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Getting Beyond the Yuck Factor

The Virtues of Compost

By Susan Galleymore

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Mayor Gavin Newsom passed a mandatory source separation ordinance in June 2009, that requires residents and businesses to separate organics and recyclables from their garbage. It came into effect in October and is the first of its kind in the U.S. Six months later, more than 300 cities and universities across the US are replicating this program and collecting food scraps and taking them to modern composting facilities.

Robert Reed, Public Relations Manager for **Recology**, which is contracted to haul the waste, says this “essentially makes sure that no matter where you go in San Francisco, you’ll have opportunities to recycle and compost through the city’s curbside programs.”

As an added inducement, this city is the only one in the country where collection trucks give passersby a view into the truck. Or, at least, the 3-D artwork decorating the trucks give the impression of transparency. “This program, Recycling Changes Everything, encourages people to pause...and look at their garbage. And when they do that,” says Reed, “they see paper, metal, glass, and food scraps, that is, a mixture of resources that should be reused, recycled and composted.”

More than 225,000 households, 4,000 businesses, and about 46 percent of San Francisco’s 8,500 apartment buildings participate. The collections go to Recology’s Jepson Prairie Organics in Vacaville, north of San Francisco, where over a period of 60 days they’re turned into compost. What’s more, this compost comes in custom blends, made with recipes that add different amendments for specific uses and locations.

Reed agrees city dwellers sometimes must learn to overcome the “yuck factor”, that initial reluctance to handle what was heretofore thrown away. “Something as simple as an apple core doesn’t simply disappear, it goes somewhere else. We suggest people take a more responsible attitude to that apple core and other waste. It is really a fork-in-the-road moment: toss it away and it goes to a landfill – where it’ll produce methane gas; or put it into a compost cart where it can end up doing wonderful things to the soil for 200 vineyards in five different counties.”

Soil scientist, viticulturist, ecologist, and agronomist Bob Shaffer uses San Francisco compost in his daily life and in his work consulting with viticulturists in California’s Napa and Sonoma counties. He explains, “Compost is organic matter and water that’s been mixed up in a proper ratio that makes bacteria and fungi happy so that they consume organic matter. This produces heat, a little CO₂, a little water vapor, and humus, the same humus that is in the soil. Humus holds an enormous amount of water. But it is fragile. It is always being created or destroyed; some of it is two thousand years old and some of it is two days old.”

Shaffer mentions that, in the classic book published in 1936, *Soils and Men*, the USDA and fifty reputable soil scientists announced that from 1900 until 1936 our nation had lost much soil fertility by not returning organic matter to the soil. They

warned, “This is nothing short of an emergency.” They pleaded with cities around the country to recycle food scraps back to farms, stating that it was imperative that we take advantage of this rich resource. Since that time we have lost vast amounts of humus in our farming soils.

Today, a growing number of farms using compost made from food scraps produce better quality food at a lower cost. Only there are not enough such farms. Moreover, Schaffer says, “Even though I love farming it is hard on the environment. The word “care” is particular to how we need to farm now. Good farmers understand how to care for the land and how to care for animals. I travel a lot and I notice that the big farms are difficult to manage and to care for in a way that produces food that is capable of producing human health.”

Humus is still a mystery to science. Shaffer says, “As a forty-year long composter and farmer I recognize that of all the creatures on the earth, only bacteria and fungi can make humus – that mystical substance that also holds water. I can only make the conditions under which I know bacteria, fungi, nematodes, and protozoa can make humus for me.”

According to Shaffer, this is a point the chemical fertilizer manufacturers miss. Back in the early days, he says, “Honest men in these companies were simply trying to concentrate the weight to enable shipping the materials. Synthetic triple grade fertilizers were not intended to be used at thousands of pounds per acre as they are used today, or to be used as a primary input. Advertising and marketing told the farmer that this was all he needed. So he stopped making cover crops, he stopped making compost.”

Cover crops are those plants with long roots that heal soil. Beneath the visible plant above the ground the roots take photosynthate and exude about half of that sugar to the soil around its roots to provide nutrients to the bacteria and fungi. These in turn provide available minerals and other materials to the plant as well as prevent disease. Plus, the cycle of living and dying roots maintains humus. In a recent radio interview Shaffer admitted, “I love compost. But I can put compost down for a lifetime and if I don't grow a diversity of plants along with cover crops, compost won't work right.”

According to Shaffer, “Compost is nothing short of the highest tech, cutting edge method to preserve our soils, preserve our ability to raise food and to feed ourselves, and to preserve our health in current science. There is nothing that comes close to the necessity for us to learn more about compost as quickly as possible and to apply this technology. Yet we only know a certain amount about humus. It is the enigma in soil. It does not have a regular chemical formula. It is made of colloids, materials so small that we can barely examine them. All the top scientists working in the field agree that it is a highest priority to figure this out given the reality of our current world. We humans do well to remember that only about one percent of the earth actually is rich enough to farm productively.”

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