

Coffee Grounds Perk up Compost Pile With Nitrogen

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Coffee grounds can be an excellent addition to a compost pile. The grounds are relatively rich in nitrogen, providing bacteria the energy they need to turn organic matter into compost.

About 2 percent nitrogen by volume, used coffee grounds can be a safe substitute for nitrogen-rich manure in the compost pile, explained Cindy Wise, coordinator of the compost specialist program at the Lane County office of the Oregon State University Extension Service.

"A lot of people don't want to use manure because of concerns about pathogens," said Wise.

Contrary to popular belief, coffee grounds are not acidic. After brewing, the grounds are close to pH neutral, between 6.5 and 6.8. The acid in the beans is mostly water-soluble, so it leaches into the coffee we drink.

Since 2001, Wise has trained and coordinated OSU compost specialist volunteers. They have collected and composted nearly 200 tons of coffee grounds from 13 coffee shops and kiosks in Eugene, Springfield, Florence, Cottage Grove and Veneta. That's the equivalent of about 25 large dump trucks full of coffee grounds.

Lane County alone is estimated to generate a million pounds of used coffee grounds per year, said Wise.

"Recycling this valuable soil amendment and compost ingredient makes

sense both economically and environmentally," she said.

Wise is encouraging gardeners and those that compost in other communities to arrange to collect coffee shop grounds for composting. But be sure to make prior arrangements with a coffee shop to collect grounds. Then, take a clean five-gallon bucket with a lid, label it with your name and telephone number on the bucket and lid and leave it at the shop and then pick it up at the shop's convenience.

Here are some suggestions for using composted grounds in the yard and garden from the OSU Extension compost specialists:

- Mix grounds into soil as an amendment. Make sure to keep them damp. Add some nitrogen fertilizer if you do this, as coffee grounds encourage the growth of microbes in the soil, which use up nitrogen. While microbes are breaking down the grounds, the nitrogen will provide a source of nutrients for your plants.
- Spread grounds on the soil surface, then cover them with leaves or bark mulch.
- Add grounds to your compost pile, layering one part leaves to one part fresh grass clippings to one part coffee grounds, by volume. Turn once a week. This will be ready in three to six months.
- Or, put them in an existing unturned pile. Just make sure to add a high carbon source, such as leaves to balance it.
- Grounds may be stored for future use. They may develop molds but these appear to be consumed during the composting process. Or a large plastic bag works for storage as well.
- Paper coffee filters may be composted with the grounds.

Keep in mind that uncomposted coffee grounds are NOT a nitrogen fertilizer. Coffee grounds have a carbon-to-nitrogen ration of about 20 to 1, in the same range as animal manure. Germination tests in Eugene showed that uncomposted coffee grounds, added to soil as about one-fourth the volume, showed poor germination and stunted growth in lettuce seed. Therefore, they need to be composted before using near plants.

Wise and her composting protégés have been conducting informal research on composting coffee grounds. So far, they have observed that coffee grounds help to sustain high temperatures in compost piles. High temperatures reduce potentially dangerous pathogens and kill seeds from weeds and vegetables that were added to the piles. They have noticed that coffee grounds seem to improve soil structure, plus attract earthworms.

When coffee grounds made up 25 percent of the volume of their compost piles, temperatures in the piles stayed between 135 degrees and 155 degrees for at least two weeks, enough time to have killed a "significant portion" of the pathogens and seeds. In contrast, the manure in the trials didn't sustain the heat as long..

"We were amazed at the results we got with coffee grounds when we did the trial," said Wise.

Jack Hannigan, an Extension-trained compost specialist, is pleased with the results he gets from the coffee grounds he collects from the Fast Lane Coffee Company in Springfield to use on his farm in Pleasant Hill.

"I make hotbeds that run about 150 degrees," Hannigan said. "It kills the weeds. I can get the piles hotter and break down the compost better with coffee grounds than I can with manure. It works great."

Coffee grounds also can be added directly to soil but the grounds need a few months to break down, Wise said. "We're not certain about how coffee grounds act with the soil, but anecdotally people say they do dig it into the soil," she said.

An additional benefit of diverting coffee grounds from the landfill is that it helps cut greenhouse gas emissions, said Dan Hurley, waste management engineer for Lane County's Short Mountain Landfill.

"To keep organics out of the landfill is a good thing for reducing greenhouse gas emissions because organics decompose and produce methane. Methane is about 25 times as bad as carbon dioxide, a greenhouse gas," said Hurley.

Recycling coffee shop grounds also fosters interactions between community residents and local businesses. The coffee grounds stay in their communities, meaning that fuel isn't being used to truck them from far-flung areas of the county to landfills

Source: OSU

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