

In Pursuit of Perfection

All superintendents dream of finding an ideal nutrition program for their turf, but experts say there's no such thing as a one-size-fits-all solution

By Frank H. Andorka Jr.
Managing Editor

A perfect fertility program that would apply to all golf courses is like Ponce de Leon's famous Fountain of Youth: Everyone wants it, but no one is ever able to find it. Superintendents, fertilizer companies and turf researchers spend thousands of dollars and countless hours in this quixotic pursuit and with little success.

"I don't think there is such a thing as a 'perfect' plant nutrition program, especially when there's a living plant involved and nature plays a role," says Darren Davis, certified superintendent of Olde Florida Golf Club in Naples. "If you ask 10 people what their ideal program is, you'll likely get 10 different answers."

What experts remind everyone is that there is no such thing as a perfect plant nutrition program that will work for every superintendent. But there are certain steps superintendents can follow to help them create a "perfect" nutrition program for their specific turf conditions no matter where they are.

Test the soil

Matt Shaffer, superintendent at Merion Golf Club in Ardmore, Pa., says the starting point for any fertility program is a soil test. Without a test, superintendents will never know exactly what the turf needs.

"If you're just starting a new job, test everything: greens, tees, fairways, six different roughs,

bunker banks — everything," Shaffer says. "Then follow up annually with six greens, six fairways and six tees so you can monitor your progress."

Jim Loke, certified golf course superintendent at Bent Creek Country Club in Lancaster, Pa., uses three types of soil testing that he says are important in producing high quality turf conditions: soil chemistry, soil paste extract and tissue analysis. He finds the soil paste extract test to be the most important because it explains what nutrients are in soil solution and what is available to the turf plant.

To provide the healthiest turf plant, he then refines his fertility program around what the soil paste extract gives him. Loke does the testing three times per year.

Tissue samples a must

Rick Tatum, director of golf operations of Grey Oaks Golf Club in Naples, Fla., says tissue sampling is even more important than soil sampling in his region.

"Soil sampling is important because it provides you with a baseline of what nutrients are available to your turf," Tatum says. "But all the nutrients in the soil aren't going to matter if the plant isn't taking them up and using them. Tissue sampling allows you to monitor whether the nutrients in the soil are making their way to the plant."

It's not a cheap process — Tatum shells out \$10 per sample for greens on three golf courses,

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DARREN DAVIS
CERTIFIED SUPERINTENDENT
OLDE FLORIDA GOLF CLUB

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and he takes them monthly on three courses from four greens, four tees and four fairways. But he justifies the expense to his green committee because the numbers prove he is only putting out the amount of fertilizer the plant needs.

"When we receive the test results, we adjust our fertility programs to fix any deficiencies that the tests show," he adds. "It's a great tool to use when your committee is questioning why your fertilizer budget is so high."

Superintendents must remember that not all turfgrasses are created equal, says Buford Creech, co-owner of Southeast Turf and Ag, a consulting and product development company. It's important to know how much nitrogen a specific variety *really* needs before constructing a program to meet its needs.

"You don't want to get into a situation where you're overfeeding the turf," says Creech, who is a certified crop advisor (CCA). "That could

be a recipe for disaster for several reasons."

Creech says overfertilization has the potential to create environmental concerns and undesirable growth, and in some cases promote disease.

Tatum says his frequent tissue testing also allows him to decide quickly whether new products will fit into his nutritional needs.

"A lot of salespeople will come into my office making claims about their products and their effectiveness," Tatum says. "If they'll let me test their products on my turf, I can usually test their claims because my samples show me what effect their products *actually* have on my turf. It can scare some of them off, but it allows me to provide the best nutrition for the turf on my course."

Watch your water

With any fertility program, the amount and quality of the water that superintendents use can affect how well the fertilizer works, Loke says.

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MIKE KLEMMER

A "perfect" turf nutrition program can depend on weather, water quality and other factors that vary by region of the country.

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"You have to investigate how your water quality will affect the absorption rate of the fertilizer for the plants," Loke says. "If your water isn't good quality, you have to factor that into your fertility equation."

Dan Dinelli, certified superintendent at North Shore Country Club in Glenview, Ill., says superintendents should think about using fertigation to deliver nutrients to the turf in small doses instead of large, broadcast fertilizer applications.

"You have to determine whether you have a decent irrigation system that gives you effective coverage before committing to it," Dinelli says. "But I believe it's another tool to deliver plants nutrients before and during stressful periods more effectively."

Creech agrees. "If you can spoon-feed your turf through a fertigation system, it's one of the best ways to deliver nutrition to your turf."

"You have to adjust to what the weather allows you to do."

RICK TATUM
CERTIFIED SUPERINTENDENT
GREY OAKS GOLF COURSE

Weather matters

One of the most important factors in fertility is the effect that weather has on the process. Merion's Shaffer says his fertility plan takes its cue from the weather.

"We don't have any artificial numbers that we try to hit," Shaffer says. "If it's extremely wet, for example, nutrients are far more mobile. As a result, we'll adjust our fertilizer levels downward to avoid leaching. It's all a matter of tweaking here and there to meet the turf needs."

Shaffer also says he changes fertilizers depending on the weather. During the summer he uses natural organics on greens, tees and fairways because the temperatures encourage microbe growth. In the off-season he uses liquid supplements or isobutylidene diureas (IBDUs).

Peter Leuzinger, certified superintendent of The Ivanhoe (Ill.) Club, says Northern superintendents are feeding semidormant turf as the season winds down in mid-October. He says that he feeds his turf heavily after the third frost, which sets it up well for the following season.

"I've been following this practice for years after I heard about it from turf professor Tom Fermanian at the University of Illinois," Leuzinger says. "I've found that the turf is tougher going into the winter and greens up more quickly in the spring."

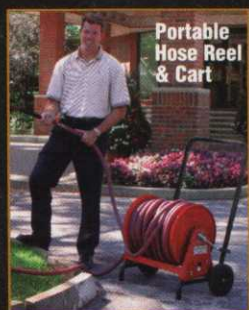
Grey Oak's Tatum says he also has to adjust to the weather in Florida, but in the opposite manner of his colleagues in the North. In the winter, he uses IBDU fertilizers because they're not temperature controlled. In the summer, when temperatures can soar into the 90s, he uses slow-release, sulfur-coated products.

"You have to adjust to what the weather allows you to do," Tatum says. "If you lock yourself into one specific type of fertilizer, you can end up in trouble."

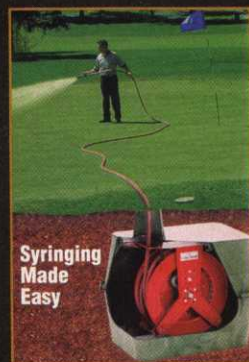
So as with any pursuit of perfection, it's important to be flexible — and make use of all the technology available, Shaffer says.

"We'd all better figure out how to do the perfect fertility program for our turf because there may be a time in the not-so-distant future when we'll have to grow grass with very few chemicals," Shaffer says. "So we'd better know how to grow a bigger, badder plant — and fertility is the key."

"There is no such thing as a perfect nutrition solution," Creech insists. "What fertility superintendents need to maintain their turf will depend on what region of the country they're in and the variety they have. It's that simple." ■



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