



PLANTS WITH PERK

Using coffee pot leftovers delivers a java jolt and fertile grounds

Lisa Ogden

Growing up, my father always produced an enviable garden, and his trees were always vigorous and healthy.

Dad put everything that could be composted into his garden, and while he was not a coffee connoisseur, he was always adamant about saving the coffee grounds from my mom's daily coffee. He claimed coffee grounds were the secret for his prolific garden, as well as his healthy and bug-free grass and trees.

So, were the coffee grounds really the secret ingredient for successful gardening, or was my father just born with a green thumb?

With a quick internet search, you can find a plethora of information on using coffee grounds for gardening, ranging from blogs, forums, and magazine articles as well as some actual scientific research.

Brown Gold for the Garden

Coffee grounds are praised for acidifying the soil, disease control, enhanced plant growth, and improved

soil tilth. There are many theories about the benefits of using coffee grounds in gardens and landscapes, but let's start with a few coffee ground facts:

- Coffee grounds contain approximately 2 percent nitrogen, 0.06 percent phosphorus, and 0.6 percent potassium by volume. They also contain many micronutrients including calcium, magnesium, boron, copper, iron, and zinc.
- The nitrogen in coffee grounds is primarily found in proteins and other organic molecules unavailable to the plants until soil microorganisms break them down into simple ions. As a result, the nitrogen in coffee grounds is released slowly over time as the plants need it.
- Coffee grounds are slightly acidic (5.5 to 6.8 pH).
- Coffee grounds make an excellent compost feedstock, with a carbon/nitrogen ratio of 20-24:1.
- Use of coffee grounds in amending mineral soils up to 35 percent

by volume has been shown to improve soil structure both short-term and long-term, while improving the availabilities of phosphorus, potassium, magnesium, and copper.

- Humic substances, which are the major organic constituents of the soil (humus), are produced through coffee ground degradation.
- Coffee grounds can moderate soil temperature and increase soil water retention.
- Coffee grounds, along with other sources of soil organic matter, can bind pesticide residues, preventing movement into the surrounding environment.

Based upon these facts, what are the significant uses for leftover coffee grounds in your garden or landscaping?

Composting

Composting coffee grounds is the best thing to do before putting them in the garden. Use no more



Lisa's gardening mentor, her father, Don Sackett

than 20-35 percent by volume of coffee grounds in a compost pile. Higher percentages have shown to have harmful effects on the compost mixture, such as preventing the compost heap from heating up enough to decompose. Most coffee grounds have pH levels ranging from mildly acidic to somewhat alkaline, and as coffee grounds decompose, the pH neutralizes. Leaves and sawdust are great materials for mixing with coffee grounds in a compost pile.

According to research, the fungal species that work to decompose coffee grounds have been shown to suppress some common fungal rots and wilts. These include *Fusarium*, *Pythium*, and *Sclerotinia* species that affect potatoes, tomatoes, peppers, eggplants, and herbaceous, succulent plants.

Soil Amendment

Apply no more than one-half inch of coffee grounds when putting fresh coffee grounds directly to the ground as mulch. Because coffee grounds are finely textured and easily compacted, thick layers of coffee grounds as mulch can act as a barrier to moisture and air movement in soils. So if you are using coffee grounds as a "dressing" for specific plants or trees, apply the grounds in a thin layer or work into the top layer of the soil.

Coffee grounds can be worked directly into the soil during planting; however, Oregon State University scientists suggest adding a nitrogen fertilizer at the same time. Coffee grounds encourage the growth of microbes in the soil, which use nitrogen for growth and reproduction. While

the microbes are breaking down the grounds, the additional nitrogen from the fertilizer will provide a source of nutrients for plants.

In lawns, coffee grounds can be sprinkled into the grass for a java nutrient boost! Let the sprinkler or rainfall brew the nutrients into your lawn. Or you can make a coffee ground "tea." Add two cups of used coffee grounds to a five-gallon bucket of water. Let the "tea" brew for a few hours or overnight. Use the mixture as a liquid fertilizer for the garden, yard, or container plants.

Plants that respond well to coffee grounds include blueberries, cabbage, soybeans, fruit trees, tomatoes, corn, roses, camellias, rhododendrons, and azaleas. In one trial with bush beans, the addition of coffee grounds showed detrimental effects to the bean plants. Coffee grounds have been shown to reduce seed germination and plant growth in some crops and ornamental species, so coffee grounds are not a "one-size fits all" for a garden.

While there is some belief using coffee grounds as mulch will help repel pests, including squirrels, rabbits, cats and slugs, there is no research available on this topic.

Vermicomposting

Vermicomposting (composting using worms) can be a great way to manage large or small amounts of coffee grounds or other kitchen wastes. If using coffee grounds, be sure to provide worms a balanced diet of shredded paper or leaves and kitchen scraps so they can process the coffee grounds without issues. When retaining living composters, start anything new with moderation and make sure your workers like their java.

With millions of folks enjoying at least one cup of coffee each day,

thousands of tons of coffee grounds are produced in the process. Instead of filling landfills with this by-product of our addiction, many gardeners have chosen to use some of the grounds to improve gardens, compost bins, and landscaping. Many coffee shops will gladly share their coffee grounds in an effort to reduce their daily waste, with some even re-packaging their spent grounds for your convenience. Most businesses have coffee pots toiling away for hours to provide their workers the boost of caffeine to get their jobs done!

I am nowhere near the gardener my father was, but I continue to follow my father's advice, using coffee grounds in my garden, my lawn, and around my trees. I have to admit, I

have always believed this practice would lower the pH of my soils, but even though that myth seems to be debunked, I will continue working the ground with grounds!

And while I do not have a vermicomposting bin, I can most certainly say the worm population at my house has grown exponentially over the last 10 years of working the soil! The worms in my neighborhood must be the espresso-loving, caffeine-addicted, java-crazed species!

Lots of great research-based info for this article was found in the Washington State University Extension publication "Using coffee grounds in gardens and landscapes" at <http://bit.ly/wyocoffeegarden>.

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Perk-y **Lisa Ogden** might know where the local coffee shops are when she travels. She is the district manager for the Natrona County Conservation District and can be reached at lisa.ogden@wy.nacdn.net or (307) 261-5436, ext. 5592.

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