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courses to mow fairways as often.

Rolling of putting surfaces has eliminated the need for double cutting for many superintendents. The result is fewer machines and fewer hours on them. Financial constraints in the past five to seven years have had a huge impact on how we manage courses. Many practices we would like to use are done less frequently; count backlapping among them. Prioritization puts it farther down the list of things to do.

Sand topdressing as a cultural practice really took off in the 1970s, and despite the many different techniques superintendents use to move the sand down to around the plant crowns, dull mowers were always part of it. So was backlapping to get a sharp edge back. Jeff Thomas, veteran equipment



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www.rangecart.com (800) 706-1336 manager at Pine Hills CC, says if it wasn't for sand topdressing he could keep a sharp edge on today's greens mowers most of the season with careful adjustment and an occasional, light face grind.

My instinct tells me that various practices like grooming, brooming and brushing also move sand to the surface and shorten the life of a sharp edge. It is the sand that causes the dull edge that creates the need to bring it back to sharp.

Almost everyone I talked to about this topic agreed that backlapping is used less than in years past. On a recent trip to the Twin Cities I stopped in at the Toro headquarters to get a manufacturer's take on it. Scott Coffin, senior engineer of commercial products, pointed out that mower designers now use high-hardness materials – better steel for both reels and bedknives. "For some applications we are actually using tool steel because it holds an edge longer," Scott says. To me, that spells less backlapping.

Not many have seen as much turf equipment as David Legg. He came to the U.S. from England to introduce Ransomes turf equipment to North America, spent years working from Jacobsen's factory and now travels for a major Midwest Jake distributor. Legg echoes the significance of engineering improvements and adds that the sophistication and ease of on-board backlapping amplifies the notion we are backlapping less overall.

To Jeff Thomas' point, we can see design improvements in cutting units that make it easier to adjust the reel and bedknife clearance, whether it's light contact, 0.001-inch or 0.002-inch clearance. It takes less time, is more accurate and the units hold the adjustment better, resulting in a reduced need to backlap. Cliff Henning, the equipment manager at Kohler's Whistling Straits, says newer and inexperienced turf equipment techs tend to backlap more until they acquire the feel and art of reel and bedknife adjustment. Toro's Don Treu professes that "in a perfect world, there would be no backlapping." But he quickly adds that there is no perfect world in our turf universe, and the cost of engineering such a feature would be prohibitive.

Even the individual blades of a reel have been milled to give a built-in relief to the blade so the land area (which contacts the bedknife) doesn't get so wide, creating more friction and a shorter backlapping interval. Also, sometime notice how engineers have made it easier to remove a cutting unit from



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With advances in technology and materials, backlapping is taking up less time in the schedule for many crews. Not only has backlapping compound improved, high-hardness materials for reels and bedknives keep their edge longer.

### "Almost everyone I talked to about this topic agreed that backlapping is used less than in years past."

its carriage frame for backlapping when it is required.

Anyone my age can testify at length about the improvement of lapping compounds themselves and how they have shortened the time requirement to backlap a cutting unit. These improvements are often overlooked and minimized, although they shouldn't.

Whenever you talk about contemporary backlapping, the topic that cannot be avoided is spin grinding. There is a sense that many cutting units that in the past were backlapped to a sharp edge are now put in a spin grinder and actually sharpened to the leading edge. I was telling someone about my past envy of a course that could actually backlap greens mowers every day, and he said there are golf courses that now spin grind those mowers every day because it is so easy. In fact, Whistling Straits' Henning believes it is a safe bet that courses owning spin grinders do less backlapping simply because of the ease of spin grinding.

Foley United's vice president Jim Letourneau emphasizes, "backlapping as a grinding process is gone, but as a preventative process it is alive and well!" He adds that if a reel blade is worn and little relief remains, lapping is ineffective and time-consuming – it should take five minutes or so to backlap a cutting unit to a sharp edge. Any more than that should require a trip to the grinder.

Potentially, there are as many different ways to keep an edge on a cutting unit as there are golf courses. Some only spin grind, some only backlap and there is every combination in between. Toro's Don Treu has observed that backlapping is close to religion in some shops, and any more changes will come slowly. Letourneau attributes that, to some extent, to what he calls "training by tradition." It is natural for some equipment managers to instruct subordinates in methods and techniques that have been successful for years, which doesn't fully account for changes in technology. It is always hard to argue against a successful practice.

But in the final analysis, superintendents and their equipment managers figure out the best way to keep their cutting units sharp. Fortunately, they have both history and technology working to help make those decisions. **GCI** 

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## THE MARK OF A TRUE PROFESSIONAL

'm not sure if Golf Course Industry knows what they're getting into by giving me this column. For those of you that know me, I'm very opinionated, and it's usually not until you meet me for the third or fourth time that you come to accept or maybe even like that about me. In this and future columns, I plan to share with you my own thoughts on a range of topics from research to education to social media and other technology.

As I sit here trying to come up with the magical prose that will have everyone hooked on reading future articles, the only thing I can think about is "How do you write the words needed to describe a necessary moment of silence?"

You see, as a former student, a current faculty member and lifelong alum of Penn State, I am mourning the loss of arguably the greatest college football coach and mentor of all time. This morning (at the time I was writing this), Joe Paterno lost his battle with cancer. Looking back at his life from his first win to his 409th, it's incredible how things have changed during this period.

Thinking of the last hours of JoePa's life and the flurry of blog reports, tweets, misinformation and retractions spewing across cyberspace, I can't help to think how the world of communication has changed.

Most of you know that I am a huge fan of social media and think it has positively changed the way we communicate. The premature reporting of JoePa's death, however, was a prime example of the good and the bad that comes along with the inherent rapidfire sharing of information. In the past, we would have waited for the morning newspapers or the evening news to provide us with the facts. In 2012, we simply turn to Twitter where we get the play-by-play coverage. And while the "credible" news organizations race to be the first to report breaking news (and in the case of Joe Paterno's death, jumped the gun), it was JoePa's two sons that let us know that "Joe is continuing to fight." That's right, a tweet by @JayPaterno and @ScottPaterno, presumably from their dad's bedside in the hospital, corrected erroneous reports of his death by CBS and others earlier in the evening. Those words were like music to the ears of every Penn State supporter and college football fan, if only for a few hours.

As we continue to figure out how to properly use social media, there's no doubt that it can be a powerful communication tool. Heck, even JoePa the main reason that working 80-plus hours per week has never felt like work for me.

The fact remains that the current economy continues to make it more difficult for academics to grow their programs. Competitive research funding within turf has either never existed or has diminished in recent years. If it wasn't for the continued support from a few associations and the private industry, many programs would (and still may) dry up completely.

So is the future of the turfgrass industry all doom and gloom and sporadic bits of useless information transmitted via social media? I would say absolutely not. We still need to

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(who never had an email account) started Skyping with potential recruits towards the end of his career.

Now, just hours after JoePa's actual passing, I reminisce not only about the past but also about what the future has in store. Our industry has seen its fair share of downturn in the past decade. The days of booming construction, an abundance of jobs across all levels and longevity in a single position are long gone.

While I have come to accept the transient nature of the golf course maintenance industry, recent departures of prominent faculty from prestigious institutions have raised many questions about the state of academia as well.

Before anyone reads too much into this, I am very fortunate to hold a position that I love and think of more as a passion than a job. This is probably adapt, however, to the fact that it's not always about everyone having everything.

Life is not always fair. To advance in this economy, we will all have to work harder to make ourselves, our company, our golf club or even our university stand out.

Getting to the top is going to be competitive for the younger generation, and holding onto a job may prove challenging for others. In looking at the big picture though, this competition will be the driving force behind the advancement not only of individuals, but also the industry as a whole.

"You have to perform at a consistently higher level than others. That's the mark of a true professional." — Joseph Vincent Paterno (December21, 1926-January 22, 2012) GCI Crews install the replacement irrigation system on the 18th fairway at Overbrook Golf Club.

# SYSTEM UP

Now is the time to make those improvements to your irrigation system. by Rob Thomas

o overhaul or not to overhaul? That is the question many superintendents have asked themselves about their failing irrigation systems. Are they throwing good money after bad or will minor repairs correct issues and save money?

For Eric Richardson, superintendent at Essex County Club in Manchester, Mass., the decision was a no-brainer: a new system was needed.

Entering his sixth season at Essex County Club, Richardson inherited a traditional single-row irrigation system with impact heads. It was the first automated system the club had ever installed.

"There may not have been an issue that the old system did not

have, from faulty grounding, to a lack of pressure, poor pipe sizing, faulty pumps, faulty fittings (mostly galvanized), stuck heads, lack of coverage, etc.," he says. "The club was spending \$20,000 annually just to keep the system semi-operational.

"There were no improvements that could have made the system adequate," he adds. "It desperately needed a complete overhaul."

A triple-row system – with part circles on the perimeter and full circle heads down the middle – now graces the fairways. The part circles are used to water some of, but not all, the mowed rough, providing a sporadic pattern allowing the farther edges to fade out into the tall rough.

According to Richardson, the design gets really interesting around the greens. There is a total of seven acres of collar-height turf around the greens, with expansions to come. To meet the different watering needs, the system was designed with four watering segments around the greens – greens surfaces, collars, perimeter roughs and bunkers. Each green surface zone has around five valve in-head sprinklers (Toro 835S and 855S) while the other segments consist of multiple Hunter I-42s, Toro 590Gs and Toro 835Ss.

"This allowed us to effectively control every drop of water applied to the golf course and saved a large number of man hours by significantly decreasing the amount of hand watering we do on collars," he says.

The irrigation system at Overbrook Golf Club in Villanova, Pa., was not considered old (16 years), but was outdated and beginning to break down, according to superintendent Tom Gosselin.

"The real reasons for the replacement are the changes in the philosophy of water usage and the technical advances in the systems themselves," Gosselin says. "Our old system was standard for when it was installed

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#### IRRIGATION



Essex Country Club was spending more than \$20,000 annually to keep the irrigation system partially operational, says Richardson.

and it had adequate coverage. The glaring fault was that it was not very 'green' when it came to water usage."

Water usage is a major concern because Overbrook purchases a large portion of its water. Also, they were unable take advantage of many technical advances, being limited by the physical system in the ground.

To address its issues, Overbrook installed a Toro system equipped with Lynx software. "The real reasons for the replacement are the changes in the philosophy of water usage and the technical advances in the systems themselves."

- Tom Gosselin , Overbrook Golf Club

The new system is five rows through the fairways, ins and outs on the greens and has very good coverage in the rough.

"We adapted to the philosophy of more heads, less water," Gosselin says. "This system gives us the capability to target-water our specific needs without wasting water. It also allows us to give more consistent playing conditions to our members."

From a technical standpoint, the software breaks down a complex system to a simple and easy format so Gosselin's team can take advantage of its capabilities, he adds.

Brian Vinchesi, president of Irrigation Consulting, has seen control and sprinkler technology greatly expand in the last five years, alone. With options such as soil moisture sensors and pump station monitors, these innovations have made systems more interactive. There are programs on the Internet that allow superintendents to monitor irrigation and pump stations, which can be controlled from a smartphone or iPad.

As for improvements on the horizon...



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#### IRRIGATION

Though the repair savings are helpful, a course replaces a system to improve playing conditions.

"There are always improvements," Vinchesi says. "But with sprinklers, I'm not sure how much better they can get. They've gotten so good. When you think you've seen it all, something else comes out."

When discussing irrigation issues with superintendents, Vinchesi weighs the options between a total overhaul of the system versus specific improvements. Replacing worn fittings is expensive, so it may be cheaper to replace the entire system. Swapping out the controller, upgrading the pump station or replacing sprinklers are other possibilities.

"You can certainly look at improvements, but you've got to look at the long and short terms," he says. "Why spend a lot of money now if you're going to replace the system in five years?"



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Kevin Redfern, director of grounds at the Governor's Club in Chapel Hill, N.C., brought in Vinchesi to take a look at the current irrigation system and to work with him on what's needed in the future.

The main lines at the Governors Club are 20 years old and the epoxy-coated fittings have been depositing rust and debris, which leads to clogged heads. All the sprinkler heads were replaced in 2005, but something else is needed.

"At this point a total renovation would be the best," he says. "However, with the economy we have, large improvements are more visible for the near future. Infrastructure items are always the hardest sell for superintendents."

Considering system overhauls can easily be in the neighborhood of \$2 million, going to the board with a request cannot be an easy task. For Richardson, the process took years, starting with a call to Vinchesi for an evaluation. With his report in hand, the board was approached.

"Once they read and comprehended the evaluation, it was obvious the need for a new system was there," Richardson says. "This started a process of countless meetings and conversations that eventually lead to them approving the project."

It took three years of work before any construction took place on the property and it ended up being the largest project in the club's long history, which dates back to 1893.

Adding to some possible difficulties getting a new irrigation system approved is the fact that the money spent isn't likely to be recouped. According to Vinchesi, based solely on water savings, the return on investment is not there — courses should do it for improved playing conditions. If better conditions sell more rounds, memberships or associated real estate, then the cost-benefit becomes much