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For a Better Lawn and Garden, Take a Microbe to Lunch

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Fourteen weeks remain in our southern New England growing season, more or less. We're in the part of the season when soil is warm and plants are hungry. And that's precisely why it's time to take a microbe to lunch. As you'll see if you read on, you may even want to take them out for drinks.

Microbes, after all, are employed by plants of all types to get nutrients from soil.

“The plants are actually in charge of the system,” says Todd Harrington, president of Harrington's Organics in Bloomfield, a specialist in soil products. He describes the little-known process by which plants send messages to soil microbes through root emissions called “exudates.”

The exudates actually vary as the season progresses, encouraging population growth among the particular soil microbes the plant needs. Microbes, in turn, process nutrients such as nitrogen until it's in a form that plants can use.

That's why this is a good time to remember the differences between fertilizing a plant and amending the soil.

Fertilizers feed plants directly (more or less), providing a nutritional boost that helps increase leaves, flowers, fruits, or roots. Fertilizer is recognizable by its “N-P-K” label, referring to nitrogen-phosphorous-potassium. Fertilizers are particularly helpful in spring.

It is possible to rely entirely on fertilizers to feed plants—but it isn't really the best practice since fertilizers are readily depleted and have to be replenished, which is time-consuming and expensive. The best practice is to improve the soil food web.

Soil amendments make the soil a better home for beneficial microbes—which helps them do a better job of feeding plants. In the long run, soil with healthy microbe populations can provide almost all the nutrition plants need.

If the microbes are too few, nitrogen, for instance, stays in the soil or it leaches into the atmosphere or groundwater.

A note of clarification: Many products classified as fertilizers and amendments also “cross over,” serving both functions. Compost, for instance, offers a small amount of food that is immediately available to plants, a.k.a. fertilizer. Worm castings are another good example of an amendment that also offers a small amount of fertilizer.

“Amendments with lots of humates are particularly good for microbe populations,” says Harrington. “It takes several levels of conversion by bacteria, protozoa, and fungi before a plant can use the nutrients in the soil.

“Humates encourage the right balance of soil life,” says Harrington.

Here’s another little-known point: Foliar feeding is a powerful method of fertilizing in midsummer. Plants are capable of absorbing nutrients faster through their leaves than roots at this time of year.

“Right now, leaves are more active than roots, so foliar feeding is a more efficient way to introduce nutrients into the plant,” Harrington says.

In vegetable growing, foliar feeding increases yield, supplies sufficient trace minerals and pushes food production.

“It even helps grow better tasting veggies,” says Harrington. “Foliar feeding increases ‘brix,’ a flavor measurement.”

Pre-mixed foliar sprays include fish and seaweed emulsions, fish hydrolysate, and liquid soy. Pre-mixed compost tea is available, but tricky. Compost tea is best brewed and applied within 24 hours.

Harrington advises foliar sprays in early morning or evening when leaf openings called “stomates” are wide open.

“That’s when the plant can do maximum uptake,” he says.

Avoid foliar sprays on days when heavy rain is in the forecast.

Regarding the lawn, good midsummer amendments also provide nitrogen. Some that act as both fertilizers and soil amendments include soybean meal, alfalfa meal, feather meal, cottonseed meal, pelletized compost, and pelletized worm castings.

Unlike foliar feeds, these dry products should be spread on days when rain is forecast—or when you have the time to water them into the soil.

Warm soil is a great home for microbial life. That's one reason that midsummer is a great time to send some nutrition their way in the form of soil amendments.

Want a great book on this topic? *Teaming with Microbes*, the 2010 book by Jeff Lowenfels and Wayne Lewis, became a bestseller among serious students of plant life. I recommend it highly.

Need product sources? Always check the local independent garden centers. Regional sources I've used include Harrington's Organics in Bloomfield, Natureworks in Northford, Green Earth Ag and Turf in Branford, Ballek's Garden Center in East Haddam, and Perennial Harmony in Waterford.

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