



The Basics of Vermicomposting: Composting with Worms

by Jane Cram

Vermicomposting is the process of using redworms to change organic waste into a nutrient rich soil amendment. In a home worm bin, red wigglers eat kitchen waste and produce wonderful compost for your garden. This vermicompost is teeming with beneficial microbes and nutrients, and is a great, organic plant fertilizer.

Follow These Easy Steps To Start and Manage a Worm Bin:

The Bin



For your first home worm bin, we recommend a medium-sized, plastic storage tub (approximately 8-12 gallon). Red wigglers have light sensitive receptor cells instead of eyes, so choose an opaque tub that prevents any light from entering.

Use a $\frac{1}{4}$ - to $\frac{1}{2}$ -inch drill bit to drill several ventilation holes in the top and sides of the tub. Add 2 to 3 holes in the bottom for drainage. Place an aluminum tray underneath your bin to collect any drainage ("worm tea"). If you do not have a tray, you can use a couple of paper grocery bags, or a piece of cardboard. Place small, wooden blocks, or four plastic, soda-pop bottle lids beneath your bin for better air circulation.

Don't worry about the worms escaping through the holes. The worms will stay in the bin because they prefer a dark, moist environment. Any worm tea that may drain from your bin is very nutrient-rich and your houseplants and garden will love it!

Locate your worm bin in a place that will maintain a temperature range between 55° and 77°F.

Bedding

Use hand shredded newspaper for bedding because it soaks up water easily. Worms take in oxygen through their skin, and require moisture for absorption. Keep a squirt bottle filled with water near the bin, and spray the bedding as needed.

Prepare the Bin for the Worms

Shred newspaper into one-inch strips until the bin is approximately thirds full. Fluff the newspaper strips as you add several cups of water. Continue to add water and toss the newspaper until the strips are thoroughly moist, and your bedding material feels like a damp sponge.

The bedding will also serve as a medium in which to bury the food and prevent odors.



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Add Your Worms

For the standard bin, we recommend starting with one pound of worms, equal to about 1,000 red wigglers. Place the worms on the bedding material, and watch them burrow away from the light.

Red Wigglers, *Eisenia foetida*, adapt well to living in worm bins. They thrive in containment and don't mind crowding. Their light, temperature, and humidity needs can be easily controlled in a bin.

Feeding Your Worms

Do not begin feeding your worms immediately. Give them about a week to acclimate to the bin environment. After a week, lift up the bedding, add the food, and replace the bedding. Make sure that the food is covered by at least one inch of newspaper bedding. Let the worms eat for a few days before adding more food.

Worms will eat anything that is organic. However, to prevent unwanted visitors, or foul odors, follow a few simple rules:

Do Feed Them: Shredded paper and kitchen scraps including fruit and vegetable trimmings, grains, beans, breads, egg shells, tea bags, coffee grounds and filters. Limit the amount of citrus.



Do Not Feed Them: Meat products, dairy, or anything oily.

Harvest the Worm Castings

In as little as one month, you should have enough worm castings to harvest for your garden or house plants. There are three popular methods for harvesting the worm castings. Experiment a few times to determine your favorite.

1. Choose an area that is cool and shaded. Lay a large tarp or trash bag on the ground, and empty the bin contents, worms and all, onto the tarp. Separate the castings into cone-shaped piles. The worms will burrow down into the piles to avoid the light. Scoop up the top of each pile, and transfer to a storage container. Place new bedding into the bin, and return the worms.
2. This method does not require that you empty the bin for harvesting. Open your bin and gently push the compost over to one side. Prepare new bedding and place it in the now empty half of the bin. From this point on, stop placing food in the compost side of the bin, and begin feeding in the new bedding area. When the worms have finished on the compost side, they will move over to the new area. Once most of your worms have made the journey over to their new bedding side, you can remove the compost. At this point, you will want to add more bedding to fill in the empty area of your bin. You can alternate your harvesting sides on a continual basis.
3. Use this method to harvest a small amount of castings. Open your bin to allow light to penetrate the castings, thus gently forcing the worms to burrow away. Stirring the surface a bit will also encourage the worms to dive. After about 10 minutes, use your hands to scoop up the top layer of castings. There should be few, if any, worms in the compost you have removed. If you still need more compost, continue to leave the lid off and wait another 10 minutes before scooping again.

How to Use Vermicompost

For potted plants, add a thin layer to the top of the potting soil. In your garden, add one cup of compost to a new planting hole. For established plantings, gently work the compost into the soil around the base of the plants. When added to the garden, or potted plants, vermicompost is proven to suppress plant pests, protect against plant disease, and promote plant growth.

For more information about composting with red wigglers, search one of our favorite websites at <http://www.bae.ncsu.edu/topic/vermicomposting/>. The City of Lawrence, KS, also offers advice on vermicomposting. Check out <http://www.lawrenceks.org/wrr/lawnworms>.

