

Worm Composting

A Simple Guide to Vermiculture

Let Worms Eat Your Garbage

They will turn the garbage into some of the best fertilizer on earth known as worm castings or vermi-compost. This is a fascinating, fun, and easy way to recycle your organic kitchen waste. Worm composting requires very little work, produces no offensive odors, and helps plants to thrive.

Composting with worms helps to eliminate the garbage that goes to landfills, improves the fertility and water-holding capacity of your garden soil and benefits the environment by recycling valuable organic materials and nutrients.

Only a few things are needed to make good worm compost: a bin, bedding, worms, and worm food.

Worm Bins

Your bins need to be only 8-16 inches deep, since compost worms are surface feeders. You could build your own bins, or use a washtub, dishpan, shipping crate, plastic storage bins, or a commercially available worm bin. Just be sure the bin has a lid to keep out flies and rodents, and holes in the bottom (1/4 inch or smaller for ventilation and drainage). The rule of thumb for bin size is 2 square feet of surface area per person, or 1 square foot of surface area per pound of food wastes per week.

Where To Put Your Worm Bin

Because worms like moderate temperatures (between 55F and 75F), place your bin in a shady location where it will not freeze or overheat. Here are some good choices:

- Kitchen corner
- Patio
- Garage
- Outside back door
- Basement
- Laundry room

Bedding Material

The compost worm's natural habitat is in piles of fallen leaves or manure above the soil surface. These materials can be used for bedding, but sometimes centipedes and other organisms that might eat your worms.

Black and white newspaper is the most readily available and easy-to-use material. Tear it into strips about 1-inch wide and moisten so it is as damp as a wrung-out sponge. Peat moss can be used to lighten the bedding and to absorb excess moisture. A couple of handfuls of ground limestone or well-crushed eggshells every month or so 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. Eventually, the bedding will be eaten by the worms along with the food.

Worms



The best kind of worms for composting are red worms, or red wigglers. They often are found in old compost piles, but are different from earthworms you normally find in the ground. Their scientific names are *Eisenia foetida* and *Lumbricus rubellus*. The worms have a big appetite, reproduce quickly, and thrive in confinement. They eat more than their own weight in food every day. Common earthworms and night crawlers do not survive well in bins, since they normally live under the soil surface. When purchasing red worms, 1 pound is all you need to get started. You can purchase red worms at some gardening centers, fishing supply stores, and mail-order outlets. Check your yellow pages under Fishing Suppliers, or order from your local bait shop.

Feeding

Worms like to eat many of the food remains that we usually throw away: stale bread, apple cores, lettuce trimmings, coffee grounds, and non-greasy leftovers.

Here are some basic do's and don'ts.

Do feed

- Vegetable scraps
- Fruit peelings
- Bread & grains
- Tea bags
- Non-greasy leftovers
- Coffee grounds (and filters)
- Well crushed eggshells

Don't feed

- Meat
- Bones
- 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 wastes 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 Worm Compost

After you have been feeding your worms for three to six months you may notice that the bedding has been eaten, and you can begin harvesting the fertile worm compost. Harvesting the compost and adding fresh bedding at least twice a year is really necessary to help 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 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-half to two-thirds 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.

Mulching and
Amending Soil

For the Garden

To mulch with worm compost, apply a 1-inch layer to the soil around plants. Be sure the worm compost is not piled against plant stems. To amend soil, spread worm compost one-half to 2 inches thick over garden soil and mix in before planting. Mix compost into the bottom of seeding trenches or transplanting holes.

For houseplants

Sprinkle worm compost around the base of plants to fertilize. Each time you water, plant nutrients will seep into the soil.

In 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 vermiculite are also good ingredients to add.

Trouble Shooting
Reference Chart

Symptoms	Problems	Solution
Worms are dying	Not enough food Too dry Too wet Too hot Bedding is eaten	Bury the food in bedding Moisten until slightly damp Add bedding Put bin in shade Harvest worm compost, add fresh bedding
Bin smells rotten	Not enough air circulation Non-compostables present	Add fresh bedding Remove meat pet feces, etc.
Flies in bin	Food exposed	Secure lid, cover food scraps with bedding, cover worms and bedding with plastic sheet.
Cat thinks bin is liter box	No lid on bin	Remove cat feces, keep lid on bin

More Information

Worms Eat My Garbage, 1982. Mary Applehof, Flower Press, Kalamazoo, MI, 100 pp.