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OUTSIDE THE ROPES



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

WATER WORLD

S mart minds have been saying for years that "water is the new oil," and that water use already a critical issue to the future of golf—is only going to grow in importance. In an attempt to address the issue, the USGA, with the support of the GCSAA, held a "Water Summit" last fall, billing it as a factfinding and exploratory meeting and a chance for key stakeholders to meet and exchange ideas.

These organizations are hardly the first to worry about water. Peter Mc-Donough, golf course superintendent at The Keswick Club in Charlottesville, Va., has been at the forefront of water management for years. Working closely with various stakeholders in his state, he led a successful effort to get Virginia to adopt break-through procedures and protocols. Working on behalf of his local superintendents association, McDonough and his committee were able to create best practices manual, communicate with constituents, and gain recognition from the Virginia legislature and influence Chesapeake Bay legislation.

That's a great start. But if the other local associations don't start showing the same sort of initiative, water legislation will be forced on the golf industry whether we like it or not.

Before we do anything else, those of us fighting for our piece of the water pie must realize that golf is only one faction relying on this valuable resource. And not only is golf not the most important game in town, most people are less interested in giving us more water than they are curious to know what golf can do to help preserve and extend the limited amount of water we have.

Who are we competing with? Any profession involved in growing turf is dependent on water (landscapers, other sports, nurseries, etc.).



Before we do anything else, those of us fighting for our piece of the water pie must realize that golf is only one faction relying on this valuable resource.

Now consider agriculture, livestock, utilities, vineyards, and other heavy water consumers, to say nothing of real estate, car washes, and all kinds of manufacturing. Everyone needs water.

All the more reason that Mc-Donough is a good example for the rest of us to follow. I recently asked him for some tips in setting up water management strategies and best management practices. His suggestions started with one caution: Water management is not an overnight process but takes years to implement.

• Know and understand how those not in our business perceive golf and its use of water. Communication is vital to educating these parties about the conservation efforts already in place and that overwatering turf is as harmful as no water at all. People need to know when green is good, and not good.

• The keys to success are marketing and selling these conservation messages in concert with other associations in your region (PGA, state, and regional golf associations).

• Setting up regular meetings with allied associations is critical to arriving at consensus and, eventually, mutually beneficial strategy.

• Use allied associations as conduits to their members, who will are key to building a base of advocates and supporters.

• Your efforts must have a single message that is put forth as part of a unified front in approaching other stakeholders. If you don't work

together, the government will make decisions for you.

• Align with others who have needs for water by identifying and joining agribusiness associations or councils (wine, farm bureau, produce and poultry) in your state and region. A representative of the superintendent's association needs to be present and participatory. Golf must be on the same page as others with similar needs and must be part of the bigger picture. Try going it alone and its likely state government will leave golf out of major decision making and make an example of it.

• Don't criticize other entities' needs for water. Be part of a team and act collectively so everyone gets a fair share of the allocation. Golf has to be a good citizen and consider the overall needs of other industries.

• Do your homework illustrating the value of golf to the local, state, and regional economies through tourism, revenues, and real estate.

Farms and other agricultural entities are governed by stringent state and federal regulations. Golf usually doesn't answer to the same sort of strict guidelines. However, it's in golf's best interest to report water, pesticide, fertilizer, and chemical use to the proper authorities. Learn what these agencies want to know from you and work, carefully, to help them make educated and fair decisions.

But don't get involved with regulatory agencies unless you are armed with the most accurate information. States can and will estimate numbers if your facts aren't correct, and they'll make decisions not in your favor.

Success begins locally and moves up the line, eventually reaching the state and even the federal level. If you don't know how politics works in your area, hire someone who does know. In Virginia, McDonough's group works closely with a consultant who knows the ropes, is a lobbyist and could coordinate efforts with other agencies.

"Before I started down this path I wasn't aware of the different needs of other entities that have a stake in the water game, from car washes to construction," McDonough said. "I also learned the art and protocol of governmental procedure, extent of the involvement of government regulators, who are very different from legislators. Know how legislators make policy, and regulators implement and monitor the results of the decisions."

McDonough stressed that because golf can't exist without water, the industry must make a commitment to the long haul. Be patient and know that progress, especially in politics, takes time. But stick with it. Your decisions and participation can have significant effect on golf now and into the future.

But golf won't have a future without your help. **GCI**



PGRs are the Silly Putty of turf management... they fit just about anywhere on the course.

Nothin

TIO

With so many factors out of their control – weather and amount of play, to name a couple – superintendents are looking at plant growth regulators to take charge of their turf. According to Laurence Mudge Manager of Bayer's Green Solutions Team, plant growth regulators – or PGRs, as they're commonly referred to – are simply an organic compound, natural or synthetic, which when present or applied in small amounts, alter plant growth and development.

"PGRs are tools that can help golf course superintendents manipulate plant growth to maximize desirable turf characteristics and playing conditions," Mudge says. "Some of the desired changes in turf growth and development would include: growth reduction, increased density, recuperative potential, fewer clippings, decreased mowing, deeper roots, increased



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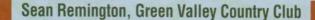
TURF MANAGEMENT

green speed, fewer seedheads and improved turf color."

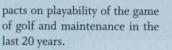
Mark Brotherton, SePRO Turf & Ornamental Product Manager, adds finer leaf texture, improved stress tolerance and *Poa annua* suppression, among other things, to reasons why plant growth regulators are popular.

"Consistent PGR applications made throughout the growing season help maintain a physiological balance in the plant, providing more predictable turfgrass growth and performance," Brotherton says.

Sean Remington, superintendent at Green Valley Country Club in Lafayette Hill, Pa., is a PGR proponent. "The biggest benefit overall is the manageability of the grass and improved playability for golfers," he says. "PGRs are one of the biggest im-



"PGRs are one of the biggest impacts on playability of the game of golf and maintenance in the last 20 years."



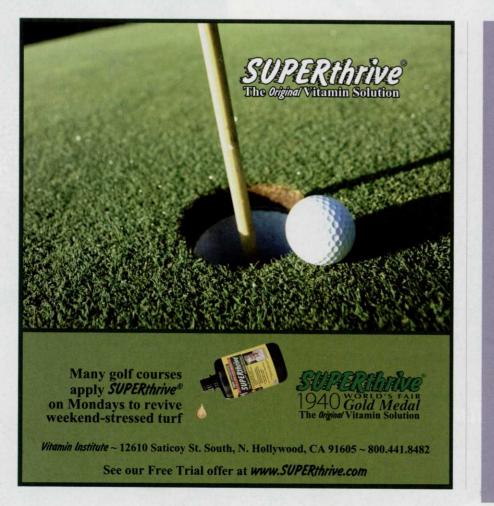
"In the 80s, if we had a stretch of 3-4 days of rain and couldn't get on the course to mow, we had to raise the height of cut and really work to get it back to where it was. Now, 3-4 days of rain doesn't scare you as much. You don't have as far to come back from," he addd. "It changed the whole game right there."

PGRs are used as part of an integrated disease management program to directly and indirect-

ly suppress turf diseases, Mudge says. For example, PGRs like Primo Maxx and Trimmit have been shown in university trials to control dollar spot.

"Other PGRs positively affect the turf plant, which results in improved plant health and greater tolerance to summer stress diseases like anthracnose," he says. "Annual bluegrass seedhead suppression with Proxy reduces the bumpiness on putting green surfaces, resulting in a truer ball roll, minimizes the presence of unsightly seedheads, and improves long-term plant health by reducing the energy plants use when producing seed. Primo Maxx can suppress vegetative growth, reducing the need for frequent mowing, along with making plants more compact, increasing plant density, and resulting in better playing surfaces.

"Both of these PGRs have been shown to reduce the impact of anthracnose on annual bluegrass and creeping bentgrass," Mudge adds. "Simply put, suppressing seedheads allows the plants to use more energy on vegetative



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PGRs are applied as part of a superintendent's normal agronomic program, most often as part of a foliar spray program. The equal distribution and uptake by plants is critical in achieving uniform results, thus foliar sprays are generally recommended over granular applications, Mudge says.

The "best time" to apply is a moving target.

"It depends on the PGR used and the desired effect," Mudge says. "Seedhead suppression with Proxy should be performed prior to seedhead formation; for plants like annual bluegrass or creeping bentgrass, it would be in late winter through spring, as coolseason turf begins to grow very actively. Many superintendents use growing-degree-day models from Michigan State University and Virginia Tech University to assist with proper timing.

"For warm-season turf such as Bermudagrass, seedheads can be suppressed during spring transition from dormancy," he added. "Growth-reducing PGRs can be used throughout the year on actively growing plants, but superintendents should be careful not to over-regulate growth during periods of stress or when growth is reduced by excess heat or cold temperatures."

Cale Bigelow, Ph. D., associate professor, agronomy – turfgrass science at Purdue University, admits nobody really knows what is best when it comes to utilizing PGRs during periods of stress, and solid arguments can be made on both sides.

"My bias is that less mower injury is probably better for the turf during late-summer stress," he says. "In recovery mode you are lightly feeding soluble nutrients and these, in turn, hopefully are pushing growth."

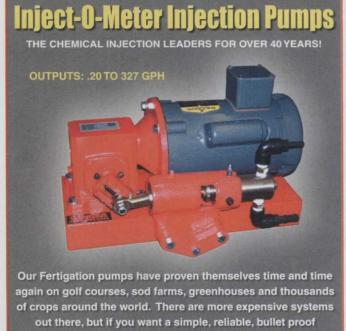
If turf is still under regulation, Bigelow says superintendents can alternate daily mowing and lightweight rolling for surface smoothness. Because of the potential of rapid regrowth as the PGR wears off, he generally recommends staying the course for a few more applications until summer temperatures moderate, thinking the benefits outweigh the potential risk.

Brotherton noted that applica-

tion frequency is driven by type of playing surface it is applied to.

"Putting green applications are made as often as weekly and spread out to as long as monthly," he says. "The most common frequency is every 1-2 weeks. Tee and fairway applications are made every 2-6 weeks, with 3-4 weeks being the most common. Turf maintained at a high mowing height would require lessfrequent applications."

As for speed of activity, Brotherton says foliarly absorbed PGRs begin regulating within 1-2 days, while root-absorbed products begin working within 2-4 days. The speed at which a PGR can be absorbed and translocated through the plant depends on several environmental factors as well as how physiologically active it is.



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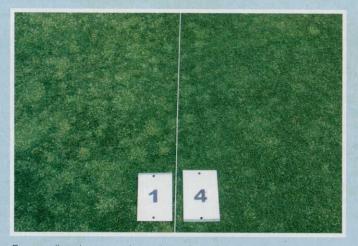
TURF MANAGEMENT

Frequency depends on the PGR used, Mudge says.

"Seedhead suppressors like Proxy and some others are typically applied 1-3 times in the winter-spring transition period during seedhead formation," he says. "Other growth-regulating PGRs can be applied monthly to weekly during the growing season. Typically, the more frequently these are applied, the lower the use rate to provide even, uniform plant growth regulation. Using high rates infrequently can result in more variable results.

We know the benefits, but what are the dangers?

"There is always the risk of over-regulation," Brotherton says. "Over-accelerating growth could cause the plant to literally grow itself to death, while overretarding growth could lead to



Poa seedhead suppression reduces bumpiness on greens.

turfgrass injury or decline."

Mudge stressed caution.

"PGRs affect plant growth, so superintendents should be careful when using them on weakened or stressed turf. PGRs work best on turf that is healthy and maintained with strong agronomic and IPM practices," he says. "I like to use the analogy that 'even the best medicine won't help a starving patient.' When used improperly, PGRs can weaken or damage turfgrass. "In addition, caution should be taken when using PGRs in conjunction with DMI (demethylation inhibitor) fungicides, which are very similar chemically, especially during high temperatures," he adds. "If you tank-mix the two, or even apply a DMI fungicide on PGR-treated turf, you run the risk of overregulating the turf, which can result in phytotoxicity. To reduce the risk of any issues, avoid applying to stressed turf or during high temperatures."

Jerry Corbett, technical service manager at Quali-Pro, warnsthat where you start in terms of turf health will have a lot to do with where you finish.

"The dangers would be jumping into a PGR program with a weak turfgrass base to begin with," Corbett says. "Promote the

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