

The Secret of Compost

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Many organic farmers and gardeners know that compost is a good thing. We think we are adding nutrients to our soils to feed our plants. Well, we are adding some nutrients to our plants, but very little when compared with commercial, conventional fertilizers or even some organic fertilizers.

In my opinion, compost should be viewed as a soil amendment rather than as a true fertilizer. We should recognize that compost has a whole different way of supplying nutrients to a plant than simply dumping a pile of elements right at the root. Compost has two mechanisms that are very different from this “dump” method of concentrated fertilizers.

In the first mechanism, consider that compost’s job is to create habitat for the “good” fungal hyphae. The hyphae work with plant roots to make them much more capable of foraging for nutrients by helping them cast a wider net.

The second way compost performs its magic is to create great habitat for soil bacteria and other soil fauna (animals). Compost feeds soil livestock! Visualize soil bacteria as mini-pac men. The bacteria scoot around in soil and chow down nutrient molecules in compost raw material. The bacteria, which are single cells, break down old plant material and manures and take in those released nutrients and use them as building blocks to grow. They incorporate the free, unbound nutrients into their “bodies”. Thus the nutrient is said to be “immobilized” since it is bound up in that bacterial cell, or the body of the next biggest organism that feeds on the bacteria. The bacteria don’t live long, and when they die, the nutrient, say nitrogen is available to the plant again. However, the nutrient is available in the sticky mess that is the bacterial cell. The nutrient will not simply wash through the soil as it does in the synthetic method of salt bound mineral fertilization. So the gummy bodies of the soil livestock stabilize the nutrients in the soil.

The secret of compost is that we are amplifying both bacteria and fungi through giving them what they need to thrive; a nitrogen source, a carbon source, air, moisture and a decent pH. The compost tea people further amplify bacteria by adding more available carbon – like molasses, or they favor fungi by adding more protein to the recipe. The pH level also will favor either bacteria or fungi.

So, consider yourself a chef when it comes to composting. You mix ingredients, cook and create something great. It just that your “cake” is a great soil amendment. Some of you are already pretty experienced at making compost and some of you are just beginning. We all have more to learn. Don’t forget about temperature and the length of time you are incubating the micro-organisms. Be wary as you take advice from others about compost. There are many people trying to make a buck off you.

We are inoculating our soils with beneficial organisms when we use compost. We are enlivening our soils. This is akin to adding yeast to flour and water. When bread is allowed to rise under warm conditions, we are really growing the yeast that causes the gas that raises the bread. When we compost, we are fostering bacteria and fungi by providing them with a warm, cozy place to grow and rise. When we spread compost or compost tea, we send our homegrown soil livestock out into the field or garden to do more of the work in the soil food web. That is the secret of compost.



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