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Jeffrey D. Brauer is a veteran golf course architect responsible for more than 50 new courses and more than 100 renovations. A member and past president of the American Society of Golf Course Architects, he is president of Jeffrey D. Brauer/GolfScapes in Arlington, Texas. Reach him at jeff@jeffreymbrauer.com.

TIMBER!

Successfully sell your members on the idea of tree removal.

You will be reading this in January, when many of you will be taking down your Christmas tree. You hate to do it, but you know you have to. Many superintendents have the same feeling with their golf course trees, with the added problem of convincing extremely reluctant members that it is necessary.

Tree removal is a trend that's here to stay, and this may make your job convincing members a little easier. At a renovation project interview years ago, club members said I shouldn't recommend removal of a large Cottonwood near their 4th green. That seemed reasonable, until I saw it. The tree was almost on the green edge, with its roots actually pushing through the turf. It was messy and blocked morning sun. When asked "Do you think you will save this tree?" I responded, "Sure, if you tell me where to stack the logs!"

I did not receive that commission, but members are more open to tree removal now after seeing many famous courses selectively remove trees and still maintain their character, difficulty and charm. At the current pace, it may take time to reverse five decades of overplanting. But, if the same greens committees responsible for the overplanting are now removing trees, we might be a nation of links courses very soon.

"Golf purists," perhaps rooted firmly in the nostalgia of an earlier time, think that can't happen too quickly, but most golfers still like tree-lined golf holes.

The discussion sometimes paints those old committees as clueless, when in fact, heavy planting helped make any course built in open fields

much more enjoyable. However, too many courses planted the wrong species for quick growth or cheap cost, in the wrong places (trees never naturally grow in straight lines), didn't consider eventual size, or forgot the second half of the old landscaping adage of "Plant thick, thin quick."

In stating the case for removal, removing trees for agronomy reasons should be a no-brainer. Trees and grass usually don't mix well. Trees near greens and tees with canopy over (and roots under), trees that block morning sun or air movement are all

tect will know that:

- Aesthetics can be improved by removing trees, by opening up long-distance views.
- Carefully located tree groups can serve several holes equally and minimize planting.
- Random clumps are more attractive than straight lines.
- This isn't an arboretum. Except for key areas, plantings needn't be showy and expensive.

Many courses are shocked when an arborist tells them many of their best-looking trees and mature trees

“When asked ‘Do you think you will save this tree?’ my response was, ‘Sure, if you tell me where to stack the logs!’”

problems solved by tree removal.

In addition, trees require more water resources than turf, which in some places is reason enough to make them candidates for removal.

Trees too close together to mow between are problems. Although tight clumps with mulch beds between are more natural and mowing production increases when mowing between every tree is reduced.

Objectionable species, including fast-growing, but weak-branched species like most maples, willow, and poplar, or messy trees like sycamores, are problems that are best removed.

Trees can impact play in bad ways, especially low-branched trees that hide balls and plantings that have unintentionally narrowed fairways or caused "forced draws and fades." These may be problems a golf course architect will identify.

As for aesthetics, your golf archi-

are diseased. Your aesthetics may be great now, but consider your trees in a 20-year time frame to maintain – and improve – that look.

Trees are important to most golf courses, defining doglegs, separating holes, and providing backdrop, filtered shade, strategy, penalty and character. They also cost money – both in direct maintenance and indirectly in golf course maintenance. In cost-conscious times, each tree needs to be functional, or multi-functional, while presenting few problems to be justifiable. Less definitely can be more.

Time can be your ally, and many trees should be eventually replaced, with better design, locations, and species. However, you can wait a few years to remove some weak or poor varieties of mature trees until newly planted trees mature enough to provide the same function. **GCI**

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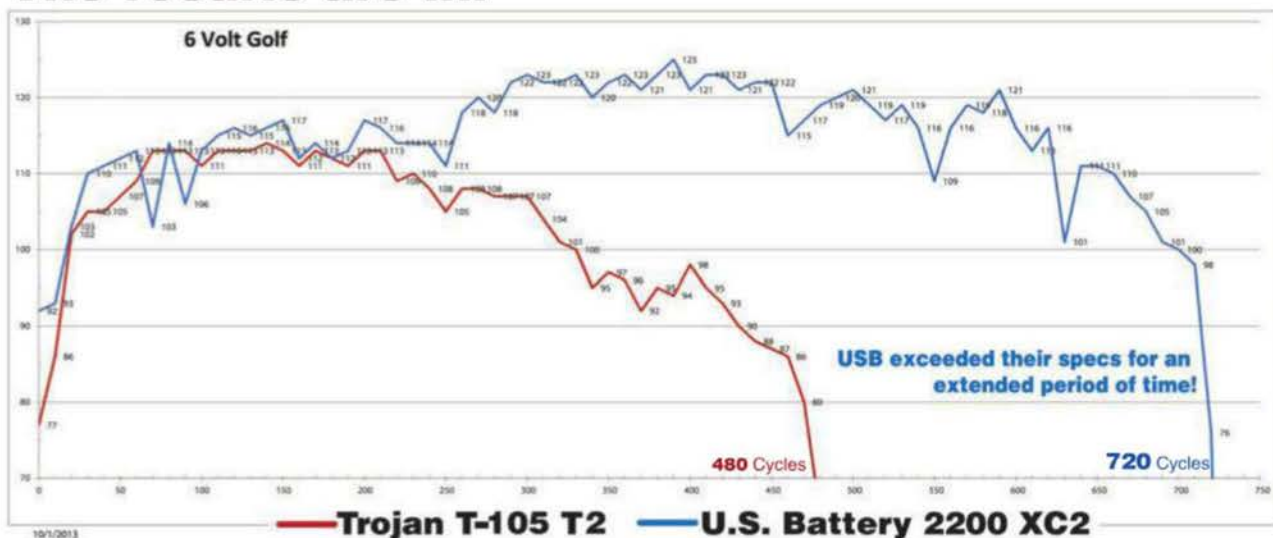
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Independent Test Results. Blind test from batteries taken directly off store shelf. Neither Trojan or U.S. Battery were involved in testing.

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Ryan Baldwin will never forget the summer of 2010. His course, Highland Golf and Country Club in Indianapolis, Ind., experienced a stretch of extreme heat and precipitation in June. More than 16 inches of rainfall accompanied temperatures in the upper 90s. The course was saturated beyond the point where most fungicides could be absorbed and utilized properly by the plant. Contact fungicides had difficulty adhering to tissue, and lasted a few days at best. But plant growth regulators (PGRs) came to the rescue.

"On the areas of the course we kept a relatively regular regime of PGR in the mix, the plant survival improvement was noticeable and dramatic," says Baldwin, CGCS/facilities maintenance director. "Once the rainfall stopped, we still had a long summer ahead with much-weakened plants; and the PGR-treated areas handled the remaining seasonal stresses."

Baldwin says his use of PGRs is multifaceted, with the primary role being to suppress top growth. This need is a season-long top priority to his selection and implementation of PGRs. Primo is his primary choice, and rates are adjusted along with windows of application, determined by factors such as weather, growth, fertility timing and member event schedules.

During specific times of the year, or under specific weather conditions, PGRs can take on secondary roles within Baldwin's program. For instance, Proxy is added to the mix on greens/tees during *Poa* seeding windows, and Primo is replaced briefly by Cutless on fairways during this same set of conditions. However, Primo is the primary PGR in play the vast majority of seasonal time.

Due to a severe DMI resistance to dollar spot, Baldwin relies heavily on contact fungicides such as chlorothalonil. To him, it's a logical assertion that by suppressing top growth and clipping production, the contact fungicide will remain at higher concentrations during the effective window.

"The combined plant health benefits and fungicide longevity have definitely improved my disease control," Baldwin says. "I can't say that my intervals have changed much since introduction of PGRs,

PGR ME



Superintendents believe plant growth regulators work with other applications to fend off disease; others see a more direct disease suppression benefit.

By Jason Stahl



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but there is no doubt the efficacy of the fungicide and the plant health provides much less breakthrough towards the end of each interval. I'm fully convinced their use is synergistic for the plants and the combined improvements in plant health and fungicide efficacy lead to a better, healthier surface for my members."

Bob Senseman, CGCS, from Oswego Lake County Club in Lake Oswego, Ore., uses PGRs combined with Proxy in the spring for seedhead suppression. By doing so, he says, he's making the plant stronger and hopes to suppress disease development.

In an interesting twist, Senseman says he and an increasing number of superintendents who use Primo on greens are starting to curtail that use till after June due to an increase in anthracnose. However, he admits that science doesn't support that PGRs actually stimulate anthracnose development – and Dr. Jim Murphy of Rutgers University's Department of Plant Biology & Pathology confirms that.

"A lot of superintendents were worried that Primo would be making the disease worse because that's the most common summertime plant growth regulator used, but we just didn't see that to be the case," says Murphy. "Our research led us to believe that superintendents are better off staying with their plant growth regulation program in summer."

Murphy and his team looked specifically at scenarios where superintendents had a lot of *Poa annua* on their greens and were trying to keep it alive and healthy. They did not look at Cutlass or Trimmit because those PGRs are generally used to get rid of *Poa annua*.

"Rarely did we see a negative effect or enhancing the disease," Murphy says. "We usually saw not much of an effect if at all, and when there was an effect, more often than it being negative, it was actually positive. But the positive aspect was not so strong that I'm confident superintendents should use it for that purpose and expect something out of it. When you looked at how many times we

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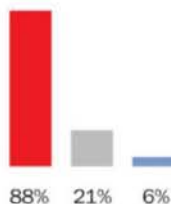


PGRs: Just the facts

29% Percentage of superintendents who indicated they found value in using PGRs for disease suppression.

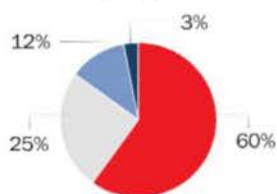
How do you use PGRs?

- Regular application schedule developed in advance
- Apply on an as-needed basis
- Spot usage



Where are PGRs used?

- Greens and fairways
- Greens only
- Greens, fairways and roughs
- Fairways only



SOURCE: GCI research

had a positive versus how many times we had a negative, the positive effects outweighed the negative effects by quite a lot.”

Murphy’s standard advice to superintendents when it comes to Primo and anthracnose is that they might see a positive impact on reducing the disease – but don’t count on it. Also, don’t be afraid to use it because there isn’t much of a negative effect at all.

“I would rather have the growth regulating effects you’re using that product for and not worry about any disease increase because it’s probably not going to happen,” he says.

When it comes to dollar spot control, Mark Brotherton, turf

and ornamental product manager with SePRO Corporation, says superintendents have told him of the side benefit of suppression of this disease when using Cutlass or Trimmit – most likely because both products were originally screened as DMI fungicides. Still, he admits it’s hit or miss.

“I would not be using a PGR as a substitute for a fungicide, not even to the point of complementing a fungicide,” says Brotherton. “While it may suppress dollar spot, it won’t stop it from appearing or affecting turf. But it will reduce the amount or severity of it. I would suspect the university folks would say the same thing.

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They're not curative by any means or even preventative – they're suppressive. It's not going to be whether you see it or don't see it, it's the magnitude at which you do see these outbreaks. You either have to have treated/untreated areas with PGRs or

treated/untreated areas with fungicides. Basically, you have to something to compare it to."

Gabe Menna of Centre Hills Golf Club in State College, Pa., is one superintendents who saw a reduction in dollar spot – specifi-

cally, 20 percent less in the plot where he applied Musketeer. He applied a mid-rate of Cutless, Legacy, Trimit and Musketeer on his nursery green (75 percent bentgrass, 25 percent *Poa annua*) every three weeks during a high-pressure dollar spot season. Menna wasn't even looking to suppress dollar spot, but found it was a side benefit.

"The main thing we were searching for was growth regulation since we have such little *Poa* in our fairways," says Menna. "We looked often and didn't see much difference in any category we were searching for. We had a rep in town and was showing him our testing plots on our fairway nursery, and he didn't notice much either but he pointed out that the dollar spot was less in the Musketeer. It still had dollar spot, but it had less than the other areas. We didn't take any pictures and didn't document anything or take any percentages of dollar spot at the time because it wasn't really what we were concerned with from our test. For me, it was really just seeing if there was any reason to switch from Trimit, which is working well for us for color and growth regulation."

Kyle Erdige of Timber Banks Golf Club in Baldwinsville, N.Y., also believes he gets an ancillary benefit of dollar spot suppression when using PGRs – again, Trimit, as it was originally formulated to be a DMI. But he admits his situation is a little different than other superintendents in that his bentgrass is somewhat resistant to dollar spot. "The varieties of bentgrass I have in my fairways are not 100 percent dollar spot resistant but have done very well in trials as far as not getting dollar spot compared to other bentgrasses on the market," he says.

The rate Erdige uses his PGRs is a little higher than what most superintendents use but still within the label recommendation. Still, he says he asked a couple researchers if he should be worried about DMI resistance, and they said no. "The rate I'm using isn't quite as high as a true regular fungicide DMI, so they said I shouldn't see any resistance from it, and I was glad to hear that," he says.

Erdige has been using PGRs to keep *Poa* from encroaching on the turf since 2010, and he plans on keeping with the program. **GCI**

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