

Worm Composting

Let worms turn food scraps into compost for your garden!

Worms can quickly turn your food scraps into a rich fertilizer for your houseplants or garden. Worm composting, or vermicomposting, can be done year-round indoors or outdoors.

The Worms

Red worms, also called red wigglers, or *Eisenia fetida*, are the best worms for worm composting. These are a different species from common garden worms and night crawlers, which need large amounts of soil and cool temperatures to survive. One pound of red worms (about 1,000 worms) is enough to start a worm bin. You can get your worms from a friend's bin or buy them from a local nursery, garden center, worm farm or bait shop. Just type "worm composting" in your internet search engine to find a place that sells worms. Once your worm bin is established you will have enough worms to help your friends start vermicomposting too.



The Worm Bin

You may already have what you need to make a worm bin. An opaque plastic storage bin can be easily fashioned into a home for your worms. Your worm bin should be between 18"-24" deep, since worms like to live near the surface where they can breathe, but large enough to thermally insulate your worms. If your bin is too small, it will heat up and cool down too rapidly. A 60-70 quart plastic storage bin works nicely. Your bin should also have a tight-fitting lid with 1/16" holes (or smaller) drilled in the lid and bottom for ventilation and drainage. Do not drill holes larger than 1/16" and do not put holes in the sides of the bin.



Tip: If you plan to keep your worms indoors, place several sheets of damp newspaper over the top of the bedding to add another barrier to fruit flies.

If you plan to have your worm bin indoors at all, place your worm bin into a second storage bin of the same size. Do not drill holes in the bottom of this bin. The liquid drainage (also known as "worm tea") from your worm bin will collect into the second bin instead of leaking all over the floor. You can use this liquid directly in your garden as a liquid fertilizer.

Placing Your Worm Bin

The worms can tolerate temperatures from 50°-84° F, but they prefer 55°-77° F. They reproduce and compost the fastest when the weather is warm, so if you have your bin outdoors, keep in mind that the worms will not compost food scraps as quickly during the fall and winter as they do in the spring and summer. If your bin is outside, keep it in complete shade. Do not place the bin on concrete or asphalt—the radiant heat from the paved surface will kill your worms. If your bin is outside in the wintertime, place it in a protected area close to your house so that your worms will not freeze. Under a shaded deck against the house is often a great location year-round.

Bedding

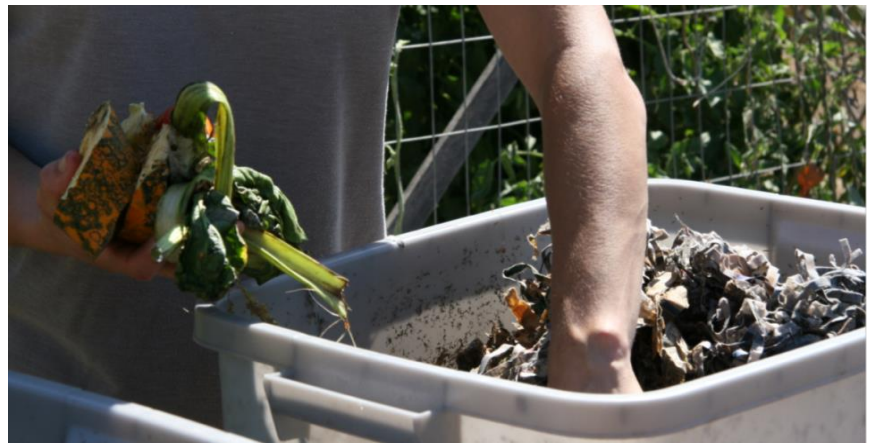
Bedding in a worm bin is like water in a fish bowl; you wouldn't put only an inch or two of water in a fish bowl, so be sure to fill the worm bin up with damp bedding, leaving only 1-2" of air space at the top of the bin. Shredded paper makes excellent bedding material. Moisten the bedding thoroughly and squeeze out excess water **BEFORE** placing it inside your bin. When you are starting your bin, adding a handful of soil is a good idea to provide grit that will help your worms digest food particles.



Feeding the Worms

Worms will eat fruits, vegetables, coffee grounds, rice, pasta and bread. To avoid odors, do not feed them any meat, fish or dairy products. Do not feed your worms salad with dressing on it or pasta with meat sauce.

Be careful when adding acidic material to your worm bin—coffee grounds and citrus fruits are tasty to worms, but too much can kill them. If your worms are avoiding the coffee and citrus fruits in your worm bin, stop adding acidic material for a while.



Tip: Always bury your food scraps at least 1"–2" deep in the bedding to discourage molds and fruit flies.

You can usually feed your worms once a week, burying the food in a different corner of the box at each feeding. Overfeeding your worms can lead to problems in your worm bin, so before you feed the worms, check to make sure that the food you added last time is at least half eaten. If not, wait another week before feeding the worms.

Harvesting the Compost

After a few months, you will notice that the original bedding has disappeared and has been replaced with rich, dark worm compost. Once your bin is about 1/3 full of compost, it's harvest time! Put your worms on a diet for a week, then coax your worms to one side of your box by feeding only on that side. In a day or two, remove the compost from the worm-free side of the box, spread the remaining material in the worm bin evenly across the bin, and add several inches of fresh bedding to the top.

There will still be some worms in the compost you removed, so you will need to sort them out. Pile the compost on a flat surface in a well lit area (not in the direct sun or you will kill the worms). The worms will bury themselves deep in the pile to avoid the light, so you can scrape off the compost from the pile bit by bit until you are left with a small pile of worms at the bottom. Place these worms back in the worm bin to let them continue composting. Alternatively, you can add the compost as is (worms and all) to your garden. The worm compost can be used immediately, no need to dry it out or cure it.

Tip: Worms often avoid eating seeds, so beware that seeds in your compost remain viable and may grow in your garden.

Troubleshooting

Below are the most common challenges with worm composting and some possible solutions.

The bin smells bad

- There is too much food → feed the worms less
- The bin is too wet → check drainage holes, empty the worm tea, and add dry bedding
- The food isn't buried in the bedding → add more bedding to cover the food

The bin has fruit flies

- The food isn't buried in the bedding → add more bedding to cover the food
- The holes in the bin are too large → cover the holes with duct tape and poke smaller holes (1/16" or less) in the duct tape

The worms aren't eating

- There is too much food → feed less
- The worms are too cold → move them inside where they can warm up
- The bin is too acidic → stop feeding coffee grounds and citrus fruits



Updated 12/2022