

Foliar fertilizers as part of an integrated nutrition program help superintendents get through extreme dry and hot conditions.

*Feed with*

by Jason Stahl

# FOLIARS



**J**im Huntoon of Heritage Golf Club considers himself pretty lucky. When most superintendents were dealing with an unusually hot and dry summer, Huntoon experienced fairly normal conditions in Myrtle Beach with adequate rainfall and moderate temperatures. Even so, he never once considered varying from his foliar fertilizer program.

"I'm a big-time user," says Huntoon. "I use it year-round to keep my grass, and I have for a long time."

Huntoon likes to spray every five to seven days during the growing season and every 14 days during the dormant season to maintain color on his Bermudagrass since he doesn't overseed.

Even though Huntoon didn't believe the effects of last summer like most parts of the country, he wasn't able to escape the hurt in the summer of 2011. Being so close to the ocean, he has a lot of issues with water quality when it gets dry because a lot of the wells and rivers become brackish – which is what happened that summer. The result was lots of stress on his turfgrass.

"On my tees and greens, I was able

to use foliar products and also soil-applied products to help alleviate salts in the rootzone – something I couldn't do on the fairways because of the scale and how much it would cost," he says. "And you could tell the fairways struggled a lot more because of that."

The root system becomes highly ineffective in high-sodium conditions, and many times, the only way to get nutrients into Bermudagrass is through foliar feeding, Huntoon says. On the greens, for instance, he sprays liquid fertilizer and lightly waters it in to put it down by the crown or just below the surface of the grass where most of the roots are.

A regular fertilization program that includes foliar sets superintendents up well when a drought comes, Huntoon says. They allow for easier control of nitrogen input, cut down on mowing and improve turf quality, saving money and labor.

"What has worked for me throughout my career, whether you're talking about foliar, herbicides, fungicides or pesticides, is a consistent program," he says. "That always yields the best results."

With Heritage GC being a year-round destination, it's important for Huntoon to spray foliar on his greens to help withstand wear and tear when they're dormant, plus influence

a little growth and color – something he can't do with soil-based fertilizers when soil temperatures are low.

Doug Middleton of Ocean Organics/Lebanon feels that more and more superintendents are catching on to the foliar fertilizers' benefits. "I'm sort of struck by the fact that many people now already know about the need for these products," he says. "For those who don't, a drought is the kind of environmental condition that brings clarity to it. When you have stressful conditions that compromise root systems and you're worried about disease but you want to control growth by controlling input, then foliar is the perfect tool."

Middleton believes that, when faced with a drought like last summer, fewer superintendents were caught in "aha" moments because they were already approaching their nutrition programs with foliar in mind. But he admits the widespread nature of the excessively hot and dry conditions might have uncovered deficiencies in some superintendents' fertilizer programs.

"Guys who got their eyes opened were maybe the guys who weren't (using foliar)

## TURF MAINTENANCE

this year but looked around and noticed that people who seemed to be having more success were using them,” says Middleton, who saw the same phenomenon occur in the 1998 drought where superintendents were copying their colleagues who used foliar herbicides and survived the severe weather.

Middleton espouses a proactive approach when using foliar herbicides. “Nothing makes you think of your health more than when you’re sick. All of a sudden, you’re like, ‘Geez, I should have taken better care of myself,’” he says. “As a turf manager, your plan should be to do everything you can to get plants as healthy as you can going into a stressful situation. When you’re in trouble and it’s summer, your chances of getting nutrients in through the foliar herbicides are probably better than they are through

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## Foliar Herbicides

**A**lan Hess thought he had seen just about everything until the summer of 2011. The director of course management at Augusta Pines Golf Club in Houston, Texas, experienced the worst drought he had ever seen. President Obama declared Texas a disaster area, water restrictions proliferated throughout the state and more than one billion trees died. Add to that the fact that his course sits on the northern edge of Harris County in the Piney Woods, and as a consequence suffers higher-than-average weed and pest problems with its sandy soil, and the challenges Hess faced would have melted mere mortals. Fortunately, 2012 turned out to be a lot better.

“Myself and everyone else were apprehensive coming out of the spring because we thought the turf was going to be extremely weak going into the winter due to the stress of 2011,” says Hess. “The year 2011 had potentially set up 2012 to be horrendous back-to-back years. But fortunately the rains came through. We had some dry spells but they were broken up at least every three weeks with rain in Southeast Texas.”

Still, foliar herbicides helped Hess get through it all. One advantage is that it’s cheaper to apply than granular because Hess has his own equipment to do so and can pick the best time to lay it down. Also, he has the luxury of being able to tank-mix other materials in with it to “kill two birds with one stone.” Fairways are sprayed with foliar herbicides supplemented with iron, magnesium and small amounts of nitrogen.

“I save a huge amount of money by being able to spray foliar-wise every two to three weeks as opposed to throwing down granular,” Hess says.

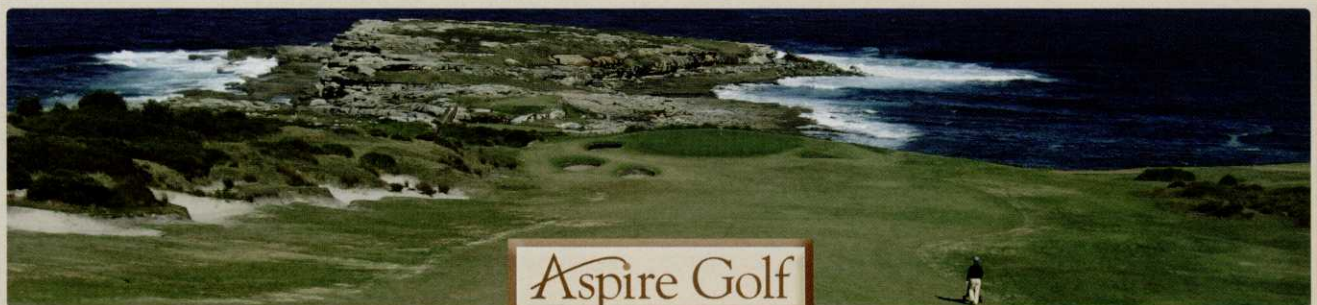
Jeff Michel, foliar herbicide product manager for Bayer CropScience, says three of the company’s products perform well under high temperatures: Revolver, Celsius and Tribute.

“These can be used under high temperatures, though obviously if you have severe stress and you can’t keep up with irrigation, then you need to take caution with even those,” says Michel.

Michel recommends to be proactive and have excellent turf quality prior to entering a stressful period – and have a preemergent herbicide down so that you don’t have to treat the turf when it is most stressed.

“Spring applications of preemergent foliar herbicides can prevent weeds and promote a dense turf canopy,” says Michel. “If you do have weeds emerge under stressful conditions, spot treat where necessary. Monitor the health of the turf prior to making the application. If you can’t make an application and the turf is under severe stress, then it’s better to hold off until that stress can be relieved.”

“Whether it’s weed, insect or disease control, all of these are better controlled preventatively rather than curatively,” Michel adds. “You typically use less product and get more effective control if you can prevent the problem versus trying to cure it. When weeds emerge or pests come in, you have to use higher rates and get more aggressive. In drought and heat, your ability to make those applications when you want to can be limited.”



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your horribly compromised root system.”

But by no means should foliar be a plan unto themselves. Rather, they should be used in conjunction with granulars as part of an integrated approach to nutrition. The obvious benefit is the maintaining of health and color without getting “flush” growth – something he says superintendents are more aware of now.

“One thing that has changed a lot in the 20 years I’ve been doing this is superintendents are much more conscious of managing growth and not creating flush growth when energy is the limiting factor,” he says.

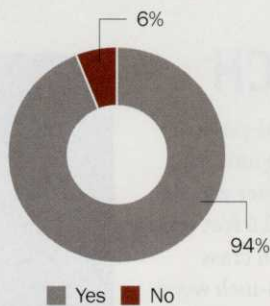
Under high-temperature, low-moisture conditions, plants suffer a decline in carbohydrates because they’re not producing energy through photosynthesis at the same rate they’re consuming energy through respirations. So the last thing you want to do is sap the plant’s energy by promoting growth.

Gary Grigg of Grigg Bros. saw a spike in Northeast and Midwest sales last summer, due to the hot and dry conditions. “It’s not just foliar either,” he says. “The phosphites have led the way in summer stress. We’ve known for 12 years phosphite products have an impact on summer stress, especially if you have them mixed in with foliar.”

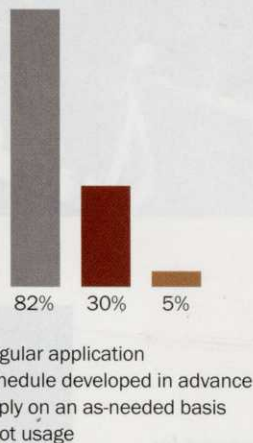
“During the summer, especially during hot weather, superintendents need to get on a program they have confidence in and stay on it,” he says. “The ones who get in trouble are those who pick and choose their own program and don’t look at what’s being recommended. We wouldn’t recommend it if we didn’t know it was a good program – save the granulars for spring and fall.” **GCI**

## FOLIAR BREAKDOWN

Foliars used as part of a maintenance program

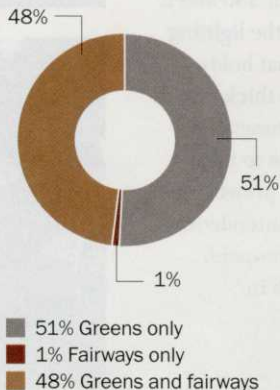


How are foliar used?



Source: GCI research

Where foliar are used



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