

Coffee Grounds as Soil Amendment  
By: Kelly Feehan, Extension Educator  
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Coffee grounds are available free for gardeners to use. I've been asked how to best to use these in gardens and landscape beds and if adding too much can harm soil or plants.

As a University Extension Educator, my job is to provide science-based answers for consumers. While there has been research on the use of coffee grounds for this purpose, the data so far is incomplete and somewhat conflicting.

However, coffee grounds are plant based and we do recommend their use. They increase soil organic matter to improve soil structure and eventually add nutrients like nitrogen and micronutrients. They even appear to suppress some fungal rot and wilt diseases.

From what we know, here are some helpful tips. As with many things, the best tip is use coffee grounds in moderation. With tons of coffee drunk each day, and coffee grounds often provided for free, it could be easy to use too much.

A common question asked is if coffee grounds will make soil too acid. The answer is no. According to Oregon State University, the grounds are close to pH neutral, between 6.5 and 6.8, after brewing. Don't worry about coffee grounds making soil too acid but don't rely on them to lower soil pH.

In Nebraska, garden and landscape soils often have an alkaline pH. Since most plants prefer a slightly acid soil, a goal may be to lower pH. Elemental sulfur remains the best product for doing this when based on a soil test. Selecting plants adapted to soil pH is an even better route to go.

When using coffee grounds as mulch or dressing on top of soil, such as around perennial flowers, shrubs or trees, only use one-half inch and then cover with leaves or shredded bark. This is because grounds are fine textured and compact easily creating a barrier to moisture and air movement into soil.

As with all plant material, it is best to compost coffee grounds before working them into soil. While coffee grounds contain nutrients, these are not available to plants until microorganisms decompose the material. During this process, microorganisms use nitrogen which can result in a deficiency in plants.

If composting is not an option and grounds are incorporated directly into soil, do so in moderation and incorporate in the fall. If grounds are added just before planting or during the growing season, provide additional nitrogen for plants.

It is important to know that in some research trials uncomposted coffee grounds inhibited germination of some seeds, such as lettuce. If using coffee grounds in gardens where direct seeding is used, be alert for poor seed germination rates.

When adding to compost piles, use no more than 20 to 35 percent by volume of coffee grounds. Adding more may result in the wrong carbon to nitrogen ratio in a compost pile. This can result in slow decomposition or possible odors.

A general rule to follow would be to layer one-part coffee grounds to one-part leaves and one-part grass clippings by volume. As with all compost, keep materials barely moist and turn the pile on a regular basis to increase oxygen and move uncomposted material to the piles center.