere should I ever need it?
 - Is this information duplicated somewhere else?
 - Will this information or idea help me reach one of my goals?
- As you decide which items to keep, put them in separate piles or files as they relate to a particular goal or task.

Organize your list

Look through all your "keep" papers and ideas to get clear on which goals are truly important to you and what steps you need to take. Put all your ideas and action items into

3

one organized list, preferably on one page. You don't have to painstakingly detail every action step at this point; the objective is to simply create one coherent to-do list rather than have multiple ones floating around your office.

Get going!

5

Now that all your ideas are organized, all you have to do is take action and tick off the tasks as they're completed. No more thinking, planning and organizing; it's already done. And most important, no more confusion of what to do when. Just look at the list, take the top task, and knock it out. What could be easier?

MISSION COMPLETE. This process works for a variety of scenarios, including special event planning, home and family goals, work and business projects, as well as long-range strategizing for professional and personal objectives. And while it's designed for high achievers who tend to have many high priority tasks going on at once, it works for anyone who simply wants to end the stress and chaos of having incomplete tasks hanging over their heads. By taking the time to complete this five-step process, you can finally meet all your goals and achieve the results you want. **6CI**

Rank the list in chronological order

4

Redo your list one more time, now paying special attention to the order in which you feel you should do things. At this point, you can also add more detail to your action items. In other words, you can list not only what to do, but also how to do it, who to call for help, which resources you may need, etc. You may feel as if you're wasting time here by going over the same tasks, but trying to rank your initial ideas in chronological order is difficult until you can see them all on paper at once.

Joelle K. Jay, Ph.D. (<http://joellekjay.com/>) is an executive coach specializing in leadership development and the author of *The Inner Edge: The 10 Practices of Personal Leadership*.



Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 41-year, life member of the GCSAA. He can be reached at 757-561-7777 or terrybuchen@earthlink.net.

Travels With Terry

Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in hand. He shares helpful ideas relating to maintenance equipment from the golf course superintendents he visits – as well as a few ideas of his own – with timely photos and captions that explore the changing world of golf course management.

FAIRWAY AERIFIER WEIGHTS

A trio at the Pine Lakes International Country Club, Myrtle Beach, S.C., constructed homemade wooden boxes filled with Quikrete concrete for use on this 2009 Agri Metal Fairway Aerifier (model #FA 720 TW) built-in weight trays for increased coring tine penetration. Initially, 110 pounds was used on each weight tray, but it was too heavy and the boxes were reduced in half in two different prototype sizes each holding 60 pounds, which is the perfect weight. The concrete boxes on each side are the measurement of choice at 24-inch-by-12-inch-by-3 7/8-inch and made of 3/8-inch-thick flakeboard plywood already in inventory. The finished six weight boxes use marine plywood for durability. The box weights are held in place using red-colored nylon straps with tow hooks. It took about four hours to build the weights, the materials were in inventory and it would have cost about \$1,200 to purchase the optional weight kits from the manufacturer/distributor. Alan Jarvis, golf course superintendent, TC Cook, head mechanic and Robert A. McLaughlin, assist mechanic, comprised this team.



BUNKER RAKE BLADE

An old homemade front-blade attachment on this 1984 Toro Sand Pro 14 bunker rake (model 0880-40485) got a little more build time at the Pine Lakes International Country Club, Myrtle Beach, S.C. The mechanic team modified it by adding two used tee mower bedknives along the top edge to further assist with pushing-up bunker sand after a heavy rain. The right side foot rest rusted out so two used greens mower bedknives were welded in place. A 3/4-inch-diameter rebar was bent and used to keep the operators left foot in place along with some wire mesh. The front wheel hydraulic hoses are protected with a foam rubber-type HVAC rapping secured with duct tape. It took about 40 minutes for the modifications and all of the materials were in stock. Alan Jarvis, golf course superintendent, TC Cook, head mechanic and Robert A. McLaughlin, assist mechanic, comprised this team.



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Supers and renovations

12 key roles a superintendent plays that are critical to a project's success... from an architect's perspective.

I've been involved with several renovations during my career as a golf course architect. Some included simple refinements while others involved every course component. Nonetheless, each project was unique with its own challenges and opportunities.

The superintendent's role, though, was the most important factor in the success of the renovation. Why is this role so important? For starters, the superintendent is intimately familiar with the course as well as its members or users. The superintendent is on the property every day and can monitor/manage the construction and keep things moving. The superintendent coordinates communication and is the lead contact person between the architect, golf course contractor and the ownership/membership.

From an architect's perspective, here is a list of responsibilities superintendents should manage during a renovation project.

By Chris Wilczynski

1 During the planning of the renovation project, assist the architect or owner with the selection of grass species, sod farm location, bunker sand, sand capping material, drainage and irrigation products, green and tee mixes and cart path material. The superintendent, with the assistance of the architect and industry experts, should specify all components of the construction project.

2 Prior to construction, delineate and mark all property boundaries and underground utilities. Having an understanding of what exists beneath the soil – whether public utilities, irrigation or drainage – is so important for the schedule and progress of the project.

3 Research and determine what local, county or state permits or approvals are needed to begin the renovation project. A meeting should be scheduled with the government officials to present the project and get their feedback for proceeding with the project. Renovation projects don't receive much government scrutiny, but the project delays that I have encountered were, for the most part, always centered on a delay in a permit or a surprise approval that was needed in the final hour. Plan your work, and work your plan.

4 Conduct a pre-construction meeting with the architect and contractor. Every person associated with the project needs to be on the same page. Who is responsible for what? What are the expectations? How will the billing and payment for construction services be handled? What about change orders? Delays?

5 Request a construction schedule from the contractor at the project's beginning. The construction schedule should highlight the beginning and end dates of all major renovation activities. The construction schedule should be managed on a weekly basis by the superintendent and architect. The construction progress and delays should be communicated to all parties associated with the project.

6 Be present for all meetings and site visits with the architect and owner. The superintendent should be on time and participate and remain attentive for the entire meeting, which includes turning off cell phones.



7 Take notes during all project meetings and architect and owner construction visits. Document all construction work with photos. The notes and photographs can be used to communicate with the owner or members and also document the entire process from start to finish.

8 Ensure the following items are available for use by the owner and golf course architect during the renovation construction site visits: golf course renovation plans and specifications, past site visit notes, a golf cart or maintenance vehicle, a paint gun with ample supply of highly-visible paint, pin flags, surveying tape, a probe for measuring gravel, sand and mix depths and a smart tool (or equal) digital level for measuring tee and green surface slopes.

9 Conduct weekly progress meetings with the contractor, architect and owner. These meetings should include reviewing and updating the construction schedule and the cost estimates. Discuss concerns, as well as any opportunities to improve the project.

10 Maintain regular communication with everyone involved, especially the owner and/or members. Prepare a weekly progress report for review. I have seen newsletters, blogs and even YouTube videos explaining what has happened and what to expect next during a renovation project. People in general are more accepting and agreeable to change if they understand what is happening and are part of the process.

11 Conduct monthly on-site tours of the construction renovation work. The tours should be open to anyone associated with the project. This allows all interested parties to see first-hand the progress. This goodwill gesture goes a long way in keeping everyone excited and anticipating the finished product.

12 Lastly, exercise patience. The renovation process is unpredictable and many factors affect the project's momentum and completion. Yes, there will be delays. The point is to be patient and have fun. Keep an open mind and allow for the unexpected. **GC**

Chris Wilczynski, ASGCA, is head of C.W. Golf Architecture in Ann Arbor, Mich.

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THE REPLACEMENTS

Facing a tight budget after a new renovation and an aging irrigation system, superintendent Don Pleger found a way to make the most of his water for the least impact on his funds: replacement sprinkler heads.

It's hard to beat the heat out at the Rio Verde Country Club right now. Recovering from a very cold winter with several days of frozen soil, the 210-acre, 36-hole course is missing many of its members, who mainly come in during the cooler months.

"Many of the members are snowbirds, which means we have about 30 percent of our membership at the club during the warm season when it's hot. And it's been hot lately," says Don Pleger, superintendent. "We hit about 116 last week. It's just been really hot with little rain. We get somewhere between seven and eight inches of rain a year, mostly in January and August, with the rest scattered through the year."

And if the weather doesn't make it tough enough to grow the fairway 328 and 419 or the TifDwarf Bermudagrass, he has to contend with soil that doesn't make him feel too welcome.

"We're at 1,593 feet above sea level. We're on the side of a mountain, so we don't have the best of soils. A lot of it is crushed granite," says Pleger. "We've got the fairways tilled up and added some sand to keep it loose. It's not bad but if we don't keep at it, it's always ready to go back to solid rock."

The soil doesn't hang on to water well, but even if it did, the quality of the water isn't going to help, either. It checks in at about 8.5 to 9 pH, with high levels of bicarbonates and salt. During the winter, Pleger makes up about 40 percent of his water budget with reclaimed water, but in the heat of the season, he has to work with the pH-heavy well water, and he has to use a lot of it.

"This time of year, we're using 600,000-700,000 gallons on each course each night. When it's 110 and you don't put it on heavy each night, you're not going to make it to the next night," he says.

And there's good reason to keep those greens strong. They're growing in to USGA standards after bringing them up a few years ago. As the economy slowed down, the members of the private facility dwindled. It was decided that now was the time to try to bring in some new members with a redesign of the course.

When replacing an irrigation system is too costly, replacement heads boost water efficiency by better distribution and adjustable arcs and ranges.



TOPO

"It was decided that it was a better idea to spend money more on the appearance and design of the course to try to attract new members," says Pleger. "We've gone down from 800 members to 465. So we would change the design and live with the irrigation system we've got now."

Working with his current irrigation system didn't really hold Pleger back, since the one thing the soil didn't do was wear down his pipe system.

"Because our ground doesn't tend to freeze as much out here, an irrigation system can last 20-30 years," he says. "It's the sprinkler heads that need updated as we go. We started changing them out about 2006. The renovation cost \$6.5 million. We didn't have the money to afford upgrading the total system or the entire course, so we're updating it in pieces. Three or four years ago, we redid the greens to USGA standards. The fairways are in good shape. We got a new pump station in 2010."

As the water wore down the sprinkler heads on his course, he planned to make a move – but it had to be a cheap move, given his budget was still growing in from the prior renovation.

"It was because of money. It took everything this club had to

do the renovation project," says Pleger. "We started working on each head. We deal with Toro and have Toro equipment, and along with the equipment, Toro just kept giving us good numbers. We get good service with them and have a good relationship with them. They've been a big help with this project."

In 1996, he ran with the 700 series Toro sprinkler heads. Now, he's upgrading to the new 835S and 855S series, which fit the internal body. The aging sprinkler system, with 3,531 heads throughout the two courses and driving range, could be changed more cheaply than a full replacement. The course has replaced heads throughout the last few years a few at a time, making the transition easier even in a tough economy.

But he didn't have to wait long to start seeing improvements around the course just from the new sprinkler heads. The first things to go were the rings of uneven distribution around the old heads.

"The newer heads have a better distribution pattern," he says. "We think we're getting better distribution from them. We seem to have eliminated most of the donuts with these."

The newer model also gave them better control over where the water was meant to go, a big perk for courses in close quarters with new development.

"They have a few more options with the nozzles, which is nice because houses line the course," he says. "Everything's set at 65 feet, but some of the houses are

closer, so we can change it. It's got more of a standard nozzle and it's easy to change.

"You can adjust the arc on them as well, from 17 to 23 degrees, which helps us because we're able to aim low to get under the trees on the course."

But the best new advantage for the changing course was simply being able to come full circle with the replacement heads.

"We're able to adjust the range from part to full. That saves us because we can use fewer sprinklers throughout the course and just adjust them as we need to," says Pleger. "If it's on the fairway it can go 360, and if it's on the edge of the fairway it can go 180 or 270. Now it's the same in any spot.

"It was just versatility of those heads, where we used to have to buy full and part sprinklers, we could just get one and have just

one kind on the cart and can use them in either place. By using newer heads, we're getting a better standard all around. Everyone seems to be happier with it."

And keeping things simple avoids one of the biggest problems for superintendents trying to save money by changing out heads, he says.

"The biggest mistake I've seen superintendents make is to keep experimenting with these products," says Pleger. "I don't have to have more than one kind of sprinkler out there. If they're going to change, they should pick a product and stick with it. It's simplified our inventory and repair jobs."

Pleger, however, isn't likely to bring another sprinkler in to this system for a while.

"We're really happy with the 835s," he says. "They're an easy sprinkler." GCI

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Improving water efficiency is nice, but the biggest benefit for Pledger is simplifying the variety of sprinklers on the course through versatility.



BY ALLYSON K. JACKS AND DANIEL A. CRISTOL

Survival of bluebirds on golf courses

Researchers at the College of William and Mary document the survival of eastern bluebirds fledged on and off golf courses to compare fledgling success rates.

Birds are particularly visible residents of golf courses, and few are more attention grabbing than the eastern bluebird. Eastern bluebirds prefer to nest and forage in areas at the intersection of forest and field. Golf courses, with their juxtaposed fairways and trees, are prime real estate for bluebird nests.

Bluebirds are secondary cavity nesters because they nest only in cavities that have been excavated first by another species. Historically, they nested in old woodpecker holes, but in the present day they nest successfully in artificial nest boxes. Many local bird clubs and golf course managers now provide nest boxes for bluebirds, which attracts them to golf courses in high numbers. However, it is unknown how successful bluebirds fledged on golf courses are at surviving to produce offspring of their own, and how the sur-

vival of golf course fledglings compares to non-golf sites.

FLEDGLING BIRDS. Early research on other species showed that fledglings die primarily due to two causes — predation and starvation. Predation is common among young birds because they are not yet proficient at flying and depend almost entirely on their parents for protection. As they get older and reach independence from their parents, the common cause of death is starvation because many do not have the experience to successfully find enough food to sustain them.

The habitat that a bird fledges into could affect its survival, as fledglings generally require complex vegetation structure to allow escape from predators. Because golf courses generally offer less dense vegetation, we wanted to test if there was a difference in fledgling survival



Top: A bluebird fledgling. Researcher Allyson Jackson tracks bluebirds.

rates between golf course and non-golf habitats.

We chose three local golf courses (all non-links style) and four non-golf sites (ranging from a college campus to a state park) typical of bluebird nesting habitat in the area around Williamsburg, Va. We determined

nesting success on each site by checking each nest box weekly to establish how many eggs were laid and how many babies survived to fledge.

We used small radio transmitters to track fledgling survival on golf courses in 2008 and 2009. After the birds fledged

naturally, we tracked survival of the birds for up to 40 days after they fledged by relocating them every other day. Every time a fledgling was found, we took a global positioning system (GPS) reading to record its location.

The transmitters also enabled us to document the cause of mortality in cases where a bird died before the end of the study.

CAUSES OF MORTALITY. We tracked 156 bluebird fledglings over the course of the study and documented 57 mortality events. Bluebird fledglings died primarily due to hawk predation, with a subset dying due to starvation or disease, snake predation, or window strikes (Figure 1). Hawk predation is a common cause of death for many species of songbirds.

Because bluebird fledglings are such weak flyers, it follows that they could be easy sources of prey for raptors such as red-shouldered hawks, redtailed hawks, and the most likely culprit, Cooper's hawks. Cooper's hawks are specialists at songbird predation and are raising their own nestlings at the time of year when we observed peak bluebird mortality.

The second most common cause of death was starvation or disease, where we recovered the body of the fledgling still intact and attached to the transmitter. This cause of mortality was more common for older fledglings after independence from their parents. We recorded six instances where fledglings were killed by snakes, either black rat snakes or black racers – both common in Virginia. There does not appear to be a difference in causes of mortality between golf course and reference sites, indicating that similar predators are found in both habitats.

SURVIVAL RATES ON GOLF AND REFERENCE SITES. We detected no difference between golf course and reference sites regarding survival to 40 days post-fledging, indicating that golf course fledglings did no worse than their reference counterparts. Both groups of fledglings averaged about 65 percent survival to 40 days post-fledging. Our golf course sites were surrounded by suitable habitat, however, so we cannot comment on what would happen on golf courses in more urban landscapes where the birds do not readily find habitat nearby.

When we looked at other factors that may affect survival, we found that there was a large difference between the early and late portions of the breeding season. Birds that fledged early (May and June) were more likely to die than birds that fledged later (July and August). This could be due to the decrease in hawk predation later in the season. In the late summer months when raptors are no longer feeding their young, we saw a decrease in the number of hawk-related mortalities.

We also found the habitat around the nest box was an important determinant of early survival. Immediately after fledging, most birds did not move far from their nests and were constrained to whatever habitat was nearby. Fledglings were more likely to be killed by hawks if they fledged from boxes surrounded by little or no forest cover. If cover was not found near the nest box, reaching safety required a longer and more dangerous journey. Birds that survived had more forest

cover around their nest box than those that were killed.

CONCLUSIONS. This study is the first to document that bluebird fledglings on golf courses do no worse than their reference counterparts, despite the potential threats of human disturbance, pesticides and intensive turf management.

Our data also provide for implementation of easy and sound conservation strategies for helping bluebirds on all heavily manicured sites – be it a golf course or a city park. By placing nest boxes in areas where there is sufficient forest cover with undergrowth, we can significantly improve survival of fledgling bluebirds during their most vulnerable early weeks of independence.

ACKNOWLEDGEMENTS. We would like to thank the golf course and park managers who allowed us extensive access to their sites. This project was funded by a National Fish and Wildlife Foundation Wildlife

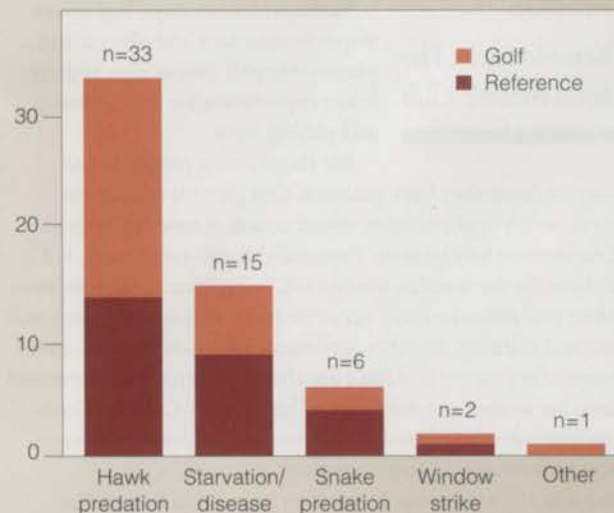
Links grant (funded by the USGA Turfgrass and Environmental Research Program). Supplemental funding was provided by the College of William and Mary Biology Department, the Association of Field Ornithologists E. Alexander Bergstrom Memorial Award, Sigma Xi Grants-in-Aid of Research grant, Coastal Virginia Wildlife Observatory Joy Archer Student Research Grant, Williamsburg Bird Club Student Research Grant, and W&M Arts and Sciences Graduate Research Grant. Field assistance was provided by J. P. Froneberger. **GCI**

Allyson K. Jackson, M.S., Bio-Diversity Research Institute, Gorham, Maine; and Daniel A. Cristol, Ph.D., professor of biology, Institute for Integrative Bird Behavior Studies, department of biology, The College of William and Mary, Williamsburg, Va.

ADDITIONAL REFERENCES
<http://usgatero.msu.edu/v10/n06.pdf>
http://www.usga.org/uploadedFiles/USGAHome/course_care/green_section_record/2009/nov_dec/bird_pesticide_exposure.pdf

This article first appeared in the June 21, 2011 edition of the Green Section Record.

FIGURE 1



(OUTSIDE THE ROPES continued from page 24)

tioned from 240 to 270 yards from the tees to 280 to 340 yards. Rees also deepened the bunkers for a difficult recovery effort.

- The additional depth required more drainage lines and catch basins for water diversion.
 - All the grass types have been changed as discussed.
 - Teeing grounds have been moved and re-positioned on slightly sharper angles to the landing zones.
 - The gallery space surrounding each teeing ground has been expanded to allow for better viewing and walking space.
- Off the golf course the following has occurred:
- Tree reduction and management for the new playing features as well as gallery movement.
 - Parking lots and hospitality areas moved and expanded. In addition, each is supplied with water, cable and power.
 - The practice teeing ground has been rebuilt.
 - The turf grass volunteers have been limited as we gave priority to those former maintenance staff members, assistants and interns. We wanted to make it a "homecoming" of sorts for those who gave their "sweat equity" and know the golf courses and grounds well.

Q: You have had an extended and great career in our industry. What words of wisdom would you pass along to those entering and looking forward to a similar run?

A: I like the word "extended!" For many people, golf has become bogged down due to the time factor. I would continue to look for ways to put the fun back into our great game. We are not all like Tiger Woods and many people who play take too much time trying to be that way.

I have seen the industry go from the over-the-top development which created golf courses which were too hard to play and certainly too hard to maintain. This is not the way to go about it.

"Cultivation depends on weather. The more we cultivate the better the turf responds."

— Ken Mangum, *The Atlanta Athletic Club*

When building courses, the goal should be to retain members, players and guests so they come back and play again tomorrow. If I built a course I would manage maintenance efforts by reducing vegetation, have fewer bunkers, wider fairways, less severe slopes to maintain and play on and a sustainable golf course with slightly lower expectation for conditioning and playing time.

For those young people in our profession I suggest they have patience. Our game is in a downward spiral, so job opportunities, construction of new facilities and upward movement will be slow. Eventually, it will come back, but it will take time. In the interim, study hard, learn from those who have gone before you and take every opportunity to advance your personal education and training, whether agronomically-gearred or not. Even at this stage of my career and life I am always looking to improve and strengthen my weaker non-turf related knowledge. Clubs are looking for individuals who are not only strong in turf grass but also in finance, communication, public relations and politics.

Finally, stay and act young. There is an expression here in the south, "the grits trees keep you young."

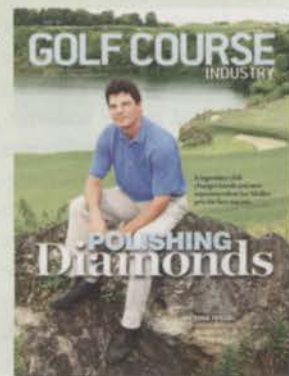
Are you listening, Ed Walsh? **GCI**

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Pat Jones is editorial director and publisher of Golf Course Industry. He can be reached at pjones@gje.net or 216-236-5854.

SCRAMBLING

I love the 4th of July. Yes, I'm a patriot and I adore my country. But the 4th also means family, relaxation and picnics. Mostly, for me, the 4th means blowing stuff up. Fireworks are the greatest invention ever. They bring out my inner 12-year-old like nothing else.

Last month, I was already looking forward to my annual trip to the fireworks stand (and the trip to the emergency room that inevitably follows) when I received a call asking me if I'd like to spend the 4th of July at the John Deere Classic.

Well, I guess I don't love fireworks that much. Goodbye roman candles, hello pro-am!

I've been to Deere & Company's big event before, but there was something special about being invited to the world's best 4th of July party by one of America's great companies. We golfed, we ate, we mingled and we schmoozed. The only thing I blew up was my score on a wicked par 4 on the back nine at TPC Deere Run, but that was fine by me.

Playing a Tour-ready course is always a great experience. Paul Grogan and his team (including his famed "Grunt Squad" of volunteers) had outdone themselves this year. The payback for six weeks of rain and cold temps this spring was an eye-poppingly green course, pristine fairways and absolutely true putting surfaces.

As cool as the Monday pro-am was, the Tuesday charity scramble at Davenport CC was even better. Why? First because I didn't have to stress out about a Tour pro laughing his ass off at my swing. And second, because I was put into one of the most interesting foursomes of my life. We scrambled on the course and scrambled with some of the questions facing our business.

I was paired with Deere golf chief

Gregg Breningmeyer, GCSAA president Bob Randquist and new CEO Rhett Evans. Given the perception I've occasionally been tough on GCSAA, I was a little concerned that this might be uncomfortable (or an elaborate scheme to bump me off and leave my body buried in a shallow grave in the Iowa countryside). But, it turned out to be one of the most enjoyable days I've had on the golf course.

I decided to ask each of these important guys the same question: What's your big priority at the moment? Here's a little about each man and how they responded.

He responded, essentially, that we as an industry have to try everything...

Breningmeyer is intense, focused and funny as hell. He's also a big thinker. His response to my question seemingly had little to do with selling shiny green equipment. Instead, he said "We have to grow the game. If more people don't play golf then none of what we do will matter." I agreed, but I didn't particularly buy into the institutional programs like Play Golf America or Get Golf Ready. He responded, essentially, that we as an industry have to try *everything* and Deere would support good ideas that would get the game healthy again.

Bob Randquist might be one of the nicest guys I've ever met. I have no idea why he wanted to be president of GCSAA. He has nothing to prove to anyone and the time commitment of board service has been risky business for some. I think Bob does it because he's quietly but intensely passionate about his profession. He said the topic right now is how to keep members in

the association during tough times. "Good members are struggling to find money for dues."

His comment was a quieter reflection of an earlier strong statement made by another attendee, Shawn Emerson of Desert Mountain Ranch, who made it clear that facilities can and should support superintendents and education way more than they do now. "Deere and the other companies give us tremendous support but clubs don't. It has to change."

I liked Rhett Evans from the get-go, but I like him even more after spending five hours on a hot, Iowa golf

course with him. He's calm, friendly and open. I suspect he's a consensus builder ala Steve Mona. I think he's a guy who listens to everyone equally, whether it's an eager young turf student from Portland or a cynical old magazine editor from Cleveland. Rhett said he's heard a lot of concern about the plight of assistant superintendents. "Jobs don't open often the way they used to and they're stuck in the middle."

Pretty astute for a "new guy." Already thinking about the next generation of members and leaders. And he's right to do it. I've written about it before, but I fear we'll lose a lot of good young people who simply find there's no room above them on the ladder.

We didn't scramble well enough to solve the industry's problems over a lovely 4th of July weekend, but I felt good that the leaders of our industry are thinking beyond the daily grind... and they're thinking about you. GCI

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