Some might say it's human nature to be reactive rather than proactive. But a golf course superintendent being that way when it comes to slitting and venting greens is asking for trouble, says Michael Hileman, field and technical specialist at JRM Inc. Turf Technology.

"The solution to needle tining and non-disruptive aerification is to be proactive with it," says Hileman. "The guys we see have success open those greens up with core aerification in the spring and then repeat that in three-week intervals once the greens heal up."

The reason many superintendents tend to be reactive with micro aerification, says Hileman, is because of the fear of losing business due to unsightly greens. "Guys are hesitant to needle tine greens more because they're trying to keep golfers in the door," he says. "Word of mouth is that they have great greens, so they're worried that the little holes on the surface will destroy their reputation."

The main focus, Hileman says, tends to be how the turfgrass looks on the outside, but the fact is that the only way to achieve a pleasing aesthetic look is through healthy roots. "Roots grow because they're allowed to grow somewhere," says Hileman. "You can put nutrients in them on whatever program you follow, but they have to have somewhere to grow. So the more you stimulate roots early in the season in good growing weather, when the weather heats up, you'll have more underneath to protect yourself."

"There's a growth hormone in roots, and you want to get that hormone stimulated. One way to do that is to split the root, which is the same thing as pruning a red bud. The more and more you can work them, the more branching you'll have."

With the new technology out there, however, superintendents should fear not about pockmarking their pretty greens. There are machines now that allow superintendents to tighten up spacing from tine to tine, which allows them to put more holes per square foot.
Ultra Dwarf TAKEOVER

Ultra dwarf turfgrasses have been taking over bentgrass greens in the south for a variety of reasons, but one thing superintendents have to watch for is thatch build-up, which can be aggressive in these turfgrasses. That's why aerification is so important.

With the extended growing season of eight to 10 months in Central/South Florida, organic accumulation is a big concern, says John Foy, director of the USGA's Florida Region. Therefore, core aeration is a big part of keeping that accumulation at a manageable level.

"The standard program that the vast majority of clubs in our region will do is three core aerations during summer," says Foy. "We put it in terms of the total amount of surface area impacted by the aeration program. Based on what I've seen, the coring program needs to impact 20 to 25 percent of the total surface area through summer. So, depending on tine size and holes per square foot, you're looking at three corings at least."

Because superintendents in Central/South Florida are doing enough coring during the summer, a lot of them don't do venting. But Foy recommends it.

"We absolutely encourage and push to get people to do venting during the fall, winter and spring when they're not coring -- that is, every two to four weeks," says Foy. "Unlike coring, you can't work any sand back in with venting, so you only get about three weeks of benefit from it."

When ultra dwarf was first rolled out in the late 1990s, the recommendation was to minimize nitrogen due to its propensity to form thatch. But Bryan Unruh, professor and associate center director of the West Florida Research and Education Center at the University of Florida, says he believes that most people have determined that advice as faulty.

"[Ultra dwarf] is on the hungy side, so there's a fine balance between feeding it and not allowing it to get out of control from a thatch build-up standpoint," says Unruh.

One characteristic of ultra dwarf is that it tends to be very "stemmy," says Unruh. The definition of thatch is an intermingled layer of living and non-living stem tissue, but with ultra dwarf, there is more living than non-living stem tissue.

"Consequently, that build-up of thatch tends to accelerate, so that's why research has centered on not letting that thatch get ahead of you," Unruh says.

When ultra dwarf first came out, Unruh says there was a strong recommendation to vertidrain it, but he believes very few superintendents are doing that now due to the aggressiveness of the machine.

"You want to prevent thatch accumulation from the get-go as opposed to trying to remunerate the problem once it's there," he says.

As far as aerifying ultra dwarf, the practices are the same for any other kind of turf. Unruh says in Florida that amounts to four times per year, which is no different than the old tifdwarf. The only difference, he says, has been to increase the surface area that's impacted by punching more holes per unit area.

They can then aerify every three to four weeks and not worry about affecting ball roll.

Hileman is seeing this "proactive not reactive" philosophy starting to catch on with superintendents in the transition zone in the south, plus with anyone in the north who has bentgrass greens. He credits the big bentgrass loss a few years ago as one reason why guys are starting to get it.

"We go back to the same logic: I put a bag on your head, you won't be able to breathe. With turfgrass, it's the same concept," says Hileman. "It's a living, breathing life form down there that needs air. People are starting to see that if they get out there and disrupt [the roots] every three to four weeks, they'll be able to get through the heat and survive come summer."

Hileman feels the weird weather this year has been a double-edged sword when it comes to micro aerification. On the one hand, good weather promotes aerification. On the other, some superintendents think that if they get good weather in the spring and the greens look great and the nighttime temperatures are down, they can skip the aerification process.

"I go back to being proactive," says Hileman. "It is bound to heat up in summer, and if you have better growing weather for longer periods of time, that's more of a reason to take advantage of and go after those hormones active in the plant with quarter-inch needle tines and bayonet tines and cross tines that won't disrupt the roll of the ball."

If how many times he aerates is any indication, Joe Wachter seems like he understands the importance of this cultivation practice. Although the superintendent of Glen Echo Country Club in St. Louis, Mo., doesn't have a machine that will do any slicing or slitting, he employs a combination of hydrojetting and vertidraining with needle
Supers are trying to keep golfers in the door. Word of mouth is that they have great greens, so they're worried the little holes on the surface will destroy their reputation.

"If the holes do stay open, we explain what's going on to the members via our blog or an e-mail blast," says Wachter. "We have 80- to 100-year-old greens with no drainage, so if it's something we feel we need to do to help save the greens and keep them as healthy as possible, they're all for it."

If Wachter can't accomplish the task in one day, he tries to finish at least before the morning play comes around on Tuesday. However, he normally doesn't have a problem — with three hydrojet machines, his crews were recently able to cover 120,000 square feet and finish at 10 a.m. after starting at 5:30 a.m. They'll usually roll behind the machines to smooth everything down, then mow the next day. With the vertidrain unit, he has to be more careful due to it being slightly heavier.

"I generally won't mow till the second day after vertidraining because, in August, you don't want to scalp [the greens] after opening them up," says Wachter. "If the root structure isn't really strong, we'll give them an extra day of rest and members won't know any different."

Wachter generally opens up the greens every three to four weeks, stretching it further depending on if they're taking water or not.

He and his crews recently hydrojetted the greens on a 105-degree day with 15 percent humidity, and they took advantage of it and poured water on them with hoses because the greens were taking it. And, with the member-guest tournament three weeks away, the timing was perfect.

Two weeks after the tournament, Wachter will vertidrain because he can get 1½ to 2-inch spacing, but if the greens are too soft he'll favor hydrojetting even though it will mean eight to 10 hours of labor for his crew.

Jason Stahl is a Cleveland-based freelance writer and frequent GCI contributor.

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In 2005, I wrote about golf course tree planting, and it’s time to revisit both design – this month – and installation – next month – in time for the fall tree planting season.

While some golf courses are engaging in tree-reduction plans, in many cases, it’s because the course planted them in the wrong quantities and locations over the years, demonstrating the need for a good long-term tree and landscape plan. Some clubs add trees by committee, others use landscape architects, and while talented and well intentioned, landscape architects often know as little about locating golf course trees as the members.

Ideally, a golf course tree planting plan should be prepared by a golf course architect – many of whom are also landscape architects – who can consider all aspects to your tree planting master plan, including golf, golf course maintenance, and club politics.

Some general thoughts I have used in golf course tree planting over the years.

It’s a golf course. Strategy and playability trump landscape beauty. That small tree planted on the inside corner of the dogleg eventually blocks shots or narrows the play corridor. Only golf course architects know where trees aid safety, frame or block views and control traffic.

It’s not an arboretum. Turf health also trumps landscape beauty, making trees of secondary importance to shaded turf. I use light density, high branching trees (having once knocked myself off a gang mower by not noticing a low-hanging limb) and avoid trees with brittle limbs and short life spans – like Cottonwoods. The same goes for attractive, but high-maintenance trees, knowing how low trees are on the golf course maintenance totem pole.

It’s not an arboretum, but... While I usually avoid the highly flowered Augusta National look, sometimes, landscape accent is required. I strive to limit ornamentals to where they will get multiple views, while avoiding slow play and lost golf balls. I once took a non-golfing, summer intern to a meeting for experience. Ignoring my instructions to remain silent, he suggested planting low branching pines in play areas to cause lost golf balls, which was exactly opposite of what the public golf course owners wanted to hear!

It’s not a sod farm, either, but... The agronomic needs of golf turf takes precedence over trees, which must be located to provide early morning sunlight at tees, greens and high-traffic, cart-use areas.

Water conservation. Trees often require more irrigation than turf, so landscaping must fit in the context of your irrigation and water conservation plans. Landscape irrigation will move more to drip irrigation, which should force tree planting into tighter clusters. I favor this anyway, as the straight lines often planted on golf courses look artificial. In some areas, water quality affects tree foliage, also requiring drip irrigation.

I strive to limit ornamentals to where they will get multiple views, while avoiding slow play and lost golf balls.

Long-term effects. If done as part of a long-term master plan, I consider not only where the greens and tees are now, but also where they will be at the completion of the master plan.

Long-term effects, part II. A tree management plan allows for aging and dying trees. Maintaining a healthy tree community requires annual replacement of 2 to 3 percent of your trees.

Long-term thinking also reduces the emphasis on currently popular – but unproven – trees... think Dutch Elm disease. I have seen young, wet-behind-the-ears landscape architects ignore hard-learned lessons in using borderline hardy trees in tough climates. Old timers know extreme conditions killed off similar trees well before the “young pup landscape architects” were even born.

Club politics. Given the sensitivity towards tree issues at most courses, I find that golf course architects are more in tune with the course politics, and probably better at guiding the decisions through your political process.

In short, don’t forget your trees in long-term facility planning, and don’t forget that your golf course architect is probably the most conversant in how trees affect the golf experience.
Selectivity suppresses the growth of *Poa annua* to a greater degree than desirable perennial turfgrasses. Greater "regrowth" potential on bentgrass vs other growth regulators leading to faster conversion. *Poa annua* conversion with no disruption to the playability of the turfgrass. Improved turfgrass quality. Less impact on bentgrass and Kentucky bluegrass compared to paclobutrazol formulations.

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Industry insiders take a look at encouraging new products and whether they’re final solutions for Poa problems.

by John Torsiello

A weed is a plant we have not found a use for, says Robert Walker, professor of soils and agronomy at Auburn University. “There are a number of superintendents who have found a use for it and thus it is not a problem,” he says. “Most golfers have a mind-set of what a perfect turf is; uniform mono-stand with an excellent green color. Poa infestation is totally contrary to this mind-set; poor color, clumpy, disease susceptible, abundant flowers.” Hence, the ongoing efforts to eradicate Poa annua. The battle waged by superintendents against Poa goes back almost as long as there have been golf courses. Commonly found in both cool-season and warm-season regions where it attacks turfgrass, Poa is difficult to control and seems immune to almost everything the well-armed superintendent throws at it. Chemical and cultural techniques work to some degree, but the insidious plant seems to simply rebound despite what is done. Significant help may be on the way. According to Walker, Moghu Research Co. of South Korea has launched a new herbicide in that country for selective Poa control on bentgrass putting greens. It is a post-emergence-applied herbicide with some pre-emergence activity. It controls both perennial and annual biotypes of Poa. The common name of this herbicide is methiozolin.

“I first tested it in March 2009 at Auburn’s turfgrass research facility for Poa control in Crenshaw bentgrass and continue to evaluate it,” says Walker. “Methiozolin will be marketed in the US under the trade name PoaCure. My results with methiozolin for Poa control in bentgrass has been outstanding. Four to six applications at 0.5 lb ai/A has provided 95 to 100 percent control of perennial Poa on bentgrass greens, which have shown to have unbelievable tolerance to methiozolin. Drs. Shawn Askew at Virginia Tech and Jim Baird at University of California, Riverside, have obtained the same results with similar programs.”

Walker claims PoaCure will “revolutionize” Poa control on bentgrass putting greens. Additionally, Bermuda grass, zoysiagrass, Kentucky bluegrass and other turfs have displayed excellent tolerance to methiozolin.

“I have also demonstrated excellent control on Bermuda putting greens of ALS resistant Poa. Bentgrass is the current emphasis, but as ALS resistance increases it will become a valuable tool for warm-season grass managers.” Moghu Research’s goal is to have US labeling in 2015.

“This year I saw a putting green go from 20 percent bentgrass to about 50 to 60 percent bentgrass in a period of six weeks (six weekly applications),” says Aaron Hathaway, a researcher assistant at Michigan State University’s Hancock Turfgrass Research Center. “I never saw any bentgrass injury. I’m not sure about safety on other cool season turf grasses or warm season turf grasses just yet.”

Askew says methiozolin can be “a game changer,” adding, “It will be used on putting greens and other turf sites. Exciting things are happening with this compound across the country.”

Matt Shaffer, superintendent at Merion Golf Club in Ardmore, Pa., has been testing PoaCure and reports the product to be “amazing.” He adds, “It takes the Poa out very slowly. This way the putting surfaces aren’t compromised while the bent grass grows over the spots. I have used everything and done some pretty risky things to eliminate Poa. It wasn’t frustrating some of the time it was frustrating all the time. Some chemistries work well but they become less effective the longer you use them and the rates get so high it is cost prohibitive.”

Shaffer adds he hopes PoaCure ends up being a long-term solution for Poa control.

Askew also pointed to another product a potential valuable tool in a superintendent’s arsenal in the war against Poa annua.

“Xonerate (amicarbazone (Arytsta)) just hit the market. I don’t recommend it for greens but it is showing promise for green surrounds and fairways. Turf injury is weather and turf maturity dependent, but the product...
The cure for what ails you
works well on Poa. It is best to get familiar with it before large scale use.”

“Amicarbazone is a promising new postemergence herbicide that is labeled for use in cool and warm season turf,” Hathaway says. “Amicarbazone is similar to other Poa-control products, like Velocity, in that it must be applied many times during the growing season and works best as application intervals are minimized (supply at seven-day intervals).”

Dr. Fred Yelverton, professor of crop science at North Carolina State University, points to products on the market and in the pipeline that can offer "some" help with Poa. But as with any new product, or one that a superintendent does not have experience with, he recommends that a product be tested on a nursery green or a practice green prior to taking it onto the golf course.

“The biggest issue going forward is going to be does a superintendent actually want to kill the Poa annua. This may sound odd but in my view this is a more important question than what product to use. We are at the point (or will be very shortly) where we can take out Poa annua in bentgrass. But the question is...do you really want that? If someone has 20 to 30 percent Poa annua in bentgrass, then the decision is easier and is more likely to be 'yes.' But if you have 70 to 80 percent Poa annua, then the answer is more likely 'no.'”

As for enhanced cultural practices, Hathaway says Poa competes well in wet, compacted, and highly trafficked areas. Limiting nitrogen and water – especially in the heat of the summer – can give the advantage to other turfgrasses (bentgrass or Bermuda grass) as Poa does well in these situations.

“There is always an ebb and flow in the advantage of one turf species over Poa. Bentgrasses (especially certain cultivars, like Penncross), for example, out-competes Poa in high heat and dryer years, while Poa gains the upper hand in cooler weather and wet periods. The key is to hit Poa hard when it is vulnerable (Velocity works best in the hottest part of the year) and to minimize the rise of Poa in the cool weather of the spring and fall.”

Traffic can’t easily be limited, but superintendents can concentrate on certain things like making putting greens bigger and moving pin placements consistently.

Matthew Sousek, University of Nebraska, Lincoln, plant science research technologist, has several suggestions to control Poa annua through cultural practices. Superintendents may want to raise mowing heights; limit fall nitrogen applications; keep turf dry; aerify in summer when germination is not favorable; avoid any fungicides that control anthracnose or summer patch; and limit application phosphorus, which promotes rooting of young plants (Poa) and seed head production.

Walker opines, “It’s all about preventing the introduction of seeds and/or preventing seed production. Anyone who has played golf when there is dew is on the grass has surely noticed Poa seeds clinging to the heels and soles of their shoes. As players move from course to course there is always a potential of introducing seeds.”

In the South, seeds are probably introduced in Poa trivialis, bentgrass and perhaps perennial ryegrass seeds. Purchasing quality seeds is a good step towards prevention. The best seed prevention is to control Poa on fairways, roughs, surrounds and tees with a dense competitive turf and supplement this with effective herbicides.

Says Walker “Poa invades thin, weak turf readily. Herbicide choices are much better for all areas of the course than putting greens.”

Says Sousek, “For some it is feasible to reduce Poa annua with the products on the market today, although it comes with a cost every year to prevent it from coming back. When stands of Poa annua are greater than 30 to 40 percent it may be best to do a complete renovation of the green and or live with the Poa and manage it to keep it alive. As of now it is impossible to completely eradicate the problem, rather we have to manage it so that it stays at acceptable levels at less than five to 10 percent, depending on the course’s tolerance level.”

Theoretically, having a Poa-free golf course will reduce the number and intensity of pesticide applications, hand-watering and other labor intensive efforts. The savings are balanced by the cost of Poa control, which is often substantial.

In climates where ice cover is a concern, having large percentages of Poa on the golf course could mean unplayable conditions and reestablishment of the turf if ice cover is more than 40 to 45 days. A Poa-free golf course will also allow for drier conditions since other grasses have deeper root systems and can tolerate surface dryness better than Poa.

Poa annua may be around forever. But the very near future may hold some exciting prospects for its control, if not eradication, when and where desired. GCI

John Torsiello is a Torrington, Conn.-based freelance writer and a frequent GCI contributor.
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THE ART OF STRATEGY

Steve Johnston, my colleague and the founder of Global Golf Advisors, says this about the importance of strategic planning: “The lack of a strategic plan may not be as dangerous as not having fire insurance, but it’s certainly playing with fire.” Evidently, based on the turnout last month for my first Golf Course Industry webinar, a number of people in our business agree. For anyone unfamiliar with strategic and business plans, here are five key points.

1. A strategic plan is different from a business plan. Strategic plans are owned by the board of directors. Boards manage strategy; management implements tactics. A strategic plan evaluates market conditions and the wants and needs of members and customers to determine the club’s or the golf facility’s overall direction. A good strategic plan is succinct and outlines clear and actionable goals and objectives. A business plan is developed by the management team specifically to guide implementation of the strategic plan.

2. The strategic plan guides the business plan. What does the club plan to do? The answer to that question forms the essence of the strategic plan. Goals and objectives should be actionable and measurable and stated in simple, declarative sentences. Set timeframes, milestones and measurements so management can tie actions, resources and schedules to the successful achievement of the goals.

3. The business plan begins with the customer. Every business—even non-profit clubs—has a customer. Most businesses have multiple audiences and segments. The best business plans thoroughly identify and show a strong understanding of the customers the business targets. They gain this understanding from market research.

4. The marketing plan is part of the business plan. Develop the marketing plan by engaging your target audience in a process of discovery. Regardless of age or social station, most people are eager for new experiences and new friends. Show that your club or facility offers both. People who are interested in joining a club or being part of a golf or recreational lifestyle are most interested in the platform for socialization that is created at clubs. You should emphasize the social aspects and benefits of your club using social media and online communications vehicles, including Facebook, Twitter and Pinterest.

5. Align market wants and needs to operational priorities and tactics. Once thorough market research and careful marketing planning have been completed and reduced to key observations and critical action steps, align what the customer wants to what the club offers in programs and activities. Be efficient in telling the key audience segments about the club in terms of interest to each segment. Avoid jargon and clichés that emphasize the rules and history of the club. Those topics can sound dated and intimidating. Show the aspects of the club that are of interest to potentially incoming market segments.

Henry DeLozier is a principal in the Global Golf Advisors consultancy. DeLozier joined Global Golf Advisors in 2008 after nine years as the vice president of golf for Pulte Homes. He is a past president of the National Golf Course Owners Association’s board of directors and serves on the PGA of America’s Employers Advisory Council.