

which has had an incredible impact on decisions at high levels within chemical companies, has affected the availability and use patterns of pesticides, such as caps on active ingredients that can be sold.

The economic driver forces superintendents to figure out where they need to spend money, and putting greens are their first priority.

“We’ll see more superintendents — for economic reasons, their own environmental philosophies or other market drivers — figure out creative ways to use less product, which starts in the rough,” Boehm says. “They’re already experimenting.”

The water factor

Superintendents can’t apply fungicides without water, which is becoming more important particularly in the Southwest. Hence, the need for greater efficient water use, which can lead to plant stress, which can lead to disease.

But efficiency isn’t the only water-related issue impacting superintendents. A lot of effluent water is being directed for use on golf courses, and that can be a positive, especially in the West. But the problem with effluent use on golf courses, especially on the East Coast, is every time effluent water is used the turf is being fertilized.

“When you do that, you create an unknown situation that can cause susceptibility to pathogens,” Ruffy says. “We’re seeing higher disease pressure on bentgrass greens



Many people seem to have a general mistrust of science. That’s a shame because sound science should be the basis for making decisions.” BRUCE CLARKE

in the Southeast with effluent water use, which increases pest and insect pressures. It’s out of the control of superintendents and is potentially a big deal. Effluent water use can be a positive for the industry because it can play a role in sustainability. But if it’s not handled correctly, it can be a big problem for managing turf. It’s a mixed blessing.”

Greater precision

Amid the talk of environmental concerns regulating pesticide use, the opportuni-

ties to manipulate and tweak management practices to reduce disease severity are tremendous, Clarke says. Superintendents can reduce the need for fungicides to control disease via adjusting cultural practices, such as height of cut, rolling and topdressing.

“They all can help reduce the severity of the disease,” Clarke says. “The general axiom is if you maintain healthy turf, you’ll have less disease, but superintendents are asking for specifics.” (Visit www.turf.rutgers.edu for

more information about best management practices.)

Nonetheless, superintendents will need to work toward greater precision of pesticide applications, which will require a better identification of a problem, Ruffy says. It’s a similar move American farmers have had to make with precision agriculture.

“Superintendents will need to scout better to identify diseases early,” he says. “They’ll localize more applications and soil test more often.”

Price pressures will drive a lot of how superintendents change their approach to disease management, which is always tied to continuing education. Superintendents need to fine-tune their skills to stay current with pest infestations. They need to be more attentive, and skilled labor will be required, but not necessarily in terms of more people, Ruffy says.

Kinder, gentler products

Barrington foresees using fewer but more environmentally friendly fungicides in the future.

“I see chlorothalonil as a hot-button issue,” says Barrington, who uses minimum rates and doesn’t apply more than what’s needed. “We don’t use a lot of products on the hot list, but if chlorothalonil became more restricted, we’d use other products and more nitrogen in spots that are prone to dollar spot.”

Barrington recently
Continued on page 22

Continued from page 21

switched to a reduced-risk insecticide for cutworm and grub control. He applies it once for season-long control where in the past he used a different product three or four times a year. He says more environmentally friendly products like it will hit the market.

Biofungicides could play more of a role as the restrictions on synthetics become more intense. But if current fungicide restrictions remain as is, biofungicides will play a smaller role, Clarke says.

“Biofungicides need to be applied preventively,” he says. “But when disease pressure really picks up, they usually don’t work that well. Synthetics will still be needed.”

Barrington uses biofungicides in rotation with synthetics because he’s always looking at more effective and efficient ways to control pathogens.

Here today, gone tomorrow

Researchers aren’t sure if old diseases will go away in the future, but using the past 30 years as a guide, new disease will pop up.

Old diseases could become more severe and some less severe. Bentgrass dead spot, for example, is relatively new and came out of nowhere in the late 1990s with greens construction, Clarke says. Now it’s not a major problem. Brown ring patch has been around for a while, but has become more apparent of late.

Barrington isn’t sure

any disease will go away, citing dollar spot as one that’s been around forever. He says there’s talk of new strands of pythium in the New York-Connecticut area. Ultimately, he foresees new diseases making their way up the East Coast.

Out West and in other parts of the world, turf managers are planting creeping bentgrass, which is a water hog. As a result, they’re ending up with salt-water infusion because of water restrictions.

“We might end up with diseases we didn’t know about,” Boehm says. “Maybe we’ll see less dollar spot.”

Can you resist?

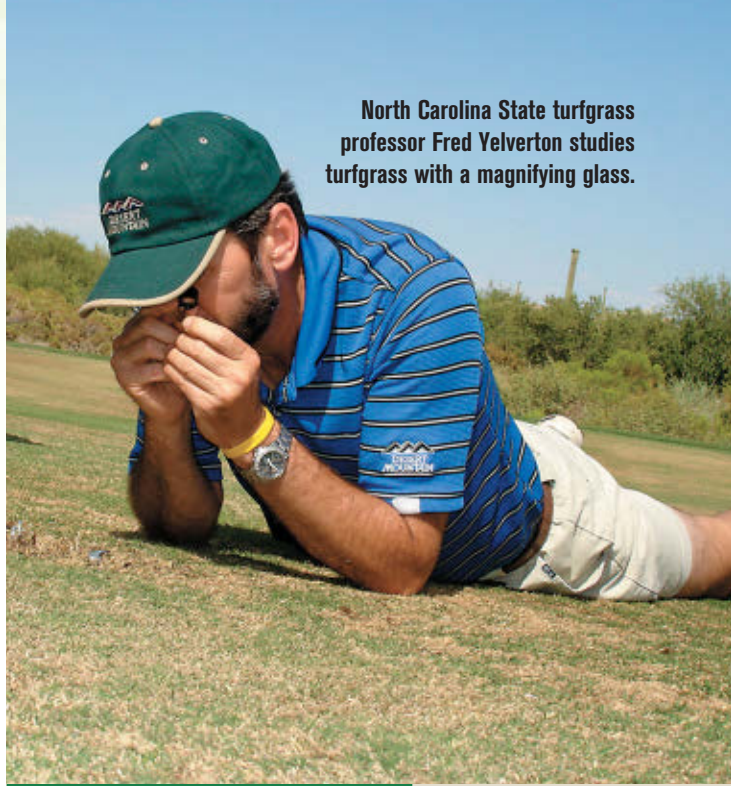
The biggest factor for superintendents in the future will be how to slow fungicide resistance because it’s becoming more costly to develop pesticides to combat disease.

“We might lose chemistry to regulation,” Clarke says. “If so, resistance will be more of an issue. That will make superintendents think more carefully about timing, rates, tank mixing and program development. Future turfgrass management programs and will require more finesse on the superintendent’s part. Continuing education will be critical.”

Some superintendents with tight budgets might have to adjust their programs by applying more nitrogen to the plant to combat some of the lower-end diseases, such as anthracnose, Barrington says.

Continued on page 24

North Carolina State turfgrass professor Fred Yelverton studies turfgrass with a magnifying glass.



LOOKING FOR SIGNS IN 2025

In 2025, turf disease management on golf courses may change, but some things will remain the same — like looking for signs of disease. In the book, “Integrated Pest Management: Identification and Management of Turfgrass Diseases,” the authors say some signs of turf disease are visible to the naked eye while others must be observed with a hand lens or a compound microscope. Examples of signs are:

- **Mycelium** — Mass of fungal vegetative growth often visible to the naked eye.
- **Hyphae** — Individual strands that are the vegetative growth of the fungus.
- **Bulbils** — Hardened masses of fungal tissue that aid in survival during unfavorable conditions.
- **Fruiting bodies** — Spore-bearing structures of the fungi, which are variable in size, shape and type of spores produced.
- **Spores** — Reproductive units, which give rise to new individuals, are generally too small to be of value to the turfgrass manager in disease diagnosis. Plant pathologists use the size, shape, color and other characteristics of spores to aid in disease identification.

About the source: The authors of “Integrated Pest Management: Identification and Management of Turfgrass Diseases” are Barb Corwin, Ned Tisserat and Brad Fresenburg. The book was published by the University of Missouri.



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Bryan Barrington believes that more environmentally friendly pesticides will be on the market soon.

Continued from page 22

“In 2025, diseases will be easier to combat because of the choices but different because the amount of fungicide allowed to be used will be less,” he says.

Boehm agrees that resistance will be a significant issue in the future. He says 50 percent of golf courses in Ohio are resistant to thiofanate-methyl, which came out 50 years ago.

“We’re going to have to be better at fungicide resistance,” he says. “It comes down to understanding the host (plant) and the pathogen (fungi) and how the fungi interacts with the plant. What are they doing when they’re not attacking the plant? Is the pesticide inhibiting the growth and development of

the fungi, or is it protecting the plant? We need to enhance our understanding of these complex interactions moving forward. The more knowledge available, the more strategic we can be.

“The bottom line is that no company will take chemistry and develop new products without an understanding of host/fungal relationship,” Boehm adds. “Otherwise, it’s a shot in the dark.”

Superintendents have relied so heavily on chemical management, they’re going through a transition now, Boehm says. From the 1920s to late 1960s, superintendents relied on cultural practices. Then chemistry came along. The diseases that have crept in the past 40 years are a result of superintendents

pushing the turf system, such as lowering the height of cut as low as possible.

“Superintendents are finding there are limits,” Boehm adds. “They’re back peddling because they can’t walk the razor’s edge anymore.”

Show me the money

Another big problem with disease management in the future is funding for basic research of turfgrass biology.

“If funding isn’t available, then university researchers can’t answer superintendents’ questions, and we’ll lose positions and be forced to work on other problems where there’s money,” Boehm says. “We need a funding source to work on the basics that lead to managing diseases.”

Researchers are starting to band together for certain projects. For example, there are 24 researchers from throughout the United States working collaboratively on a new USDA regional grant focusing on dollar spot. A similar approach was recently used to enhance understanding of anthracnose.

“We’ll go as a group to the manufacturing companies to ask them to fund the research,” Boehm says, adding that millions of dollars are needed for turfgrass-related research. “We’ll be accountable. We need to be strategic. This is the kind of change that will drive the future of research.” ■

Walsh, a contributing editor for Golfdom, is based in Cleveland.

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*Thanks to its employees and forward-thinking leaders,
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BY LARRY AYLWARD, EDITOR IN CHIEF

IT'S SUNDAY AFTERNOON, and Terry Schoppe is already thinking about going to work on Monday morning at the Standard Golf Co. But unlike millions of Americans, Schoppe, the product engineer for the golf course accessory manufacturer, isn't dreading the ring of Monday morning's working bell.

"I look forward to coming to work here," Schoppe says of Standard Golf.

This month, Cedar Falls, Iowa-based Standard Golf celebrates 100 years in business. With enthusiastic employees like Schoppe, it's no wonder the third-generation, family-owned company has been around for a century.

Schoppe is not the only one who enjoys working at Standard Golf. There's also Tom Brown, who has been getting up on Monday mornings and going to work at Standard Golf with a smile on his face for 38 years. And there's Larry "Red" Elliott, who has worked at Standard Golf for 28 years, and Matt Hurley, who has been there for almost 20 years.

"A good reason this company has been around 100 years is because people are happy to be here," says Hurley, Standard Golf's vice president and general manager.

Nobody knows that better than Peter E. Voorhees,



Standard Golf's president and CEO. Around the office, the approachable Voorhees is known as "Pete."

Voorhees is a quiet, unassuming fellow who doesn't get in the way of his employees. Even though his family has guided Standard Golf for 100 years, Voorhees realizes how vital employees have been to the business' success.

"A company's employees are the most important resource it has," Voorhees says.

Interestingly, some business experts say family-owned companies often suffer more than succeed under third-generation owners, who just don't have the same passion and wherewithal to run the companies their kin had before them.

"Pete's the third-generation owner — he's the one who should've spent all the money and driven the company into the ground," Hurley says. "Contrary to that, he has taken excellent care of the company."

Says Brown: "You hear it all the time — by the time the grandkids get the company, they're selling it off. Pete has helped this company grow."

Brown, the company's purchasing agent, says Standard Golf's product catalog has grown to 90 pages from 24 pages when he began at the company in 1972.

"We had record-growth years in the 1970s," Brown says.

“We went home at the end of the day dragging our tails, but it was a good feeling.”

Pat Ryan, Standard Golf’s traffic and export manager, says Voorhees saw an opportunity for the business to expand internationally about 15 years ago. Standard Golf’s products now sell on five other continents in addition to North America.

“Pete has pushed for growth,” Ryan says. “He’s very forward-looking. The 100-year anniversary is a major milestone. It’s a testament to Pete and his family.”

Oddly enough, Voorhees almost didn’t join the family business. He secured his law degree from the University of Iowa after graduating from Northern Iowa University and took a job in 1974 with the state attorney general’s office.

Voorhees hadn’t planned on joining the family business because his dad and uncle — Robert Voorhees and Maynard Voorhees — were planning to sell Standard Golf. But Robert and Maynard never received the offer they wanted. As it turned out, Robert bought Maynard’s share of the business in 1975.

At the time, Voorhees was considering other professional options, not wanting a career as a government worker. Robert offered his son the job of chief financial officer, not out of Pete’s realm, considering he majored in accounting as an undergraduate.

Eight years later, Robert stepped down as president and appointed Pete as his successor. Pete’s sister, Sara Gregory, was named vice president.

In the beginning

Walter Voorhees, Pete’s grandfather, founded the Standard Manufacturing Co. in 1910 and manufactured steel farm gates, ornamental gates and wagon tongues, which made sense because the company is in America’s heartland, where agriculture thrives.

As the years passed, Walter looked for ways to grow the company. He also joined the local park board, and, in 1921, the board announced it was building a nine-hole municipal golf course. That got Walter thinking. The agriculture business was up and down, and Walter thought the expanding golf course industry was an opportunity for business because no company offered a complete line of golf course accessories. Most courses made their own flags, pins and cups.

“There was a golf boom in the 1920s,” Pete says. “Although agriculture was still the major part of the business, my grandfather saw golf as a growing segment.”

Continued on page 28



Pete Voorhees stands next to portraits of his grandfather, Walter, and father, Robert, in his office. (Below) Employees Jim Nygren, Joan Christensen, Tom Brown and “Red” Elliott visit the company’s warehouse.



Staying Power

Continued from page 27

So Walter Voorhees added golf course equipment to Standard's product line in 1925. The company continued to manufacture agriculture products for farmers and began to manufacture accessories for golf courses. Standard grew steadily and introduced several new golf products.

In 1956, Walter retired and named his sons, Robert and Maynard, as the company's president and vice president. The brothers guided the business into the 1970s, and then made a huge decision that would change the company forever.

Because the agricultural business was shaky and very competitive, the Voorhees brothers began to rethink the company's direction.

"At that point they saw that golf was the more attractive option," Pete says. "So they made a strategic decision to concentrate more on golf."

Robert and Maynard sold the company's agriculture line and changed the company's name to Standard Golf Co.

"It was quite a departure," Pete says. "It was a big risk."

But it was excellent timing. The golf industry was undergoing another boom in the 1970s.

"There was a lot of construction going on and a lot of new interest," Pete says.

Legacy of innovation

Standard Golf has achieved many milestones in the golf accessory circle. For instance, it introduced the first hole cutter in 1938. It was also the first company to make a standard-sized cup. Here's some trivia: The cup's ferrule size is one-and-one-sixteenth of an inch wide and was originally made from the same-sized tube Standard Golf used to manufacture the steel farm gates.

"That became the standard size, which is unique to the United States," Pete says. "The ferrule size is different in Europe."

Golf has slumped the past few years, and the recession has affected Standard Golf's business, but not as bad as one might think. The company's business was off only 10 percent in 2009, and business was brisk in the first quarter of this year. While Pete Voorhees won't divulge Standard Golf's annual sales, he says business could be up 10 percent to 15 percent in 2010.

Voorhees says he's had several inquiries to sell the company, but he has no plans to do so. Like his father, Pete bought his sibling's share of the company several years ago.

Unlike other businesses, Standard Golf doesn't need a slew of new golf courses to keep its business going. It just needs its customer base of about 16,000 golf courses to keep replacing cups and flagsticks, Voorhees says.



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There isn't one product that dominates Standard Golf's business. What keeps the business moving are the products golf courses need to replace most often, such as flags, flagsticks and cups.

But the company doesn't stand pat and rely on the old standbys to pull it through. There's pressure to build better products, such as a new bunker rake with an improved design and handle. There's pressure to come up with new products.

"There's always something new that we're working on," Voorhees says. "Sometimes it's something completely new or a variation on an existing product."

Deeply planted roots

People in the industry often ask Voorhees why his company is based in Cedar Falls. The reason, of course, is because it started as an agriculture company. But Voorhees is not about to move Standard Golf to some golf-centric city in Florida or Arizona.

"We're here because my grandfather started this company here 100 years ago," he says.

Hurley, who grew up in Cedar Falls like many of the company's employees, says Standard Golf is a source of pride in the town. When people from Cedar Falls travel to other parts

Continued on page 30



Pete Voorhees (top) credits the employees for his company's success. Matt Hurley says the employees are his passion.

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Staying Power

Continued from page 29

of the world and play golf, they see the company's products on the course. And they'll tell anybody who'll listen, "The company who made that product is from Cedar Falls, Iowa, and that's where I'm from."

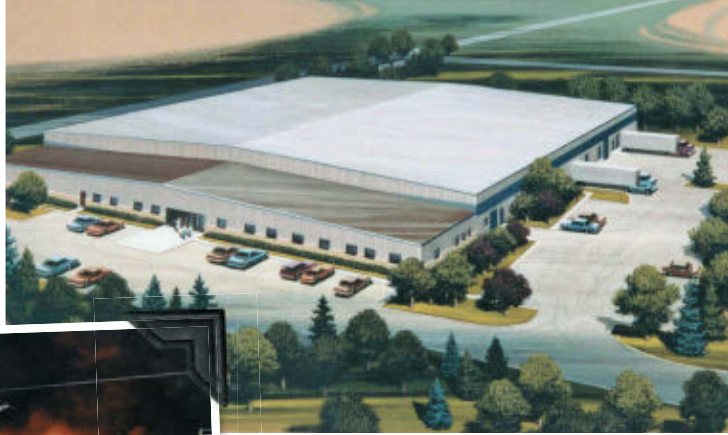
Standard Golf has had its challenges over the years. Some employees figured the company was finished after a fire destroyed one of its buildings in June 1992. The company lost most its inventory, but its manufacturing equipment was salvaged.

Voorhees made a quick decision to rebuild, which sent a message to employees the company wasn't going anywhere. A new 100,000-square-foot building was under construction shortly after the fire and opened less than six months later.

"It took awhile to build the inventory back up," Voorhees says. "But we were able to recover and get the business going quickly."

Another key to Standard Golf's success has been its employees' dedication to provide the best customer service possible.

"Companies don't last 100 years if they don't take care of their customers," Hurley says. "The customer is not always right, but the customer should feel as if he or she is always right."



(Left) A fire destroyed one of the company's buildings in 1992. (Top) But the company rebuilt its headquarters in another location shortly after the blaze.

Standard Golf aims to solve customers' problems, not just sell them product, Voorhees says.

"We listen to what the customer is asking for and try to be as responsive as we can," he says. "That's how small businesses like us continue to be effective."

An example: Standard Golf's customers complained about leaning and sticking flagsticks in cups, and Standard introduced the SMART-FIT Cup and Ferrule System to correct those problems.

Continued on page 32

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