

The all-natural way (Turfgrass management)

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Organic turfgrass management makes headway, but suspicions remain.

Mention the word "organic" during a discussion about golf course turfgrass management, and you'll get responses as varied as New England weather.

In some quarters, organic fertilizers and fungicides are the next big thing. Others question their benefits, doubting they perform to the degree necessary for a multimillion-dollar industry to trust.

But organics are here, seemingly to stay. Technological advances in the development and manufacturing of such environmentally-friendly products during the past five to six years increased their effectiveness while capturing the attention of more golf course superintendents, according to industry suppliers.

Continued pressure from citizen and environmental groups, as well as fears about surface and groundwater contamination from synthetic fertilizers and pesticides, make organic products an attractive alternative in sustainable turf management programs.

"There certainly is a growing interest in organic products for the care of golf course turf," says James Murphy, Ph.D., extension turfgrass specialist at New Jersey's Rutgers University. "This has been encouraged by environmental groups, membership at clubs and the superintendents themselves, who want to be environmentally sensitive, cut down on their use of chemicals and protect themselves from overexposure to chemicals."

The foundation of nonchemical methods of turf maintenance are formed by microbes, which are part of a diverse ecosystem of microorganisms in the soil. Beneficial microbes feed on disease-causing microbes, out-competing them for food and water, while at the same time coating the roots and blades of grass. The latter blocks pathogens and makes vital nutrients more readily available to the plant.

Agronomist Dick Psolla, who operates REP Consulting in Hartville, Ohio, says from a soil fertility standpoint, going all organic is possible.

"But I don't know if any superintendent can say, 'Everything we do is organic,'" he says. "Problems like dollar spot and brown patch need to be suppressed and sometimes immediately."

REP is associated with Brookside Laboratories, a soil-testing facility in New Knoxville, Ohio.

Improving products

To some degree, going organic is a return to how superintendents managed their fairways, greens and tees at the turn of the 20th century, well before effective fertilizers and pesticides were developed. Compost from clippings and leaves and animal excrement was used to enrich the soil of golf courses and reduce thatch. Many organic fertilizers used currently contain ingredients such as seaweed powder, humate and molasses, which are often mixed with elements such as iron, zinc sulfates, manganese and calcium. Organic fertilizers are sometimes made from treated excrement from chickens and cows.

Those in the organics segment of the industry say their products are effective and produce predictable results.

"Organics were once viewed as snake oil, voodoo or some type of elixir for a golf course," says Gary Grandstaff, c.e.o. of Clarksburg, W.Va.-based From The Ground Up, which makes and markets a number of organic products for turf management. "We're becoming much more accepted. We're just seeing the cutting edge now. We're the tip of the rocket ship headed for space.

"With the use of our products, there's increased microbial activity in the soil, which, in turn, feeds on the organic matter from thatch and breaks it down to form a rich humus layer in the top soil," he adds. "The end result is turf that becomes stronger and healthier, making it more tolerant to drought and high stress periods from heat and high traffic."

Grandstaff, who's also golf course superintendent at the Pete Dye Golf Club in Bridgeport, W.Va., says his company's biodegradable MOL products offer other benefits, such as reducing or eliminating fall aeration when used consistently on a seven-to-10-day spraying schedule for at least two years. They also can help superintendents reduce the amount of fertilizer and fungicide required during the growing season.

During the early years of using organics, the strains of soil bacillus were relatively unstable, which caused a few problems, including a short shelf life, according to Jeff Howard, marketing manager in the Roots Care Group at Novozymes. Howard says the technology has changed to the point where it has allowed the company to deliver a more stable product that has a two- to three-year shelf life.

While Howard says the bulk of the growth in the company's business has been in the nursery and landscape sectors, it has seen moderate growth in the golf sector.

"But we don't see any lessening of public and potential regulatory pressure that will limit the amount of chemicals that can be used on a golf course," he says.

Those in the organics segment say their products don't incur considerable increase of expenditures, manpower or equipment, and might ultimately save golf courses money by reducing man-hours and the use of synthetic products.

"All our products fit well with existing cultural practices," Howard says. "Our products are extremely affordable for even a nine-hole municipal golf course."

One organic trend becoming more popular is compost tea machines, which can create as much as 500 gallons of liquid soil fertilizer. Proponents say compost tea is easier and cheaper to apply than compost, and its microbial make-up can be altered when it's brewed to help fine-tune the soil microbiology. Long Island golf courses using compost tea have reported significant reductions in the number and severity of outbreaks of diseases such as dollar spot.

Another trend is the blending of organic and conventional synthetic products for turf management. Organics can be used as a base in the treatment and care of soil and grass, bridging to chemical fertilizers and pesticides, which are added to the mix to suppress or prevent troublesome disease and pests.

All-organic

One course that has an all-organic turfgrass management program is the Vineyard Golf Club on Martha's Vineyard off the coast of southeastern Massachusetts. Golf course superintendent Jeff Carlson was given a momentous task when he came on board: make his maintenance operation completely organic. The local government placed such a stipulation on the maintenance staff when it allowed the course to be built six years ago.

"It certainly is a challenge," Carlson says. "It's important to remember that we had the benefit of growing in a new golf course and selecting the types of grasses that were more resistant to disease, such as dollar spot. We have a moderate climate because we're on the ocean, good air circulation because we don't have a lot of trees, and most of our play is on foot, which reduces the stress on the turf."

Carlson says for the most part, various organic fertilizers and the biofungicide, Ecoguard, have resulted in excellent course conditions.

"We do have occasional brown spots, which I'm much more aware of than anybody else," he says. "We spend a lot of time getting rid of dew in the mornings, and because the organics we use are light sensitive,

we do more work at the end of the day. It's been a shift in routine. All in all, the members are proud to have an all-organic golf course, and I'm proud of it. It's been fascinating."

Dabbling in organics

Even though Baker Hill Golf Club in Newbury, N.H., doesn't have an all-organic turf management program, golf course superintendent Bob Turcotte has been using a mix of organics and traditional synthetic products since the club opened six years ago.

"It took a while for the organics industry to adapt to our needs," he says. "We have a lake downstream from the course, and we have always wanted to be good neighbors. We don't rely solely on organic products because we sometimes need something that can break down faster, so the bridge products come in handy. But we want to go back to basics whenever we can, whether it be with organic fertilizers or use of mulch."

Others haven't quite made up their mind on the issue. Frank Dobie, golf course superintendent at the 40-year-old Sharon Golf Club in Sharon Center, Ohio, is one of them.

"I've been a dabbler in organic treatments," he says. "We've done a little bit of it at the club, but I don't know if it has made any difference. But I recommend superintendents keep an open mind to it."

Inconclusive evidence

Some say university-based research about organic products remains inconclusive and doubt whether golf course turf can ever be treated and cared for properly without the use of synthetic fertilizers and pesticides. Others question whether serious turf problems such as pythium, leaf spot, patch disease, as well as mole crickets and nematodes, can ever be contained or prevented with organics.

"I don't know how possible all-organic can be in areas of the country where the grass comes under great stress from the weather and heat, like in the South and Southwest where you have long, very hot summers and diseases and insects can be a serious problem," Murphy says. "The weather in Northern climates, such as New England, allows you to use more organic products with a degree of effectiveness."

"With a lot of these organics, people say they work in theory, and theory sounds good, but the field tests have shown they're not consistent, and other research is inconclusive at this point," says James Snow, national director of the Green Section of the U.S. Golf Association. "A golf course on an island off the New England coast isn't representative of 99 percent of the country's other courses."

However, Snow, Psolla and Grandstaff agree superintendents should keep an open mind and do their homework when it comes to organic products.

"Superintendents should always have a trial area when they can use a product and see how it works over a period of several years before they take it to the entire course," Snow says.

"So many superintendents don't truly understand the soil and how it works, and they really should," Psolla says. "It's a living organism that must be treated as such. And you need to have a long-range turf management program. Organics take several years to work properly, especially on a course that has been starved for nutrients."

"The best way to approach organics if you haven't already tried them is to do half a fairway, half a tee box or a practice green with organics and compare with the rest of the course being treated with other turf management products," Grandstaff says. GCN

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