**SUPER SOIL**

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Despite the vagaries of winter weather, New England gardeners, right now, are growing a crucial crop: living nutritious soil.

It’s called compost and growing it is simple, says Mike Merner who produces tons of rich, black, organic soil at Earth Care Farm in Charlestown. He also has three small mounds of organic matter that is composting near his family vegetable garden. Those piles serve as a demonstration area where Merner shows home gardeners studying to become University of Rhode Island Master Composters how simple composting can be. More than 300 people have completed the Master Composter program, according to Sejal Lanterman, director.

Compost happens. A leaf nourishes a tree in the forest by gathering light, water and air. When the leaf falls, it nourishes microorganisms and worms that help it become part of the soil that nourishes the tree again – through its roots this time

“All plant and animal matter is compostable,” Merner says. The organic compost that he sells at Earth Care Farm contains leaves, seaweed, manure from farms and the zoo at Roger Williams Park, fish, and clam shells. The only organic matter that he will not accept for his compost is coal ash because its concentration of metals may be toxic and kennel manure of dogs and cats because it may contain diseases that are dangerous to humans.

A lot of literature from government and academic sources warns home gardeners not to compost certain ingredients. “They say, ‘don’t compost meat, don’t compost fish, don’t compost fat,” Merner says. “That’s misinformation. All of that is compostable, but you have to integrate some rationality. If you live in the city, and there are rats around, or you live in the suburbs where people allow their dogs and cats to wander, [then adding meat or fish to the mix may attract animals].”

Much advice about composting originates in organizations concerned about reducing the “waste stream.”

“But it’s a shame,” Merner says. “When you think about it, all that animal matter that’s ‘gone by’ is not waste. It’s a resource. If you want to honor and respect the past and protect the future, it needs to be recycled in a positive way to maintain the fertility of the earth.”

If rats or wandering dogs are a nuisance, a home gardener can contain compost in tumblers or bins.

However, to help compost happen, bins, tumblers – and human intervention, for that matter – are unnecessary, according to Merner. “All organic matter composts. whether you want it to, or not.”

To help microorganisms and worms convert organic matter to living soil, it helps to feed them a balanced diet, Merner says. When he’s conversing with other soil scientists, he refers to the carbon-nitrogen ratio, or “C/N.” With home gardeners, Merner talks about balancing a compost pile’s carbohydrate-protein content. “High-protein” ingredients such as fish or meat should be balanced by “high-carbohydrate” ingredients such as paper or wood shavings. (In his book “Gardening When It Counts: Growing Food in Hard Times,” author Steve Solomon includes a chart of common compostable ingredients and their C/N ratios.)

Once the ingredients come together the microorganisms that convert them to living soil need only water and air, Merner says. Water generally comes from rain, and the compost pile receives air when it is turned.

Once again, he emphasizes, “No matter what you do, it’s going to compost. It doesn’t have to be nearly as technical or difficult as it’s made out to be … all you need is a pitchfork, that’s it, a pitchfork …

“The classic mistake that home gardeners make is that they have only one pile, and they dump today’s grapefruit rinds, tea bags and egg shells on it, and when they want some mature compost, they have to wade through all that stuff to find finished compost. You can do it, but it’s not practical.

You don’t need containers or tumblers or anything else. All you need is a three-pile system…The initial pile is an accumulating pile where you accumulate the organic matter from your household and yard. That’s where you want to balance the protein-to-carbohydrate ratio. If you add kitchen scraps only, they will putrefy unless you add some leaves, shavings paper or some other brown material. (If you add wood ask from a stove or fireplace, use it sparingly or it may spike the pile’s alkalinity, Merner says.)

“Once the first pile is the size you want it, turn it to become a composting pile, and start a new accumulating pile.

When the new accumulating pile is the size you want it, turn it to become the composting pile, and turn the old composting pile to become the maturing pile …. “It’s simple, but it isn’t easy.”

At Earth Care Farm it takes between 12 and 18 months for microorganisms to make organic soil that many gardeners call “black gold.”

When we bring everything together, we’re transforming what we called dead material into living soil, Merner says. “When you do that consciously, it shows that there is no waste or death in nature.”

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