

Composting with Worms

by Earth 911 Staff on April 2nd, 2007

Let worms eat your organic waste! They will happily turn it into some of the best fertilizer on earth - worm compost, otherwise known as worm castings or vermicompost. This is a fascinating, fun, and easy way to recycle your organic kitchen wastes. Worm composting, or vermiculture, requires very little work, produces no offensive odors, and helps plants thrive. Only a few things are needed to make good worm compost: a bin, bedding, worms, and worm food. By following the steps listed below, you will learn to make, take care of, and use your own worm compost.

Worm Bins

Your bin needs to be only 8"-16" deep, since compost worms are surface feeders. You can build your own bin, use a washtub, a dish pan, a used shipping crate, or a commercially available worm bin. Just be sure your bin has a lid to keep out flies and rodents, and holes in the bottom a quarter inch or smaller, for ventilation and drainage. The rule of thumb for bin size is two square feet of surface area per person, or one square foot of surface area per pound of food waste per week. Because worms like moderate temperatures, place your bin in a shady location where it will not freeze or overheat. Here are some good choices: kitchen corner, garage, basement, patio, outside back door, laundry room.

HOW TO BUILD YOUR OWN WORM COMPOSTER

Bedding Materials

Black and white newspaper is the most readily available and easy-to-use bedding material. Tear it into strips about one inch wide and moisten so it is as damp as a wrung-out sponge. Cow or horse manure can be used to lighten bedding and absorb excess moisture. A handful or two of soil, ground limestone, or well-crushed eggshells every few months are good for providing grit and calcium. Fill your bin with moistened bedding, toss in a few handfuls of soil, and you are ready to add the worms and food. Over time, the bedding and food are eaten by the worms and turned into dark worm compost.

Worms

The best kind of worms for composting are "red worms," or "red wigglers." They are often found in old compost piles, but are different from the earthworms you would normally find in the ground. These worms have a big appetite, reproduce quickly, and thrive in confinement. They can eat more than their own weight in food every day! When purchasing red worms, one pound is all you need to get started.

Feeding Your Worms

Worms like to eat many of the same things we eat, only they aren't so picky. Stale bread, apple cores, orange peels, lettuce trimmings, coffee grounds, and non-greasy leftovers are just some of the food worms love that we usually discard. Here are some basic "do's" and "don'ts."

Do compost: vegetable scraps, fruit peelings, bread and grains, tea bags, non-greasy leftovers, coffee grounds and filters, well-crushed eggshells. Do not compost: meat, bones, fats, dairy products, rubber bands, twigs and branches, dog and cat feces, greasy foods.

Begin feeding your worms only a little at a time. As they multiply, you can add larger quantities of food wastes. Bury the waste into the bedding regularly, rotating around the bin as you go. When you return to the first spot, most of the food you buried there should have been eaten. If not, don't worry. Just feed the worms less for a while.

Harvesting Your Worm Compost

After you have been feeding your worms for three to six months, you may notice the bedding has been eaten, and you can begin harvesting the brown, crumbly worm compost. Harvesting the compost and adding fresh bedding at least twice a year is necessary to keep your worms healthy. Here are a few simple methods for collecting your finished worm compost:

Method 1. Move the contents of your worm bin to one side, place fresh bedding in the empty space and bury your food wastes there for a month or so. Harvest the other side after the worms have migrated to the new food and bedding.

Method 2. Remove one-third to one-half of the contents of your bin, worms and all, and add the worm compost to your garden soil. Add fresh bedding and food to your bin.

Method 3. Spread a sheet of plastic out under a bright light or in the sun. Dump the contents of the worm box into a number of piles on the sheet. The worms will crawl away from the light into the center of each pile and you can brush away the worm compost on the outside by hand. Soon you will have wriggling piles of worms surrounded by donut-shaped piles of worm compost.

Using Your Worm Compost

Worm compost is more concentrated than most other composts because worms are so good at digesting food wastes and breaking them down in their digestive tracts into simple plant nutrients. Use it sparingly for best results.

- How to mulch and amend soil
- How to use worm compost in houseplants
- How to use worm compost in potting mixes

Mulching and Amending Soil

To mulch with worm compost, apply a one-inch layer to the soil around plants. Be sure the worm compost is not piled against plant stems. To amend soil, worm compost can be spread one-half to two inches thick over garden soil and mixed in before planting, or mixed into the bottom of seeding trenches or transplanting holes.

1. Houseplants: Sprinkle worm compost around the base of plants to fertilize. Each time you water, plant nutrients will seep into the soil.
2. Potting Mixes: For healthy seedlings, mix one part worm compost with three parts potting mix or three parts sand and soil combined. Peat moss, perlite, and worm castings are also good ingredients to add.

Symptoms

- If your worms are dying
- If your bin smells rotten and/or attracts flies

Worms Dying

If your worms are dying there could be several causes. It may be that they are not getting enough food, which means you should bury food into the bedding. They may be too dry, in which case you should moisten the box until it is slightly damp. They may be too wet, in which case you should add bedding. The worms may be too hot, in which case you should put the bin in the shade. Or, it could be the case that the bedding is eaten, and it is time to add fresh bedding.

Bin Smells

If your bin smells rotten and/or attracts flies, there may be three causes. First, it may be that there is not enough air circulation. In this case, add dry bedding under and over the worms, and do not feed them for two weeks. Second, there may be non-compostables present such as meat, pet feces, or greasy food. These should be removed. Third, there may be exposed food in the bin. In this case, secure the lid, cover food scraps with bedding, and cover worms and bedding with a sheet of plastic.