

A Course in Growing Lawns Organically at Gallaudet

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Jeffrey Weiser's work boots are a brassy yellow, but even they can't distract from the dandelions at his feet.

"I inherited more weeds than grass," he says standing in a sea of weeds on a grassy border at Gallaudet University in Northeast Washington. You might think Weiser, as the university's grounds manager, would be the last person to point out such flaws. Dandelion season, after all, used to be the measure of a groundskeeper, with less being more.

And yet you will find lots of those yellow rascals around the 100-acre campus off Florida Avenue. Weiser is biding his time. In a radical departure from traditional lawn care, he is laying aside chemical fertilizers, potent weedkillers and toxic fungicides in favor of an organic approach he believes will be as effective in the long run but kinder to the environment, including the fertilizer-choked Chesapeake Bay.

In some ways, this is easier than in the past -- now, organic products are mass produced and commonly available.

Even so, Weiser is still unusual among groundskeepers in staking his professional reputation on a program that does not have instant results and relies on a fair amount of faith in unconventional treatments.

And a great deal of seed.

He and his crews are finishing up a spring overseeding of the 43 acres of lawns, using 10,000 pounds of tall fescue, for the most part. The seeds were dusted with a powder that causes beneficial fungi to grow on grass roots. Called mycorrhizae, the microbes are supposed to improve the ability of roots to absorb moisture and nutrients.

The grounds staff will seed again in late summer. In time, Weiser believes, the seeding combined with various treatments will produce a super grass that will simply bully out most of the weeds. Those that remain will be hand-picked or left alone.

Usually, turf that is maintained by groundskeepers or by lawn-care companies for homeowners is sustained through a regimen of chemical applications that includes high nitrogen fertilization in the fall and spring and the use of preemergent herbicides, broadleaf-weed herbicides, grub killer and other insecticides, and fungicides.

This is changing, and homeowners who don't want to maintain their lawns themselves organically can find companies specializing in organic care. Even mainstream companies are offering organic alternatives.

Weiser used to work in commercial greenhouses that rely on chemical sprays but became drawn to an organic approach after going to trade shows and realizing that the industry was changing, he said.

And yet, an organic approach is not just a question of changing the types of sprays but of adopting a different philosophy, said Jeff Otto, president of East Coast Organics in Baltimore and an adviser and supplier to Gallaudet.

The traditional approach, he said, is to feed plants systemically, ignoring the soil biology.

"You can grow them in air, and they do, hydroponically. The problem is when you stop feeding, the plant declines because your roots haven't developed," he said. "It's like spoon-feeding something its whole life."

Chemical fertilizers sterilize the soil with their salts, he said, while mycorrhizae effectively increase a plant's root system by as much as sevenfold.

Other treatments at Gallaudet this year will include three applications of compost tea and four sprayings of biostimulants, including fish and seaweed extracts and humic acids -- a black liquid derived from a carbonaceous mineral.

These are low in nitrogen and other primary ingredients of fertilizers but promote a rich population of beneficial microbes in the soil, according to Otto and fellow practitioners. He said nitrogen fertilizer is a highly inefficient way to feed plants because "50 percent gasses off and 20 to 30 percent leaches out."

Nitrogen runoff from fertilizers used on farms and suburban lawns is a major cause of pollution in the Chesapeake Bay, and last year contributed to an alarming depletion of oxygen in a 100-mile stretch of water below the Bay Bridge that environmental scientists called a dead zone.

At Gallaudet, Weiser has been coping with his own dead zones, areas around curbs and posts that were sprayed with herbicides. This killed the weeds and grass along with it.

Weiser said he wants to do his bit for the Bay at Gallaudet but also to shield the students from pesticides. The university was founded in the 1860s for deaf students and today has an enrollment of approximately 1,800. The campus, with its landmark Gothic Revival buildings, was designed by Frederick Law Olmsted and features broad lawns and athletic fields where students walk and play.

"Fungicide is used a lot on athletic fields, and it's one of the most dangerous chemicals that groundskeepers apply. We are wearing protective equipment when we put it down,

but what about the kids, they're rolling in it," said Weiser, who grew up in Philadelphia but spent most of his adult life in Hawaii before moving to Washington. He became Gallaudet's grounds manager last May.

Weiser's organic approach does share some techniques with conventional turf care, including aeration, a fancy term for making holes in the lawn. In the preferred method of core aeration, a plug of soil is removed by a machine.

The resulting dime-size hole reverses the effects of soil compaction and brings moisture and air to the root zone. It also becomes a place where new grass seed likes to sprout. His crew follows other lawn care orthodoxy in mowing the grass high and with very sharp blades, practices that reduce stress and disease problems.

On the athletic fields, he is using corn gluten, a byproduct of food processing, which has been shown to prevent weed seed germination. The product is expensive and takes repeated treatments to work. Weiser said his organic approach is about as expensive as a chemical regime and should be cheaper with time. He intends to get lab tests of future microbe populations. Once they are high enough, he will cut back on some of the biostimulants. He expects to see a turnaround in the health and beauty of the lawn in three years.

Meanwhile, he is hoping to purchase a commercial-grade tea composter, essentially a brewing vat in which compost liquids are aerated and fed to create a soup of beneficial bacteria and fungi. This is then sprayed onto the turf using the type of tractor boom that might have been used to douse the grounds with poisons.

At the same time, he is "seeding the daylight" out of the place and hoping for some cooperation from his new friend, Mother Nature. Sitting in his windowless office, he hears a cloudburst hit the roof.

"Is that rain?" he asks. "How nice."

• *Maryland Cooperative Extension Service publishes an online fact sheet, Lawns and the Chesapeake Bay, at www.hgic.umd.edu, which addresses minimizing environmental damage from traditional lawn fertilizers. Go to Publications, Online Publications and Lawns.*

• *Ohio State University Extension Services publishes a fact sheet called Natural Organic Lawn Care for Ohio, which is applicable to cool-season grasses in greater Washington: ohioline.osu.edu. Go to Yard & Garden, Fact Sheet Series and Turf Series.*

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