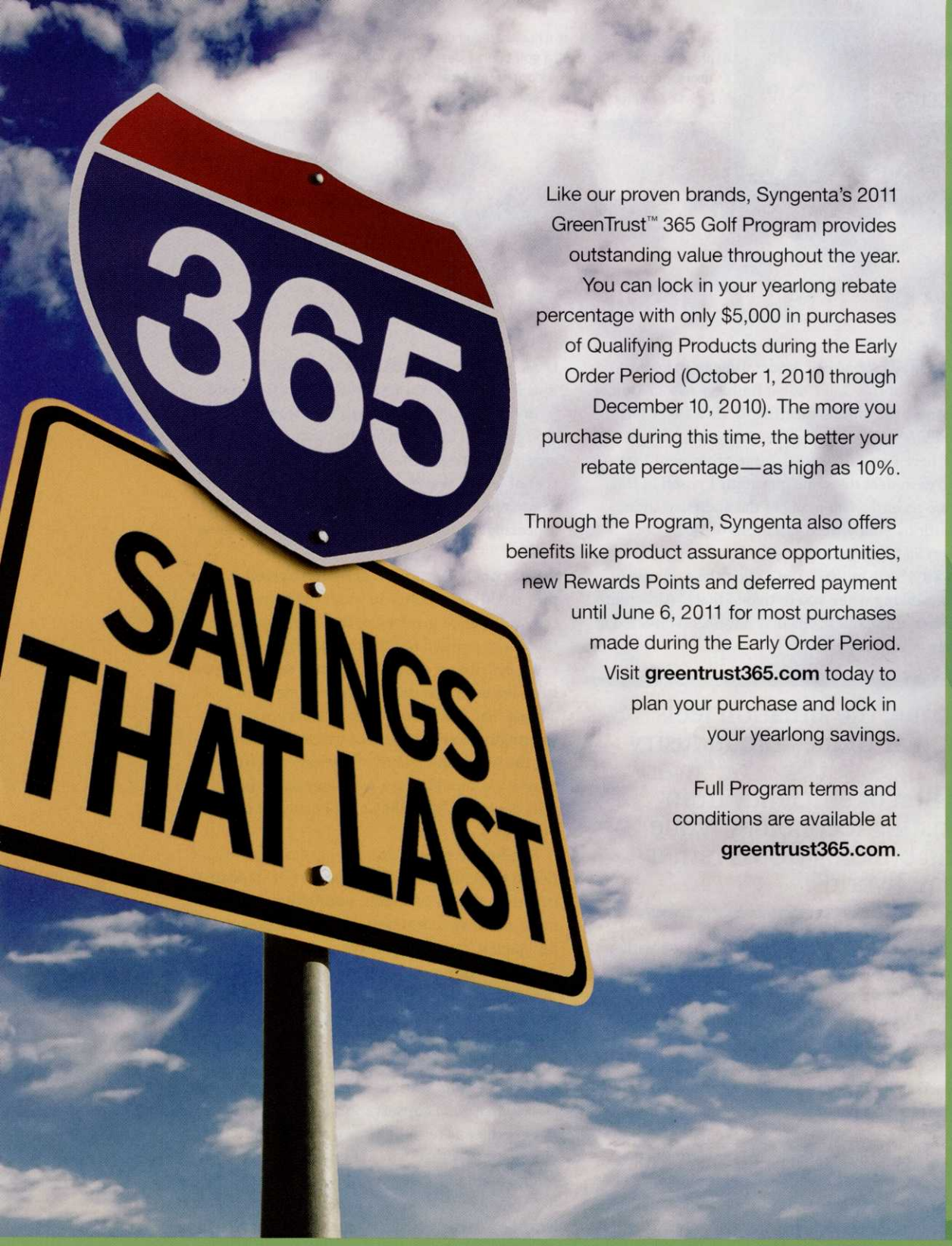

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BACK TO THE (IRRIGATION) FUTURE

I had the pleasure of moderating an irrigation panel at the Golf Course Builders Association of America's annual meeting in Milwaukee during the PGA tournament.

There I was able to ask some prominent irrigation designers the same questions I posed in this space recently, and many in the audience added questions. Many were variations of "Why does the @$##%*&@ irrigation system have to cost so @$##%*&@ much?" and "What the ##%- were you thinking when you designed that?" Although some of those questions may have been directed at some of my designs.

> To me, the situation feels similar to the auto industry trying to squeeze out every gallon of efficiency from existing technology while still building SUV's rather than hybrids.

I came away from that panel discussion with a good-news/bad-news opinion on the current state of industry water conservation efforts.

First, the bad news: Most irrigation designers are still primarily focused on providing the ability to irrigate to the maximum the turf might need – even in the worst conditions – rather than ask owners to accept some risk of browning a few times a year.

And now the good news: Manufacturers are continuing to push the envelope and provide new technology like better control, sprinklers and moisture sensors to help conserve water. To me, the situation feels similar to the auto industry trying to squeeze out every gallon of efficiency from existing technology while still building SUV's rather than hybrids.

However, there really isn't a "bad guy" to blame in the current state of affairs. The irrigation industry is simply responding to current needs until real change is forced by regulators. Irrigation designers and superintendents are providing what golfers inherently want – healthy green grass and a beautiful setting. We can't even blame the turf! Healthy grass is generally green, and trying to maintain "brown" is as unreasonable as trying to keep it too green.

In reality, golf courses aren't really striving for "too green." They are typically running cost benefit analysis on irrigation – balancing the incremental cost of "extra" water now against the potentially catastrophic costs of replacing turf periodically, especially in summers like 2010, and just playing it safe.

The panel of irrigation designers agreed that they could assist better in water conservation if they were moré involved in the design process. Jill Moore pointed out the cost saving fallacies of using distributor designs – she says saving an up-front fee usually results in higher long term costs, adding that, "Golf Course Architects are the key to bringing down the cost of irrigation, by reducing the width and length of fairways and irrigated rough. We should take a team approach since it all rolls down hill." (Ouch! Could I could be part of the problem?)

Bob Bryant made a compelling case for irrigation system programming to be part of standard irrigation design contracts, noting that programming a new system is best done by the person who designed it, rather than leaving it to the contractor, distributor or superintendent.

California-based irrigation consultant Mike Huck emailed me to say, "It's possible that million dollar systems encourage clubs to water more, so they can 'see their investment work.'" He also believes weather stations and daily ET replacement "sound like good conservation practices" but are as necessary as refilling your water glass after just one sip, rather than when it's nearly empty. Old school methods of determining irrigation need – like seeing footprints in the grass – inherently time irrigation to early stages of stress and encourage deep and infrequent watering. Most courses have survived droughts with less irrigation than they currently receive, so they can do it again.

We all agree that the industry needs improved focus on water conservation. For now, we seem to be in the "you first" mode. I have no doubt technology will lead the way, but the computer will never replace using good, old-fashioned superintendent's common sense.

Part of the solution will be to "look back" to the future. **GCI**

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Absolute Golf Equipment Auction

John Deere Eastern Region Golf Distributors have commissioned Weeks Farm Machinery Co. to liquidate over 300 used Golf Course Machines at an Absolute Auction on November 9 2010. This will be the largest Golf Equipment Auction this year.

The auction will occur at Weeks Farm Machinery location, 2186 Sylvester Road, Moultrie Ga. 31768.
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The Machines consist of John Deere, Toro, Jacobson, Cushman, Frontier, Ryan, Wiedenmann, Falcon, Lastec, SmithCo. T-Mag, Agri Metal and others. We have E Gators, Turf Gators, 4x2, Pro Gators, both walk behind and self propelled Greensmowers, Fairway Mowers, Rough Mowers, Sprayers, Trailers, Vacuum systems, Irrigation equipment, Core processors, Blowers, and mini trucks along with attachments to support these machines.

Visit our web site, www.weeksfarmmachinery.com to view the listings that will be updated daily for this important auction event. Financing can be provided through John Deere Credit by getting prior approved for the auction. Call 229 985 5048 to get you approved for financing.

If you cannot attend the auction in person, you can still purchase what you need through our On-Line auction bidding service provided by www.proxibid.com . Register and log in to view the machines for sale a week prior to sale day and bid to purchase on sale day Nov. 9 2010 to obtain the machines that you need for your operation.

We look forward to seeing you at the auction. For futher information please contact us:

Justin Weeks at 229 873 1309
or email justinwfm@yahoo.com

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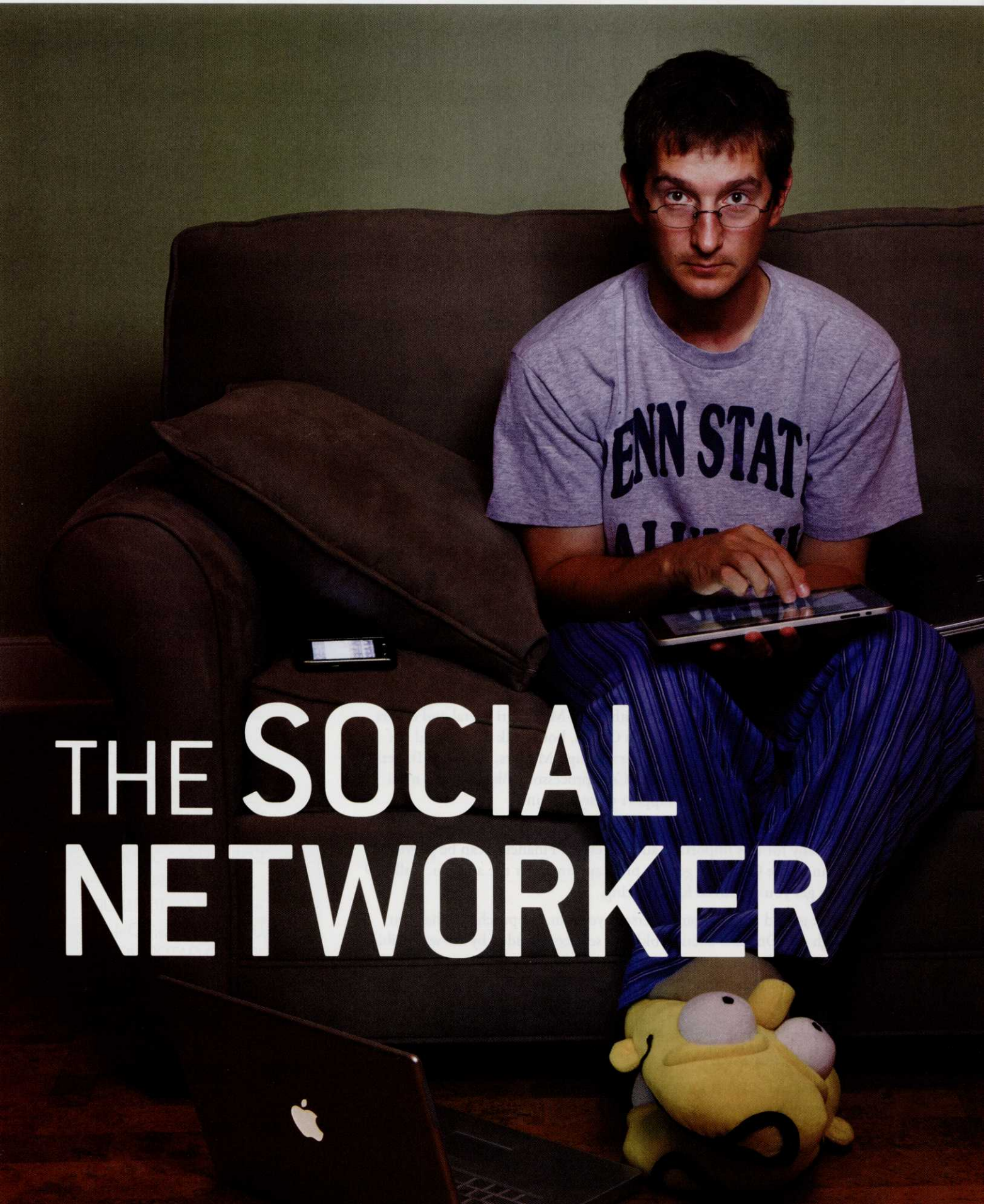

THE SOCIAL NETWORKER

DR. JOHN KAMINSKI IS TAKING TURF EDUCATION IN NEW DIRECTIONS WITH A DIGITAL FRENZY OF POSTS, TWEETS, BLOGS AND WHATEVER'S COMING DOWN THE SOCIAL MEDIA PIKE NEXT.

BY PAT JONES

We found Dr. John Kaminski wide awake and communicating turf topics to the masses.

WE can thank the miserable curse of insomnia for a breakthrough in the way we're all learning new things about turfgrass management these days "For years I would wake up at 2 a.m. and not be able to go back to sleep," says Dr. John Kaminski, "so I used the time to learn all this stuff."

The "stuff" he refers to is the nuts and bolts of the communications technology that's quickly starting to dominate life and learning for many in our industry. Web micro-sites, Facebook, Twitter, blogs and an endless stream of apps now allow one person with a compulsive need to communicate to reach around the globe. And, within our happy little golf/turf community, Kaminski is the unrivaled master of social media.

On paper, Kaminski is an assistant professor of turfgrass management at Penn State and director of the school's noted two-year golf course turfgrass management program. Like most, he teaches, he researches, he consults with courses and he organizes programs. But, what sets him apart from the many other talented, hardworking younger Ph.D.s out there is his commitment to using social media to share timely and useful turf information.

Turf Diseases, the blog he co-founded with four other plant pathologists around the nation, is arguably the most useful and visited science-driven site in the market. When the blog was linked to Facebook, it quickly attracted more than 1,000 superintendents and other turfheads who "liked" the site. By my unofficial research, that makes it easily the most popular turf-related site on the world's most popular social network.

A native of the suburban D.C. area, Kaminski took a circuitous path into both golf and agronomic science. "I missed the bus to school one day and my dad said he'd give me a ride. We drove right past the school, went to a golf shop, bought me some clubs and played. I played hookey, and I was hooked on golf."

He played competitively in high school and headed toward a career in architecture – specifically landscape architecture – with an eye toward becoming a golf course designer.

He had a family connection to Penn State, so in 1993 he headed off to State College to major in landscape contracting to get some hands-on education. There, he discovered the world of turf. In 1996, he did an internship at Desert Mountain in Scottsdale under Scott Krause and fell in love with the maintenance side. He returned to PSU, met with Dr. Tom Watschke and added turf management as a second major. The next year, he did his final internship with Paul R. Latshaw at Congressional CC the summer they hosted the U.S. Open. When Kaminski expressed an interest in grad school, Latshaw put him in touch with Dr. Pete Dernoeden at the University of Maryland and his career in academia was launched. "Pete put me through the ringer but I loved it so I stayed for both my MS and PhD."

Going through the ringer paid off. His work at Maryland earned him both a Watson Fellowship from GCSAA and the prestigious Musser Foundation Award of Excellence. He moved to the University of Connecticut as an assistant professor from 2005-2008 before the lure of Mount Nittany brought him back home to run the two-year program, continue his research and, in his spare time, reinvent the way information is shared among superintendents, scientists and the industry.

Do you ever question your choice to stay in the classroom and the lab instead of practicing what you preach?
Sometimes I do think about what it would be like to work on a golf course again. I get back to work at some of the (pro) tournaments. I stimped greens and such for the recent Women's Open and the Memorial – and I miss (being out there) to some degree, but I'm

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"For years I would **wake up at 2 a.m.** and not be able to go back to sleep so I used the time to learn all this stuff. I taught myself **video editing**, **html (code)**, etc. You don't really need to know that stuff now, but I feel like I know how to integrate everything because of that."

– Dr. John Kaminski

happy in the university setting. It fits me well. I probably work as many hours as many superintendents – maybe 70-100 hours a week – and that doesn't make for a good home life sometimes. But I enjoy what I do.

On the flip side, I see the big problems supers face and try to help out, but sometimes that makes me realize I'm glad that I'm not sweating out the weather or whatever other disaster awaits them.

Why Penn State?

I wasn't into turf when I applied... it was more of a family thing. My mom and sister went here so it was an easy choice. Kind of a lazy choice, come to think of it. But I did know they had a decent landscape architecture program. But it was five years and seemed like a lot of work. (*Laughs*)

I never seriously thought I'd end up here and in academia. I thought I'd get a master's degree and end up back in the industry, but six years later I was starting the turf pathology program at UConn. Now at Penn State, my focus is on preparing future golf course superintendents through the two-year program and expanding my research.

Tell us about your research.

My main focus has gone from a strictly turf pathology programs to overall golf course management. Most of it is on diseases on putting greens and fairways, *Poa* management, chemical and cultural. A lot of it comes back to *Poa*. We're in Pennsylvania... in Pittsburgh *Poa* is king and in Philly they want to get rid of it. We're also looking at different hot-button management practices – low nitrogen, high iron sulfates, PGRs... mainly practical, applied science. I still do a little basic research, but in the end I want my program to generate results that directly and immediately benefit the superintendent. I can't justify it otherwise. I have to be able to give them answers.

And teaching?

The two-year program is definitely different. I was a four-year guy and it's very different, but it's awesome. This program is not a place for them to grow up like my undergraduate years were for me. The students are great... they're focused and they're hard-working. Some of the things I've had a chance to do, like walking the course with students during their extended internship – we don't play golf or screw around – really help me to know them better. One of the things we're working on is a more formalized package for internships. It takes a lot of effort to run a good intern program from the super's standpoint, so it would be great if we could create some guidelines to make that simpler. We had hundreds of requests for interns last year and I'd often throw it back (at the super) to find out what was in it for the student. A lot of them do have good formalized programs, but not all of them. We try to handpick students for the right place. My students are only permitted to apply to two places and they nearly always get their first choice.

Spending a full six months on the course is attractive to the superintendent. Once they're done, they have a very formal internship report of 60 to 70 pages outlining the entire experience. It's a serious process.

A lot of people think interns are just grunts. Too many of them think the student's job should be to shut up and work hard. The goal of the superintendent should be to train and teach them. It's those extra things that the students remember. Going above and beyond a little is special.

What's your teaching style?

I'm kind of multidimensional in my learning so I apply that to what I do.

My philosophy is that you have to see it, hear it and write it down to know it. To me, if a student can do that they'll get the concept. I like to interact with the students. There's only 30 of them and I know them all within a week. I get to visit them during their internships and see them daily on campus. That makes it fun beyond the classroom. Because of that, I feel like I have a bigger impact.

I really stress communications. We've had a communications class for a long time, but there was a big deficiency in their abilities. So, we broke it up into written and oral communications. In writing, we constantly work on their skills, practice and give them legitimate feedback. I can actually go through all their work and give them that feedback because it's a small group. Pretty soon, they start critiquing and editing each other! They get it.

On oral communications, we stress a lot about remaining calm, being concise and not letting your emotions get involved. We do role playing and put them into stressful situations. For one of their big final projects, we bring in some top supers from all around and the students have to present a full renovation plan. The superintendents put the students into a real pressure situation, distract them, etc., and see how they handle it. It's essentially their first real board meeting.

How was your passion for social media born?

I fought it for a long time. I used to preach to students at UConn how Facebook could only hurt them, get them in trouble and the like. But, Andy McNitt (of PSU's sports turf program) posted a picture of me on there so I signed up and joined. All the sudden I was hooked. I couldn't get off of it. I sort of went over the top and then abandoned it for a while. As I came to Penn State, I realized I could integrate blogs and Facebook and Twitter.

I found that by integrating all of them I could make it useful and productive.

It's funny, I just gave a talk about this at Auburn and told them it came out of me being an insomniac. For years I would wake up at 2 a.m. and not be able to go back to sleep so I used the time to learn all this stuff. I taught myself video editing, html code, etc. You don't really need to know that stuff now, but I feel like I know how to integrate everything because of that.

How did you come to get the Turf Diseases blog going?

I was surfing a lot of YouTube channels and found one where five people posted vlogs about their lives – each did one a particular day of the week – and thought it would be cool to do it for turf and regionalize it. I recruited four other plant pathologists and launched it last year, but we decided to take it slow. But this year it definitely took off. We got great feedback and a lot of press. That gave me motivation to do other stuff. A lot of people follow me on Twitter, but I always warn them I don't just talk about turf. Some posts are about photography, travel, Penn State football or whatever personal stuff. It's fun, but for the "official" turf and university stuff, it's a great way to get info out in a fast way.

Why did it take off?

When I was staying up all those insomniac nights, I learned how to create shortcuts between the different platforms and automate it so everything comes at once in a bunch of places. That's one of the things I found most useful in terms of really making social media work. I can Tweet something and it automatically goes out to the blogs, Facebook and other places. Not everyone uses all the different (media), so I can give them the update in whatever format they do like.

A lot of times, even if it's a terrible summer like this year, they want to hear what others are going through and seeing in the field or what may be coming their way. The feedback has been awesome. Early in the season, we posted photos showing the extent of snow mold damage, early dollar spot reports, etc. It was amazing. But I have to say that when a new post hits the blog, I'm just as interested in reading it as any super. I'm constantly learning from the interaction. It's very cool.

I read a lot of superintendent's blogs and they put info on there that I'm surprised about. It's very honest stuff. But they're giving their golfers bad news fast... it helps to eliminate surprises. That's a big benefit.

How are the different platforms, well, different?

The Facebook page seems more accessible to people than the blog. But the blog is somehow perceived as more "official" than the Facebook page. Same information, but a different perception. It's fascinating.

On Twitter, I have about 920 followers but only 20 percent are turfheads. A lot are friends from outside the business or people who just share a common interest. I follow a lot of people who are associated with Penn State, golf, tour players, photography, etc., and some of them follow me back. It's also my news source. I get Tweets from CNN, ESPN and a bunch of other sites. It's been pretty useful.

Where will all of this be five years from now?

Most turf managers will be caught up to where the ground breakers are today. I think because they're outside so much and they're really stressed about Mother Nature and such, I feel like most are usually a little behind in terms of this kind of technology. There are still guys out there who don't even use e-mail. In five years, as the industry continues to get younger, they'll be an explosion in how they use it to communicate with members. Social media evolves on a daily or weekly basis. Who knows what the technology will be like, but we'll be using it.

What's the downside?

My concern with social media is that the communication style may become such the norm that you forget the formalities of grammar and spelling.

For a younger guy who's aspiring to a big job, that may not go over so well with a baby boomer who's interviewing you. You still have to have the formal communication skills to deliver information via new media and the common sense to know what's appropriate for the audience. When I had all the students set up a blog last year, they had to write eight articles – one on their internship, one on their local association, etc. When they started off, many of them wrote in a very informal and text-like style because they'd never had to write in a professional way. We broke it down for them and they started to get it. It takes practice, but you have to be a good communicator.

Which superintendent blogs do you like?

Well, not to blow smoke, but I start with the GCI blogroll on your website because they're organized so nicely. One thing for sure: the blog needs to be updated routinely or I'll just stop reading. You have to like Justin Ruiz's blog – he's obviously far ahead of the pack – but Bill Brown at Hartefeld National, who's a young energetic Penn State guy, also teaches me quite a bit about what's new. The other one that I like is iaTURF. There's a grad student who works with Nick Christians on that blog and it's very well done.

How has being the king of all social media in the turf business impacted you? Is their risk to it?

Well, I assume one of the reasons I'm talking to you right now is because of that, so that's not a bad thing. Am I overexposed? I try to filter a little bit and not be too obnoxious. But, if people don't like it they don't have to follow me. I don't let my personal life out there that much, but one of the reasons I read all these blogs is to get to know people personally. When supers start talking about how the difficulties they face affect them and their crews, that makes it interesting. I was really careful and kind of serious at the beginning, but when we started Turf Diseases we wanted to make it light and quick and funny. There are also times when you're talking about sensitive stuff and people might not agree. Controversy isn't always a good thing, but it gets people talking and that can result in good things.

What's the rest of the faculty think about it?

When I got on to Twitter I immediately found our College's Dean (@medflygenes) all over Twitter. He tells the story of what's going on with him from a business and personal perspective. He does a great job of telling our story and promoting the faculty. The college in general has really embraced it. All the social media outlets are listed on the college's homepage. There are something like 25 different people that tweet or blog, including our dean. If he's doing it, I can't get in too much hot water.

When this article is published, what scary high-tech things will you do with it?

I'll send it everywhere – with one push of the send key. That's the beauty of social networking. GCI

Pat Jones is GCI's publisher and executive editor.

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.

HDPE VERSUS PVC

High density polyethylene (HDPE) pipe has become a popular alternative to poly vinyl chloride (PVC) piping systems for golf course irrigation systems. However, many times, the decision of which type of pipe to use is not based on science or engineering but on trends or salesman recommendations. It is important to look at the technical aspects of the pipe (pressure rating and velocity) for each type of piping system and determine what piping material is best for your golf course. Both PVC and HDPE piping systems will work, but you need to look at the "apples-to-apples" comparison instead of the "apples-to-oranges" comparison that is commonly presented.

For golf course irrigation systems, PVC pipe is usually rated at 200 psi for both mainline and lateral piping. PVC is also available with a 160-psi pressure rating, but is rarely used anymore. HDPE piping also is available in 200-psi pressure ratings as well as a number of other pressure ratings including 125 psi and 160 PSI. Whereas PVC is always using the same resin (1120, 1220) HDPE piping is commonly available in several different resins (4710, 3408 and 3608). As the resin changes, so do the pressure ratings and characteristics of the pipe; therefore, when selecting the proper pressure rating you should also be aware of what resin is being provided. Piping standards require that the system's working pressure be no more than 78 percent of the rated pressure of the pipe. For 200-psi pipe this is 156 psi, and for 160-psi rated pipe this is 125 psi. This is not too much of a problem from a design standpoint unless you have a high-pressure system.

However, let's look at a comparison of the velocities. For example, if your system included a 4-inch pipe carrying 200 gpm (pretty common on a golf course) in a PVC Class-200 system (SDR 21) the velocity would be 4.92 fps. In an HDPE 200-psi (PE4710, DR11) pipe the velocity would be 6.18 fps. If the pipe was HDPE 160 psi (PE4710, DR13.5) the velocity would be 5.67 fps. If you ever had an irrigation class, you were taught that velocities should not exceed 5 fps. Some believe that up to 6 fps or more in HDPE is acceptable, however, the 5 fps limitation is backed up by standards (ASABE 372.6). So for an "apples-to-apples" comparison, good designs have HDPE piping systems with the pipe one size larger than the comparable PVC piping system. In most cases this will give the PVC system a significant price advantage.

> "Both PVC and HDPE piping systems will work, but you need to look at the "apples-to-apples" comparison instead of the "apples-to-oranges" comparison that is commonly presented."

When PVC fittings were first used on golf course irrigation systems, which occurred in the mid-1960s, it took about 15 years for the industry to find out that cyclic surges within the piping system were damaging the fittings over time, which resulted in the cracks in tees and elbows. You may have experienced this phenomenon. To avoid this situation, epoxy steel fittings became popular in the early 1980s, but they had their own set of problems so that is why ductile iron fittings are the standard for golf irrigation systems. At the same time, period the golf industry moved from using 160 PSI pipe to 200 PSI rated pipe. The learning curve for PVC pipe and fittings took about 30 years. HDPE pipe and fittings have yet to have a long-term track record with the impact of cyclic surges yet to be determined and as we all know the higher the velocity, the larger the surge pressures.

With the help of your designer, you need to consider many factors other than just pressure ratings when choosing piping material for your golf course. One type is not necessarily better than the other. However, when doing a direct cost comparison, make sure you are looking at an even comparison that includes features, pressure ratings and expected velocities. Both PVC and HDPE will work as long as they are correctly designed and installed. **GCI**